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Hanford Tank Chemical and Radionuclide Inventories: HDW Model Rev. 4

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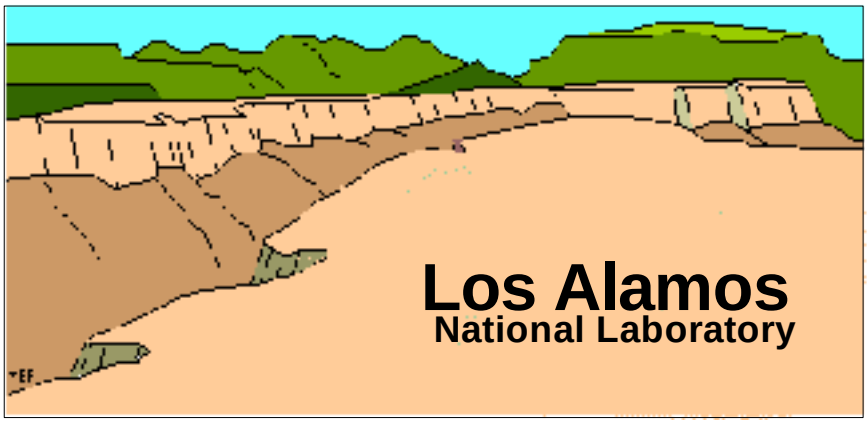

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Contents, Report Text (00326181.pdf 500 Kb)
Appendices A, B, C, D (00326182.pdf 1.2 Mb)
- A. HDW List
- B. HDW Compositions Spreadsheets
- C. TLM Working Spreadsheet
- D. SMM and TLM Composition Tables

Appendix E, F, G, H (00326183.pdf 300 Kb)
- E. HDW Model Inventories (Appendix Text and Site Totals)
- F. Glossary of Hanford Terminology
- G. HDW Compositions Spreadsheets Equations
- H. Tank Waste Transaction Statistics

NE Quadrant Inventory Estimates (00326184.pdf 2.5 Mb)
SW Quadrant Inventory Estimates (00326185.pdf 1.6 Mb)
NW Quadrant Inventory Estimates (00326186.pdf 1.5 Mb)
SE Quadrant Inventory Estimates (00326187.pdf 1.0 Mb)

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Executive Summary

This estimate for the chemical and radionuclide compositions of the 177 Hanford High Level Waste storage tanks is the fourth major revision in a developing model called the Hanford Defined Waste (HDW) model. The particular aspects of Rev. 4 are an expansion of the radionuclides considered from four to forty-six and the inclusion of variability estimates for each analyte within the predictions. All estimates are valid up to 1-1-94 for transactions and radionuclide decay. The HDW model is composed of four parts:

1) compilation of transaction records for all the tanks called the Waste Status and Transaction Record Summary (WSTRS);
2) derivation called the Tank Layer Model (TLM) of solids histories for each tank based on primary additions of waste;
3) calculation of supernatant blending and concentration with the Supernatant Mixing Model (SMM); and
4) combination of process information along with some transaction information to derive compositions for about fifty Hanford Defined Wastes (HDW's), each of which has both sludge and supernatant layers.

All of this information is combined together in a spreadsheet format to produce total chemical and radionuclide compositions for each tank's waste as well as a composition for its TLM and SMM blends. Furthermore, each tank's inventory is also represented by a linear combination of TLM sludges and SMM supernatants, each expressed in kgal of original waste. Thus, the genealogy of each tank's waste can be traced back to the plant and process from which it derived. These estimates comprise some 33 non-radioactive species, 4 properties (density, water wt%, TOC wt%, sludge void fraction), and 46 radionuclides. The 33 non-radioactive species in the model are Na, Al, Fe, Cr, Bi, La, Hg, Zr, Pb, Ni, Sr(stable), Mn, Ca, K, OH, nitrate, nitrite, carbonate, phosphate, sulfate, silicate, F, Cl, citrate, EDTA, HEDTA, glycolate, acetate, oxalate, DBP, butanol, ammonia, and ferrocyanide. The forty-six radionuclides are: H-3, C-14, Ni-59, Ni-63, Co-60, Se-79, Sr-90, Y-90, Zr-93, Nb-93m, Tc-99, Ru-106, Cd-113m, Sb-125, Sn-126, I-129, Cs-134, Cs-137, Ba-137m, Sm-151, Eu-152, Eu-154, Eu-155, Ra-226, Ra-228, Ac-227, Pa-231, Th-229, Th-232, U-232, U-233, U-234, U-235, U-236, U-238, U-Total (M), Np-237, Pu-238, Pu-239, Pu-240, Pu-241, Pu-242, Pu-Total (g/L), Am-241, Am-243, Cm-242, Cm-243, Cm-244. Note that Y-90 and Ba-137m are both short-lived daughters of Sr-90 and Cs-137, respectively, and that total Pu is calculated as g/L and total U as mol/L. The five radionuclides H-3, C-14, Ni-59, Ni-63, and Co-60 are impurities activated by neutron capture in the reactor fuel or fuel cladding.

Also reported are total site inventories for Double Shell (DST's), Single Shell (SST's), as well as the total inventory of waste placed into cribs and trenches from the waste tanks during the history of Hanford. These estimates do not cover all waste additions to cribs since many streams went into the cribs directly from the plants. Such streams as stack scrubbing and process condensates were often sent directly to cribs from the plants.

Acknowledgments

A project of this nature would not be possible were it not for the help of a great number of people. They are Todd Brown, Brett Simpson, and Bob Watrous (LMHC) for the help with data gathering, Stacey Hartley (PNNL) for comments on model results, Ray Daubert and Richard Anema (Ogden Envir.) for data validation, and Jerry Koreski and Jim Strode (LMHC) for the Operational Waste Volume Projection document, George Borsheim (WHC-retired) for many useful suggestions, as well as a great number of other people at PMHC and PNNL for their generous help.

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I. Background

One of the most important tasks associated with the Hanford waste tanks is an adequate estimation of those tank's contents. Such estimates are very important for four reasons: 1) To establish safety limits during intrusive activities; 2) To establish a planning basis for future disposal; 3) To allow assays from one tank's waste to be used to validate, compare, and assess hazards among other tank's with similar waste inventories; and 4) To make sense out of the highly variable results that often come from a tank's waste assays, it is necessary to couch assay results in terms of the particular process and storage history of each tank.

It is clear that direct assays of tank wastes will always be an important and ongoing need for the Hanford tanks. However, it is equally clear that it will not be possible to adequately address all waste issues by sampling and assay alone. Obtaining a set of samples that is representative of the waste heterogeneity within a tank is undoubtedly the most difficult aspect of deriving tank inventories from assays alone. Both the extremely heterogeneous nature of tank waste and the limited access provided by riser pathways to waste in these seventy-five foot diameter underground tanks contribute to difficulties in using assays alone to derive tank inventories. There are safety issues, such as elevated amounts of soluble organic in dry nitrate waste in inaccessible regions of a tank that are difficult to address by sampling alone.

The High Level radioactive Waste (HLW) generated at Hanford from 1945 until 1989 all derived from the chemical dissolution and extraction of plutonium and uranium (and some thorium and neptunium) from reactor fuel elements (see Hanford Timeline Fig. 1). Over these years, the extractions evolved through three different processes. The first process was a bismuth phosphate ($BiPO_4$) precipitation, which operated from 1945 until 1956 in B and T Plants. This method was eventually supplanted by a more efficient method that involved contacting a methyl isobutyl ketone (hexone) organic phase with an aqueous aluminum nitrate solution of plutonium and uranium from dissolved fuel slugs. This process was known as Redox and operated from 1952 to 1966 in the Redox or S Plant. The Redox process was later replaced by Purex, a much-improved solvent extraction based on an organic phase that was a mixture of NPH (normal-paraffinic hydrocarbon or kerosene) and TBP (tributyl phosphate) contacting an aqueous nitric acid solution of plutonium and uranium. Purex began in 1956 at Hanford, and ran until 1972, then restarted in 1983 and ran until 1988. All Purex operations were performed in the Purex Plant, or A Plant.

The wastes from each of these three processes were neutralized and placed into 75' and 25' diameter storage tanks, but a variety of further processing occurred with the wastes after this initial disposal. This further processing, which was usually concentration of waste by evaporation of water, resulted in new wastes that were then returned to the tanks. The difficulty of using only process plant knowledge and tank transaction records to estimate the contents of each of the waste tanks is obvious, and is compounded by the often inadequate and conflicting records that have been kept for Hanford tanks.

There are over a thousand analytical assays of existing tank waste with the assays for supernatants being most numerous. Analytical assays of solids layers within a given tank have proven to be quite variable as solid wastes within the tanks are often highly stratified, with both vertical and horizontal heterogeneities. Unless a tank's waste is homogeneous, one needs to determine the vertical and lateral distributions of those waste layers within the tank—otherwise it is not possible to derive a tank inventory from assays. The distribution of waste layers derives from the fact that the tank "remembers" when and how waste solids were added and removed as well as how subsequent operations affected the waste layers that were already within the tank.

Thus, two tanks could very well have identical inventories but different waste distributions, which could lead to a misinterpretation of sample results. Without independent knowledge of those waste distributions, it would be impossible to know that the two tanks actually had identical inventories. The difficulties in deriving tank inventories from limited sample information are compounded by other factors, such as less than 100% recovery for cores, the limited number of sampling points for each tank, and the fact that the same risers that are available for sampling are the fill and removal points of the tank. The fill and removal points are exactly where the greatest waste heterogeneities often lie.

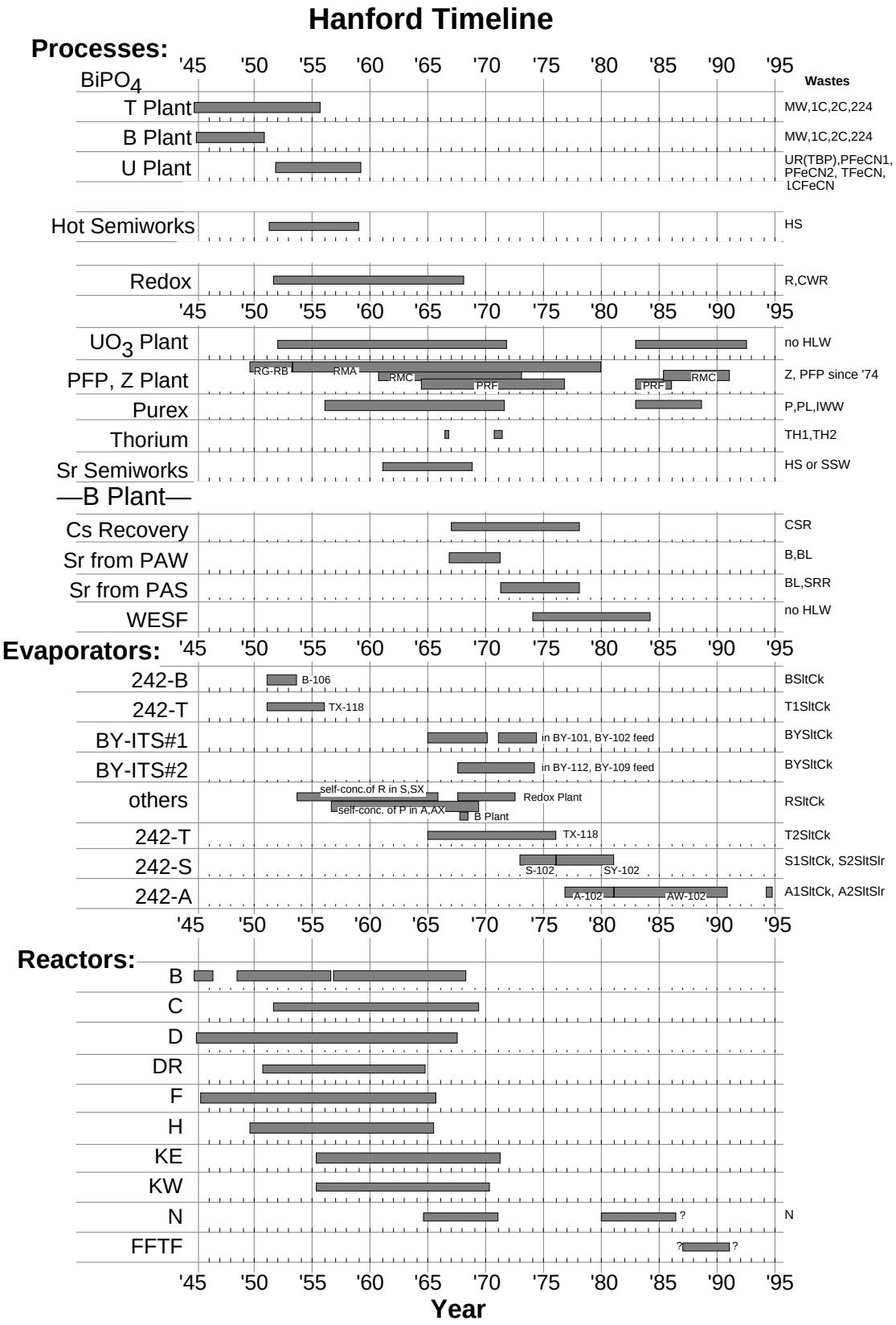

Fig. 1. *Hanford Timeline.*

II. Approach

The Hanford Defined Waste (HDW) model is described in Fig. 2 (Schematic of Overall Strategy). The model begins with a process and transaction dataset that derives from a variety of sources. From this dataset, a balanced tank-by-tank quarterly summary transaction spreadsheet is derived called the Waste Status and Transaction Record Summary (WSTRS). At the end of each quarter, all tanks' volumes are reconciled with their reported status at that time and in the process, unknown transactions are recorded to accommodate otherwise unexplained gains or losses at the end of each quarter.

Using these fill records, the Tank Layer Model (TLM) provides a definition of the sludge and salt cake layers within each tank. The TLM is a volumetric and chronological description of tank inventory based on a defined set of waste solids layers. Each solids layer is attributed to a particular waste addition or process, and any solids layers that have unknown origin are assigned as such and contribute to the uncertainty of that tank's inventory. The TLM simply associates each layer of sludge within a tank with a process waste addition. As indicated in (Fig. 2), the TLM analysis depends only on information from WSTRS.

The Supernatant Mixing Model (SMM) is an algorithm written in C++ and installed as a spreadsheet macro under Excel (a Dynamic Linked Library or dll module) that calculates the supernatant concentrates within each of the tanks. The SMM uses information from both WSTRS and the TLM and describes supernatant concentrates in terms of original waste volume in kgal (1 kgal = 1,000 gal) for each of the process waste additions. The original waste volume in addition to the present tank volume give the amount of concentration (water removal) or dilution that a tank has seen in its history.

The WSTRS, TLM, and SMM altogether determine each tank's waste inventory as a linear combination of HDW sludge and supernatant volumes (TLM and SMM volumes). In order to provide information on the elemental composition of each tank, the HDW compositions describe each waste stream based on process historical information. Each HDW has both supernatant and sludge layers and derives its total waste volume from WSTRS and its sludge volume from the TLM. Thus, the HDW compositions depend on all prior model components—process/transaction dataset, WSTRS, TLM, and SMM.

Each tank's total inventory is then calculated as superposition of waste components as

$$\mathbf{tank}_i = \frac{\sum_j \mathrm{tlm}_{ij}\,\mathbf{hdw}_j^{\mathbf{sl}}}{\mathrm{slVol}_i} + \frac{\sum_j \mathrm{smm}_{ij}\,\mathbf{hdw}_j^{\mathbf{su}}}{\mathrm{suVol}_i}$$

where

$\mathbf{tank}_i$	=	composition vector for tank i
$\mathbf{hdw}_j^{\mathbf{sl}}$	=	composition vector for HDW sludge j
$\mathbf{hdw}_j^{\mathbf{su}}$	=	composition vector for HDW supernatant j
tlm_{ij}	=	kgal of hdw sludge j for tank i
smm_{ij}	=	kgal of hdw supernatant j for tank i
slVol_i	=	sludge kgal for tank i
suVol_i	=	supernatant concentrate kgal for tank i.

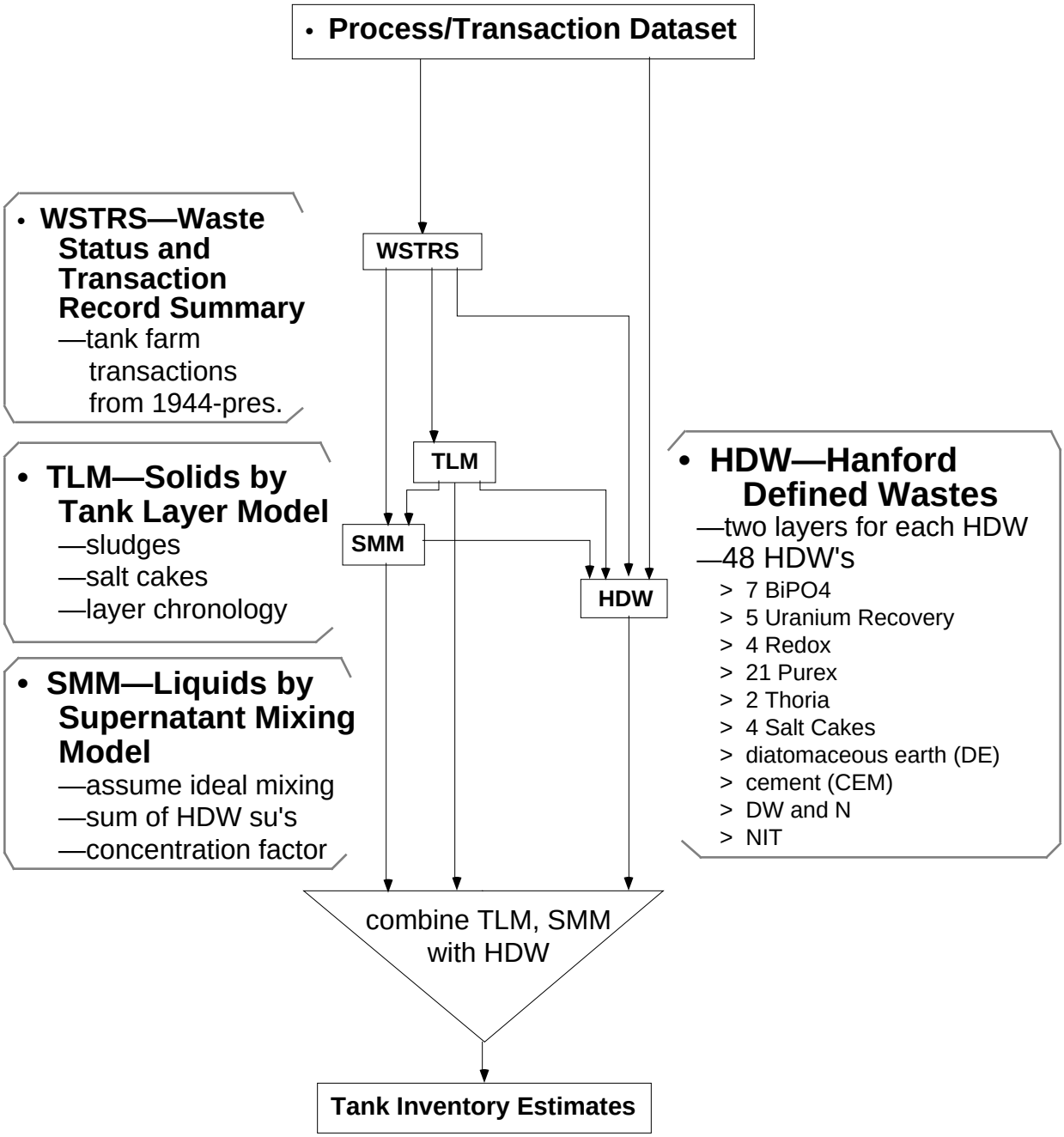

Fig. 2. *Schematic of overall strategy.*

The first term is the TLM solids inventory and is reported as

$$\mathbf{tank}_i^{\mathbf{sl}} = \frac{\sum_j \mathrm{tlm}_{ij}\,\mathbf{hdw}_j^{\mathbf{sl}}}{\mathrm{slVol}_i}$$

while the second term is the SMM inventory reported as

$$\mathbf{tank}_i^{\mathbf{su}} = \frac{\sum_j \mathrm{smm}_{ij}\mathbf{hdw}_j^{\mathbf{su}}}{\mathrm{suVol}_i}.$$

These inventory estimates for each tank also appear in the Historical Tank Content Estimate (HTCE) reports for each of four quadrants.[1]

IIa. Approach—Waste Status and Transaction Record Summary

The WSTRS is an Excel spreadsheet of qualified fill records[2] with information extracted from Jungfleisch-83[3] and Anderson-91[4], and checked by Ogden Environmental and LANL against quarterly summary reports and the Logbook Dataset.[5] The WSTRS reports, although largely representative of the waste histories of the tanks, are nevertheless incomplete in that there are a number of unrecorded transactions that have occurred for many tanks. Included within the WSTRS report, then, is a comparison of the tank volume that is calculated based on the fill records that are present in WSTRS with the measured volume of each tank. This comparison is made for each quarter to record any unknown waste additions or removals that may have occurred during that quarter.

After 1980, the Waste Volume Projection (WVP) project has provided an excellent set of ordered transactions.

The Rev. 3 and 4 estimates include new information from the Logbook Dataset that was not included with previous versions and have extensive changes in the latter four evaporator campaigns: 242-S (S1 and S2) and 242-A (A1 and A2). The Logbook Dataset contains extremely detailed tank level information from about 1975 to 1992 and has allowed Rev. 3/4 to accommodate the blending that occurred during these campaigns. In Rev. 1, each campaign's waste was blended over many years of operation, then concentrated in one single step and distributed over all the bottoms receivers. In contrast, Rev. 3/4 blends the evaporator concentrates on about a quarterly basis thereby providing much better representation of these evaporator campaigns.

—Cascade transfers

Cascade lines were underground 3" pipes between tanks that were generally offset one foot of elevation between tanks. These lines allowed a tank to overflow into the next tank in the cascade series, and then from that tank to the next, and so on, from two to six tanks total in a given cascade series. WSTRS includes explicit transactions for each cascade transfer based on the following rules. If a tank's Total_vol exceeds its rated capacity, then check to see if a CSEND SET and CREC SET pair are present in the records of Tank_n and Trans_tank, respectively. If a pair is present, insert a "send" and "rec" pair of transactions of the appropriate volume. When cascading out to a crib "send" and "outx" pair are inserted. In the SE Quadrant (i.e. for DST's) there is no cascading.

—Transaction ordering

The chronological ordering of the transactions in WSTRS prior to 1981 is not clearly defined. Hanford's quarterly summarization of transactions tended to truncate much of the individual transaction ordering information. From 1976 to 1981, the Logbook Dataset was used to help re-establish transaction

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[1]Brevick, C. H., et al., "Historical Tank Content Estimate of the Northeast (Southwest, Northwest, Southeast) Quadrant of the Hanford 200 East Area," WHC-SD-WM-ER-349 thru 352, Rev. 0, June 1994.

[2] (a) Agnew, S. F., et al., "Waste Status and Transaction Record Summary for the NE Quadrant" WHC-SD-WM-TI-615, Rev. 1, October 1994. (b) Agnew, S. F., et al. "Waste Status and Transaction Record Summary for the SW Quadrant, " WHC-SD-WM-TI-614, Rev. 1, October 1994. (c) Agnew, S. F., et al. "Waste Status and Transaction Record Summary for the NW Quadrant, " WHC-SD-WM-TI-669, Rev. 1, October 1994.

[3](a) Jungfleisch, F. M. "Hanford High-Level Defense Waste Characterization—A Status Report," RH-CD-1019, July 1980. (b) Jungfleisch, F. M. "Supplementary Information for the Preliminary Estimation of Waste Tank Inventories in Hanford Tanks through 1980," SD-WM-TI-058, June 1983. (c) Jungfleisch, F. M. "Preliminary Estimation of Waste Tank Inventories in Hanford Tanks through 1980," SD-WM-TI-057, March 1984.

[4]Anderson, J. D. "A History of the 200 Area Tank Farms," WHC-MR-0132, June 1990.

[5]Agnew, S.F.; Corbin, R.A.; Duran, T.B.; Jurgensen, K.A.; Ortiz, T.P. "Hanford Tank Logbook Dataset," LA-UR-96-3387, September 1996.

order and to resolve many other transaction questions. Transactions with no additional information (i.e. pre-1976) were arranged in the following order for each quarter:

1) Xin's from primary sources
2) Tank to tank transfers not involved in evaporator operations
3) Tank to tank transfers involved in evaporator feeds
4) Concentration of wastes involved in evaporators
5) Tank to tank transfers for the bottoms receivers
6) Outx's to processes and cribs (no condensates)

Some corrections to this initial order were required to prevent the total volume of the tanks from going negative and to minimize tank overfills. Further corrections will be necessary as more information as to the segregation of the organic wastes is compiled.

The transaction order for post-1980 transactions were left as represented by the WVP report. Many of these dates are summaries of transactions and some are nominal, so there exists the possibility that some reordering may be necessary as more information on these transactions surface.

—HDW evaporator model

An essential part of defining the waste history of Hanford wastes is understanding the operation of the many evaporator campaigns at Hanford, since the greatest uncertainties within WSTRS are associated with evaporator campaigns. In other words, the volume reductions and continuous transfers of concentrates and condensates that occurred during these campaigns are not very well represented in WSTRS.

Much of the transaction information associated with evaporator operations was derived by Jungfleisch-83 with several models for various evaporator campaigns that were embedded within the WSTRS Rev. 1 data set.

In the WVP data set, the evaporation model transferred a volume from the feed tank to a bottoms receiver tank. The volume received by the bottoms receiver tank, however, would be less than the volume sent from the feed tank. This difference was the condensate that was evaporated, which was not specifically included.

In WSTRS Rev. 2, 3 and 4, all evaporator transactions are assumed to take place from the evaporator feed tank. Therefore, all implicit condensate that is evaporated from the feed tank is explicitly included as transactions from the feed tank to a crib. We have inserted these condensate transactions for the feed tank and have changed the transaction volume (when necessary) to be equal to the volume received in the bottoms tank. This same model has been imposed on all evaporator operations at Hanford within WSTRS. The Logbook Dataset has given much more detailed insight into the transactions in the later evaporator campaigns.

This evaporator model reduces significantly the unknown transactions for the history of Hanford operations. One must bear in mind, though, that the assumptions that have been made are meant to be approximations that allow the bounding of waste compositions for all site operations. We have found, for example, that the transaction order within each quarter is not well defined and our assumptions about that order are very approximate.

—Resolution of unknown transactions

Transactions from the Logbook Dataset were added to WSTRS to resolve the many unexplained level changes for each quarter according to a set of rules resulting in an updated WSTRS that is known as Rev. 4. This unknown transaction resolution was only completed for all unknowns larger than 50 kgal, although many smaller transaction unknowns were accommodated as well. The following rules were used for unknown transaction resolution for the various transaction types:

Evaporator feed and bottoms receivers:

During an evaporator campaign, unknown waste transfers at the end of each quarter are resolved by sending wastes to or receiving wastes from an evaporator feed tank for tanks identified as either bottoms receivers or feed tanks for those campaigns.[6]

Self-concentrating tanks:

Certain tanks in S, SX, A, and AX farms were allowed to self-concentrate. Any losses or additions to these tanks are assigned to condensate or water, respectively.

Sluicing receivers:

For tanks associated with a sluicing campaign (either UR or SRR), unknown transactions are resolved by either sending or receiving from the sluicing receiver tank for that campaign. Unassigned losses from the sluicing receivers, then, are sent directly to the process.

Salt-well pumping and stabilization:

If an unknown loss occurs during salt well pumping stabilization of a tank, then the unknown is resolved by sending waste to the active salt well receiver at that time.

Historical use of tank:

If none of the above rules apply, then the historical use of the tank is used to assign the transaction. For example, C-105 was used as a supernatant feed tank for the CSR campaign and supplied ~1,500 kgal per quarter for several years. However, there is one quarter (1971q2) where C-105 loses 1,748 kgal without an assigned transaction. Because of C-105's process history, this transaction is assigned to CSR feed. Likewise, there are a number of large supernatant losses in A and AX Farms during sluicing for sludge recovery. These supernatant losses are assigned as feed to AR, which are the slurries transferred to AR Vault for solids separation, washing, dissolution, and feed to SRR.

There are volume reductions among the S and SX Farm tanks in the fifties and early sixties. We attribute these losses to the Redox waste self-concentrating tanks and these tanks also accumulated solids as they concentrated, which we assign as Redox salt cake. Likewise, the Purex waste tanks in A and AX Farms were self-concentrating, but no salt cake formed from this self-concentration. Volume losses for such tanks are assigned as condensate transactions out of the tank and additions are assigned as water in.

The two Purex cladding waste (CWP) cascades, B-103 and B-109 had large unknown transfers in 1963q4. These were resolved by transferring supernatants to A-102, which was the staging tank for A Farm sluicing as well as a feed for the self-boiling tanks in A and AX Farms. Excess volume added to A-102 amounts to over 2,000 kgal in '63q4, which is assumed to have been associated with the sluicing required for initial feed to HS or SSW (Hot or Strontium Semiworks), and eventually ended up blended into the A/AX self-boiling tanks. Likewise, other later excess losses that accumulated in A-102 are assumed to have been used as feed for the self-boiling tanks in A/AX Farms.

Sluicing of A and AX Farms resulted in many unrecorded transactions for these tanks during that period. As shown in Evaporation and Cs/Sr Extraction Campaigns (Table 9), we have resolved all large transactions by creating transactions between tanks and the sluicing receiver in A and AX Farms as indicated in (Table 9). The sluicing receivers evolved from A-102, A-106, to AX-103 over the course of the campaign.

For each of the evaporator campaigns, we have identified the feed and bottoms receivers. All unknown transactions for the feed and bottoms receivers are sent to or received from the evaporator feed tank. This allows us to resolve all evaporator campaign transactions and to therefore track the waste compositions as a function of time.

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[6]Agnew, S.F.; Corbin, R. A.; Boyer, J.; Duran, T.; Jurgensen, K.; Ortiz, T.; Young, B. "History of Organic Carbon in Hanford HLW Tanks: HDW Model Rev. 3," LA-UR-96-989, March 1996.

Cross-site transfer tanks S-107 to/from BX-104 and BX-105 were used to transfer wastes back and forth to and from west and east areas prior to 1981. We assume this linkage was used for most cross site transactions between East and West areas.

—Level discrepancies

There are a certain number of level discrepancies that have occurred and are noted in App. C, p. C-96.

—Verification of WSTRS

Validation for the WSTRS and WVP datasets was performed by Ogden Environmental of Richland, WA. Reference documentation was provided for each transaction that Ogden verified. Validation information for all tanks is shown in (Table 1) with the numbers and percents validated for transactions and transaction volumes in all quadrants *prio*r to Jan. 1981. Validation for DST's in *after* Jan. 1981 is provided by the Waste Volume Projection data source.

Table 1.
Validation for All Quadrants for Transactions prior to Jan. 1981.

	Number Basis		Volume Basis (kgal)	
	Validated / Total	% Validated	Validated / Total	% Validated
XIN's	1952/3236	60%	279,577/443,102	63%
OUTX's,REC's	2083/3624	57%	551,857/895,564	62%

Other statistics for WSTRS transactions are shown in App. H, Table H-1.

IIb. Approach—Tank Layer Model (TLM)

The TLM uses the past fill history of each tank to derive an estimate of the types of solids that reside within those tanks. The TLM[7,8] is generated by reconciling the reported solids levels from WSTRS for each tank as shown in (App. C) with the solids volume per cent expected for each primary waste addition (App. A). Note that a solid's model has already been extensively used at Hanford to estimate sludge and salt cake accumulation, the results of which are reported monthly in the Tank Farm Surveillance and Waste Status Summary Report for November 1993[9].

There are some tanks that the HDW model assumes a different waste inventory than that reported in Hanlon. These differences come about because of the difficulties that are often encountered in determining the remaining inventory in tanks with large surface heterogeneities. Also shown in (App. C), then, are a list of tanks for with their Hanlon volumes and their adjusted volumes used for the HDW estimates. The sources of these discrepancies are a series of reports about stabilized tanks.[10]

The TLM is a volumetric and chronological description of tank inventory based on the HDW sludges and salt cakes. Each solids layer is attributed to a particular waste addition or process, and any solids layers that have unknown origin are assigned as such and contribute to the uncertainty of that tank's inventory. The TLM simply associates layers of solids within each tank with a waste addition or a process campaign.

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[7](a) Brevick, C. H., et al., "Supporting Document for the Historical Tank Content Estimate for A Tank Farm," WHC-SD-WM-ER-308, Rev. 0, June 1994. Likewise, reports and numbers for each farm are as follows: AX is 309, B is 310, BX is 311, BY is 312, C is 313, S is 323, SX is 324, and U is 325. These supporting documents contain much of the detailed information for each tank farm in a concise format, all released as Rev. 0 in June 1994.

[8]Agnew, S. F., et al. "Tank Layer Model (TLM) for Northeast, Southwest, and Northwest Quadrants," LA-UR-94-4269, February 1995.

[9]Hanlon, B. M. "Tank Farm Surveillance and Waste Status and Summary Report for November 1993, "WHC-EP-0182-68, February 1994, published monthly.

[10](a) Swaney, S. L. "Waste Level Discrepancies between Manual Level Readings and Current Waste Inventory for Single-Shell Tanks," Internal Memo 7C242-93-038, Dec. 10, 1993. (b) Boyles, V. C. Boyles "Single Shell Tank Stabilization Record," SD-RE-TI-178 Rev. 3, July 1992. (c) Welty, R. K. "Waste Storage Tank Status and Leak Detection Criteria," SD-WM-TI-356, September 1988.

The TLM uses the information obtained from the transaction history for each tank to predict solids accumulations. These predictions are made for three categories of waste tanks.

The first category involves primary waste additions, which are the waste additions from process plants directly into a waste tank. The primary waste transactions are used along with solids volume reports for each tank to derive an average volume per cent solids for each HDW type. The solids accumulations are then assigned to a particular HDW for the tanks where the solids information is missing or inconsistent.

A second category of waste is that where solids accumulate as a result of evaporative concentration of supernatants. All solids that accumulate in such tanks occur after they have been designated as "bottoms" receivers. These solids are assigned to one of four salt cakes, which are defined as blends over entire evaporator campaigns. The four salt cakes are BSltCk, T1SltCk, BYSltCk, and RSltCk, and are all defined as HDW's. The latter five evaporator campaigns T2, S1, S2, A1, and A2 all result in waste concentrates that are defined differently for each tank within the SMM. These solids are explained in the section “Solids not included in TLM.”

The third category of waste is where solids accumulate due to tank to tank transfers of solids. This category allows solids to cascade from tank to tank, or accounts for solids lost during routine transfers as was common with decladding wastes CWR and CWP as well as 1C and FeCN sludges.

The results of the TLM analysis are a description of each tank's solids in terms of sludge and salt cake layers. Although interstitial liquid is incorporated within the composition for sludges and salt cakes, any residual supernatants that reside in these tanks above the solids are described by the SMM. The output of the TLM, then, can only be used to predict the inventory of the sludges and each of four salt cakes that reside within waste tanks. These TLM results are inserted into the WSTRS record and are used by the SMM in considering excluded volumes for mixing of waste supernatants.

Not all of the transactions that have occurred in the past are faithfully recorded by the WSTRS data set. Therefore, WSTRS is an incomplete document with many missing transactions. However, the two critical pieces of information that are used in the TLM analysis are the primary waste additions and the solids level measurements, both of which are well represented in WSTRS.

The missing transactions largely involve tank-to-tank transfers within WSTRS. These missing transactions, which are salt cake, salt slurry, and supernatant, do lead to a larger uncertainty for the compositions of the concentrated products from evaporator operations. As many as 25% of all transactions may be missing from this data set, perhaps as many as 60-80% of these missing transactions are associated with the evaporator operations. Although this information might be recovered in the future, the HDW model strategy at this time resolves as many of these unknown transactions as possible with the rules stated above.

—Sludge accumulation from primary waste

The TLM analysis associates a solids volume percent (vol%) with each primary waste stream. These solids vol% are those that are consistent with the solids volumes reported in Anderson-91 by comparing those solids accumulations with the primary waste additions that are recorded in WSTRS. The result of this analysis is a solids volume percent for each waste type with a range of uncertainty associated with the inherent variability of the process.

Not all of the waste types have adequate solids reports associated with them. For these waste types, a nominal value is assigned based on similarity to other waste types where there exists a solids vol%. For example, a total of 810 kgal of Hot Semi-Works waste (HS) was added to several tanks in C Farm, but these additions only constituted a small fraction of the total solids present in any of these tanks. Therefore, a nominal 5 vol% solids is assigned for that waste type.

Each TLM spreadsheet table shows the primary waste additions and the solids from those additions based on the characteristic vol% for that waste type. The TLM compares this prediction with the solids level reported for the tank and indicates either an unknown gain or loss for this tank. Once a layer is "set" in the tank, its volume appears in the "Pred. layer" column and the type in "Layer type" column, thus

comprising a chronological layer order from the bottom of a tank to the top, where each layer is described in terms of a volume and a type. Note that lateral variations are not accounted for in this model, and only derive an average layer thickness. The lateral distribution, in some cases, can be quite extreme.

There are two main sources for variations in the solids vol% for each waste type. First, there is an inherent variability in each process stream, which is largely attributable to process variations. Second, solids can be added to or removed from tanks by inadvertent (or purposeful) entrainment during other supernatant transfers. In addition to these sources of variation, there are a number of other minor sources of solids changes such as compaction, subsidence following removal of salt well liquid, and dissolution of soluble salts by later dilute waste additions. Other solids variations may be due to metathesis and other chemical reactions within the tanks, such as degradation of organic complexants over time.

The TLM assigns solids changes to variability when they fall within the range established. If a change in solids falls outside of this range, the TLM associates the gain or loss of solids with a waste transfer to or from another tank or to dissolution of soluble salts in the upper existing solids layers.

—Saltcake accumulation

Once a tank becomes a "bottoms" receiver, the TLM assumes from that point on that any solids that accumulate are salt cake or salt slurry. Salt cake can be any one of four different types, depending on which evaporator campaign created it. These are: 1) B for 242-B, 2) T1 for early 242-T, 3) BY for ITS #1 and #2 in BY Farm, and 4) R for Redox self-concentrating tanks. Overview of Hanford Waste Volume (Table 3) describes the various evaporator campaigns that resulted in concentration of waste and precipitation of solids at Hanford. For salt cake accumulation, the TLM assumes that all of the solids reported are salt cake. Two other minor evaporation campaigns involved use of Redox and B Plant evaporators for tank wastes. These minor campaigns have been associated with T2 or S1 campaigns, respectively.

The HDW model assigns waste of the five later campaigns for 242-T, 242-S, and 242-A evaporators as concentrates within the SMM. These later concentrates correspond roughly to what is known as double-shell slurry (DSS) or double-shell slurry feed (DSSF), although their early concentrates are often referred to as salt cake as well.

—Diatomaceous earth/cement

Diatomaceous Earth, an effective and efficient waste sorbent material, was added to the following waste storage tanks BX-102 (1971), SX-113 (1972), TX-116 (1970), TX-117 (1970), TY-106 (1972), and U-104 (1972). The additions of diatomaceous earth were used to immobilize residual supernatant liquid in tanks where the liquid removal by pumping was not feasible. The conversion factor in the TLM for Diatomaceous Earth (DE) is 0.16 kgal/ton and Cement (CEM) or (CON) is 0.12 kgal/ton. The CEM waste was only added to one tank, BY-105 (1977).

—Solids not included in TLM

The TLM predicts the salt cake layers for the B, early T, BY, and R evaporator campaigns. These are HDW wastes and are defined on a campaign basis. The concentrated supernatants associated with the A, S, and latter T evaporator campaigns are treated as free supernatants and thus defined by the SMM. The SMM tracks the concentration and mixing of these supernatants on a tank-by-tank quarterly basis. This is necessary due to the complexity of the latter evaporator scenarios and waste types.

IIc. Approach—Supernatant Mixing Model (SMM)

The SMM calculates the composition of supernatant concentrates within each tank. The result is a table of waste in kgal of original HDW supernatants for each of the tanks (see App. D). The SMM is a very critical part of the definition of waste in double-shell tanks (DST's) where a large fraction of supernatants now reside. The Supernatant Mixing Model Block Diagram (Fig.3) illustrates the SMM approach. A fundamental assumption within the SMM is the ideal and complete mixing of each tank's supernatant following each transaction. In this approach, the volume of TLM solids layers within each tank are excluded from mixing with any supernatant additions. However, any solids that form as a result of waste concentration within the SMM are treated as if they were liquid.

Supernatant Mixing Model
Block Diagram

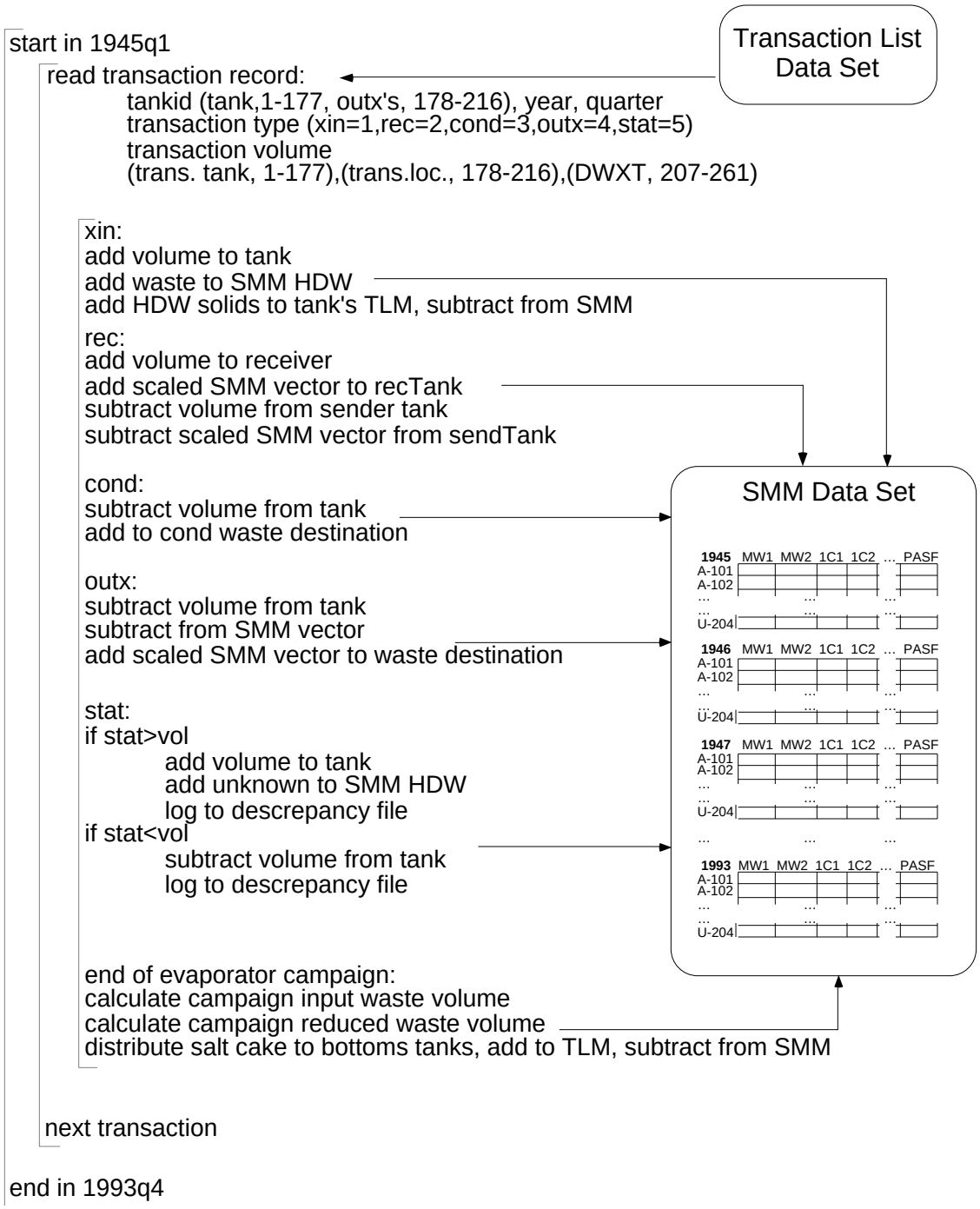

Fig. 3. *Block Diagram of SMM algorithm.*

The SMM module reads transaction information from WSTRS, sorts it to an absolute chronological order, and performs a transaction by transaction accounting of all of the tank waste supernatant for the history of Hanford. The SMM provides a description of each tank's supernatant concentrate as a linear combination of Hanford Defined Waste (HDW) supernatants. The HDW type is specified within WSTRS for each transaction from plant to tank. This HDW supernatants within a tank

represent a total volume that is usually larger (and sometimes smaller) than the actual volume of supernatant concentrate within that tank. This is due to active evaporation (or dilution) of the waste during its history. Each tank's SMM waste is expressed in terms of a linear combination of HDW supernatants (a waste vector), which in turn are used to calculate a chemical and radionuclide inventory with compositions for each tank.

—SMM and TLM output tables

The output of the SMM is a table or matrix whose column headings are the HDW's and auxiliary wastes and whose rows are the waste tanks and processes. The auxiliary wastes are water, unk, swliq, and gas and do not appear as an HDW. These auxiliary wastes are used for tracking of unknowns, evaporator runs, and gas retention in waste concentrates. The SMM columns (App. D) show the HDW distribution among the tanks and processes and are given in kgal of original HDW supernatant.

The TLM tables also appear in App. D and follow roughly the same format as the SMM tables. There are no concentration effects with TLM solids and so the row sum for each tank within the TLM is equal to the total TLM volume for that tank.

The Tank Composition tables in App. D are a percentage representation of each HDW's contribution to a tank's supernatant composition. This gives a quick quantitative reference in terms of HDW's of a tanks' particular makeup. The HDW Distribution tables are a percentage representation of the entire location of a particular HDW. This gives a quick quantitative reference of the final history of a waste stream. This not only gives information on the quantity in the 177 waste tanks, but also the amounts that were cribbed, reprocessed, or concentrated into saltcakes.

—Implementation of SMM

The SMM is implemented as two Microsoft Excel workbooks and an extension to Excel (called a Dynamic Linked Library). Figure 4 shows the relationship of the SMM components to each other as well as to the overall tank inventory prediction strategy. The transaction data source for the SMM program is the WSTRS workbook, which is not modified during operation. A second workbook (SMM-TLM.xls) provides additional input, program control, and storage for formatted SMM output. The smm.dll is written in the 'C++' programming language.

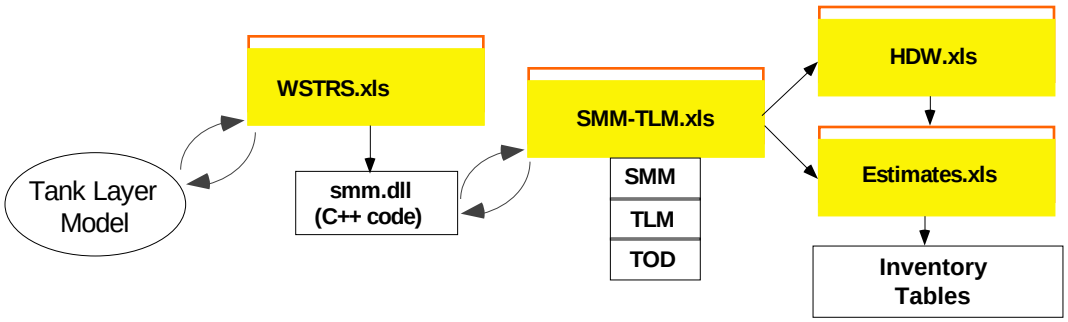

Fig. 4 *Diagram of the HDW model components.*

—Transaction processing

The smm.dll tracks the tank waste contents (in HDW component basis) based on transaction bookkeeping. The model achieves ideal mixing by assuring that a withdrawal from a tank is an HDW vector proportional to the HDW vector of the tank supernatant contents. The general algorithm is to process the information on waste transfers and level measurements in transaction order while keeping track of the HDW components in each tank. The processing details are determined by the transaction type. Since transactions are summarized rather than detailed, there can be apparent overfills.

If there is insufficient supernatant in a source tank, the shortage is accounted for by addition of an unknown waste type. The additions of unknowns are treated as if they were HDW waste additions. These unknowns measure one uncertainty in the tank HDW vector. Apparent overfills are less important as they generally result from miss-phasing due to the granularity of the dataset and tend to correct themselves. Transaction processing is relatively straight forward. There are five basic transaction types.

1) The XIN and xin transactions represent the transfer of waste from process to storage and simply record the transfer of HDW waste to the storage tanks. The xin designation identifies an assumed rather than a documented transaction. 2)The REC and rec transactions are tank to tank or tank to process transactions with the rec designating an assumed transaction. 3)The outx is a transfer to process or CRIB and is essentially another variation of the REC transaction. The last three transactions move HDW waste vectors between tanks and processes. 4)The cond transaction removes water from the tank without changing the HDW waste vector. 5)The stat transaction serves to realign the tank volume with physical measurements.

—Ancillary information

In addition to the tank compositions, the SMM also generates a variety of other important information. These include volumes of waste from assumed transactions, total traffic in a tank, traffic from assumed transactions, and various other information.[6]

IId. Approach—Hanford Defined Wastes (HDW) Compositions

The determination of chemical and radionuclide concentrations for each of the HDW's begin with inputs of radionuclides and stable chemicals, both of which are used to define the total species in each waste stream as shown by the Block Diagram of HDW Spreadsheet (Fig. 5). These total species are then separated into two layers, a sludge and a supernatant, that result in different concentrations of species for the two layers.

Each species is precipitated according to a single point solubility. Ions precipitated in more than one salt are simply successively precipitated. Thus, the solids that precipitate are merely representative and are not meant to reflect the actual solids distribution. Because the supernatant is also present in the interstices of the sludge layer, this "supernatant" is included as part of the sludge composition. The solubility of each species is set by a macro that when run on the HDW spreadsheet, adjusts the fraction precipitated parameter so that the supernatant concentration is equal to or less than the target solubility.

The sludge and supernatant compositions are each expressed in mol/L for the stable chemicals, with water and TOC as wt% and radionuclides in µCi/g and Ci/L, respectively. Each waste is kept in ion and mass balance according to the oxidation states assumed for that species. The sludge and supernatant layers are also expressed in terms of ppm composition. However, the mass balances are limited by differences among water, oxide, and hydroxide with the various solids to only within ±2%.

—Three methods for establishing defined wastes

There are three distinct methods that have been used by previous workers to set the concentrations of each component in the various waste streams at Hanford. These three methods are based on either one or a combination of (1)knowledge of process, (2)chemical used and waste volume produced, and (3)analysis of characteristic waste. However, while these methods provide necessary information for waste stream definition, these methods do not provide sufficient information to define the waste streams.

That is, once the component concentrations (i.e. source terms) are determined for each of the HDW's, one still needs to determine two critical pieces of information to calculate the actual compositions of solids and supernatant components within each tank. That is, one needs to know the solubility of each component in the supernatant as well as the total solids volume percent for that waste stream. With these two additional parameters the waste stream source terms can be related to what is in each tank that received those wastes.

Furthermore, the model that we have developed for the HDW compositions uses *representative* values for the speciation of the components in the solids phases. In other words, the solids that precipitate within the HDW model are those listed in Methodology (see below). For example, phosphate solubility is determined by the ranges observed in tank supernatants, but the solid phases that precipitate are limited to a combination of $BiPO_4$, $Na_3PO_4 \cdot 10H_2O$, and $Na_3PO_4 \cdot 12H_2O$, depending on the circumstances of the waste stream. We argue that this approach adequately approximates the major features of each solids layer without the complexity that undoubtedly exists in the actual waste sludge.

Block Diagram of HDW Spreadsheet

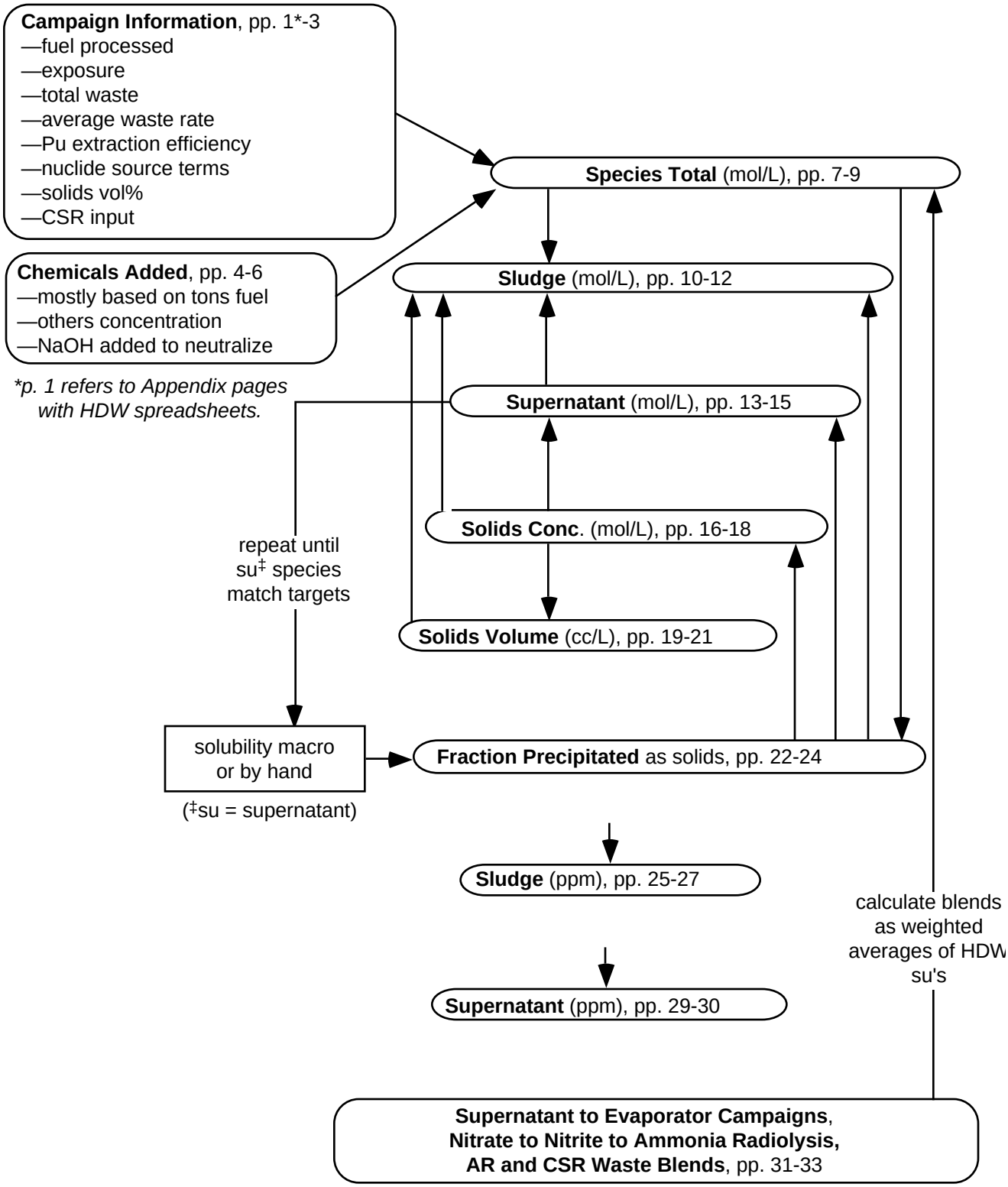

Fig. 5. *Block Diagram of HDW spreadsheet .*

Another example is Cs-137, which is precipitated within our model formally as the zero valent metal, when in fact we fully realize that it is actually precipitated as a monopositive cation as some kind of salt.

—Knowledge Of Process

Basically, this strategy uses process information, such as flowsheets, to derive waste compositions based on a process driver. At Hanford, the driver for HLW was tons of uranium fuel processed per quarter. Therefore, based on this feed, a certain amount of waste was generated for a given Hanford process, such as Purex, and expressed as gallons of waste per ton fuel.

The advantages of this strategy are its simplicity and straightforward application to waste streams. The disadvantages are that often the flowsheet information is incorrect or incomplete. In fact, ancillary or cleanup operations not described explicitly within the flowsheet can end up creating larger waste volumes, and add different constituents to the waste as well.

Specifically, actual waste volumes usually differ from predicted waste volumes based on flowsheet information, and it is not clear how to scale the composition of the primary stream. For example, if a Purex flowsheet indicates that 51 gal. of P waste is generated per ton of uranium, but actually 275 gal/ton occurred, how do the constituents within the stream scale? Is the additional volume just water?

—Chemicals Used/Waste Volume Produced

This approach uses observed waste stream volumes, both liquid and settled solids, to establish an actual waste generation rate in gallons of waste per ton of uranium processed for each waste stream. Thus, volume conservation is enforced from the beginning. Then, total chemicals added during processing allows one to unambiguously derive *average* waste compositions. Thus, total mass is always conserved with this approach. (Note that this is the approach that Allen used[11] in his report in 1976.)

The disadvantage of this approach is that it concentrates on only the total amount of chemical used during a campaign. There is often limited information about how the chemicals used changed *during* a campaign. As a result, while this Chemicals Used/Waste Produced approach provides an accurate average waste composition, variations in the compositions of the waste streams are not represented unless one has independent information about the amounts of chemicals used during each of those process variations within the campaigns.

—Analysis of Characteristic Waste

Deriving waste inventories from analytical information of course begs the whole issue of determining a waste type composition. If a tank's waste is fairly homogeneous, straightforward sampling and analysis will provide an inventory for that tank. The real issue, then, is how can the information from an analysis of tank A's waste be used to predict the contents of tank B. On the one hand, direct analytical information constitutes the bottom line for any tank inventory. On the other hand, there are mitigating factors that show that this approach also has severe limitations.

Sampling has been and will continue to be a very uncertain source of waste composition information for many different reasons, not the least of which is that it is a very difficult and expensive thing to achieve for 177 tanks. For example, pulling a sample from a waste tank is in and of itself a very difficult task, but even when that is done, the question of whether that sample is representative of the tank waste is sometimes impossible to answer—even with additional sampling.

Then, there are the inevitable analytical errors that derive from the procedures used to homogenize, dissolve, and finally analyze each sample. And there is the over arching uncertainty, once these other issues are resolved, of exactly which waste type a tank's waste is representative. In other words, given that SY-101 is a mixture of DSS and CC wastes, what does the analysis of that tank's waste tell us about either of these two waste types?

—Method used for HDW model

We believe that the Chemicals Used/Waste Produced approach is the best for defining waste compositions, therefore, will favor that method. However, much use will be made of Knowledge of

[11]Allen, G. K. "Estimated Inventories of Chemicals Added to Underground Waste Tanks, 1944 through 1977," ARH-CD-6108, March 1976.

Process, since it is necessary to change the manner in which the chemicals are partitioned in the waste stream over the years in order to account for changes in the process. Unfortunately, these two sources of information are often in severe disagreement. For example, there was 3.3 Mmol (1 Mmol = one million moles) of citrate reportedly used in B Plant, but the flowsheets suggest that 32 Mmol would have been used, based on the flowsheet concentration and volumes of waste produced. We do not feel that it will ever be possible to resolve all of these discrepancies between these two sources of information. Therefore, we will only use Knowledge of Process to account for notable changes in the waste processes. For example, in 1962, the Purex waste (termed P) decreased from 844 gal/ton to 288 gal/ton—a factor of 2.9 reduction. Obviously there was a change in the process in 1962 that had a dramatic affect on the volume of P waste that was generated. At that same time, CWP volume stayed at 291 gal/ton, but OWW volume went from 108 gal/ton to 336 gal/ton, an increase of a factor of 3.1.

Review of Campaigns

—Overview

Some 496 million gallons of waste was placed into single-shell and double-shell tanks at Hanford from 1944 to 1988, shown in an overview of Hanford waste volumes Table 2. This amount includes Metal Waste (MW) that was reprocessed in U Plant from 1952-56 and Purex sludge and supernatants that were reprocessed in B Plant 1967-76. After reprocessing and water additions, there was a net of 347 million gallons of waste placed into various tanks. Then, 301 million gallons were removed by evaporation. The condensate was placed in cribs while 86 million gallons of waste was placed into cribs either directly or following scavenging operations, leaving 46 million gallons of waste in the tanks from the 1944-80 era.

Since that time, another 30 million gallons of waste has been generated and concentrated to 15 million gallons of waste as of January 1994, leaving 61 million gallons of waste in Hanford waste tanks. Of this amount, 36 million gallons of waste are now in single-shell tanks (all derive from the early era), while the 25 million gallons of waste reside in the double-shell tanks (deriving from both eras), as shown in an Overview of Hanford Waste Volumes (Table 2).

—$BiPO_4$ campaign

The bismuth phosphate process began in T Plant in December 1944, and in B Plant in April 1945. This process ran until 1952 in B Plant and until 1956 in T Plant and generated some 98,000 kgal of MW, 1C, 2C, and 224 wastes. The Farms T, TX, and TY were used for wastes from T Plant, while B, BX, and BY were used for wastes from B Plant. The term Metal Waste (MW) derived from the code word for plutonium during the war years, "metal." The other terms 1C, 2C, and 224 represent the wastes from first cycle, second cycle, and the plutonium finishing operation in building "224."

These wastes were generated from 1944 to 1956 and the HDW compositions reflect those of Anderson, Jungfleisch, Schneider, and Place. A summary of the wastes generated during this campaign are shown in App. B and a synopsis for the $BiPO_4$ process is illustrated in Bismuth Phosphate Process Synopsis (Fig. 6).

Anderson-91 reported that, starting in September 1947, second cycle decontamination waste from T Plant was to be cribbed or placed in the ground, at which time the $BiPO_4$ process had been running some two-and-a-half years. Then in February 1948, second cycle wastes from B Plant were directly cribbed as well. Thus, the ~2,400 gal/ton waste rate shown in (App. B) for 2C waste probably reflects the fact that a large portion of the 2C waste had already gone into the ground at T Plant.

Around 1950, there was an abrupt change in both the 1C and 2C waste rates. The 2C rate increased from ~2,400 to an average of ~4,600 gal/ton, nearly twice the volume rate that it had been. Moreover, in 1954 the rate actually peaked at 25,000 gal/ton, as shown in Waste rates for $BiPO_4$ (Fig. 7). During this same period, the actual amount of fuel that was processed was quite low, as shown in the $BiPO_4$ Waste History (Fig. 8)., therefore, there is not a large effect on the average rate over the period 1950-56. Anderson-91 noted that canyon cell drainage waste, previously disposed of to dry well via 361 Settling Tank, was added to 2C after 1951, and that stack drainage (from decladding off gas?) was combined with 2C up until 1951. If this change in volume were due to this drainage waste, it suggests that some 12,043 kgal of drainage waste was cribbed at B and T Plants from 1945-51. Likewise, there was a change in the solids volume per cent for 2C waste, which we estimate to have been 6.8 vol% from 1945-49 and 3.4 vol% from 1950-56.

Table 2.
Overview of Hanford Waste Volumes*

		kgal	kgal
total waste generated 1944-80			496,200
	less MW sluiced	35,800	
	less P sludge sluiced	900	
	less P/R/B supernatants to B Plant	26,500	
net waste after reprocessing			433,000
	less 2C and 224 to crib	30,000	
	less 1C to crib	12,400	
	less 1C/UR/FeCN scavenged to crib	43,300	
net waste after cribbing			347,300
	less water added and evaporated	74,500	
	less condensate (recorded) water to crib	43,900	
	less further evaporator reduction	182,900	
net waste remaining from 1944-80			46,000
	sludge	14,000	
	salt cake	19,000	
	other liquids	13,000	
total waste generated 1981-88			30,000
	less volume evaporated	15,000	
net waste remaining			15,000
	sludge from '83-88	1,100	
	other liquids from '83-88	13,900	
	waste from 1944-80	46,000	
total waste 1-1-94			61,000
	SST	36,000	
	DST	25,000	

**As of 1-1-1994.*

The main receiver of 2C waste from T Plant was T-110, which cascaded to T-111 and T-112, and then to various cribs. From B Plant, 2C waste was placed into B-110, which cascaded to B-111 and B-112. All told, 21,000 kgal of 2C was cribbed from T-112, and 4,700 cribbed from B-112.

The 1C vol% solids increased rather dramatically from 14 vol% from 1945-47 to 25 vol% from 1947-51 as shown in the section Methodology (Table 5), while the waste rate only increased from ~3,700 gal/ton to ~4,900 gal/ton from pre 1950 to post 1950 (App. B) and Waste Rates for $BiP0_4$ (Fig. 7). We do not completely understand this change in 1C solids per cent, but it is important in the solids layering predictions. We assume in our model that the change in solids volume per cent was due to a reduction in sodium hydroxide added to neutralize the waste stream. With less sodium hydroxide, more aluminum precipitates as the oxide and less remains in solution as aluminate. Accordingly, we adjust the caustic downward for 1C2 versus 1C1, and adjust the fraction aluminum precipitated as oxide accordingly. Note that the 1C2 waste rate was quite variable during its period, ranging from 1,800 to 6,800 gal./ton fuel, while the 1C1 waste rate ranged from 2,000 to 4,000 gal./ton during its period.

Anderson-91 reported that alkaline coating removal waste (CW) was combined with 1C for storage, and that stack drainage was combined with 1C after May 1951. Whether either of these wastes had anything to do with the waste rate changes is uncertain at this time. In any event, 1C wastes were largely added to T-107, U-107, B-107, and C-107 overfilled to the corresponding tanks in a three tank cascade.

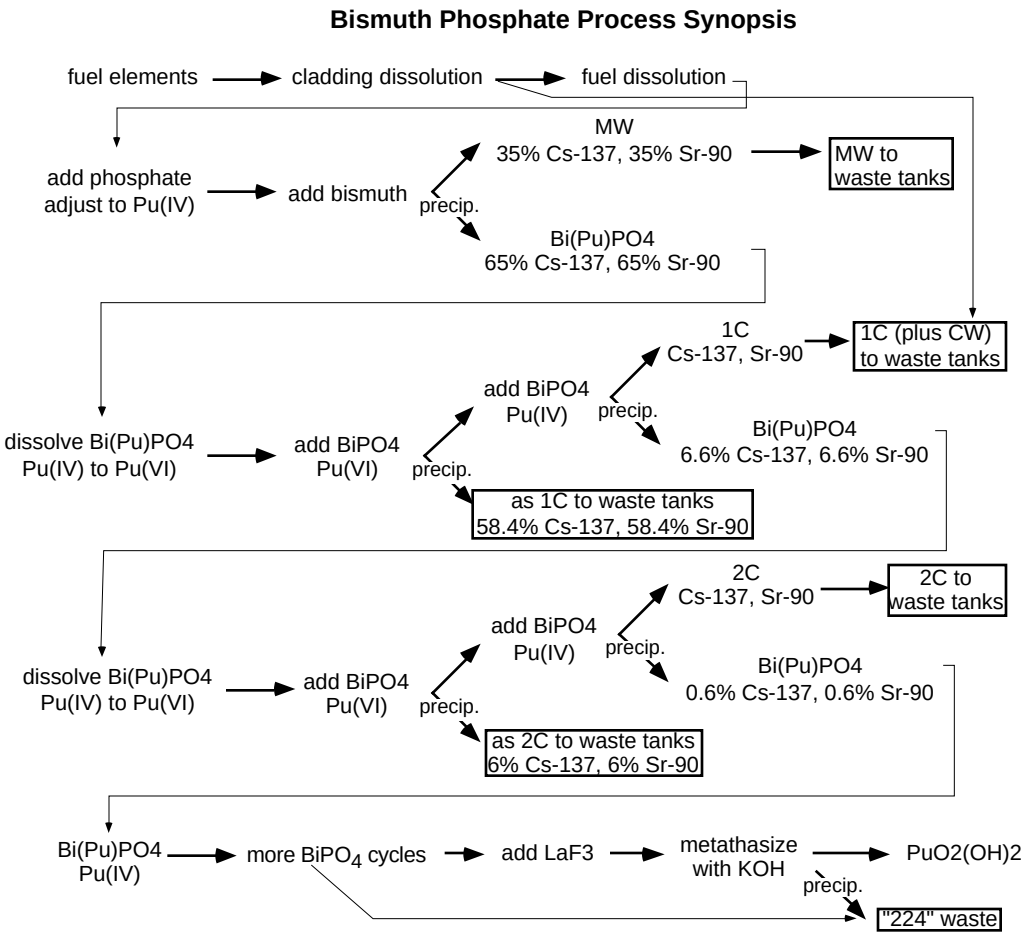

Fig. 6. *Diagram of $BiPO_4$ process.*

Prior to being welded in their jackets, the fuel slugs were coated with a bronze layer (Cu and Sn) up until about 1952 or so and neither of these elements are currently within the HDW chemicals added. During most of the aluminum cladding operation, though, lead dips instead of bronze were used for fuel slugs which is included with the cladding waste definition.

The 1C supernatant was not generally cribbed, although Anderson-91 reported that 4,807 kgal of 1C supernatant and 1,938 kgal of 1C evaporator bottoms were cribbed. The SMM and TLM composition tables (App. D) show some 12,439 kgal of original 1C HDW supernatants were placed into cribs during this time. This increased volume of original supernatants over and above the actual volume sent to the crib is because the cribbing of concentrated 1C supernatants. Other 1C supernatants were "scavenged" in TY Farm during the ferrocyanide campaign. These scavenging operations resulted in production of ferrocyanide sludges that are termed 1CFeCN in the defined waste list HDW Composition Spreadsheets (App. B) in waste type #12 and now reside in TY-101 and TY-103.

Waste from the plutonium concentration facility, so-called "224" waste, was generated by a plutonium finishing process known as the Lanthanum Fluoride process. According to Anderson-91, all the 224 wastes were cribbed at the plant, and therefore never entered the waste farm. However, WSTRS (and even Anderson-91 waste summaries) show that some "224" waste was placed into the farms. In particular, WSTRS reported 1,220 kgal of "224" waste was added to T-110, -111, -112 from 1951-53, 173 kgal was added to T-201, -202, -203, and -204, and another 372 kgal was added to B-204, -203, -202 from 1952-56. It is not clear why only this amount of "224" ended up in the farms. It is possible, for example, that only accumulated sludges and not the all of the waste was placed into waste tanks, or perhaps there was some process upset that occurred.

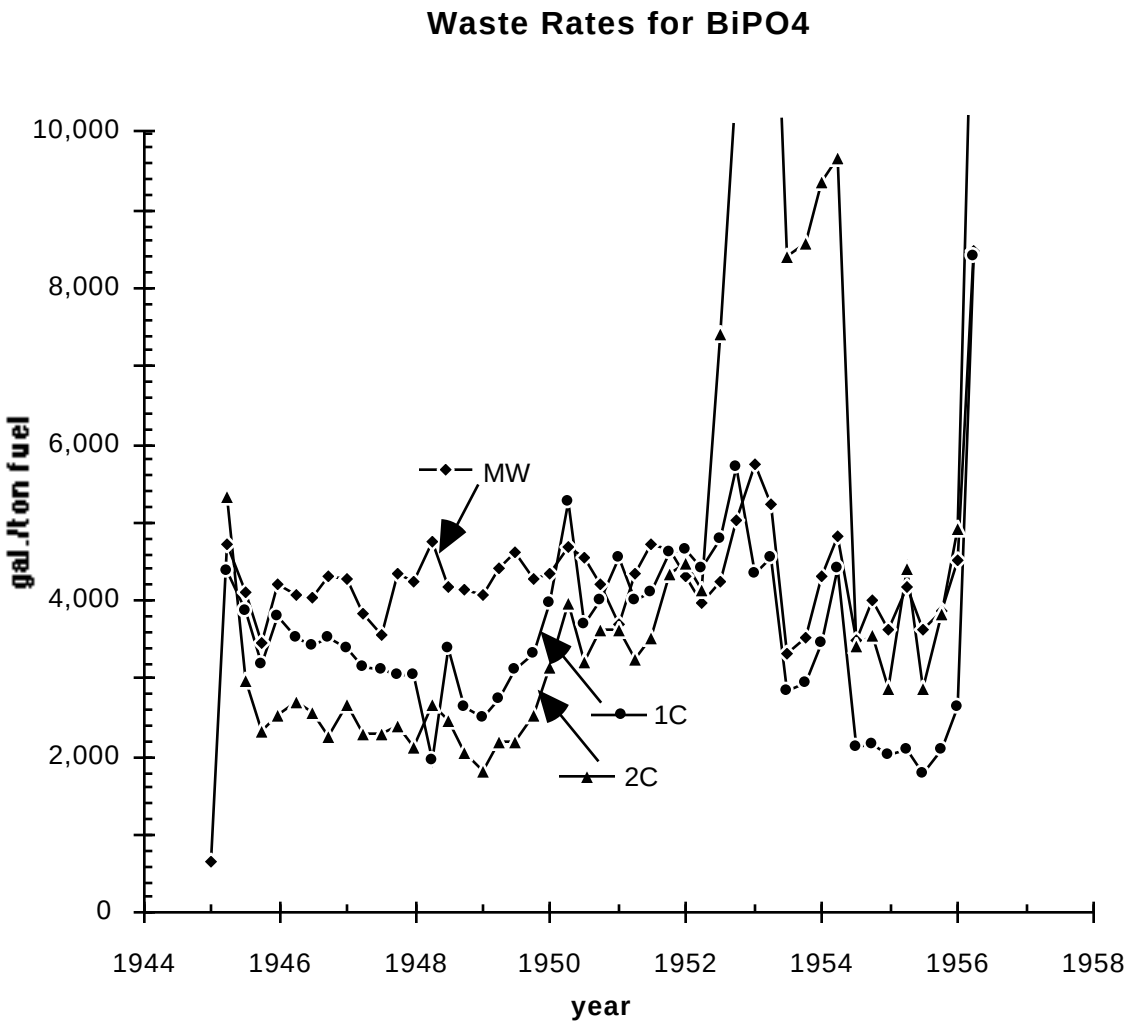

Fig. 7. *Waste volume rates for $BiPO_4$ campaign.*

The solids amount for "224" waste is very uncertain at this time, but an estimate for the solids fraction comes from the percent water reported[12] from an analysis of T-111 waste. Note that some 154 kgal of solids accumulated in B-204, -203, -202, and -201, while only 372 kgal was recorded as having been added to this cascade by WSTRS, for a 41 vol% solids. This solids content is very high and it is probable that much more than 372 kgal was actually added to this cascade. In particular, estimates of per cent solids obtained by using an 80 wt% water would be 4 vol%, which would suggest that more like 3,900 kgal was added to this cascade. Likewise, some 124 kgal solids accumulated in T-203, -202, -201, -204, while only 173 kgal "224" is recorded as having been added to this cascade. Using a nominal 4 vol% solids, this actual volume added to the T-200 cascade would have been more like 4,300 kgal. Thus, we have assumed that a total of 8,300 kgal of "224" waste was placed into these various cascades over the history of this process.

The compositions of the $BiPO_4$ wastes came from Anderson-91, Jungfleisch-84, Allen-76, and other information.[13,14] Anderson states that 1C waste contained 10% of fission products and 2C had

[12]Preliminary analysis of T-111 courtesy of Roger Bean, PNL.
[13]no author "Hanford Technical Manual," HW-10475, May 1944.

1%, but this description does not further define the partitioning of fission products, such as Sr-90 versus Cs-137. Therefore, we have partitioned both C-137 and Sr-90 as 35% into MW, 58.6% into 1C waste, 6% into 2C, and 0.6% into 224. The remaining radionuclides are partitioned as 88.9, 10, 1.0, and 0.1%, respectively.

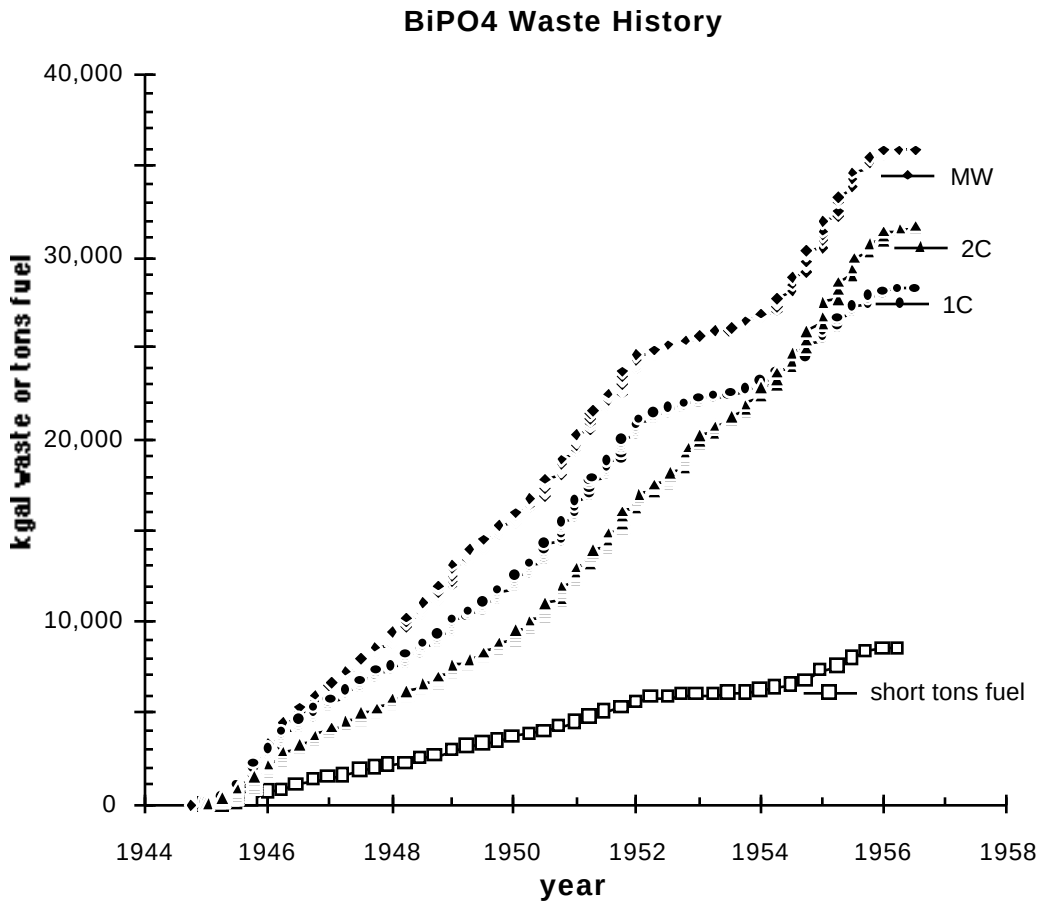

Fig. 8. *Total waste volumes from $BiPO_4$ campaign*

—Uranium recovery

The $BiPO_4$ process did not remove uranium from the process stream. A second campaign, the uranium recovery campaign, began that involved sluicing the MW tanks and extracting the uranium from those wastes. This uranium campaign involved U Plant and a process that was based on a TBP/NPH solvent extraction, and produced a waste that has been referred to as TBP. This report, however, it is termed UR waste to make clear the distinction among the process wastes that involved the chemical, TBP. A description of the overall uranium recovery process is shown in (Fig. 9).

The uranium recovery campaign began in 1954 and recovered the MW that was stored in B, C, BX, BY, T, TX, and U Farms. This campaign reportedly produced about two gallons of waste for each gallon of MW that was processed (actually ~2.5 by WSTRS, adding UR, PFeCN1, PFeCN2). Therefore, more waste was created than could be accommodated by the tank farms and a scavenging program based on the precipitation of $Na_2NiFe(CN)_6$ within the waste stream to scavenge or entrap the Cs-137 began. With the Cs-137 precipitated in the sludge, the supernatant was then placed into the ground in cribs or trenches. As a result, about 30,000 kgal of scavenged waste was sent to the cribs following an in-

[14] Kupfer, M.J.; Boldt, A.L; Higley, B.A.; Lambert, S.L.; Orme, R.M.; Place, D.E.; Shelton, L.W.; Watrous, R.A.; Borsheim, G.L.; Colton, N.G.; LeClair, M.D.; Schulz, W.W.; Hedengren, D.C.; Winward, R.T. "Standard Inventories of Chemicals and Radionuclides in Hanford Site Tank Wastes," WHC-SD-WM-TI-740 Draft, September 1996.

plant addition of ferrocyanide and 12,000 kgal was sent to the crib with in-farm or CR-Vault addition of ferrocyanide see Overview of Hanford Waste Volumes, Table 2.

Uranium Recovery Process Synopsis

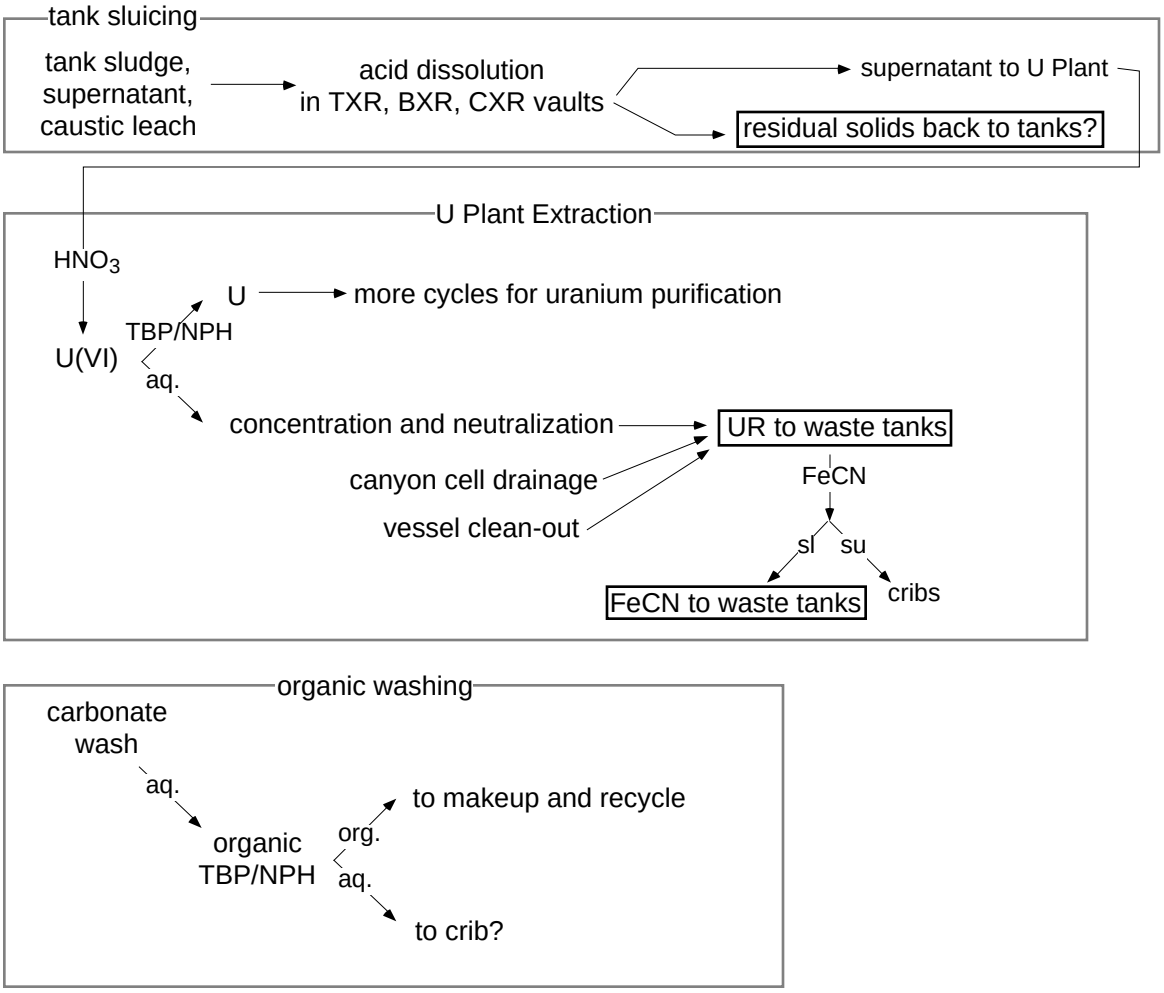

Fig. 9. *Uranium Recovery process synopsis.*

Evidently, there were heel remnants of MW solids in many of the tanks following sluicing and as much as 40 kgal of solids remained in some tanks following sluicing operations. We assume that some of these heels were left behind because of expediency and not because the solids weren't sluicable. However, there were reports of hard pan forming in well-aged MW sludges and the suggestion was that a very hard uranium carbonate phase was formed in aged MW sludges. The Uranium Recovery manual states[15] that although sluicing and then acid digesting MW sludge in tank farm vaults was the baseline process, dissolution of uranium in caustic water and/or sodium carbonate solutions would also be attempted within the waste tanks. It is not clear, though, what happened to the sludge remnants that would have resulted following acid digestion in TXR, BXR, and CR tank farm vaults during feed preparation of recovered MW sludge. We have found that more than 15-20% of the expected 4,309 kgal of MW sludge still remain as heels within various tanks. We have used the reported sludge levels for MW as 12 vol%, although values as high as 25 vol% were mentioned in the Uranium Recovery manual.

[15] no author "Uranium Recovery Technical Manual," HW-19140, November 1951, section 1.1, p. 109.

Although the solubility of the uranium/carbonate complex in MW supernatants was reported in the UR manual to be 0.11 M, that same source also claimed that 75% of the uranium was present as a solid in the sludge. Our calculations show that if 75% of the uranium were in the sludge, a supernatant of only 0.04 M U would result. If we assume that the 0.11 M solubility point is correct (uranium solubility is ~0.004 M for typical tank waste supernatants), this would have meant that only 35 % of the uranium was in MW sludge. Thus, we suggest that caustic sludge leaching may have been performed in the later stages of the Uranium Recovery Campaign in lieu of actual sludge removal and acid digestion in the vaults.

For these MW heels, we have assumed that 80% of the plutonium and strontium and 95% of the cesium associated with MW sludge were removed and ended up in the uranium recovery wastes as either UR, PFeCN1, and PFeCN2 sludges, while the remainder of the plutonium and strontium remained with the MW heels. There were frequent problems with pump failures and other difficulties sluicing the so-called "hard-pan" out of tanks with well-aged MW, as previously detailed.[16] It is possible that these difficulties resulted in some expediency with regards to the MW heel remnants that were left within the tanks.

For UR waste, there is a problem with the composition—it is not consistent with expectations based on the flowsheet. This is shown by the phosphate levels, for example, which lead to a solids volume per cent that is much larger than that observed for this waste. We assume that the decision to leave many MW solids in the waste tanks was based on the leachability of uranium from the solids. That is, agitation of the solids with a basic carbonate solution should have been sufficient to leach the uranium out of the solids and into the supernatant. The supernatant could then be passed on to Uranium Recovery for processing, and therefore preventing the unnecessary transfer of large amounts of solids.

Since only supernatants were scavenged for TFeCN and 1CFeCN wastes, there were very small amounts of plutonium and Sr-90 in these wastes and we have neglected them. We have used a Cs-137 concentration identical to that of the supernatant of UR and 1C wastes, respectively.

The compositions of the UR wastes were taken from Anderson-91 and Jungfleisch-84, but the ferrocyanide sludges were defined[17] from Borscheim and Simpson. Also used to some extent was the Uranium Recovery Manual.[18] However, we have found that there is evidently some double counting of species within the MW and UR waste streams. That is, the 810 Mmols of $NaNO_3$ mentioned by Allen evidently included the $NaNO_3$ added during MW. Therefore, many estimates of the total sodium used for these two processes are in error since they add these two source terms together. Likewise, Allen shows 50 Mmols of Na_3PO_4 added during UR, when no phosphate at all was actually added during the uranium recovery campaign. All of the phosphate was actually carried over from the $BiPO_4$ operation. Therefore, there has been some double counting of added chemicals in past estimates of site inventories.

—Redox

The Redox process was based on the extraction or salting out of plutonium and uranium from an aqueous aluminum nitrate solution into an organic phase, methyl isobutyl ketone also known as hexone in the Redox Process Synopsis (Fig. 10). Anderson-91 describes the various stages in the development of the Redox process, which began in January 1952 at S or Redox Plant.

According to Anderson, waste was originally generated at 4,378 gal/ton in 1952, and that rate was reduced to 594 gal/ton in 1966. We have found by analyzing the fill records, on the other hand, that the waste rate peaked at around 4,600 gal/ton in 1952 and after around 1958, leveled off to around 1,100 gal/ton.

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[16] Rodenhizer, D. G. "Hanford Waste Tank Sluicing History," WM-TI-302, September 1987.

[17] Borsheim, G. L. and Simpson, R. C. "An Assessment of the Inventories of the Ferrocyanide Watchlist Tanks," WHC-SD-WM-ER-133, October 1991.

[18] no author "Uranium Recovery Technical Manual," HW-19140, November 1951.

Redox Process Synopsis

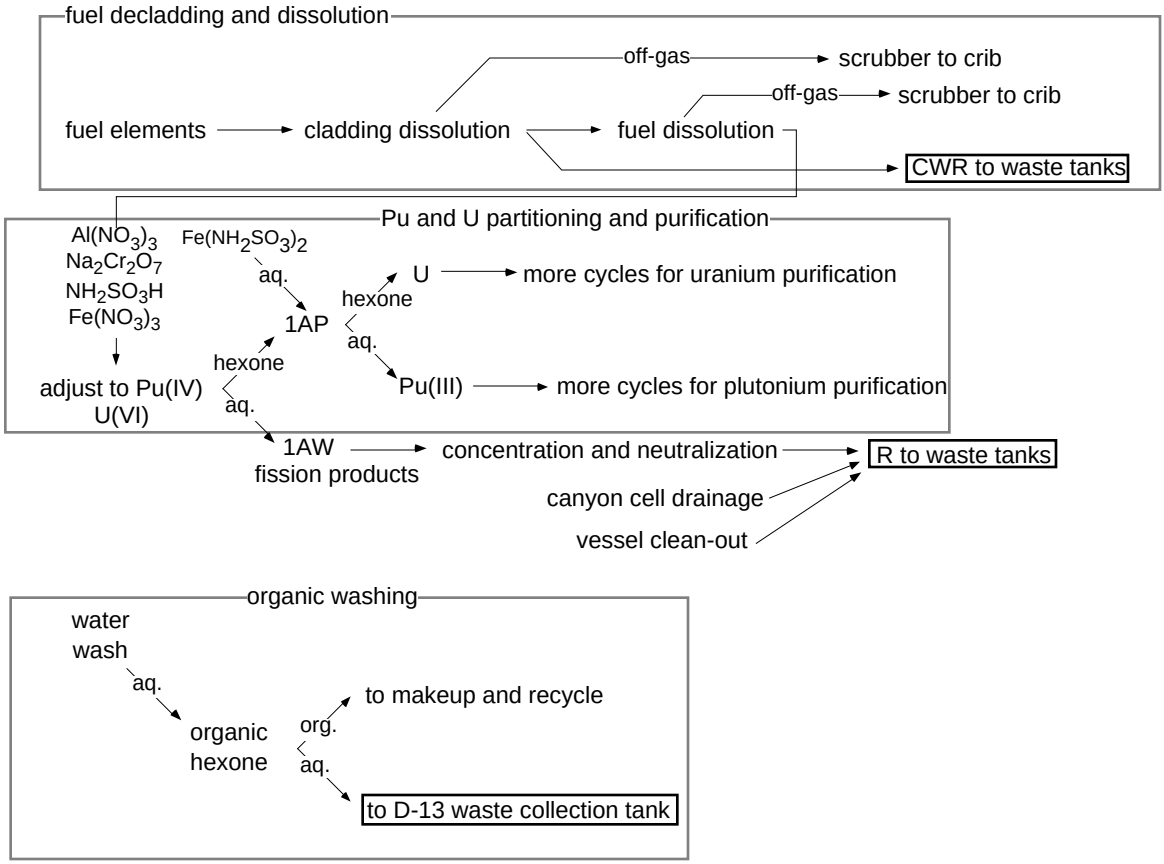

Fig. 10. *Redox process synopsis.*

Thus, there were essentially two eras for the Redox waste, the first era from 1952-58 averaged 2,106 gal/ton, followed by a reduction to 1,119 gal/ton from 1959-66 as shown in the Waste Volume Rates for Redox Campaign (Fig. 11) and the HDW Model Inventories for 177 Tanks (App. E). We do find a waste rate as low as 500 gal/ton in the last quarter of 1966, but averaged for all 1966, the last full year of operation, Redox generated waste at the rate of 1,085 gal/ton.

We have also found that the cladding waste generation rate CWR was fairly constant at 266±30 gal/ton over the entire history of Redox, as opposed to a remark by Anderson-91, that cladding waste volumes were cut in half in 1956-57. We have found no such decrease in CWR waste rates averaged for any year of operation over the entire Redox campaign. There are some 980 kgal of CWR that is reported by WSTRS after all fuel was no longer processed in Redox in mid 1966 see Total Waste Volumes for Redox Campaign (Fig. 12). We assume that the fuel slugs from this decladding operation were actually processed in Purex Plant.

Prior to being welded in their jackets, the fuel slugs were coated with a bronze layer (Cu and Sn) up until 1952. Neither of these elements are currently within the HDW chemicals added and so are not included in the cladding waste estimates. Subsequently, lead dips were used instead of bronze for fuel slugs and lead is in the cladding waste chemicals added.

Anderson-91 also mentions that Redox processed some Zircaloy cladded fuel, which came from N-Reactor. However, Jungfleisch indicated that the first Zircaloy cladding waste was created in Sept. 1967, and Redox plant shut down in 1966. Other sources (HWN-1991, p. 130) have indicated, on the other hand, that some 269 tons of Zircaloy clad fuel was indeed processed in Redox in 1966. Since the last cladding waste from Redox (CWR) was place in S-107 in 1967q1, and we expect that some 18 kgal of CWZr1 sludge would be in the layers of this tank.

The early solids accumulation in Redox waste tanks during 1952-8 is associated with the era where the Redox waste rate underwent substantial change, as noted before. These tanks were also self-concentrating the waste, which increases the tanks' solids load even further. We have used a value of solids volume per cent of 4.4 vol%, which is based on accumulations in SX-105 and SX-111, neither of which tanks were reported to have undergone significant self-concentration over the period in question. These solids per cents are derived based on consistency with the 2.3 vol% that we have found for the second Redox period, R2.

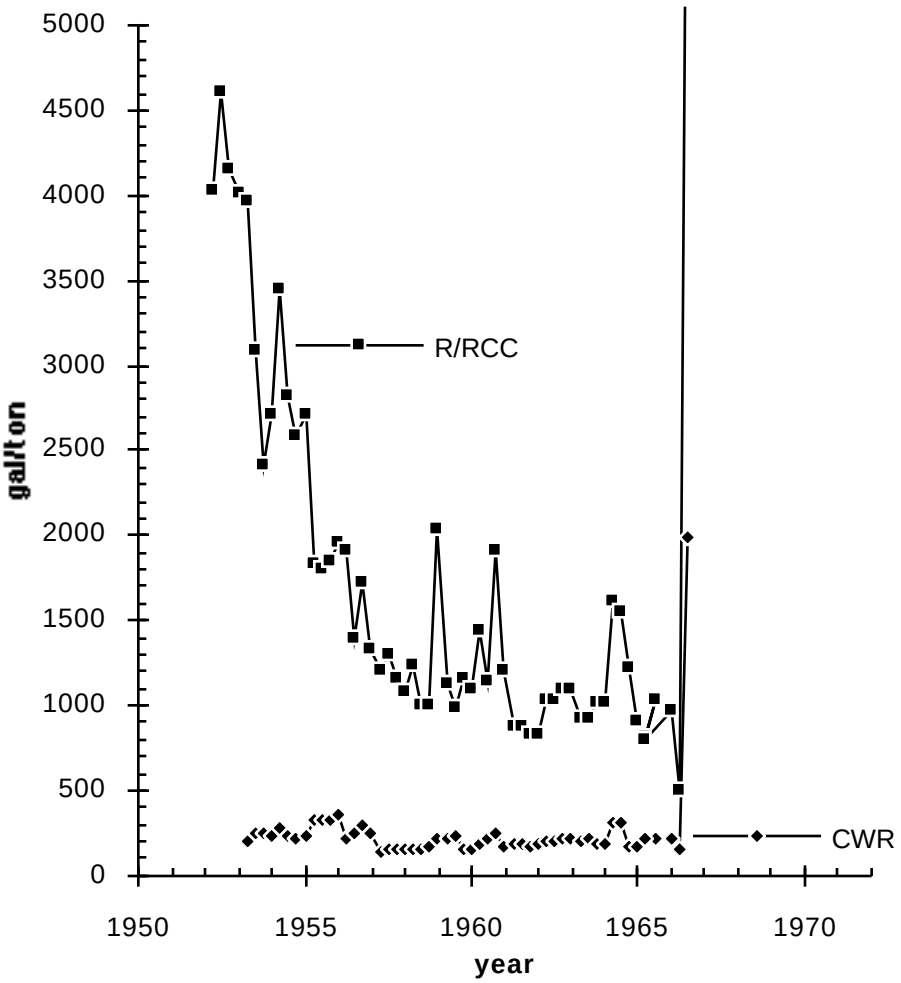

Fig. 11. *Waste volume rates for Redox campaign.*

For the second Redox period, solids accumulation in Redox waste dropped to 2.3±1.3 vol%, even as the waste rate dropped from 2,106 to 1,119 gal/ton from R1 to R2 (App. B).

Many tanks in S and SX Farms were allowed to self-concentrate therefore accumulated solids in excess of those from the primary additions. In particular, S-101, S-104, and S-107 were all primary receivers of R1 waste and were reported as self-concentrating waste tanks. Unfortunately, we do not have enough information to always differentiate between the two types of solids accumulation within the waste tanks. However S-110 was also a primary receiver of R1, but never was reported to have reached boiling. If we assume that the solids for R1 were actually 4.5 vol%, that would provide an estimate for the

concentrated solids, RSltCk, in S-101, S-104, and S-107. Thus, we assume that R waste has an implicit component within it that we attribute to the concentrate.

Tank SX-109 accumulated 14 vol% solids from its 1,756 kgal Redox waste. An analysis[2b] of the fill history of this tank reveals that it self-concentrated the Redox supernatants, and therefore deposited salt cake. Consequently, we attribute much of the solids accumulation in SX-109 to this salt accumulation and not to Redox sludge. We find that a series of tanks accumulated this Redox salt cake, which amounted to 1,065 kgal in a number of tanks in S and SX Farms. This resulted in a particular waste type, RSltCk, which is #43 in (App. B).

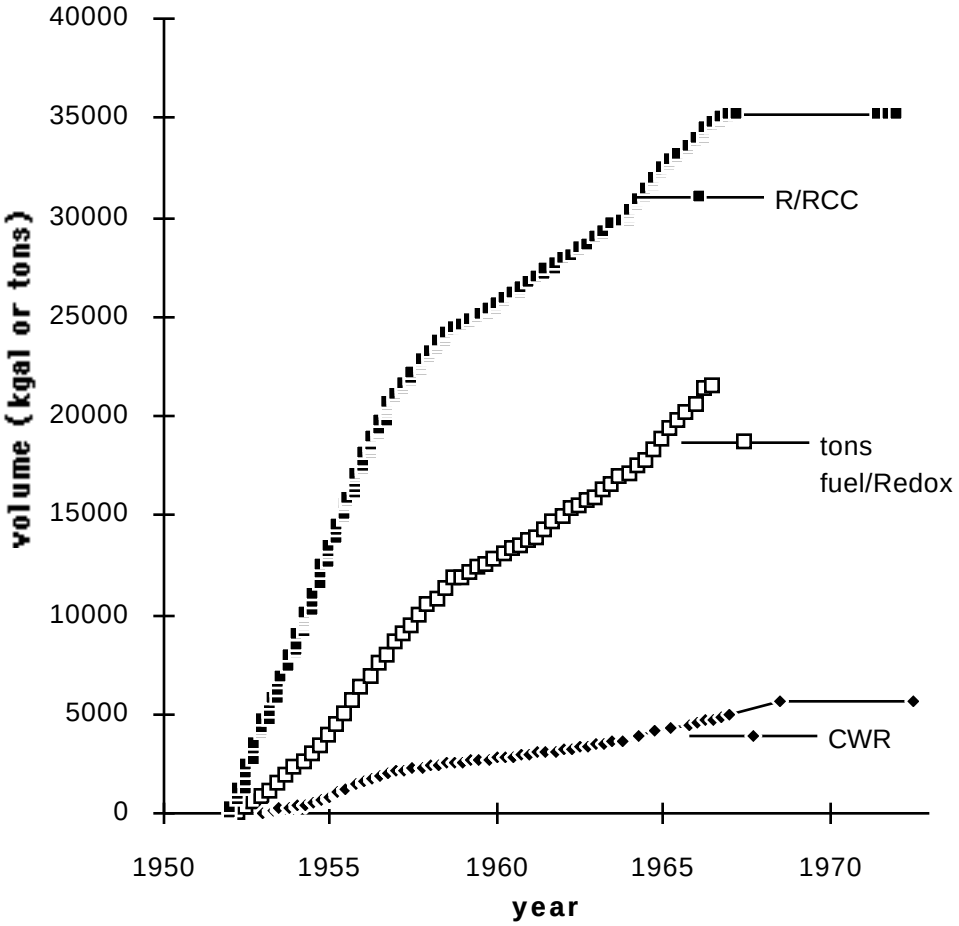

Fig. 12. *Total waste volumes for Redox campaign.*

Compositions of Redox wastes were taken from Anderson-91, Jungfleisch-84, Allen-76, as well as published flowsheets.[19] However, there is a difficulty in the amount of silica that is present in the Redox waste tanks is far greater than the amount that is listed as being present in the flowsheet. We have found a similar excessive silica source for Purex and other processes. Thus, we have added an amount of silica to the Redox waste that amounts to 50 mol Si per ton of fuel processed. The fuel that

[19](a) no author "Redox Technical Manual," HW-18700, July 1951. (b) Crawley, D. T.; Harmon, M. K. "Redox Chemical Flowsheet HW-No.6," October 1960, HW-66203. (c) Isaacson, R. E. "Redox Chemical Flowsheets HW No.7 and HW No.8," RL-SEP-243, January 1965. (d) Jenkins, C. E.; Foster, C. B. "Synopsis of Redox Plant Operations," RHO-CD-505-RD-DEL, July 1978, declassified with deletions.

was processed did actually have a silica component, which is listed in the published flowsheets as 21 mol Si/ton. At the present time, we cannot explain why the silica is actually much larger.

The amount of iron present in Redox sludge reflects the process vessel corrosion source term that we have found is a significant contribution to the Purex sludges. We have not found any information about the process vessel corrosion rates during the Redox campaign and have therefore assumed that the rates are identical with Purex.

—Purex primary process

The Purex process was based on the extraction or salting out of an aqueous plutonium and uranium nitric acid solution into a tributyl phosphate/normal paraffinic hydrocarbon (TBP/NPH) organic phase Purex Process Synopsis (Fig. 13). Purex came on line in January 1956 in A Plant or Purex Plant after having run as a pilot in the Hot Semi-Works (C Plant). The Purex campaigns and the subsequent processing that occurred in B Plant produced the most complicated combination of wastes at Hanford. We have found twenty-one distinct waste types that have derived from the Purex campaign from 1956-88.

Purex Process Synopsis

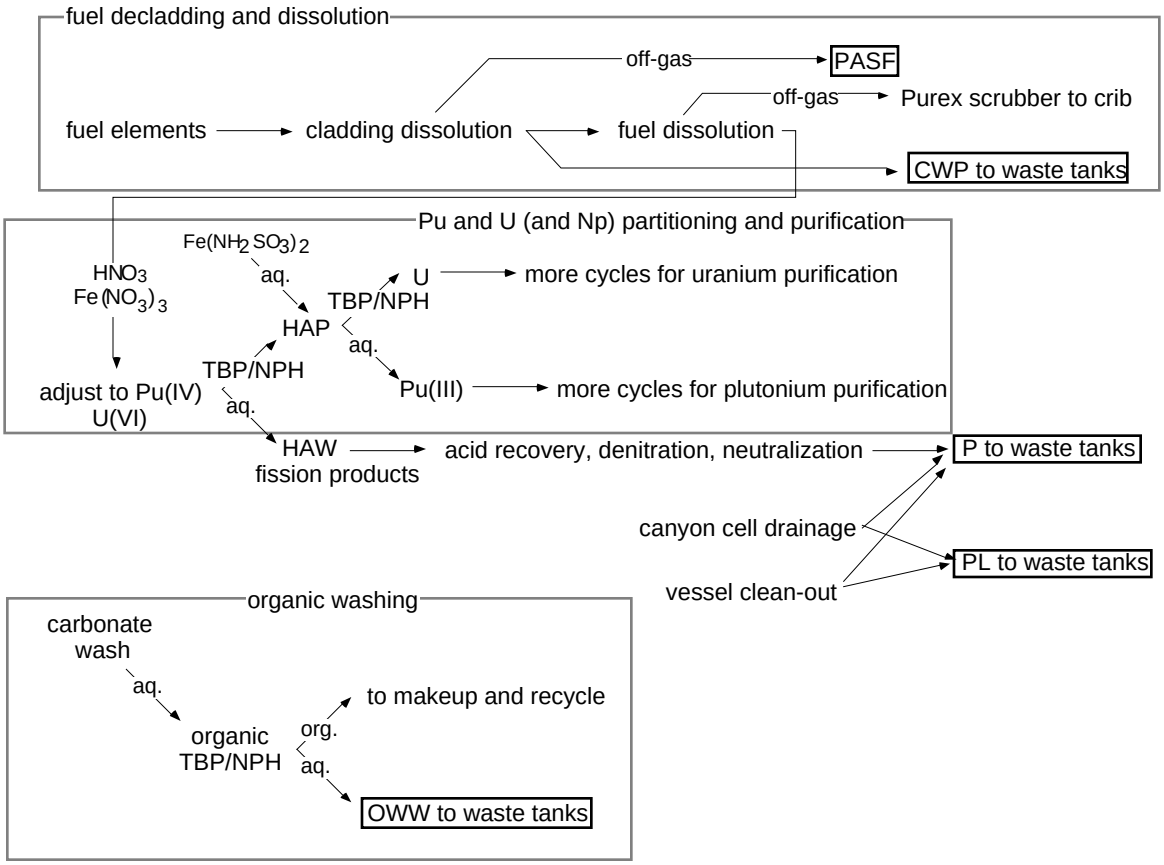

Fig. 13. *Synopsis of Purex process wastes.*

An analysis of the waste history shows that there were three eras for the Purex process. From 1956 until 1962, the Purex high level waste rate averaged 877 gal/ton, OWW 150 gal/ton and CWP 346 gal/ton, although there is a large variability associated with the P waste rate. Also in this period, we are missing OWW (actually called CARB) for the years 1959 and 1961. During this period, there was a large variability in the waste rate of Purex as compared with other operations as well as other periods of Purex. The waste rate for P waste peaked at 1,400 gal/ton in 1960, and again at 1,000 gal/ton. These waste rates suggest that the OWW wastes were actually routed to P waste receivers in 1959 and 1961. In fact,

Anderson-91 mentions that OWW were added to boiling waste tanks until 1969, and Jungfleisch-84 states that for some unspecified period, P and OWW were mixed together.

In 1960-61, it was reported[20] that a sulfate strike (i.e. precipitation) was used in Purex Plant to precipitate Sr-90 and separate it from the other fission products in HAW. The P waste rate reportedly went from 53 gal/ton to 193 gal/ton during this time. Thus, we suggest that the increase in waste rates in 1960-61 may have been due to a combination of this sulfate strike and redirection of the OWW streams. We have not, however, included any strontium depletion for this P waste. Evidently, this impure product was worked up later in either HS or B Plant operations.

The Purex waste receivers in 1959-61 were A and AX Farms. We suggest that the redirection of the OWW to these farms was due to the desire to concentrate these wastes by self-boiling. However, successive failures of two tanks in A Farm due to overheating evidently modified that strategy, and from then on, OWW was placed into other receivers and reduced in separate operations. There was a sizable self-concentration that occurred in A and AX Farms as a result of this self-boiling. However, unlike the Redox self-concentration campaign, no salt cake accumulated as a result of Purex waste self-concentration. Therefore, the volume reduction that occurred is accounted in other evaporator campaigns.

From 1963-67, the average waste rate for Purex decreased by a factor of two from 877 to 378 gal/ton while that for OWW rose by a factor of three from 150 to 391 gal/ton as compared to the period 1956-62. These changes in waste rates coincided with two fundamental changes for the Purex process. In Sept. 1962, the solutions from the second cycle uranium extraction were recycled instead of sent to the waste tanks and in Sept. 1963, sugar denitration was introduced, which reduced the nitric acid in HAW and therefore the amount of caustic that was needed to neutralize the waste. During 1962-67, the Strontium Semi-Works facility was directly processing PAW as well. The variability of the Purex waste rate remained fairly high during this period of operation. The inherent amount of high level waste generated by the Purex operation (i.e. HAW) was quite small, on the order of 50 gal/ton, and we suggest that other more a periodic sources, such as vessel cleanout and canyon drainage wastes, now began to dominate over the primary process waste.

Another spike in the P waste rate occurred in 1966, where the rate climbed to 900 gal/ton. We do not yet know why. See Waste Volume Rates for Purex Campaign (Fig. 14).

Finally, from 1968-72 the Purex HAW stream was sent directly to B Plant for strontium removal and so very little P waste was added to the tank farms after 1967. Eventually, this waste appears as B Plant high and low level wastes (B and BL). On the other hand, OWW increased once again during this latter era to 575 gal/ton.

We assume that the CWP/Al waste rate for the period 1961-72 remained at 346 gal/ton, which is the rate that occurred for 1956-60. During the period 1968-72, some 708 tons of Zircaloy N-Reactor fuel was processed in Purex (and 269 tons went to Redox, as noted above), and the waste rate for this Zirflex process (termed CW/Zr) was much higher than CWP/Al. In fact, a later flowsheet projected[21] 927 gal/ton for Zirflex waste, although the rate we calculate from WSTRS would have been 1,650 gal/ton, provided that the CWP/Al rate was 346 gal/ton. Since the two types of cladding wastes, CWP/Al and CWP/Zr were not segregated, i.e. both were added to C-104 during 1968-72, we have simply proportioned the CWP/Al and CWP/Zr waste solids accordingly over this period.

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[20]Monthly summaries, 1959-60.

[21]Allen, G. K.; Jacobs, L. L.; Reberger, D.W. "Purex Flowsheet—Reprocessing N Reactor Fuels," PFD-P-020-00001, Sept. 1982.

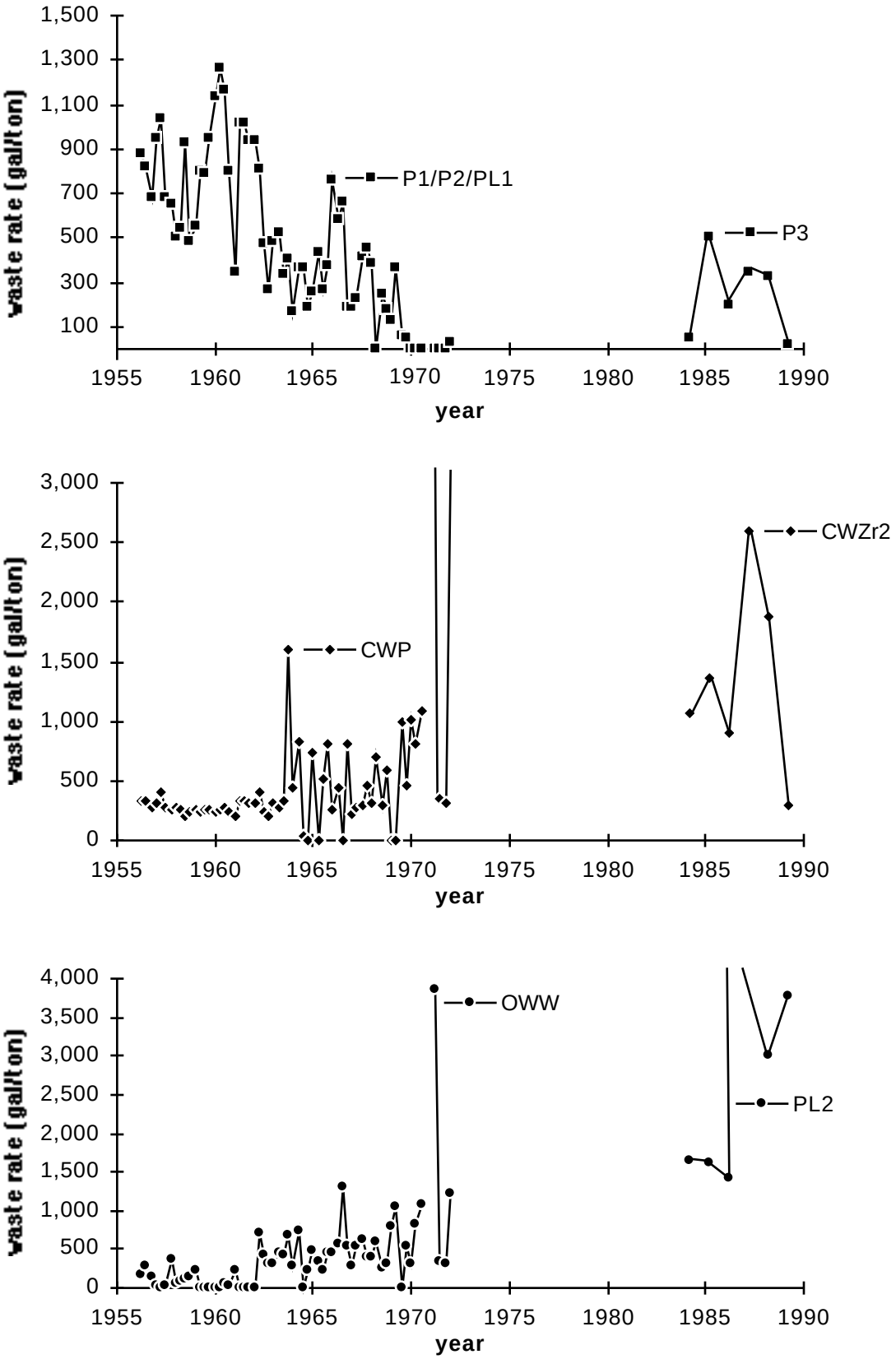

Fig. 14. *Waste volume rates for Purex campaign.*

Lead dips were used for coating fuel slugs before placing them into aluminum jackets. As a result, lead is a part of the cladding waste chemicals added.

The solids volume per cent for the CWZR1 waste of this period is assumed to be the same as CWZR2, which was 10.5 vol%, for the '83-'88 campaign. Moreover, there are indications that significant amounts of mercury were added to the dissolver solution to limit the emission of I-131 during dissolution of the fuel cladding. We have included mercury additions in our definition of cladding wastes. For total waste volumes for Purex campaign see (Fig.15).

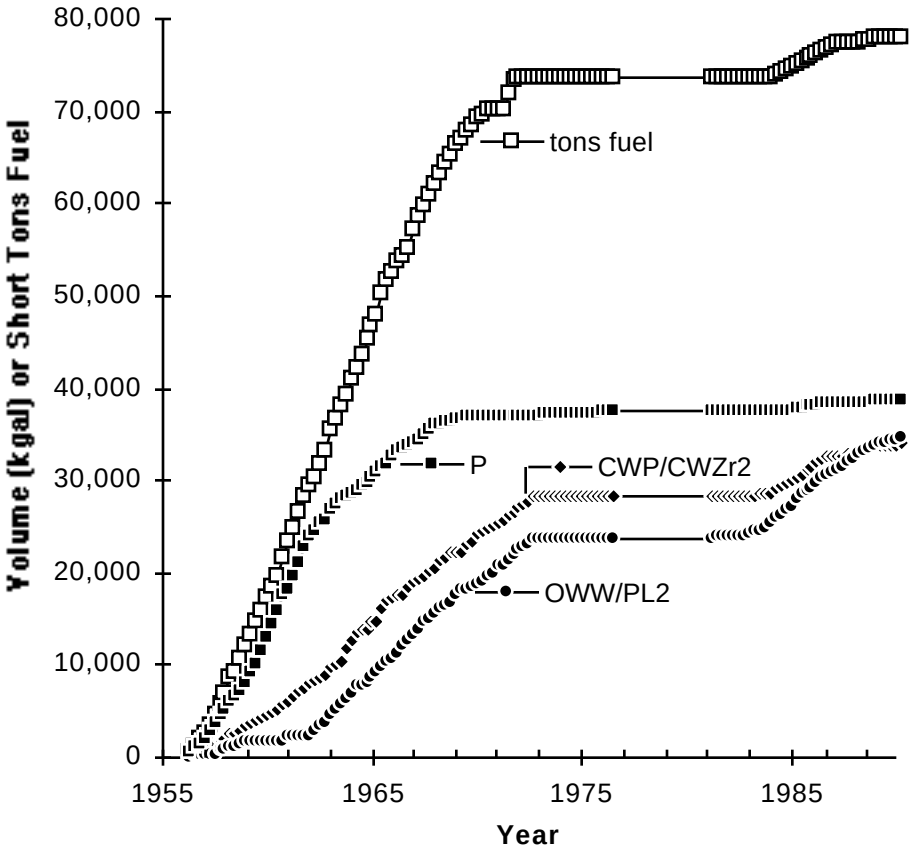

Fig. 15. *Total waste volumes for Purex campaign.*

The composition of Purex waste was taken from several sources. An early flowsheet[22] was used for the first era, a second flowsheet[23] was used for N Reactor fuels, and a later flowsheet[24] was used that updated the Purex process for N Reactor fuels. These compositions were adjusted to account for the changes in waste volume that are recorded in WSTRS combined with the total chemicals used reported by Allen-76. Basically, we have taken the waste rate of 50 gal/ton for all of the process chemicals except iron and silica, and diluted those chemicals to the observed waste rates of either 877 or 378 gal/ton.

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[22]Swift, W. H.; Irish, E. R. "Purex Two Cycle Flowsheet, Revision No.1," October 1957, HW-52389-DEL, declassified with deletions.
[23]Jeppson, D. W. "Purex Flowsheet Reprocessing N Reactor Fuels," November 1976, ARH-F-103.
[24]Allen, G. K.; Jacobs, L. L. "Purex Flowsheet Reprocessing N Reactor Fuels," September 1982, PFD-P-020-0001.

For both iron and silica, we have used Allen-76 to set the total chemicals used and the Chemicals Used/Waste Produced approach to define the waste compositions for these two species. This Si amount is on the order of 130-160 mol Si/ton fuel which is much larger than the 21 mol Si/ton fuel reported in various flow sheets. The concentration of SiO_2 in the waste stream from the plants amounts to 3,000 to 6,000 ppm, which is very large compared to a normal impurity level that is expected from hard water, which is on the order of 20-30 ppm.

Estimates of organic loss during solvent processing[25] have shown 8.4 gal organic per ton of fuel processed during Purex. For a 70/30 mixture of NPH/TBP, this suggests a loss of 2.5 gal TBP/ton fuel processed. We then assume that all of this TBP is hydrolyzed to DBP and butanol and place those in the corresponding waste streams.

The waste rate for PL2 (PXMISC in WVP notation) amounts to nearly 3,000 gal/ton of fuel processed for the '83-'88 campaign. Since no OWW was reported at all during this period (flowsheet values suggest ~400 gal/ton fuel), we assume that PL2 is actually a combination of both PL1 and OWW, despite the fact that the 3,000 gal/ton value is substantially larger than the 400 gal/ton expected from the flowsheet. The weighting that we have used is as follows:

PL2 chemicals added = (2100 * PL1 + 800 * OWW3) / 2900

The P3 waste (Neutralized Current Acid Waste, NCAW) is derived from flowsheet values that are scaled to the actual waste volume. For example, neutralized ZAW flowsheets predict 160 gal/ton, while the actual volume sent to the tanks averaged 288 gal/ton. We therefore scale all neutralized ZAW flowsheet chemicals by 160/288 = 0.556 (i.e. assumed dilution).

The sugar denitration of acid ZAW used a sugar solution that would have resulted in about 25 g TOC/L of waste had it not reacted with the nitric acid. Complete consumption of the sugar was assumed, which reduced the HNO_3 from 2.8 to 0.95 M in the waste, with the carbon lost as CO_2. An estimate of the amount of sugar used in this process is that 160 gal/ton of fuel processed at 0.18 mol/L and 47,767 tons fuel processed is 5.2e6 mols sucrose, or 1,800 MT . During this denitration, an anti-foam agent was used to keep the solution from foaming. The amount added was 2.2 fl.oz/ton fuel, which amounts to about 6e-5 M Si in the waste stream, assuming the anti-foam agent is 3 wt% Si. However, we have previously found that the Si amounts in Purex waste are significantly greater than this. Accordingly, we use a value of 0.092 M Si in the P3 waste stream.

—Purex to Hot Semi-Works

The Hot Semi-Works or C Plant was used as a pilot for both Redox and Purex in the 1950's and was then used as a pilot for strontium extraction in the 1960's prior to B Plant as shown in the Hanford Timeline (Fig. 1). Purex HAW was processed[26] with this pilot and only a fairly small amount of waste was generated, amounting to 1,003 kgal over the years 1962-67. We do not know exactly how much HAW was processed for the whole campaign, but for the first hot run in 1962, 16 kgal of HAW was processed resulting in 50 kgal of waste. If we assume that the rest of the campaign progressed with the same waste rates, then 1,003 / 50 x 16 = 321 kgal of PAW were processed in the Hot Semi-Works Plant, corresponding to 321 kgal / 0.3 kgal/ton = 1,070 tons of fuel. During the period 1962-67, on the other hand, about 25,000 tons of fuel were processed, so the amount of PAW processed in the Semi-Works amounted to a relatively small fraction of the total PAW waste.

According to the report for this first hot run, about 1.04 MCi Sr-90 was extracted from 1.2 MCi Sr-90 total within the crude PAW (it not clear if this includes the Y-90 daughter) leaving 0.14 MCi Sr-90 in the waste. Scaling this by the ratio of overall waste with just this run (1,003/50), suggests that 2.8 MCi Sr-90 were left in the waste over the entire campaign, or 1.4 MCi, decayed to 1994.

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[25]Camaioni, D. M.; Samuels, W. D.; Lenihan, B. D.; Clauss, S. A.; Wahl, K.L.; Campbell, J. A. "Organic Tanks Safety Program Waste Aging Studies," PNL-10161, Nov. 1994.

[26]Richardson, G. L.; Schultz, W. W.; Mendel, J. E.; Burns, R. E.; Rushbrook, P. R.; Alford, M. D.; Cooley, C. R. "Hot Semiworks Strontium-90 Recovery Program, Part1: Program Synopsis, Part 2: Technical Basis, Part 3: Laboratory Studies, Part 4: Cold Semiworks, Part 5: Hot Semiworks Runs" HW-72666-RD, February-November 1962.

Another indication of the Sr-90 concentration in HS waste comes from a report of C-112 sampling in 1993, the very top layer of which was SSW sludge and was ~6 Ci/L. If we assume that all HS sludge was nominally 6 Ci/L Sr-90, this results in an HS waste inventory of 0.45 MCi Sr-90 (decayed to 1994) in HS sludge, which is a factor of three less than the amount estimated by the hot run report.

The chemical composition of HS from the Lucas[27] draft report, disagrees with the information from the first hot run report, and we have used this hot run report to define our HS waste. However, there is no Pu or Cs-137 in this waste, and the Pb concentration of 0.034 M results in a very high Pb value in the sludge. Therefore, we arbitrarily choose to adjust the Pb down by a factor of ten to 0.0034 M. We have also added an amount of Pu to the waste that is volume-scaled to the P2 waste stream.

Although there are records of HS and SSW wastes being added to C-107,-108,-109,-111,-112, there was another addition of 200 kgal of these semi-works wastes to the C-200 series tanks as well. Anderson-91 assigns the waste in tanks C-201, -202, -203, and -204 to SSW and HS and notes starting dates for HS additions in 1955 and 1956, even though we have otherwise no information about the fill history of the C Farm 200-series tanks following the MW sluicing. Therefore, there were undoubtedly unrecorded additions of HS as early as May 1955, which would have been during the Purex pilot operation in the C Plant. Further additions occurred in 1966 from SSW to C-204, which were presumably decontamination operations for C Plant, and then all of the C-200 tanks were pumped to their sludge heels in 1970 and 1977.

—Purex to B Plant Cs-137 recovery

Although B Plant was used from 1945-1952 for the $BiPO_4$ process, it was later reconfigured for the cesium and strontium extraction campaign. From 1967 to 1976, B Plant extracted strontium from both Purex acid waste (PAW) (from Purex Plant) and Purex sludges (sluiced from A and AX Farms), and extracted cesium from a variety of neutralized supernatants taken from the tank farms.

Our model for the cesium recovery approximates the feed for this campaign by deriving volumes of waste supernatant that was processed from the tank farms. In (App. B) we show the nominal composition of the feed for CSR along with the sum of supernatants from which it was derived. Note that many concentrated wastes were processed during this campaign and we find that the average concentration factor was ~2.7 for the CSR feed. The following equation represents the majority of the contributions to the CSR waste in terms of other HDW supernatants:

$$\text{CSR in} = 0.34\ P1 + 0.11\ P2 + 0.11\ B + 0.05\ AR + 0.07\ R1 + 0.03\ R2 + 0.21\ OWW$$

as well as 0.08 as other wastes (see App. D). This equation represents a deconvolution of wastes that are actually partof concentrated waste blends such as RSltCk and BYSltCk.

Supernatants were fed to the cesium recovery process through C-105, which was the staging tank for the caustic sludge washing in AR vault. All total, 45% of the CSR feed was Purex supernatants, 21% organic wash waste, and 10% Redox supernatants, with the balance being other wastes. The CSR waste blend was concentrated on average by a factor of 2.7 prior to CSR processing but the HDW model does not account for any solids in the CSR feed. As a result, the CSR blend is only an approximation of the true feed for CSR.

There were two different processes for extracting Cs-137. The first was a chromatographic extraction of Cs-137 onto zeolites from the caustic supernatants that were drawn from various tank wastes. We find that 92% of the Cs-137 was extracted from these supernatants with this process. The second process by which Cs-137 was extracted was by precipitation of Cs-137 with phosphotungstic acid added to the HAW acid feed that was obtained directly from Purex plant. This process evidently produced the B and BL wastes. Finally, the crude cesium product purification produced additional B and BL wastes as well.

[27]Lucas, G. E. "Waste Types in Hanford Single-Shell Tanks," WHC-SD-ER-TI-001, draft report, 1989.

—Purex to B Plant Sr-90 recovery

The strontium recovery operation was much more complex than the cesium recovery as shown in (Fig. 16). The origin of the complexant wastes at Hanford are attributed to this process. The waste volumes from the various processes are shown in (Fig. 17). Note that the production of B and BL wastes evidently derived from PAW (or HAW) processing, although we do not know the volume processed. We estimate that about 4,000 kgal of PAW would have been processed in B Plant from 1968-72, which resulted in the production of 11,763 kgal of B and 4,000 kgal of BL wastes (App. E). There was about 397 kgal of P and 1,233 kgal of PL placed in waste tanks during this time, some of which was then sluiced for the later Sr-90 extraction from PAS (Purex Acidified Sludge).

Although sluicing operations began to send sludge to AR Vault in 1967, the production of SRR waste did not begin until 1973. We cannot explain this time difference, but note the SRR waste came primarily from the purification of the Sr product. The Cs-137 recovery operation, on the other hand, ran fairly consistently from 1967 to 1973, and then slowed down substantially after that time. There were two different processes for separating cesium from waste, depending on whether the waste was alkaline or acidic. For neutralized or alkaline supernatants Purex Sludge Supernatant (PSS), resins were used to extract cesium. For acidic supernatants, phosphotungstic acid was used to precipitate the cesium before neutralization.

B	waste from PAW
BL	low level waste from all operations
AR solids	"washed" P sludge. Also used to derive SRR.
SRR	strontium recovery waste from sluiced P sludge—based on washed Purex sludge plus added EDTA, HEDTA, and glycolate.
CSR	waste from cesium recovery from supernatants—not a characteristic waste type, but rather a supernatant from which the ^{137}Cs has been removed. Need only to add citrate to supernatants to track this component.

The amount of Cs-137 and Sr-90 extracted during this campaign has been reported[28] and is shown in Table 3 The Partitioning Following CSR and SRR. The difference is very important, since that is the residual Cs-137 and Sr-90 that is present in the waste tanks. We have assumed that the residual Sr-90 is distributed among P, AR, SRR, B, BL, and HS wastes, while the residual Cs-137 is distributed among CSR and B wastes.

Overall, the campaign succeeded in extracting 42% of the Sr-90 from various wastes. Since B waste derived from the extraction of Sr-90 from PAW, we assume that 80% of that Sr-90 was extracted and 20% ended up in B waste. With this assumption in hand, we find that 27% of the Sr-90 in neutralized Purex sludge ended up in the WESF capsules, while the remaining was distributed as shown in Table 3.

There are some 4.3 MCi Sr-90 (decayed to 1993q4) for which we can not yet account. It is not clear at this time if this "missing" Sr-90 was actually extracted from the sludge and shipped off site or is otherwise present on the site and its apparent absence indicates an inaccuracy in our model. For example, increasing the solubility of the Sr-90 in the wastes would naturally accommodate more Sr-90 in concentrates of waste supernatants. Another possibility is that there is unaccounted Sr-90 within and underneath damaged tank A-105. That there is a significant heat source underneath this tank is indicated by the very high temperatures within a lateral well underneath the tank as well as the high dome space temperature for the tank itself. The "missing" 4.3 MCi would amount to a ~100,000 Btu/hr heat source, which would presumably be more than enough to raise the lateral-well temperature to the ~212°F reported today. Therefore, some or all of the missing Sr-90 may be in or under A-105.

[28] ORNL document (no author), "Integrated Data Base for 1991: U. S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics," DOE/RW-0006, Rev. 7, 1991, Mike Cooney is Hanford contact.

Two tanks that are key in containing the amount of Sr-90 in BL waste are C-106 and B-101. Independent estimates of tank waste heat loads from tank temperatures suggest that C-106 is 100,000±20,000 Btu/hr, while B-101 is around 14,000±6,000 Btu/hr. Strontium-90 levels in BL also impact the heat load in AY-102, since this tank was a primary receiver for B Plant non-complexed waste in the years 1981-8. We have assigned this B Plant waste as BL. The solvent washing waste from B Plant operations evidently ended up as BL waste. Therefore, the solvent residues from this process ended up in these tanks.

In particular, recent assays of sludge grab samples from C-106 show residual di-2-ethyl hexylphosphate in BL sludge. Evidently, this extractant preferentially remained with the sludge particles upon neutralization of waste from B Plant, since the amounts of TBP and NPH residues in the sludge are much less than the proportions used in the process.

Strontium Recovery Process Synopsis

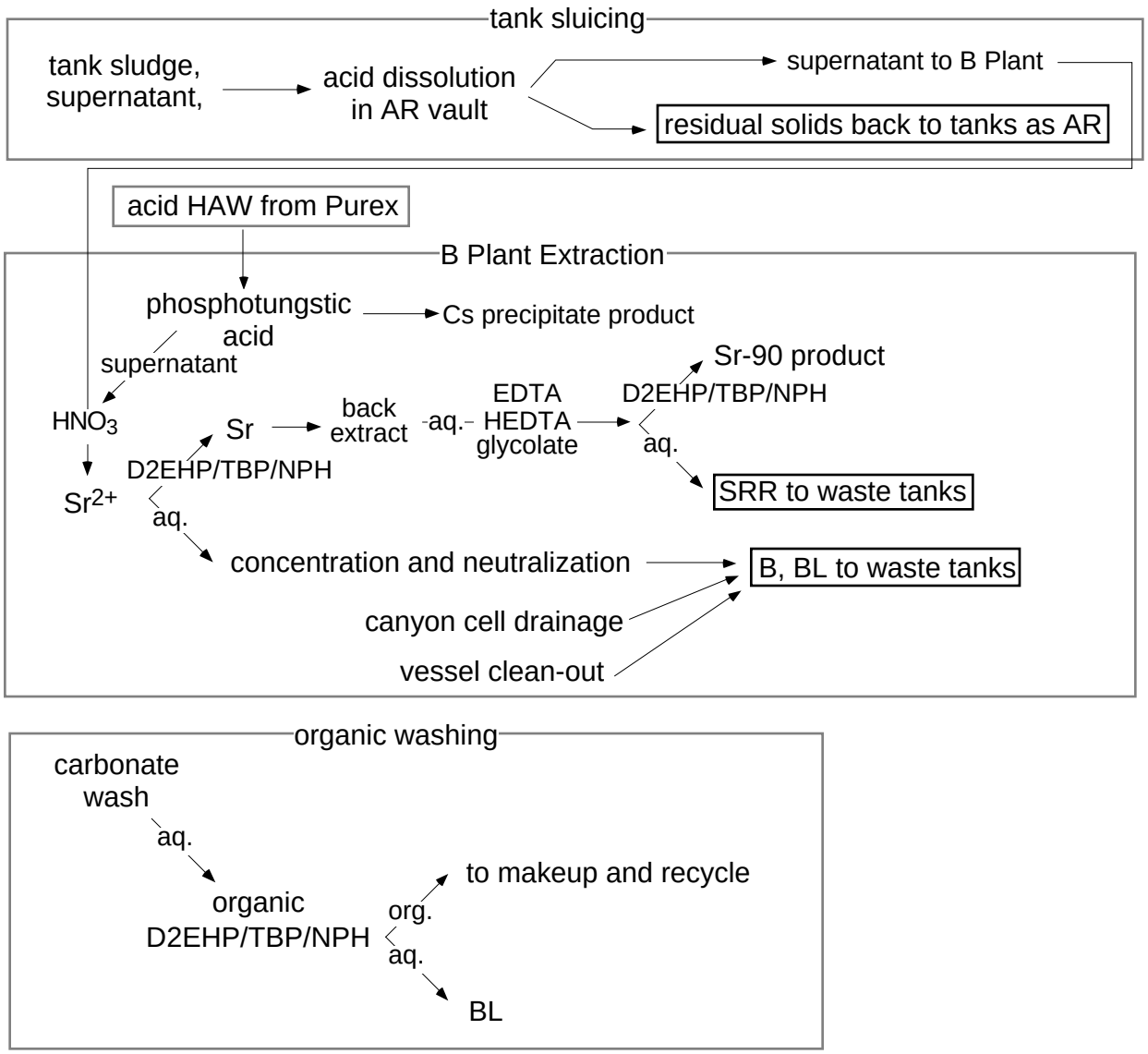

Fig. 16. *Strontium recovery process synopsis.*

The strontium extraction process as applied to tank sludges required the sluicing and acid dissolution of Purex sludges in AR vault. The dissolution of these sludges did not proceed exactly as

planned, in that the sedimentation rates of the washed sludges in tank AR-002 evidently varied widely, which resulted in the inadvertent transfer of AR solids from AR-002 to C-106. Furthermore, there were some acid insoluble solids that resulted which had to be neutralized and returned to the tank farms as well. These AR solids had very high levels of strontium, which resulted in high heat loads being placed into C-106, C-103, and A-106. We have defined AR waste Defined Waste #31, (App. A) as essentially a Purex sludge with all of the soluble components removed. We have estimated that about 166 kgal of AR sludge still remains distributed around A, AX, and C Farms.

Of the 981 kgal of P/PL sludge that was placed into the tanks, 99 kgal remains as P/PL sludge and 166 kgal remains as AR sludge, leaving 716 kgal of sludge processed as PAS in B Plant. However, we estimate that only 201 kgal of solids accumulated from BL and SRR waste additions in the tank farm and therefore can only account for roughly 28% of the solids that were processed in B Plant. At this time it is not clear whether the complexants present in SSR waste mitigated sludge formation for this waste or if we simply have an incomplete record of the transfers for this type of waste.

Table 3. Partitioning following CSR and SRR.

	MCi* Cs-137	MCi* Sr-90	kW heat	kW in tanks
DKPRO and ORIGEN2	120	104		
encapsulated‡	66	26		
sent off-site	2.9	5.0		
residual in B Plant	3.7	1.0		
HDW in tanks	45.6	61.5	615	615
HDW in soil‡‡	1.4	1.1		
total accounted	119.6	94.6		
site unaccounted	0.4	9.4	65	

**All values decayed to January 1994, MCi's do not include daughters but kW heat calculation does include Ba-137m and Y-90 daughters.*
‡Includes capsules at WESF as well as capsules otherwise in use.
‡‡Leak estimates range as much as a factor of two larger than this.

Compositions of B Plant waste streams are derived from Jungfleisch-84, as well as published flowsheet information and total chemicals used reported in Allen-76. The solubility of Sr-90, Pu, and Fe have been increased in SRR and CSR wastes by a factor of four (see Partitioning following CSR and SRR, Table 3), which is consistent with the presence of complexants in these two waste streams. We have not increased the solubility of any other components in these waste streams although we expect that many other metal ions will also have enhanced solubility in these wastes.

—Purex to thorium campaigns

There were two thorium campaigns that ran in the Purex facility. The first ran in 1966 and involved a very low burnup (1.7 MWD/ton) of only 191 tons of fuel and generated 443 kgal of waste, all of which was placed into C-102. The second campaign ran in 1970 and involved 390 tons of fuel at a very high burnup of 1,606 MWD/ton, generated 912 kgal of waste, and was all placed into C-104. All of the Pu values in (App. B) for TH1 and TH2 wastes are actually for U-233, not Pu, while the U concentrations refer to Th-232, not U-238, the normal isotope of uranium. The details of these thorium campaigns are not clear enough to discern the amount of fission products present within each fuel. Therefore, the fission products are added in the same manner as with other HLW.

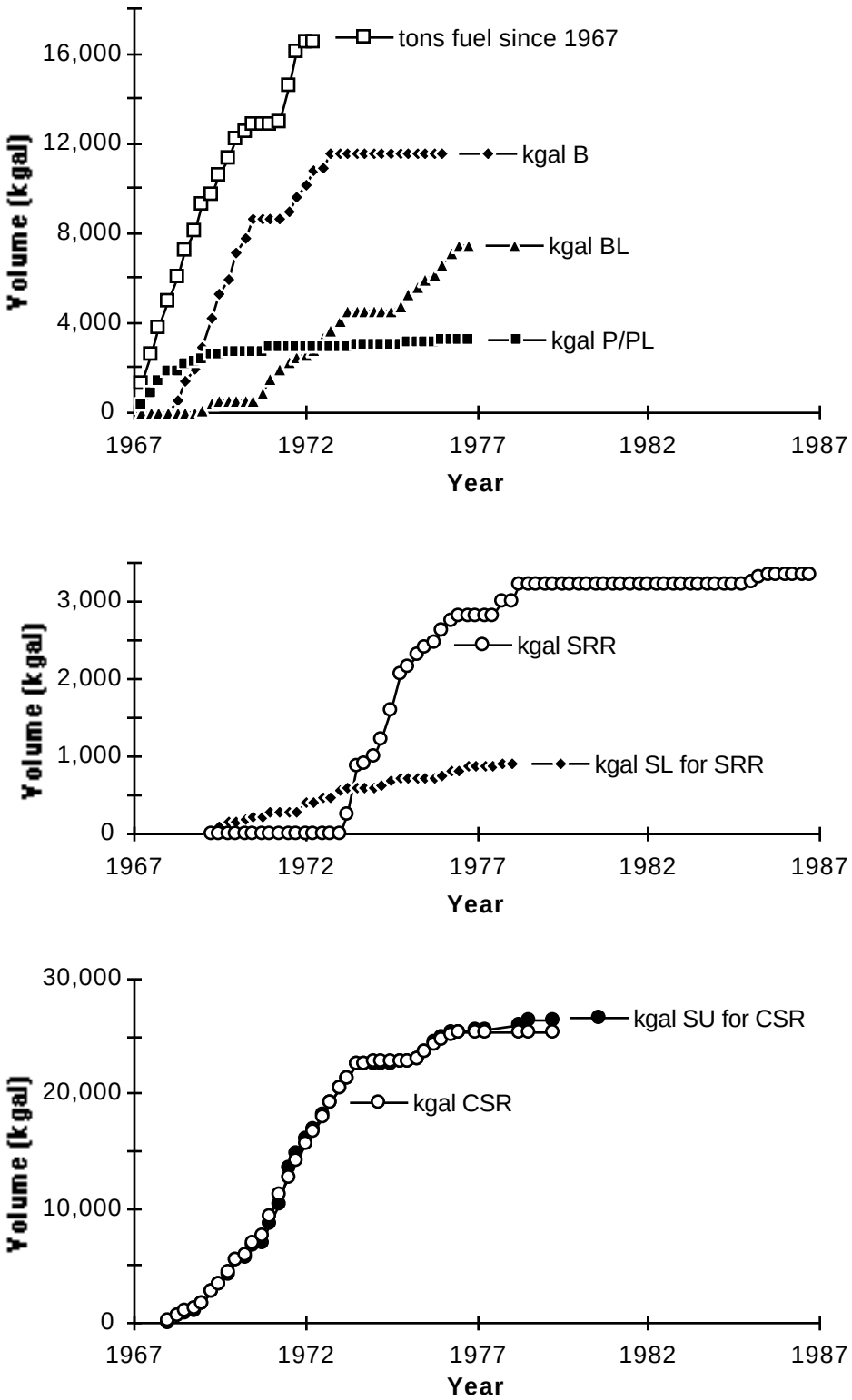

Fig. 17. *Total waste volumes for B Plant campaign.*

This leaves 0.9 MCi of Sr-90 into C-104, which increases this tanks heating by a factor of three or four. The predicted heat load based on this amount of Sr-90 is 31,000 Btu/hr as opposed to the predicted 8,000 Btu/hr based on tank temperatures. At this time, we do not understand this discrepancy.

The volume per cent solids for these thoria wastes is uncertain, since such small amounts were generated. Therefore, a nominal value of 5.8 vol% is assumed, which corresponds to a void fraction of 0.63 in the precipitated sludge layer.

—Purex to Z Plant

Estimates for Z Plant wastes are complicated by the fact that the two receiver tanks, SY-102 and TX-118, were both evaporator feed tanks and therefore the Z waste was co-mingled with precipitated salt accumulations from recycle additions to these feed tanks. Some 1,910 kgal of Z waste was added to TX-118 from 1973-76 and during this time, TX-118 was an active feed tank for 242-T evaporator. Therefore, it is likely that any sludge from the Z waste would have been distributed around the TX Farm bottoms receivers.

From 1981-88, 1,656 kgal Z waste was added to SY-102. During that time, SY-102 was no longer an active feed tank for 242-S, but only a cross site supernatant transfer tank for to the 242-A evaporator feed tank, AW-102. Thus, the sludge that accumulated in SY-102 from Z waste largely still remains within this tank. However, a bottom remnant of accumulated salts still remains in SY-102 from the recycle additions during the 1976-80 242-S operation. The addition of this dilute Z waste evidently eroded or redissolved a substantial layer of this precipitated salt as well as mingling the Z sludge with that salt layer.

—Diatomaceous earth

Diatomaceous earth is a highly effective and inexpensive absorbent and was used in six tanks at Hanford in an attempt to sequester residual liquids within those tanks. These tanks are BX-102, SX-113, U-104, TX-116, TX-117, and TY-106. We have used a reported[29] composition and density to establish the composition of DE layer, which is included within the TLM. This reference suggests that the DE is 0.651 kgal/ton (packed) and composed almost entirely of silica, (SiO_2), with some minor amounts of Al, Fe, and Ca. However, we have included two equivalents of NaOH in the composition, since our model assumes the form of silica in all tanks is waterglass, Na_2SiO_3. Note that the authors of the diatomaceous earth report also found that after two years, the form of silica within each of this tanks converted from SiO_2 to waterglass and some small amount of cancrinite, $NaAlSiO_4$.

—Cement

We have used a composition for Type 1 Portland cement[30] to represent the 63 tons of cement that was added to BY-105 in 1972. This cement was added in an attempt to sequester the residual fluids within BY-105 tank, which was a suspected leaker. Evidently, the cement did not set in the high-caustic, high-salt liquid and no further additions of cement were made to this or any other tank. Type 1 Portland cement is 46 wt% Ca, 10 wt% Si, with the balance being oxygen, Al, Fe, Ca, Mg, sulfate, and water. Since the basic constituent of cement is calcium silicate, ($CaSiO_3$), we are able to adapt it to our composition vectors. We assume that the cement was added with a specific volume of 0.13 kgal/ton, for a total amount of 8 kgal added to BY-105. As far as we know, this is the only addition of cement to any tank at Hanford.

—Other wastes:

N	phosphate waste from N-Reactor decontamination
DW	various decontamination wastes, mainly from T Plant.

[29]Buckingham, J. S.; Metz, W. P. "Characterization of the Effects of Diatomaceous Earth Additions to Hanford Tanks," WHC-MR-0302 (ARH-CD-222), Dec. 1974.
[30]Helmuth, R. A.; Miller, F. M.; O'Conner, T. R.; Greening, N.R. "Cement," Encyclopedia of Composite Materials and Components, M. Grayson, Ed., 1983, p. 273.

Salt Slurry	estimated from a chemical model by precipitation of soluble salts following concentration via evaporator. DSS derives from the supernatants of a variety of wastes following evaporation of water.

For certain evaporator campaigns, an average blend is derived, concentrated, and redistributed among the bottoms receivers as salt cake and supernatant. These wastes are:

BSltCk
T1SltCk
RSltCk
BYSltCk

Other blended concentrates are listed in the HDW rev. 2, but not used as an HDW in the inventory estimates. The SMM keeps track of all of later concentrates on a tank by tank basis. (These were used in HDW Rev. 1.)

T2SltCk	
S1SltCk	
S2Sltslr	
A1SltCk	
A2Sltslr	
BP/Cplx	Complexant waste from B Plant 1981-8, assigned SRR.
BP/NCplx	non-complexant waste from B Plant 1981-8, assigned BL.

There are various other waste designations that appear in Hanford documentation. Here is a list and to what they have been assigned.

LW, HLO, BNW	various lab wastes, assigned to water
CSKW	don't know what this is yet, assigned to water
CARB	same as OWW55-62
EB	same as salt cakes or SMM concentrates
IX	folded into salt cakes, same as CSR
NCPL	not actually a waste type
TL	Terminal Liquor, same as DSS
HDRL	Hanford Defense Residual Liquor, same as DSS
RESD	residual liquor, can be same as DSS
RIX	Redox ion exchange, same as CSR
RSN	same as supernatant from R, sent to CSR
SIX	S Plant ion exchange, same as RIX, assigned to CSR
SRS	Sr Solids, same as AR solids
DSS	
DSSF	
CPLX	
CC	

Methodology

—Radionuclide inventories

The radionuclide sources terms are those published[31] as a result of an ORIGEN2 calculation for each of ~1,400 fuel batches that have been processed at Hanford in the past. This calculation included some extraction and other processing as a secondary model termed DKPRO. In particular, the partitioning of Am-241 is somewhat complicated by the fact that its primary parent is Pu-241. Therefore, Am-241 in waste derives from both Am-241 present in the fuel being processed as well as the Pu-241 residue in the waste at the time of processing. Most of the Pu-241 (T1/2 = 14 year) isotope, which is the primary parent of Am-241, was extracted by the process and passed on to other facilities within the Weapons Complex. Therefore, only the residual Pu-241 within the waste that has subsequently

[31]Watrous, R.A.; Schmitroth, F. “Radionuclide Sources Term for Hanford Site,” in preparation.

decayed to Am-241 (along with Am-241 originally present in the waste) now constitute the Am-241 total in waste tanks.

The starting point in the ORIGEN2 calculation are the tons of fuel processed in each fuel batch and the MWD's exposure for that fuel. Radionuclides associated with certain campaign periods are then summed as per the HDW campaigns shown in App. B with various reprocessing factors included in App. B, which show how various radionuclides partitioned within each of the processes.

One difficulty in assigning radionuclides to various HDW's is the fact that two large waste reprocessing operations occurred at Hanford. The radionuclides in BiPO4 waste were partitioned among MW1, MW2, 1C1, 1C2, 2C1, 2C2, and 224 HDW's, where 1C waste by and large also contained the cladding waste radionuclides. The Uranium Recovery campaign, the first reprocessing, then retrieved MW sludge and supernatant from the BiPO4 process and produced a new set of wastes as a result.

The radionuclides in MW were then distributed among the MW remnants as well as the Uranium Recovery campaign HDW's: UR, PFeCN1, PFeCN2, TFeCN, and 1CFeCN. Further complicating this partitioning is the fact that TFeCN was actually derived from UR waste supernatants, i.e. it represents yet another reprocessing step.

The second major reprocessing was the sluicing of Purex sludges in A and AX Farms, their dissolution in AR Vault and the further extraction of Sr-90 and Cs-137 in B Plant. Thus, the radionuclides from Purex operation were passed on to these reprocessing streams and were partitioned into CSR, B, BL, AR, and SRR wastes as shown in the partitioning table. The original Purex process also produced PL, PL2, OWW1, OWW2, OWW3, CWR1, CWR2, CWZr1, and CWZr2. These wastes also received some share of the original waste radionuclides.

The HDW model does not partition any radionuclides to OWW1, OWW2, and OWW3 (organic wash wastes). Since these wastes were nearly always combined with P1 and P2 wastes in the tanks, this does not result in a very large error. In contrast, during the '83-'88 Purex campaign, the organic wash waste termed PL2, was kept segregated from P3. The HDW does therefore partition Pu and U to this waste as shown in the radionuclide partition table in App. B..

Plutonium losses to waste increased dramatically for the Zirflex process. While the Pu losses to cladding and HAW were each about 0.4%, totaling roughly 1.0% for aluminum clad fuel, the total losses for the Zirflex process were around 3.0%. The HDW model assumes a 1% loss to each of P3, CWZr1, CWZr2, and PL2 for the Pu processed with Zirflex. This loss suggests that the sludge in AZ-101 should be on the order of 12 µCi/g Pu-239/240, whereas limited sample results suggest only 2-4 µCi/g (Rapko, Lametta and Wagner, Sept. 1996, show 6.1 µCi/g dry, HDW is 55 wt% water yielding 2.7 µCi/g wet). If these sample results are representative of the mean sludge value, it would suggest much lower Pu losses to waste than 1%.

Table 4. Plutonium (fuel slug) Loss During Decladding.

Waste	Pu % loss	source
BiPO4-CW	0.4	assumed
CWR	0.4	1965 flowsheet
CWP	0.4	assumed
CWZr1 and CWZr2	1.0	assumed

—Deriving solids volume percent

It is necessary to derive or assign a characteristic solids or sludge volume per cent for each waste type. This is done by one of two means. First, we attempt to use the fill and solids volume histories of various tanks to derive a characteristic solids vol% for a given waste type. Following the reported solids volumes for those tanks as a function of total primary waste added, then, gives a vol% solids in a straightforward manner as shown in (Tables 5a-f).

For waste types with insufficient solids information, we begin the TLM analysis with a nominal vol% solids for those waste types and at the end of the analysis, produce a total solids for those waste types which is usually distributed among several tanks. This total solids value then forms the basis of an adjusted solids vol%, and we repeat the analysis until the values converge producing our best estimate for the solids vol%. The wastes AR, HS, B, BL, and SRR all have very small solids remnants distributed among a handful of tanks. The resultant solids vol% has a greater uncertainty for these waste types.

The solids vol% is a very important parameter, since it determines the sludge void fraction and therefore the amount of interstitial liquid within each waste sludge. It also bounds the amount of precipitated solids, since it is very unlikely that a sludge will have a void fraction any less than about 0.30-0.40.

Certain wastes, DW, N, OWW1, OWW2, OWW3, and CSR have no solids by definition. No solids are precipitated in these waste streams and therefore all their material is carried by their supernatants into concentrate receivers as determined by the SMM.

Table 5a. 1C Waste vol% Solids.

tank	start	qtr.	end	qtr.	waste type	pri.vol.	acc.sol.	vol%
B-107	1945	2	1946	2	1C	1590	220	13.8
C-110	1946	2	1947	4	1C	1589	231	14.5
T-107	1945	1	1947	4	1C	1590	201	12.6
avg.	**1945**	**1**	**1947**	**4**	**1C**	**4769**	**652**	**13.7**
BX-107	1948	3	1951	2	1C	1590	437	27.5
C-107	1947	1	1947	4	1C	1588	399	25.1
TX-109	1949	1	1950	2	1C	3032	722	23.8
U-110	1946	3	1951	1	1C	1394	336	24.1
avg.	**1947**	**1**	**1951**	**2**	**1C**	**7604**	**1894**	**24.9**

Table 5b. Redox Solids.

tank_n	year	qtr	lineal date	kgal CWR	kgal Redox	Acc. solids	vol%	comments
SX-105	1955	2			961	43	4.5	
SX-111	1956	2			963	41	4.3	
							4.4	4.5 R1
SX-110	1966	2	1966.3		1621	62	3.8	
SX-113	1958	2	1958.3		487	10	2.1	
SX-115	1960	3	1960.5		967	10	1.0	
					3075	82	2.7	2.3 R2

Table 5c. In Plant PFeCN/1 and PFeCN/2 Ferrocyanide Sludges.

	PFeCN/1	PFeCN/2	units	HDW totals	B&S totals	units
FeCN M	0.005	0.0025	M			
pri. vol.	10901	22460	kgal	33361	33861	kgal
acc.sed.	403	718	kgal	1115	1393	kgal
vol% sed.	3.7	3.2	vol%	3.4	4.1	vol%
FeCN sed.	0.14	0.078	M			
density	1.45	1.45	g/cm3			
pred. wet exotherm	42	24	cal/g			
pred. dry exotherm	106	61	cal/g			

Table 5d. In-Tank (or in-farm) TFeCN Waste vol% Solids.

waste type	tank	primary volume	accumul. solids	vol% solids
TFeCN	C-108	1034	15	1.5
	C-109	2954	44	1.5
	C-111	2732	35	1.3
	C-112	4442	67	1.5
TFeCN	**avg.**	**11162**	**161**	**1.4**

Table 5e. Purex P Waste vol% Solids.

tank	start	qtr.	end	qtr.	waste type	pri.vol.	acc.sol.	vol%
A-101	1956	1	1973	4	P	4545	83	1.8
A-102	1956	1	1961	3	P	7138	102	1.4
A-103	1956	2	1960	3	P	3813	102	2.7
A-104	1959	3	1961	4	P	6765	171	2.5
AX-104	1966	3	1969	2	P	1202	47	3.9
avg.	**1956**	**1**	**1973**	**4**	**P**	**23463**	**505**	**2.2**
A-106	1960	4	1962	2	P	1460	118	8.1
AX-101	1968	2	1969	2	P	40	??	??
AY-101	1971	2	1971	4	P	14	??	??
C-104	1970	4	1976	2	P	91	??	??

Table 5f. Purex Cladding Waste (CWP) Waste vol% Solids.								
tank	**start**	**qtr.**	**end**	**qtr.**	**waste type**	**pri.vol.**	**acc.sol.**	**vol%**
C-101	1960	4	1962	2	CWP/Al	660	56	8.5
C-103	1960	2	1960	4	CWP/Al	479	35	7.3
C-104	1956	1	1957	2	CWP/Al	1118	90	8.1
C-105	1957	3	1960	2	CWP/Al	3130	262	8.4
C-106	1958	2	1960	2	CWP/Al	420	28	6.7
avg.	**1956**	**1**	**1965**	**2**	**CWP/Al**	**5807**	**471**	**8.1**
C-102	1960	3	1965	2	CWP/Al	5355	184	3.4
C-104	1969	4	1970	1	CWP/Zr	535		
C-104	1970	2	1972	3	CWP/Al	3816	108	2.5
C-102	1965	3	1969	4	CWP/Al&Zr	6448	??	??
C-107	1961	3	1962	2	CWP/Al	1364	??	??
C-108	1961	2	1961	2	CWP/Al	502	??	??
C-111	1957	1	1960	4	CWP/Al	347	??	??
C-112	1960	3	1961	2	CWP/Al	254	??	??

—Precipitation of solids

The solids that precipitate in each waste is set by adjusting the fraction precipitated parameter so that the solubility of that component falls within the correct range. That range is set for each component by an analysis of data from supernatant samples from the tank farm and evaporator operations. By plotting the concentrations of species that have been measured for tank supernatants, we obtain a limiting solubility[32] of a species as well as its range of solubility. These values provide the method by which we partition the solids in the waste into supernatant and sludge fractions. However, the concentration of those solids in the sludge layer is dependent on the solids volume per cent for that waste as well. The concentration of each component in the sludge depends on a combination of three factors—concentration of precipitated solids, concentration of supernatant, and volume per cent solids.

Aluminum is a special case and is precipitated in two stages. We assume that during neutralization, a set fraction of the aluminum precipitates as aluminum oxy/hydroxide before the soluble aluminum ends up as $Al(OH)_4^-$ in solution. Therefore, the fraction of aluminum precipitated as oxide is adjusted in our model, both to produce reasonable void fractions (0.6 to 0.7) in the precipitate and to correspond to sludge analyses for those waste types. The aluminum remains in solution as aluminate and only precipitates when the aluminate solubility limit is reached see Solubility Limits (Table 7). This occurs following concentration of waste as a result of evaporator operation.

Jungfleisch-84 referenced a report by Barney[33] that said below 1.6 M hydroxide, $Al(OH)_3$ precipitates, while above 1.6 M hydroxide, sodium aluminate precipitates. Later work reported[34] that, for the range 2.0-6.5 M hydroxide, the aluminate solubility *decreased* as the square of the hydroxide molarity (with no correction for activity). Aluminate solubility in this report ranged from a high of 2.3 M with 2 M hydroxide to a low of ~0.9 M with 6 M hydroxide. This suggests that while $Al(OH)_3$ precipitates at neutral pH, as hydroxide increases, aluminate solubility peaks at hydroxide concentrations between 1.6 and 2.0

[32]Agnew, S. F. and Watkin, J. G. "Estimation of Limiting Solubilities for Ionic Species in Hanford Waste Tank Supernates," LA-UR-94-3590, October 1994.
[33]Barney. G. S. "Vapor-Liquid Solids Phase Equilibrium of Radioactive Sodium Salt Waste at Hanford," ARH-ST-133, January 1976.
[34]Reynolds, D. A.; Herting, D. L. "Solubilities of Sodium Nitrate, Sodium Nitrite, and Sodium Aluminate in Simulated Nuclear Waste," RHO-RE-ST-14P, May 1984.

M. At its maximum, then, aluminate concentration lies between 2.0 and 2.5 M. But note that as aluminate precipitates, one equivalent of sodium hydroxide also precipitates. Therefore, as the solution is concentrated and the aluminate solubility limit is reached, the hydroxide and sodium concentrations are buffered at that concentration by the aluminate.

These rules for aluminum are necessary since we are often lacking the exact details associated with the waste neutralization process for each of the waste types. Depending on the rate of addition, the stirring time, the excess hydroxide, and so on, very different fractions of the aluminum will precipitate as oxyhydroxides. The wastes that are most affected by this rule are 1C, R, CWR, and CWP.

Once the solid volume per cent is derived, we use it along with the precipitated solids to calculate the void fraction for a given sludge. The composition of each sludge, then, is a combination of precipitated solids and interstitial liquid, while the composition of the supernatant is simply what remains in solution. The supernatant and the interstitial liquid are one and the same at the time of precipitation. After the sludge is placed into a tank, we assume that the interstitial liquid remembers what it was, even if the supernatant layer has been altered by later waste additions or removals.

The solubility limit for Sr-90 in SRR and CSR was increased from 0.034 to 0.091 Ci/L. This was done because analyses of complexant waste tanks clearly show greater solubility for a number of cations, including Sr-90. Such an increase in Sr-90 solubility is also consistent with the heat distribution in tanks with SRR sludge.

Table 6a. Chemicals Added and Species Precipitated.

chemicals added	defined precipitates	OH's	H2O's	comments
HNO3	NaNO3		0	Sodium nitrate precipitates as a result of evaporator concentration of neutralized wastes.
Al(NO3)3 NaAlO2	(Al2O3.3H2O)/2	1.5	3	A set fraction of aluminum always precipitates as oxide upon neutralization, generally about 7%, but as high as 60% for cladding waste.
	NaAlO2	4	0	Only after concentration does aluminate precipitate.
Fe(HSO4)2 Fe(NO3)3	FeO(OH) (Na2SO4)	3	0.5	Iron is added as Fe(II) and Fe(III) but is precipitated only as Fe(III), producing hydrogen and hydroxide. Note iron also in FeCN.
Na2CrO4	Cr(OH)3	3	1.5	Chromium is added as VI, but precipitated as III, consuming water.
BiPO4	BiPO4		0	Phosphate precipitates first as BiPO4, then as the sodium 12 hydrate. After evaporator concentration, the sodium 10 hydrate precipitates.
	Na3PO4.10H2O		10	
	Na3PO4.12H2O		12	
ZrO(OH)2	ZrO(OH)2		2	Zirconium actually derives from Zirconium alloy cladding.
NiSO4	Ni(OH)2	2	1	Nickel first precipitated as ferrocyanide, then as hydroxide.
	Na2NiFe(CN)•6.6H2O		6.6	
NaOH			0.5	Not precipitated.
NaNO2	NaNO2		0	Precipitates as a result of evaporator concentration.
Na2CO3	Na2CO3.7H2O		7	Only the sodium seven and calcium six hydrates precipitate in this model.
	CaCO3.6H2O		6	
Na3PO4	BiPO4		0	See BiPO4 for phosphate details.
	Na3PO4.10H2O		10	Na is used as surrogate for whatever cation actually precipitates.
	Na3PO4.12H2O		12	Na is used as surrogate for whatever cation actually precipitates.
Na2SO4	Na2SO4		10	Even though metathesis is likely, Na is used as cation surrogate.
Na2SiO3	Na2SiO3	6	0	Once again, Na is used as surrogate for cation.
Na2SiF6	Na2SiO3 NaF		0	Assume all SiF hydrolyzes to silicate.
NaF	NaF		0	Use Na as cation surrogate.
NaCl	NaCl		0	Not precipitated.
La(NO3)3	LaF3		0	Precipitated as La2O3 "224" waste.
NH3			0	Not precipitated.

Table 6b. Chemicals Added and Species Precipitated (contd.).

chemicals added	defined precipitates	OH's	H2O's	comments
KNO3	NaNO3		0	Potassium is not precipitated in model, only present in interstitial liquid.
Ca(NO3)2	CaCO3.6H2O		6	Another sink for carbonate.
KMnO4	MnO2		0	Manganese is added as VII, but precipitated as IV, consuming water.
Sr(NO3)2	Sr(OH)2		1	non radioactive strontium only.
PbSO4	Pb(OH)2 (Na2SO4)		1	
H3C6H5O7	Na3cit.5H2O		5	Not precipitated.
H4EDTA	Na4EDTA		0	Not precipitated.
H3HEDTA	Na3HEDTA		0	Not precipitated.
Hglycolate			0	Not precipitated.
Hacetate	Na Acetate		0	Not precipitated.
H2oxalate	Na 2 Oxalate		0	Precipitated in "224" waste.
Na4Fe(CN)6	Na2NiFe(CN)•6.6H 2O		6.6	Always precipitated as sodium nickel ferrocyanide six hydrate.
DBP	dibutyl phosphate		0	Not precipitated.
tritium	H-3			Not precipitated but lost to condensate.
C-14	Na2CO3			Follows carbonate.
Sr-90	Sr-90			Precipitate formally as metal, neglect oxidation.
Tc-99	Tc-99			Not precipitated.
I-131	I-131			Not precipitated.
Cs-137	Cs-137			Precipitate formally as metal, neglect oxidation.
Np-237	Np-237			Not precipitated.
U	UO2(OH)2•6H2O		7	Precipitated as U(VI) by consuming water and producing hydroxide.
Pu	Pu			Precipitated formally as metal, neglecting oxidation.

Table 7. Solubility Limits and Variabilities.

solids	note	sol. limit		rsd	-1 rsd	1 rsd	-1.96 rsd	1.96 rsd
NaNO3	1	2.8	M	9.69%	2.53E+00	3.07E+00	2.27E+00	3.33E+00
NaNO2	1	3.1	M	8.75%	2.83E+00	3.37E+00	2.57E+00	3.63E+00
NaCl								
NaF	2	0.24	M	16.13%	2.01E-01	2.79E-01	1.64E-01	3.16E-01
Sr(OH)2	2,7	0.002	M	5.11%	1.90E-03	2.10E-03	1.80E-03	2.20E-03
Na2CO3	2	0.4	M	6.07%	3.76E-01	4.24E-01	3.52E-01	4.48E-01
Na3PO4	2	0.15	M	7.75%	1.38E-01	1.62E-01	1.27E-01	1.73E-01
Na2SO4	2	0.35	M	10.87%	3.12E-01	3.88E-01	2.75E-01	4.25E-01
Na2SiO3	2	0.034	M	25.22%	2.54E-02	4.26E-02	1.72E-02	5.08E-02
NaAlO2	1	1.6	M	3.77%	1.54E+00	1.66E+00	1.48E+00	1.72E+00
FeO(OH)	2,6	0.002	M	22.83%	1.54E-03	2.46E-03	1.11E-03	2.89E-03
Cr(OH)3	3	0.12	M	21.93%	9.37E-02	1.46E-01	6.84E-02	1.72E-01
MnO2	2	0.009	M	15.71%	7.59E-03	1.04E-02	6.23E-03	1.18E-02
BiPO4	2	0.004	M	7.93%	3.68E-03	4.32E-03	3.38E-03	4.62E-03
Pb(OH)2	2	0.0016	M	23.26%	1.23E-03	1.97E-03	8.71E-04	2.33E-03
La2O3		0	M					
HgO	2,7	0.00001	M	5.11%	9.49E-06	1.05E-05	9.00E-06	1.10E-05
Na 2 Oxalate	4,7	0.005	M	5.83%	4.71E-03	5.29E-03	4.43E-03	5.57E-03
CaCO3.6H2O	2	0.009	M	19.90%	7.21E-03	1.08E-02	5.49E-03	1.25E-02
Ni(OH)2	2,7	0.0018	M	5.11%	1.71E-03	1.89E-03	1.62E-03	1.98E-03
ZrO(OH)2	2	0.003	M	6.68%	2.80E-03	3.20E-03	2.61E-03	3.39E-03
Co-60	5	1.00E-04	Ci/L	36.18%	6.38E-05	1.36E-04	2.91E-05	1.71E-04
Se-79	5	2.00E-06	Ci/L	36.18%	1.28E-06	2.72E-06	5.82E-07	3.42E-06
Sr-90	2,6	0.034	Ci/L	7.36%	3.15E-02	3.65E-02	2.91E-02	3.89E-02
Zr-93	5	1.00E-05	Ci/L	36.18%	6.38E-06	1.36E-05	2.91E-06	1.71E-05
Nb-93m	5	7.00E-06	Ci/L	36.18%	4.47E-06	9.53E-06	2.04E-06	1.20E-05
Ru-106	5	5.00E-09	Ci/L	36.18%	3.19E-09	6.81E-09	1.45E-09	8.55E-09
Cd-113m	5	6.00E-05	Ci/L	36.18%	3.83E-05	8.17E-05	1.75E-05	1.03E-04
Sb-125	5	1.90E-02	Ci/L	36.18%	1.21E-02	2.59E-02	5.53E-03	3.25E-02
Sn-126	5	3.00E-06	Ci/L	36.18%	1.91E-06	4.09E-06	8.73E-07	5.13E-06
Sm-151	5	0.007	Ci/L	36.18%	4.47E-03	9.53E-03	2.04E-03	1.20E-02
Eu-154	5	5.00E-04	Ci/L	36.18%	3.19E-04	6.81E-04	1.45E-04	8.55E-04
Ra-226	5	6.20E-11	Ci/L	36.18%	3.96E-11	8.44E-11	1.80E-11	1.06E-10
Ac-227	5	3.60E-10	Ci/L	36.18%	2.30E-10	4.90E-10	1.05E-10	6.15E-10
Pa-231	5	2.00E-09	Ci/L	36.18%	1.28E-09	2.72E-09	5.82E-10	3.42E-09
Th-232	5	7.00E-07	Ci/L	36.18%	4.47E-07	9.53E-07	2.04E-07	1.20E-06
U-Total	2,7	0.004	M	5.11%	3.80E-03	4.20E-03	3.60E-03	4.40E-03
Pu-Total	2,6	1.48E-04	g/L	36.18%	9.45E-05	2.02E-04	4.31E-05	2.53E-04
Am-241	2,6	3.00E-05	Ci/L	36.18%	1.91E-05	4.09E-05	8.73E-06	5.13E-05
Cm-244	5	1.00E-07	Ci/L	36.18%	6.38E-08	1.36E-07	2.91E-08	1.71E-07

1Solubility limit set by assays of concentrates (Ref. 32). Variabilities of nitrate and nitrite determined by variation of upper quartile while variation of aluminate set by variation of Na.
2Solubility limits set by solubility report (Ref. 32) and variabilities determined by upper quartile statistics.
3Chromium solubility set at four times value in Rev. 3. This is consistent with chromium as chomate.
4Oxalate set by S. Barney, “Solubilities of Organic Carbon” report, 1996.
5Solubility limit set by arbitrarily distributing radionuclide approximately 50% in sludges and 50% in concentrates, while variabilities set by Pu.
6) Solubilities increased by factor of four for SRR and CSR wastes to account for presence of complexants.
7) Variabilites for cations based on hydroxide and anions on sodium, scaled as a solubility product.

—Calculating density

An equation derived from previous work to calculate the density of the supernatant is based on fitting the densities of a series of solutions reported by Herting and Reynolds[35] with a minimal parameter set. This equation is:

$$\text{density (g / cm}^3) = 1+0.038 * [Na^+] + 0.07 * [Al(OH)_4^-] - 0.015 * [\text{ free } OH^-].$$

All concentrations are in mol/L and are uncorrected for activity. This expression calculates density within ±0.2 g/cm^3 for 400 of 400 analytical results.

An alternative calculation for density that is much more accurate (±0.01 g/cm^3) is as follows (all concentrations in mol/L):

$$\begin{aligned}\text{density (g/cm}^3) = 1 &+ 0.0206\,[Na^+] - 9.96e\text{-}4\,[Na^+]^2 \\ &+ 0.0794\,[Al] - 0.0200\,[Al]^2 \\ &+ 8.52e\text{-}4\,[OH^-] + 0.00404\,[OH^-]^2 \\ &+ 0.0394\,[NO_3^-] + 2e\text{-}4\,[NO_3^-]^2 \\ &+ 0.074\,[NO_2^-] - 0.0146\,[NO_2^-]^2\end{aligned}$$

However, this expression comes with ten parameters as opposed to just three for the first expression. We will use the simpler expression for the HDW.

The density of the sludge phase is calculated using that of the interstitial liquid, its fraction, and each of the solid phases with their corresponding densities. The void fraction is calculated by summing the volumes of all of the solids that have precipitated and subtracting that from the solids volume per cent parameter for that waste type. Generally, void fractions in the range 0.2 to 0.8 are possible for sludges, with the range 0.4-0.7 most likely. Void fractions below this range are highly suspect, while those above the range imply an increasingly flocculant precipitate.

Examples of the spreadsheet calculation for aluminum in supernatant and sludge are shown as

suAl = inAl * (1 - frAlO2 - frAl2O3) / (1-(1-voidFr)*vol%Solids/100)

slAl = slAlO2 + slAl2O3 + suAl * voidFr

where

suAl	mol/L of Al in supernatant
slAl	mol/L of Al in sludge
frAl2O3	fraction of aluminum precipitated as Al_2O_3
fr AlO2	fraction of aluminum precipitated as $NaAlO_2$
inAl	mol/L of total aluminum in waste stream
voidFr	liquid void fraction of sludge
vol%Solids	volume percent solids in waste stream
slAlO2	mol/L of $NaAlO_2$ solids precipitated in sludge
slAl2O3	mol/L of aluminum in precipitated alumina solids, Al_2O_3.

In cases where there is little or no aluminum precipitate, the aluminum concentration in the supernatant is actually greater than that in the total waste stream. This occurs because of the excluded volume of the solids within the sludge layer reduces the total volume of supernatant in the waste, thereby increasing the concentration of all soluble species over that in the total waste stream. This volume exclusion induced increase in concentration is a part of the HDW model.

[35]Reynolds, D. A.; Herting, D. L. "Solubilities of Sodium Nitrate, Sodium Nitrite, and Sodium Aluminate in Simulated Nuclear Waste," RHO-RE-ST-14, May 1984.

—Ion balance calculation

Ion balance is calculated for each HDW sludge and supernatant. The result is shown in the row labeled "balance." The ion balance for the sludge layers is calculated as:

sludge ion balance = Na + Al*3 + Fe*3 + Cr*3 + Bi*3 + La*3 + Hg*2 + Zr*4
+ Pb*2 + Ni*2 + Sr*2 + Mn*4 + Ca*2 + K + U*6
- [OH(total)+NO_3+NO_2+CO_3*2+PO_4*3+SO_4*2+SiO_3*2+F+Cl+$C_6H_5O_7$*3
+EDTA*4+HEDTA*3+glycolate+acetate+oxalate*2+$Fe(CN)_6$*4]

Note in particular that silicon is always counted as silicate, SiO_3^{2-}, zirconium is counted at the free 4+ ion, not zirconyl, ZrO^{2-}, aluminum is counted as the 3+ cation, not as aluminate, and uranium is counted as 6+, not uranyl, UO_2^{2+}. Therefore, the total hydroxide reported within the sludge includes hydroxides bound to all species except Si. The free hydroxide value reported for sludges is the hydroxide concentration associated with only the interstitial liquid.

The ion balance for the supernatant is calculated slightly differently since the hydroxide value in the supernatant does not include the hydroxide ion complexed to the aluminum. The supernatant ion balance is calculated as:

supernatant ion balance = Na - Al + Fe*3 + Cr*3 + Bi*3 + La*3 + Hg*2 + Zr*4
+ Pb*2 +Ni*2 + Sr*2 +Mn*4 + Ca*2 +K + U*6
- [OH + NO3 + NO2 + CO3*2 + PO4*3 + SO4*2+SiO3*2+ F + Cl + $C_6H_5O_7$*3
+ EDTA*4 + HEDTA*3 + glycolate + acetate + oxalate*2]

Therefore, the hydroxide reported for the supernatants does not include either that bound to the aluminate nor that bound to silicate. All other ligated hydroxides are included within the supernatant hydroxide value. The supernatant hydroxide within the interstices of the sludge appears as free hydroxide.

—TOC and wt% H_2O

These values are calculated in a straightforward manner. Note that the wt% water for a solution can be derived from its density and the total grams of dissolved species. The wt% of the sludge that of the solution as well as the various solid phases have specific states of hydration for the various solid phases that are defined within the speciation. The equation for the solution is:

wt% H_2O = (1 - grams dissolved species / grams per L solution) * 100

while that of the solids is that of the interstitial liquid plus the waters of hydration of the solids. Note that silicate and aluminate will consume or produce water depending on their speciation. For example,

$$Al(OH)_4^- \text{<—>} AlO_2^- + 2\,H_2O$$

$$SiO_3^{2-} + H_2O \text{<—>} SiO_2(OH)_2^{2-}$$

$$SiF_6^{2-} + 6OH^- \text{—>} SiO_2(OH)_2^{2-} + 2\,H_2O + 6F^-.$$

The two equivalents of water for $Al(OH)_4^-$ are counted in the supernatant water wt%, since the molecular weight used is for AlO_2^-. Likewise, one half equivalent of water from dissolved hydroxide is included, since

$$NaOH \text{<—>} 1/2\,Na_2O + 1/2\,H_2O.$$

For the precipitated solids, the waters of hydration that are included for the sludge wt% water are those shown in Table 5e. The sludge wt% water comprises both the waters of hydration of precipitated solids and the water from the interstitial liquid, which is that calculated for the supernatant.

Other species either consume or produce water or hydroxide because of changes in oxidation state. These are

$$CrO_4^{2-} + 5/2\ H_2O \longrightarrow Cr(OH)_3 + 2\ OH^- + 3/4\ O_2$$

$$Fe(HSO4)_2 + 4\ OH^- \longrightarrow Fe(OH)_3 + 2SO_4^{2-} + H_2O + H_2$$

$$MnO_4^- + 1/2\ H_2O \longrightarrow MnO_2 + OH^- + 3/4\ O_2.$$

Note that the stable form for Cr in caustic nitrate is in fact the chromate, $Cr(VI)O_4^2$, not $Cr(III)(OH)_4^-$ (see reaction A). In the HDW model, however, all chromium is assumed to be present as Cr(III). Also, in high hydroxide and nitrate simulants, there are reports[36] of NO_2 production upon addition of Fe3+. One explanation for this observation is that these waste concentrates oxidize Fe3+ to Fe6+ resulting in the ferrate ion $Fe(VI)O_4^{2-}$, not ferric $Fe(III)O_2^-$ as shown in reaction B since this results in production of NO_x (i.e. N_2O_4).

	$Cr(III)(OH)_4^- + 4OH^- \longrightarrow Cr(VI)O_4^{2-} + 4H_2O + 3e^-$	0.13 V (1 N NaOH)
	$3/2\ (NO_3^- + H_2O + 2e^- \longrightarrow NO_2^- + 2OH^-$	0.01 V)
A.	$Cr(III)(OH)_4^- + 3/2NO_3^- + OH^- \longrightarrow Cr(VI)O_4^{2-} + 3/2NO_2^- + 5/2H_2O$	0.145 V (1 N NaOH)
	$Fe(III)O_2^- + 4OH^- \longrightarrow Fe(VI)O_4^{2-} + 2H_2O + 3e^-$	-0.55 V (10 N NaOH)
	$1/2\ (NO_3^- + H_2O + 2e^- \longrightarrow NO_2^- + 2OH^-$	0.01 V)
	$2\ (NO_3^- + 2H^+ + e^- \longrightarrow 1/2N_2O_4 + H_2O$	0.405 V)
B.	$Fe(III)O_2^- + 5/2NO_3^- + 1/2H_2O \longrightarrow Fe(VI)O_4^{2-} + N_2O_4 + 1/2NO_2^- + OH^-$	0.26 V (10 N NaOH)

where relevant and related standard reduction potentials are (by CRC)

$NO_3^- + H_2O + 2e^- \longrightarrow NO_2^- + 2OH^-$	0.01 V
$NO_2^- + H_2O + 2e^- \longrightarrow 1/2N_2O_2^- + 2OH^-$	-0.09 V
$1/2H_2N_2O_2 + 3H^+ + 2e^- \longrightarrow N(OH)H_3^+$	0.25 V
$N(OH)H_3^+ + 2H^+ + 2e^- \longrightarrow NH_4^+ + H_2O$	1.35 V
$NO_3^- + 2H^+ + e^- \longrightarrow 1/2N_2O_4 + H_2O$	0.405 V
$NO_3^- + H_2O + e^- \longrightarrow 1/2N_2O_4 + 2OH^-$	-0.425 V
$H_2O + e^- \longrightarrow H_2 + OH^-$	-0.414 V
$H^+ + e^- \longrightarrow H_2$	0.00 V
$Fe(III)O_2^- + 4OH^- \longrightarrow Fe(VI)O_4^{2-} + 2H_2O + 3e^-$	-0.55 V (10 N NaOH)

[36] Scheele, R.A., personal communication.

$$Cr(III)(OH)_4^- + 4OH^- \longrightarrow Cr(VI)O_4^{2-} + 4H_2O + 3e^- \qquad 0.13\ V\ (1\ N\ NaOH).$$

The implication with these observations is that chromate and ferrate are the thermodynamically more stable forms of these ions in the concentrated caustic/nitrate wastes typical of Hanford. There is a competition between the precipitation of iron(III) oxyhydroxide and its oxidation to ferrate during neutralization of acid waste prior to placing into waste tanks. If the iron(III) oxyhydroxide is trapped in a sludge, later reaction with concentrated caustic/nitrate solutions will produce NOx. Therefore, future sludge washing under caustic conditions should be considering the possibility of such an occurrence.

The TOC is calculated using the equivalent of organic carbon present in each molecule as shown in Table 8. Also shown is a list of tentative ratios of measured to predicted TOC's to facilitate comparison of HDW calculated TOC's with measured values. For example, only roughly one half of the organic carbon that is predicted in ferrocyanide actually shows up in a measured TOC.

Table 8. Grams Organic Carbon per mol Species.

species	g organic carbon per mol	meas./pred.	measured g carbon per mol
EDTA	120	0.8	96
HEDTA	120	0.8	96
glycolate	24	1.0	24
citrate	72	1.0	72
acetate	24	1.0	24
oxalate	24	1.0	12
TBP	144	1.0	144
NPH	144	1.0	144
hexone	60	1.0	60
FeCN	72	0.5	72

—Evaporator operations

There have been a variety of evaporator operations at Hanford, as shown in Table 9. These campaigns involved various facilities and tanks as follows:

- separate in-farm evaporators (242-B, 242-T, 242-S, or 242-A);
- use of either B or Redox Plant evaporators for tank supernatants;
- in-tank heaters as in BY Farm; and
- boiling waste self-concentration in S, SX, A, and AX Farms.

Each of these operations involved heating the waste and accumulating and separately disposing the condensate. The concentrate (or bottoms) are then transferred to various waste tanks (bottoms tanks) and the salts within the concentrate are allowed to accumulate in those tanks (as salt cake).

We have adopted a strategy with the 242-T (1950's), 242-B, Redox self-concentrates, and BY Farm ITS campaigns wherein all waste input to each of these campaigns is blended to produce one salt cake and one supernatant for each campaign. The HDW blends for each of these campaigns is shown in (App. B). These definitions allow for later reconcentration of previously concentrated supernatants from each campaign.

For all of the other evaporator campaigns, we have used the SMM to allow the prediction of a concentrated blend of HDW supernatants for each tank. However, we have nevertheless calculated the blended feeds for other evaporator campaigns as shown in App. B.

In principle, there are two states of hydration for each of the salt cakes—wet (i.e. as created) and in various stages of hydration. In fact, Allen reported two sets of values for salt cakes from 242-S (S1SltCk) bottoms receivers—one set for low water contents (3-5 wt%) and a second set for larger water contents (~15-30 wt%). However, Allen did not report density measurements for any of his samples, and

therefore we do not know the solid fraction of any of those samples. All salt cakes reported here are kept with the water contents that resulted when they were formed. I.e., the HDW model does not include any drying of the waste in the waste tanks other than that associated with one of the evaporator campaigns.

Table 9.
Evaporation and Cs/Sr Extraction Campaigns

Evaporator	st.date		en.date		Tank(s)	kgal out	kgal reduction	kgal salt cake
242-T	1951	2	1955	3	TX-118	8,060	7,849	764
242-B	1951	4	1954	4	B-106	8,048	7,861	786
Redox self-conc.	1952		1965		S/SX Farms	8,240	8,400	514
A/AX self-conc.	1960		1965		A/AX Farms			
HS or SSW	1961	4	1965	2	C-109, C-111, C-112			
Redox Plant	1967		1972		S-107 feed			
ITS proto.	1965	1	1966	3	BY-101			
ITS#1	1966	4	1971	2	BY-102, BY-103 feed			
ITS#2	1967	4	1976	1	BY-112, BY-109 feed	9,585	38,111	3887
B Plant Cell 23	1967	4	1967	4	B-112 feed, B-111 bottoms			
242-T	1965	4	1976	1	TX-118 feed	20,014	42,242	5874
242-S	1972	4	1977	1	S-102 feed	21,126	34,642	5123
242-A	1976	4	1980	4	A-102 feed	20,465	7,405	1073
242-S	1977	2	1980	4	SY-102 feed	7,793	7,000	
242-A	1981	1	1991		AW-102 feed	10,794	8,053	
A-102 sluicing	1963	4	1969	1	A-102			
A-106 sluicing	1969	2	1973	4	A-106 sl to AR, su feeds C-105			
AX-103 sluicing	1974	1	1977	3	AX-103 sl to AR, su feeds C-105			
CSR	1967	4	1979	1	C-105 su feed			
SRR	1969	1	1977	2	A-106 sl feed			
totals							161,563	18,937

♦*242-B and First 242-T*

These evaporators both began in 1951 with 242-B running through 1953, and 242-T running through 1956. They were primarily used to concentrate 1C and UR waste supernatants. Anderson-91 reported 242-B reduced 6,027 to 1,151 kgal (80.9 vol% reduction), while 242-T, in two passes, reduced 8,638 to 1,546 kgal (82.1 vol% reduction).

The WSTRS transaction records, on the other hand, show different total numbers. WSTRS shows that 242-B reduced 15,089 to 7,240 kgal (52.0 vol% reduction) and that 242-T reduced 18,191 to 8,330 kgal (54.2 vol% reduction). Anderson-91 actually reports the total waste volume reduction for 242-B as 7,172 kgal, and that for 242-T as 9,181 kgal, or a total volume reduction of 16,353 kgal, while our volume reduction is 17,710 kgal for this same period. Our main difference with Anderson-91 is with the total volume processed. Note that our estimates are not broken down by 1C, 2C, or UR supernatants.

Our estimate in fact comprise all three. We have found that some 786 kgal salt cake was formed in B Farm as a result of 242-B operation, or 6.1 vol% of the original volume, and 764 kgal was formed for 242-T.

♦*S and SX Farms self-concentration*

As shown in Table 5b, tanks in S and SX Farms that had been filled with waste from the Redox plant were allowed to boil and self-concentrate. We have found that there are a number of tanks in which the salts from this concentration accumulated and we have termed that waste RSltCk, Redox Salt Cake. These sixteen tanks are: S-101, -104, -107, -110, and SX-101, -102, -103, -104, -107, -108, -109, -110, -111, -112, -114, -115. The composition of RSltCk is a blend of all of the supernatants that were fed into any of these tanks during the years noted in Table 5b. Thus, this blend of the concentrate will actually be distributed among all of these tanks.

♦*A and AX Farms self-concentration*

Corresponding to the self-boiling tanks in S and SX Farms for Redox wastes, there were a series of self-boiling tanks in A and AX Farms as well. However, no salt precipitates formed as a result of their concentration and so there are no salt cake remnants formed. However, the supernatants did concentrate appreciably. Then, the supernatants were recovered; their Cs-137 extracted; and the supernatants returned to the waste tanks, where they were then concentrated. The self-concentrating tanks are: A-101, -102, -103, -104, -105, while the remaining tanks in A and AX, although equipped for boiling waste, never actually boiled.

♦*In Tank Solidification (ITS) campaign in BY Farm*

In 1965, a prototype heater was placed into BY-101 and the demonstration of evaporation driven by in tank heaters was performed. In 1966, a second heater was placed into BY-102 with tank BY-103 acting as a primary feed tank. The strategy of this campaign was to circulate the feed to the heated tank and then from there transferred to other tanks in BY Farm. As the concentrate cooled, the idea was to solidify an entire series of waste tanks by continuously recycling the concentrate around this loop.

Finally, in 1966 a third heater was placed into BY-112 with BY-109 acting as primary feed. During this third heater's operation, the heater in BY-102 was used as a cooler instead and hot concentrate from BY-112 was routed then to BY-102. The ITS campaign ended in 1976 and resulted in about 38 million gallons of volume reduction and the formation of 3,887 kgal of salt cake, BYSltCk.

♦*Acid additions during evaporator runs*

From 1977 through 1980, a series of acid/permanganate additions were performed during 242-S evaporator runs which were designated NIT (neutralization in transfer) by Jungfleisch or PNF (partial neutralization of feed) by Anderson. Evidently, this campaign was an attempt to precipitate more sodium as the nitrate salt and thereby enhance the solidification of the waste within the bottoms receivers. For each NIT transaction, Jungfleisch started with that volume of the receiving tank, adjusted the hydroxide of that volume to a maximum of 0.9 M by adding nitric acid, and finally increased the concentration of $NaNO_3$ by 0.3 M and $KMnO_4$ by 1.3e-3 M. This volume was then added back to the tank and mixed with the waste already in the tank. This model was meant to simulate the actual NIT additions that occurred continuously during an evaporator run. For example, WSTRS reports that 52 kgal of NIT was added to SY-102 during this campaign see (Table 10) and NIT was also added to S-102, S-103, SX-106, U-102, U-103, U-107, U-111.

These transactions also added to each waste stream a variable amount of nitric acid that depended on the tank waste composition at the time of the addition. In the HDW, we have assumed that the composition of the NIT was on average 0.5 M HNO_3, as well as the other two components, 0.3 M $NaNO_3$ and 0.0013 M $KMnO_4$. It is not clear how much nitric acid was actually added during each of these runs nor is it clear that the hydroxide that is bound to the aluminate ion is included in this neutralization scheme.

Table 10.
Evaporator Partial Neutralization (PNF) Campaign

tank	kgal NIT	from	to
SY-102	52	1977.75	1977.75
U-102	29	1977.75	1978
U-103	26	1977.75	1977.75
S-103	220	1978	1980.75
U-107	109	1978	1980.75
S-102	63	1979.5	1979.75
U-111	17	1979.5	1979.5
SX-106	138	1980.5	1980.75
kgal Total	**654**	**1977.75**	**1980.75**

—Radiolysis of nitrate to nitrite to ammonia

A previous report[37] has shown a yield of 4.5 molecules of nitrite in 2 M nitrate solutions per 100 eV of absorbed dose (G = 4.5). If we express this in terms of cesium and/or strontium radiolysis, a 1 Ci/L (or 3.7e10 Bq/L) solution of these species would correspond to 4.5 molecules nitrite / 100 eV / (2 M nitrate) x 1.1e6 eV / decay x 1 Ci/L x 3.7e10 decays / sec / Ci x 3.16e7 secs / year / 6.023e23 molecules / mol which is

$$= 0.048 \text{ mol } NO_2^-/\text{mol } NO_3^-/\text{Ci/yr}.$$

For a waste tank at 0.5 Ci/L and 2.5 M nitrate, this would amount to 0.06 M nitrite produced per year. For SY-101, this suggests that from 1981 to present, there has been ~0.8 M nitrite created by radiolysis. Of course, the decay of the radionuclides must also be taken into account for any long term radiolysis.

We have not been able to locate a G value for ammonia production from nitrite. We assume therefore that there is some channel for which nitrite undergoes further radiolysis to hyponitrite, hydroxlammine, and finally ammonia as

$$NO_3^- \xrightarrow{\text{rad.}} NO_2^- \xrightarrow{\text{rad.}} NO^- \xrightarrow{\text{rad.}} H_2NOH \xrightarrow{\text{rad.}} NH_3.$$

Ammonia production for SY-101 has been reported[38] to be 2.4 mol NH_3/year, which suggests that the actual ammonia production from radiolysis of nitrite is only 7% that of the radiolysis of nitrate to nitrite. We further assume that ammonia production for SY-101 exceeds that of radiolysis alone by factor of three, which is the amount of hydrogen gas production over that of radiolysis alone (because of the presence of complexant). Therefore, we derive a value of

$$1.2\text{e-}3 \text{ mol } NH_3/\text{mol } NO_2^-/\text{Ci/yr}.$$

Production of ammonia from nitrite is assumed to proceed as

$$NO_2^- + 2H_2O \longrightarrow NH_3 + OH^- + 3/2\, O_2$$

where the hyponitrite and hydroxylamine intermediates are presumed to be short lived. Therefore, for each mol ammonia produced, two mols water are consumed and one mol of hydroxide and three halves mols oxygen are produced. Ammonia production is accumulated in each waste as NH_3 and no solubility limit is imposed. Therefore, all of the ammonia that has been produced for the entire history of a tank's waste remains within that waste in the HDW model.

[37]Hyder, M. L. "The Radiolysis of Aqueous Nitrate Solutions," J. Phys. Chem., 69, 1858-65, 1965.
[38]Norton, J. D. and Pederson, L.R. "Ammonia in Simulated Hanford Double-Shell Tank Wastes: Solubility and Effects on Surface Tension," PNL-10173, Sept. 1994.

To account for decay of the Cs-137 and Sr-90, we have used the expression

$$= (\text{Cs-137} + \text{Sr-90})^* \, t_{1/2}/\text{LN}(2)^*(\text{EXP}(1994\text{-camp.yr.})^*\text{LN}(2)/t_{1/2})-1)$$

and have used an average half life of 29.15 years. This expression provides the total dose of a waste in Ci.-yr.'s when the Cs-137 and Sr-90 are expressed in 1994 curies. This does not account for any other radionuclide source terms besides Cs-137, Sr-90, and their daughters. For example, we have not accounted for any of the short-lived fission products in green waste.

—Degradation of organic

The HDW model does not include any degradation of organic residues. However, there is ample indication that the organic residues have degraded in tanks over time. Presumably, the degradation of organic complexants proceeds at different rates for the different organics and their decomposition products and many of these rates are uncertain see Degradation of Organics in Waste Tanks (Table 11). There has been much suggestion that the organics that were passed through the 242-T evaporator were substantially degraded. This evaporator operated at 100°C and the residence times were on the order of 13 hours.

Table 11. Degradation of Organics in Waste Tanks

species	synonyms	decomp. mol frac. / year	critical factor
C6H5O7---	citrate	?	
C4H4O6	tartrate	?	
EDTA----	$(-OOCCH_2)_2NC_2H_4N(CH_2COO-)_2$ ethylenediamine tetraacetate 1,2-dinitrilo(N,N,N',N'-tetraacetato) ethane ethylene dinitrilo tetraacetate N,N'-1,2-ethane(diylbis[N-caboxymethyl]) glycine edetate	?	
HEDTA---	$(HOCH2CH2)(-OOCCH_2)NC_2H_4N(CH_2COO-)_2$ hydroxyethyl ethylenediamine triacetate	1	
NTA---	$N(CH_2COO-)_3$ nitrilotriacetate	?	
glycolate-	HOCHCOO-	0	
acetate-	CH3COO-	0	
oxalate--	-OOCCOO-	0	
TBP	$OP(OC_4H_9)_3$ tributyl phosphate phosphoric acid, tributyl ester		
DBP	$OP(OC_4H_9)_2O-$ dibutyl phosphate phosphoric acid, dibutyl ester		
D2EHP	$OP(OC_2H_3(C_2H_5)(C_4H_9))_2O-$ di-2-ethylhexyl phosphate		
butanol	C_4H_9OH butyl alcohol		
NPH	$CH_3(CH_2)_{10}CH_3$ normal paraffinic hydrocarbon dodecane	0.2	evap.
CCl4	carbon tetrachloride	1	
hexone	$CH_3(CO)CH(CH_3)_3$ methyl isobutyl ketone 3,3-dimethyl butan-2-one	1	
Fe(CN)6----	ferrocyanide	0.1	radiolysis

Based on three measurements for tank AN-107 over a 10 year period, we can estimate an organic decomposition as mol fraction TOC per Ci/L-yr of dose. This number is 0.06 mol fraction per Ci/L-yr of dose.

A scheme that uses a minimum set of "representative reactions" to represent the degradation of organics is shown below. Note that the reactions of this scheme do not need to be "real," but only representative of the overall system. Such a scheme is more amenable to using partial information and naturally allows the conservation of mass, once the reactions are balanced. Such a minimum set might be, for example, the following (which are not balanced):

$citrate^- + 2\,H_2O \longrightarrow 3\,glycolate^-$

$acetate^- + NO_3^- \longrightarrow glycolate^- + NO_2^-$

$glycolate^- + 2\,NO_3^- + OH^- \longrightarrow oxalate^{2-} + 2\,NO_2^- + H_2 + H_2O$

$glycolate^- + 2\,NO_2^- \longrightarrow oxalate^{2-} + N_2O + H_2 + OH^-$

$oxalate^{2-} + NO_3^- + 2\,OH^- \longrightarrow 2\,CO_3^{2-} + NO_2^- + H_2O$

$EDTA^{4-} + H_2O + 2\,NO_3^- + OH^- \longrightarrow NTA^{3-} + 2\,glycolate^- + NH_3 + 2\,NO_2^-$

$HEDTA^{3-} + 3\,NO_3^- + 2\,OH^- \longrightarrow NTA^{3-} + 2\,glycolate^- + NH_3 + 3\,NO_2^-$

$NTA^{3-} + 3H_2O \longrightarrow 3\,glycolate^- + NH_3$

$TBP \longrightarrow H_3PO_4 + butanol$

$butanol \longrightarrow evaporates$

$NPH \longrightarrow evaporates$

$CCl_4 \longrightarrow evaporates$

$hexone \longrightarrow evaporates$

$FeCN \longrightarrow Fe^{3+} + 6CN^-$

$CN^- + NO_3^- \longrightarrow CNO^- + NO_2^-$

$CNO^- + H_2O + OH^- \longrightarrow CO_3^{2-} + H_2N\text{-}OH$

$H_2N\text{-}OH + H_2 \longrightarrow NH_3 + H_2O$

$H_2N\text{-}OH + NO_2^- \longrightarrow N_2O + OH^- + H_2O$

$NH_3 + NO_3^- \longrightarrow N_2O + OH^- + H_2O$

$N_2O + 2/3\,NH_3 \longrightarrow 4/3\,N_2 + H_2O$

$N_2O + H_2 \longrightarrow N_2 + H_2O$

$C_{12}H_{22}O_{11}(sucrose) + 24\,HNO_3 \longrightarrow 12\,CO_2 + 11\,H_2O + 24\,HNO_2$

$C_{12}H_{22}O_{11}$(sucrose) + 24 HNO_2 —> 12 CO_2 + 23 H_2O + 12 N_2O

$C_{12}H_{22}O_{11}$(sucrose) + 24 N_2O —> 12 CO_2 + 11 H_2O + 24 N_2

—Corrosion source term for Fe, Cr, Ni

We have found that the iron concentrations in Hanford sludges are much higher than can be accounted for with the iron that was added during processing. Therefore, we have added an additional iron source that we attribute to corrosion of process vessels and lines primarily within a plant. In order to add this source term, we needed to derive a corrosion source term.

A previous report[39] has suggested that about 1,200 g of iron are produce per ton of fuel processed, with about one half of this coming from iron in the fuel element itself while the other half derives largely from corrosion of various process equipment that has been in contact with the solution. Over the history of Hanford, approximately 108,000 tons of fuel have been processed. This would suggest that about 2.3 Mmol of Fe would be due to this source.

We have found, on the other hand, that the "extra" source of iron is much larger than this. In fact, we estimate that 10-15 Mmol of iron, which is about as much as was added during processing, must have come from various pieces of equipment that were used in processing and transporting waste. This is equivalent to 0.04 M iron in the 390,000 kgal of waste that has been generated at Hanford totaling 341 metric tons of iron.

With the iron fixed at 0.04 M, we can estimate both chromium and nickel assuming that the source term is stainless steel 304. We have used Cr = 0.2 x Fe while Ni = 0.1 x Fe, which is close to reported ranges for this alloy.[40]

We have reduced the corrosion source term for the $BiPO_4$ and all decladding processes to 40% of this value. This value was chosen such that analytical results for these classes of wastes agreed with predictions generated by the model and also because we expect that these processes would have produced much less corrosion because of the involved lower acid or caustic processing.

—Silicate source terms

There were many different sources of silicate in waste streams. We have found, though, that a particular source that has been often overlooked is the silicate that derived from silicone anti-foaming agents used in the sugar denitration of the Purex acid waste prior to its neutralization and disposal to tanks.

—Calcium impurity source term

The primary source of calcium in the waste is another mystery at this time. We estimate that there is some 28 Mmol of calcium in Hanford wastes (based on extrapolation of analytical data on sludges to all tanks), but have only accounted for 4 Mmol by flowsheet additions. Thus, we do not have a source term for 24 Mmol of calcium. In order to provide an estimate for calcium, we have considered three additional sources.

First, the calcium may have derived from the fuel elements themselves. This amount of calcium in 108,000 tons of fuel would amount to 1 wt% Ca, which is not listed at all as a component of N-Reactor fuel.[41] Calcium would be a potential component of the silica binder that is used in the fuel elements, but we have not found any reference to calcium in the fuel.

A second source of calcium would be that added as needed during operation to control the Sr-90 in solution. Although such additions are not documented in any of the flowsheets that we have examined, there are anecdotal references to calcium additions to precipitate as a phosphate or carbonate, enhancing Sr-90 decontamination of solutions.

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[39]Van der Cook, R. E. and Walser, R. L. "Purex Alternate Reductant Study," ARH-1649, June 1970.
[40]CRC Handbook of Chemistry and Physics, 58th ed., 1977-78.
[41]Chapter five "Fuel Element Dissolution and Waste Treatment Technology," WHC-SP-0479.

Another possible source for the calcium is a larger than expected amount of Ca in the sodium hydroxide that was used to neutralize the waste stream. There were approximately 1,927 Mmol NaOH added to the various waste streams. We have assumed that it was added as a 50 wt% caustic solution at 30 ppm Ca (0.0012 M), which only amounts to a fraction of a Mmol Ca. If, on the other hand, we assumed that all of the Ca came from NaOH solution, the solution would have been 5 wt% Ca. This seems like an unreasonably large amount of Ca in the neutralization stream.

Crushed limestone ($CaCO_3$) rock was often used in holding tanks prior to release of condensate and other water sources to cribs and trenches. However, we have no indication that any of this limestone ended up in waste tanks. Twenty Mmol of $CaCO_3$ would amount to 2,000 metric tons of limestone.

A final calcium source would be that in normal water. The level of calcium in ground water at Hanford is 20-40 ppm (that of the Columbia River is ~30 ppm) which is equivalent to 7.5e-4 M Ca. The process solutions used in plant operation were normally deionized, but there were undoubtedly many flush and cleaning water additions that used simple tap water. The volume of waste at Hanford excluding reprocessing is 433,000 kgal (Table 2). We estimate that there is on the order of 24 Mmol Ca in the Hanford waste tanks, which amounts to 0.015 M Ca (~600 ppm). Therefore, the amount of calcium is greater than a factor of twenty greater than we can explain based on calcium in hard water. Combined with the fact that the process solutions, which constitute a large fraction of the total waste produced, were deionized is inconsistent with hard water as being the calcium source.

We will nevertheless assume for the purposes of our estimates that the calcium source was distributed across most all process solutions and that it amounted to 0.015 M Ca in these original wastes. We suggest that the most probable source for this calcium was rinse and flush water, with added calcium for Sr-90 decontamination being a second factor.

—Chloride and potassium impurity source terms

The primary source of chloride and potassium in the waste is from the added sodium hydroxide. The reported chloride amounts are added in each waste stream according to the reported ppm of Cl^- in the NaOH feed. Chloride impurities in NaOH are reported to be 1 wt%. This amounts to a chloride inventory of 28 Mmol, as opposed to the chloride in process additions—around 1 Mmol Cl^- added during the Uranium Recovery campaign.

We use a value of potassium in NaOH of around 0.5 wt%, which results in a potassium inventory of 15 Mmols for all tanks.

—Lead source terms (and neglect of copper and zinc)

The only recorded use of lead in process was with the Hot Semi-Works or C Plant. Thus, there is lead in HS waste. We have also determined, though, that after 1954 the fuel slugs were dipped into a lead bath prior to their being dipped into the aluminum silicide bonding agent and then welded into the cladding. This bonding agent, then, contained some amount of lead, which we have estimated based on descriptions of this process and assuming a one micron layer of residual Pb on the fuel slugs. This added an additional source term for lead in CWR1, CWR2, CWP1, and CWP2. Since prior to 1954 a bronze dip (Cu and Zn) was used in place of the lead dip, no adjustments were made to the 1C1 or 1C2, which include the cladding waste from those periods. Note that the HDW model does not include either copper or zinc and so this source term is completely neglected for 1C1 and 1C2.

—Tritium losses

There are a variety of sources for tritium in the fuel that was processed at Hanford. The HDW model assumes that all tritium is present as tritiated water, HTO, and therefore is lost as condensate whenever waste is concentrated by active evaporation. The tritium in each HDW supernatant is therefore reduced by ratioing the sodium concentration of the supernatant to 12 M. This method then assumes a water loss that is in direct proportion to a final waste that is 12 M Na. Note that all HDW sludges retain the original amount of tritium (decayed to 1-1-94) without any other losses.

III. Variabilities for HDW Model Estimates

There are four different potential sources for disagreement between HDW model and assay estimates for tank waste: model, parameter, transaction, and sampling:

- Model: Approximations and assumptions used within the HDW model result in model dependent variability, termed model errors. This variability is the only irreducible source of variability within the HDW model. In other words, if there are incorrect data or parameters within the HDW model, its estimates will be "wrong" but the model itself may very well still be "valid." Specifically, a discrepancy between HDW model and assay results may be due to the assumption of single-point solubility for an analyte, which would be a model error. As long as the solubility parameter represented the mean solubility point for all HDW wastes, the parameter itself would be correct.

- Parameter: A parameter within the HDW model source term may be incorrect, such as an incorrect analyte solubility limit. Each solubility limit represents the mean value for all HDW wastes. For example, the Pu solubility is assumed to be 30 µCi/L for all HDW Rev. 3, but new information suggests that 9 µCi/L (the value used in Rev. 4) is a more representative single point solubility for Pu in the absence of complexants. This error, then, would be a solubility point parameter error. Another kind of parameter error is associated with HDW model source terms. For example, the HDW Rev. 3 used a value of 0.22 M for Al in 1C waste, which suggests an aluminum amount of 2,500 mols Al/short ton fuel processed. However, other process knowledge suggests that the actual amount of aluminum present in the cladding waste was 1,100 mols Al/short ton fuel (adjusted value for Rev. 4). This difference amounts to a source term parameter error.

- Transaction: This is a symmetric volume error that involves at least a pair of tanks. If waste from a tank or process did not go into the designated tank, then it has to go into some other tank. Therefore, two or more tanks are affected by such a waste transaction error. This type of error tends to average out for supernatants in the limit of large numbers of transaction (shown below). On the other hand, it can have very dramatic consequences on tank sludge inventory.

- Sampling: A particularly vexing source of discrepancy in comparisons of HDW model estimates with assays is caused by waste heterogeneity, termed a sampling error. Waste heterogeneity can make it difficult if not impossible to obtain a set of waste samples from a tank that adequately represent that tank's heterogeneity. Not only are there vertical layers of waste within each tank, but the distribution of those waste layers about the tank can be extremely irregular as well. Waste heterogeneity not only makes comparisons with HDW model results difficult, it also bedevils attempts to use waste assays to establish tank inventories. In addition, limited access by risers and incomplete recovery during core sampling further complicate the interpretation of sample assays.

The HDW model Rev. 4 only includes two sources of variability, process and solubility. These two sources of variability should account for the vast majority of variation outside of heterogeneity. The HDW model calculates the variation of each of 33 processes (see Table 12) at ±1.00 RSD to provide 2 scenarios. Then, it calculates another 2 scenarios for 24 analyte solubilites varied as a group by ±1 RSD along with 16 analyte solubilities varied independently (see Table 7), for another 32 scenarios. In all, 36 scenarios of 48 HDW's provides 1,728 variations for each analyte for each waste tank at ±1 RSD. The maximum and minimum variations are selected from this set to represent the ±1 RSD variation and then another 1,728 variations are calculated for ±1.96 RSD (95% CI) and their maximum and minimum then determine the ±1.96 RSD.

Among these trials, ~12 of the 1,728 variations for ±1.96 resulted in unphysical waste sludges and were therefore rejected. That is, the amount of material in the waste stream for certain trials exceeded the solids volume for those wastes given the solubility of its constituents. Within the HDW model, a negative void fraction is an indication of too many solids for the specified solids volume percent of the waste.

—Quantification of process variability

Each of the forty-eight HDW compositions varies with time. This variation in composition has a variety of causes but can be represented as a linear trend and a variation about that trend. The variation

of each process is assumed to be caused by process waste dilution although there is undoubtedly a component of rework processing, for the purposes of the HDW model, rework variability is ignored.

This variation is particular for each waste and is volume dependent. That is, the larger the volume of an HDW that exists within a given tank, the smaller will be the variability of that estimate and the more representative will that tanks volume be of that waste type. As an example, see Fig. 18, which is a plot of waste rates for the Redox campaign. There are fourteen tanks in S and SX Farms that hold nearly all of the R1 sludge, averaging 75 kgal each. Thus, each tank's sludge represents about two quarters worth of accumulation and the variability is 12% at one RSD, ranging from 10-16% per tank depending on exactly how much sludge is in a given tank.

Most of the R2 waste sludge is on average distributed 30 kgal each among 7 tanks. At 30 kgal, the variability will be 13%, and will range from 10-16% for that set of tanks as well. It is interesting to note that despite the very different Redox campaigns, the waste rate variabilities are very similar between R1 and R2.

The waste rate variability represents a dilution of all species while the waste rate trend does not change the chemical composition at all, since chemicals added remain proportional to waste volume. On the other hand, there will be a bias in the radionuclide concentration through a campaign as a result of the waste rate trend. Radionuclides will be more dilute early in the campaign and more concentrated late in the campaign. Thus, there is an extra source of variability for radionuclides within each campaign that is tied to the waste rate trend parameter.

For example, the waste rate trend for R1 is ±73% of the mean over the campaign, which places an effective RSD for the radionuclides at ±50%. Thus, while the chemical composition variability for these tanks is within an RSD of ±12%, the radionuclides vary with an RSD of ±50%. The HDW model does not account for this extra variation in radionuclides. Since only R1 waste shows this kind of extreme waste rate trend, the neglect of this effect should not be a bounding source of variability for any waste except R1.

Starting with the hypothesis that the waste rate variability is the most direct measure of process variability and therefore of HDW compositional variability, the two sources of waste rate variability are:

1) Rework processing. For a given amount of fuel processed during a campaign, early batches needed to be reworked more often than later batches because the separations failed to achieve the necessary decontamination or separation factors. Note that for rework, the chemicals in the waste scale linearly with the waste volume but the radionuclides will be diluted by increasing rework;

2) Ancillary processing resulting in primary waste dilution. There are many ancillary waste streams that derive from various cell cleanup and vessel cleanout activities. These activities by and large add very little or no chemicals or radionuclides to the waste stream. Therefore, to a first approximation, this variability simply dilutes or concentrates the waste stream. This dilution or concentration simply changes the relative supernatant and sludge inventories of each component.

The HDW approach completely neglects chemical source term variability, which derives from measurement errors during processing. This variability is in the range 3-5% and should therefore be bounded by the two variability sources noted above.

The variability of every process waste rate will actually be a combination of rework and ancillary processing and there is little information about the precise nature of this combination. Assuming that the amount of chemicals used scales linearly with the volume of the waste produced for rework processing, the waste compositions within each tank will actually be independent of the amount of process rework (radionuclides, as noted above, will be reduced in concentration by the increase in rework.)

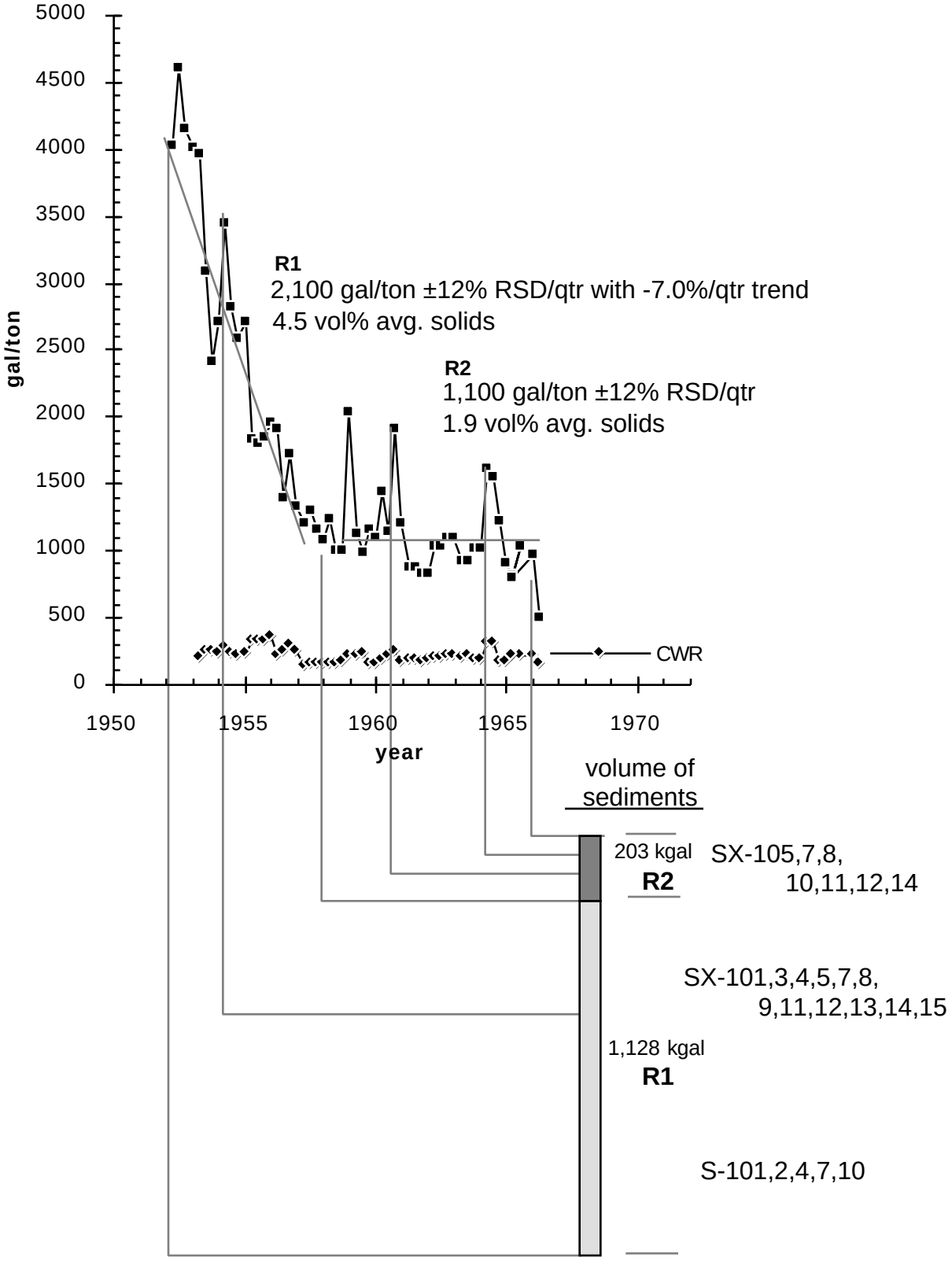


Fig. 18. *Derivation of process variability and trend and relation to sludge layers.*

This approach subtracts a linear trend from each waste rate due to rework over the period of a campaign and makes the assumption that the resultant variability of the waste composition is wholly attributable to ancillary processing. This results in waste composition variabilities that should be equal to or greater than the true waste composition variabilities. In principle, the HDW model would need more information to assign the correct fraction of waste rate variability to process rework.

With these assumptions in hand, an uncertainty for each HDW can be derived by resolving each analyte for its upper and lower limits. An RSD (Relative Standard Deviation) for each HDW results in a set of upper and lower compositions for each component of each HDW. Note that these relative variabilities will be different in general from the overall RSD for each HDW. This is because of the fact that the solution concentrations of semi-soluble species are directly linked to their sludge inventories. The set of process variabilities is shown in Table 12.

Table 12. Process Variabilities.

HDW type	1 RSD per 52 kgal*	1.96 RSD per 52 kgal*	1 RSD per qtr	trend per qtr	waste rate kgal/qtr	solids rate kgal/qtr
MW1	7.9%	15.5%	7.0%	0.4%	766	92.0
MW2	12.6%	24.7%	11.3%	-0.6%	817	98.0
1C1	15.6%	30.6%	14.4%	-1.3%	588	80.6
1C2	26.0%	51.0%	22.8%	-3.6%	632	157
2C1	15.4%	30.2%	23.6%	-1.9%	448	30.5
2C2	12.6%	24.7%	15.5%	0.2%	1000	34.0
224	14.0%	27.4%	‡			
UR/TBP	63.9%	99.0%	61.5%	7.4%	2090	58.6
R1	13.3%	26.1%	14.2%	-5.7%	929	41.8
R2	7.9%	15.5%	25.1%	-1.1%	325	6.2
CWR1	16.6%	32.5%	30.4%	-6.0%	100	8.1
CWR2	0.5%	1.0%	6.7%	3.8%	67.9	2.0
P1	26.8%	52.5%	32.6%	-0.4%	956	21.0
P2	33.9%	66.4%	43.4%	0.6%	463	18.0
PL1	11.1%	21.8%	65.0%	-16.2%	132	2.9
CWP1	9.6%	18.8%	13.3%	-1.9%	305	24.7
CWP2	36.5%	71.5%	96.7%	3.7%	556	16.1
CWZr1	36.5%	71.5%	‡			
OWW1	16.8%	32.9%	76.5%	7.3%	255	0.3
OWW2	6.7%	13.1%	48.9%	1.0%	582	0.6
OWW3	10.8%	21.2%	102.6%	8.7%	433	0.4
Z	29.9%	58.6%	107.5%	-5.7%	80.5	1.9
HS	9.7%	19.0%	‡			
TH1	33.9%	66.4%	‡			
TH2	33.9%	66.4%	‡			
B	43.7%	85.7%	163.6%	14.0%	128	0.6
BL	27.9%	54.7%	65.1%	-2.0%	183	1.2
SRR	39.0%	76.4%	93.8%	-7.2%	153	4.0
P3	15.3%	30.0%	72.2%	10.5%	63.1	2.5
PL2	29.5%	57.8%	91.5%	4.3%	377	7.5
CWZr2	50.3%	98.6%	77.8%	2.6%	262	27.5
PASF	7.0%	13.7%	96.0%	-3.5%	528	3.2

*Given a 19” core segment, equivalent to 52 kgal average volume in 75’ dia. tank.
‡Variabilities for 224, CWZr1, HS, TH1, and TH2 assigned to 2C, CWP2, SRR, P2, and P2, respectively.

Finally, there is a fundamental correspondence that relates a tank's waste volume to a corresponding waste stream variability. That is, if a tank contains 75 kgal of a waste sludge, then the waste rate variability must be calculated for the time that it took to deposit that 75 kgal of sludge.

This is a very important point. A manifestation of waste heterogeneity within a tank is that the larger the waste sample taken from a tank, the more representative that sample will be to the mean value for that waste type. The waste rate variability quantifies that relationship. It means that the smaller the sample of

waste in an assay, the larger the margin will be for comparison of that assay to the HDW estimates. Conversely, the larger the amount of waste sampled, the better it will represent the tank's waste and the smaller will be the margin for HDW estimate comparisons.

Because the variations of some materials result in changes in precipitated fractions, there is the possibility that an analyte distribution will "fold" and that the 1.96 RSD variation results in less analyte variation in a waste sludge than does a 1.0 RSD variation. This can occur for soluble analytes in sludges when a waste stream process variation results in a decrease in void fraction. Such a reduction in void fraction then works against the increase in analyte concentration, reducing whatever increase occurred.

The expression for a sludge analyte is

$$hdw_j^{slAnal} = \frac{hdw_j^{totAnal}\, f_j^{Anal}}{1000\, \rho_j^{sl}\, f_j^{sl}} + \frac{hdw_j^{suAnal}\, f_j^{void}}{1000\, \rho_j^{su}}$$

and for soluble analytes, $f_j^{Anal} = 0$ and so the first term is zero. In the second term, as long as the sludge liquid void fraction does not change when the waste stream analyte concentration is increased, the soluble analyte will experience the same variation as all the other species within the waste. However, if the void fraction decreases as a result of a change in the fraction precipitated of semi-soluble species, then an increase in the analyte concentration for that waste will be partially mitigated by a corresponding decrease in void fraction. For extremely severe decreases in void fraction, void fraction reduction can actually dominate and decrease the soluble analyte concentration in the sludge layer.

—HDW variability due to variations in analyte solubilities

The HDW model assumes a single point solubility for each analyte regardless of what other species are present in solution. In reality a given analyte can potentially have quite different solubilities for different waste streams and as a result, the assumption of single point solubilities produces a source of variability within the HDW model.

For a given waste stream, the solubility variability of each component within that stream is not significant compared to the variation of analyte solubilities among HDW's. The variability for each analyte's solubility, then, represents the potential ranges of that analyte's solubility among HDW's. The HDW model assumption of a single solubility for each analyte among all HDW's dominates the variability of the HDW estimates for those analytes. Those variabilities are shown in Table 7.

The solubility variation is assumed to affect wastes volumetrically and randomly. As long as the particular HDW supernatant is adequately represented in the solubility dataset, its true solubility should fall within the uncertainty calculation for all tanks. A solubility variation of one RSD represents the uncertainty of predicting an analyte among the set of HDW's and therefore among the set of waste tanks.

Each of the analytes and radionuclides has a variability that can be calculated based on either one of two parameters: one RSD (relative standard deviation) of process variability or one RSD of analyte solubility. Depending on the particular details of each waste stream, either one of these sources of variability can dominate the variability of any of the HDW's species. If the concentration basis is inventory limited (i.e. no analyte is precipitated) then the process variability dominates that species' variability.

Therefore, it is necessary to partition all analytes according to their upper and lower limits at one RSD of either solubility or process dilution variabilities. In addition, we need to derive a 1.96 SD or 95% confidence limit for each of these variabilities. This is because of the sometimes extremely non-normal distributions that result for particular cases. For example, lowering Pu solubility from 30 to 6 µCi/L for 2C1, a factor of six, raises the sludge Pu concentration by a factor of twelve, from 0.011 to 0.13 µCi/g in 2C1 sludge. This is caused by the fact that no Pu precipitates in the sludge at all at 30 µCi/L while 60% is precipitated at 6 µCi/L solubility. As an analyte solubility decreases to the point where precipitation occurs for a given HDW, the analyte sludge concentration increases roughly in proportion to the ratio of total waste to sludge volumes for that HDW. This means that the concentration of a sludge analyte can vary quite dramatically provided the solubility limit is exceeded and the sludge volume fraction is small.

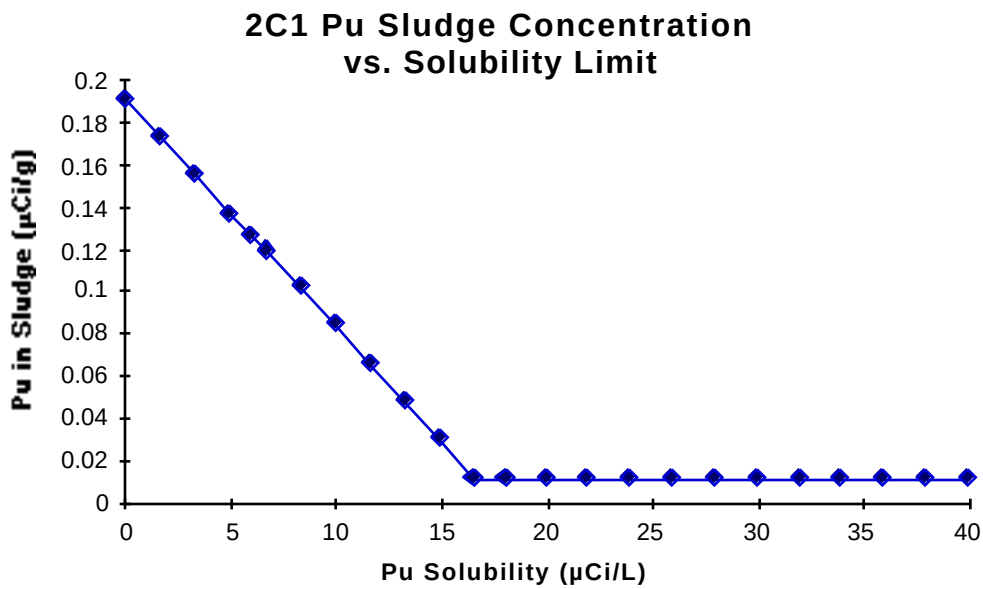


Fig. 19. *Plot of the Pu concentration for 2C1 sludge versus the Pu solubility limit.*

This is illustrated in (Fig. 19), where a plot of the Pu concentration for 2C1 sludge versus the Pu solubility limit shows that the sludge concentration remains constant until Pu begins to precipitate at 16.3 µCi/L. In the solubility regime above 16.3 µCi/L, Pu is present only in the interstitial liquid of the sludge. In the Pu solubility regime below 16.3 µCi/L, Pu partitions increasingly to the sludge and the sludge Pu concentration is directly proportional to the solubility limit with a slope proportional to the inverse of the solids fraction. Thus, changes in the Pu solubility for a waste once it precipitates result in changes in the Pu sludge concentration that are proportional to the inverse of the solids fraction for that waste. The calculation for the HDW supernatant Pu concentrations is

$$hdw_j^{suPu} = \frac{hdw_j^{totPu}\,(1-f_j^{Pu})}{1-(1-f_j^{void})\,f_j^{sl}}\,.$$

This expression defines the supernatant concentration following precipitation of f^{Pu}_j fraction of total Pu for the jth HDW. The denominator accounts for the excluded volume of the solids that precipitate from the waste stream and therefore are no longer part of the solution. The sludge concentration is calculated as

$$hdw_j^{slPu} = \frac{hdw_j^{totPu}\,f_j^{Pu}}{1000\,\rho_j^{sl}\,f_j^{sl}} + \frac{hdw_j^{suPu}\,f_j^{void}}{1000\,\rho_j^{su}}$$

where the first term is the contribution to the sludge Pu due to Pu solids and the second term is the contribution to the sludge Pu due to interstitial liquid. The sludge concentration is expressed on a mass basis, µCi/g, and the inverse dependence on the sludge volume fraction, f^{sl}_j, occurs in the first term.

For Pu concentrations that fall below its solubility limit, the first term is zero since the fraction precipitated is zero as

$$f_j^{Pu} = 0,\ hdw_j^{totPu} < \text{Pu solubility}.$$

If, on the other hand, the Pu concentration exceeds its solubility limit, the first term is non zero since the fraction precipitated is greater than zero as

$$f_j^{Pu} = 1 - \frac{hdw_j^{suPu}}{hdw_j^{totPu}}[1 - (1 - f_j^{void})\, f_j^{sl}],$$

where

$$hdw_j^{totPu} \geq \text{Pu solubility}$$

and

hdw_j^{slPu}	=	Pu concentration for HDW sludge j in µCi/g,
hdw_j^{suPu}	=	Pu concentration for HDW supernatant j in µCi/L,
hdw_j^{totPu}	=	total Pu concentration for HDW j in µCi/L,
f^{Pu}_j	=	fraction of total Pu precipitated for HDW j,
f^{void}_j	=	liquid void fraction for jth HDW sludge,
f^{sl}_j	=	solids volume fraction for HDW j,
ρ^{sl}_j	=	sludge density for HDW j,
ρ^{su}_j	=	supernatant density for HDW j.

The above expressions all neglect the volume and mass of the Pu solids within the sludge.

Reported Pu concentrations for B-110 sludge, which contains 2C1 and 2C2 sludges are 0.13 µCi/g. Therefore, this particular tank's sludge is consistent with a Pu solubility of ~6 µCi/L.

The upper quartile of the supernatant solubility data set is assumed to represent saturation conditions for the entire population of HDW wastes. By further assuming that this upper quartile represents a normal distribution with a corresponding mean and standard deviation, these solubility statistics can be applied to each HDW in order to propagate a variability due to this solubility.

This distribution is assumed to be valid for HDW's that correspond to the mean total waste volume per waste, 9,028 kgal or 2.2%. The variation in solubility is for the population of HDW's and if any HDW supernatant is not well represented, then its distribution may exceed the nominal values used here. If the sampling rate of each HDW supernatant is proportional to its volume fraction of site wastes, there will be an increase in uncertainty for wastes with small volume fractions and a decrease in uncertainty for wastes with larger volume fractions. For example, since 2C1 waste represents 2.2% of the total HDW volume, the solubility data variability should represent this waste without adjustment.

Any comparison of HDW estimates with assay data must compare data across more than one tank in order to effectively sample the same population of wastes for which the HDW model solubility variabilities are derived. As a result, quantitative comparisons of HDW model variability must be made across more than one tank. In addition, comparisons must be performed on both concentration and inventory bases. This is because the population upon which solubility variability is based represents all tanks, those with large inventories as well as those with small inventories. Only comparisons among all tanks, then, will test this source of variability.

—Transaction variability

There are three contributions to transaction variability; evaporator blending, concentrate carryover, and of course, inaccurate transaction information. As regards to inaccurate information, it is not possible to derive meaningful uncertainty estimates about what is not known. Therefore, variability estimates are only possible for the first two contributions.

Evaporator blending and concentrate carryover are now both approximations used within the HDW model. Evaporator blending assumes that all of the waste feed for a given time can be blended together and reduced in volume as a blend and then transferred to a bottoms receiver. In reality, this process was continuous volume reduction with continuous feed.

Concentrate carryover is the result of an approximation within the HDW model whereby a liquid that is removed and recycled to an evaporator from a bottoms receiver is assumed to be homogeneous

mixture of the entire concentrate inventory of that tank. This approximation is very good for dilute wastes but increasingly invalid as wastes are reconcentrated in subsequent campaigns. In reality, waste concentrates are returned to bottoms receivers from an evaporator and allowed to cool, sediment, and gel. As a result, the residual liquid that is removed from these tanks, reblended, and further concentrated is not identical with a homogeneous blend. The HDW model then allows concentrated waste to be "carried over" into later receivers because of its blending assumptions. This represents a second major source of variability within the model, but it only affects concentrated wastes.

In fact, the SMM model variability is strongly associated with concentrate carry over. Sending more concentrated waste from slurry receivers into the next generation of evaporator receivers increases sodium and nitrate concentrations in later waste receivers over that that actually occurs. For example, suppose concentration of a waste blend results in a product with an average sodium concentration of 12 M. Following addition of this mixture to a slurry receiver, precipitation and sedimentation would produce two layers of waste: perhaps two-thirds of the volume as a settled solids layer at 13 M Na and one-third of the volume as a supernatant layer at 10 M Na.

The supernatant layer is then removed, reconcentrated, and placed into another tank. The result is a 20% over estimation by the HDW model of Na (12 M instead of 10 M) in this second generation of concentrates and an 8% underestimation in the slurry remnant (12 versus 13 M). If the overconcentration bias were propagated again, this third generational error would be 44% (1.2^2) even though the tank wastes of previous generations would still each only be subject to an 8% underestimate (12 M instead of 13 M). The concentrate carry over error manifests itself primarily in overconcentration in second and third generation slurry receivers that are removed and distinct from the original slurry receivers. For example, tank AN-105 has an HDW estimated Na of 18.1 M and was involved in blending and concentrating second and third generation concentrates. Therefore, the HDW model estimate may be greater than is now actually in the tank by 20-44%.

The effect of random transaction errors is largely damped as the number of transactions increases as shown below. HDW model estimate is based upon the sum products of the SMM and TLM matrices within the corresponding HDW composition vectors as

$$\mathbf{tank}_i = \frac{\sum_j \mathrm{tlm}_{ij}\mathbf{hdw}_j^{\mathbf{sl}}}{\mathrm{slVol}_i} + \frac{\sum_j \mathrm{smm}_{ij}\mathbf{hdw}_j^{\mathbf{su}}}{\mathrm{suVol}_i}$$

where

$\mathbf{tank_i}$	=	composition vector for tank i
$\mathbf{hdw_j^{sl}}$	=	composition vector for HDW sludge j
$\mathbf{hdw_j^{su}}$	=	composition vector for HDW supernatant j
tlm_{ij}	=	kgal of hdw sludge j for tank i
smm_{ij}	=	kgal of hdw supernatant j for tank i
slVol_i	=	sludge kgal for tank i
suVol_i	=	supernatant concentrate kgal for tank i.

Introducing variabilities into the calculation for each analyte results in

$$\mathrm{tank}_i^{\mathrm{suNa}} + \Delta_i^{\mathrm{suNa}} = \frac{\sum_j (\mathrm{smm}_{ij} + \delta_{ij}^{\mathrm{smm}})(\mathrm{hdw}_j^{\mathrm{suNa}} + \delta_j^{\mathrm{suNa}})}{\mathrm{suVol}_i}$$

where

i	=	ith tank,
j	=	jth HDW,
$\mathrm{tank}_i^{\mathrm{suNa}}$	=	Na concentration in supernatant concentrate for ith tank,

Δ_i^{suNa}	=	variation in SMM Na for ith tank,
smm_{ij}	=	kgal of jth hdw supernatant for ith tank,
d_{ij}^{smm}	=	variation in smm volume for ith tank and jth HDW,
hdw_j^{suNa}	=	Na concentration for jth HDW supernatant,
d_j^{suNa}	=	variation in supernatant Na for jth HDW,
$suVol_i$	=	supernatant concentrate kgal for ith tank.

Insofar as incomplete blending and transaction misdirection act as random variations among the components of an SMM matrix column vector, the sum of those variations is zero,

$$\sum_i \delta_{ij}^{smm} = 0 \quad .$$

This is simple a statement that if waste volume doesn't go to one tank, it must go to another. With further transactions, these random variations average to zero for each tank's SMM components. If we suppose multiple transactions result in an accumulation of these random blending errors over k transactions, the result is

$$tank_i^{suNa} + \Delta_i^{suNa} = \frac{\sum_j (smm_{ij} + \sum_k \delta_{ij}^{smm_k})(hdw_j^{suNa} + \delta_j^{suNa})}{suVol_i}$$

where

i	=	ith tank,
j	=	jth HDW,
k	=	kth transaction,
$tank_i^{suNa}$	=	Na concentration in supernatant concentrate for ith tank,
Δ_i^{suNa}	=	variation in SMM Na for ith tank,
smm_{ij}	=	kgal of jth hdw supernatant for ith tank,
$d_{ij}^{smm_k}$	=	variation in smm volume for ith tank and jth HDW,
hdw_j^{suNa}	=	Na concentration for jth HDW supernatant,
d_{ij}^{suNa}	=	variation in supernatant Na for jth HDW,
$suVol_i$	=	supernatant concentrate kgal for ith tank.

For k sufficiently large, we expect that

$$\sum_k \delta_{ij}^{smm_k} = 0$$

or that the sum of random blending and misdirection errors for a sufficiently large number of transactions will be zero. Incomplete waste blending, then, leads to a source of variability that is actually minimized as the number of transactions associated with those waste elements increases.

An increase in the reported liquid level of a tank that is not associated with a waste transaction is assigned to an unknown waste addition, which results in an accumulation of an UNK waste type within the SMM. Such unknowns can be due to a number of factors including undocumented waste or water additions, thermal expansion, slurry growth due to gas entrapment, apparent liquid increases due to solids slumping from higher levels, rainwater intrusions, or simply due to errors in measurement of waste volume. Within the HDW model estimates, these unknown assignments are simply attributed to water.

Unexplained decreases in tank inventory are always assumed to be due to loss of water (i.e. concentration of the waste) or gas. Therefore, no inventory except water is ever lost because of

unassigned inventory losses. Unassigned losses from waste tanks are due to undocumented waste removal, water evaporation, thermal contraction due to cooling, collapse following entrapped gas venting from slurries, subsidence of waste following salt well pumping, undocumented leaks, and of course, measurement errors. Note that leaks that have been assigned to inventory losses are tracked within the HDW model.

—Variability due to waste heterogeneity

Two important geometric demarcations of waste heterogeneity are vertical and lateral within each tank. Although vertical and lateral heterogeneities are manifestations of the same waste fragments, it is nevertheless useful to discuss them separately.

Vertical heterogeneity: The primary causes of vertical heterogeneity are changes in kinds of waste that are added to each tank. A secondary source of vertical heterogeneity is due to process variations within each HDW layer. However, much of this source of variability is already accounted by inclusion of process variability in the HDW model.

Lateral heterogeneity: There are many causes for lateral heterogeneity within each waste tank but it is important to recognize that lateral heterogeneity is simply another manifestation of vertical heterogeneity. That is, as the process history changed and evolved for each tank, the lateral distribution of waste fragments around a tank also changed and evolved. Several specific origins of lateral waste heterogeneity are:

- salt-well pumping and subsequent solids slumping,
- localized sedimentation and slumping,
- redissolution of precipitated salts,
- salt domes, holes, and floating crusts,
- liquid pools under risers, and
- wall scale and ledges.

It is important to recognize the factthat the HDW model does not account for much of this source of waste variation. Some of the components of vertical variation are implicit in the TLM and SMM layer descriptions, but there is no allowance for lateral heterogeneity within the HDW model at all.

IV. Calculating Tank Inventories from HDW Compositions

Final tank inventory estimates are derived by using amounts for each of the HDW sludge and supernatants present in each tank. These amounts are derived separately for the tank sludges and supernatants. The sludge layers are assigned by the Tank Layer Model (TLM), where the total volumes of waste types and corresponding solids volume per cent for each of those wastes are used. This results in layers of sludges that are expressed in kgal and have a chronology or order within the tank. However, the lateral heterogeneity present in many tanks precludes interpreting these layers as necessarily flat and level. For the supernatants and their concentrates, the Supernatant Mixing Model (SMM) provides a composition in terms of a combination of HDW supernatants. Unlike the TLM, though, there is no chronology to the HDW componentswithin the SMM since the SMM assumes ideal and complete mixing within each tank following a transaction.

These derived compositions can then be compared to analytical results from sampling events, taking into account the unsampled dish volume, as well as any segment recoveries less then 100%—merely weight that particular layer with a lower factor. Lateral inhomogeneities, however, are still a big problem when a comparison between the historical fill data and measured data is performed. Once again, the HDW model does not account for lateral heterogeneities.

V. Results and History of Revisions

Appendix E shows the composition and inventory for each of the 177 Hanford Waste tanks. Each tank is described by three tables and each table comprises three columns of information. Two columns describe the analyte concentrations as mol/L and ppm and the third column expresses the tank inventory in kg or MCi (1 MCi = 1e6 Ci). The three tables represent TLM solids blend, SMM liquids blend, and total composite tank concentrations and inventories. The TLM solids composition and inventory represents the volume average blend of all of the TLM solids layers. Note that among the TLM solids

definitions are four salt cake concentrates: B, T1, R, and BY. Therefore, the TLM solids inventory definition includes sludges and some salt cake.

The second table for each tank represents the SMM composite inventory for liquids and concentrates. This table represents inventories from evaporator concentrates termed T2, S1, S2, A1, and A2. Note that these concentrates actually include a lot of solids but are treated nevertheless as homogeneous mixtures that can be pumped, blended, and moved to other tanks as though they were liquid.

The HDW model provided its first estimates in June of 1994 as Rev. 0 for the NE and SW quadrants. This early revision was based on single waste types for salt cake and salt slurry for the entire site. Revision 1 was actually the first complete site inventory and was completed in Fall of 1994 for the three SST quadrants, NE, SW, and NW, while Rev. 1 for the DST SE quadrant was completed in March 1995. These estimates included many bug fixes and other corrections and also included additions for process vessel corrosion source terms (adds Fe, Cr, and Ni) as well as a hard water Ca source term. However, the Cs-137 and Sr-90 inventories were calculated too high by about 20% and all evaporator campaigns were blended into multi-year composites. These evaporator blends were an improvement over the single waste types for salt cake and salt slurry in Rev. 0, but still represented an approximation for individual tanks. Essentially, these evaporator blends were excellent representations of the total waste into a campaign and its total volume reduction, but were distributed across perhaps ten or twenty different slurry receivers that were involved in each campaign.

The next step with the HDW Estimates, Rev. 2, was an attempt to express the five later evaporator campaigns on a tank by tank basis. The SMM provided the waste concentrate history step by step throughout each of the evaporator campaigns. Revision 2.1 represents a bug fix in the spreadsheet that incorrectly calculated water and TOC and another problem with miscalculation in SX Farm. This revision was based on the HDW Rev. 2 compositions, which had improved the Cs-137 and Sr-90 inventory calculation and had included chloride and potassium source terms that piggyback on the NaOH additions. Various other bug fixes and changes and additions were a mercury source term used in the decladding process, adjustments on the wastes from UR (Uranium Recovery), slight realignments of 1C and 2C waste campaigns, and other minor changes. Revision 2 also reduced the process vessel corrosion source term (Fe, Ni, Cr) for early BiPO4 wastes and decladding wastes consistent with the fact that these processes were much less corrosive than either Purex or Redox.

The Rev. 2.1 estimates nevertheless had some problems. The most significant problem was the incomplete transaction records for the later evaporator campaigns caused incorrect distribution of waste concentrates. In particular, some tanks were impossibly over concentrated (Na in excess of 16-17 mol/L), while other slurry receivers were more dilute than they should have been. It was clear that there were severe problems in waste misdirection with Rev. 2.

To correct these problems, the Rev. 3 extensively modified WSTRS by adjusting the evaporator transactions to blend on a per quarter basis and for some quarters, wastes have been blended on an even finer time scale. This improvement in the transaction record was largely accomplished by use of the Logbook Dataset[5], derived from date provided by ICF Kaiser for WHC. Also used is an extensive set of reports from evaporator operations for 242-S and 242-T. Unfortunately, there was a lack of detailed information about the 242-T evaporator operation.

The overall inventories for the analytes have not changed significantly except for lead, manganese, and oxalate. Lead site inventories increased dramatically in Rev. 3 since these estimates included the lead coating that covered each fuel slug. This turns out to be a major source of lead in the waste tanks and the total lead inventory increased from 3 to 280 MT. There was also an error in the concentration of manganese in OWW2, which upon correction lowered the manganese site inventory from 219 to 39 MT. The oxalate inventory increased from 23 to 69 MT because of a decrease in its solubility limit. Since 224 waste supernatant was all cribbed, decreasing oxalate solubility retains more in the waste tanks and this waste was the only process oxalate source term.

VI. Uses and Limitations of HDW Model Estimates

The HDW Model Rev. 4 estimates represent a Hanford site inventory based on process history that is compatible with the waste types, compositions, and processing history of the site. These total site estimates will not change appreciably in the future unless the waste source terms for the various waste streams change, but it is possible that corrections in the transaction record will alter the inventory estimates of individual tanks. All estimates are valid as of 1-1-94 and Sr-90 and Cs-137 are both decayed to the same date. Therefore, these estimates do not account for the latest evaporator campaign in '95-'96, which moved and blended large amounts of waste supernatants in the DST's.

The HDW estimates are the first complete, total, ion, and mass balanced inventory estimates yet provided on a per tank basis. As such, they have immediately shown that site sodium inventory has been traditionally overestimated by about one third. Whereas previous site estimates for sodium were around 71,000 MT (MT = metric tonnes), the HDW estimate show only 48,000 MT are actually now in either the DST's or the SST's. This difference is largely due to the large amount of waste supernatant that was sent to crib, which contained some 20,000 MT of Na, but is also due to more subtle double counting of waste stream chemicals that has occurred in past site estimates.

The HDW model estimates have also shown an increase in the iron and chromium inventories, which the HDW model now estimates at 1,830 MT (1,610 in the SST's and 220 in the DST's) as compared to previous site estimates of 710-730 MT. These total site estimates are shown in (App. E) along with estimates for individual tanks.

The site inventory estimates include totals for waste sent to the cribs as well as totals for leaks with measurable volume losses. Note that the leaks from waste tanks are a small fraction of the total inventory sent to the ground, constituting only 10% of the 2.2 MCi of Cs/Sr activity and only 2% of the 48 kg of Pu that was sent to the soil column. Thus, the amount of activity intentionally sent to the soil column is much greater than the activity inadvertently placed into the ground by leaks and spills. However, recent work has suggested that some leak inventories have been severely underestimated.[42]

There are still problems with these estimates. The evaporator blending and SMM approaches naturally produce blended averages for waste supernatants that were processed during each quarter. The actual blending that occurred during these quarters may not be represented very well in this approximation. This blending error then contributes to the overall variability in the waste predictions.

Another problem with the HDW model is that precipitated solids from waste concentration do not remain in the slurry receiver during evaporator runs. That is, liquid that is drawn from each bottoms tank following cooling is always removed as a blend of the total concentrate. This leads to an under concentration of the bottoms receiver and correspondingly an over concentration of tanks that receive and further blend and concentrate the recycled liquors. This effect systematically shifts concentrate from early receivers to later receivers and therefore increases the variability of the estimates by introducing a systematic bias in early versus late concentrates.

There are a number of chemical and physical constraints within the HDW model. For example, ion and mass balance are imposed, waste neutralization is assumed for all wastes (except NIT), void fraction must never fall below some reasonable minimum value (~0.20), and the water wt% must also be some reasonable amount (>~20 wt%). It is useful to also realize that both nitrate and nitrite are precipitated as per their original concentrations. Subsequently, nitrate and nitrite both undergo radiolysis at a rate that depends on the activity of the waste. Therefore, the nitrate and nitrite concentrations will both be lower than that for when they first precipitated. In general, then, nitrate will be increasingly undersaturated and nitrite will be increasingly over its saturation point.

As noted above (see water wt%), the HDW estimates do not include any drying of the waste that may have occurred within a tank but not part of an evaporator campaign. Notably, tanks in SX Farm have been on active ventilation to keep the sludges cool for a number of years and therefore have dried out considerably. The combination of active ventilation and high heat load combine with these tanks to

[42] Agnew, S.F. and Corbin, R.A. "Analysis of SX Farm Leak Histories—Historical Leak Model (HLM)," LA-UR-96-3537, October 1996.

produce some of the driest waste inventories at Hanford. This phenomenon is not represented at all within the HDW model.

The derivation of tank inventories from tank assay information is no less a challenge than that undertaken here with the HDW model. The extremely heterogeneous wastes within each tank complicate the collection of a representative set of samples, compounded by limited access to the tank waste. Therefore, comparisons between inventory estimates based on waste assays with those of the HDW model actually involve comparing one model with another model and both models have significant variabilities. Whereas assay variabilities are derived for one tank's waste, HDW estimate variabilities actually cover groups of tanks. Therefore, comparisons between the HDW model and assays are more effective if they are made among groups of tanks with similar process histories. Such tank grouping strategies can be very important in comparisons between assay data and HDW predictions.

Determinations of variability for waste assays involve the variation of analyte concentration as a function of position within each waste tank. Normally, this variation is assumed to represent a random population and is reported on a log-normal scale. This distribution of analyte concentrations is only valid in principle for that tank's waste. The HDW analyte variation on the other hand really pertains to a group of tanks with similar process histories. As a result, HDW variations do not have quite the same meaning as do variations derived from tank waste assays.

Appendix A.

Hanford Defined Waste List Solids Vol%

December 1996

The Hanford Defined Waste List is a set of wastes that can be used to define all of Hanford's waste types. Implicit within each HDW is a solids and a supernatant fraction. Note that some HDW's are derived from other Defined Wastes, such as BSltCk, for example, are actually a mixture of supernatants from other waste types that have been blended to create a new waste type. The HDW's for four concentrates are derived from the evaporator campaigns from which they were formed—B, T1, R, and BY.

$BiPO_4$ and Uranium Recovery Wastes 1944-56

no.	waste type	vol%	comments
1	MW1	12.0	1944-49
2	MW2	12.0	1950-56
3	1C1	13.7	1944-49, includes cladding waste.
4	1C2	24.9	1950-56, includes cladding waste.
5	2C1	6.8	1944-49
6	2C2	3.4	1950-56, includes supernatants formerly cribbed at T-plant.
7	224	3.9	LaF finishing waste.
8	UR	2.8	same as TBP waste.
9	PFeCN1	3.7	Ferrocyanide scavenged UR supernatants in Plant.
10	PFeCN2	3.2	Ferrocyanide scavenged UR supernatants in Plant.
11	TFeCN	1.4	Ferrocyanide scavenged CR Vault.
12	1CFeCN	4.8	Ferrocyanide scavenged 1C supernatants.

REDOX Wastes 1952-62

13	R1	4.5	1952-57
14	R2	1.9	1958-66
15	CWR1	8.1	1952-60, aluminum clad fuel.
16	CWR2	2.9	1961-72, aluminum clad fuel with some Zr fuel

PUREX Wastes 1956-76

17	P1	2.2	1955-62
18	P2	3.9	1963-67, also called IWW, FP, including Al and Zr clad fuel for this period.
19	P2'		1968-72, assigned to P2, including Al and Zr clad fuel for this period.
20	PL1	2.2	
21	CWP1	8.1	1956-60, Al cladding
22	CWP2	2.9	1961-72, Al cladding
23	CWZr1	10.5	1968-72, Zr cladding-all Zr including Redox and 1966-1967 Zr clad fuel in Purex.
24	OWW1	0.0	1956-62, called CARB, low solids.
25	OWW2	0.0	1963-67, low solids.
26	OWW3	0.0	1968-72, low solids.
27	Z	2.3	derived from analysis of SY-102, 1,910 kgal from 1976-80 sent to TX-118, 1,656 kgal from 1981-86 sent to SY-102.
28	HS	1.2	also SSW, Strontium semiworks.
29	TH1	5.8	1966 thoria

30	TH2	5.8	1970 thoria
31	AR	3.1	"washed" P sludge. Also used to derive SRR.
32	B	0.50	acid waste from PAW, processed through B-Plant for Sr extraction.
33	BL	0.68	low level waste from all B Plant operations.
34	SRR	2.6	strontium recovery waste from sluiced P sludge—based on washed PUREX sludge plus added EDTA, HEDTA, and glycolate.
35	CSR	0.0	waste from cesium recovery from supernatants—not a characteristic waste type, but rather a supernatant from which the 137Cs has been removed. Need only to add citrate to supernatants to track this component.

Other wastes

36	DE	all	Diatomaceous earth added to six tanks.
37	CEM	all	Cement added to only one tank, BY-105.
38	NIT	no solids	Partial Neutralization Feed for evaporator campaigns '77-81.
	Salt Slurry		same as DSS, estimated from chemical model by precipitation (via evaporator). Once again, DSS derives from the supernatants of a variety of wastes following evaporation of water.

Decontamination Waste

39	DW	1.0	decontamination waste, from D&D of plants, but mainly from T Plant operations, mostly Turco residues (phenol, alkyl phosphate esters, hydroxy alkyl amines) with neutralized phosphoric acid.
40	N	1.0	N-Reactor decontamination waste, mainly neutralized phosphoric acid. Concentrates of N are CP (Concentrated Phosphate) waste, which are in AN-106 and AP-102.

Salt Cakes and Salt Slurries

41	BSltCk	Salt cake from 242-B operation, 1951-3, B-106 feed.
42	T1SltCk	Salt cake from 242-T, 1951-6, TX-118 feed.
43	RSltCk	Salt cake from self-concentration in S and SX Farms.
44	BYSltCk	Salt cake blend from ITS in BY Farm, 1965-74.

The following salt cakes were used in HDW rev. 1 and are now replaced by the SMM.

T2SltCk	Salt cake from 242-T, 1965-76, TX-118 feed.
S1SltCk	242-S campaign 1973-6, S-102 feed.
S2SltSlr	242-S campaign, 1977-80, SY-102 feed.
A1SltCk	242-A campaign, 1976-80, A-102 feed.
A2SltSlr	242-A campaign, 1981-88, AW-102 feed.

PUREX Wastes from 1983-88 Campaign

45	P3	3.9	1983-88, now called PXNAW or NCAW.
46	PL2	2.0	1983-88, now called PXMSC, among other things.

47	CWZr2	10.5	1983-88, now called PD or NCRW.
	BP/Cplx83-88		1983-88, was SSR, CSR, B, BL now it's all in A101.
	BP/NCplx83-88		1983-88, assigned to BL, now in AY-102
48	PASF	0.6	PUREX Ammonia Scrubber Feed, never before seen.

Appendix B.

HDW Compositions Spreadsheet

December 1996

Among the columns are each of the forty-eight Hanford Defined Wastes (HDW's), with some other columns for former wastes or blended waste inputs. Most waste definitions begin with amount, exposure, and radionuclide content of fuel processed. The chemicals added list along with the fuel information then determines the total species. Next, the sludge and supernatant compositions, both in mol/L, are calculated based on information about the solids concentration, solids volumes, and solids fraction precipitated from the total species list. The sludge and supernatant concentrations are also provided in ppm, and finally, there is information about the volumes of supernatant feed for various evaporator and reprocessing campaigns.

The sludge and supernatant compositions are determined by the solubility of each species as well as the solids volume per cent parameter (vol% solids) that is established for each waste type. The solids precipitated are shown in later rows as molarity within sludge layer, volume of pure solids, and fraction of total species precipitated. Solubilities are set by adjusting the fraction precipitated parameter until the supernatant molarity reaches the target value. This can be performed by hand or by a macro routine that has been written to do the entire spreadsheet.

Speadsheet contents:

campaign information .....B-2 to B-4

chemicals added (mol/L).....B-5 to B-10

species total concentration (mol/L).....B-11 to B-16

sludge species (mol/L) .....B-17 to B-22

supernatant species (mol/L) .....B-23 to B-28

solids concentration in layer (mol/L).....B-29 to B-31

solids volumes (cc/L) .....B-32 to B-34

solids fraction precipitated .....B-35 to B-40

sludge concentration (ppm).....B-41 to B-46

supernatant concentration (ppm).....B-47 to B-52

supernatant volumes to evaporator campaigns (kgal) .....B-53 to B-55

HDW rad. partitions and rad. partitions fr. .....B-56 to B-58

weighted average loss .....B-59 to B-61

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		20	21
	MW1	**MW2**	**1C1**	**1C2**	**2C1**	**2C2**	**224**	**UR/TBP**	**PFeCN1**	**PFeCN2**	**TFeCN**	**1CFeCN**	**R1**	**R2**	**CWR1**	**CWR2**	**P1**	**P2**	**P2'**	**PL1**	**CWP1**
st.date	1944	1950	1944	1950	1944	1950	1952	1952	1954	1955	1955	1955	1952	1959	1952	1961	1956	1963	1968	1968	1956
en.date	1949	1956	1949	1956	1949	1956	1956	1958	1955	1958	1958	1958	1958	1967	1960	1967	1962	1967	1972	1976	1960
short tons fuel	3,676	4,904	3,676	4,904	3,676	4,904							11,905	9,554	13,660	7,799	30,236	27,016	16,449	16,449	18,141
kgal waste input								35,574													
volume factor								0.65	0.37	0.58	0.33										
kgal waste out	15,325	20,551	11,767	16,531	8,962	22,727	8,300	23,090	13,179	20,537	11,602	3,818	25,067	10,690	2,975	1,752	26,502	10,208	397	1,325	6,276
gal/ton	4,169	4,191	3,201	3,371	2,438	4,634		6,621	total waste rate				2,106	1,119	218	225	877	378	24	81	346
		35,876		28,298																	
avg. MWD/T	232	439											661	661	661	661	661	661	923		661
g Pu-239*/MWD	0.76	0.76											0.76	0.76	0.76	0.76	0.76	0.76	0.64		0.76
kg Pu-239*	648	1,636											5,981	4,800			15,189	13,572	9,717		9,113
Pu* ex. %	99	99	99	98.6	98.6	99	99.6						99.6	99.6	99.6	99.6	99.6	99.6	99.6		99.6
res. kg Pu-239*	6.48	16.36	6.48	22.91	9.07	16.36	6.54	7.43	4.24	6.61			23.92	19.20	43.12	19.20	60.76	54.29	38.87		36.45
Pu-239* µCi/L	6.82	12.83	8.88	22.33	16.32	11.60	12.71	5.18	5.18	5.18			15.38	28.94	233.59	176.60	36.95	85.71	525.41		93.61
(* Pu-239 is U-233 for TH waste)																					
then																					
MCi Cs-137	2.48	6.25											22.84	18.33	26.20	14.96	58.00	51.83	37.10		34.80
MCi Sr-90	2.14	5.40											19.72	15.83	22.63	12.92	50.09	44.76	32.05		30.05
kCi Tc-99	0.30	0.76	0.00	0.00	0.00	0.00							2.76	2.22	3.17	1.81	7.01	6.26	4.48	0.00	4.21
Ci I-129	0.61	1.54											5.62	4.51			14.28	12.76	9.14		
1994	0.35	0.35	0.59	0.59	0.06	0.06	0.01														
MCi Cs-137	0.83	2.44											9.33	9.00	10.95	7.51	25.98	26.64	21.39		15.23
MCi Sr-90	0.66	1.96											7.54	7.37	8.86	6.16	21.13	21.89	17.73		12.37
	0.29	0.73	0.47	1.16	0.05	0.11	0.01	1.00	0.01	0.02	0.01	0.12	3.23	1.38	0.04	0.04	3.41	1.31	0.00	0.00	0.07
	0.01	0.00	0.05	0.07	0.00	0.00	0.00	0.01	0.40	0.57	0.33	0.10	4.24	9.54	0.00	0.00	0.17	4.96		0.00	0.00
kgal solids	1839	2466	1612	2363	609	773	322	647	403	719	156	183	1128	203	241	51	583	398	15	43	508
vol% solids	12	12	13.7	14.3	6.8	3.4	3.9	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9	3.9	2.2	8.1
uncertainty			2.6	1.1	2	1							3	1.3	1.4	0.5	1.7	3	3		1.4
kgal solids left	736		1732	1407	762	822	322	636	359	437	112	119	1206	202	241	51	4	81	0	14	366
				635	kgal lost to B and T1																
	MW1	MW2	1C1	1C2	2C1	2C2	224	UR	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2	PL1	CWP1

	22	23	24	25	26	27	28	29	30	31	32	33	-34		-35	36	37	38		39	40
	CWP2	**CWZr1**	**OWW1**	**OWW2**	**OWW3**	**Z**	**HS**	**TH1**	**TH2**	**AR**	**B**	**BL**	**SRR**	**CSR in**	**CSR**	**DE**	**CEM**	**NIT**	**Salt Slurry**	**DW**	**N**
st.date	1961	1968	1956	1963	1968	1974	1962	1966	1970	1967	1967	1967	1969	1967	1967	1970	1977	1977	1967	1967	1976
en.date	1972	1972	1962	1967	1972	1988	1967	1966	1970	1976	1972	1976	1976	1976	1976	1972	1977	1980	1976	1976	1990
short tons fuel	54,583	977	30,236	27,016	16,449			191	390		16,449										
kgal waste input										7,826			801	21,744	21,744			640	19,244	5,737	1,814
volume factor													4.81		1.16				0.85		
kgal waste out	22,286	1,650	4,543	10,563	8,094	3,302	1003	927	428	5,796	10,569	14,845	3,854		25,321	254	8	640	16,357	8,805	2,157
gal/ton	408	1,689	150	391	492	1,442 to SY-102		4,853	1,097		643										
						1,823 to TX-118										BX-102	BY-105				
avg. MWD/T	687	1600				37 to TX-101		1.7	1606							SX-113					
g Pu-239*/MWD	0.76	0.64						0.74	0.74							U-104					
kg Pu-239*	28,499	1,000						0.24028	463.4916							TX-116					
Pu* ex. %	99.6	99						99.6	99.6							TX-117					
res. kg Pu-239*	114.00	10.00				133		0.00096	1.853966		25.9243		127.99			TY-106					
Pu-239* µCi/L	82.44	97.72				649.14		0.0026	10.87216		6.156457		83.35132								
(* Pu-239 is U-233																					
then							0.03			0.2	0.12	0.2	0.52								
MCi Cs-137	108.83	3.82						0.00	1.77												
MCi Sr-90	93.99	3.30						0.00	1.53												
kCi Tc-99	13.15	0.46						0.00	0.21												
Ci I-129								0.00	0.44												
1994																					
MCi Cs-137	57.89	2.20						0.00	1.02	0.01	1.06	0.00	3.00	54.39	4.89						
MCi Sr-90	47.69	1.83					0.50	0.00	0.85	8.64	3.02	4.74	5.56		6.60						
	0.20	0.06	0.00	0.00	0.00		0.93	0.03	0.06	0.75	1.36	1.91	1.98		6.62						
	0.00	0.00	0.00	0.00	0.00		0.37	0.00	0.01	7.79	0.72	2.81	3.66		0.00	20.50					
kgal solids	646	173	27	116	49	82	12	54	25	180	53	101	100		253	254	8				
vol% solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6	2	1			0			
uncertainty	0.5	1																			
kgal solids left	598	40				82	12	54	25	166	23	100	101		7						
	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR		CSR					DW	N

		41		42		43				44									45	46	47			48
	B in	**B-SltCk**	**T1 in**	**T1-SltCk**	**R in**	**RSltCk**	**T2 in**	**T2-SltCk**	**BY in**	**BY-SltCk**	**S1 in**	**S1-SltCk**	**S2 in**	**S2-SltSlr**	**A1 in**	**A1-SltCk**	**A2 in**	**A2-SltSlr**	**P3**	**PL2**	**CWZr2**	**BP /Cplx**	**BP /NCplx**	**PASF**
st.date	1951	1951	1951	1951	1952	1952	1965	1965	1965	1965	1973	1973	1977	1977	1977	1977	1981	1981	1983	1983	1983	1983	1983	1983
en.date	1955	1955	1955	1955	1965	1965	1976	1976	1974	1974	1976	1976	1980	1980	1980	1980	1989	1989	1988	1988	1988	1988	1988	1988
short tons fuel																			4,302	4,302	4,302			
kgal waste input	8,078	8,078	11,918	11,918	15,743	15,743	43,311	43,311	36,602	36,602	43,709	43,709	9,105	9,105	16,476	16,476								
volume factor	0.55	0.55	0.56	0.56	0.49	0.49	0.25	0.25	0.22	0.22	0.26	0.26	0.39	0.39	0.28	0.28								
kgal waste out	4,445	4,445	6,675	6,675	7,706	7,706	10,828	10,828	8,124	8,124	11,364	11,364	3,562	3,562	4,668	4,668			1,132	11,499	5,555	1,044	6,841	4,227
gal/ton																			263	2,673	1,291	243	1,590	983
avg. MWD/T																			1,163	1,163	1,163			
g Pu-239*/MWD																			0.74	0.74	0.74			
kg Pu-239*																			3,702		3,702			
Pu* ex. %																			99.6		99.0			
res. kg Pu-239*		0.0039		0.0052		0.0088		0.0437		0.0371		0.0628		0.0153		0.0231		0	14.81		37.02			
Pu-239* µCi/L																			210.85		107.42			
(* Pu-239 is U-233																								
then																								
MCi Cs-137																			14.14	14.14	14.14			
MCi Sr-90																			12.21	12.21	12.21			
kCi Tc-99																			1.71	1.71	1.71	0.00	0.00	
Ci I-129																			3.48					
1994																								
MCi Cs-137																			11.63	11.63	11.63			
MCi Sr-90																			9.90	9.90	9.90			
kgal solids		786		764		1065		5997		3978		6270		3243		2125		895	44	230	583	83	32	25.362
vol% solids		9.73		6.41						10.87		14.34				12.90			3.9	2	10.5	7.9502	0.4678	0.6
uncertainty																			1	0.6	2			
kgal solids left		855		767		1065		5997		3978		6270		3243		2125		895	44	192	583	83	32	25.362
	256.38		378.26	1C2 solids input																				
		BSltCk		T1SltCk		RSltCk		T2SltCk		BYSltCK		S1SltCk		S2SltSlr		A1SltCk		A2AltSl	P3	PL2	CWZr2	ass.SRF	ass.BL	PASF

	FMJ		Place	Place	FMJ		Place	HW-30399	HW-30399	B&S	B&S		CUWP std.inv.	CUWP std.inv.	FMJ		CUWP	FMJ		FMJ	FMJ
chemicals in mol/L	**MW1**	**MW2**	**1C1**	**1C2**	**2C1**	**2C2**	**224**	**UR/TBP**	**PFeCN1**	**PFeCN2**	**TFeCN**	**1CFeCN**	**R1**	**R2**	**CWR1**	**CWR2**	**P1**	**P2**	**P2'**	**PL1**	**CWP1**
HNO3	0.1	0.1	1.55	1.54	1.15	0.6049725	1.06	3	3	3	2.3	0.5	2.8	2.5	0.8	0.8	0.28	0.55	0.55	2.7	0.6
NaAlO2			0.082	0.062							0	0	1.13	1.13	2	0.78					1.2
Al(NO3)3																					
Fe(HSO4)2			0.034	0.034	0.024	0.0126255		0.03	0.014	0.014		0.0020001	0.0075	0.013			0.019803	0.077394		0.026	
Fe(NO3)3	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016			0.04	0.04	0.0152	0.0152	0.04	0.04	0.04	0.04	0.0152
NaCrO4	0.0032	0.0032	0.0065	0.0065	0.0042	0.0054095	0.0068	0.0032	0.0032	0.0032		0.002	0.113	0.113	0.00304	0.00304	0.008	0.008	0.008	0.008	0.00304
BiPO4			0.012	0.012	0.01	0.0052606	0.006		0.013	0.013		0.014									
ZrO(OH)2			0.00032	0.00032								0.004									
NiSO4	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.005	0.005	0.01	0.01	0.004	0.004	0.00152	0.00152	0.004	0.004	0.004	0.004	0.00152
NaOH	0.1412	0.1412	1.8	1.81	1.3062	0.7383435	1.16	3.1512	3.3112	3.3112	2.34	0.84	4.1	4	0.45864	0.69864	0.628	1.128	0.328	2.943	0.29864
NaNO2			0.058	0.044							0.17	0.17			1.4	0.28	0.01	0.01	0.01	0.01	0.78
Na2CO3	0.6	0.7	0.018216	0.0182172	0.0181567	0.0180886	0.0181392	0.2	0.0183973	0.0183973	0.021	0.0120037	0.018492	0.01848	0.018055	0.01808384	0.01807536	0.0181354	0.01803936	0.01835316	0.01803584
Na3PO4	0.18	0.18	0.277	0.277	0.2	0.1052126	0.032	0.13	0.13	0.13	0.13	0.1499895								0.096	
Na2SO4	0.21	0.21					0.0014	0.08	0.15	0.15											
Na2SiO3	0.004	0.004	0.029	0.022	0.037	0.0194643							0.01471146	0.0424231	0.03		0.046934	0.092132			0.02
Na2SiF6			0.031	0.031					0.035	0.035		0.038									
NaF					0.22	0.1157339	0.27														
NaCl	0.0032476	0.0032476	0.0414	0.04163	0.0300426	0.0169819	0.02668	0.0954776	0.0761576	0.0761576	0.05382	0.01932	0.0943	0.092	0.0105487	0.01606872	0.014444	0.025944	0.007544	0.067689	0.00686872
Na2S											0.006	0.006									
La(NO3)3							0.0038														
Hg(NO3)2			2.311E-05	2.1945E-05											0.0003397	0.0003293					0.0002
KNO3	0.000706	0.000706	0.009	0.00905	0.006531	0.0036917	0.2258	0.015756	0.016556	0.016556	0.0117	0.0042	0.0205	0.02	0.0022932	0.0034932	0.00314	0.00564	0.00164	0.014715	0.0014932
Ca(NO3)2	0.0180169	0.0180169	0.018216	0.0182172	0.0181567	0.0180886	0.0181392	0.0183781	0.0183973	0.0183973	0.02	0.02	0.018492	0.01848	0.018055	0.01808384	0.01807536	0.0181354	0.01803936	0.01835316	0.01803584
KMnO4							0.0051														
Sr(NO3)2																					
PbSO4															0.011	0.011				6.00E-05	0.011
H3C6H5O7																					
H4EDTA																					
H3HEDTA																					
Hglycolate																					
Hacetate																					
H2oxalate							0.046														
Na4Fe(CN)6									0.005	0.0025	0.005	0.005									
NH3			0.11	0.08																	

	FMJ	FMJ	FMJ	FMJ	HW-30399		HS report	from P	from P	from P	FMJ	FMJ	from P		fr/P	WHC-MR-0302	type 1 Portland Cement	FMJ	model	Lucas	Lucas
chemicals in mol/L	**CWP2**	**CWZr1**	**OWW1**	**OWW2**	**OWW3**	**Z**	**HS**	**TH1**	**TH2**	**AR**	**B**	**BL**	**SRR**	**CSR in**	**CSR**	**DE**	**CEM**	**NIT**	**Salt Slurry**	**DW**	**N**
HNO3	0.6	0.01	0.073	0.22	0.782	2.4	0.86	2.57	2.57				0.6					0.8	2.8		
NaAlO2	0.78					0.5		0.34	0.34										2.2		
Al(NO3)3											0.083	0.28									
Fe(HSO4)2						0.0007	0.03	0.025	0.025		0.007	0.017	0.041								
Fe(NO3)3	0.0152	0.0152	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04										0.04	0.04
NaCrO4	0.00304	0.00304	0.008	0.008	0.008	0.0094	0.008	0.008	0.008	0.008	0.002	0.0000002	0							0.008	0.008
BiPO4																					
ZrO(OH)2		0.1																			
NiSO4	0.00152	0.00152	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.002	0.01	0							0.004	0.004
NaOH	0.49864	0.24864	0.2	0.3	0.928	2.528	2.138	2.758	2.758	0.05	0.5524	2.6944	2.7112		0.2			0.3	3.2	0.138	0.138
NaNO2	0.28	0.007	0.01	0.01	0.01	0.014	0.01	0.01	0.01		0.01	0.01	0.01		0.01				4.05	0.024	0.014
Na2CO3	0.01805984	0.01803	0.22	0.4	0.3041096	0.2	0.0049	0.018331	0.018331	0.001806	0.0100663	0.27	0.25		0.00002				1	0.011	0.011
Na3PO4						0.00014		0.09	0.09	0.02		0.01							0.1		0.36
Na2SO4						0.0014				0.02			0.02						0.03		
Na2SiO3										0.08	0.04	0.05	0.08								
Na2SiF6																					
NaF		0.77						0.12	0.12										0.06		
NaCl	0.01146872	0.005719	0.0046	0.0069	0.021344	0.08914	0.049174	0.063434	0.063434	0.00115	0.0127052	0.0619712	0.0623576		0.0046				0.5	0.00317	0.00317
Na2S																					
La(NO3)3																					
Hg(NO3)2	0.00018118	0.000219																			
KNO3	0.0024932	0.221243	0.001	0.0015	0.00464	0.01264	0.08869	0.02779	0.02779	0.00025	0.002762	0.013472	0.013556		0.001				0.016	0.00069	0.00069
Ca(NO3)2	0.01805984	0.01803	0.018024	0.018036	0.0181114	0.0183	0.0049	0.018331	0.018331	0.001806	0.0100663	0.0103233	0.0123253		0.000024					0.01802	0.01802
KMnO4				0.012	0.0008822													0.001			
Sr(NO3)2																					
PbSO4	0.011						0.0034				0.000001										
H3C6H5O7							0.04				0.01	0.015			0.025						
H4EDTA							0.08						0.15								
H3HEDTA													0.3		0.00004						
Hglycolate												0.2	0.3								
Hacetate							0.51														
H2oxalate																					
Na4Fe(CN)6																					
NH3		0.77																			

chemicals in mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
HNO3	0.03		0.03																0.41	0.1	0.01			
NaAlO2																			0.34					
Al(NO3)3																								
Fe(HSO4)2																			0.067394					
Fe(NO3)3																			0.05	0.04	0.04			0.01
NaCrO4																				0.008				
BiPO4																								
ZrO(OH)2																					0.1			
NiSO4																				0.004				
NaOH	0.09		0.09		0.04		0		0		0		0		0		0		2.2	0.17	0.2			0.04
NaNO2																			0.01	0.01	0.007			
Na2CO3												0							0.018264	0.12	0.018024			0.0095
Na3PO4																				0.069517				
Na2SO4																								
Na2SiO3																			0.092132					
Na2SiF6																								
NaF																			0.03		0.77			
NaCl																			0.0506	0.00391	0.0046			0.00092
Na2S																								
La(NO3)3																								
Hg(NO3)2																					0.0002292			
KNO3																			0.011	0.00085	0.221			0.0002
Ca(NO3)2																			0.018264	0.01802	0.018024			0.018
KMnO4																				0.006				
Sr(NO3)2																								
PbSO4																				4.34E-05				
H3C6H5O7																								
H4EDTA																								
H3HEDTA																								
Hglycolate																								
Hacetate																								
H2oxalate																								
Na4Fe(CN)6																								
NH3																					0.77			0.05

	FMJ		Place	Place	FMJ		Place	HW-30399	HW-30399	B&S	B&S		CUWP std.inv.	CUWP std.inv.	FMJ		CUWP	FMJ		FMJ	FMJ
chemicals in mol/L	**MW1**	**MW2**	**1C1**	**1C2**	**2C1**	**2C2**	**224**	**UR/TBP**	**PFeCN1**	**PFeCN2**	**TFeCN**	**1CFeCN**	**R1**	**R2**	**CWR1**	**CWR2**	**P1**	**P2**	**P2'**	**PL1**	**CWP1**
H-3 (Ci)	927.58993	2728.712	927.58993	2728.712	927.58993	2728.712	1509.702	3.66E+03	3.66E+03	3.66E+03	1837.177	6.30E+02	11301.552	22030.066	14070.357	17686.404	52955.01	56599.76	48314.5497	48314.5497	31783.31
C-14 (Ci)	51.634364	113.32532	51.634364	113.32532	51.634364	113.32532	58.17012	1.65E+02	1.65E+02	1.65E+02	82.88706	2.62E+01	392.228	433.10289	458.3664	317.501686	1433.62	1130.0213	826.11559	826.11559	916.134
Ni-59 (Ci)	14.710075	32.20388	14.710075	32.20388	14.710075	32.20388	16.53378	4.69E+01	4.69E+01	4.69E+01	23.57279	7.44E+00	111.23912	111.55958	129.97928	89.876218	406.092	313.20008	162.790267	162.790267	259.574
Ni-63 (Ci)	1291.3083	2938.213	1291.3083	2938.213	1291.3083	2938.213	1524.463	4.23E+03	4.23E+03	4.23E+03	2125.202	6.79E+02	10386.512	11035.313	12190.776	8929.1476	39206.16	31450.525	16887.8589	16887.8589	24858.06
Co-60 (Ci)	7.198461	30.54544	7.198461	30.54544	7.198461	30.54544	18.67254	3.77E+01	3.77E+01	3.77E+01	18.96513	7.05E+00	154.83555	483.96908	198.14504	364.274827	1003.6031	1557.4517	1987.05661	1987.05661	551.4501
Se-79 (Ci)	10.867359	23.92816	10.867359	23.92816	10.867359	23.92816	12.27136	3.48E+01	3.48E+01	3.48E+01	17.48366	5.53E+00	83.26368	106.17415	99.75821	83.6038864	303.9389	242.42953	163.272571	163.272571	194.1899
Sr-90 (Ci)	7.77E+05	1.90E+06	7.77E+05	1.90E+06	7.77E+05	1.90E+06	1.01E+06	2.68E+06	2.68E+06	2.68E+06	1347380	4.40E+05	7.04E+06	1.09E+07	8.61E+06	8.76E+06	2.84E+07	2.57E+07	1.88E+07	1.88E+07	1.77E+07
Y-90 (Ci)	776818.8	1905435	776818.8	1905435	776818.8	1905435	1012796	2.68E+06	2.68E+06	2.68E+06	1347748	4.40E+05	7046082	10944836	8608065	8761795.81	28410750	25663185	18852266.7	18852266.7	17707850
Zr-93 (Ci)	51.804473	113.47041	51.804473	113.47041	51.804473	113.47041	58.25061	1.65E+02	1.65E+02	1.65E+02	83.04544	2.62E+01	393.0976	508.97427	471.9925	401.172776	1431.702	1143.4494	775.69462	775.69462	915.105
Nb-93m (Ci)	44.622001	94.84527	44.622001	94.84527	44.622001	94.84527	48.19727	1.39E+02	1.39E+02	1.39E+02	70.07792	2.19E+01	321.3948	384.12972	383.5653	300.902617	1123.4496	839.8894	533.004005	533.004005	726.2816
Tc-99 (Ci)	357.19118	787.766	357.19118	787.766	357.19118	787.766	403.858	1.14E+03	1.14E+03	1.14E+03	575.305	1.82E+02	2745.5035	3534.257	3293.0245	2783.50282	10026.704	8012.394	5488.73756	5488.73756	6405.204
Ru-106 (Ci)	1.697E-07	1.553E-05	1.697E-07	1.5535E-05	1.697E-07	1.553E-05	1.4E-05	1.57E-05	1.57E-05	1.57E-05	7.89E-06	3.59E-06	0.00043251	0.1315162	0.0011589	0.10214152	0.031595565	0.7615805	7.98702524	7.98702524	0.00751126
Cd-113m (Ci)	105.28196	298.6176	105.28196	298.6176	105.28196	298.6176	163.0776	4.04E+02	4.04E+02	4.04E+02	202.9468	6.90E+01	1211.522	1987.9529	1473.7915	1572.83546	5489.653	5539.688	4371.45492	4371.45492	3325.553
Sb-125 (Ci)	3.8850072	31.06521	3.8850072	31.06521	3.8850072	31.06521	21.53067	3.50E+01	3.50E+01	3.50E+01	17.56139	7.17E+00	227.35516	1872.1306	331.66686	1553.00295	2488.6805	6996.451	12410.4766	12410.4766	1168.7305
Sn-126 (Ci)	16.138125	36.21098	16.138125	36.21098	16.138125	36.21098	18.50298	5.23E+01	5.23E+01	5.23E+01	26.30378	8.36E+00	127.97446	152.85546	151.83087	118.90459	470.8617	373.7773	250.310163	250.310163	300.4027
I-129 (Ci)	0.665216	1.491971	0.665216	1.491971	0.665216	1.491971	0.762434	2.16E+00	2.16E+00	2.16E+00	1.083919	3.45E-01	5.274228	6.6679615	6.304799	5.21331895	19.38947	15.500222	10.6869741	10.6869741	12.37052
Cs-134 (Ci)	0.0105577	0.237861	0.0105577	0.237861	0.0105577	0.237861	0.1545749	2.48E-01	2.48E-01	2.48E-01	0.124823	5.49E-02	3.9316702	115.52253	6.9523162	78.98295	75.000838	371.20967	1591.99492	1591.99492	30.568738
Cs-137 (Ci)	875504	2168984	875504	2168984	875504	2168984	1148590	3.04E+06	3.04E+06	3.04E+06	1529760	5.01E+05	8102619	12466176	9877907	9921459	32757610	29538946	22046468	22046468	20410010
Ba-137m (Ci)	828195.78	2051861	828195.78	2051861	828195.78	2051861	1086567	2.88E+06	2.88E+06	2.88E+06	1447138	4.74E+05	7665270	11793270	9344752	9385895.09	30988620	27943701	20855426.2	20855426.2	19307820
Sm-151 (Ci)	41074.578	88446.83	41074.578	88446.83	41074.578	88446.83	46422.83	1.30E+05	1.30E+05	1.30E+05	65080.44	2.04E+04	297152.71	373947.24	355875.31	299978.771	1093520	886866.3	531998.061	531998.061	696716
Eu-152 (Ci)	0.9363248	8.651859	0.9363248	8.651859	0.9363248	8.651859	4.052509	9.59E+00	9.59E+00	9.59E+00	4.817761	2.00E+00	58.316527	170.32868	75.792027	123.81536	312.73886	370.95659	539.235402	539.235402	183.34786
Eu-154 (Ci)	96.78726	583.1544	96.78726	583.1544	96.78726	583.1544	299.6114	6.80E+02	6.80E+02	6.80E+02	341.6493	1.35E+02	3740.4673	11791.553	4826.7023	8320.84374	22200.944	29597.205	45583.287	45583.287	12659.074
Eu-155 (Ci)	141.57272	580.956	141.57272	580.956	141.57272	580.956	365.701	7.23E+02	7.23E+02	7.23E+02	363.048	1.34E+02	2753.1764	8706.7791	3605.4234	7350.86976	17596.664	27628.92	26112.3606	26112.3606	9650.864
Ra-226 (Ci)	0.0046346	0.0048556	0.0046346	0.00485563	0.0046346	0.0048556	0.0027396	9.49E-03	9.49E-03	9.49E-03	0.004769	1.12E-03	0.01023073	0.0081607	0.0118814	0.00633379	0.02436741	0.0134572	0.00593297	0.00593297	0.01705161
Ra-228 (Ci)	1.275E-08	2.389E-08	1.275E-08	2.3889E-08	1.275E-08	2.389E-08	1.175E-08	3.66E-08	3.66E-08	3.66E-08	1.84E-08	5.52E-09	7.7211E-08	2.988E-07	1.263E-07	2.394E-07	2.30404E-07	1.956E-07	2.25217E-07	2.2522E-07	1.5349E-07
Ac-227 (Ci)	0.0233543	0.0251194	0.0233543	0.02511942	0.0233543	0.0251194	0.0144558	4.85E-02	4.85E-02	4.85E-02	0.024357	5.80E-03	0.05294615	0.0397222	0.0609387	0.03087475	0.1289284	0.0735053	0.031428915	0.03142892	0.0896896
Pa-231 (Ci)	0.0486525	0.0566581	0.0486525	0.05665807	0.0486525	0.0566581	0.0333604	1.05E-01	1.05E-01	1.05E-01	0.052915	1.31E-02	0.12438097	0.1074376	0.1445589	0.08481446	0.3262692	0.2096841	0.099961423	0.09996142	0.2225372
Th-229 (Ci)	2.458E-06	4.653E-06	2.458E-06	4.6526E-06	2.458E-06	4.653E-06	2.273E-06	7.11E-06	7.11E-06	7.11E-06	3.57E-06	1.07E-06	1.4731E-05	1.842E-05	1.785E-05	1.4083E-05	4.56467E-05	3.053E-05	2.11348E-05	2.1135E-05	3.0354E-05
Th-232 (Ci)	1.605E-08	3.098E-08	1.605E-08	3.0985E-08	1.605E-08	3.098E-08	1.54E-08	4.70E-08	4.70E-08	4.70E-08	2.36E-08	7.16E-09	1.0236E-07	4.245E-07	1.696E-07	3.4206E-07	3.16938E-07	2.869E-07	3.48635E-07	3.4863E-07	2.0905E-07
U-232 (Ci)	0.0129696	0.0354417	0.0129696	0.03544172	0.0129696	0.0354417	0.0178634	4.84E-02	4.84E-02	4.84E-02	0.024325	8.19E-03	0.14519018	0.3160524	0.1843199	0.22816374	0.579258	0.5462877	0.6838103	0.6838103	0.362528
U-233 (Ci)	0.0007763	0.0016225	0.0007763	0.00162252	0.0007763	0.0016225	0.000815	2.40E-03	2.40E-03	2.40E-03	0.001205	3.75E-04	0.00548787	0.0087019	0.0068216	0.00673485	0.01874785	0.0145203	0.011801828	0.01180183	0.01216469
U-234 (Ci)	1094.102	1472.8636	1094.102	1472.8636	1094.102	1472.8636	890.8216	2.57E+03	2.57E+03	2.57E+03	1289.82	3.40E+02	3518.324	4236.9189	4220.39	3425.3127	10450.21	8081.25	4785.74198	4785.74198	6901.38
U-235 (Ci)	49.20917	65.04964	49.20917	65.04964	49.20917	65.04964	39.62884	1.14E+02	1.14E+02	1.14E+02	57.41146	1.50E+01	151.89973	161.13559	179.26313	129.82508	444.7897	337.88667	186.269373	186.269373	294.5407
U-236 (Ci)	6.9856945	15.08918	6.9856945	15.08918	6.9856945	15.08918	7.7666	2.21E+01	2.21E+01	2.21E+01	11.09193	3.48E+00	53.74541	274.56489	92.90399	224.648645	186.9366	201.76599	279.400303	279.400303	119.6269
U-238 (Ci)	1107.899	1497.423	1107.899	1497.423	1107.899	1497.423	904.248	2.61E+03	2.61E+03	2.61E+03	342525.8	3.46E+02	3579.699	2983.8314	4108.776	2378.2895	10710.53	7947.21	3804.53677	3804.53677	7069.13
U-Total (mols)	13944143	18844226	13944143	18844226.1	13944143	18844226	11380049	3.28E+07	3.28E+07	3.28E+07	16475126	4.35E+06	45042552.9	37628802	51711654	29995524.7	134750770.3	100004848	47935803.48	47935803.5	88939446.4
Np-237 (Ci)	2.145482	4.921096	2.145482	4.921096	2.145482	4.921096	2.503216	7.07E+00	7.07E+00	7.07E+00	3.550734	1.14E+00	17.820378	37.656565	23.040128	29.1634176	65.19534	57.06013	58.878742	58.878742	41.57794
Pu-238 (Ci)	149.82992	830.1226	149.82992	830.1226	149.82992	830.1226	380.9456	9.80E+02	9.80E+02	9.80E+02	492.3954	1.92E+02	4556.929	14660.415	6081.262	9534.47382	19605.966	21108.287	40150.345	40150.345	12087.216
Pu-239 (Ci)	46922.87	99552.25	46922.87	99552.25	46922.87	99552.25	51429.45	1.46E+05	1.46E+05	1.46E+05	73599.15	2.30E+04	334007.80	340194.44	389666.00	264780.36	1203953.70	928074.80	536799.91	536799.91	771643.70
Pu-240 (Ci)	2765.264	9951.93	2765.264	9951.93	2765.264	9951.93	4721.78	1.27E+04	1.27E+04	1.27E+04	6389.991	2.30E+03	46450.86	60393.653	54959.59	43755.6484	188645.25	158036	141900.116	141900.116	118022.85
Pu-241 (Ci)	1770.353	37125.66	1770.353	37125.66	1770.353	37125.66	16707.46	3.89E+04	3.89E+04	3.89E+04	19544.03	8.57E+03	274642.72	665397.45	335656.24	389449.4	1502007.541	1731009	2842097.65	2842097.65	879328.541
Pu-242 (Ci)	0.0054095	0.1699254	0.0054095	0.1699254	0.0054095	0.1699254	0.0774895	1.75E-01	1.75E-01	1.75E-01	0.0881	3.92E-02	1.21822484	3.1883679	1.4240482	1.0284235	5.48063	5.943251	15.59221684	15.5922168	3.35831
Pu-Total (kg)	767.03345	1645.6698	767.03345	1645.66983	767.03345	1645.6698	848.29551	2.41E+03	2.41E+03	2.41E+03	1212.308	3.80E+02	5580.42878	5746.0357	6513.9016	4456.26054	20213.54229	15643.458	9292.441424	9292.44142	12941.8245
Am-241 (Ci)	17.940889	299.29372	17.940889	299.293725	17.940889	299.29372	126.51074	3.17E+02	3.17E+02	3.17E+02	159.4004	6.91E+01	1402.07183	2882.1168	1717.4368	1659.07325	5162.16735	6904.7016	19035.07284	19035.0728	3038.6169
Am-243 (Ci)	5.016E-05	0.0021638	5.016E-05	0.0021638	5.016E-05	0.0021638	0.0010281	2.21E-03	2.21E-03	2.21E-03	0.001112	5.00E-04	0.01311316	0.1299566	0.0156659	0.01338564	0.051545143	0.2118044	2.128940169	2.12894017	0.02963868
Cm-242 (Ci)	0.0037571	0.1718088	0.0037571	0.17180875	0.0037571	0.1718088	0.0823717	1.76E-01	1.76E-01	1.76E-01	0.088216	3.97E-02	1.34129791	8.0646566	1.580268	1.2430595	6.22121	10.250096	46.53439745	46.5343975	3.78186
Cm-243 (Ci)	5.576E-05	0.0035393	5.576E-05	0.00353929	5.576E-05	0.0035393	0.0017743	3.60E-03	3.60E-03	3.60E-03	0.001806	8.17E-04	0.03074666	0.8168751	0.0360569	0.0286268	0.1576665	0.7876062	5.695742583	5.69574258	0.0936366
Cm-244 (Ci)	0.0007678	0.0515802	0.0007678	0.05158016	0.0007678	0.0515802	0.0261289	5.23E-02	5.23E-02	5.23E-02	0.026303	1.19E-02	0.46858518	16.471106	0.5457343	0.4180234	2.571	16.208691	123.511269	123.511269	1.503574
waste rate 1rsd	0.079	0.126	0.156	0.26	0.154	0.126	0.14	0.639	0	0	0	0	0.133	0.079	0.166	0.005	0.268	0.339	0.339	0.111	0.096
waste rate kgal/q	639	734	490	590	373	812	415	825	1647	1284	725	239	895	297	83	63	947	510	20	37	314
solids rate kgal/q	76.6	88.1	67.2	84.4	25.4	27.6	16.1	23.1	61.0	41.1	10.2	11.5	40.3	5.6	6.7	1.8	20.8	19.9	0.8	0.8	25.4
equiv. in.	27.9	32.0	24.4	30.7	9.2	10.0	5.9	8.4	22.2	14.9	3.7	4.2	14.6	2.1	2.4	0.7	7.6	7.2	0.3	0.3	9.2
waste rate trend					0.15																
waste rate ± RSD	0.15484	0.24696	0.30576	0.5096	0.30184	0.24696	0.2744	0.99	0	0	0	0	0.26068	0.15484	0.32536	0.0098	0.52528	0.66444	0.66444	0.21756	0.18816

	FMJ	FMJ	FMJ	FMJ	HW-30399		HS report	from P	from P	from P	FMJ	FMJ	from P		fr/P	WHC-MR-0302	type 1 Portland Cement	FMJ	model	Lucas	Lucas
chemicals in mol/L	**CWP2**	**CWZr1**	**OWW1**	**OWW2**	**OWW3**	**Z**	**HS**	**TH1**	**TH2**	**AR**	**B**	**BL**	**SRR**	**CSR in**	**CSR**	**DE**	**CEM**	**NIT**	**Salt Slurry**	**DW**	**N**
H-3 (Ci)	112485.277	15375.24	52955.01	56656.38	48457.582		5.384206	56.6161	143.0322	4.21E+01	3.87E+04	4.87E+03	4.96E+03								
C-14 (Ci)	2127.03235	396.0535	1433.62	1130.021	826.11569		1.373146	4.82E-05	0.0001025	1.07E+01	6.61E+02	9.33E+01	1.15E+02								
Ni-59 (Ci)	601.64001	23.81154	406.092	313.2001	162.79027		9.170329	0	0	7.16E+01	1.30E+02	8.79E+01	2.31E+02								
Ni-63 (Ci)	60490.706	2497.679	39206.16	31450.53	16887.859		899.0326	0	0	7.02E+03	1.35E+04	8.71E+03	2.28E+04								
Co-60 (Ci)	3103.902	969.1441	1003.603	1557.452	1987.0566		1.444844	0	0	1.13E+01	1.59E+03	2.10E+02	2.33E+02								
Se-79 (Ci)	472.655389	50.1044	303.9389	242.8241	164.111		6.014014	0.394531	0.838428	4.70E+01	1.31E+02	6.33E+01	1.57E+02								
Sr-90 (Ci)	5.04E+07	5.53E+06	28404290	25683360	18908613		1106418	2.69E+04	6.14E+04	8.64E+06	1.51E+07	1.05E+07	2.78E+07		6.60E+06				364192.7		
Y-90 (Ci)	50393664.5	5534029	28410750	25690051	18913685		1106685	26865.9	61418.6	8.65E+06	1.51E+07	1.05E+07	2.78E+07								
Zr-93 (Ci)	2228.51909	239.3165	1431.702	1144.469	777.86258		26.52301	1.02003	2.167958	2.07E+02	6.21E+02	2.85E+02	6.99E+02								
Nb-93m (Ci)	1627.97949	165.3793	1123.45	840.6324	534.50178		22.35677	0.74296	1.497779	1.75E+02	4.26E+02	2.28E+02	5.77E+02								
Tc-99 (Ci)	15661.6363	1677.471	10026.7	8016.631	5497.7432		9.672563	4.23664	9.00566	7.56E+01	4.39E+03	6.24E+02	7.76E+02								
Ru-106 (Ci)	5.13153016	3.672685	0.031596	0.761709	7.9897731		0.011465	0.000129	0.0027479	8.96E-02	6.39E+00	8.88E-01	1.07E+00								
Cd-113m (Ci)	10809.7602	1425.471	5489.653	5541.752	4376.5312		68.37294	2.06353	5.07632	5.34E+02	3.50E+03	9.71E+02	2.04E+03								
Sb-125 (Ci)	16905.9307	4070.606	2488.681	7002.551	12439.22		5.560584	6.09977	28.74291	4.34E+01	9.93E+03	1.28E+03	1.37E+03								
Sn-126 (Ci)	723.751705	82.02205	470.8617	374.1398	251.08053		9.593157	0.362457	0.770368	7.49E+01	2.00E+02	1.00E+02	2.50E+02								
I-129 (Ci)	30.1997706	3.478878	19.38947	15.51572	10.719909		0.018708	0.015496	0.0329351	1.46E-01	8.55E+00	1.21E+00	1.51E+00								
Cs-134 (Ci)	1121.22309	921.4505	75.00084	371.4182	1593.3043		0.268762	0.208553	1.309393	2.10E+00	1.27E+03	1.61E+02	1.65E+02								
Cs-137 (Ci)	57971163	6812367	32757610	29563657	22102843		33722.09	24710.9	56375.1	2.63E+05	1.76E+07	2.47E+06	3.00E+06		3.80E+06				30956380		
Ba-137m (Ci)	54840257.5	6444268	30988620	27967078	20908755		31900.97	23376.7	53328.8	2.49E+05	1.67E+07	2.33E+06	2.83E+06								
Sm-151 (Ci)	1707107.85	125014.7	1093520	887246.7	532825.99		22548.83	380.42	827.927	1.76E+05	4.26E+05	2.29E+05	5.82E+05								
Eu-152 (Ci)	783.95753	285.0137	312.7389	371.0571	539.48535		7.752851	0.100519	0.2499463	6.06E+01	4.31E+02	1.14E+02	2.36E+02								
Eu-154 (Ci)	61385.1864	25746.21	22200.94	29603.79	45601.26		229.5563	6.58977	17.9734	1.79E+03	3.65E+04	6.35E+03	9.94E+03								
Eu-155 (Ci)	55925.8695	6295.438	17596.66	27636.04	26135.801		505.5217	7.12423	23.44029	3.95E+03	2.09E+04	6.56E+03	1.45E+04								
Ra-226 (Ci)	0.03085597	0.001095	0.024367	0.015208	0.0092509		0.000675	0.001751	0.0033179	5.27E-03	4.75E-03	5.87E-03	1.64E-02								
Ra-228 (Ci)	64.3998004	7.08E-08	2.3E-07	20.8963	43.5035		4.91E-09	20.8963	43.5035	3.84E-08	1.80E-07	6.09E-08	1.38E-07								
Ac-227 (Ci)	108.180621	0.005707	0.128928	36.34511	71.801129		0.003516	36.2716	71.7697	2.75E-02	2.51E-02	3.06E-02	8.56E-02								
Pa-231 (Ci)	190.2551	0.017623	0.326269	60.95178	129.21476		0.005917	60.7421	129.1148	4.62E-02	8.00E-02	5.62E-02	1.49E-01								
Th-229 (Ci)	29.1589098	8.36E-06	4.56E-05	10.06153	19.097371		8.89E-07	10.0615	19.09735	6.95E-06	1.69E-05	9.06E-06	2.30E-05								
Th-232 (Ci)	68.8485006	1.09E-07	3.17E-07	22.0275	46.821		3.27E-10	22.0275	46.821	2.55E-09	2.79E-07	3.74E-08	4.25E-08								
U-232 (Ci)	3016.33085	0.404732	0.579258	946.0763	2070.3938		3.56E-07	945.53	2069.71	2.78E-06	1.04E-03	1.33E-04	1.39E-04								
U-233 (Ci)	11718.8188	0.004719	0.018748	3749.265	7969.5518		9.34E-09	3749.25	7969.54	7.30E-08	1.38E-05	1.80E-06	1.95E-06								
U-234 (Ci)	15765.3387	841.8712	10450.21	8107.436	4841.4033		0.005094	26.1864	55.6613	3.98E-02	3.70E+00	5.02E-01	5.82E-01								
U-235 (Ci)	646.715963	31.63644	444.7897	337.8868	186.26955		0.000215	8.11E-05	0.0001723	1.68E-03	1.42E-01	1.94E-02	2.28E-02								
U-236 (Ci)	473.460365	85.77333	186.9366	201.766	279.40033		0.000119	1.13E-05	2.404E-05	9.26E-04	2.85E-01	3.65E-02	3.84E-02								
U-238 (Ci)	14881.534	588.0777	10710.53	7947.21	3804.5368		0.00506	6.62E-13	1.408E-12	3.95E-02	2.78E+00	3.87E-01	4.66E-01								
U-Total (mols)	187303377	7418029	1.35E+08	1E+08	47939376		63.66544	1680.576	3572.3035	4.97E+02	3.51E+04	4.88E+03	5.88E+03								
Np-237 (Ci)	116.715771	26.1139	65.19534	57.06013	58.878743		0.029284	3.66E-07	7.781E-07	2.29E-01	1.41E+01	2.00E+00	2.45E+00								
Pu-238 (Ci)	42282.6914	30096.3	19605.97	21108.29	40150.345		4.818117	5E-05	0.0001089	3.76E+01	6.90E+02	1.24E+02	1.99E+02								
Pu-239 (Ci)	1762013.96	154926.63	1203954	928074.8	536799.91	8113	203.3813	1.42E-09	3.025E-09	1.59E+03	4.67E+03	2.17E+03	5.35E+03		3.18E-05				0		
Pu-240 (Ci)	313288.211	65399.58	188645.3	158036	141900.12	2028.25	33.46618	7.63E-11	1.622E-10	2.61E+02	1.68E+03	4.71E+02	9.94E+02								
Pu-241 (Ci)	3386739.46	2023981	1502008	1731009	2842097.7		348.0845	3.34E-10	8.231E-10	2.72E+03	4.78E+04	8.69E+03	1.41E+04								
Pu-242 (Ci)	9.5295376	16.08237	5.48063	5.943251	15.592217		0.001712	4.42E-16	9.388E-16	1.34E-02	3.45E-01	5.65E-02	8.33E-02								
Pu-Total (kg)	29758.9487	2804.971	20213.54	15643.46	9292.4414	141.857	3.422855	2.94E-09	6.412E-09	2.67E+01	8.30E+01	3.71E+01	9.06E+01								
Am-241 (Ci)	13305.6732	15665.33	5162.167	6904.702	19035.073	8758.25	170.1383	2.95E-11	6.079E-11	1.33E+03	1.52E+04	3.23E+03	5.89E+03								
Am-243 (Ci)	0.14053892	2.33613	0.051545	0.211804	2.1289402		0.004081	8.22E-17	1.784E-16	3.19E-02	1.70E+00	2.45E-01	3.09E-01								
Cm-242 (Ci)	11.3262232	54.48025	6.22121	10.2501	46.534397		0.183668	0	4.328E-29	1.43E+00	3.72E+01	6.09E+00	8.96E+00								
Cm-243 (Ci)	0.3123513	7.017965	0.157667	0.787606	5.6957426		0.010068	5.17E-18	1.184E-17	7.87E-02	4.56E+00	6.48E-01	8.06E-01								
Cm-244 (Ci)	5.34730736	151.416	2.571	16.20869	123.51127		0.249618	8.09E-17	1.935E-16	1.95E+00	9.88E+01	1.43E+01	1.82E+01								
waste rate 1rsd	0.365	0.365	0.168	0.067	0.108	0.299	0.097	0.339	0.339	0	0.437	0.279	0.39	0	0	0	0	0	0	0	0
waste rate kgal/q	464	83	162	528	405	55	42	232	107	145	440	371	120	0	633	21	2	40	409	220	36
solids rate kgal/q	13.5	8.7	1.0	5.8	2.4	1.3	0.5	13.4	6.2	4.5	2.2	2.5	3.1	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0
equiv. in.	4.9	3.2	0.4	2.1	0.9	0.5	0.2	4.9	2.3	1.6	0.8	0.9	1.1	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
waste rate trend																					
waste rate ± RSD	0.7154	0.7154	0.32928	0.13132	0.21168	0.58604	0.19012	0.66444	0.66444	0	0.85652	0.54684	0.7644	0	0	0	0	0	0	0	0

chemicals in mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (Ci)	92.384	167.891	136.076	242.959	8037.3	16419.8	7202.5	28810.1	4607.58	20759.1	12396.1	47677.5	6485.75	16578.5	4933.81	17414.2			42492.232	42492.23	42492.232			
C-14 (Ci)	13.4355	24.4167	20.2916	36.23	412.412	842.539	1197.8	4791.17	947.955	4270.93	1882.09	7238.8	830.864	2123.81	765.499	2701.88			523.35031	523.3503	523.35031			
Ni-59 (Ci)	3.7428	6.80187	5.71884	10.2108	47.9071	97.872	94.243	376.972	62.1594	280.054	105.24	404.77	14.1635	36.204	30.4942	107.631			31.294718	31.29472	31.294718			
Ni-63 (Ci)	336.558	611.634	514.259	918.193	4652.24	9504.31	9241.2	36964.8	6169.13	27794.5	10284	39553.7	1393.32	3561.53	3036.15	10716.3			3617.8101	3617.81	3617.8101			
Co-60 (Ci)	2.96044	5.38007	4.57923	8.17607	371.247	758.44	1343.2	5372.78	1123.76	5063.02	1846.14	7100.55	594.278	1519.06	863.711	3048.52			8068.9071	8068.907	8068.9071			
Se-79 (Ci)	2.83516	5.15241	4.36058	7.78568	78.2912	159.945	122.5	489.982	74.3039	334.77	173.593	667.665	52.899	135.218	65.2516	230.31			65.409658	65.40966	65.409658			
Sr-90 (Ci)	318349	578543	509034	908865	1914128	3910474	4E+06	1.6E+07	2448707	1.1E+07	5480303	2.1E+07	1038595	2654804	1735273	6124755	0	0	10257800	10257800	10257800			
Y-90 (Ci)	318434	578698	509172	909111	1914584	3911405	4E+06	1.6E+07	2449297	1.1E+07	5481620	2.1E+07	1038853	2655463	1735700	6126262			10260458	10260458	10260458			
Zr-93 (Ci)	13.4714	24.4818	20.7184	36.992	383.982	784.457	601.52	2406.08	364.024	1640.08	849.172	3266.05	259.502	663.327	322.219	1137.29			315.49313	315.4931	315.49313			
Nb-93m (Ci)	11.3905	20.7003	17.513	31.2689	283.577	579.335	437.37	1749.47	259.629	1169.74	624.136	2400.52	189.349	484.004	231.135	815.806			133.20083	133.2008	133.20083			
Tc-99 (Ci)	93.2818	169.523	143.473	256.167	3205.45	6548.59	8467.7	33870.7	6686.81	30126.9	13805.7	53098.7	7464.59	19080.6	6366.28	22470.2			2185.5836	2185.584	2185.5836			
Ru-106 (Ci)	1.2E-06	2.1E-06	1.8E-06	3.2E-06	0.08579	0.17527	0.2253	0.90138	0.17401	0.78397	0.30931	1.18965	0.09996	0.25552	0.17279	0.60988			114138.44	114138.4	114138.44			
Cd-113m (Ci)	32.3874	58.8584	49.9311	89.1503	1670.75	3413.26	3121.9	12487.4	2038.93	9186.24	4288.17	16493	1344.29	3436.2	1777.13	6272.48			3405.0732	3405.073	3405.0732			
Sb-125 (Ci)	2.67167	4.85529	4.1489	7.40774	1326.42	2709.82	5818.5	23273.8	5035.33	22686.3	7931.94	30507.5	2612.88	6678.9	4031.08	14228			195414.13	195414.1	195414.13			
Sn-126 (Ci)	4.26014	7.74205	6.55345	11.701	118.415	241.916	185.07	740.283	111.248	501.218	262.889	1011.11	79.9961	204.482	98.4723	347.564			103.12148	103.1215	103.12148			
I-129 (Ci)	0.17556	0.31904	0.27006	0.48218	6.08207	12.4254	16.34	65.3614	12.9454	58.3245	26.6379	102.454	14.4072	36.8269	12.3087	43.4444			4.3890826	4.389083	4.3890826			
Cs-134 (Ci)	0.02049	0.03723	0.04044	0.0722	74.1123	151.408	112.94	451.755	43.1079	194.219	136.058	523.3	76.9567	196.713	97.3826	343.718			86708.86	86708.86	86708.86			
Cs-137 (Ci)	358500	651511	574179	1025179	1E+07	2.1E+07	1E+07	4.7E+07	4184565	1.9E+07	1.5E+07	5.9E+07	8103069	2.1E+07	6983577	2.5E+07	0	0	12109210	12109210	12109210			
Ba-137m (Ci)	339135	616317	543166	969806	9870741	2E+07	1E+07	4.4E+07	3958580	1.8E+07	1.5E+07	5.6E+07	7665536	2E+07	6606449	2.3E+07			11455640	11455640	11455640			
Sm-151 (Ci)	10569.1	19207.4	16252.1	29017.6	275856	563560	431911	1727644	258310	1163795	612417	2355451	186503	476730	229008	808299			226228.91	226228.9	226228.91			
Eu-152 (Ci)	0.41034	0.74572	0.61292	1.09435	64.3328	131.429	152.12	608.496	94.4295	425.444	195.52	752.001	64.3133	164.394	93.762	330.939			423.92164	423.9216	423.92164			
Eu-154 (Ci)	52.5073	95.4228	81.4121	145.359	8873.49	18128.1	21418	85672.3	15929	71766.9	29456.6	113295	9360.27	23926.2	13107.9	46265.1			60305.544	60305.54	60305.544			
Eu-155 (Ci)	31.4377	57.1324	46.9772	83.8763	3262.63	6665.4	9187.8	36751	5720.34	25772.5	11555	44442.1	3820.11	9764.76	5473.01	19317.3			76934.179	76934.18	76934.179			
Ra-226 (Ci)	0.00081	0.00148	0.00123	0.00219	0.00345	0.00705	0.0058	0.02311	0.00303	0.01367	0.00782	0.03008	0.00236	0.00604	0.00263	0.00927			0.0005272	0.000527	0.0005272			
Ra-228 (Ci)	1.6E-09	3E-09	2.4E-09	4.4E-09	0.11423	0.23337	2.5505	10.2019	35.8867	161.684	2.34856	9.03294	1.68047	4.29553	5.74789	20.2875			3.841E-08	3.84E-08	3.841E-08			
Ac-227 (Ci)	0.00415	0.00755	0.00631	0.01127	0.02013	0.04112	0.0361	0.14447	0.03485	0.157	0.04843	0.18628	0.01453	0.03713	0.0154	0.05435			0.0030314	0.003031	0.0030314			
Pa-231 (Ci)	0.00898	0.01631	0.01372	0.02449	0.09197	0.18789	0.1584	0.63366	0.18198	0.81991	0.21664	0.83323	0.06507	0.16633	0.07206	0.25435			0.0173005	0.0173	0.0173005			
Th-229 (Ci)	3.2E-07	5.8E-07	4.7E-07	8.5E-07	0.00274	0.00559	0.0655	0.26209	0.82873	3.73378	0.06127	0.23564	0.04081	0.10433	0.13368	0.47184			4.393E-06	4.39E-06	4.393E-06			
Th-232 (Ci)	3.9E-09	7E-09	5.9E-09	1.1E-08	0.00761	0.01555	0.2338	0.93538	2.21788	9.99248	0.22885	0.88021	0.18591	0.47521	0.70245	2.47933			8.835E-08	8.83E-08	8.835E-08			
U-232 (Ci)	0.00042	0.00076	0.00049	0.00088	0.79773	1.62973	13.93	55.7211	164.8	742.494	12.7374	48.99	4.03542	10.3151	13.0552	46.0792			0.4191756	0.419176	0.4191756			
U-233 (Ci)	2E-05	3.6E-05	2.3E-05	4.2E-05	3.0532	6.23754	53.536	214.145	631.375	2844.61	48.969	188.342	15.4869	39.5868	50.0402	176.62			0.0042985	0.004299	0.0042985			
U-234 (Ci)	19.6163	35.6491	23.0999	41.2442	14.4196	29.4585	33.359	133.435	44.6925	201.358	36.5384	140.532	8.66668	22.1533	16.9952	59.9855			1885.2712	1885.271	1885.2712			
U-235 (Ci)	0.87008	1.58122	1.02448	1.82918	0.58238	1.18977	1.3792	5.51691	1.65452	7.45428	1.51461	5.82543	0.36335	0.92878	0.69903	2.46729			71.658299	71.6583	71.658299			
U-236 (Ci)	0.18327	0.33307	0.21636	0.3863	0.59708	1.2198	0.985	3.94019	1.48762	6.70237	1.03518	3.98147	0.20864	0.53332	0.59493	2.09984			155.20283	155.2028	155.20283			
U-238 (Ci)	19.9248	36.2097	23.4637	41.8938	12.64	25.823	36.854	147.416	93.5935	421.678	48.1749	185.288	10.6876	27.3191	22.3009	78.7126			1294.3046	1.29E+03	1294.3046			
U-Total (mols)	250750	455693	295287	527225	156138	318982	388034	1552134	467989	2108484	432729	1664342	103514	264598	193152	681744			16328215	16328215	16328215			
Np-237 (Ci)	0.57425	1.04359	0.88356	1.57757	13.9824	28.5654	30.094	120.377	22.4241	101.03	51.1622	196.778	27.2366	69.6207	22.4879	79.3725			32.011374	32.01137	32.011374			
Pu-238 (Ci)	1.49078	2.70923	2.27895	4.06899	16.4137	33.5324	49.339	197.356	43.1328	194.331	64.894	249.592	13.0396	33.3313	33.347	117.7			28598.03	28598.03	28598.03			
Pu-239 (Ci)	268.488	487.929	379.08	676.835	530.522	1083.83	1870.4	7481.77	1543.35	6953.44	2346.92	9026.63	511.773	1308.17	934.258	3297.52	0	0	231,715.51	231715.5	231,715.51			
Pu-240 (Ci)	20.8617	37.9125	30.8417	55.0668	87.9663	179.711	304.5	1217.98	264.81	1193.08	390.852	1503.28	80.4254	205.579	157.734	556.732			70385.489	70385.49	70385.489			
Pu-241 (Ci)	51.3952	93.4016	83.8734	149.753	842.215	1720.61	3298.1	13192.2	3108.33	14004.3	4409.04	16957.9	875.338	2237.49	2277.75	8039.46			2921613.6	2921614	2921613.6			
Pu-242 (Ci)	0.00023	0.00041	0.00037	0.00067	0.00447	0.00913	0.0177	0.07083	0.01497	0.06742	0.02387	0.09179	0.00474	0.01211	0.0143	0.05048			10.893784	10.89378	10.893784			
Pu-Total (kg)	4411.42	8016.97	6234.73	11131.9	8833.66	18046.8	24194	96775.8	20094.7	90535	28017.6	107760	6210.38	15874.6	10706.5	37789.1			4069.4596	4069.46	4069.4596			
Am-241 (Ci)	23.8162	43.2817	37.0893	66.2218	1224.6	2501.79	2145.4	8581.79	1140.77	5139.63	3340.31	12847.3	1796.33	4591.67	1569.74	5540.48			40308.72	40308.72	40308.72			
Am-243 (Ci)	0.00016	0.0003	0.00026	0.00046	0.03908	0.07985	0.0676	0.27037	0.03948	0.17786	0.10606	0.40793	0.05873	0.15012	0.07821	0.27606			8.4918711	8.491871	8.4918711			
Cm-242 (Ci)	0.00742	0.01348	0.00994	0.01806	0.0129	0.02344	0.0355	0.06448	0.02998	0.05449	0.03581	0.06507	0.00746	0.01356	0.0135	0.02453			37.337951	37.33795	37.337951			
Cm-243 (Ci)	0.00015	0.00028	0.0002	0.00037	0.00026	0.00048	0.0007	0.00132	0.00061	0.00111	0.00073	0.00133	0.00015	0.00028	0.00028	0.0005			6.2556501	6.25565	6.2556501			
Cm-244 (Ci)	0.00388	0.00704	0.00556	0.0101	0.00767	0.01394	0.0211	0.03836	0.01784	0.03242	0.0213	0.03871	0.00444	0.00806	0.00803	0.01459			154.57816	154.5782	154.57816			
waste rate 1rsd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.153	0.295	0.503	0	0	0.07
waste rate kgal/q	222	222	334	334	138	138	226	226	203	203	710	710	223	223	292	292	0	0	47	479	231	44	285	176
solids rate kgal/q	0.0	21.6	0.0	21.4	0.0	0.0	0.0	0.0	0.0	22.1	0.0	101.9	0.0	0.0	0.0	37.6	0.0	0.0	1.8	9.6	24.3	3.5	1.3	1.1
equiv. in.	0.0	7.9	0.0	7.8	0.0	0.0	0.0	0.0	0.0	8.0	0.0	37.1	0.0	0.0	0.0	13.7	0.0	0.0	0.7	3.5	8.8	1.3	0.5	0.4
waste rate trend																								
waste rate ± RSD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.29988	0.5782	0.98588	0	0	0.1372

species mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
Na	2.3156476	2.5156476	2.975332	2.9375644	2.2707561	1.2672125	1.5985584	4.1998776	4.2073523	4.1973523	3.02782	1.6132959	5.50370692	5.4568062	3.9683388	1.81391639	0.79046272	1.3924787	1.004264	3.35339532	2.36462039
Al	0	0	0.082	0.062	0	0	0	0	0	0	0	0	1.13	1.13	2	0.78	0	0	0	0	1.2
Fe	0.016	0.016	0.05	0.05	0.04	0.0286255	0.016	0.046	0.03	0.03	0	0.0020001	0.0475	0.053	0.0152	0.0152	0.059803	0.117394	0.04	0.066	0.0152
Cr	0.0032	0.0032	0.0065	0.0065	0.0042	0.0054095	0.0068	0.0032	0.0032	0.0032	0	0.002	0.113	0.113	0.00304	0.00304	0.008	0.008	0	0.008	0.00304
Bi	0	0	0.012	0.012	0.01	0.0052606	0.006	0	0.013	0.013	0	0.014	0	0	0	0	0	0	0	0	0
La							0.0038														
Hg	0	0	2.311E-05	2.1945E-05	0	0	0	0	0	0	0	0	0	0	0.0003397	0.0003293	0	0	0	0	0.00021383
ZrO(OH)2	0	0	0.00032	0.00032	0	0	0	0	0	0	0	0.004	0	0	0	0	0	0	0	0	0
Pb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.011	0.011	0	0	0	0.00006	0.011
Ni	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.005	0.005	0.01	0.01	0.004	0.004	0.00152	0.00152	0.004	0.004	0	0.004	0.00152
Sr							0														
Mn	0	0	0	0	0	0	0.0051	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ca	0.0180169	0.0180169	0.018216	0.0182172	0.0181567	0.0180886	0.0181392	0.0183781	0.0183973	0.0183973	0.02	0.02	0.018492	0.01848	0.018055	0.01808384	0.01807536	0.0181354	0.01803936	0.01835316	0.01803584
K	0.000706	0.000706	0.009	0.00905	0.006531	0.0036917	0.2309	0.015756	0.016556	0.016556	0.0117	0.0042	0.0205	0.02	0.0022932	0.0034932	0.00314	0.00564	0	0.014715	0.0014932
balance	**4.441E-16**	**0**	**-4.441E-16**	**-4.441E-16**	**-4.44E-16**	**2.22E-16**	**2.22E-16**	**-8.88E-16**	**-1.78E-15**	**-1.776E-15**	**0**	**0**	**1.7764E-15**	**0**	**1.776E-15**	**1.7764E-15**	**0**	**0**	**-0.021216**	**0**	**-8.882E-16**
density																					
vol%solids	12	12	13.7	14.2943561	6.8	3.4	3.8795181	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9	3.9	2.2	8.1
void frac.	0.3956569	0.2632894	0.7183619	0.73734299	0.7700472	0.9436953	0.8854288	0.4527128	0.5835467	0.5216694	0.900124	0.9342765	0.53613647	0.5865419	0.6508536	0.76288382	0.841382091	0.8076671	0.783219323	0.71060168	0.8339275
species																					
OH	1.3362671	1.3462081	0.5731301	0.50598266	0.1736645	0.1555272	0.0628735	0.1431498	0.1091498	0.1091498	0.04915	0.3147026	6.28126587	6.4716733	7.7810166	3.13935947	0.363531601	0.541957	-0.014959158	0.249	4.60065802
NO3	0.1847399	0.1847399	1.6434782	1.63352829	1.2408445	0.6928414	1.3814784	3.1005123	3.1013507	3.1013507	2.3517	0.5442	2.977484	2.67696	0.8846826	0.88591948	0.43929072	0.7119107	0.70771872	2.87142132	0.68359254
NO2	0	0	0.058	0.044	0	0	0	0	0	0	0.17	0.17	0	0	1.4	0.28	0.01	0.01	0.01	0.01	0.78
CO3	0.6	0.7	0.018216	0.0182172	0.0181567	0.0180886	0.0181392	0.2	0.0183973	0.0183973	0.021	0.0120037	0.018492	0.01848	0.018055	0.01808384	0.01807536	0.0181354	0	0.01835316	0.01803584
PO4	0.18	0.18	0.289	0.289	0.21	0.1104732	0.038	0.13	0.143	0.143	0.13	0.1639895	0	0	0	0	0	0	0	0.096	0
SO4	0.2116	0.2116	0.0696	0.0696	0.0496	0.026851	0.003	0.1416	0.183	0.183	0.016	0.0200001	0.019	0.03	0.01252	0.01252	0.043606	0.158788	0.234788	0.05606	0.01252
SiO3	0.004	0.004	0.06	0.053	0.037	0.0194643	0	0	0.035	0.035	0	0.038	0.01471146	0.0424231	0.03	0	0.046934	0.092132	0.092132	0	0.02
F	0	0	0.186	0.186	0.22	0.1157339	0.27	0	0.21	0.21	0	0.228	0	0	0	0	0	0	0	0	0
Cl	0.0032476	0.0032476	0.0414	0.04163	0.0300426	0.0169819	0.02668	0.0954776	0.0761576	0.0761576	0.05382	0.01932	0.0943	0.092	0.0105487	0.01606872	0.014444	0.025944	0	0.067689	0.00686872
C6H5O7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
glycolate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
acetate																					
oxalate	0	0	0	0	0	0	0.046	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DBP								3.036E-05													
butanol								3.036E-05													
NH3	0	0	0.11	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fe(CN)6----	0	0	0	0	0	0	0	0	0.005	0.0025	0.005	0.005	0	0	0	0	0	0	0	0	0

species mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
Na	1.60926839	1.070458	0.6626	1.1249	1.5755632	3.54376	2.214974	3.606096	3.6060959	1.5380841	0.6772378	3.4363714	3.4835576	4.82962	5.044263			0.3	12.37	0.19517	1.26517
Al	0.78	0	0	0	0	0.5	0	0.34	0.34	0.0234237	0.083	0.28	0	0.4491	0.4491			0	2.2	0	0
Fe	0.0152	0.0152	0.04	0.04	0.04	0.0407	0.07	0.065	0.065	0.0422938	0.007	0.017	0.041	0.00545	0.005447			0	0	0.04	0.04
Cr	0.00304	0.00304	0.008	0.008	0.008	0.0094	0.008	0.008	0.008	0.0170015	0.002	0.0000002	0	0.05551	0.055512			0	0	0.008	0.008
Bi	0	0	0	0	0	0	0	0	0	1.154E-05	0	0	0	0.00012	0.000121			0	0	0	0
La														1.4E-09	1.45E-09						
Hg	0.00018118	0.000219	0	0	0	0	0	0	0	3.62E-07	0	0	0	1.3E-06	1.26E-06			0	0	0	0
ZrO(OH)2	0	0.1	0	0	0	0	0	0	0	4.56E-08	0	0	0	1.6E-05	1.58E-05			0	0	0	0
Pb	0.011	0	0	0	0	0	0.0034	0	0	5.921E-05	0.000001	0	0	0.00017	0.000167			0	0	0	0
Ni	0.00152	0.00152	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.0060535	0.002	0.01	0	0.00485	0.004855			0	0	0.004	0.004
Sr														0	0						
Mn	0	0	0	0.012	0.0008822	0	0	0	0	0.0026512	0	0	0	0.00383	0.003832			0.001	0	0	0
Ca	0.01805984	0.01803	0.018024	0.018036	0.0181114	0.0183	0.0049	0.018331	0.018331	0.0121321	0.0100663	0.0103233	0.0123253	0.02443	0.024457			0		0.01802	0.01802
K	0.0024932	0.221243	0.001	0.0135	0.0055222	0.01264	0.08869	0.02779	0.02779	0.0076249	0.002762	0.013472	0.013556	0.02268	0.023675			0.001	0.016	0.00069	0.00069
balance	**1.7764E-15**	**2.22E-16**	**0**	**2.22E-16**	**4.441E-16**	**-2E-15**	**-8.9E-16**	**0**	**8.882E-16**	**-2.22E-16**	**0**	**-8.88E-16**	**4.441E-16**	**1.8E-06**	**0.001089**			**-0**	**3.55E-15**	**-6E-17**	**0**
density																					
vol%solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6	2	1	100	100	13.6	80	1	1
void frac.	0.763081	0.857291	0.627201	0.802358	0.6254872	0.54965	0.822567	0.934873	0.9348735	0.8305506	0.8456962	0.6682915	0.8572863	0.30737	0.643658	0.6	0.6	1	0.8	0.71521	0.71521
species																					
OH	3.08409161	0.722067	0.236811	0.208148	0.2167765	2.1649	0.330101	1.555015	1.5555541	0.3331939	0.52866	2.432922	0.2726168	2.96833	3.093212			-0.49	9.2	0.17	0.17
NO3	0.68457524	0.313341	0.230048	0.377572	0.9428627	2.56925	1.07849	2.754452	2.7544519	0.4927714	0.2718946	0.8741187	0.6382067	1.42501	1.425063			0.8	2.816	0.15672	0.15672
NO2	0.28	0.007	0.01	0.01	0.01	0.014	0.01	0.01	0.01	0.2739838	0.01	0.01	0.01	1.07676	1.086758			0	4.05	0.024	0.014
CO3	0.01805984	0.01803	0.22	0.4	0.3041096	0.2	0.0049	0.018331	0.018331	0.1482866	0.0100663	0.27	0.25	0.24134	0.24136			0	1	0.011	0.011
PO4	0	0	0	0	0	0.00014	0	0.09	0.09	0.0233479	0	0.01	0	0.01362	0.013618			0	0.1	0	0.36
SO4	0.01252	0.00152	0.004	0.004	0.004	0.0068	0.0674	0.054	0.054	0.0813682	0.016001	0.044	0.102	0.12845	0.12845			0	0.03	0.004	0.004
SiO3	0	0	0	0	0	0	0	0	0	0.1032644	0.04	0.05	0.08	0.06661	0.066609			0	0	0	0
F	0	0.77	0	0	0	0	0	0.12	0.12	0.0003872	0	0	0	0.00531	0.00531			0	0.06	0	0
Cl	0.01146872	0.005719	0.0046	0.0069	0.021344	0.08914	0.049174	0.063434	0.063434	0.0189204	0.0127052	0.0619712	0.0623576	0.0789	0.083499			0	0.5	0.00317	0.00317
C6H5O7	0	0	0	0	0	0	0.04	0	0	0	0.01	0.015	0	0.00294	0.027942			0	0	0	0
EDTA	0	0	0	0	0	0	0.08	0	0	0	0	0	0.15	0.0005	0.0005			0	0	0	0
HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.00097	0.001013			0	0	0	0
														0	0						
glycolate	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	0.00641	0.006414			0	0	0	0
acetate							0.51							8.7E-05							
oxalate	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9E-09	1.9E-09			0	0	0	0
DBP			0.060613	0.023293	0.0185082		0	0.001876	0.0082987				3.036E-05	0.01774	0.017736						
butanol			0.060613	0.023293	0.0185082		0	0.001876	0.0082987				3.036E-05	0.01774	0.017736						
														0	0						
NH3	0	0.77	0	0	0	0	0	0	0	0.010026	0	0	0	0.03193	0.031932			0	0	0	0
Fe(CN)6----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0

species mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
Na	3.45075	6.27112	3.33276	5.95054	5.25554	10.7368	3.0983	12.3933	2.51605	11.3359	4.40541	16.9439	8.95878	22.9	4.76073	16.8033		0	2.851392	0.640462	1.017648			0.05992
Al	0.01334	0.02425	0.00913	0.01631	0.90458	1.848	0.3048	1.21929	0.41086	1.85111	0.56304	2.16554	1.11755	2.85663	0.54298	1.91648		0	0.34	0	0			0
Fe	0.01233	0.02241	0.00907	0.0162	0.00202	0.00413	0.0026	0.01037	0.0026	0.01173	0.00265	0.01019	0.00143	0.00365	0.0022	0.00777		0	0.117394	0.04	0.04			0.01
Cr	0.00465	0.00846	0.00435	0.00777	0.10623	0.21703	0.0264	0.10565	0.01402	0.06317	0.05061	0.19467	0.05303	0.13554	0.02957	0.10436		0	0	0.008	0			0
Bi	0.00356	0.00647	0.00295	0.00527	4.2E-06	8.5E-06	0.0005	0.00194	0.00023	0.00103	0.00041	0.00159	0.00227	0.0058	0.00161	0.00568		0	0	0	0			0
La	0	0	0	0	1E-11	2.1E-11	2E-10	8.1E-10	5.2E-07	2.4E-06	3.2E-06	1.2E-05	6.7E-06	1.7E-05	2.8E-06	9.8E-06		0						
Hg	6.5E-06	1.2E-05	5.3E-06	9.4E-06	6.5E-07	1.3E-06	2E-06	1E-05	5.1E-06	2.3E-05	2.7E-06	1E-05	9.6E-06	2.4E-05	7.1E-06	2.5E-05		0	0	0	0.0002292	0	0	0
ZrO(OH)2	0.00013	0.00023	0.00037	0.00066	4.2E-07	8.5E-07	7E-05	0.0003	8.7E-06	3.9E-05	5.7E-05	0.00022	0.00025	0.00065	0.00044	0.00157		0	0	0	0.1			0
Pb	0	0	0	0	0.0001	0.00021	0.0002	0.00097	0.0008	0.00359	0.00032	0.00121	0.00088	0.00225	0.00046	0.00162		0	0	4.34E-05	0			0
Ni	0.00163	0.00296	0.00165	0.00294	0.00178	0.00364	0.0017	0.00682	0.00167	0.00754	0.00168	0.00647	0.00141	0.0036	0.00157	0.00555		0	0	0.004	0			0
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0						
Mn	0	0	0	0	3E-05	6.2E-05	0.0008	0.0031	0.00083	0.00372	0.00098	0.00376	0.00094	0.00239	0.00106	0.00374		0	0	0.006	0			0
Ca	0.01099	0.01997	0.01036	0.0185	0.00899	0.01837	0.009	0.03599	0.00894	0.04027	0.00877	0.03375	0.00759	0.0194	0.00866	0.03056		0	0.018264	0.01802	0.018024			0.018
K	0.01277	0.0232	0.01216	0.02171	0.01936	0.03956	0.0125	0.04982	0.01016	0.04577	0.01929	0.07418	0.05184	0.13252	0.04636	0.16364		0	0.011	0.00685	0.221			0.0002
balance		**-9E-16**		**-9E-16**		**1.6E-05**		**0.00061**		**0.00089**		**0.00106**		**0.00178**		**0.00111**		**0**	**-8.88E-16**	**1.11E-16**	**2.22E-16**			**2.8E-17**
density	1.12546		1.12139		1.23278		1.1306		1.11986		1.19013		1.38305		1.20538									
vol%solids	50	17.6828	50	11.4457	50	13.8204	50	55.3855	50	48.966	50	55.1726	50	99	50	45.5227		90	3.9	2	10.5			0.6
void frac.	1	0.60412	1	0.52453	1	0.78481	1	0.7826	1	0.77425	1	0.65085	1	0.52092	1	0.50021		0.5	0.7889973	0.888181	0.8503106			0.78419
species														0.52571										
OH	0.12872	0.33091	0.12086	0.28103	1.8537	11.179	0.5621	7.12565	0.30044	8.75802	1.11269	12.9417	2.37423	17.4954	0.90251	10.8514		0	3.1594335	0.162253	0.6365951			0.04
NO3	2.11261	3.83929	1.98933	3.55188	1.53673	3.13946	1.2766	5.10624	1.02802	4.63167	1.40832	5.41663	2.07716	5.30952	1.45955	5.15159		0	0.607528	0.256891	0.3875063			0.06621
NO2	0.20199	0.36709	0.21129	0.37725	1.13213	2.31289	0.4601	1.84038	0.42601	1.91936	0.79699	3.06533	1.63708	4.18461	0.84786	2.99257		0	0.01	0.01	0.007			0
CO3	0.11026	0.20038	0.1177	0.21016	0.01199	0.0245	0.1103	0.44136	0.09837	0.44321	0.12683	0.48782	0.27782	0.71014	0.15459	0.54564		0	0.018264	0.12	0.018024			0.0095
PO4	0.1682	0.30567	0.16065	0.28684	0.00027	0.00055	0.0353	0.14133	0.0175	0.07883	0.03346	0.12867	0.1337	0.34176	0.08006	0.28259		0	0	0.069517	0			0
SO4	0.11076	0.20129	0.1094	0.19533	0.02446	0.04998	0.0661	0.26428	0.04921	0.22173	0.07933	0.30511	0.23717	0.60625	0.12082	0.42645		0	0.134788	0.004043	0			0
SiO3	0.01939	0.03524	0.01797	0.03209	0.02314	0.04728	0.0178	0.07101	0.01218	0.05485	0.0209	0.0804	0.02913	0.07447	0.02764	0.09754		0	0.092132	0	0			0
F	0.08676	0.15768	0.08776	0.15669	0.00021	0.00044	0.0225	0.08997	0.0142	0.06397	0.01925	0.07403	0.10843	0.27716	0.10339	0.36493		0	0.03	0	0.77			0
Cl	0.07126	0.12951	0.06834	0.12201	0.08886	0.18154	0.0564	0.22547	0.03472	0.15641	0.07584	0.29169	0.14836	0.37924	0.07953	0.28069		0	0.0506	0.00391	0.0046			0.00092
C6H5O7	0	0	0	0	0.00022	0.00045	0.0049	0.01951	0.0061	0.02746	0.00855	0.03287	0.02196	0.05614	0.01062	0.03749		0	0	0	0			0
EDTA	0	0	0	0	8.6E-06	1.8E-05	0.003	0.01184	0.00137	0.00616	0.00442	0.01699	0.01327	0.03393	0.01006	0.0355		0	0	0	0			0
HEDTA	0	0	0	0	7.2E-06	1.5E-05	0.0057	0.02298	0.00018	0.00083	0.00836	0.03214	0.02488	0.0636	0.01781	0.06285		0	0	0	0			0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0						
glycolate	0	0	0	0	0.00031	0.00064	0.0176	0.07025	0.00429	0.01933	0.02628	0.10109	0.07153	0.18285	0.03792	0.13385		0	0	0	0			0
acetate	0	0	0	0	3.2E-05	6.6E-05	0.0006	0.00222	0.00814	0.03668	0.00154	0.00593	0.00534	0.01365	0.00737	0.02601		0	0	0	0			0
oxalate	0	0	0	0	1.3E-11	2.7E-11	3E-10	1.1E-09	6.8E-07	3.1E-06	4.2E-06	1.6E-05	8.8E-06	2.3E-05	3.6E-06	1.3E-05		0	0	0	0			0
DBP	1.7E-05	3E-05	1.6E-05	2.9E-05	0.0002	0.0004	0.0038	0.01535	0.00647	0.02917	0.00591	0.02273	0.01593	0.04072	0.00876	0.03093		0		0.003407				
butanol	1.7E-05	3E-05	1.6E-05	2.9E-05	0.0002	0.0004	0.0038	0.01535	0.00647	0.02917	0.00591	0.02273	0.01593	0.04072	0.00876	0.03093		0		0.003407				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0						
NH3	0.04362	0.07927	0.03735	0.06789	0.02452	0.04455	0.0169	0.03068	0.00851	0.01546	0.0179	0.03254	0.04664	0.08476	0.12212	0.22193		0	0	0	0.77			0.05
Fe(CN)6----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0			0

species mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3 (Ci/L)	1.422E-05	3.119E-05	2.083E-06	4.3611E-06	2.735E-07	3.172E-07	4.806E-08	1.53E-05	1.53E-05	1.53E-05	1.53E-05	4.361E-06	0.00011912	0.0005445	4.998E-06	1.0668E-05	0.000527913	0.0014649	0.032153003	0	5.3519E-06
C-14 (Ci/L)	7.914E-07	1.295E-06	1.159E-07	1.8112E-07	1.522E-08	1.317E-08	1.852E-09	6.905E-07	6.905E-07	6.905E-07	6.9E-07	1.811E-07	4.134E-06	1.07E-05	1.628E-07	1.9152E-07	1.42919E-05	2.925E-05	0.000549774	0	1.5427E-07
Ni-59 (Ci/L)	2.255E-07	3.681E-07	3.303E-08	5.1469E-08	4.337E-09	3.744E-09	5.263E-10	1.964E-07	1.964E-07	1.964E-07	1.96E-07	5.147E-08	1.1724E-06	2.757E-06	4.617E-08	5.4213E-08	4.04837E-06	8.106E-06	0.000108336	0	4.3709E-08
Ni-63 (Ci/L)	1.979E-05	3.358E-05	2.899E-06	4.6959E-06	3.807E-07	3.416E-07	4.853E-08	1.77E-05	1.77E-05	1.77E-05	1.77E-05	4.696E-06	0.00010947	0.0002727	4.331E-06	5.386E-06	0.00039085	0.000814	0.011238755	0	4.1858E-06
Co-60 (Ci/L)	1.103E-07	3.491E-07	1.616E-08	4.8818E-08	2.122E-09	3.551E-09	5.944E-10	1.58E-07	1.58E-07	1.58E-07	1.58E-07	4.882E-08	1.6319E-06	1.196E-05	7.039E-08	2.1973E-07	1.0005E-05	4.031E-05	0.001322373	0	9.2858E-08
Se-79 (Ci/L)	1.666E-07	2.735E-07	2.44E-08	3.8242E-08	3.204E-09	2.782E-09	3.906E-10	1.456E-07	1.456E-07	1.456E-07	1.46E-07	3.824E-08	8.7758E-07	2.624E-06	3.544E-08	5.043E-08	3.02999E-06	6.274E-06	0.000108657	0	3.2699E-08
Sr-90 (Ci/L)	0.0046861	0.0085712	0.0101833	0.01777952	0.0013737	0.0013287	0.0001934	0.0112244	0.0112244	0.0112244	0.011224	0.0177795	0.07424703	0.2704324	0.0030571	0.00528379	0.283164891	0.6640349	12.54268693	0	0.00298112
Y-90 (Ci/L)	0.0046873	0.0085736	0.0101859	0.01778451	0.001374	0.001329	0.0001934	0.0112275	0.0112275	0.0112275	0.011227	0.0177845	0.07426419	0.270499	0.0030578	0.0052851	0.283229291	0.6642079	12.54605492	0	0.00298179
Zr-93 (Ci/L)	7.94E-07	1.297E-06	1.163E-07	1.8135E-07	1.527E-08	1.319E-08	1.854E-09	6.918E-07	6.918E-07	6.918E-07	6.92E-07	1.814E-07	4.1432E-06	1.258E-05	1.677E-07	2.4199E-07	1.42728E-05	2.959E-05	0.000516219	0	1.5409E-07
Nb-93m (Ci/L)	6.839E-07	1.084E-06	1.002E-07	1.5158E-07	1.315E-08	1.103E-08	1.534E-09	5.838E-07	5.838E-07	5.838E-07	5.84E-07	1.516E-07	3.3874E-06	9.494E-06	1.363E-07	1.815E-07	1.11998E-05	2.174E-05	0.000354711	0	1.223E-07
Tc-99 (Ci/L)	5.474E-06	9.003E-06	8.02E-07	1.259E-06	1.053E-07	9.158E-08	1.286E-08	4.793E-06	4.793E-06	4.793E-06	4.79E-06	1.259E-06	2.8937E-05	8.735E-05	1.17E-06	1.679E-06	9.99571E-05	0.0002074	0.003652717	0	1.0786E-06
Ru-106 (Ci/L)	2.601E-15	1.775E-13	3.81E-16	2.4828E-14	5.002E-17	1.806E-15	4.457E-16	6.574E-14	6.574E-14	6.574E-14	6.57E-14	2.483E-14	4.5585E-12	3.25E-09	4.117E-13	6.1612E-11	3.14979E-10	1.971E-08	5.31531E-06	0	1.2648E-12
Cd-113m (Ci/L)	1.614E-06	3.413E-06	2.364E-07	4.7725E-07	3.104E-08	3.471E-08	5.191E-09	1.691E-06	1.691E-06	1.691E-06	1.69E-06	4.773E-07	1.2769E-05	4.913E-05	5.235E-07	9.4873E-07	5.47268E-05	0.0001434	0.002909173	0	5.5998E-07
Sb-125 (Ci/L)	5.954E-08	3.55E-07	8.723E-09	4.9649E-08	1.145E-09	3.611E-09	6.854E-10	1.463E-07	1.463E-07	1.463E-07	1.46E-07	4.965E-08	2.3963E-06	4.627E-05	1.178E-07	9.3677E-07	2.48099E-05	0.0001811	0.008259088	0	1.968E-07
Sn-126 (Ci/L)	2.473E-07	4.139E-07	3.623E-08	5.7873E-08	4.758E-09	4.21E-09	5.89E-10	2.191E-07	2.191E-07	2.191E-07	2.19E-07	5.787E-08	1.3488E-06	3.778E-06	5.393E-08	7.1723E-08	4.69406E-06	9.674E-06	0.00016658	0	5.0584E-08
I-129 (Ci/L)	1.02E-08	1.705E-08	1.494E-09	2.3845E-09	1.961E-10	1.734E-10	2.427E-11	9.03E-09	9.03E-09	9.03E-09	9.03E-09	2.384E-09	5.5589E-08	1.648E-07	2.24E-09	3.1447E-09	1.93295E-07	4.012E-07	7.11211E-06	0	2.083E-09
Cs-134 (Ci/L)	6.37E-11	1.07E-09	1.384E-10	2.2201E-09	1.867E-11	1.659E-10	2.952E-11	1.04E-09	1.04E-09	1.04E-09	1.04E-09	2.22E-09	4.1439E-08	2.855E-06	2.47E-09	4.7642E-08	7.4769E-07	9.608E-06	0.001059462	0	5.1474E-09
Cs-137 (Ci/L)	0.0052827	0.0097595	0.0114799	0.02024437	0.0015486	0.0015129	0.0002194	0.0127437	0.0127437	0.0127437	0.012744	0.0202444	0.08539986	0.3080986	0.0035089	0.00598461	0.326563524	0.7645193	14.6717741	0	0.0034368
Ba-137m (Ci/L)	0.0049973	0.0092325	0.0108596	0.01915119	0.0014649	0.0014312	0.0002075	0.0120555	0.0120555	0.0120555	0.012055	0.0191512	0.0807903	0.2914678	0.0033195	0.00566155	0.308928306	0.7232316	13.87914391	0	0.00325121
Sm-151 (Ci/L)	0.0006295	0.0010108	9.222E-05	0.00014136	1.211E-05	1.028E-05	1.478E-06	0.0005422	0.0005422	0.0005422	0.000542	0.0001414	0.00313193	0.009242	0.0001264	0.00018095	0.010901398	0.0229536	0.354041082	0	0.00011732
Eu-152 (Ci/L)	1.435E-08	9.888E-08	2.102E-09	1.3828E-08	2.76E-10	1.006E-09	1.29E-10	4.013E-08	4.013E-08	4.013E-08	4.01E-08	1.383E-08	6.1464E-07	4.21E-06	2.692E-08	7.4685E-08	3.11772E-06	9.601E-06	0.000358857	0	3.0874E-08
Eu-154 (Ci/L)	1.483E-06	6.665E-06	2.173E-07	9.3201E-07	2.853E-08	6.779E-08	9.537E-09	2.846E-06	2.846E-06	2.846E-06	2.85E-06	9.32E-07	3.9424E-05	0.0002914	1.715E-06	5.0191E-06	0.000221323	0.000766	0.030335367	0	2.1316E-06
Eu-155 (Ci/L)	2.17E-06	6.64E-06	3.179E-07	9.2849E-07	4.174E-08	6.754E-08	1.164E-08	3.024E-06	3.024E-06	3.024E-06	3.02E-06	9.285E-07	2.9018E-05	0.0002152	1.281E-06	4.434E-06	0.000175423	0.0007151	0.017377598	0	1.6251E-06
Ra-226 (Ci/L)	7.103E-11	5.549E-11	1.041E-11	7.7603E-12	1.366E-12	5.645E-13	8.72E-14	3.972E-11	3.972E-11	3.972E-11	3.97E-11	7.76E-12	1.0783E-10	2.017E-10	4.221E-12	3.8205E-12	2.42921E-10	3.483E-10	3.94835E-09	0	2.8713E-12
Ra-228 (Ci/L)	1.954E-16	2.73E-16	2.862E-17	3.818E-17	3.758E-18	2.777E-18	3.74E-19	1.534E-16	1.534E-16	1.534E-16	1.53E-16	3.818E-17	8.1379E-16	7.386E-15	4.486E-17	1.4441E-16	2.29691E-15	5.062E-15	1.49881E-13	0	2.5846E-17
Ac-227 (Ci/L)	3.579E-10	2.871E-10	5.244E-11	4.0146E-11	6.885E-12	2.92E-12	4.601E-13	2.029E-10	2.029E-10	2.029E-10	2.03E-10	4.015E-11	5.5804E-10	9.817E-10	2.165E-11	1.8624E-11	1.2853E-09	1.902E-09	2.09157E-08	0	1.5103E-11
Pa-231 (Ci/L)	7.457E-10	6.475E-10	1.092E-10	9.0552E-11	1.434E-11	6.586E-12	1.062E-12	4.408E-10	4.408E-10	4.408E-10	4.41E-10	9.055E-11	1.3109E-09	2.655E-09	5.135E-11	5.116E-11	3.25261E-09	5.427E-09	6.65236E-08	0	3.7473E-11
Th-229 (Ci/L)	3.767E-14	5.317E-14	5.518E-15	7.4358E-15	7.246E-16	5.409E-16	7.235E-17	2.976E-14	2.976E-14	2.976E-14	2.98E-14	7.436E-15	1.5526E-13	4.551E-13	6.339E-15	8.4949E-15	4.55056E-13	7.901E-13	1.4065E-11	0	5.1112E-15
Th-232 (Ci/L)	2.46E-16	3.541E-16	3.604E-17	4.952E-17	4.732E-18	3.602E-18	4.901E-19	1.969E-16	1.969E-16	1.969E-16	1.97E-16	4.952E-17	1.0788E-15	1.049E-14	6.025E-17	2.0633E-16	3.15959E-15	7.425E-15	2.32014E-13	0	3.5201E-17
U-232 (Ci/L)	1.988E-10	4.051E-10	2.912E-11	5.6643E-11	3.823E-12	4.12E-12	5.686E-13	2.252E-12	2.252E-12	2.252E-12	2.25E-12	5.664E-11	9.5608E-12	2.367E-11	6.548E-11	1.3763E-10	2.25241E-12	1.032E-11	8.69129E-10	0	6.1045E-11
U-233 (Ci/L)	1.19E-11	1.854E-11	1.743E-12	2.5931E-12	2.289E-13	1.886E-13	2.594E-14	1.116E-13	1.116E-13	1.116E-13	1.12E-13	2.593E-12	3.6448E-13	5.486E-13	2.423E-12	4.0625E-12	7.38502E-14	2.434E-13	1.14927E-11	0	2.0484E-12
U-234 (Ci/L)	1.677E-05	1.683E-05	2.457E-06	2.354E-06	3.225E-07	1.712E-07	2.836E-08	1.194E-07	1.194E-07	1.194E-07	1.19E-07	2.354E-06	2.1761E-07	2.395E-07	1.499E-06	2.0661E-06	4.31382E-08	1.272E-07	3.07854E-06	0	1.1621E-06
U-235 (Ci/L)	7.542E-07	7.434E-07	1.105E-07	1.0396E-07	1.451E-08	7.562E-09	1.261E-09	5.314E-09	5.314E-09	5.314E-09	5.31E-09	1.04E-07	9.3628E-09	9.057E-09	6.368E-08	7.831E-08	1.84387E-09	5.306E-09	1.18268E-07	0	4.9597E-08
U-236 (Ci/L)	1.071E-07	1.725E-07	1.568E-08	2.4116E-08	2.059E-09	1.754E-09	2.472E-10	1.027E-09	1.027E-09	1.027E-09	1.03E-09	2.412E-08	3.4424E-09	1.619E-08	3.3E-08	1.3551E-07	7.34574E-10	3.47E-09	2.37033E-07	0	2.0144E-08
U-238 (Ci/L)	1.698E-05	1.711E-05	2.488E-06	2.3932E-06	3.266E-07	1.741E-07	2.878E-08	1.212E-07	1.212E-07	1.212E-07	3.17E-05	2.393E-06	2.2208E-07	1.675E-07	1.46E-06	1.4346E-06	4.41733E-08	1.238E-07	2.31429E-06	0	1.1904E-06
U-Total (M)	0.2137112	0.215368	0.0313084	0.03011711	0.0041107	0.0021906	0.0003622	0.001525	0.001525	0.001525	0.001525	0.0301171	0.00279431	0.0021122	0.0183694	0.01809325	0.000555767	0.0015585	0.029173474	0	0.01497634
Np-237 (Ci/L)	3.288E-08	5.624E-08	4.817E-09	7.865E-09	6.325E-10	5.721E-10	7.968E-11	2.958E-08	2.958E-08	2.958E-08	2.96E-08	7.865E-09	1.8782E-07	3.11E-07	8.184E-09	1.7591E-08	4.00168E-07	4.43E-07	1.1755E-05	0	7.0012E-09
Pu-238 (Ci/L)	2.48E-08	1.012E-07	3.23E-08	1.2585E-07	4.24E-08	9.154E-08	3.402E-09	3.914E-08	3.914E-08	3.914E-08	3.91E-08	1.258E-07	4.1609E-07	1.871E-06	2.16E-06	5.7512E-06	9.3335E-07	4.003E-06	0.000574381	0	2.0353E-06
Pu-239 (Ci/L)	7.766E-06	1.257E-05	1.011E-05	1.5625E-05	1.328E-05	1.137E-05	4.924E-07	5.954E-06	5.954E-06	5.954E-06	5.95E-06	1.563E-05	2.9689E-05	3.623E-05	0.0001384	0.00015972	6.09896E-05	0.0001037	0.003880955	0	0.00012994
Pu-240 (Ci/L)	4.577E-07	1.227E-06	5.96E-07	1.5258E-06	7.826E-07	1.11E-06	4.322E-08	5.108E-07	5.108E-07	5.108E-07	5.11E-07	1.526E-06	4.2495E-06	7.015E-06	1.952E-05	2.6393E-05	9.13501E-06	1.978E-05	0.001396077	0	1.9874E-05
Pu-241 (Ci/L)	2.93E-07	4.443E-06	3.816E-07	5.5229E-06	5.01E-07	4.017E-06	1.428E-07	1.539E-06	1.539E-06	1.539E-06	1.54E-06	5.523E-06	2.4996E-05	8.986E-05	0.0001192	0.00023492	6.8841E-05	0.0002849	0.039728956	0	0.00014807
Pu-242 (Ci/L)	8.953E-13	2.03E-11	1.166E-12	2.5242E-11	1.531E-12	1.836E-11	6.609E-13	6.934E-12	6.934E-12	6.934E-12	6.93E-12	2.524E-11	1.1462E-10	5.153E-10	5.059E-10	6.2034E-10	2.57096E-10	1.647E-09	2.87313E-07	0	5.655E-10
Pu-Total (g/L)	0.0001269	0.0002076	0.0001653	0.00025813	0.0002171	0.0001878	8.114E-06	9.803E-05	9.803E-05	9.803E-05	9.8E-05	0.0002581	0.00049657	0.0006148	0.0023139	0.00268801	0.001022044	0.0017583	0.069055275	0	0.00217925
Am-241 (Ci/L)	2.75E-07	3.421E-06	4.028E-08	4.7834E-07	5.289E-09	3.479E-08	4.027E-09	1.328E-06	1.328E-06	1.328E-06	1.33E-06	4.783E-07	1.4778E-05	7.123E-05	6.101E-07	1.0007E-06	5.14621E-05	0.0001787	0.012667711	0	5.1167E-07
Am-243 (Ci/L)	7.688E-13	2.473E-11	1.126E-13	3.4582E-12	1.479E-14	2.515E-13	3.273E-14	9.267E-12	9.267E-12	9.267E-12	9.27E-12	3.458E-12	1.3821E-10	3.212E-09	5.565E-12	8.0742E-12	5.13858E-10	5.482E-09	1.4168E-06	0	4.9908E-12
Cm-242 (Ci/L)	5.758E-11	1.964E-09	8.436E-12	2.7459E-10	1.108E-12	1.997E-11	2.622E-12	7.349E-10	7.349E-10	7.349E-10	7.35E-10	2.746E-10	1.4137E-08	1.993E-07	5.614E-10	7.4981E-10	6.20198E-08	2.653E-07	3.09683E-05	0	6.3682E-10
Cm-243 (Ci/L)	8.546E-13	4.045E-11	1.252E-13	5.6565E-12	1.644E-14	4.114E-13	5.648E-14	1.505E-11	1.505E-11	1.505E-11	1.5E-11	5.657E-12	3.2406E-10	2.019E-08	1.281E-11	1.7268E-11	1.57179E-09	2.038E-08	3.79048E-06	0	1.5767E-11
Cm-244 (Ci/L)	1.177E-11	5.895E-10	1.724E-12	8.2436E-11	2.263E-13	5.996E-12	8.317E-13	2.191E-10	2.191E-10	2.191E-10	2.19E-10	8.244E-11	4.9388E-09	4.071E-07	1.939E-10	2.5215E-10	2.56305E-08	4.195E-07	8.21959E-05	0	2.5318E-10

species mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3 (Ci/L)	5.3341E-06	2.46E-05	0	0	0	0	1.42E-06	1.61E-05	8.829E-05	4.996E-05	0.0009662	8.674E-05	0.0003399	0.00015	0.000149						
C-14 (Ci/L)	1.0086E-07	6.34E-07	0	0	0	0	3.62E-07	1.37E-11	6.325E-11	1.329E-05	1.652E-05	1.661E-06	7.869E-06	3.1E-05	3.12E-05						
Ni-59 (Ci/L)	2.853E-08	3.81E-08	0	0	0	0	2.42E-06	0	0	4.873E-06	3.256E-06	1.565E-06	1.585E-05	4E-06	3.97E-06						
Ni-63 (Ci/L)	2.8685E-06	4E-06	0	0	0	0	0.000237	0	0	0.0004782	0.0003377	0.0001551	0.0015602	0.00039	0.000393						
Co-60 (Ci/L)	1.4719E-07	1.55E-06	0	0	0	0	3.81E-07	0	0	1.349E-05	3.974E-05	3.737E-06	1.594E-05	3.6E-05	3.57E-05						
Se-79 (Ci/L)	2.2413E-08	8.02E-08	0	0	0	0	1.58E-06	1.12E-07	5.176E-07	3.503E-06	3.265E-06	1.127E-06	1.078E-05	3.8E-06	3.83E-06						
Sr-90 (Ci/L)	0.00238906	0.008859	0	0	0	0	0.131149	0.007655	0.0379063	0.4172755	0.0753819	0.0843213	0.3813758	0.06884	0.068843						
Y-90 (Ci/L)	0.00238967	0.008861	0	0	0	0	0.131181	0.007657	0.0379132	0.4173764	0.0754022	0.0843421	0.3814687	0.06886	0.06886						
Zr-93 (Ci/L)	1.0568E-07	3.83E-07	0	0	0	0	6.99E-06	2.91E-07	1.338E-06	1.625E-05	1.551E-05	5.068E-06	4.793E-05	1.9E-05	1.91E-05						
Nb-93m (Ci/L)	7.7199E-08	2.65E-07	0	0	0	0	5.89E-06	2.12E-07	9.246E-07	1.273E-05	1.066E-05	4.057E-06	3.957E-05	1.3E-05	1.35E-05						
Tc-99 (Ci/L)	7.4268E-07	2.69E-06	0	0	0	0	2.55E-06	1.21E-06	5.559E-06	9.352E-05	0.0001098	1.111E-05	5.317E-05	0.00022	0.00022						
Ru-106 (Ci/L)	2.4334E-10	5.88E-09	0	0	0	0	3.02E-09	3.66E-11	1.696E-09	5.247E-09	1.597E-07	1.581E-08	7.317E-08	4.6E-09	4.62E-09						
Cd-113m (Ci/L)	5.126E-07	2.28E-06	0	0	0	0	1.8E-05	5.88E-07	3.134E-06	6.273E-05	8.742E-05	1.729E-05	0.0001398	0.00011	0.000107						
Sb-125 (Ci/L)	8.0168E-07	6.52E-06	0	0	0	0	1.46E-06	1.74E-06	1.774E-05	5.059E-05	0.0002482	2.286E-05	9.401E-05	0.00015	0.000155						
Sn-126 (Ci/L)	3.432E-08	1.31E-07	0	0	0	0	2.53E-06	1.03E-07	4.755E-07	5.458E-06	5.006E-06	1.779E-06	1.713E-05	5.8E-06	5.75E-06						
I-129 (Ci/L)	1.4321E-09	5.57E-09	0	0	0	0	4.93E-09	4.42E-09	2.033E-08	1.809E-07	2.137E-07	2.162E-08	1.033E-07	4.3E-07	4.25E-07						
Cs-134 (Ci/L)	5.3168E-08	1.48E-06	0	0	0	0	1.42E-09	5.94E-08	8.083E-07	2.311E-06	1.91E-06	0	1.135E-05	4.8E-06	2.9E-07						
Cs-137 (Ci/L)	0.002749	0.010908	0	0	0	0	0.000178	0.007043	0.0347999	0.3124869	0.0264533	0	0.2053149	0.66081	0.039649						
Ba-137m (Ci/L)	0.00260053	0.010319	0	0	0	0	0.000168	0.006663	0.0329194	0.2956115	0.0250242	0	0.194224	0.62512	0.037507						
Sm-151 (Ci/L)	8.0951E-05	0.0002	0	0	0	0	0.00594	0.000108	0.0005111	0.0127946	0.010639	0.004082	0.0398761	0.01342	0.013418						
Eu-152 (Ci/L)	3.7175E-08	4.56E-07	0	0	0	0	2.04E-06	2.86E-08	1.543E-07	4.483E-06	1.078E-05	2.038E-06	1.615E-05	4.9E-06	4.94E-06						
Eu-154 (Ci/L)	2.9109E-06	4.12E-05	0	0	0	0	6.05E-05	1.88E-06	1.109E-05	0.0002887	0.0009116	0.000113	0.0006813	0.00059	0.000592						
Eu-155 (Ci/L)	2.652E-06	1.01E-05	0	0	0	0	0.000133	2.03E-06	1.447E-05	0.0002946	0.0005222	0.0001168	0.0009912	0.00029	0.000294						
Ra-226 (Ci/L)	1.4632E-12	1.75E-12	0	0	0	0	1.78E-10	4.99E-10	2.048E-09	2.828E-10	1.186E-10	1.044E-10	1.125E-09	1.3E-10	1.25E-10						
Ra-228 (Ci/L)	3.0538E-09	1.13E-16	0	0	0	0	1.29E-15	5.96E-06	2.685E-05	5.016E-11	4.504E-15	1.084E-15	9.441E-15	2.2E-09	2.15E-09						
Ac-227 (Ci/L)	5.1299E-09	9.14E-12	0	0	0	0	9.26E-10	1.03E-05	4.43E-05	1.51E-09	6.285E-10	5.448E-10	5.865E-09	7.5E-10	7.5E-10						
Pa-231 (Ci/L)	9.0219E-09	2.82E-11	0	0	0	0	1.56E-09	1.73E-05	7.97E-05	3.534E-09	1.999E-09	1.001E-09	1.019E-08	4E-09	4.03E-09						
Th-229 (Ci/L)	1.3827E-09	1.34E-14	0	0	0	0	2.34E-13	1.43E-07	5.894E-07	2.321E-11	4.227E-13	1.613E-13	1.574E-12	9.7E-11	9.72E-11						
Th-232 (Ci/L)	3.2648E-09	1.74E-16	0	0	0	0	8.61E-17	3.14E-07	1.445E-06	1.072E-10	6.972E-15	6.659E-16	2.915E-15	4.4E-10	4.45E-10						
U-232 (Ci/L)	1.4303E-07	6.48E-10	5.26E-11	9.66E-08	2.277E-06	0	9.37E-14	1.38E-06	5.381E-05	6.293E-08	2.612E-11	2.374E-12	9.524E-12	8.4E-08	8.42E-08						
U-233 (Ci/L)	5.5571E-07	7.56E-12	1.72E-12	3.83E-07	8.715E-06	0	2.46E-15	5.45E-06	0.000206	2.435E-07	3.454E-13	3.203E-14	1.334E-13	3.3E-07	3.26E-07						
U-234 (Ci/L)	7.4759E-07	1.35E-06	1.01E-06	4.94E-07	6.649E-07	0	1.34E-09	3.81E-08	1.439E-06	1.944E-07	9.251E-08	8.941E-09	3.99E-08	4.4E-07	4.37E-07						
U-235 (Ci/L)	3.0667E-08	5.07E-08	4.3E-08	2.05E-08	2.32E-08	0	5.65E-11	1.18E-13	4.454E-12	8.048E-09	3.554E-09	3.461E-10	1.563E-09	1.8E-08	1.81E-08						
U-236 (Ci/L)	2.2452E-08	1.37E-07	1.71E-08	1.34E-08	4.65E-08	0	3.12E-11	1.65E-14	6.216E-13	5.34E-09	7.123E-09	6.504E-10	2.632E-09	1.4E-08	1.37E-08						
U-238 (Ci/L)	7.0568E-07	9.42E-07	1.03E-06	4.79E-07	4.541E-07	0	1.33E-09	9.63E-22	3.64E-20	1.874E-07	6.954E-08	6.893E-09	3.197E-08	4.2E-07	4.2E-07			0	0	0	0
U-Total (M)	0.00888193	0.011878	0.012968	0.006025	0.0057276	0	1.68E-05	2.44E-06	9.235E-05	0.0023572	0.0008767	8.687E-05	0.0004028	0.00518	0.005179						
Np-237 (Ci/L)	5.5347E-09	4.18E-08	0	0	0	0	7.71E-09	1.03E-13	4.803E-13	2.928E-07	3.532E-07	3.551E-08	1.681E-07	7.5E-07	7.48E-07						
Pu-238 (Ci/L)	2.005E-06	4.82E-05	0	0	0	0	1.27E-06	1.4E-11	6.724E-11	1.856E-06	1.726E-05	2.206E-06	1.366E-05	9.9E-07	9.95E-07						
Pu-239 (Ci/L)	8.3555E-05	0.000248	0	0	0	0.00065	5.36E-05	3.98E-16	1.867E-15	7.878E-05	0.0001166	3.866E-05	0.0003667	3.2E-05	3.18E-05						
Pu-240 (Ci/L)	1.4856E-05	0.000105	0	0	0	0.00016	8.82E-06	2.13E-17	1.001E-16	1.295E-05	4.195E-05	8.387E-06	6.815E-05	5.6E-06	5.57E-06						
Pu-241 (Ci/L)	0.0001606	0.003241	0	0	0	0	9.17E-05	9.33E-17	5.081E-16	0.0001342	0.0011939	0.0001546	0.0009685	6.9E-05	6.93E-05						
Pu-242 (Ci/L)	4.5189E-10	2.58E-08	0	0	0	0	4.51E-10	1.23E-22	5.795E-22	6.571E-10	8.634E-09	1.006E-09	5.71E-09	3.8E-10	3.85E-10						
Pu-Total (g/L)	0.00141117	0.004491	0	0	0	0.01135	0.000902	8.23E-13	3.958E-12	0.000108	0.0020751	0.0006606	0.0062108	0.00031	0.000306	0	0	0	0	0	0
Am-241 (Ci/L)	6.3096E-07	2.51E-05	0	0	0	0.0007	4.48E-05	8.42E-18	3.753E-17	8.101E-05	0.0003807	5.753E-05	0.0004039	5.8E-05	5.8E-05						
Am-243 (Ci/L)	6.6644E-12	3.74E-09	0	0	0	0	1.07E-09	2.34E-23	1.101E-22	1.782E-09	4.257E-08	4.356E-09	2.115E-08	1.8E-09	1.79E-09						
Cm-242 (Ci/L)	5.3709E-10	8.72E-08	0	0	0	0	4.84E-08	0	2.671E-35	1.072E-07	9.306E-07	1.084E-07	6.141E-07	2E-07	2.03E-07						
Cm-243 (Ci/L)	1.4812E-11	1.12E-08	0	0	0	0	2.65E-09	1.47E-24	7.311E-24	6.027E-09	1.139E-07	1.154E-08	5.522E-08	1.9E-08	1.93E-08						
Cm-244 (Ci/L)	2.5357E-10	2.42E-07	0	0	0	0	6.58E-08	2.31E-23	1.195E-22	1.213E-07	2.47E-06	2.545E-07	1.248E-06	1.1E-07	1.07E-07						

species mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (Ci/L)	3E-06	5.5E-06	3E-06	5.4E-06	0.00013	0.00028	4E-05	0.00018	3.3E-05	0.00015	7.5E-05	0.00029	0.00019	0.00048	7.9E-05	0.00028			0.0099174	0	2.021E-05	0	0	0
C-14 (Ci/L)	4.4E-07	8E-07	4.5E-07	8E-07	6.9E-06	1.4E-05	7E-06	2.9E-05	6.8E-06	3.1E-05	1.1E-05	4.4E-05	2.4E-05	6.2E-05	1.2E-05	4.3E-05			0.0001221	0	2.489E-07	0	0	0
Ni-59 (Ci/L)	1.2E-07	2.2E-07	1.3E-07	2.3E-07	8E-07	1.6E-06	6E-07	2.3E-06	4.5E-07	2E-06	6.4E-07	2.4E-06	4.1E-07	1.1E-06	4.9E-07	1.7E-06			7.304E-06	0	1.488E-08	0	0	0
Ni-63 (Ci/L)	1.1E-05	2E-05	1.1E-05	2E-05	7.8E-05	0.00016	6E-05	0.00023	4.5E-05	0.0002	6.2E-05	0.00024	4E-05	0.0001	4.9E-05	0.00017			0.0008444	0	1.721E-06	0	0	0
Co-60 (Ci/L)	9.7E-08	1.8E-07	1E-07	1.8E-07	6.2E-06	1.3E-05	8E-06	3.3E-05	8.1E-06	3.7E-05	1.1E-05	4.3E-05	1.7E-05	4.4E-05	1.4E-05	4.9E-05			0.0018832	0	3.838E-06	0	0	0
Se-79 (Ci/L)	9.3E-08	1.7E-07	9.7E-08	1.7E-07	1.3E-06	2.7E-06	7E-07	3E-06	5.4E-07	2.4E-06	1E-06	4E-06	1.5E-06	3.9E-06	1E-06	3.7E-06			1.527E-05	0	3.111E-08	0	0	0
Sr-90 (Ci/L)	0.01041	0.01892	0.01128	0.02015	0.03212	0.06563	0.0251	0.10044	0.01768	0.07963	0.03313	0.12741	0.03014	0.07703	0.02783	0.09821		0	2.394098	0	0.0048787	0	0	0
Y-90 (Ci/L)	0.01041	0.01893	0.01129	0.02015	0.03213	0.06564	0.0251	0.10047	0.01768	0.07965	0.03313	0.12744	0.03014	0.07705	0.02783	0.09824			2.3947183	0	0.00488	0	0	0
Zr-93 (Ci/L)	4.4E-07	8E-07	4.6E-07	8.2E-07	6.4E-06	1.3E-05	4E-06	1.5E-05	2.6E-06	1.2E-05	5.1E-06	2E-05	7.5E-06	1.9E-05	5.2E-06	1.8E-05			7.363E-05	0	1.501E-07	0	0	0
Nb-93m (Ci/L)	3.7E-07	6.8E-07	3.9E-07	6.9E-07	4.8E-06	9.7E-06	3E-06	1.1E-05	1.9E-06	8.4E-06	3.8E-06	1.5E-05	5.5E-06	1.4E-05	3.7E-06	1.3E-05			3.109E-05	0	6.335E-08	0	0	0
Tc-99 (Ci/L)	3.1E-06	5.5E-06	3.2E-06	5.7E-06	5.4E-05	0.00011	5E-05	0.00021	4.8E-05	0.00022	8.3E-05	0.00032	0.00022	0.00055	0.0001	0.00036			0.0005101	0	1.039E-06	0	0	0
Ru-106 (Ci/L)	3.8E-14	6.9E-14	4E-14	7.2E-14	1.4E-09	2.9E-09	1E-09	5.5E-09	1.3E-09	5.7E-09	1.9E-09	7.2E-09	2.9E-09	7.4E-09	2.8E-09	9.8E-09			0.0266391	0	5.429E-05	0	0	0
Cd-113m (Ci/L)	1.1E-06	1.9E-06	1.1E-06	2E-06	2.8E-05	5.7E-05	2E-05	7.6E-05	1.5E-05	6.6E-05	2.6E-05	1E-04	3.9E-05	1E-04	2.8E-05	0.0001			0.0007947	0	1.619E-06	0	0	0
Sb-125 (Ci/L)	8.7E-08	1.6E-07	9.2E-08	1.6E-07	2.2E-05	4.5E-05	4E-05	0.00014	3.6E-05	0.00016	4.8E-05	0.00018	7.6E-05	0.00019	6.5E-05	0.00023			0.0456083	0	9.294E-05	0	0	0
Sn-126 (Ci/L)	1.4E-07	2.5E-07	1.5E-07	2.6E-07	2E-06	4.1E-06	1E-06	4.5E-06	8E-07	3.6E-06	1.6E-06	6.1E-06	2.3E-06	5.9E-06	1.6E-06	5.6E-06			2.407E-05	0	4.905E-08	0	0	0
I-129 (Ci/L)	5.7E-09	1E-08	6E-09	1.1E-08	1E-07	2.1E-07	1E-07	4E-07	9.3E-08	4.2E-07	1.6E-07	6.2E-07	4.2E-07	1.1E-06	2E-07	7E-07			1.024E-06	0	2.087E-09	0	0	0
Cs-134 (Ci/L)	6.7E-10	1.2E-09	9E-10	1.6E-09	1.2E-06	2.5E-06	7E-07	2.8E-06	3.1E-07	1.4E-06	8.2E-07	3.2E-06	2.2E-06	5.7E-06	1.6E-06	5.5E-06			0.0202372	0	4.124E-05	0	0	0
Cs-137 (Ci/L)	0.01173	0.02131	0.01273	0.02273	0.1751	0.35773	0.0713	0.28511	0.03021	0.13609	0.09321	0.3585	0.23513	0.60102	0.11199	0.39526		0	2.8262039	0	0.0057592	0	0	0
Ba-137m (Ci/L)	0.01109	0.02016	0.01204	0.0215	0.16565	0.33842	0.0674	0.26972	0.02857	0.12874	0.08818	0.33914	0.22243	0.56857	0.10594	0.37391			2.6736654	0	0.0054484	0	0	0
Sm-151 (Ci/L)	0.00035	0.00063	0.00036	0.00064	0.00463	0.00946	0.0026	0.01054	0.00186	0.0084	0.0037	0.01424	0.00541	0.01383	0.00367	0.01296			0.0528002	0	0.0001076	0	0	0
Eu-152 (Ci/L)	1.3E-08	2.4E-08	1.4E-08	2.4E-08	1.1E-06	2.2E-06	9E-07	3.7E-06	6.8E-07	3.1E-06	1.2E-06	4.5E-06	1.9E-06	4.8E-06	1.5E-06	5.3E-06			9.894E-05	0	2.016E-07	0	0	0
Eu-154 (Ci/L)	1.7E-06	3.1E-06	1.8E-06	3.2E-06	0.00015	0.0003	0.0001	0.00052	0.00011	0.00052	0.00018	0.00068	0.00027	0.00069	0.00021	0.00074			0.0140749	0	2.868E-05	0	0	0
Eu-155 (Ci/L)	1E-06	1.9E-06	1E-06	1.9E-06	5.5E-05	0.00011	6E-05	0.00022	4.1E-05	0.00019	7E-05	0.00027	0.00011	0.00028	8.8E-05	0.00031			0.0179559	0	3.659E-05	0	0	0
Ra-226 (Ci/L)	2.7E-11	4.8E-11	2.7E-11	4.9E-11	5.8E-11	1.2E-10	4E-11	1.4E-10	2.2E-11	9.9E-11	4.7E-11	1.8E-10	6.9E-11	1.8E-10	4.2E-11	1.5E-10			1.231E-10	0	2.508E-13	0	0	0
Ra-228 (Ci/L)	5.3E-17	9.7E-17	5.4E-17	9.7E-17	1.9E-09	3.9E-09	2E-08	6.2E-08	2.6E-07	1.2E-06	1.4E-08	5.5E-08	4.9E-08	1.2E-07	9.2E-08	3.3E-07			8.965E-15	0	1.827E-17	0	0	0
Ac-227 (Ci/L)	1.4E-10	2.5E-10	1.4E-10	2.5E-10	3.4E-10	6.9E-10	2E-10	8.8E-10	2.5E-10	1.1E-09	2.9E-10	1.1E-09	4.2E-10	1.1E-09	2.5E-10	8.7E-10			7.075E-10	0	1.442E-12	0	0	0
Pa-231 (Ci/L)	2.9E-10	5.3E-10	3E-10	5.4E-10	1.5E-09	3.2E-09	1E-09	3.9E-09	1.3E-09	5.9E-09	1.3E-09	5E-09	1.9E-09	4.8E-09	1.2E-09	4.1E-09			4.038E-09	0	8.228E-12	0	0	0
Th-229 (Ci/L)	1E-14	1.9E-14	1.1E-14	1.9E-14	4.6E-11	9.4E-11	4E-10	1.6E-09	6E-09	2.7E-08	3.7E-10	1.4E-09	1.2E-09	3E-09	2.1E-09	7.6E-09			1.025E-12	0	2.089E-15	0	0	0
Th-232 (Ci/L)	1.3E-16	2.3E-16	1.3E-16	2.4E-16	1.3E-10	2.6E-10	1E-09	5.7E-09	1.6E-08	7.2E-08	1.4E-09	5.3E-09	5.4E-09	1.4E-08	1.1E-08	4E-08			2.062E-14	0	4.202E-17	0	0	0
U-232 (Ci/L)	1.4E-11	2.5E-11	1.1E-11	1.9E-11	1.3E-08	2.7E-08	8E-08	3.4E-07	1.2E-06	5.4E-06	7.7E-08	3E-07	1.2E-07	3E-07	2.1E-07	7.4E-07			3.287E-10	1.29E-10	1.994E-10	0	0	0
U-233 (Ci/L)	6.5E-13	1.2E-12	5.2E-13	9.3E-13	5.1E-08	1E-07	3E-07	1.3E-06	4.6E-06	2.1E-05	3E-07	1.1E-06	4.5E-07	1.1E-06	8E-07	2.8E-06			3.371E-12	1.33E-12	2.044E-12	0	0	0
U-234 (Ci/L)	6.4E-07	1.2E-06	5.1E-07	9.1E-07	2.4E-07	4.9E-07	2E-07	8.1E-07	3.2E-07	1.5E-06	2.2E-07	8.5E-07	2.5E-07	6.4E-07	2.7E-07	9.6E-07			1.478E-06	5.82E-07	8.967E-07	0	0	0
U-235 (Ci/L)	2.8E-08	5.2E-08	2.3E-08	4.1E-08	9.8E-09	2E-08	8E-09	3.4E-08	1.2E-08	5.4E-08	9.2E-09	3.5E-08	1.1E-08	2.7E-08	1.1E-08	4E-08			5.619E-08	2.21E-08	3.408E-08	0	0	0
U-236 (Ci/L)	6E-09	1.1E-08	4.8E-09	8.6E-09	1E-08	2E-08	6E-09	2.4E-08	1.1E-08	4.8E-08	6.3E-09	2.4E-08	6.1E-09	1.5E-08	9.5E-09	3.4E-08			1.217E-07	4.79E-08	7.382E-08	0	0	0
U-238 (Ci/L)	6.5E-07	1.2E-06	5.2E-07	9.3E-07	2.1E-07	4.3E-07	2E-07	9E-07	6.8E-07	3E-06	2.9E-07	1.1E-06	3.1E-07	7.9E-07	3.6E-07	1.3E-06		0	1.015E-06	4E-07	6.156E-07	0	0	0
U-Total (M)	0.0082	0.0149	0.00655	0.01169	0.00262	0.00535	0.0024	0.00947	0.00338	0.01522	0.00262	0.01006	0.003	0.00768	0.0031	0.01093			0.0128046	0.005042	0.0077658	0	0	0
Np-237 (Ci/L)	1.9E-08	3.4E-08	2E-08	3.5E-08	2.3E-07	4.8E-07	2E-07	7.3E-07	1.6E-07	7.3E-07	3.1E-07	1.2E-06	7.9E-07	2E-06	3.6E-07	1.3E-06			7.471E-06	0	1.522E-08	0	0	0
Pu-238 (Ci/L)	4.9E-08	8.9E-08	5.1E-08	9E-08	2.8E-07	5.6E-07	3E-07	1.2E-06	3.1E-07	1.4E-06	3.9E-07	1.5E-06	3.8E-07	9.7E-07	5.3E-07	1.9E-06			6.675E-05	6.57E-06	1.36E-05	0	0	0
Pu-239 (Ci/L)	8.8E-06	1.6E-05	8.4E-06	1.5E-05	8.9E-06	1.8E-05	1E-05	4.6E-05	1.1E-05	5E-05	1.4E-05	5.5E-05	1.5E-05	3.8E-05	1.5E-05	5.3E-05		0	0.0005408	5.32E-05	0.0001102	0	0	0
Pu-240 (Ci/L)	6.8E-07	1.2E-06	6.8E-07	1.2E-06	1.5E-06	3E-06	2E-06	7.4E-06	1.9E-06	8.6E-06	2.4E-06	9.1E-06	2.3E-06	6E-06	2.5E-06	8.9E-06			0.0001643	1.62E-05	3.348E-05	0	0	0
Pu-241 (Ci/L)	1.7E-06	3.1E-06	1.9E-06	3.3E-06	1.4E-05	2.9E-05	2E-05	8E-05	2.2E-05	0.0001	2.7E-05	0.0001	2.5E-05	6.5E-05	3.7E-05	0.00013			0.0068188	0.000671	0.0013895	0	0	0
Pu-242 (Ci/L)	7.4E-12	1.3E-11	8.3E-12	1.5E-11	7.5E-11	1.5E-10	1E-10	4.3E-10	1.1E-10	4.9E-10	1.4E-10	5.5E-10	1.4E-10	3.5E-10	2.3E-10	8.1E-10			2.543E-08	2.5E-09	5.181E-09	0	0	0
Pu-Total (g/L)	0.00014	0.00026	0.00014	0.00025	0.00015	0.0003	0.0001	0.00059	0.00015	0.00065	0.00017	0.00065	0.00018	0.00046	0.00017	0.00061			0.0094978	0.000935	0.0019355	0	0	0
Am-241 (Ci/L)	7.8E-07	1.4E-06	8.2E-07	1.5E-06	2.1E-05	4.2E-05	1E-05	5.2E-05	8.2E-06	3.7E-05	2E-05	7.8E-05	5.2E-05	0.00013	2.5E-05	8.9E-05			0.0094078	0	1.917E-05	0	0	0
Am-243 (Ci/L)	5.4E-12	9.8E-12	5.7E-12	1E-11	6.6E-10	1.3E-09	4E-10	1.6E-09	2.8E-10	1.3E-09	6.4E-10	2.5E-09	1.7E-09	4.4E-09	1.3E-09	4.4E-09			1.982E-06	0	4.039E-09	0	0	0
Cm-242 (Ci/L)	2.4E-10	4.4E-10	2.2E-10	4E-10	2.2E-10	3.9E-10	2E-10	3.9E-10	2.2E-10	3.9E-10	2.2E-10	3.9E-10	2.2E-10	3.9E-10	2.2E-10	3.9E-10			8.714E-06	0	1.776E-08	0	0	0
Cm-243 (Ci/L)	5E-12	9E-12	4.5E-12	8.2E-12	4.4E-12	8E-12	4E-12	8E-12	4.4E-12	8E-12	4.4E-12	8E-12	4.4E-12	8E-12	4.4E-12	8E-12			1.46E-06	0	2.975E-09	0	0	0
Cm-244 (Ci/L)	1.3E-10	2.3E-10	1.2E-10	2.2E-10	1.3E-10	2.3E-10	1E-10	2.3E-10	1.3E-10	2.3E-10	1.3E-10	2.3E-10	1.3E-10	2.3E-10	1.3E-10	2.3E-10			3.608E-05	0	7.352E-08	0	0	0

pred. sludge mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
Na	5.0697745	6.5164622	5.2255949	5.01439088	4.1781662	1.1981562	4.2336928	14.038024	11.938696	12.93381	3.425486	2.1226386	8.1273634	4.1289118	7.8566571	1.39338893	1.829961865	4.0309078	0	6.35105301	1.99880971
Al	0	0	0.5985401	0.43373762	0	0	0	0	0	0	0	0	6.98676382	8.312774	11.208625	5.85864594	0	0		0	5.15449506
Fe(total)	0.1186683	0.1186689	0.3523645	0.33779644	0.5608225	0.7851019	0.3628683	1.5734266	0.8938827	0.9551234	0.357143	0.1061676	1.01310984	2.6862079	0.1649623	0.45717071	2.629406726	2.9608192		2.91108858	0.16496239
Cr	0.0013651	0.0009242	0.0048567	0.00497969	0.0032856	0.0051147	0.0060478	0.0014712	0.0018966	0.0016953	0	0.0018745	0.06187499	0.066804	0.0020362	0.00233522	0.006754628	0.0065102	0	0.00572124	0.00256971
Bi	0	0	0.0623952	0.05996711	0.0922391	0.0410741	0.0555499	0	0.2472245	0.2852464	0	0.212343	0	0	0	0	0	0		0	0
La	0	0	0	0	0	0	0.0033797	0	0	0	0	0	0	0	0	0	0	0		0	0
Hg	0	0	0.0001057	9.3555E-05	0	0	0	0	0	0	0	0	0	0	0.00408	0.01102047	0	0		0	0.00252643
ZrO(OH)2	0	0	0.0002391	0.00024515	0	0	0	0	0	0	0	0.0238322	0	0	0	0	0	0		0	0
Pb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.117646	0.32573641	0	0		4.2909E-05	0.11764887
Ni	0.0006826	0.0004621	0.0011955	0.00122577	0.0012516	0.0015128	0.001423	0.0007356	0.1361857	0.1294945	0.65171	0.19133	0.05068867	0.1175893	0.0010181	0.00116761	0.101799915	0.0582102		0.10179964	0.00128485
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Mn	0	0	0	0	0	0	0.0045358	0	0	0	0	0	0	0	0	0	0	0		0	0
Ca	0.0841487	0.0841512	0.0762467	0.07345915	0.1436071	0.2762064	0.2444837	0.3437898	0.2628743	0.3025548	0.794453	0.238093	0.21984533	0.5077558	0.1207463	0.32211151	0.421351414	0.2431486		0.43397869	0.12051144
K	0.0003012		0.0067247	0.00693326	0.0051091	0.0034905	0.2053583	0.0072439	0.0098124	0.008771	0.010546	0.0039364	0.01122511	0.0118237	0.001536	0.00268336	0.002651191	0.0045897		0.0105235	0.0012622
balance	**3.553E-15**	**-0.000204**	**0**	**-1.776E-15**	**0**	**0**	**1.776E-15**	**7.105E-15**	**1.776E-15**	**3.553E-15**	**0**	**0**	**-7.1054E-15**	**-7.105E-15**	**-1.421E-14**	**0**	**0**	**0**		**3.5527E-15**	**3.5527E-15**
density	1.6849243	1.6849243	1.3807944	1.35551601	1.252881	1.12481	1.2076713	1.7729758	1.7190207	1.7733832	1.345199	1.4240186	1.75630211	1.7450189	1.7712369	1.65601765	1.264760796	1.3447215		1.49699	1.42856209
vol%solids	12	12	13.7	14.2943561	6.8	3.4	3.8795181	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9		2.2	8.1
void frac.	0.3956569	0.2632894	0.7183619	0.73734299	0.7700472	0.9436953	0.8854288	0.4527128	0.5835467	0.5216694	0.900124	0.9342765	0.53613647	0.5865419	0.6508536	0.76288382	0.841382091	0.8076671		0.71060168	0.8339275
wt.% H2O	46.976552	45.908092	64.021331	65.6150763	71.304542	81.387814	68.589814	22.05307	30.448	26.336618	67.88639	69.562924	26.9847709	31.686392	24.541498	47.9490656	67.18289191	61.490962		40.1697777	57.3634813
TOC wt.%C	0	0	0	0	0	0	2.1101669	0.0001134	0.5660042	0.3171903	1.91156	0.5266785	0	0	0	0	0	0		0	0
free OH-	0.0144296	0.0096318	0.0135209	0.01388891	0.0457877	0.0715174	0.0185409	0.005084	0.0110259	0.0098555	0.029516	0.1288273	1.04802308	1.1475502	0.0233102	0.02422273	0.156782729	0.155677		0.03757356	0.03004673
OH-	10.868112	10.95013	4.0648671	3.42679848	1.7389257	2.4211607	1.1018331	4.7226473	2.2837667	2.7385816	0.615409	3.6505222	25.6017493	34.955239	41.724657	23.0390227	8.240525332	9.1468013		8.96761667	17.748179
NO3-	0.0737712	0.048853	1.035494	0.98611358	0.9484838	0.6426202	1.2254577	13.380701	9.516474	10.806488	0.013535	0.1233917	5.28599585	1.502E-13	0.5724934	0.6513829	2.20061E-15	6.174E-17		6.00636695	0.55854344
NO2-	0.0050377	0.0045041	0.2358366	0.29905185	0.0222035	0.012465	0.0032043	0.1518806	1.4281392	1.3024767	2.259485	0.5459803	1.45809304	1.5825815	0.9577779	0.24423683	0.379348939	0.5874702		0.00715155	0.67862892
CO3--	1.8883794	2.6537987	0.0762467	0.07345915	0.1436071	0.2762064	0.2444837	0.4272919	0.2628743	0.3025548	0.795354	0.2305986	0.21984533	0.5077558	0.1207463	0.32211151	0.421351414	0.2431486		0.43397869	0.12051144
PO4---	0.4001245	0.4001665	1.1510079	1.10938642	1.0165726	0.1405532	0.0840101	0.0597686	0.3242728	0.3541176	0.11718	0.4388824	0	0	0	0	0	0		0.06865487	0
SO4--	0.0902673	0.0611149	0.0520046	0.05332102	0.0388011	0.0253878	0.0026681	0.0651018	0.1084603	0.0969495	0.014422	0.0187448	0.01040376	0.0177356	0.0083858	0.00961744	0.036817787	0.1292171		0.04009158	0.01058314
SiO3--	0.0017064	0.0011553	0.2235963	0.16674372	0.0780281	0.0184036	0	0	0.060825	0.0651698	0	0.1171761	0.0080555	0.4765419	0.0200939	0	0.620903561	1.5238487		0	0.01690597
F-	0	0	0.1389777	0.14249582	0.1721015	0.109427	1.0102633	0	0.1244626	0.1112535	0	0.2136892	0	0	0	0	0	0		0	0
Cl-	0.0013854	0.000938	0.0309337	0.03189302	0.0235017	0.0160565	0.0237287	0.0438966	0.045137	0.0403467	0.048512	0.0181073	0.0516355	0.0543891	0.0070655	0.01234344	0.01219548	0.0211125		0.04840812	0.00580612
C6H5O7---	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
EDTA----	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
HEDTA---	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
glycolate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
acetate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
oxalate--	0	0	0	0	0	0	1.0618284	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0	1.396E-05	0	0	0	0	0	0	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0	1.396E-05	0	0	0	0	0	0	0	0	0	0	0	0	0
NH3	1.139E-06	6.263E-07	0.0793968	0.05969154	5.898E-06	3.893E-06	1.226E-07	0.0004342	0.2755529	0.2944491	0.233614	0.0192388	0.25552861	0.4676618	0.0002048	8.8939E-05	0.170280674	0.2701257		0	0.00021237
Fe(CN)6----									0.1351351	0.078125	0.357143	0.1041667									

pred. sludge mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
Na	1.23649768	5.549105	0.416515	0.735973	0.9877141	1.96822	1.825852	3.384026	3.384026	5.6487422	2.9693361	7.0004598	6.4641386		9.762988	10.67	0	0.3	12.92574	0.99599	1.31066
Al	5.85876707	0	0	0	0	11.0084	0	0.707073	0.7070727	0.0710806	1.2273297	3.0567695	0		0.290101	0.08	1.82	0	2.2875	0	0
Fe(total)	0.45717071	0.127714	6.335325	3.456541	6.3353249	1.68461	5.668662	1.088206	1.0882061	1.3018016	1.0019897	2.2078745	1.2771991		0.003519	0.09	0.53	0	0	4.00143	4.00143
Cr	0.00233581	0.002646	0.005029	0.006433	0.0050152	0.00522	0.006595	0.007507	0.0075073	0.0141951	0.0016927	1.34E-07	0		0.035859	0	0	0	0	0.80574	0.80574
Bi	0	0	0	0	0	0	0	0	0	9.639E-06	0	0	0		7.8E-05	0	0	0	0	0	0
La	0	0	0	0	0	0	0	0	0	0	0	0	0		9.35E-10	0	0	0	0	0	0
Hg	0.00591285	0.002001	0	0	0	0	0	0	0	3.022E-07	0	0	0		8.12E-07	0	0	0	0	0	0
ZrO(OH)2	0	0.926809	0	0	0	0	0	0	0	3.807E-08	0	0	0		1.02E-05	0	0	0	0	0	0
Pb	0.32573641	0	0	0	0	0	0.151596	0	0	4.944E-05	8.463E-07	0	0		0.000108	0	0	0	0	0	0
Ni	0.00116791	0.001323	0.368466	0.201789	0.3684656	0.09745	0.185128	0.039731	0.0397309	0.1390099	0.0417993	1.2076821	0		0.30728	0	0	0	0	0.40129	0.40129
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Mn	0	0	0	0.28167	0.000553	0	0	0	0	0.0022136	0	0	0		0.002476	0	0	0.001	0	0	0
Ca	0.32128393	0.094967	1.512385	0.830211	1.5269453	0.41334	0.004039	0.169818	0.1698184	0.1101091	0.2220317	0.2033992	0.1367644		1.55479	0.08	20.9	0	0	0.91029	0.91029
K	0.00191568	0.192555	0.000629	0.010855	0.0034618	0.00702	0.073109	0.026079	0.0260786	0.0063663	0.0023376	0.0090236	0.0116647		0.015293	0	0	0.001	0.015238	0.00049	0.00049
balance	**7.1054E-15**	**0**	**1.42E-14**	**1.78E-15**	**-7.105E-15**	**-1E-14**	**3.55E-15**	**-3.55E-15**	**-1.78E-15**	**-1.78E-15**	**0**	**3.553E-15**	**0**		**0.000703**	**0**	**-7.1E-15**	**-0**	**7.11E-15**	**0**	**0**
density	1.51811445	1.293341	2.169383	1.41337	1.6949876	1.72313	1.447279	1.249538	1.2495308	1.3020237	1.2440379	1.6163001	1.3220813		1.573295	0.39	1.9	1.019	1.639284	1.48805	1.50001
vol%solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6		1	100	100	13.6	80	1	1
void frac.	0.763081	0.857291	0.627201	0.802358	0.6254872	0.54965	0.822567	0.934873	0.9348735	0.8305506	0.8456962	0.6682915	0.8572863		0.643658			1	0.8	0.71521	0.71521
wt.% H2O	51.2852021	64.17858	35.00573	55.7651	38.752658	28.6062	43.56753	64.56174	64.674362	69.194964	72.392179	45.120992	60.49301		57.74149	-6	8	94.73	43.11462	52.5153	51.7543
TOC wt.%C	0	0	0.252915	0.190828	0.0985723	0	1.407969	0.020293	0.089747	0	0.0489833	0.24367	3.9834985		0.166283			0	0	0	0
free OH-	0.02445662	0.214235	0.040561	0.05263	0.0551265	0.16346	0.097331	0.023816	0.0243219	0.0932621	0.1583204	0.8513861	0.1493192		0.829111	0	0	-0.49	0.527619	0.03699	0.03699
OH-	21.123731	4.746754	28.75486	13.02502	21.528604	38.571	17.76624	5.776867	5.7773728	4.5001437	6.9870882	19.228683	3.9603394		3.317448	0	34.73	-0.49	9.485119	15.237	15.237
NO3-	0.51676956	0.25675	0.14461	0.303608	0.5910768	1.42697	2.34E-08	2.442128	1.8613325	1.624E-09	2.003E-07	8.757E-06	3.881E-07		0.920534	0	0	0.8	2.790857	0.11241	0.11241
NO2-	0.22437161	0.022053	0.006286	0.008041	0.006269	0.00778	0.897266	0.152084	0.7328794	0.6401918	0.238581	0.592176	0.557768		0.702002	0	0	0	4.2375	0.01721	0.01004
CO3--	0.32128393	0.094967	1.639349	1.053067	1.7062364	0.51425	0.004039	0.169818	0.1698184	0.2237895	0.2220317	0.3773312	0.3412785		1.6949	0	0	0	1.15	0.90526	0.90526
PO4---	0	0	0	0	0	7.8E-05	0	0.084458	0.0844576	0.0194941	0	0.006698	0		0.008797	0	0	0	0.095238	0	0.10728
SO4--	0.00961987	0.001323	0.002514	0.003216	0.0025076	0.00378	0.055559	0.050675	0.0506746	0.0679373	0.0135424	0.0294713	0.0877689		0.082974	0	0.69	0	0.028571	0.43087	0.43087
SiO3--	0	0	0	0	0	0	0	0	0	2.2684891	1.2319322	2.3828752	1.8021432		3.295325	5.67	6.37	0	0	0	0
F-	0	5.287607	0	0	0	0	0	0.11261	0.1126102	0.0003233	0	0	0		0.00343	0	0	0	0.057143	0	0
Cl-	0.00881211	0.004977	0.002892	0.005548	0.0133805	0.04951	0.040535	0.059528	0.0595276	0.0157973	0.010753	0.0415085	0.0536574		0.053937	0	0	0	0.59	0.00228	0.00228
C6H5O7---	0	0	0	0	0	0	0.032973	0	0	0	0.0084635	0.010047	0		0.01805	0	0	0	0	0	0
EDTA----	0	0	0	0	0	0	0.065946	0	0	0	0	0	0.1290719		0.000323	0	0	0	0	0	0
HEDTA---	0	0	0	0	0	0	0	0	0	0	0	0	0.2581438		0.000654	0	0	0	0	0	0
													0		0	0					
glycolate-	0	0	0	0	0	0	0	0	0	0	0	0.1339605	0.2581438		0.004143	0	0	0	0	0	0
acetate-	0	0	0	0	0	0	0.420404	0	0	0	0	0	0		0	0	0	0	0	0	0
oxalate--	0	0	0	0	0	0	0	0	0	0	0	0	0		1.22E-09	0	0	0	0	0	0
DBP	0	0	0.038102	0.01873	0.0116027	0	0	0.001761	0.0077876	0	0	0	2.612E-05		0.011457	0	0	0			
butanol	0	0	0.038102	0.01873	0.0116027	0	0	0.001761	0.0077876	0	0	0	2.612E-05			0	0	0	0	0	0
NH3	3.2038E-05	0.660131	0	0	0	0	0.251739	0.000134	0.0053168	0.2016717	0.0570729	0.0922607	0.1338452		0.020627	0	0	0	0	0	0
Fe(CN)6----																					

pred. sludge mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
Na		12.6317		14.0795		13.4656		13.7008		13.0952		18.5999		22.5062		19.1704		0	5.1695149	0.570121	5.501547	0	0	0.04705
Al		0.01575		0.00905		3.39241		1.08484		2.11323		2.2929		2.86381		2.22361		0	0.8618074	0	0			0
Fe(total)		0.11741		0.12604		0.0174		0.01816		0.02188		0.01789		0.00367		0.01547		0	2.9608192	1.901998	0.3639043			1.33532
Cr		0.00549		0.00431		0.82192		0.13385		0.05499		0.2807		0.13601		0.13945		0	0	0.007121	0	0	0	0
Bi		0.01797		0.01506		6.9E-06		0.00173		0.0009		0.00128		0.00581		0.00714		0	0	0	0			0
La		0		0		1.7E-11		1.6E-09		2E-06		1E-05		1.7E-05		6.3E-06		0	0	0	0			0
Hg		2E-05		5.2E-06		1.1E-06		9.2E-06		3.6E-05		9.5E-06		2.5E-05		4.2E-05		0	0	0	0.0020973			0
ZrO(OH)2		0.00015		0.00037		6.9E-07		0.00026		3.4E-05		0.00018		0.00065		0.00218		0	0	0	0.926809			0
Pb		0		0		0.00017		0.00087		0.00567		0.00098		0.00223		0.00105		0	0	3.87E-05	0			0
Ni		0.00838		0.01176		0.0151		0.01129		0.01352		0.01074		0.00362		0.01021		0	0	0.1118	0			0
Sr		0		0		0		0		0		0		0		0		0	0	0	0			0
Mn		0		0		5E-05		0.00477		0.00324		0.00591		0.0024		0.00549		0	0	0.005341	0			0
Ca		0.07103		0.09201		0.07678		0.0596		0.07286		0.05597		0.01952		0.05659		0	0.246447	0.459838	0.0949112			1.50919
K		0.01507		0.01204		0.032		0.04433		0.03984		0.0598		0.13131		0.10596		0	0.008751	0.006098	0.1909194			0.00016
balance		**0**		**0**		**1.3E-05**		**0.00054**		**0.00078**		**0.00085**		**0.00176**		**0.00072**		**0**	**3.553E-15**	**8.88E-16**	**0**			**-9E-16**
density		1.6466		1.74204		1.71243		1.63402		1.63022		1.8547		1.95447		1.89509		0.5	1.5087251	1.204113	1.2912258			1.217
vol%solids		17.6828		11.4457		13.8204		55.3855		48.966		55.1726		99		45.5227		90	3.9	2	10.5			0.6
void frac.		0.60412		0.52453		0.78481		0.7826		0.77425		0.65085		0.52092		0.50021		0.5	0.7889973	0.888181	0.8503106			0.78419
wt.% H2O		40.2657		37.7268		34.7395		37.7999		36.2831		25.485		21.4265		22.8082		100	54.973013	73.45017	63.068895			75.4752
TOC wt.%C		0.00017		0.00013		0.00525		0.51907		0.44646		0.61305		1.33473		0.77877		0	0	0.036272	0			0
free OH-		0.06664		0.06822		2.80362		1.80253		1.07723		3.073		5.69444		1.91932		0	1.1328365	0.033404	0.0958066			0.01256
OH-		0.87235		0.9154		18.6951		6.54372		9.76721		13.0921		17.475		11.3002		0	14.207149	6.269785	5.1024111			4.01383
NO3-		8.67968		9.37684		5.2526		7.06837		6.54144		7.6917		5.33663		8.04445		0	1.291E-14	0.228677	0.331624			0.05199
NO2-		0.23846		0.20927		1.87081		1.63745		1.67076		3.3225		4.19954		3.0968		0	0.4912706	0.008902	0.0091855			0
CO3--		0.18822		0.19833		0.08174		0.46542		0.50504		0.51339		0.71191		0.60915		0	0.246447	0.550618	0.0949112			1.50251
PO4---		0.99101		1.29528		0.00044		0.13262		0.06862		0.10373		0.3434		0.42023		0	0	0.061882	0			0
SO4--		0.13076		0.10835		0.04043		0.23514		0.19301		0.24596		0.60779		0.4106		0	0.1072298	0.003599	0			0
SiO3--		0.04104		0.0178		0.13003		0.10574		0.0766		0.12346		0.07488		0.17313		0	1.5238487	0	0			0
F-		0.10243		0.08692		0.00035		0.08005		0.05568		0.05968		0.12234		0.11379		0	0.0238663	0	5.2876067			0
Cl-		0.08413		0.06768		0.13344		0.15348		0.13159		0.15208		0.13493		0.11542		0	0.0402545	0.003481	0.0039739			0.00072
C6H5O7---		0		0		0.00037		0.01736		0.02391		0.0265		0.05563		0.02428		0	0	0	0			0
EDTA----		0		0		1.4E-05		0.01053		0.00537		0.0137		0.03362		0.02299		0	0	0	0			0
HEDTA---		0		0		1.2E-05		0.02045		0.00072		0.02591		0.06302		0.0407		0	0	0	0			0
glycolate-		0		0		0.00052		0.0625		0.01683		0.08149		0.18119		0.08668		0	0	0	0			0
acetate-		0		0		5.4E-05		0.00198		0.03193		0.00478		0.01353		0.01684		0	0	0	0			0
oxalate--		0		0		2.2E-11		9.4E-10		2.7E-06		1.3E-05		2.2E-05		8.3E-06		0	0	0	0			0
DBP		2E-05		1.6E-05		0.00032		0.01366		0.02539		0.01832		0.04035		0.02003		0	0	0.003033	0			0
butanol		2E-05		1.6E-05		0.00032		0.01366		0.02539		0.01832		0.04035		0.02003		0	0	0.003033	0			0
NH3		0.05149		0.03766		0.03604		0.02729		0.01346		0.02623		0.08399		0.14371		0	0.198526	0	0.6547401			0.03921
Fe(CN)6----																								

pred. sludge mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3 (Ci/L)	9.494E-07	1.42E-06	3.387E-07	7.1961E-07	3.794E-08	3.173E-08	5.315E-09	2.297E-06	2.948E-06	2.637E-06	3.46E-06	5.371E-07	2.9242E-05	0.0001471	1.011E-06	1.2473E-06	2.84927E-05	0.0001277		0	9.0361E-07
C-14 (Ci/L)	2.726E-06	5.366E-06	8.662E-08	1.3876E-07	1.191E-08	1.246E-08	1.647E-09	3.175E-07	4.092E-07	3.658E-07	6.22E-07	1.697E-07	2.2636E-06	6.328E-06	1.091E-07	1.4712E-07	1.2067E-05	2.38E-05		0	1.304E-07
Ni-59 (Ci/L)	9.618E-08	1.063E-07	2.468E-08	3.9431E-08	3.392E-09	3.54E-09	4.681E-10	9.028E-08	3.467E-06	3.998E-06	1.15E-05	8.886E-07	1.4857E-05	8.105E-05	3.093E-08	4.1645E-08	0.000103031	0.000118		0	3.6947E-08
Ni-63 (Ci/L)	8.443E-06	9.699E-06	2.166E-06	3.5976E-06	2.978E-07	3.23E-07	4.316E-08	8.14E-06	0.0003126	0.0003605	0.00104	8.107E-05	0.00138724	0.0080177	2.901E-06	4.1374E-06	0.009947116	0.0118457		0	3.5382E-06
Co-60 (Ci/L)	4.706E-08	1.008E-07	1.208E-08	3.74E-08	1.66E-09	3.357E-09	5.286E-10	7.264E-08	9.364E-08	8.37E-08	1.42E-07	4.575E-08	8.9359E-07	7.071E-06	4.714E-08	1.6879E-07	8.44751E-06	3.28E-05		0	7.8492E-08
Se-79 (Ci/L)	7.105E-08	7.898E-08	1.823E-08	2.9298E-08	2.506E-09	2.63E-09	3.474E-10	6.696E-08	8.632E-08	7.716E-08	1.31E-07	3.584E-08	4.8053E-07	3.485E-05	2.374E-08	3.8738E-08	4.88178E-05	0.0001116		0	2.7641E-08
Sr-90 (Ci/L)	0.0019991	0.0024756	0.0076089	0.01362101	0.0010746	0.0012563	0.000172	0.0051605	0.2974283	0.3438665	0.785911	0.2112223	0.92837431	12.477809	0.0020476	0.00405883	11.35967524	16.18874		0	0.00251994
Y-90 (Ci/L)	0.0019996	0.0024763	0.0076108	0.01362483	0.0010749	0.0012566	0.000172	0.0051619	0.2975096	0.3439605	0.786126	0.2112816	0.92858886	12.480881	0.0020481	0.00405983	11.36225877	16.192957		0	0.0025205
Zr-93 (Ci/L)	3.387E-07	3.746E-07	8.691E-08	1.3893E-07	1.195E-08	1.247E-08	1.649E-09	3.181E-07	4.1E-07	3.665E-07	6.24E-07	1.7E-07	2.2687E-06	0.0001457	1.123E-07	1.8589E-07	0.000204216	0.0005124		0	1.3025E-07
(Ci/L)	2.917E-07	3.131E-07	7.486E-08	1.1613E-07	1.029E-08	1.042E-08	1.364E-09	2.684E-07	3.46E-07	3.093E-07	5.26E-07	1.421E-07	1.8548E-06	0.0001382	9.126E-08	1.3943E-07	0.000197898	0.0003849		0	1.0338E-07
Tc-99 (Ci/L)	2.335E-06	2.6E-06	5.992E-07	9.6454E-07	8.237E-08	8.659E-08	1.143E-08	2.203E-06	2.84E-06	2.539E-06	4.32E-06	1.18E-06	1.5845E-05	5.164E-05	7.835E-07	1.2898E-06	8.43966E-05	0.0001688		0	9.117E-07
Ru-106 (Ci/L)	1.109E-15	5.128E-14	2.847E-16	1.9021E-14	3.913E-17	1.707E-15	3.964E-16	3.022E-14	3.896E-14	3.483E-14	5.93E-14	2.327E-14	2.4961E-12	1.922E-09	2.757E-13	4.7328E-11	2.65946E-10	3.822E-07		0	1.0691E-12
Cd-113m (Ci/L)	6.883E-07	9.857E-07	1.766E-07	3.6563E-07	2.428E-08	3.282E-08	4.617E-09	7.773E-07	1.002E-06	8.957E-07	1.52E-06	4.473E-07	6.992E-06	2.905E-05	3.507E-07	7.2878E-07	4.62074E-05	0.0021979		0	4.7335E-07
Sb-125 (Ci/L)	2.54E-08	1.025E-07	6.518E-09	3.8036E-08	8.959E-10	3.415E-09	6.095E-10	6.726E-08	8.671E-08	7.75E-08	1.32E-07	4.653E-08	1.3121E-06	2.735E-05	7.891E-08	7.1959E-07	2.09477E-05	0.0001474		0	1.6635E-07
Sn-126 (Ci/L)	1.055E-07	1.195E-07	2.707E-08	4.4337E-08	3.722E-09	3.98E-09	5.238E-10	1.007E-07	1.299E-07	1.161E-07	1.98E-07	5.424E-08	7.3857E-07	4.394E-05	3.613E-08	5.5095E-08	8.00027E-05	0.0001741		0	4.2759E-08
I-129 (Ci/L)	4.349E-09	4.925E-09	1.116E-09	1.8268E-09	1.534E-10	1.64E-10	2.158E-11	4.151E-09	5.352E-09	4.784E-09	8.14E-09	2.235E-09	3.0439E-08	9.743E-08	1.5E-09	2.4156E-09	1.63205E-07	3.265E-07		0	1.7608E-09
Cs-134 (Ci/L)	2.718E-11	3.091E-10	1.034E-10	1.7008E-09	1.461E-11	1.569E-10	2.626E-11	8.447E-10	2.728E-08	3.154E-08	7.21E-08	2.637E-08	2.7181E-08	2.431E-06	1.654E-09	3.6597E-08	6.31296E-07	7.818E-06		0	4.3511E-09
Cs-137 (Ci/L)	0.0022536	0.0028188	0.0085777	0.01550934	0.0012114	0.0014304	0.0001951	0.0103518	0.334319	0.3864969	0.883303	0.2405049	0.05601715	0.2623114	0.0023503	0.00459717	0.275726876	0.6221438		0	0.00290512
Ba-137m (Ci/L)	0.0021318	0.0026665	0.0081142	0.01467185	0.001146	0.0013532	0.0001846	0.0097927	0.3162627	0.3656225	0.835597	0.2275178	0.05299355	0.2481522	0.0022234	0.00434901	0.260836959	0.588545		0	0.00274824
Sm-151 (Ci/L)	0.0002685	0.000292	6.891E-05	0.00010829	9.472E-06	9.722E-06	1.314E-06	0.0002493	0.0003213	0.0002872	0.000489	0.0001325	0.00171494	0.1250003	8.467E-05	0.000139	0.184335943	0.4160676		0	9.9169E-05
Eu-152 (Ci/L)	6.285E-08	4.263E-07	8.458E-09	5.3664E-08	2.138E-09	1.527E-08	1.72E-09	7.259E-07	5.543E-07	6.377E-07	1.45E-06	1.505E-07	6.9977E-06	0.000112	1.752E-07	1.3164E-06	7.21735E-05	0.000127		0	2.0363E-07
Eu-154 (Ci/L)	6.328E-07	1.925E-06	1.624E-07	7.1402E-07	2.232E-08	6.41E-08	8.482E-09	1.309E-06	1.687E-06	1.508E-06	2.57E-06	8.735E-07	2.1587E-05	0.0001723	1.148E-06	3.8555E-06	0.000186869	0.0073212		0	1.8019E-06
Eu-155 (Ci/L)	9.504E-06	2.862E-05	1.279E-06	3.6034E-06	3.232E-07	1.025E-06	1.552E-07	5.47E-05	4.177E-05	4.806E-05	0.000109	1.011E-05	0.00033037	0.0057264	8.335E-06	7.8152E-05	0.004060937	0.0094587		0	1.0718E-05
Ra-226 (Ci/L)	1.373E-10	1.603E-11	7.775E-12	5.9452E-12	1.069E-12	5.337E-13	7.756E-14	1.826E-11	2.354E-11	2.105E-11	3.58E-11	7.273E-12	1.0804E-09	7.414E-09	2.827E-12	2.9348E-12	8.28567E-09	7.403E-09		0	2.4271E-12
Ra-228 (Ci/L)	8.557E-16	1.177E-15	1.151E-16	1.4818E-16	2.91E-17	4.215E-17	4.987E-18	2.774E-15	2.118E-15	2.437E-15	5.55E-15	4.156E-16	9.2649E-15	1.965E-13	2.92E-16	2.5452E-15	5.31723E-14	6.696E-14		0	1.7046E-16
Ac-227 (Ci/L)	3.431E-10	8.292E-11	3.918E-11	3.0756E-11	5.386E-12	2.761E-12	4.092E-13	9.329E-11	1.203E-10	1.075E-10	1.83E-10	3.763E-11	4.7609E-09	3.308E-08	1.45E-11	1.4306E-11	4.2419E-08	3.991E-08		0	1.2766E-11
Pa-231 (Ci/L)	3.181E-10	1.87E-10	8.162E-11	6.9372E-11	1.122E-11	6.228E-12	9.444E-13	2.027E-10	2.613E-10	2.335E-10	3.97E-10	8.487E-11	7.1783E-10	3.649E-08	3.439E-11	3.9299E-11	5.89366E-08	8.987E-08		0	3.1676E-11
Th-229 (Ci/L)	1.65E-13	2.292E-13	2.22E-14	2.8858E-14	5.611E-15	8.209E-15	9.646E-16	5.383E-13	4.11E-13	4.729E-13	1.08E-12	8.094E-14	1.7676E-12	1.211E-11	4.125E-14	1.4973E-13	1.05343E-11	1.045E-11		0	3.3711E-14
Th-232 (Ci/L)	1.049E-16	1.023E-16	2.693E-17	3.7938E-17	3.701E-18	3.406E-18	4.358E-19	9.052E-17	1.167E-16	1.043E-16	1.77E-16	4.641E-17	5.9073E-16	6.203E-15	4.035E-17	1.5849E-16	2.66773E-15	6.042E-15		0	2.9756E-17
U-232 (Ci/L)	1.629E-09	3.32E-09	1.891E-10	3.5116E-10	5.235E-12	3.896E-12	5.057E-13	1.035E-12	1.334E-12	1.193E-12	2.03E-12	1.031E-09	5.2352E-12	1.399E-11	6.466E-10	3.727E-09	1.90177E-12	8.397E-12		0	5.6866E-10
U-233 (Ci/L)	9.752E-11	1.52E-10	1.132E-11	1.6076E-11	3.134E-13	1.783E-13	2.307E-14	5.129E-14	6.612E-14	5.911E-14	1.01E-13	4.719E-11	1.9958E-13	3.243E-13	2.393E-11	1.1001E-10	6.23538E-14	1.98E-13		0	1.9082E-11
U-234 (Ci/L)	0.0001374	0.000138	1.595E-05	1.4593E-05	4.416E-07	1.619E-07	2.522E-08	5.489E-08	7.076E-08	6.325E-08	1.08E-07	4.284E-05	1.1916E-07	1.416E-07	1.48E-05	5.5952E-05	3.64228E-08	1.035E-07		0	1.0825E-05
U-235 (Ci/L)	6.181E-06	6.094E-06	7.176E-07	6.4451E-07	1.986E-08	7.15E-09	1.122E-09	2.443E-09	3.15E-09	2.815E-09	4.79E-09	1.892E-06	5.1267E-09	5.354E-09	6.288E-07	2.1207E-06	1.55683E-09	4.318E-09		0	4.6202E-07
U-236 (Ci/L)	8.775E-07	1.414E-06	1.019E-07	1.495E-07	2.82E-09	1.659E-09	2.199E-10	4.72E-10	6.085E-10	5.439E-10	9.25E-10	4.389E-07	1.8849E-09	9.569E-09	3.259E-07	3.6696E-06	6.20222E-10	2.824E-09		0	1.8765E-07
U-238 (Ci/L)	0.0001392	0.0001403	1.616E-05	1.4837E-05	4.472E-07	1.646E-07	2.56E-08	5.571E-08	7.182E-08	6.419E-08	2.86E-05	4.355E-05	1.2161E-07	9.902E-08	1.441E-05	3.8849E-05	3.72968E-08	1.008E-07		0	1.1089E-05
U-Total (M)	1.7515913	1.7653984	0.203331	0.18670925	0.0056287	0.0020713	0.0003222	0.0007011	0.0009038	0.0008079	0.001375	0.5481065	0.00153007	0.0012487	0.1814003	0.48997397	0.00046925	0.0012683	0.648633272	0	0.13951033
Np-237 (Ci/L)	1.403E-08	1.624E-08	3.599E-09	6.0254E-09	4.948E-10	5.409E-10	7.087E-11	1.36E-08	1.753E-08	1.567E-08	2.67E-08	7.371E-09	1.0285E-07	1.839E-07	5.482E-09	1.3513E-08	3.37873E-07	3.605E-07		0	5.9181E-09
Pu-238 (Ci/L)	1.058E-08	3.145E-07	5.358E-08	4.4768E-07	2.273E-07	6.422E-07	3.025E-09	1.8E-08	2.32E-08	2.074E-08	3.53E-08	1.191E-06	6.6145E-06	7.524E-05	2.51E-05	0.00018771	3.64167E-05	9.433E-05		0	2.3559E-05
Pu-239 (Ci/L)	3.313E-06	3.905E-05	1.678E-05	5.5585E-05	7.117E-05	7.974E-05	4.38E-07	2.737E-06	3.529E-06	3.154E-06	5.37E-06	0.0001479	0.00047197	0.0014566	0.0016084	0.00521297	0.00237964	0.0024435		0	0.00150402
Pu-240 (Ci/L)	1.952E-07	3.813E-06	9.889E-07	5.4279E-06	4.194E-06	7.787E-06	3.844E-08	2.349E-07	3.028E-07	2.706E-07	4.6E-07	1.444E-05	6.7555E-05	0.000282	0.0002269	0.00086146	0.000356422	0.0004663		0	0.00023004
Pu-241 (Ci/L)	1.25E-07	1.38E-05	6.331E-07	1.9647E-05	2.685E-06	2.819E-05	1.27E-07	7.077E-07	9.123E-07	8.155E-07	1.39E-06	5.228E-05	0.00039737	0.0036126	0.0013855	0.00766744	0.002685983	0.0067142		0	0.00171391
Pu-242 (Ci/L)	3.819E-13	6.309E-11	1.935E-12	8.9798E-11	8.205E-12	1.288E-10	5.878E-13	3.188E-12	4.109E-12	3.673E-12	6.25E-12	2.389E-10	1.8221E-09	2.072E-08	5.878E-09	2.0247E-08	1.00312E-08	3.883E-08		0	6.5457E-09
Pu-Total (g/L)	5.415E-05	0.0006452	0.0002743	0.00091828	0.0011634	0.0013174	7.216E-06	4.507E-05	5.81E-05	5.194E-05	8.84E-05	0.0024434	0.00789395	0.0247158	0.0268874	0.08773435	0.039877277	0.0414368		0	0.02522509
Am-241 (Ci/L)	1.173E-07	9.879E-07	3.01E-08	3.6646E-07	4.137E-09	3.29E-08	3.582E-09	6.105E-07	7.87E-07	7.035E-07	1.2E-06	4.483E-07	8.0917E-06	0.0022	4.086E-07	7.6874E-07	0.00100555	0.003843		0	4.3251E-07
Am-243 (Ci/L)	3.28E-13	7.143E-12	8.415E-14	2.6494E-12	1.157E-14	2.378E-13	2.911E-14	4.261E-12	5.493E-12	4.91E-12	8.35E-12	3.241E-12	7.5679E-11	9.92E-08	3.727E-12	6.2023E-12	1.00406E-08	1.179E-07		0	4.2187E-12
Cm-242 (Ci/L)	2.522E-10	8.465E-09	3.394E-11	1.0657E-09	8.577E-12	3.032E-10	3.496E-11	1.329E-08	1.015E-08	1.168E-08	2.66E-08	2.989E-09	1.6095E-07	5.304E-06	3.653E-09	1.3216E-08	1.43572E-06	3.509E-06		0	4.2001E-09
Cm-243 (Ci/L)	3.743E-12	1.744E-10	5.037E-13	2.1953E-11	1.273E-13	6.245E-12	7.53E-13	2.722E-10	2.078E-10	2.391E-10	5.44E-10	6.157E-11	3.6894E-09	5.373E-07	8.335E-11	3.0435E-10	3.63861E-08	2.696E-07		0	1.0399E-10
Cm-244 (Ci/L)	5.02E-12	1.703E-10	1.288E-12	6.3155E-11	1.771E-13	5.669E-12	7.397E-13	1.007E-10	1.299E-10	1.161E-10	1.98E-10	7.726E-11	2.7043E-09	1.626E-05	1.298E-10	1.9369E-10	2.16406E-08	8.293E-06		0	2.1402E-10

pred. sludge mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3 (Ci/L)	5.5343E-07	9.73E-07	0	0	0	0	2.16E-07	4.57E-06	2.499E-05	4.889E-06	4.537E-05	1.652E-05	8.296E-05		9.64E-05	0	0	0	0	0	0
C-14 (Ci/L)	7.75E-08	5.52E-07	0	0	0	0	2.98E-07	1.29E-11	5.935E-11	1.109E-05	1.398E-05	1.113E-06	6.771E-06		2.02E-05	0	0	0	0	0	0
Ni-59 (Ci/L)	2.1921E-08	3.32E-08	0	0	0	0	0.000112	0	0	0.0001119	6.804E-05	0.000189	0.0006096		0.000252	0	0	0	0	0	0
Ni-63 (Ci/L)	2.204E-06	3.48E-06	0	0	0	0	0.01096	0	0	0.0109809	0.0070584	0.0187261	0.0600093		0.024889	0	0	0	0	0	0
Co-60 (Ci/L)	1.1309E-07	1.35E-06	0	0	0	0	3.14E-07	0	0	1.126E-05	3.363E-05	2.503E-06	1.372E-05		2.31E-05	0	0	0	0	0	0
Se-79 (Ci/L)	1.7222E-08	6.98E-08	0	0	0	0	1.31E-06	1.06E-07	4.857E-07	5.048E-05	0.000255	7.547E-07	0.0003398		0.000185	0	0	0	0	0	0
Sr-90 (Ci/L)	0.00183566	0.00771	0	0	0	0	8.129745	0.007184	0.1013485	12.397724	8.3103698	7.4342106	9.5735474		0.04447	0	0	0	0	0	0
Y-90 (Ci/L)	0.00183613	0.007712	0	0	0	0	8.131711	0.007185	0.1013668	12.40072	8.3126013	7.4360446	9.5758808		0.04448	0	0	0	0	0	0
Zr-93 (Ci/L)	8.1198E-08	3.34E-07	0	0	0	0	5.76E-06	2.73E-07	1.256E-06	0.0002116	0.0011125	3.395E-06	0.0014689		0.00092	0	0	0	0	0	0
(Ci/L)	5.9317E-08	2.3E-07	0	0	0	0	4.85E-06	1.99E-07	8.676E-07	0.0001917	0.0007388	2.717E-06	0.0012599		0.000652	0	0	0	0	0	0
Tc-99 (Ci/L)	5.7064E-07	2.34E-06	0	0	0	0	2.1E-06	1.13E-06	5.217E-06	7.808E-05	9.29E-05	7.444E-06	4.575E-05		0.000142	0	0	0	0	0	0
Ru-106 (Ci/L)	1.8697E-10	1.34E-08	0	0	0	0	2.49E-09	3.44E-11	1.592E-09	1.297E-08	3.095E-05	1.595E-06	2.627E-06		2.98E-09	0	0	0	0	0	0
Cd-113m (Ci/L)	3.9386E-07	1.99E-06	0	0	0	0	1.48E-05	5.52E-07	2.941E-06	0.0001481	0.0055442	1.158E-05	0.0031301		0.004751	0	0	0	0	0	0
Sb-125 (Ci/L)	6.1598E-07	5.67E-06	0	0	0	0	1.21E-06	1.63E-06	1.665E-05	4.224E-05	0.0002101	1.531E-05	8.089E-05		9.99E-05	0	0	0	0	0	0
Sn-126 (Ci/L)	2.637E-08	1.14E-07	0	0	0	0	2.08E-06	9.69E-08	4.463E-07	8.229E-05	0.0004041	1.192E-06	0.0005464		0.000278	0	0	0	0	0	0
I-129 (Ci/L)	1.1003E-09	4.85E-09	0	0	0	0	4.06E-09	4.14E-09	1.908E-08	1.51E-07	1.809E-07	1.448E-08	8.891E-08		2.75E-07	0	0	0	0	0	0
Cs-134 (Ci/L)	4.0853E-08	1.28E-06	0	0	0	0	1.17E-09	5.58E-08	7.585E-07	1.93E-06	1.617E-06	0	9.762E-06		1.87E-07	0	0	0	0	0	0
Cs-137 (Ci/L)	0.00211222	0.009494	0	0	0	0	0.000146	0.006609	0.0326568	0.2609067	0.0223888	0	0.1766692		0.025611	0	0	0	0	0	0
Ba-137m (Ci/L)	0.00199814	0.008981	0	0	0	0	0.000139	0.006252	0.0308922	0.2468168	0.0211792	0	0.1671257		0.024228	0	0	0	0	0	0
Sm-151 (Ci/L)	6.22E-05	0.000174	0	0	0	0	0.004896	0.000102	0.0004796	0.1939205	0.7347945	0.0027342	1.2714651		0.648743	0	0	0	0	0	0
Eu-152 (Ci/L)	6.5524E-07	2.37E-06	0	0	0	0	8.59E-05	2.6E-07	1.402E-06	7.417E-05	0.0010829	0.0001505	0.0003176		0.000249	0	0	0	0	0	0
Eu-154 (Ci/L)	2.2366E-06	3.59E-05	0	0	0	0	4.98E-05	1.76E-06	1.041E-05	0.000241	0.0828162	7.572E-05	0.0074734		0.009686	0	0	0	0	0	0
Eu-155 (Ci/L)	4.6743E-05	5.24E-05	0	0	0	0	0.005603	1.85E-05	0.0001315	0.004875	0.0524409	0.0086245	0.0194885		0.014796	0	0	0	0	0	0
Ra-226 (Ci/L)	1.1243E-12	1.53E-12	0	0	0	0	9.71E-09	7.6E-09	3.431E-08	7.185E-09	1.139E-08	6.3E-09	4.096E-08		6.4E-09	0	0	0	0	0	0
Ra-228 (Ci/L)	5.3826E-08	5.89E-16	0	0	0	0	5.45E-14	5.41E-05	0.0002441	8.299E-10	4.523E-13	8.008E-14	1.856E-13		1.08E-07	0	0	0	0	0	0
Ac-227 (Ci/L)	1.6484E-07	7.95E-12	0	0	0	0	4.75E-08	0.000178	0.0007638	3.745E-08	5.406E-08	2.754E-08	2.121E-07		3.94E-08	0	0	0	0	0	0
Pa-231 (Ci/L)	2.4413E-07	2.46E-11	0	0	0	0	1.28E-09	0.000298	0.0013741	5.149E-08	1.692E-09	6.702E-10	3.171E-07		2.05E-07	0	0	0	0	0	0
Th-229 (Ci/L)	2.4371E-08	6.96E-14	0	0	0	0	9.86E-12	1.3E-06	5.358E-06	3.841E-10	4.244E-11	1.191E-11	3.094E-11		4.89E-09	0	0	0	0	0	0
Th-232 (Ci/L)	2.5085E-09	1.52E-16	0	0	0	0	7.1E-17	2.95E-07	1.355E-05	8.954E-11	5.901E-15	4.46E-16	2.509E-15		2.87E-10	0	0	0	0	0	0
U-232 (Ci/L)	2.7754E-06	4.31E-09	6.07E-09	3.02E-06	0.000116	0	7.72E-14	1.29E-06	5.05E-05	5.254E-08	2.21E-11	1.59E-12	8.195E-12		1.98E-06	0	0	0	0	0	0
U-233 (Ci/L)	1.0783E-05	5.03E-11	1.99E-10	1.19E-05	0.0004442	0	2.03E-15	5.12E-06	0.0001933	2.033E-07	2.923E-13	2.146E-14	1.148E-13		7.68E-06	0	0	0	0	0	0
U-234 (Ci/L)	1.4506E-05	8.97E-06	0.000116	1.54E-05	3.389E-05	0	1.11E-09	3.57E-08	1.35E-06	1.623E-07	7.83E-08	5.989E-09	3.433E-08		1.03E-05	0	0	0	0	0	0
U-235 (Ci/L)	5.9506E-07	3.37E-07	4.97E-06	6.4E-07	1.183E-06	0	4.66E-11	1.11E-13	4.18E-12	6.719E-09	3.008E-09	2.318E-10	1.345E-09		4.25E-07	0	0	0	0	0	0
U-236 (Ci/L)	4.3564E-07	9.14E-07	1.98E-06	4.19E-07	2.37E-06	0	2.57E-11	1.54E-14	5.833E-13	4.458E-09	6.028E-09	4.356E-10	2.265E-09		3.21E-07	0	0	0	0	0	0
U-238 (Ci/L)	1.3693E-05	6.27E-06	0.000119	1.49E-05	2.314E-05	0	1.1E-09	9.04E-22	3.416E-20	1.565E-07	5.886E-08	4.617E-09	2.751E-08		9.89E-06	0	0	0	0	0	0
U-Total (M)	0.17234258	0.079027	1.498744	0.188059	0.2919313	0	1.38E-05	2.29E-06	8.666E-05	0.0019681	0.000742	5.819E-05	0.0003466		0.121857			0	0	0	0
Np-237 (Ci/L)	4.2526E-09	3.64E-08	0	0	0	0	6.36E-09	9.66E-14	4.508E-13	2.445E-07	2.99E-07	2.378E-08	1.447E-07		4.83E-07	0	0	0	0	0	0
Pu-238 (Ci/L)	6.2098E-05	0.000445	0	0	0	0	8.86E-05	1.31E-11	6.31E-11	1.55E-06	0.0032071	0.0002522	0.0004765		6.42E-07	0	0	0	0	0	0
Pu-239 (Ci/L)	0.00258778	0.002293	0	0	0	0.02786	0.00374	3.73E-16	1.752E-15	6.578E-05	0.0216694	0.0044199	0.0127962		2.06E-05	0	0	0	0	0	0
Pu-240 (Ci/L)	0.00046011	0.000968	0	0	0	0.00697	0.000615	2E-17	9.394E-17	1.081E-05	0.007795	0.0009589	0.0023778		3.6E-06	0	0	0	0	0	0
Pu-241 (Ci/L)	0.00497393	0.029955	0	0	0	0	0.006402	8.76E-17	4.768E-16	0.000112	0.2218278	0.0176815	0.0337922		4.48E-05	0	0	0	0	0	0
Pu-242 (Ci/L)	1.3996E-08	2.38E-07	0	0	0	0	3.15E-08	1.16E-22	5.438E-22	5.486E-10	1.604E-06	1.151E-07	1.992E-07		2.49E-10	0	0	0	0	0	0
Pu-Total (g/L)	0.04370547	0.041513	0	0	0	0.4872	0.062949	7.72E-13	3.714E-12	9.019E-05	0.3855722	0.0755294	0.2167007		0.000198	0	0	0	0	0	0
Am-241 (Ci/L)	4.848E-07	2.18E-05	0	0	0	0.02919	0.001265	7.9E-18	3.522E-17	0.0016756	0.0701633	0.004079	0.0144089		0.002831	0	0	0	0	0	0
Am-243 (Ci/L)	5.1206E-12	3.26E-09	0	0	0	0	3.03E-08	2.2E-23	1.033E-22	3.686E-08	7.847E-06	3.089E-07	7.546E-07		8.74E-08	0	0	0	0	0	0
Cm-242 (Ci/L)	9.4665E-09	4.53E-07	0	0	0	0	2.04E-06	0	2.428E-34	1.773E-06	9.345E-05	8.004E-06	1.207E-05		1.02E-05	0	0	0	0	0	0
Cm-243 (Ci/L)	2.6106E-10	5.84E-08	0	0	0	0	1.12E-07	1.34E-23	6.646E-23	9.973E-08	1.144E-05	8.522E-07	1.086E-06		9.73E-07	0	0	0	0	0	0
Cm-244 (Ci/L)	1.9483E-10	1.46E-06	0	0	0	0	5.42E-08	2.16E-23	1.121E-22	7.876E-07	0.0004741	2.282E-05	4.424E-05		7.81E-07	0	0	0	0	0	0

pred. sludge mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (Ci/L)		3.6E-06		3E-06		0.00022		0.00016		0.00013		0.00023		0.00048		0.00018		0	0.0078897	0	1.746E-05			0
C-14 (Ci/L)		5.2E-07		4.5E-07		1.1E-05		3E-05		3.4E-05		4.5E-05		6.2E-05		4.8E-05		0	9.717E-05	0	2.15E-07			0
Ni-59 (Ci/L)		6.3E-07		9E-07		6.8E-06		3.8E-06		3.6E-06		4.1E-06		1.1E-06		3.2E-06		0	0.0001873	0	1.418E-07			0
Ni-63 (Ci/L)		5.7E-05		8.1E-05		0.00066		0.00037		0.00036		0.0004		0.0001		0.00032		0	0.0216505	0	1.639E-05			0
Co-60 (Ci/L)		1.1E-07		1E-07		1E-05		4.4E-05		3.2E-05		5.6E-05		4.4E-05		7E-05		0	0.0458237	0	3.315E-06			0
Se-79 (Ci/L)		1.1E-07		9.6E-08		6.9E-06		4E-06		2.9E-06		5.3E-06		3.9E-06		5.3E-06		0	0.0003422	0	2.688E-08			0
Sr-90 (Ci/L)		0.01229		0.01118		0.26279		0.15558		0.1272		0.20371		0.07736		0.16758		0	60.549337	0	0.0042147			0
Y-90 (Ci/L)		0.01229		0.01118		0.26285		0.15562		0.12723		0.20375		0.07738		0.16762		0	60.565026	0	0.0042157			0
Zr-93 (Ci/L)		5.2E-07		4.5E-07		3.3E-05		2E-05		1.4E-05		2.6E-05		1.9E-05		2.6E-05		0	0.0016416	0	1.296E-07			0
(Ci/L)		4.4E-07		3.8E-07		2.7E-05		1.4E-05		9.9E-06		1.9E-05		1.4E-05		1.9E-05		0	0.0006246	0	5.473E-08			0
Tc-99 (Ci/L)		3.6E-06		3.2E-06		8.9E-05		0.00018		0.00019		0.00026		0.00055		0.00023		0	0.0004058	0	8.98E-07			0
Ru-106 (Ci/L)		4.5E-14		4E-14		2.4E-09		7.4E-09		6.3E-09		9.4E-09		7.4E-09		1.4E-08		0	0.6830539	0	0.000517			0
Cd-113m (Ci/L)		1.3E-06		1.1E-06		4.6E-05		0.0001		7.3E-05		0.00013		1E-04		0.00014		0	0.018899	0	1.399E-06			0
Sb-125 (Ci/L)		1E-07		9.1E-08		3.7E-05		0.00019		0.00014		0.00024		0.00019		0.00032		0	0.7012653	0	8.029E-05			0
Sn-126 (Ci/L)		1.6E-07		1.4E-07		1.1E-05		6.1E-06		4.3E-06		8E-06		5.9E-06		7.9E-06		0	0.0005432	0	4.237E-08			0
I-129 (Ci/L)		6.8E-09		5.9E-09		1.7E-07		3.5E-07		3.7E-07		5E-07		1.1E-06		4.5E-07		0	8.149E-07	0	1.803E-09			0
Cs-134 (Ci/L)		2.8E-09		4.2E-09		2.3E-06		2.6E-06		1.5E-06		2.9E-06		5.7E-06		4E-06		0	0.0211276	0	3.563E-05			0
Cs-137 (Ci/L)		0.04817		0.06		0.32384		0.26673		0.15035		0.32508		0.59612		0.28656		0	2.9505533	0	0.0049753			0
Ba-137m (Ci/L)		0.04557		0.05676		0.30636		0.25233		0.14223		0.30753		0.56393		0.27109		0	2.7913034	0	0.0047068			0
Sm-151 (Ci/L)		0.00041		0.00036		0.02477		0.0142		0.00986		0.01864		0.01384		0.01843		0	1.1813655	0	9.295E-05			0
Eu-152 (Ci/L)		7.7E-08		1.1E-07		8.9E-06		5E-06		4.5E-06		6E-06		4.8E-06		7.5E-06		0	0.0013078	0	1.047E-06			0
Eu-154 (Ci/L)		2E-06		1.8E-06		0.00025		0.0007		0.00054		0.0009		0.00069		0.00106		0	0.3485741	0	2.478E-05			0
Eu-155 (Ci/L)		5.9E-06		8.6E-06		0.00045		0.0003		0.00027		0.00035		0.00028		0.00044		0	0.2373461	0	0.00019			0
Ra-226 (Ci/L)		3.1E-11		2.7E-11		4.7E-10		1.9E-10		1.4E-10		2.4E-10		1.8E-10		2.1E-10		0	1.627E-09	0	2.166E-13			0
Ra-228 (Ci/L)		3.1E-16		4.5E-16		1.6E-08		8.4E-08		1.7E-06		7.1E-08		1.2E-07		4.6E-07		0	1.185E-13	0	9.488E-17			0
Ac-227 (Ci/L)		1.6E-10		1.4E-10		2.7E-09		1.2E-09		1.9E-09		1.5E-09		1.1E-09		1.2E-09		0	9.27E-09	0	1.246E-12			0
Pa-231 (Ci/L)		3.5E-10		3E-10		1E-08		5.2E-09		1E-08		6.6E-09		4.8E-09		5.8E-09		0	5.425E-08	0	7.108E-12			0
Th-229 (Ci/L)		5.9E-14		8.7E-14		3.8E-10		2.2E-09		3.9E-08		1.9E-09		3E-09		1.1E-08		0	1.355E-11	0	1.085E-14			0
Th-232 (Ci/L)		1.5E-16		1.3E-16		2.1E-10		7.7E-09		6.3E-08		7E-09		1.4E-08		5.7E-08		0	1.64E-14	0	3.63E-17			0
U-232 (Ci/L)		1.1E-10		1.2E-10		7E-08		5.4E-07		9.5E-06		4.7E-07		3E-07		1.2E-06		0	5.898E-09	1.44E-09	1.023E-09			0
U-233 (Ci/L)		5.2E-12		5.6E-12		2.7E-07		2.1E-06		3.6E-05		1.8E-06		1.2E-06		4.7E-06		0	6.049E-11	1.48E-11	1.049E-11			0
U-234 (Ci/L)		5.1E-06		5.6E-06		1.3E-06		1.3E-06		2.6E-06		1.4E-06		6.5E-07		1.6E-06		0	2.653E-05	6.48E-06	4.603E-06			0
U-235 (Ci/L)		2.3E-07		2.5E-07		5.1E-08		5.3E-08		9.5E-08		5.6E-08		2.7E-08		6.5E-08		0	1.008E-06	2.46E-07	1.75E-07			0
U-236 (Ci/L)		4.8E-08		5.2E-08		5.3E-08		3.8E-08		8.6E-08		3.8E-08		1.6E-08		5.6E-08		0	2.184E-06	5.33E-07	3.789E-07			0
U-238 (Ci/L)		5.2E-06		5.7E-06		1.1E-06		1.4E-06		5.4E-06		1.8E-06		8E-07		2.1E-06		0	1.821E-05	4.45E-06	3.16E-06			0
U-Total (M)		0.06566		0.07117		0.01377		0.01493		0.02691		0.01605		0.00771		0.01806		0	0.2297587	0.056105	0.0398652			0
Np-237 (Ci/L)		2.2E-08		1.9E-08		3.9E-07		6.5E-07		6.3E-07		9.6E-07		2E-06		8.2E-07		0	5.944E-06	0	1.315E-08			0
Pu-238 (Ci/L)		2.7E-07		3.7E-07		2.4E-06		1.9E-06		2.5E-06		2.4E-06		9.7E-07		3.2E-06		0	0.0016858	0.000278	0.0001207			0
Pu-239 (Ci/L)		4.8E-05		6.1E-05		7.6E-05		7.1E-05		9.1E-05		8.6E-05		3.8E-05		9.1E-05		0	0.0136592	0.002249	0.0009777			0
Pu-240 (Ci/L)		3.8E-06		5E-06		1.3E-05		1.2E-05		1.6E-05		1.4E-05		6E-06		1.5E-05		0	0.0041491	0.000683	0.000297			0
Pu-241 (Ci/L)		9.2E-06		1.4E-05		0.00012		0.00012		0.00018		0.00016		6.5E-05		0.00022		0	0.1722238	0.028357	0.0123281			0
Pu-242 (Ci/L)		4.1E-11		6.1E-11		6.4E-10		6.7E-10		8.8E-10		8.7E-10		3.5E-10		1.4E-09		0	6.422E-07	1.06E-07	4.597E-08			0
Pu-Total (g/L)		0.00079		0.00101		0.00127		0.00091		0.00118		0.00102		0.00046		0.00104		0	0.2398873	0.039498	0.0171715			0
Am-241 (Ci/L)		9.2E-07		8.1E-07		0.00012		4.7E-05		4.4E-05		6.3E-05		0.00013		5.8E-05		0	0.2404856	0	1.656E-05			0
Am-243 (Ci/L)		6.3E-12		5.6E-12		3.7E-09		1.5E-09		1.5E-09		2E-09		4.3E-09		2.9E-09		0	5.066E-05	0	3.489E-09			0
Cm-242 (Ci/L)		1.4E-09		1.9E-09		1.6E-09		5.3E-10		5.7E-10		5.2E-10		3.9E-10		5.6E-10		0	0.0001152	0	9.223E-08			0
Cm-243 (Ci/L)		2.8E-11		3.8E-11		3.2E-11		1.1E-11		1.2E-11		1.1E-11		8E-12		1.1E-11		0	1.93E-05	0	1.545E-08			0
Cm-244 (Ci/L)		1.5E-10		1.2E-10		1.9E-10		3.2E-10		2E-10		3.1E-10		2.3E-10		3.3E-10		0	0.0009226	0	6.351E-08			0

pred. su mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
Na	1.8785669	1.8917204	2.611602	2.58463347	2.1280903	1.269643	1.4922018	3.9164742	3.8999175	3.9033785	3.012032	1.5767481	5.38007913	5.4825248	3.6256252	1.82647592	0.767079304	1.2854041		3.28596335	2.39686268
Al(OH)4 -	0	0	0	0	0	0	0	0	0	0	0	0	0.85402684	0.9908841	1.1883584	0.62832056	0	0		0	0.85145365
Fe	0.0019998	0.0019997	0.0020001	0.00200007	0.0020001	0.0020001	0.0020001	0.0020001	0.0020004	0.0020001	0	0.002	0.00200006	0.0020001	0.0020001	0.00200005	0.002000053	0.0020001		0.00200005	0.00200005
Cr	0.0034502	0.0035103	0.0067609	0.00675356	0.0042667	0.0054198	0.0068304	0.0032498	0.0032501	0.0032497	0	0.0020063	0.11540903	0.1138947	0.0031285	0.00306105	0.008028015	0.0080605		0.00805126	0.00308145
Bi	0	0	0.0039998	0.00399984	0.0039997	0.0040001	0.0040001	0	0.0040007	0.0040001	0	0.0039995	0	0	0	0	0	0		0	0
La	0	0	0	0	0	0	0.003817	0	0	0	0	0	0	0	0	0	0	0		0	0
Hg	0	0	1E-05	1.0002E-05	0	0	0	0	0	0	0	0	0	0	1E-05	1E-05	0	0		0	1E-05
Zr	0	0	0.0003328	0.00033248	0	0	0	0	0	0	0	0.0030001	0	0	0	0	0	0		0	0
Pb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0016003	0.00160005	0	0		6.0384E-05	0.00160005
Ni	0.0017251	0.0017552	0.0016642	0.00166242	0.0016254	0.0016031	0.0016071	0.0016249	0.0018003	0.0018	0.0018	0.0017994	0.00180001	0.0018	0.0015642	0.00153052	0.001800002	0.0018		0.00180001	0.00154073
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Mn	0	0	0	0	0	0	0.0051228	0	0	0	0	0	0	0	0	0	0	0		0	0
Ca	0.008999	0.0089986	0.0090037	0.00900371	0.0090037	0.0090037	0.0090037	0.0090041	0.0090041	0.0090037	0.009004	0.0090037	0.00900415	0.0090037	0.0090039	0.00900371	0.009003711	0.0090037		0.00900371	0.00900371
K	0.0007612	0.0007745	0.0093612	0.00940304	0.0066347	0.0036988	0.2319309	0.0160012	0.0168151	0.0168134	0.011716	0.0042133	0.02093704	0.0201584	0.0023599	0.00351739	0.003150996	0.0056826		0.01480929	0.00151356
balance	**2.22E-16**	**-2.22E-16**	**0**	**0**	**0**	**0**	**2.22E-16**	**0**	**0**	**-4.441E-16**	**-1.3E-15**	**4.441E-16**	**8.8818E-16**	**8.882E-16**	**-4.441E-16**	**0**	**-1.1102E-16**	**2.22E-16**		**4.4409E-16**	**-4.441E-16**
density	1.0708385	1.0713366	1.0989585	1.09793353	1.0799755	1.0471097	1.0563896	1.1486576	1.1479134	1.148045	1.113965	1.0578481	1.23490335	1.2483508	1.2204216	1.11291225	1.026353921	1.0459541		1.12407347	1.15014208
vol%solids	12	12	13.7	14.2943561	6.8	3.4	3.8795181	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9		2.2	8.1
void frac.	0.3956569	0.2632894	0.7183619	0.73734299	0.7700472	0.9436953	0.8854288	0.4527128	0.5835467	0.5216694	0.900124	0.9342765	0.53613647	0.5865419	0.6508536	0.76288382	0.841382091	0.8076671		0.71060168	0.8339275
wt.% H2O	89.020442	88.942254	81.71646	82.0153601	85.411584	91.144178	86.522613	73.577522	73.291902	73.26852	78.37318	90.065432	70.8269646	71.337583	76.835283	86.3746228	94.9945704	91.605741		76.058691	83.455257
TOC wt.%C	0	0	0	0	0	0	0.0113598	0.0003865	0	0	0	0	0	0	0	0	0	0		0	0
species	excludes hydroxide bound to Al																				
OH-	0.03647	0.0365825	0.0188219	0.01883643	0.0594609	0.0757844	0.02094	0.0112301	0.0188946	0.0188922	0.032791	0.1378899	1.95476925	1.9564675	0.0358148	0.03175154	0.186339513	0.1927489		0.0528757	0.03603038
NO3-	0.189977	0.1889907	1.5479621	1.47971795	1.2441837	0.6873429	1.3857256	2.5904493	2.7943518	2.7983543	2.350666	0.5182853	1.89944078	1.2293181	0.8916307	0.87017334	0.164187986	0.1337853		2.80090107	0.68019899
NO2-	0.009208	0.0136651	0.2218014	0.2632503	0.0163719	0.0068274	0.0019206	0.2095507	0.0056482	0.005224	0.174565	0.1981749	0.90055922	1.4688378	1.4595452	0.30381895	0.286676067	0.5935814		0.01006408	0.80335006
CO3--	0.3935529	0.3943921	0.0090037	0.00900371	0.0090037	0.0090037	0.0090037	0.1934525	0.0090041	0.0090037	0.010005	0.0009821	0.00900415	0.0090037	0.0090039	0.00900371	0.009003711	0.0090037		0.00900371	0.00900371
PO4---	0.149983	0.1499773	0.1499895	0.14998947	0.1499852	0.1094145	0.036143	0.1320231	0.1360352	0.1360209	0.130182	0.1500085	0	0	0	0	0	0		0.09661513	0
SO4--	0.2281454	0.2321207	0.0723933	0.07231508	0.0503879	0.0269025	0.0030134	0.1438037	0.1858639	0.1858446	0.016022	0.0200634	0.01940506	0.0302375	0.0128844	0.01260669	0.0437587	0.1599881		0.05641921	0.01269071
SiO3--	0.0043128	0.0043879	0.0340293	0.03402933	0.0340065	0.0195017	0	0	0.0340078	0.0340027	0	0.0340079	0.01502509	0.0340151	0.0308731	0	0.034022619	0.034029		0	0.02027271
F-	0	0	0.1934647	0.19325581	0.2234947	0.1159558	0.2401222	0	0.2132865	0.2132643	0	0.2287216	0	0	0	0	0	0		0	0
Cl-	0.0035015	0.0035625	0.0430615	0.04325398	0.0305198	0.0170145	0.0267991	0.0969635	0.0773495	0.0773414	0.053895	0.0193811	0.09631037	0.0927284	0.0108557	0.01617998	0.01449458	0.0261401		0.06812272	0.00696238
C6H5O7---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
EDTA----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
HEDTA---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
glycolate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
acetate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
oxalate--	0	0	0	0	0	0	0.005	0	0	0	0	0	0	0	0	0	0	0		0	0
DBP	0	0	0	0	0	0	0	3.083E-05	0	0	0	0	0	0	0	0	0	0		0	0
butanol	0	0	0	0	0	0	0	3.083E-05	0	0	0	0	0	0	0	0	0	0		0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NH3	2.2E-05	5E-05	1.2E-01	8.5E-02	1.0E-05	3.2E-06	1E-07	7.6E-04	5.6E-07	4.7E-07	8E-06	2.8E-04	1.4E-02	4.0E-02	7.6E-04	2.0E-04	9.2E-03	2.8E-02		0.0E+00	3.7E-04
Fe(CN)6----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0

pred. su mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
Na	1.62040161	0.545031	0.664085	1.125647	1.5791116	3.58085	2.2197	3.619769	3.619769	1.4065769	0.6657197	3.4119697	3.4039938		4.996599			0.3	10.14705	0.19573	0.6357
Al(OH)4 -	0.62831695	0	0	0	0	0.25262	0	0.317399	0.3173989	0.0218991	0.0772496	0.2609887	0		0.450706			0	1.85	0	0
Fe	0.00200005	0.002	0.002	0.002	0.0020001	0.002	0.002	0.002	0.0020001	0.002	0.0020001	0.0020001	0.0080008		0.005467			0	0	0.002	0.002
Cr	0.00306103	0.003086	0.008018	0.008017	0.008018	0.0095	0.008017	0.00803	0.0080303	0.0170912	0.0020015	2.005E-07	0		0.055711			0	0	0.00802	0.00802
Bi	0	0	0	0	0	0	0	0	0	1.161E-05	0	0	0		0.000121			0	0	0	0
La	0	0	0	0	0	0	0	0	0	0	0	0	0		1.45E-09			0	0	0	0
Hg	1E-05	1E-05	0	0	0	0	0	0	0	3.639E-07	0	0	0		1.26E-06			0	0	0	0
Zr	0	0.003	0	0	0	0	0	0	0	4.584E-08	0	0	0		1.59E-05			0	0	0	0
Pb	0.00160005	0	0	0	0	0	0.0016	0	0	5.952E-05	1.001E-06	0	0		0.000168			0	0	0	0
Ni	0.00153052	0.001543	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0		0.0018			0	0	0.0018	0.0018
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
Mn	0	0	0	0.009001	0.0008842	0	0	0	0	0.0026652	0	0	0		0.003846			0.001	0	0	0
Ca	0.00900371	0.009004	0.009004	0.009	0.0090037	0.009	0.00491	0.009004	0.0090037	0.0089976	0.0090011	0.0090014	0.0090036		0.008999			0	0	0.009	0.009
K	0.00251045	0.224609	0.001002	0.013529	0.0055346	0.01277	0.088879	0.027895	0.0278954	0.0076651	0.0027641	0.0135025	0.0136065		0.02376			0.001	0.019048	0.00069	0.00069
balance	**2.2204E-16**	**0**	**0**	**-2.2E-16**	**2.22E-16**	**-4E-16**	**-1.3E-15**	**-8.88E-16**	**0**	**6.661E-16**	**-1.11E-16**	**0**	**0**		**0.001093**			**-0**	**3.55E-15**	**0**	**2.2E-16**
density	1.1050767	1.016963	1.024265	1.041791	1.0586842	1.14929	1.082574	1.159387	1.1593789	1.0532985	1.0278967	1.1288144	1.1267391		1.202098	1	1	1.019	1.505195	1.00666	1.02338
vol%solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6		1			13.6	80	1	1
void frac.	0.763081	0.857291	0.627201	0.802358	0.6254872	0.54965	0.822567	0.934873	0.9348735	0.8305506	0.8456962	0.6682915	0.8572863		0.643658			1	0.8	0.71521	0.71521
wt.% H2O	87.8409686	93.76635	93.85838	91.94731	88.452292	75.8449	82.26376	74.62508	74.754987	90.565029	95.533668	82.2193	73.809655		71.83263			94.73	51.84803	98.2814	95.9742
TOC wt.%C	0	0	0.854066	0.322662	0.2523112	0	2.28832	0.023395	0.1034639	0	0.0701	0.5220781	5.4522221		0.409186			0	0	0	0
species																					
OH-	0.03204984	0.249897	0.06467	0.065594	0.0881337	0.29738	0.118326	0.025475	0.0260163	0.1122895	0.1872072	1.2739741	0.1741766		1.288123			-0.49	0.659524	0.05172	0.05172
NO3-	0.68242386	0.307944	0.230564	0.378395	0.9449862	2.59614	1.004633	2.684925	2.4730852	0.2951232	0.2460769	0.8328829	0.3963647		1.430159			0.8	2.916571	0.15717	0.15717
NO2-	0.28882449	0.01727	0.010022	0.010022	0.0100225	0.01415	0.08618	0.090009	0.3018486	0.4756809	0.0360353	0.0532345	0.2542562		1.090645			0	3.3	0.02407	0.01404
CO3--	0.00900371	0.009004	0.211433	0.390947	0.295646	0.1926	0.00491	0.009004	0.0090037	0.1458712	0.0090011	0.2692652	0.2475634		0.226677			0	0.4	0.00197	0.00197
PO4---	0	0	0	0	0	0.00014	0	0.090341	0.0903412	0.0234712	0	0.0100226	0		0.013667			0	0.119048	0	0.15
SO4--	0.01260662	0.001543	0.004009	0.004009	0.004009	0.00687	0.067544	0.054205	0.0542047	0.0817979	0.0160134	0.0440995	0.1023799		0.128909			0	0.035714	0.00401	0.00401
SiO3--	0	0	0	0	0	0	0	0	0	0.0339951	0.0340104	0.0340278	0.034029		0.033996			0	0	0	0
F-	0	0.240001	0	0	0	0	0	0.120455	0.120455	0.0003893	0	0	0		0.005329			0	0.071429	0	0
Cl-	0.01154806	0.005806	0.00461	0.006915	0.0213921	0.09008	0.049279	0.063675	0.0636745	0.0190203	0.012715	0.0621113	0.0625898		0.083798			0	0.14	0.00318	0.00318
C6H5O7---	0	0	0	0	0	0	0.040085	0	0	0	0.0100077	0.0150339	0		0.028042			0	0	0	0
EDTA----	0	0	0	0	0	0	0.080171	0	0	0	0	0	0.1505587		0.000502			0	0	0	0
HEDTA---	0	0	0	0	0	0	0	0	0	0	0	0	0.3011173		0.001017			0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
glycolate-	0	0	0	0	0	0	0	0	0	0	0	0.2004521	0.3011173		0.006437			0	0	0	0
acetate-	0	0	0	0	0	0	0.511088	0	0	0	0	0	0		0			0	0	0	0
oxalate--	0	0	0	0	0	0	0	0	0	0	0	0	0		1.9E-09			0	0	0	0
DBP	0	0	0.060749	0.023344	0.0185499	0	0	0.001884	0.0083301	0	0	0	3.047E-05		0.017799			0	0	0	0
butanol	0	0	0.060749	0.023344	0.0185499	0	0	0.001884	0.0083301	0	0	0	3.047E-05		0.017799			0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
NH3	7.2E-05	7.8E-01	0E+00	0E+00	0E+00	0E+00	2.8E-04	1E-04	2E-03	1.7E-02	1.4E-04	1.1E-04	4.7E-03		0.032046			0	0	0E+00	0E+00
Fe(CN)6----	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0

pred. su mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
Na		4.87962		4.88031		10.28		10.6367		9.61158		14.6533		22.1801		14.2513		0	2.7573163	0.641897	0.491604	0	0	0.06
Al(OH)4 -		0.02607		0.01725		1.60033		1.3862		1.59961		2.00879		2.14567		1.65983		0	0.3188236	0	0			0
Fe		0.002		0.002		0.002		0.0007		0.002		0.0007		0.0012		0.00133		0	0.0020001	0.002	0.0020001			0.002
Cr		0.00909		0.00822		0.12003		0.07065		0.07102		0.08879		0.08895		0.07505		0	0	0.008018	0			0
Bi		0.004		0.004		8.8E-06		0.00221		0.00116		0.00196		0.00486		0.00446		0	0	0	0			0
La		0		0		2.2E-11		9.2E-10		2.6E-06		1.5E-05		3.3E-05		1.3E-05		0	0	0	0			0
Hg		1E-05		1E-05		1.4E-06		1.1E-05		1E-05		1.1E-05		1.2E-05		1.1E-05		0	0	0	1E-05			0
Zr		0.00025		0.0007		8.7E-07		0.00034		4.4E-05		0.00027		0.00061		0.00106		0	0	0	0.0030001			0
Pb		0		0		0.00022		0.00111		0.0016		0.0015		0.00429		0.00209		0	0	4.35E-05	0			0
Ni		0.0018		0.0018		0.0018		0.00127		0.0018		0.00121		0.00158		0.00166		0	0	0.0018	0			0
Sr		0		0		0		0		0		0		0		0		0	0	0	0			0
Mn		0		0		6.4E-05		0.00104		0.00419		0.00112		0.00152		0.00227		0	0	0.006013	0			0
Ca		0.009		0.009		0.009		0.00668		0.009		0.0064		0.00827		0.00882		0	0.0090037	0.009004	0.0090037			0.009
K		0.02495		0.02296		0.04077		0.05664		0.05146		0.09187		0.25208		0.21183		0	0.0110913	0.006865	0.224529			0.0002
balance		**-2E-15**		**-9E-16**		**1.6E-05**		**0.00069**		**0.00101**		**0.00131**		**0.00338**		**0.00143**		**0**	**0**	**1.11E-16**	**-1.11E-16**			**0**
density		1.1856		1.18471		1.44908		1.46668		1.45634		1.62662		1.82907		1.60018		1	1.1055588	1.023828	1.0169909			1.00204
vol%solids		17.6828		11.4457		13.8204		55.3855		48.966		55.1726		99		45.5227		90	3.9	2	10.5			0.6
void frac.		0.60412		0.52453		0.78481		0.7826		0.77425		0.65085		0.52092		0.50021		0.5	0.7889973	0.888181	0.8503106			0.78419
wt.% H2O		68.845		68.9405		54.4223		51.242		52.5596		43.6976		32.217		40.9546		100	87.088207	95.2383	93.537159			99.3035
TOC wt.%C		0.00039		0.00038		0.00791		0.73895		0.64547		1.07398		2.73793		1.84382		0	0	0.04803	0			0
species		excludes hydroxide bound to Al														excludes hydroxide bound to Al								excludes hydroxide
OH-		0.11032		0.13005		3.57237		2.30326		1.39131		4.7215		10.9315		3.837		0	1.4357926	0.037609	0.1126725			0.01601
NO3-		2.79952		2.799		2.80058		2.67041		2.79929		2.61651		2.62593		2.73424		0	0.1596331	0.257467	0.3916952			0.0663
NO2-		0.39472		0.39896		2.38378		2.09232		2.15789		2.74881		2.70638		2.90547		0	0.4630188	0.010022	0.0091108			0
CO3--		0.20299		0.21169		0.01532		0.40413		0.37088		0.44509		0.52577		0.47725		0	0.0090037	0.111212	0.0090037			0.00049
PO4---		0.15006		0.14998		0.00057		0.15214		0.08863		0.15938		0.17624		0.16489		0	0	0.069673	0			0
SO4--		0.21644		0.20657		0.05151		0.30046		0.24928		0.3779		0.45403		0.43969		0	0.1359064	0.004053	0			0
SiO3--		0.03399		0.03394		0.03401		0.02789		0.03399		0.02739		0.03385		0.03437		0	0.034029	0	0			0
F-		0.16955		0.16571		0.00045		0.10229		0.07192		0.0917		0.23485		0.22749		0	0.0302489	0	0.2400015			0
Cl-		0.13926		0.12903		0.17004		0.19611		0.16996		0.23366		0.25903		0.23073		0	0.0510198	0.003919	0.0046735			0.00092
C6H5O7---		0		0		0.00047		0.02218		0.03087		0.04071		0.10679		0.04854		0	0	0	0			0
EDTA----		0		0		1.8E-05		0.01346		0.00693		0.02105		0.06454		0.04595		0	0	0	0			0
HEDTA---		0		0		1.5E-05		0.02613		0.00094		0.03981		0.12098		0.08136		0	0	0	0			0
		0		0		0		0		0		0		0		0		0	0	0	0			0
glycolate-		0		0		0.00066		0.07986		0.02174		0.12521		0.34782		0.17328		0	0	0	0			0
acetate-		0		0		6.8E-05		0.00252		0.04124		0.00735		0.02597		0.03367		0	0	0	0			0
oxalate--		0		0		2.8E-11		1.2E-09		3.5E-06		2E-05		4.3E-05		1.7E-05		0	0	0	0			0
DBP		3.2E-05		3.1E-05		0.00041		0.01746		0.03279		0.02815		0.07747		0.04004		0	0	0.003415	0			0
butanol		3.2E-05		3.1E-05		0.00041		0.01746		0.03279		0.02815		0.07747		0.04004		0	0	0.003415	0			0
		0		0		0		0		0		0		0		0		0	0	0	0			0
NH3		0.08524		0.07179		0.04592		0.03488		0.01738		0.0403		0.16124		0.2873		0	1.9E-02	0.0E+00	7.8E-01			5.0E-02
Fe(CN)6----		0		0		0		0		0		0		0		0		0	0	0	0			0

pred. su mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3 (Ci/L)	2.4E-06	5.393E-06	4.715E-07	9.7596E-07	4.927E-08	3.363E-08	6.002E-09	5.073E-06	5.052E-06	5.056E-06	3.85E-06	5.748E-07	5.4543E-05	0.0002507	1.554E-06	1.635E-06	3.38641E-05	0.0001581		0	1.0836E-06
C-14 (Ci/L)	5.276E-07	7.401E-07	1.206E-07	1.8818E-07	1.546E-08	1.32E-08	1.86E-09	7.012E-07	7.013E-07	7.012E-07	6.91E-07	1.817E-07	4.2221E-06	1.079E-05	1.676E-07	1.9284E-07	1.43419E-05	2.947E-05		0	1.5637E-07
Ni-59 (Ci/L)	2.431E-07	4.037E-07	3.435E-08	5.3476E-08	4.405E-09	3.751E-09	5.286E-10	1.994E-07	7.071E-08	7.069E-08	3.53E-08	9.261E-09	5.276E-07	1.241E-06	4.752E-08	5.4589E-08	1.82177E-06	3.648E-06		0	4.4305E-08
Ni-63 (Ci/L)	2.134E-05	3.684E-05	3.016E-06	4.8791E-06	3.867E-07	3.422E-07	4.874E-08	1.798E-05	6.374E-06	6.373E-06	3.19E-06	8.45E-07	4.9263E-05	0.0001227	4.457E-06	5.4233E-06	0.000175883	0.0003663		0	4.2429E-06
Co-60 (Ci/L)	1.19E-07	3.83E-07	1.681E-08	5.0723E-08	2.156E-09	3.558E-09	5.97E-10	1.604E-07	1.605E-07	1.604E-07	1.58E-07	4.897E-08	1.6667E-06	1.206E-05	7.244E-08	2.2125E-07	1.004E-05	4.061E-05		0	9.4124E-08
Se-79 (Ci/L)	1.796E-07	3E-07	2.538E-08	3.9734E-08	3.255E-09	2.787E-09	3.924E-10	1.479E-07	1.479E-07	1.479E-07	1.46E-07	3.836E-08	8.9629E-07	2E-06	3.647E-08	5.0779E-08	2E-06	2E-06		0	3.3145E-08
Sr-90 (Ci/L)	0.0050525	0.0094024	0.010592	0.01847309	0.0013955	0.0013312	0.0001942	0.0113991	0.000228	0.000228	0.000225	0.0080261	0.0340002	0.034	0.0031461	0.00532037	0.034000036	0.034		0	0.00302177
Y-90 (Ci/L)	0.0050538	0.0094051	0.0105947	0.01847828	0.0013959	0.0013316	0.0001943	0.0114022	0.0002281	0.000228	0.000225	0.0080284	0.03400805	0.0340084	0.0031468	0.00532169	0.034007769	0.0340089		0	0.00302245
Zr-93 (Ci/L)	8.56E-07	1.423E-06	1.21E-07	1.8842E-07	1.551E-08	1.322E-08	1.862E-09	7.026E-07	7.026E-07	7.026E-07	6.93E-07	1.819E-07	4.2315E-06	1E-05	1.725E-07	2.4366E-07	1E-05	1E-05		0	1.5619E-07
Nb-93m (Ci/L)	7.374E-07	1.189E-06	1.042E-07	1.575E-07	1.336E-08	1.105E-08	1.541E-09	5.929E-07	5.929E-07	5.929E-07	5.85E-07	1.521E-07	3.4596E-06	7E-06	1.402E-07	1.8276E-07	7.00001E-06	7E-06		0	1.2396E-07
Tc-99 (Ci/L)	5.902E-06	9.876E-06	8.342E-07	1.3081E-06	1.07E-07	9.175E-08	1.291E-08	4.867E-06	4.868E-06	4.867E-06	4.8E-06	1.263E-06	2.9554E-05	8.804E-05	1.204E-06	1.6906E-06	0.000100307	0.0002089		0	1.0933E-06
Ru-106 (Ci/L)	2.804E-15	1.948E-13	3.963E-16	2.5796E-14	5.082E-17	1.809E-15	4.477E-16	6.676E-14	6.676E-14	6.676E-14	6.58E-14	2.491E-14	4.6557E-12	3.276E-09	4.237E-13	6.2038E-11	3.16082E-10	5E-09		0	1.2821E-12
Cd-113m (Ci/L)	1.74E-06	3.744E-06	2.459E-07	4.9587E-07	3.153E-08	3.478E-08	5.214E-09	1.717E-06	1.717E-06	1.717E-06	1.69E-06	4.788E-07	1.3041E-05	4.952E-05	5.388E-07	9.553E-07	5.49185E-05	6E-05		0	5.6762E-07
Sb-125 (Ci/L)	6.42E-08	3.895E-07	9.073E-09	5.1586E-08	1.163E-09	3.618E-09	6.884E-10	1.486E-07	1.486E-07	1.486E-07	1.47E-07	4.981E-08	2.4474E-06	4.664E-05	1.212E-07	9.4325E-07	2.48968E-05	0.0001824		0	1.9948E-07
Sn-126 (Ci/L)	2.667E-07	4.54E-07	3.769E-08	6.0131E-08	4.833E-09	4.218E-09	5.916E-10	2.225E-07	2.226E-07	2.225E-07	2.19E-07	5.806E-08	1.3776E-06	3E-06	5.55E-08	7.222E-08	3E-06	3E-06		0	5.1274E-08
I-129 (Ci/L)	1.099E-08	1.871E-08	1.554E-09	2.4775E-09	1.992E-10	1.738E-10	2.438E-11	9.17E-09	9.171E-09	9.17E-09	9.04E-09	2.392E-09	5.6774E-08	1.661E-07	2.305E-09	3.1664E-09	1.93972E-07	4.042E-07		0	2.1115E-09
Cs-134 (Ci/L)	6.869E-11	1.174E-09	1.44E-10	2.3067E-09	1.897E-11	1.662E-10	2.965E-11	1.045E-09	3.168E-11	3.168E-11	3.12E-11	1.002E-09	4.2111E-08	2.863E-06	2.542E-09	4.7972E-08	7.50308E-07	9.68E-06		0	5.2176E-09
Cs-137 (Ci/L)	0.0056958	0.0107059	0.0119407	0.02103409	0.0015732	0.0015158	0.0002203	0.0128126	0.0003883	0.0003883	0.000383	0.0091388	0.08678439	0.3089854	0.003611	0.00602604	0.327707089	0.7702973		0	0.00348366
Ba-137m (Ci/L)	0.005388	0.0101278	0.0112954	0.01989827	0.0014882	0.0014339	0.0002084	0.0121206	0.0003673	0.0003673	0.000362	0.0086453	0.08210009	0.2923068	0.0034161	0.00570076	0.310010115	0.7286975		0	0.00329554
Sm-151 (Ci/L)	0.0006787	0.0011089	9.592E-05	0.00014687	1.23E-05	1.03E-05	1.484E-06	0.0005506	0.0005506	0.0005506	0.000543	0.0001418	0.00319869	0.007	0.0001301	0.0001822	0.007000007	0.007		0	0.00011892
Eu-152 (Ci/L)	7.736E-09	5.424E-08	1.093E-09	7.1835E-09	1.402E-10	5.039E-10	6.479E-11	2.038E-08	2.038E-08	2.038E-08	2.01E-08	6.936E-09	3.1387E-07	2.121E-06	1.385E-08	3.7601E-08	1.56432E-06	4.837E-06		0	1.5647E-08
Eu-154 (Ci/L)	1.599E-06	7.311E-06	2.26E-07	9.6836E-07	2.899E-08	6.792E-08	9.58E-09	2.89E-06	2.891E-06	2.89E-06	2.85E-06	9.35E-07	4.0264E-05	0.0002937	1.764E-06	5.0539E-06	0.000222098	0.0005		0	2.1607E-06
Eu-155 (Ci/L)	1.17E-06	3.642E-06	1.653E-07	4.8236E-07	2.12E-08	3.383E-08	5.846E-09	1.536E-06	1.536E-06	1.536E-06	1.51E-06	4.657E-07	1.4818E-05	0.0001084	6.59E-07	2.2324E-06	8.80185E-05	0.0003602		0	8.2362E-07
Ra-226 (Ci/L)	6.199E-11	6.088E-11	1.082E-11	8.0631E-12	1.388E-12	5.655E-13	8.759E-14	4.034E-11	4.035E-11	4.034E-11	3.98E-11	7.785E-12	6.2E-11	6.2E-11	4.343E-12	3.847E-12	6.20001E-11	6.2E-11		0	2.9104E-12
Ra-228 (Ci/L)	1.053E-16	1.498E-16	1.488E-17	1.9835E-17	1.909E-18	1.391E-18	1.879E-19	7.787E-17	7.788E-17	7.787E-17	7.68E-17	1.915E-17	4.1557E-16	3.722E-15	2.308E-17	7.2703E-17	1.15248E-15	2.55E-15		0	1.3099E-17
Ac-227 (Ci/L)	3.6E-10	3.149E-10	5.454E-11	4.1712E-11	6.994E-12	2.926E-12	4.622E-13	2.061E-10	2.061E-10	2.061E-10	2.03E-10	4.027E-11	3.6E-10	3.6E-10	2.228E-11	1.8753E-11	3.6E-10	3.6E-10		0	1.5309E-11
Pa-231 (Ci/L)	8.04E-10	7.103E-10	1.136E-10	9.4084E-11	1.457E-11	6.599E-12	1.067E-12	4.477E-10	4.477E-10	4.477E-10	4.41E-10	9.084E-11	1.3389E-09	2E-09	5.285E-11	5.1514E-11	2E-09	2E-09		0	3.7984E-11
Th-229 (Ci/L)	2.031E-14	2.917E-14	2.87E-15	3.8629E-15	3.68E-16	2.709E-16	3.634E-17	1.511E-14	1.511E-14	1.511E-14	1.49E-14	3.73E-15	7.9285E-14	2.294E-13	3.262E-15	4.2768E-15	2.28325E-13	3.98E-13		0	2.5904E-15
Th-232 (Ci/L)	2.652E-16	3.885E-16	3.748E-17	5.1452E-17	4.807E-18	3.609E-18	4.922E-19	1.999E-16	2E-16	1.999E-16	1.97E-16	4.968E-17	1.1018E-15	1.058E-14	6.2E-17	2.0776E-16	3.17065E-15	7.481E-15		0	3.5681E-17
U-232 (Ci/L)	3.721E-12	7.524E-12	3.72E-12	7.5231E-12	3.72E-12	4.128E-12	5.712E-13	2.287E-12	2.287E-12	2.287E-12	2.25E-12	7.523E-12	9.7646E-12	2.386E-11	1.426E-11	3.0426E-11	2.2603E-12	1.04E-11		0	1.6304E-11
U-233 (Ci/L)	2.227E-13	3.444E-13	2.227E-13	3.4441E-13	2.227E-13	1.89E-13	2.606E-14	1.133E-13	1.133E-13	1.133E-13	1.12E-13	3.444E-13	3.7225E-13	5.529E-13	5.277E-13	8.9811E-13	7.41088E-14	2.452E-13		0	5.471E-13
U-234 (Ci/L)	3.139E-07	3.127E-07	3.139E-07	3.1264E-07	3.139E-07	1.715E-07	2.848E-08	1.212E-07	1.213E-07	1.212E-07	1.2E-07	3.126E-07	2.2225E-07	2.414E-07	3.265E-07	4.5678E-07	4.32893E-08	1.282E-07		0	3.1039E-07
U-235 (Ci/L)	1.412E-08	1.381E-08	1.412E-08	1.3808E-08	1.412E-08	7.577E-09	1.267E-09	5.397E-09	5.397E-09	5.397E-09	5.32E-09	1.381E-08	9.5624E-09	9.128E-09	1.387E-08	1.7313E-08	1.85032E-09	5.346E-09		0	1.3247E-08
U-236 (Ci/L)	2.004E-09	3.203E-09	2.004E-09	3.2029E-09	2.004E-09	1.757E-09	2.483E-10	1.043E-09	1.043E-09	1.043E-09	1.03E-09	3.203E-09	3.5158E-09	1.631E-08	7.186E-09	2.9958E-08	7.37146E-10	3.497E-09		0	5.3802E-09
U-238 (Ci/L)	3.178E-07	3.179E-07	3.178E-07	3.1785E-07	3.178E-07	1.744E-07	2.891E-08	1.231E-07	1.231E-07	1.231E-07	3.17E-05	3.179E-07	2.2682E-07	1.688E-07	3.178E-07	3.1715E-07	4.4328E-08	1.248E-07		0	3.1793E-07
U-Total (M)	0.0040002	0.0040002	0.004	0.004	0.004	0.0021948	0.0003639	0.0015487	0.0015488	0.0015487	0.001527	0.004	0.00285388	0.0021289	0.004	0.004	0.000557713	0.0015703	0.004034106	0	0.004
Np-237 (Ci/L)	3.545E-08	6.17E-08	5.011E-09	8.1718E-09	6.425E-10	5.732E-10	8.004E-11	3.004E-08	3.004E-08	3.004E-08	2.96E-08	7.89E-09	1.9183E-07	3.135E-07	8.423E-09	1.7713E-08	4.01569E-07	4.464E-07		0	7.0967E-09
Pu-238 (Ci/L)	2.674E-08	7.214E-08	2.892E-08	7.2168E-08	2.892E-08	7.215E-08	3.417E-09	3.975E-08	3.976E-08	3.975E-08	3.92E-08	7.213E-08	1.2401E-07	4.505E-07	1.382E-07	3.1667E-07	1.35157E-07	3.369E-07		0	1.3823E-07
Pu-239 (Ci/L)	8.373E-06	8.957E-06	9.056E-06	8.9605E-06	9.056E-06	8.959E-06	4.946E-07	6.046E-06	6.047E-06	6.046E-06	5.96E-06	8.956E-06	8.8488E-06	8.722E-06	8.855E-06	8.7941E-06	8.83178E-06	8.728E-06		0	8.8246E-06
Pu-240 (Ci/L)	4.934E-07	8.747E-07	5.337E-07	8.75E-07	5.337E-07	8.748E-07	4.341E-08	5.188E-07	5.188E-07	5.188E-07	5.12E-07	8.745E-07	1.2666E-06	1.689E-06	1.249E-06	1.4532E-06	1.32282E-06	1.665E-06		0	1.3497E-06
Pu-241 (Ci/L)	3.159E-07	3.166E-06	3.417E-07	3.1672E-06	3.417E-07	3.167E-06	1.435E-07	1.563E-06	1.563E-06	1.563E-06	1.54E-06	3.165E-06	7.4501E-06	2.163E-05	7.628E-06	1.2935E-05	9.96873E-06	2.398E-05		0	1.0056E-05
Pu-242 (Ci/L)	9.653E-13	1.447E-11	1.044E-12	1.4476E-11	1.044E-12	1.447E-11	6.638E-13	7.042E-12	7.042E-12	7.041E-12	6.94E-12	1.447E-11	3.4162E-11	1.241E-10	3.236E-11	3.4157E-11	3.72296E-11	1.387E-10		0	3.8406E-11
Pu-Total (g/L)	0.0001369	0.000148	0.000148	0.00014803	0.000148	0.000148	8.15E-06	9.956E-05	9.957E-05	9.956E-05	9.82E-05	0.0001479	0.000148	0.000148	0.000148	0.000148	0.000148	0.000148		0	0.000148
Am-241 (Ci/L)	2.965E-07	3.752E-06	4.19E-08	4.97E-07	5.373E-09	3.486E-08	4.045E-09	1.349E-06	1.349E-06	1.349E-06	1.33E-06	4.798E-07	1.5093E-05	0.00003	6.278E-07	1.0077E-06	0.00003	0.00003		0	5.1864E-07
Am-243 (Ci/L)	8.289E-13	2.713E-11	1.171E-13	3.5931E-12	1.502E-14	2.52E-13	3.287E-14	9.411E-12	9.412E-12	9.411E-12	9.28E-12	3.469E-12	1.4116E-10	1.353E-09	5.727E-12	8.1301E-12	2.99555E-10	9.203E-10		0	5.0588E-12
Cm-242 (Ci/L)	3.104E-11	1.077E-09	4.387E-12	1.4265E-10	5.626E-13	1.001E-11	1.317E-12	3.732E-10	3.732E-10	3.732E-10	3.68E-10	1.377E-10	7.2192E-09	1.004E-07	2.888E-10	3.775E-10	3.11185E-08	1.336E-07		0	3.2275E-10
Cm-243 (Ci/L)	4.607E-13	2.219E-11	6.511E-14	2.9386E-12	8.35E-15	2.061E-13	2.837E-14	7.641E-12	7.642E-12	7.641E-12	7.53E-12	2.837E-12	1.6549E-10	1.017E-08	6.591E-12	8.6936E-12	7.88648E-10	1.027E-08		0	7.9911E-12
Cm-244 (Ci/L)	1.269E-11	6.467E-10	1.793E-12	8.5652E-11	2.299E-13	6.008E-12	8.354E-13	2.225E-10	2.225E-10	2.225E-10	2.19E-10	8.27E-11	5.0441E-09	1E-07	1.995E-10	2.539E-10	2.57203E-08	1E-07		0	2.5664E-10

pred. su mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3 (Ci/L)	7.2526E-07	1.14E-06	0	0	0	0	2.63E-07	4.89E-06	2.673E-05	5.887E-06	5.364E-05	2.472E-05	9.677E-05		0.00015	0	0	0	0	0	0
C-14 (Ci/L)	1.0156E-07	6.44E-07	0	0	0	0	3.62E-07	1.38E-11	6.349E-11	1.336E-05	1.653E-05	1.665E-06	7.899E-06		3.13E-05	0	0	0	0	0	0
Ni-59 (Ci/L)	2.8727E-08	3.87E-08	0	0	0	0	1.09E-06	0	0	1.449E-06	2.93E-06	2.817E-07	0		1.47E-06	0	0	0	0	0	0
Ni-63 (Ci/L)	2.8883E-06	4.06E-06	0	0	0	0	0.000107	0	0	0.0001422	0.000304	2.791E-05	0		0.000146	0	0	0	0	0	0
Co-60 (Ci/L)	1.4821E-07	1.58E-06	0	0	0	0	3.81E-07	0	0	1.356E-05	3.977E-05	3.746E-06	1.6E-05		3.59E-05	0	0	0	0	0	0
Se-79 (Ci/L)	2.2568E-08	8.14E-08	0	0	0	0	1.59E-06	1.13E-07	5.195E-07	2E-06	2E-06	1.129E-06	2E-06		2E-06	0	0	0	0	0	0
Sr-90 (Ci/L)	0.00240559	0.008993	0	0	0	0	0.034	0.007684	0.0340001	0.0340001	0.0340001	0.0339999	0.1359995		0.069089	0	0	0	0	0	0
Y-90 (Ci/L)	0.0024062	0.008996	0	0	0	0	0.034008	0.007686	0.0340063	0.0340083	0.0340092	0.0340083	0.1360327		0.069106	0	0	0	0	0	0
Zr-93 (Ci/L)	1.0641E-07	3.89E-07	0	0	0	0	7E-06	2.92E-07	1.343E-06	1E-05	1E-05	5.08E-06	1E-05		1E-05	0	0	0	0	0	0
Nb-93m (Ci/L)	7.7733E-08	2.69E-07	0	0	0	0	5.9E-06	2.13E-07	9.281E-07	7E-06	7E-06	4.066E-06	7E-06		7E-06	0	0	0	0	0	0
Tc-99 (Ci/L)	7.4781E-07	2.73E-06	0	0	0	0	2.55E-06	1.21E-06	5.58E-06	9.401E-05	0.0001098	1.114E-05	5.337E-05		0.000221	0	0	0	0	0	0
Ru-106 (Ci/L)	2.4502E-10	5E-09	0	0	0	0	3.03E-09	3.68E-11	1.703E-09	5E-09	5E-09	5E-09	5E-09		4.64E-09	0	0	0	0	0	0
Cd-113m (Ci/L)	5.1615E-07	2.32E-06	0	0	0	0	1.8E-05	5.9E-07	3.145E-06	6E-05	6E-05	1.733E-05	6E-05		6E-05	0	0	0	0	0	0
Sb-125 (Ci/L)	8.0723E-07	6.62E-06	0	0	0	0	1.47E-06	1.75E-06	1.781E-05	5.086E-05	0.0002484	2.291E-05	9.436E-05		0.000155	0	0	0	0	0	0
Sn-126 (Ci/L)	3.4558E-08	1.33E-07	0	0	0	0	2.53E-06	1.04E-07	4.773E-07	3E-06	3E-06	1.783E-06	3E-06		3E-06	0	0	0	0	0	0
I-129 (Ci/L)	1.442E-09	5.66E-09	0	0	0	0	4.94E-09	4.43E-09	2.041E-08	1.818E-07	2.139E-07	2.167E-08	1.037E-07		4.27E-07	0	0	0	0	0	0
Cs-134 (Ci/L)	5.3536E-08	1.5E-06	0	0	0	0	1.42E-09	5.97E-08	8.113E-07	2.323E-06	1.912E-06	0	1.139E-05		2.91E-07	0	0	0	0	0	0
Cs-137 (Ci/L)	0.00276801	0.011074	0	0	0	0	0.000178	0.007069	0.0349318	0.314137	0.0264738	0	0.2060796		0.03979	0	0	0	0	0	0
Ba-137m (Ci/L)	0.00261852	0.010476	0	0	0	0	0.000168	0.006688	0.0330442	0.2971725	0.0250435	0	0.1949474		0.037642	0	0	0	0	0	0
Sm-151 (Ci/L)	8.1511E-05	0.000203	0	0	0	0	0.005952	0.000109	0.000513	0.007	0.007	0.0040913	0.007		0.007001	0	0	0	0	0	0
Eu-152 (Ci/L)	1.8716E-08	2.32E-07	0	0	0	0	1.02E-06	1.44E-08	7.744E-08	2.253E-06	5.396E-06	1.021E-06	8.107E-06		2.48E-06	0	0	0	0	0	0
Eu-154 (Ci/L)	2.931E-06	4.19E-05	0	0	0	0	6.06E-05	1.89E-06	1.114E-05	0.0002902	0.0005	0.0001133	0.0005		0.0005	0	0	0	0	0	0
Eu-155 (Ci/L)	1.3352E-06	5.12E-06	0	0	0	0	6.67E-05	1.02E-06	7.262E-06	0.0001481	0.0002613	5.851E-05	0.0004975		0.000148	0	0	0	0	0	0
Ra-226 (Ci/L)	1.4733E-12	1.78E-12	0	0	0	0	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11	6.2E-11		6.2E-11	0	0	0	0	0	0
Ra-228 (Ci/L)	1.5375E-09	5.76E-17	0	0	0	0	6.49E-16	2.99E-06	1.348E-05	2.521E-11	2.254E-15	5.433E-16	4.738E-15		1.08E-09	0	0	0	0	0	0
Ac-227 (Ci/L)	3.6001E-10	9.28E-12	0	0	0	0	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10	3.6E-10		3.6E-10	0	0	0	0	0	0
Pa-231 (Ci/L)	2.0001E-09	2.86E-11	0	0	0	0	1.56E-09	2E-09	2E-09	2E-09	2.001E-09	1.003E-09	2E-09		2E-09	0	0	0	0	0	0
Th-229 (Ci/L)	6.9614E-10	6.79E-15	0	0	0	0	1.17E-13	7.2E-08	2.958E-07	1.167E-11	2.115E-13	8.082E-14	7.898E-13		4.88E-11	0	0	0	0	0	0
Th-232 (Ci/L)	3.2874E-09	1.77E-16	0	0	0	0	8.63E-17	3.15E-07	7E-07	1.078E-10	6.977E-15	6.674E-16	2.926E-15		4.46E-10	0	0	0	0	0	0
U-232 (Ci/L)	6.4416E-08	2.18E-10	1.62E-11	6.41E-08	1.59E-06	0	9.39E-14	1.38E-06	5.402E-05	6.326E-08	2.614E-11	2.379E-12	9.56E-12		6.5E-08	0	0	0	0	0	0
U-233 (Ci/L)	2.5026E-07	2.54E-12	5.32E-13	2.54E-07	6.086E-06	0	2.47E-15	5.47E-06	0.0002068	2.448E-07	3.456E-13	3.211E-14	1.339E-13		2.52E-07	0	0	0	0	0	0
U-234 (Ci/L)	3.3668E-07	4.54E-07	3.1E-07	3.28E-07	4.643E-07	0	1.34E-09	3.82E-08	1.444E-06	1.955E-07	9.258E-08	8.961E-09	4.005E-08		3.38E-07	0	0	0	0	0	0
U-235 (Ci/L)	1.3811E-08	1.71E-08	1.33E-08	1.36E-08	1.62E-08	0	5.66E-11	1.18E-13	4.471E-12	8.09E-09	3.557E-09	3.469E-10	1.569E-09		1.39E-08	0	0	0	0	0	0
U-236 (Ci/L)	1.0111E-08	4.63E-08	5.29E-09	8.91E-09	3.248E-08	0	3.13E-11	1.65E-14	6.239E-13	5.368E-09	7.128E-09	6.518E-10	2.642E-09		1.05E-08	0	0	0	0	0	0
U-238 (Ci/L)	3.1781E-07	3.17E-07	3.18E-07	3.18E-07	3.171E-07	0	1.34E-09	9.67E-22	3.654E-20	1.884E-07	6.96E-08	6.908E-09	3.209E-08		3.25E-07	0	0	0	0	0	0
U-Total (M)	0.004	0.004	0.004	0.004	0.004	0	1.68E-05	2.45E-06	9.27E-05	0.0023696	0.0008773	8.707E-05	0.0004043		0.004			0	0	0	0
Np-237 (Ci/L)	5.573E-09	4.25E-08	0	0	0	0	7.73E-09	1.03E-13	4.822E-13	2.943E-07	3.535E-07	3.559E-08	1.688E-07		7.51E-07	0	0	0	0	0	0
Pu-238 (Ci/L)	2.1029E-07	1.59E-06	0	0	0	0	2.08E-07	1.4E-11	6.749E-11	1.866E-06	1.231E-06	4.942E-07	1.302E-06		9.98E-07	0	0	0	0	0	0
Pu-239 (Ci/L)	8.7633E-06	8.17E-06	0	0	0	8.5E-06	8.79E-06	3.99E-16	1.874E-15	7.92E-05	8.318E-06	8.661E-06	3.496E-05		3.19E-05	0	0	0	0	0	0
Pu-240 (Ci/L)	1.5581E-06	3.45E-06	0	0	0	2.1E-06	1.45E-06	2.14E-17	1.005E-16	1.301E-05	2.992E-06	1.879E-06	6.496E-06		5.59E-06	0	0	0	0	0	0
Pu-241 (Ci/L)	1.6844E-05	0.000107	0	0	0	0	1.51E-05	9.37E-17	5.1E-16	0.0001349	8.515E-05	3.465E-05	9.232E-05		6.95E-05	0	0	0	0	0	0
Pu-242 (Ci/L)	4.7395E-11	8.49E-10	0	0	0	0	7.4E-11	1.24E-22	5.817E-22	6.606E-10	6.158E-10	2.255E-10	5.443E-10		3.86E-10	0	0	0	0	0	0
Pu-Total (g/L)	0.000148	0.000148	0	0	0	0.00015	0.000148	8.26E-13	3.973E-12	0.0001086	0.000148	0.000148	0.000592		0.000307	0	0	0	0	0	0
Am-241 (Ci/L)	6.3532E-07	2.55E-05	0	0	0	0.00003	0.00003	8.45E-18	3.767E-17	0.00003	3E-05	0.00003	3E-05		3E-05	0	0	0	0	0	0
Am-243 (Ci/L)	6.7105E-12	3.8E-09	0	0	0	0	7.2E-10	2.35E-23	1.105E-22	6.599E-10	3.355E-09	2.272E-09	1.571E-09		9.26E-10	0	0	0	0	0	0
Cm-242 (Ci/L)	2.704E-10	4.43E-08	0	0	0	0	2.42E-08	0	1.341E-35	5.387E-08	4.657E-07	5.43E-08	3.082E-07		1.02E-07	0	0	0	0	0	0
Cm-243 (Ci/L)	7.4571E-12	5.7E-09	0	0	0	0	1.33E-09	7.4E-25	3.669E-24	3.03E-09	5.7E-08	5.781E-09	2.771E-08		9.7E-09	0	0	0	0	0	0
Cm-244 (Ci/L)	2.5532E-10	1E-07	0	0	0	0	6.59E-08	2.32E-23	1.199E-22	1E-07	1E-07	1E-07	1E-07		1E-07	0	0	0	0	0	0

pred. su mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (Ci/L)		5.9E-06		5.7E-06		0.00028		0.0002		0.00017		0.00036		0.00092		0.00036		0	0.0099997	0	2.053E-05			0
C-14 (Ci/L)		8.6E-07		8.5E-07		1.5E-05		2.9E-05		2.8E-05		4.2E-05		4.7E-05		4E-05		0	0.0001232	0	2.529E-07			0
Ni-59 (Ci/L)		1.4E-07		1.4E-07		8.1E-07		4.3E-07		4.8E-07		4.6E-07		4.6E-07		5.2E-07		0	0	0	0			0
Ni-63 (Ci/L)		1.2E-05		1.2E-05		7.9E-05		4.2E-05		4.8E-05		4.5E-05		4.5E-05		5.1E-05		0	0	0	0			0
Co-60 (Ci/L)		1.9E-07		1.9E-07		1.3E-05		1.9E-05		4.1E-05		2.7E-05		4.2E-05		3.2E-05		0	1E-04	0	3.899E-06			0
Se-79 (Ci/L)		1.8E-07		1.8E-07		2E-06		1.7E-06		2E-06		2.5E-06		3.7E-06		2.4E-06		0	2E-06	0	3.161E-08			0
Sr-90 (Ci/L)		0.02035		0.02131		0.03401		0.032		0.03399		0.0335		0.04436		0.04025		0	0.0339999	0	0.0049566			0
Y-90 (Ci/L)		0.02035		0.02131		0.03402		0.03201		0.034		0.03351		0.04437		0.04026		0	0.0340087	0	0.0049579			0
Zr-93 (Ci/L)		8.6E-07		8.7E-07		1E-05		8.3E-06		1E-05		1.2E-05		1.8E-05		1.2E-05		0	1E-05	0	1.524E-07			0
Nb-93m (Ci/L)		7.3E-07		7.3E-07		7E-06		6.1E-06		7E-06		9E-06		1.3E-05		8.5E-06		0	7E-06	0	6.436E-08			0
Tc-99 (Ci/L)		6E-06		6E-06		0.00011		0.00023		0.00024		0.0004		0.00105		0.00047		0	0.0005143	0	1.056E-06			0
Ru-106 (Ci/L)		7.4E-14		7.6E-14		3E-09		3.1E-09		5E-09		4.5E-09		7.1E-09		6.3E-09		0	5E-09	0	5E-09			0
Cd-113m (Ci/L)		2.1E-06		2.1E-06		5.9E-05		4.3E-05		6E-05		6.2E-05		9.5E-05		6.5E-05		0	6E-05	0	1.645E-06			0
Sb-125 (Ci/L)		1.7E-07		1.7E-07		4.7E-05		8.1E-05		0.00018		0.00011		0.00018		0.00015		0	0.0189999	0	9.442E-05			0
Sn-126 (Ci/L)		2.7E-07		2.7E-07		3E-06		2.6E-06		3E-06		3.8E-06		5.6E-06		3.6E-06		0	3E-06	0	4.983E-08			0
I-129 (Ci/L)		1.1E-08		1.1E-08		2.1E-07		4.5E-07		4.7E-07		7.7E-07		2E-06		9E-07		0	1.033E-06	0	2.121E-09			0
Cs-134 (Ci/L)		8.9E-10		1.3E-09		2.6E-06		3E-06		1.3E-06		3.5E-06		1E-05		6.8E-06		0	0.0202011	0	4.19E-05			0
Cs-137 (Ci/L)		0.01554		0.01791		0.36316		0.30794		0.1224		0.39963		1.08609		0.48609		0	2.8211574	0	0.0058512			0
Ba-137m (Ci/L)		0.0147		0.01694		0.34356		0.29131		0.11579		0.37805		1.02745		0.45984		0	2.6688914	0	0.0055354			0
Sm-151 (Ci/L)		0.00068		0.00068		0.007		0.00599		0.007		0.00882		0.01316		0.00839		0	0.007	0	0.0001093			0
Eu-152 (Ci/L)		1.3E-08		1.3E-08		1.1E-06		2.1E-06		1.7E-06		2.8E-06		4.5E-06		3.4E-06		0	4.988E-05	0	1.024E-07			0
Eu-154 (Ci/L)		3.4E-06		3.4E-06		0.00031		0.0003		0.0005		0.00042		0.00066		0.00048		0	0.0005	0	2.914E-05			0
Eu-155 (Ci/L)		1E-06		9.8E-07		5.8E-05		0.00013		0.0001		0.00017		0.00027		0.0002		0	0.0090524	0	1.859E-05			0
Ra-226 (Ci/L)		5.2E-11		5.1E-11		6.2E-11		8E-11		6.2E-11		1.1E-10		1.7E-10		9.6E-11		0	6.2E-11	0	2.548E-13			0
Ra-228 (Ci/L)		5.2E-17		5.1E-17		2E-09		3.5E-08		6.6E-07		3.4E-08		1.2E-07		2.1E-07		0	4.52E-15	0	9.28E-18			0
Ac-227 (Ci/L)		2.7E-10		2.6E-10		3.6E-10		5E-10		3.6E-10		7E-10		1E-09		5.6E-10		0	3.6E-10	0	1.465E-12			0
Pa-231 (Ci/L)		5.7E-10		5.7E-10		2E-09		2.2E-09		2E-09		3.1E-09		4.6E-09		2.6E-09		0	2E-09	0	8.36E-12			0
Th-229 (Ci/L)		1E-14		9.9E-15		4.8E-11		9.1E-10		1.5E-08		8.8E-10		2.9E-09		4.9E-09		0	5.169E-13	0	1.061E-15			0
Th-232 (Ci/L)		2.5E-16		2.5E-16		2.7E-10		3.2E-09		8.1E-08		3.3E-09		1.3E-08		2.6E-08		0	2.079E-14	0	4.269E-17			0
U-232 (Ci/L)		6.6E-12		6.7E-12		2E-08		9.7E-08		1.4E-06		7.9E-08		1.6E-07		3.4E-07		0	1.027E-10	1.03E-10	1.027E-10			0
U-233 (Ci/L)		3.2E-13		3.2E-13		7.8E-08		3.7E-07		5.4E-06		3E-07		6E-07		1.3E-06		0	1.053E-12	1.05E-12	1.053E-12			0
U-234 (Ci/L)		3.1E-07		3.1E-07		3.7E-07		2.3E-07		3.8E-07		2.3E-07		3.4E-07		4.4E-07		0	4.618E-07	4.62E-07	4.618E-07			0
U-235 (Ci/L)		1.4E-08		1.4E-08		1.5E-08		9.6E-09		1.4E-08		9.4E-09		1.4E-08		1.8E-08		0	1.755E-08	1.76E-08	1.755E-08			0
U-236 (Ci/L)		2.9E-09		2.9E-09		1.5E-08		6.8E-09		1.3E-08		6.4E-09		8.1E-09		1.5E-08		0	3.802E-08	3.8E-08	3.802E-08			0
U-238 (Ci/L)		3.2E-07		3.2E-07		3.2E-07		2.6E-07		8E-07		3E-07		4.1E-07		5.7E-07		0	3.171E-07	3.17E-07	3.171E-07			0
U-Total (M)		0.004		0.004		0.004		0.00269		0.004		0.00268		0.004		0.00497		0	0.004	0.004	0.004			0
Np-237 (Ci/L)		3.7E-08		3.7E-08		4.9E-07		8.3E-07		8.2E-07		1.5E-06		3.8E-06		1.6E-06		0	7.533E-06	0	1.547E-08			0
Pu-238 (Ci/L)		5E-08		5.4E-08		2.8E-07		3.8E-07		3.2E-07		4.5E-07		4.3E-07		7.5E-07		0	1.04E-06	1.04E-06	1.04E-06			0
Pu-239 (Ci/L)		9E-06		9E-06		8.9E-06		1.5E-05		1.1E-05		1.6E-05		1.7E-05		2.1E-05		0	8.427E-06	8.43E-06	8.427E-06			0
Pu-240 (Ci/L)		7E-07		7.3E-07		1.5E-06		2.4E-06		1.9E-06		2.7E-06		2.7E-06		3.6E-06		0	2.56E-06	2.56E-06	2.56E-06			0
Pu-241 (Ci/L)		1.7E-06		2E-06		1.4E-05		2.6E-05		2.3E-05		3.1E-05		2.9E-05		5.1E-05		0	0.0001063	0.000106	0.0001063			0
Pu-242 (Ci/L)		7.6E-12		8.9E-12		7.5E-11		1.4E-10		1.1E-10		1.7E-10		1.6E-10		3.2E-10		0	3.962E-10	3.96E-10	3.962E-10			0
Pu-Total (g/L)		0.00015		0.00015		0.00015		0.00019		0.00015		0.0002		0.00021		0.00024		0	0.000148	0.000148	0.000148			0
Am-241 (Ci/L)		1.5E-06		1.6E-06		3E-05		6E-05		0.00003		9.6E-05		0.00025		0.00012		0	3E-05	0	1.948E-05			0
Am-243 (Ci/L)		1.1E-11		1.1E-11		9.6E-10		1.9E-09		1E-09		3.1E-09		8.3E-09		5.7E-09		0	6.32E-09	0	4.103E-09			0
Cm-242 (Ci/L)		2.4E-10		2.1E-10		2E-10		2.2E-10		2.2E-10		2.4E-10		3.7E-10		2.5E-10		0	4.393E-06	0	9.021E-09			0
Cm-243 (Ci/L)		4.8E-12		4.3E-12		4.1E-12		4.6E-12		4.5E-12		5E-12		7.6E-12		5.2E-12		0	7.361E-07	0	1.511E-09			0
Cm-244 (Ci/L)		2.5E-10		2.4E-10		2.4E-10		1.3E-10		2.6E-10		1.4E-10		2.2E-10		1.5E-10		0	1E-07	0	7.469E-08			0

prec. solids mol/L	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
NaNO3	0	0	0	0	0	0	0	12.264986	9.3106824	10.646424	0	0	5.24290678	0	0	0	0	0	0	4.01604195	0
NaNO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NaF	0	0	0	0	0	0	0.7976521	0	0	0	0	0	0	0	0	0	0	0		0	0
Sr(OH)2							0														
Na2CO3.7H2O	1.6520793	2.4681775	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	0	-0	-0
Na3PO4.10H2O	0	0	0	0	0	0	-0	0	-0	-0	0	-0	0	0	0	0	0	0		0	0
Na3PO4.12H2O	0.3407826	0.3606791	0.9837393	0.94177487	0.8119178	0	0		0	0	0	0.0901266	0	0	0	0	0	0		0	0
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2SO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2SiO3	0	0	0.1991509	0.14165244	0.0518414	0	0	0	0.0409799	0.0474317	0	0.0854033	0	0.4565906	0	0	0.592277538	1.4963646		0	0
(Al2O3.3H2O)/2	0	0	0.5985401	0.43373762	0	0	0	0	0	0	0	0	6.52888889	7.7315789	4.9382716	5.37931034	0	0		0	4.44444444
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.4969058	0	0	0		0	0
FeO(OH)	0.1178771	0.1181424	0.3509277	0.3363217	0.5592824	0.7832144	0.3610974	1.5725211	0.7575803	0.8759551	0	0.0001323	1.01203753	2.6850348	0.1636606	0.4556449	2.627723917	2.9592038		2.90966734	0.16329449
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
MnO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
BiPO4	0	0	0.0595218	0.05701786	0.0891591	0.0372992	0.0520081	0	0.2448899	0.2831597	0	0.2086064	0	0	0	0	0	0		0	0
Pb(OH)2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1166044	0.32451576	0	0		0	0.11631454
(La2O3)/2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HgO	0	0	9.85E-05	8.618E-05	0	0	0	0	0	0	0	0	0	0	0.0040735	0.01101284	0	0	0	0	0.00251809
Na3cit.5H2O																					
Na Acetate																					
Na 2 Oxalate	0	0	0	0	0	0	1.0574011						0	0	0	0	0	0		0	0
Na3HEDTA																					
Na4EDTA																					
CaCO3.6H2O	0.0805882	0.0817819	0.0697788	0.06682032	0.1366739	0.2677096	0.2365116	0.3397135	0.2576199	0.2978578	0.786349	0.2296811	0.21501788	0.5024747	0.1148861	0.31524273	0.413775853	0.2358766		0.42758064	0.113003
Ni(OH)2	0	0	0	0	0	0	0	0	0	0.0504304	0.292947	0.0854822	0.04972362	0.1165336	0	0	0.100285425	0.0567564		0.10052055	0
ZrO2•2H2O	0	0	0	0	0	0	0	0	0	0	0	0.0210293	0	0	0	0	0	0		0	0
Na2NiFe(CN)6.6H2O									0.1351351	0.078125	0.357143	0.1041667									
UO2(OH)2*6H2O	1.7500086	1.7643452	0.2004576	0.18375987	0.0025485	0	0	0	0	0	0	0.5443694	0	0	0.1787969	0.48692244	0	0	0.645473682	0	0.13617462

prec. solids mol/L	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
NaNO3	0	0	0	0	0	0	0	0	0	0			0	0	0				0.4576	0	0
NaNO2	0	0	0	0	0	0	0	0	0	0			0	0	0				1.5975	0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0.478	0	0
NaF	0	5.081856	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Sr(OH)2																					
Na2CO3.7H2O	-0	-0	-0	-0.0836	-0	-0	0	-0	-0	0	-0	0	0	0	0			0	0.83	-0	-0
Na3PO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na3PO4.12H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					0	0
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0.4	0.4
Na2SO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	1.13885	0			0	0	0.028	0.028
Na2SiO3	0	0	0	0	0	0	0	0	0	2.2402545	1.2031697	2.3601347	1.7729706	3.33045	3.273443			0	0	0	0
(Al2O3.3H2O)/2	5.37931034	0	0	0	0	10.8696	0	0.410345	0.4103448	0.0528923	1.162	2.8823529	0	1.57185	0			0	0.1925	0	0
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0.615	0	0
FeO(OH)	0.45564451	0.125999	6.33407	3.454936	6.3340739	1.68351	5.667017	1.086336	1.0863363	1.3001405	1.0002983	2.2065378	1.2703401	0	0			0	0	4	4
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	0	0	0	2.7756	0			0	0	0.8	0.8
MnO2	0	0	0	0.274449	0	0	0	0	0	0	0	0	0	0.19162	0			0	0	0	0
BiPO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00604	0			0	0	0	0
Pb(OH)2	0.32451544	0	0	0	0	0	0.150279	0	0	0	0	0	0	0.00837	0			0	0	0	0
(La2O3)/2	0	0	0	0	0	0	0	0	0	0	0	0	0	4.4E-08	0			0	0	0	0
HgO	0.00590522	0.001992	0	0	0	0	0	0	0	0	0	0	0	6.3E-05	0			0	0	0	0
Na3cit.5H2O																					
Na Acetate																					
Na 2 Oxalate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na3HEDTA																					
Na4EDTA																					
CaCO3.6H2O	0.31441337	0.087248	1.506738	0.822988	1.5213136	0.40839	0	0.161401	0.161401	0.1026361	0.2144195	0.1973836	0.1290457	1.0995	1.548997			0	0	0.90385	0.90385
Ni(OH)2	0	0	0.367337	0.200344	0.3673397	0.09646	0.183648	0.038048	0.0380481	0.1375149	0.040277	1.2064791	0	0.24274	0.306122			0	0	0.4	0.4
ZrO2•2H2O	0	0.924237	0	0	0	0	0	0	0	0	0	0	0	0.00079	0			0	0	0	0
Na2NiFe(CN)6.6I																					
UO2(OH)2*6H2C	0.16929026	0.075598	1.496235	0.184849	0.2894293	0	0	0	0	0	0	0	0	0.20006	0.119282			0	0	0	0

prec. solids mol/L	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
NaNO3		6.98843		7.90867		3.05469		4.97851		4.37408		5.98874		3.96874		6.67675		0						
NaNO2		0		0		0		0		0		1.53343		2.78974		1.64345		0						
NaCl		0		0															0	0	0			0
NaF		0		0															0	0	5.0835309			0
Sr(OH)2																								
Na2CO3.7H2O		0		0		0		0.09478		0.152		0.17189		0.42282		0.31825		0	-0	-0	-0			-0
Na3PO4.10H2O		0.8848		1.20365		0		0.01355		0		0		0.24832		0.33283		0	0	0	0			0
Na3PO4.12H2O																			0	0	0			0
Na2SO4		0		0		0		0		0		0		0		0		0	0	0	0			0
Na2SO4.10H2O		0		0		0		0		0		0		0.37127		0.19066		0	0	0	0			0
Na2SiO3		0.02051		0		0.10334		0.08391		0.05028		0.10563		0.05725		0.15594		0	1.4969999	0	0			0
(Al2O3.3H2O)/2		0		0		0		0		0		0		0		0		0	0.6102564	0	0			0
NaAlO2		0		0		2.13646		0		0.87472		0.98548		1.74609		1.39334		0	0	0	0			0
FeO(OH)		0.1162		0.12499		0.01583		0.01761		0.02033		0.01744		0.00304		0.01481		0	2.9592412	1.900221	0.3622037			1.33376
Cr(OH)3		0		0		0.72772		0.07856		0		0.22291		0.08968		0.1019		0	0	0	0			0
MnO2		0		0		0		0.00395		0		0.00517		0.00161		0.00435		0	0	0	0			0
BiPO4		0.01555		0.01296		0		0		0		0		0.00328		0.00492		0	0	0	0			0
Pb(OH)2		0		0		0		0		0.00443		0		0		0		0	0	0	0			0
(La2O3)/2	0	0	0	0	0	0	0	8.8E-10	0	0	0	0	0	0	0	0		0	0	0	0			0
HgO	0	1.4E-05	0	0	0	0	0	6.8E-07	0	2.9E-05	0	2.2E-06	0	1.8E-05	0	3.6E-05		0	0	0	0.0020888			0
Na3cit.5H2O																								
Na Acetate																								
Na 2 Oxalate		0		0		0		0		0		0		0		0		0	0	0	0			0
Na3HEDTA																								
Na4EDTA																								
CaCO3.6H2O		0.06559		0.08729		0.06972		0.05437		0.06589		0.05181		0.01521		0.05218		0	0.2393431	0.451841	0.0872553			1.50212
Ni(OH)2		0.00729		0.01081		0.01369		0.0103		0.01213		0.00995		0.0028		0.00937		0	0	0.110201	0			0
ZrO2•2H2O		0		0		0		0		0		0		0.00033		0.00165		0	0	0	0.9242581			0
Na2NiFe(CN)6.6I																								
UO2(OH)2*6H2C		0.06325		0.06907		0.01063		0.01282		0.02382		0.01431		0.00563		0.01558		0	0.2266027	0.052553	0.036464			0

cc/L solids	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
NaNO3	0	0	0	0	0	0	0	461.0897	350.02566	400.24149	0	0	197.101758	0	0	0	0	0		150.979021	0
NaNO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NaF	0	0	0	0	0	0	13.093594	0	0	0	0	0	0	0	0	0	0	0		0	0
Sr(OH)2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2CO3.7H2O	253.93881	379.38013	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0		-0	-0
Na2CO3.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na3PO4.10H2O	0	0	0	0	0	0	-0	0	-0	-0	0	-0	0	0	0	0	0	0		0	0
Na3PO4.12H2O	79.961911	84.630457	230.82653	220.979917	190.51	0	0	0	0	0	0	21.147489	0	0	0	0	0	0		0	0
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2SO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2SiO3	0	0	10.128482	7.20420676	2.6365686	0	0	0	2.0841696	2.4122962	0	4.3434699	0	23.221436	0	0	30.12224846	76.102609		0	0
Al2O3.3H2O	0	0	19.293026	13.9808691	0	0	0	0	0	0	0	0	210.448751	249.21563	159.17763	173.393844	0	0		0	143.259871
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	166.88199	0	0	0		0	0
FeO(OH)	3.4680068	3.4758116	10.32448	9.89476269	16.454384	23.042584	10.623677	46.264404	22.288413	25.771062	0	0.0038935	29.7746804	78.995146	4.8149815	13.4053144	77.30902982	87.061344		85.6039546	4.80421035
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
MnO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
BiPO4	0	0	2.8612469	2.74087906	4.2859253	1.7929915	2.5000575	0	11.771989	13.611639	0	10.027819	0	0	0	0	0	0		0	0
Pb(OH)2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.6874974	13.0455335	0	0		0	4.67584467
La2O3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HgO	0	0	0.0019219	0.0016816	0	0	0	0	0	0	0	0	0	0	0.0794838	0.21488934	0	0	0	0	0.04913447
Na3cit.5H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NaAcetate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na2Oxalate	0	0	0	0	0	0	60.552027	0	0	0	0	0	0	0	0	0	0	0		0	0
Na3HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na4EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
CaCO3.6H2O	9.4730902	9.6134193	8.2024539	7.8546894	16.065931	31.469107	27.801795	39.933118	30.283072	35.013007	92.4348	26.998871	25.2752247	59.065607	13.504794	37.0565959	48.63910624	27.727151		50.2618502	13.2834357
Ni(OH)2	0	0	0	0	0	0	0	0	0	1.2810716	7.441655	2.1714832	1.2631161	2.9602717	0	0	2.547524561	1.4417686		2.5534974	0
ZrO(OH)2	0	0	0	0	0	0	0	0	0	0	0	1.0304359	0	0	0	0	0	0		0	0
Na2NiFe(CN)6.6H2O			0	0	0	0	0	0	31.873874	18.427083	84.2381	24.569444	0	0	0	0	0	0		0	0
UO2(OH)2*6H2O	257.50126	259.61079	29.495902	27.0389528	0.3749907	0	0	0	0	0	0	80.100062	0	0	26.308686	71.6471585	0	0	94.97684185	0	20.0371225

cc/L solids	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
NaNO3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	17.20301	0	0
NaNO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	50.84294	0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	12.90269	0	0
NaF	0	83.41951	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Sr(OH)2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na2CO3.7H2O	-0	-0	-0	-12.85	-0	-0	0	-0	-0	0	-0	0	0	0	0			0	127.5781	-0	-0
Na2CO3.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na3PO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na3PO4.12H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	21.2	21.2
Na2SO4.10H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	250.633	0			0	0	6.1621	6.1621
Na2SiO3	0	0	0	0	0	0	0	0	0	113.93561	61.191208	120.03252	90.17033	169.381	166.4819			0	0	0	0
Al2O3.3H2O	173.393844	0	0	0	0	350.364	0	13.22684	13.226838	1.7049021	37.455293	92.90824	0	50.6662	0			0	6.204943	0	0
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	18.67094	0	0
FeO(OH)	13.4053028	3.706964	186.3517	101.6461	186.35181	49.5297	166.7266	31.96059	31.960589	38.250823	29.429306	64.917512	37.374077	0	0			0	0	117.682	117.682
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	0	0	0	80.9719	0			0	0	23.3382	23.3382
MnO2	0	0	0	7.014583	0	0	0	0	0	0	0	0	0	4.89746	0			0	0	0	0
BiPO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.29013	0			0	0	0	0
Pb(OH)2	13.0455208	0	0	0	0	0	6.041231	0	0	0	0	0	0	0.33633	0			0	0	0	0
La2O3	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1E-06	0			0	0	0	0
HgO	0.11522629	0.03887	0	0	0	0	0	0	0	0	0	0	0	0.00123	0			0	0	0	0
Na3cit.5H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
NaAcetate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na2Oxalate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na3HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
Na4EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
CaCO3.6H2O	36.9591049	10.25595	177.1162	96.74171	178.82951	48.0057	0	18.9726	18.972595	12.064812	25.204884	23.202327	15.169251	129.246	182.0837			0	0	106.247	106.247
Ni(OH)2	0	0	9.331356	5.089293	9.3314343	2.45041	4.665153	0.966527	0.9665272	3.4932561	1.0231469	30.647876	0	6.16623	7.776328			0	0	10.1611	10.1611
ZrO(OH)2	0	45.28762	0	0	0	0	0	0	0	0	0	0	0	0.03877	0			0	0	0	0
Na2NiFe(CN)6.6I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
UO2(OH)2*6H2C	24.9098526	11.12373	220.1603	27.19926	42.587461	0	0	0	0	0	0	0	0	29.4372	17.5515			0	0	0	0

cc/L solids	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
NaNO3		262.723		297.319		114.838		187.162		164.439		225.141		149.201		251.006		0	0	0	0			0
NaNO2		0		0		0		0		0		48.8037		88.7879		52.3053		0	0	0	0			0
NaCl		0		0		0		0		0		0		0		0		0	0	0	0	0	0	0
NaF		0		0		0		0		0		0		0		0		0	0	0	83.447014	0	0	0
Sr(OH)2		0		0		0		0		0		0		0		0		0	0	0	0			0
Na2CO3.7H2O		0		0		0		14.5685		23.3635		26.4215		64.9908		48.9171		0	-0	-0	-0			-0
Na2CO3.10H2O		0		0		0		0		0		0		0		0		0	0	0	0			0
Na3PO4.10H2O		120.052		163.314		0		1.83886		0		0		33.692		45.1593		0	0	0	0			0
Na3PO4.12H2O		0		0		0		0		0		0		0		0		0	0	0	0			0
Na2SO4		0		0		0		0		0		0		0		0		0	0	0	0			0
Na2SO4.10H2O		0		0		0		0		0		0		81.708		41.9594		0	0	0	0			0
Na2SiO3		1.04301		0		5.2559		4.26755		2.55714		5.37218		2.91143		7.9309		0	76.13492	0	0			0
Al2O3.3H2O		0		0		0		0		0		0		0		0		0	19.670682	0	0			0
NaAlO2		0		0		64.8614		0		26.556		29.9183		53.01		42.3006		0	0	0	0			0
FeO(OH)		3.41865		3.67727		0.46584		0.51798		0.59808		0.51297		0.08953		0.43567		0	87.062443	55.90551	10.656223			39.2398
Cr(OH)3		0		0		21.2297		2.29187		0		6.50298		2.61611		2.97282		0	0	0	0			0
MnO2		0		0		0		0.10105		0		0.13225		0.04117		0.11121		0	0	0	0			0
BiPO4		0.7477		0.62313		0		0		0		0		0.15777		0.23628		0	0	0	0			0
Pb(OH)2		0		0		0		0		0.17825		0		0		0		0	0	0	0			0
La2O3	0	0	0	0	0	0	0	2.2E-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HgO	0	0.00027	0	0	0	0	0	1.3E-05	0	0.00056	0	4.3E-05	0	0.00036	0	0.00071	0	0	0	0	0.0407576	0	0	0
Na3cit.5H2O		0		0		0		0		0		0		0		0		0	0	0	0			0
NaAcetate		0		0		0		0		0		0		0		0		0	0	0	0			0
Na2Oxalate		0		0		0		0		0		0		0		0		0	0	0	0			0
Na3HEDTA		0		0		0		0		0		0		0		0		0	0	0	0			0
Na4EDTA		0		0		0		0		0		0		0		0		0	0	0	0			0
CaCO3.6H2O		7.71007		10.261		8.1955		6.39138		7.74508		6.08992		1.78792		6.13326		0	28.134643	53.11367	10.256806			176.574
Ni(OH)2		0.18521		0.27462		0.34771		0.26163		0.30806		0.25284		0.07109		0.23814		0	0	2.799406	0			0
ZrO(OH)2		0		0		0		0		0		0		0.01626		0.08082		0	0	0	45.288644			0
Na2NiFe(CN)6.6I		0		0		0		0		0		0		0		0		0	0	0	0			0
UO2(OH)2*6H2C		9.30648		10.1629		1.56458		1.88617		3.50463		2.10495		0.82829		2.29215		0	33.342972	7.73274	5.3654105			0

frac. prec. solids	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
NaNO3	0	0	0	0	0	0	0	0.1107622	0.1110791	0.1098507	0	0	0.07923831	0	0	0	0	0	0	0.03076975	0
NaNO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NaF	0	0	0	0	0	0	0.1146113		0	0		0									
Sr(OH)2							0.9684596														
Na2CO3	0.3816808	0.4790887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na3PO4	0.2271884	0.2404527	0.4865425	0.48599514	0.2760521	0	0	0	0	0	0	0.0288425	0	0	0	0	0.9	0.9		0	0.9
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Na2SiO3	0	0	0.4547278	0.38204346	0.0952761	0	1	1	0.0433216	0.0433661	1	0.1078779	0	0.2044929	0	1	0.277626152	0.6334196	0.630964269	1	0
Al2O3.3H2O	0.6	0.6	1	1	0.3	0.6	0.8	0.07	0.07	0.07	0.07	0.07	0.26	0.13	0.2	0.2	0.07	0.07		0.3	0.3
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2226247	0	0	0		0	0
FeO(OH)	0.8840783	0.8860679	0.961542	0.96150043	0.95078	0.9302642	0.8755524	0.9571868	0.934349	0.9343521	1	0.0031761	0.9587724	0.9625596	0.8721387	0.86932251	0.966672678	0.9830907	0.95	0.96988911	0.87018773
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		0	0
MnO2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1		1	1
BiPO4	1	1	0.679541	0.67919465	0.6062818	0.2410685	0.3362773	1	0.6969944	0.6970085	1	0.7152218	1	1	1	1	1	1		1	1
Pb(OH)2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.8586325	0.85554154	1	1		0	0.85649801
La2O3	0.6025474	0.6025474	0.6025474	0.60254736	0.6025474	0.6025474	0	0.6025474	0.6025474	0.6025474	0.602547	0.6025474	0.60254736	0.6025474	0.6025474	0.60254736	0.602547358	0.6025474	0.602547358	0.60254736	0.60254736
HgO	1	1	0.5838995	0.56134219	1	1	1	1	1	1	1	1	1	1	0.9713868	0.96984088	1	1	1	1	0.95386185
Na3cit.5H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na Acetate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na 2 Oxalate	0	0	0	0	0	0	0.891784	0	0	0	0	0	0	0	0	0	0	0		0	0
Na3HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Na4EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
CaCO3.6H2O	0.5367491	0.5447002	0.5247965	0.52431411	0.5118661	0.5031968	0.5058387	0.5175701	0.5181149	0.5180883	0.550444	0.5512345	0.52324274	0.5166136	0.5154116	0.50553648	0.503617564	0.5072514	0.501090948	0.51254247	0.5075031
Ni(OH)2	0	0	0	0	0	0	0	0	0.6454941	0.6455098	0.820251	0.8206295	0.55939069	0.5535344	0	0	0.55156984	0.5533751		0.55286303	0
ZrO(OH)2	1	1	0	0	1	1	1	1	1	1	1	0.2523517	1	1	1	1	1	1		1	1
Na2NiFe(CN)6.6H2O			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1

frac. prec. solids	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
NaNO3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0.13	0	0
NaNO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0.315556	0	0
NaCl	0	0	0	0	0	0	0	0	0	0	0	0	0		0				0.7648	0	0
NaF		0.69298	0	0	0			0	0	0					0				0	0	0
Sr(OH)2			0	0	0										0						
Na2CO3	0	0	0	0.002174	0	0	0	0	0	0	0	0	0	0	0				0.664	0	0
			0	0	0																
			0	0	0																
Na3PO4	0.9	0.9	0	0	0	0	0	0	0	0	0.9	0	0	0	0				0	1	0.58452
			0	0	0																
Na2SO4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17732	0				0	0	0
Na2SiO3	1	1	0	0	0	1	1	1	1	0.6725251	0.1503962	0.3209783	0.5762154	1	0.491442				1	1	1
Al2O3.3H2O	0.2	0	0	0	0	0.5	0.1	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0				0.07	0.07	0.07
NaAlO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0.223636	0.23	0.23
FeO(OH)	0.86932176	0.870389	0.950111	0.950107	0.9501111	0.95137	0.971489	0.969346	0.9693462	0.9529603	0.7144988	0.8826151	0.8055815	0	0				1	0.95014	0.95014
Cr(OH)3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0				1	0	0
MnO2	1	1	0	0.251578	0	1	1	1	1	0	1	1	1	1	0			0	1	1	1
BiPO4	1	1	0	0	0	1	1	1	1	0	1	1	1	1	0				1	1	1
Pb(OH)2	0.85554071	1	0	0	0	1	0.530398	1	1	0	0	1	1	1	0				1	1	1
La2O3	0.60254736	0.602547	0	0	0	0.60255	0.602547	0.602547	0.6025474	0.6025474	0.6025474	0.6025474	0.6025474	0.60255	0				0.602547	0.60255	0.60255
HgO	0.94518483	0.955025	0	0	0	1	1	1	1	0	1	1	1	1	0				1	1	1
Na3cit.5H2O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
Na Acetate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
Na 2 Oxalate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
Na3HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
Na4EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
CaCO3.6H2O	0.50487653	0.508105	0.501577	0.501933	0.5039865	0.51318	0	0.51068	0.5106803	0.2622573	0.1065038	0.130017	0.2722187	0.9	0.633346				0.9	0.50168	0.50168
Ni(OH)2	0	0	0.551005	0.550947	0.5510095	0.55466	0.550943	0.551698	0.5516981	0.7042134	0.1006926	0.8204058	1	1	0.630558				1	0.55128	0.55128
ZrO(OH)2	1	0.970449	0	0	0	1	1	1	1	0	1	1	1	1	0				1	1	1
Na2NiFe(CN)6.6I	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0				1	1	1

frac. prec. solids	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
NaNO3		0.32187		0.254852		0.13447		0.54		0.46243		0.61		0.74		0.59		0	0	0	0			0
NaNO2		0		0		0		0		0		0.276		0.66		0.25		0.3694	0	0	0			0
NaCl		0		0		0.09121		0.23494		0.03346		0.35324		0.64092		0.365		0.2237	0	0	0			0
NaF		0		0		0		0		0		0		0.55453		0.51844		0	0		0.6932088			0.69323
Sr(OH)2						0				0														
Na2CO3		0		0		0		0.13565		0.19725		0.21751		0.60235		0.29359		0.1935	0	0	0			0
Na3PO4		0.53929		0.503015		0		0.05311		0		0	0	0.7263		0.54565		0	0.9	0	0.9			0.9
Na2SO4		0		0		0		0		0		0		0.60628		0.20353		0.0263	0	0	0			0
Na2SiO3		0.10291		0		0.3021		0.65449		0.44882		0.7249		0.76102		0.72779		0.4794	0.6336886	1	1			1
Al2O3.3H2O		0		0		0		0		0		0		0		0		0	0.07	0.3	0			0
NaAlO2		0		0		0.15978		0		0.23138		0.25107		0.60513		0.33096		0.0942	0	0	0			0
FeO(OH)		0.91699		0.883242		0.52995		0.94024		0.84841		0.94422		0.82647		0.86777		0.702	0.9831031	0.950111	0.9507846			0.80025
Cr(OH)3		0		0		0.46341		0.41183		0		0.63177		0.655		0.44449		0.4295	1	0	1			1
MnO2		1		1		0		0.70524		0		0.75901		0.66632		0.53001		0.3269	1	0	1			1
BiPO4		0.42507		0.281728		0		0		0		0		0.55993		0.39392		0	1	1	1			1
Pb(OH)2		1		1		0		0		0.60412		0		0		0		0	1	0	1			1
La2O3		0.60255		0.602547		0		0.60255		0		0		0		0		0	0.6025474	0.602547	0.6025474	0.60255	0.602547	0.60255
HgO		0.20862		0		0		0.03748		0.61083		0.11892		0.73776		0.65973		0.3106	1	1	0.9570492			1
Na3cit.5H2O		0		0		0		0		0		0		0		0		0	0	0	0			0
Na Acetate		0		0		0		0		0		0		0		0		0	0	0	0			0
Na 2 Oxalate		0		0		0		0		0		0		0		0		0	0	0	0			0
Na3HEDTA		0		0		0		0		0		0		0		0		0	0	0	0			0
Na4EDTA		0		0		0		0		0		0		0		0		0	0	0	0			0
CaCO3.6H2O		0.58088		0.540068		0.52464		0.83667		0.80121		0.84698		0.77606		0.77714		0.6466	0.5110809	0.501477	0.5083114			0.50057
Ni(OH)2		0.43511		0.420821		0.51991		0.836		0.78768		0.84908		0.7693		0.76882		0.6572	1	0.551005	1			1
ZrO(OH)2		0		0		0		0		0		0		0.50584		0.47835		0	1	1	0.970471			0.97047
Na2NiFe(CN)6.6I		1		1		1		1		1		1		1		1		1	1	1	1			1

frac. prec. solids	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-14	0.3816808	0.4790887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0	0	0.6454941	0.6455098	0.820251	0.8206295	0.55939069	0.5535344	0	0	0.55156984	0.5533751	0	0.55286303	0
Ni-63	0	0	0	0	0	0	0	0	0.6454941	0.6455098	0.820251	0.8206295	0.55939069	0.5535344	0	0	0.55156984	0.5533751	0	0.55286303	0
Co-60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.92437835	0.5	0
Se-79	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2438111	0	0	0.342235331	0.6836401	0.981593418	0.5	0
Sr-90	0	0	0	0	0	0	0	0	0.98	0.98	0.98	0.55	0.55162543	0.8752629	0	0	0.88034749	0.9491819	0.997289257	0	0
Y-90	0	0	0	0	0	0	0	0	0.98	0.98	0.98	0.55	0.55162543	0.8752629	0	0	0.88034749	0.9491819	0.997289257	0	0
Zr-93	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2112793	0	0	0.301809071	0.6646333	0.980628395	0.5	0
Nb-93m	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2684581	0	0	0.37716748	0.6803955	0.980265599	0.5	0
Tc-99																					
Ru-106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7482374	0.999059321	0.5	0
Cd-113m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5846608	0.979375585	0.5	0
Sb-125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0
Sn-126	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2121213	0	0	0.363124236	0.6922165	0.981990603	0.5	0
I-129																					
Cs-134	0	0	0	0	0	0	0	0.01	0.97	0.97	0.97	0.55	0.005	0.005	0	0	0	0	0	0.03076975	0
Cs-137	0	0	0	0	0	0	0	0.01	0.97	0.97	0.97	0.55	0.005	0.005	0	0	0	0		0.03076975	0
Ba-137m	0	0	0	0	0	0	0	0.01	0.97	0.97	0.97	0.55	0.005	0.005	0	0	0	0	0	0.03076975	0
Sm-151	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2485384	0	0	0.360120579	0.6973248	0.980228283	0.5	0
Eu-152	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eu-154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3521772	0.983517588	0.5	0
Eu-155	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ra-226	0.1905329	0	0	0	0	0	0	0	0	0	0	0	0.43701811	0.6950101	0	0	0.745663229	0.8233258	0.984297242	0.5	0
Ra-228	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ac-227	0.0672718	0	0	0	0	0	0	0	0	0	0	0	0.36834853	0.6361786	0	0	0.720886565	0.8121892	0.982788073	0.5	0
Pa-231	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2527035	0	0	0.387253624	0.6342356	0.969935502	0.5	0
Th-229	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Th-232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0
U-232	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-233	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-234	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-235	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-236	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-238	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
U-Total	0.9826394	0.983068	0.8771682	0.87217168	0.042157	0	0	0	0	0	0	0.8676041	0	0	0.7884051	0.78044323	0	0	0.862889142	0	0.73650482
Np-237																					
Pu-238	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Pu-239	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Pu-240	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Pu-241	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Pu-242	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Pu-Total	0	0.3503362	0.1391887	0.44806479	0.3287399	0.2132637	0	0	0	0	0	0.4286566	0.70817419	0.7611578	0.9378365	0.9453177	0.855697346	0.9164574	0.997856789	0.80570889	0.93299832
Am-241	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5821426	0	0	0.419081046	0.8333854	0.997631774		0
Am-243	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5821426	0	0	0.419081046	0.8333854	0.997631774	0	0
Cm-242	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-243	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-244	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7562771	0	0	0	0.763414	0.998783394	0.5	0

frac. prec. solids	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-14	0	0	0	0.002174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.664	0	0
Ni-59	0	0	0.551005	0.550947	0.5510095	0.55466	0.550943	0.551698	0.5516981	0.7042134	0.1006926	0.8204058	1	1	0.630558	0	0	0	1	0.55128	0.55128
Ni-63	0	0	0.551005	0.550947	0.5510095	0.55466	0.550943	0.551698	0.5516981	0.7042134	0.1006926	0.8204058	1	1	0.630558	0	0	0	1	0.55128	0.55128
Co-60	0	0	0.5	0.5	0.5	0.5	0	0.5	0.5	0	0	0	0	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5
Se-79	0	0	0.5	0.5	0.5	0.5	0	0	0	0.4320441	0.3879425	0	0.8151934	0.5	0.479623	0.5	0.5	0.5	0.5	0.5	0.5
Sr-90	0	0	0	0	0	0	0.741305	0	0.106437	0.9189469	0.5493105	0.5976913	0.6447208	0.07649	0				1	1	1
Y-90	0	0	0	0	0	0	0.741305	0	0.106437	0.9189469	0.5493105	0.5976913	0.6447208	0.07649	0	0	0	0	1	1	1
Zr-93	0	0	0.5	0.5	0.5	0.5	0	0	0	0.3878823	0.3558534	0	0.7921452	0.5	0.478302	0.5	0.5	0.5	0.5	0.5	0.5
Nb-93m	0	0	0.5	0.5	0.5	0.5	0	0	0	0.452844	0.3437897	0	0.8237744	0.5	0.481409	0.5	0.5	0.5	0.5	0.5	0.5
Tc-99																					
Ru-106	0	0.162511	0.5	0.5	0.5	0.5	0	0	0	0.0520845	0.9687205	0.6844358	0.9319231	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5
Cd-113m	0	0	0.5	0.5	0.5	0.5	0	0	0	0.048564	0.3141949	0	0.5724734	0.5	0.440753	0.5	0.5	0.5	0.5	0.5	0.5
Sb-125	0	0	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5
Sn-126	0	0	0.5	0.5	0.5	0.5	0	0	0	0.4532488	0.4011497	0	0.8255107	0.5	0.480217	0.5	0.5	0.5	0.5	0.5	0.5
I-129																					
Cs-134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16	0.16	0.16
Cs-137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0.16	0.16	0.16
Ba-137m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16	0.16	0.16
Sm-151	0	0	0.5	0.5	0.5	0.5	0	0	0	0.4557645	0.3425489	0	0.8251077	0.5	0.48012	0.5	0.5	0.5	0.5	0.5	0.5
Eu-152	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eu-154	0	0	0.5	0.5	0.5	0.5	0	0	0	0	0.4519252	0	0.2688413	0.5	0.1582	0.5	0.5	0.5	0.5	0.5	0.5
Eu-155	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ra-226	0	0	0.5	0.5	0.5	0.5	0.652063	0.876213	0.9698428	0.7819178	0.4778503	0.4075748	0.9451064	0.5	0.507288	0.5	0.5	0.5	0.5	0.5	0.5
Ra-228	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ac-227	0.93030378	0	0.5	0.5	0.5	0.5	0.612139	0.999965	0.9999919	0.7627979	0.4276673	0.3407303	0.9388452	0.5	0.521687	0.5	0.5	0.5	0.5	0.5	0.5
Pa-231	0.77983419	0	0.5	0.5	0.5	0.5	0	0.999885	0.999975	0.4370738	0	0	0.8044826	0.5	0.505022	0.5	0.5	0.5	0.5	0.5	0.5
Th-229	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Th-232	0	0	0.5	0.5	0.5	0.5	0	0	0.5174359	0	0	0	0	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5
U-232	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-233	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-234	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-235	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-236	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-238	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
U-Total	0.5527419	0.668286	0.692249	0.337504	0.303195	0	0	0	0	0	0	0	0	0.77264	0.230338				0	0	0
Np-237																					
Pu-238	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Pu-239	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Pu-240	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Pu-241	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Pu-242	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Pu-Total	0.89584015	0.967542	0	0	0	0.9871	0.8362	0	0	0	0.9287337	0.7764649	0.9050366	0	0				0.8	0.8	0.8
Am-241	0	0				0.95763	0.332025	0	0	0.6316347	0.9212517	0.4797411	0.9259907		0.484793						
Am-243	0	0	0	0	0	0.95763	0.332025	0	0	0.6316347	0.9212517	0.4797411	0.9259907	0	0.484793				0	0	0
Cm-242	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-243	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-244	0	0.593724	0.5	0.5	0.5	0.5	0	0	0	0.1800347	0.9595453	0.6079969	0.9201539	0.5	0.067085	0.5	0.5	0.5	0.5	0.5	0.5

frac. prec. solids	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0	0.13565	0	0.19725	0	0.21751	0	0.60235	0	0.29359	0	0.1935	0	0	0	0	0	0
Ni-59	0	0.43511	0	0.420821	0	0.51991	0	0.836	0	0.78768	0	0.84908	0	0.7693	0	0.76882	0	0.6572	1	0.551005	1	0	0	1
Ni-63	0	0.43511	0	0.420821	0	0.51991	0	0.836	0	0.78768	0	0.84908	0	0.7693	0	0.76882	0	0.6572	1	0.551005	1	0	0	1
Co-60	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.9473368	0.5	0	0.5	0.5	0.5
Se-79	0.5	0	0.5	0	0.5	0.27691	0.5	0.5	0.5	0.26399	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8700698	0.5	0	0.5	0.5	0.5
Sr-90		0		0		0.49722		0.71978		0.62033		0.78771		0.6973		0.68343		0.5403	0.9859153	0	0			1
Y-90	0	0	0	0	0	0.49722	0	0.71978	0	0.62033	0	0.78771	0	0.6973	0	0.68343	0	0.5403	0.9859153	0	0	0	0	1
Zr-93	0.5	0	0.5	0	0.5	0.26284	0.5	0.5	0.5	0.24884	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.865311	0.5	0	0.5	0.5	0.5
Nb-93m	0.5	0	0.5	0	0.5	0.30129	0.5	0.5	0.5	0.26276	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7766875	0.5	0	0.5	0.5	0.5
Tc-99																								
Ru-106	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0.21428	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.9999998	0.5	0.9999093	0.5	0.5	0.5
Cd-113m	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0.19534	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.9251233	0.5	0	0.5	0.5	0.5
Sb-125	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5868387	0.5	0	0.5	0.5	0.5
Sn-126	0.5	0	0.5	0	0.5	0.28288	0.5	0.5	0.5	0.26262	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8763785	0.5	0	0.5	0.5	0.5
I-129																								
Cs-134	0	0.32187	0	0.254852	0	0.015	0	0.05	0	0.2	0	0.1	0	0.05	0	0.05	0	0.08	0.01	0	0	0	0	0
Cs-137		0.32187		0.254852		0.015		0.05		0.2		0.1		0.05		0.05		0.08	0.01	0	0			0
Ba-137m	0	0.32187	0	0.254852	0	0.015	0	0.05	0	0.2	0	0.1	0	0.05	0	0.05	0	0.08	0.01	0	0	0	0	0
Sm-151	0.5	0	0.5	0	0.5	0.28173	0.5	0.5	0.5	0.259	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8685163	0.5	0	0.5	0.5	0.5
Eu-152	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eu-154	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0.14169	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.9647682	0.5	0	0.5	0.5	0.5
Eu-155	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ra-226	0.5	0	0.5	0	0.5	0.49153	0.5	0.5	0.5	0.44138	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5002913	0.5	0	0.5	0.5	0.5
Ra-228	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ac-227	0.5	0	0.5	0	0.5	0.49372	0.5	0.5	0.5	0.71752	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4953529	0.5	0	0.5	0.5	0.5
Pa-231	0.5	0	0.5	0	0.5	0.38445	0.5	0.5	0.5	0.69949	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.50876	0.5	0	0.5	0.5	0.5
Th-229	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Th-232	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0.5	0	0.5	0.5	0.5
U-232		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-233		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-234		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-235		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-236		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-238		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
U-Total		0.7504		0.676383		0.27451		0.74985		0.7663		0.78455		0.72584		0.64868		0.5064	0.6901827	0.208455	0.4930197			0
Np-237																								
Pu-238		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Pu-239		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Pu-240		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Pu-241		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Pu-242		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Pu-Total		0.47508		0.432603		0.52576		0.71905		0.79861		0.75683		0.76368		0.69205		0.528	0.9845458	0.842064	0.9247347			0.8
Am-241		0		0		0.30664				0.28074									0.9968374		0			
Am-243		0		0		0.30664		0		0.28074		0		0		0		0	0.9968374	0	0			0
Cm-242	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-243	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cm-244	0.5	0	0.5	0	0.5	0	0.5	0.5	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.997251	0.5	0	0.5	0.5	0.5

pred. sludge ppm	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
Na	69174.689	88914.063	87005.299	85045.7284	76668.131	24489.124	80595.272	182029.65	159666.86	167672.9	58542.96	34268.838	106387.212	54396.937	101976.5	19344.0036	33263.8578	68914.321		97536.1948	32167.0551
Al	0	0	11695.162	8633.05262	0	0	0	0	0	0	0	0	107329.421	128525.05	170733.06	95449.6271	0	0		0	97348.4302
Fe	3933.2746	3933.2932	14251.58	13917.1487	24998.589	38980.437	16780.316	49561.394	29040.178	30078.54	14827.07	4163.6685	32214.9275	85968.499	5201.2534	15417.4761	116104.5455	122964.4		108601.636	6448.9002
Cr	42.129633	28.52361	182.90257	191.029849	136.36559	236.45172	260.40651	43.149914	57.370927	49.710151	0	68.448727	1831.97385	1990.7003	59.778201	73.3275298	277.7130965	251.74642		198.735086	93.5379457
Bi	0	0	9443.364	9245.13399	15385.436	7631.2079	9612.5684	0	30054.891	33614.168	0	31162.123	0	0	0	0	0	0		0	0
La	0	0	0	0	0	0	388.73772	0	0	0	0	0	0	0	0	0	0	0		0	0
Hg	0	0	15.352473	13.8443138	0	0	0	0	0	0	0	0	0	0	462.05021	1334.88705	0	0		0	354.745579
ZrO(OH)2	0	0	15.795855	16.4977447	0	0	0	0	0	0	0	1526.6459	0	0	0	0	0	0		0	0
Pb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13761.609	40753.9895	0	0		5.93883499	17063.0796
Ni	23.782988	16.102126	50.831762	53.0904731	58.652189	78.961775	69.17858	24.358956	4651.1721	4287.0709	28443.3	7888.23	1694.43042	3956.2152	33.745944	41.3948007	4725.536257	2541.4349		3992.44941	52.8039692
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Mn	0	0	0	0	0	0	206.34712	0	0	0	0	0	0	0	0	0	0	0		0	0
Ca	2001.6796	2001.7396	2213.1954	2172.0456	4594.0313	9841.9751	8113.8862	7771.7326	6129.0719	6838.0002	23670.6	6701.2945	5017.01899	11662.253	2732.2788	7795.94918	13352.53649	7247.1471		11619.2264	3381.09114
K	6.9890125	0	190.4243	199.990731	159.44415	121.33611	6648.7541	159.75312	223.18794	193.38551	306.5391	108.08317	249.901061	264.92982	33.906628	63.3563773	81.96141277	133.45223		274.86424	34.5466261
balance	**99.991468**	**103.63706**	**99.905584**	**99.844507**	**99.939718**	**99.980494**	**100.01304**	**99.94288**	**99.891154**	**99.628502**	**101.1425**	**100.56143**	**100.910767**	**101.78203**	**101.51735**	**101.036789**	**100.34927**	**100.88012**		**100.0217**	**101.73751**
density	1.6849243	1.6849243	1.3807944	1.35551601	1.252881	1.12481	1.2076713	1.7729758	1.7190207	1.7733832	1.345199	1.4240186	1.75630211	1.7450189	1.7712369	1.65601765	1.264760796	1.3447215		1.49699	1.42856209
vol%solids	12	12	13.7	14.2943561	6.8	3.4	3.8795181	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9		2.2	8.1
void frac.	0.3956569	0.2632894	0.7183619	0.73734299	0.7700472	0.9436953	0.8854288	0.4527128	0.5835467	0.5216694	0.900124	0.9342765	0.53613647	0.5865419	0.6508536	0.76288382	0.841382091	0.8076671		0.71060168	0.8339275
wt.% H2O	46.976552	45.908092	64.021331	65.6150763	71.304542	81.387814	68.589814	22.05307	30.448	26.336618	67.88639	69.562924	26.9847709	31.686392	24.541498	47.9490656	67.18289191	61.490962		40.1697777	57.3634813
TOC wt.%C	0	0	0	0	0	0	2.1101669	0.0001134	0.5660042	0.3171903	1.91156	0.5266785	0	0	0	0	0	0		0	0
free OH-	145.58701	97.179525	166.46657	174.185672	621.28068	1080.89	260.9942	48.747537	109.03869	94.476487	373.0044	1537.9468	10144.2641	11179.451	223.72681	248.660681	2107.360069	1968.0719		426.689904	357.558406
OH-	109653.54	110481.05	50045.642	42976.6774	23595.009	36592.61	15510.15	45282.628	22584.972	26252.581	7777.259	43580.104	247810.292	340534.46	400465.44	236509.185	110763.1823	115634.07		101837.342	211204.711
NO3-	2714.5524	1797.6389	46495.431	45103.8878	46936.616	35421.499	62913.124	467915.84	343231.11	377810.2	623.8089	5372.3193	186603.285	5.336E-09	20039.438	24387.2639	1.07877E-10	2.847E-12		248762.349	24240.9436
NO2-	137.5343	122.96643	7856.6974	10148.4492	815.20967	509.76681	122.05277	3940.5536	38216.178	33785.101	77264.64	17636.775	38189.489	41718.031	24874.021	6784.28396	13797.11583	20096.077		219.755144	21851.994
CO3--	67256.225	94517.278	3313.7189	3252.1072	6878.4386	14735.951	12148.561	14462.57	9176.7866	10238.233	35481.15	9717.7267	7511.75921	17461.373	4090.9194	11672.5277	19992.15855	10850.831		17396.9505	5062.35727
PO4---	22552.835	22555.206	79165.457	77725.698	77057.518	11867.189	6606.4695	3201.5213	17914.961	18964.064	8272.81	29269.748	0	0	0	0	0	0		4355.50873	0
SO4--	5146.2704	3484.2508	3617.8864	3778.64728	2974.9277	2168.1449	212.22836	3527.2192	6060.8316	5251.525	1029.878	1264.4676	569.028037	976.31041	454.79201	557.875179	2796.352156	9230.6063		2572.62741	711.635839
SiO3--	28.44763	19.260293	4548.6995	3455.38614	1749.4147	459.59584	0	0	993.92335	1032.2757	0	2311.4004	128.838315	7671.0122	318.66834	0	13790.1025	31831.803		0	332.424202
F-	0	0	1912.36	1997.33576	2609.9275	1848.4125	15894.228	0	1375.6611	1191.9682	0	2851.1527	0	0	0	0	0	0		0	0
Cl-	29.131849	19.723539	793.73329	833.608425	664.60075	505.75747	696.13995	877.20128	930.29985	806.07632	1277.727	450.51609	1041.64642	1104.2898	141.33081	264.084288	341.6344535	556.26029		1145.69883	143.998466
C6H5O7---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
EDTA----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
HEDTA---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
glycolate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
acetate-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
oxalate--	0	0	0	0	0	0	77390.373	0	0	0	0	0	0	0	0	0	0	0		0	0
DBP	0	0	0	0	0	0	0	1.6547226	0	0	0	0	0	0	0	0	0	0		0	0
butanol	0	0	0	0	0	0	0	0.5834826	0	0	0	0	0	0	0	0	0	0		0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NH3	0.0114915	0.0063194	977.51441	748.612516	0.0800231	0.0588411	0.0017264	4.1636882	2725.0397	2822.6474	2952.306	229.67414	2473.37082	4555.9687	1.9654293	0.9130142	2288.789686	3414.9348		0	2.52726055
NiFe(CN)6--	0	0	0	0	0	0	0	0	21273.897	11921.951	71848.1	19795.798	0	0	0	0	0	0		0	0

pred. sludge ppm	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
Na	18725.256	98639.04	4414.009	11971.4	13396.881	26259.9	29003.62	62262	62262.377	99740.569	54873.761	99573.448	112406.51		142663.1	628983	0	6770	181275.9	15387.7	20087.9
Al	104122.278	0	0	0	0	172365	0	15267.09	15267.187	1472.903	26617.643	51024.956	0		4974.855	5534.4	25844	0	37648.59	0	0
Fe	16817.9761	5514.736	163091.9	136579.6	208738.33	54598.4	218740	48636.4	48636.693	55837.475	44981.044	76287.298	53951.097		124.9014	12888	15578.37	0	0	150174	148977
Cr	80.0087043	106.3773	120.5414	236.6743	153.85877	157.551	236.9398	312.4209	312.42285	566.92304	70.753723	0.0043098	0		1185.184	0	0	0	0	28156.5	27932
Bi	0	0	0	0	0	0	0	0	0	1.5471359	0	0	0		10.35714	0	0	0	0	0	0
La	0	0	0	0	0	0	0	0	0	0	0	0	0		8.25E-05	0	0	0	0	0	0
Hg	781.271151	310.284	0	0	0	0	0	0	0	0.0465606	0	0	0		0.103537	0	0	0	0	0	0
ZrO(OH)2	0	65368.31	0	0	0	0	0	0	0	0.0026671	0	0	0		0.592633	0	0	0	0	0	0
Pb	44456.0198	0	0	0	0	0	21702.16	0	0	7.8667527	0.1409564	0	0		14.23437	0	0	0	0	0	0
Ni	45.1664522	60.05204	9971.78	8382.1	12762.697	3320.35	7509.874	1866.772	1866.7829	6268.1447	1972.6378	43867.482	0		11466.65	0	0	0	0	15832.5	15706.3
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Mn	0	0	0	10948.99	17.925884	0	0	0	0	93.404852	0	0	0		86.4458	0	0	70.1	0	0	0
Ca	8482.27208	2942.975	27941.77	23542.92	36106.439	9614.19	111.8584	5447.067	5447.1005	3389.4706	7153.3444	5043.7661	4146.1264		39608.58	8221.5	440880	0	0	24518.2	24322.7
K	49.3394365	5821.284	11.32973	300.3089	79.857766	159.299	1975.132	816.0413	816.04622	191.18046	73.471075	218.28983	344.97731		380.076	0	0	49.89	363.4571	13.0041	12.9004
balance	**101.139786**	**100.1574**	**100.0153**	**100.0367**	**100.02688**	**100.376**	**99.45442**	**100.7866**	**100.30225**	**101.00102**	**100.60533**	**101.31721**	**100.57886**		**102.3644**	**100.4**	**100.21**	**99.47**	**103.5965**	**100.29**	**100.288**
density	1.51811445	1.293341	2.169383	1.41337	1.6949876	1.72313	1.447279	1.249538	1.2495308	1.3020237	1.2440379	1.6163001	1.3220813		1.573295	0.39	1.9	1.019	1.639284	1.48805	1.50001
vol%solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6		1	100	100	13.6	80	1	1
void frac.	0.763081	0.857291	0.627201	0.802358	0.6254872	0.54965	0.822567	0.934873	0.9348735	0.8305506	0.8456962	0.6682915	0.8572863		0.643658	0	0	1	0.8	0.71521	0.71521
wt.% H2O	51.2852021	64.17858	35.00573	55.7651	38.752658	28.6062	43.56753	64.56174	64.674362	69.194964	72.392179	45.120992	60.49301		57.74149	-6	8	94.73	43.11462	52.5153	51.7543
TOC wt.%C	0	0	0.252915	0.190828	0.0985723	0	1.407969	0.020293	0.089747	0	0.0489833	0.24367	3.9834985		0.166283	0	0	0	0	0	0
free OH-	273.867736	2815.955	317.8482	633.0339	552.89502	1612.61	1143.265	324.0133	330.90214	1217.6864	2163.4767	8954.7506	1920.0233		8958.83	0	0	-8235	5471.61	422.592	419.223
OH-	236545.688	62392.52	225332.5	156664.8	215922.67	380532	208685.4	78594.41	78601.776	58756.567	95479.811	202244.38	50924.077		35846.19	0	310742.1	-8235	98364.28	174072	172684
NO3-	21104.9387	12308.06	4132.882	13318.31	21620.666	51343.7	0.001001	121174.3	92356.76	7.735E-05	0.0099819	0.3359058	0.0181997		36276.15	0	0	48685	105554.1	4683.58	4646.24
NO2-	6798.62698	784.343	133.2909	261.7071	170.13229	207.575	28518.52	5598.747	26980.091	22617.733	8821.8597	16853.365	19406.77		20525.15	0	0	0	118908.6	532.135	307.938
CO3--	12700.1284	4406.385	45348.06	44711.98	60408.256	17909.4	167.4806	8155.652	8155.7012	10314.41	10710.384	14009.557	15490.818		64648.38	0	0	0	42098.55	36507	36216
PO4---	0	0	0	0	0	4.28553	0	6419.124	6419.163	1421.902	0	393.56014	0		531.009	0	0	0	5517.507	0	6792.28
SO4--	608.705493	98.25582	111.3385	218.6051	142.11224	210.543	3687.628	3895.679	3895.7026	5012.2417	1045.6965	1751.5395	6377.1255		5066.082	0	34884.95	0	1674.25	27814.3	27592.6
SiO3--	0	0	0	0	0	0	0	0	0	48940.629	27816.658	41412.462	38289.781		58835.55	408385	94175.42	0	0	0	0
F-	0	77678.29	0	0	0	0	0	1712.307	1712.3175	4.7181262	0	0	0		41.42094	0	0	0	662.3099	0	0
Cl-	205.658381	136.3459	47.22498	139.0843	279.68932	1018.01	992.3191	1687.874	1687.8844	429.86839	306.24473	909.88338	1437.9466		1214.639	0	0	0	12751.72	54.204	53.7719
C6H5O7---	0	0	0	0	0	0	4307.292	0	0	0	1286.2211	1175.2103	0		2168.989	0	0	0	0	0	0
EDTA----	0	0	0	0	0	0	13127.38	0	0	0	0	0	28126.567		59.16048	0	0	0	0	0	0
HEDTA---	0	0	0	0	0	0	0	0	0	0	0	0	53519.556		113.9987	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
glycolate-	0	0	0	0	0	0	0	0	0	0	0	6217.7281	14648.074		197.5581	0	0	0	0	0	0
acetate-	0	0	0	0	0	0	17144.07	0	0	0	0	0	0		0	0	0	0	0	0	0
oxalate--	0	0	0	0	0	0	0	0	0	0	0	0	0		6.85E-05	0	0	0	0	0	0
DBP	0	0	3691.852	2785.553	1438.8816	0	0	296.224	1310.0568	0	0	0	4.1531805		1530.648	0	0	0	0	0	0
butanol	0	0	1301.808	982.2319	507.37348	0	0	104.4535	461.94773	0	0	0	1.4644802		0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
NH3	0.35876702	8676.924	0	0	0	0	2956.966	1.82685	72.335697	2633.1466	779.91158	970.38406	1721.0501		222.8772	0	0	0	0	0	0
NiFe(CN)6--	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0

pred. sludge ppm	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
Na		176366		185809.8		180781		192764		184674		230556		264736		232562		0	78773.228	10885.26	97953.872			888.794
Al		258.089		140.1128		53448.8		17912.2		34973.8		33354.5		39532.9		31656.9		0	15411.398	0	0			0
Fe		3982.07		4040.613		567.581		620.58		749.438		538.801		104.869		455.992		0	109597.74	88214.99	15739.28			61276.7
Cr		173.498		128.6514		24958.6		4259.61		1753.92		7869.99		3618.7		3826.28		0	0	307.5388	0			0
Bi		2280.77		1806.784		0.83841		220.808		114.914		143.971		621.51		787.849		0	0	0	0			0
La		0		0		1.4E-06		0.00014		0.17433		0.75119		1.21428		0.46465		0	0	0	0			0
Hg		2.42483		0.601441		0.12641		1.13376		4.45965		1.03045		2.52282		4.44333		0	0	0	325.81044			0
ZrO(OH)2		8.30252		19.18255		0.03653		14.7072		1.90086		8.71185		30.3316		104.914		0	0	0	65475.396			0
Pb		0		0		20.7017		109.909		720.938		109.119		236.676		114.426		0	0	6.654998	0			0
Ni		298.728		396.1703		517.723		405.824		486.919		339.974		108.79		316.163		0	0	5451.113	0			0
Sr		0		0		0		0		0		0		0		0		0	0	0	0			0
Mn		0		0		1.6044		160.308		109.269		174.919		67.5253		159.114		0	0	243.6949	0			0
Ca		1728.85		2116.939		1797.09		1461.95		1791.21		1209.52		400.2		1196.77		0	6546.9825	15306.13	2946.0704			49702.6
K		357.907		270.302		730.656		1060.71		955.532		1260.62		2626.94		2186.24		0	226.78978	198.004	5781.2879			5.04542
balance		**101.597**		**101.631**		**104.869**		**103.913**		**104.001**		**104.721**		**105.369**		**103.052**		**100**	**102.0081**	**100.0267**	**100.06332**			**99.9998**
density		1.6466		1.742038		1.71243		1.63402		1.63022		1.8547		1.95447		1.89509		0.5	1.5087251	1.204113	1.2912258			1.217
vol%solids		17.6828		11.44569		13.8204		55.3855		48.966		55.1726		99		45.5227		90	3.9	2	10.5			0.6
void frac.		0.60412		0.524532		0.78481		0.7826		0.77425		0.65085		0.52092		0.50021		0.5	0.7889973	0.888181	0.8503106			0.78419
wt.% H2O		40.2657		37.7268		34.7395		37.7999		36.2831		25.485		21.4265		22.8082		100	54.973013	73.45017	63.068895			75.4752
TOC wt.%C		0.00017		0.000134		0.00525		0.51907		0.44646		0.61305		1.33473		0.77877		0	0	0.036272	0			0
free OH-		688.059		665.6909		27832.7		18753.1		11233.4		28166.9		49530.4		17217.3		0	12764.565	471.6029	1261.3695			175.409
OH-		9006.36		8933.119		185594		68079.4		101853		120001		151998		101369		0	160083.2	88518.52	67177.244			56068.1
NO3-		326819		333726.3		190175		268197		248782		257123		169290		263183		0	5.307E-10	11774.62	15923.387			2648.52
NO2-		6661.65		5525.867		50254.3		46096.4		47143.9		82404.4		98839.8		75169.3		0	14978.507	340.067	327.23564			0
CO3--		6859.62		6832.004		2864.52		17092.7		18591.2		16611		21858.6		19289.3		0	9802.5055	27441.4	4411.0201			74088.2
PO4---		57157.9		70614.37		24.6566		7707.91		3997.59		5311.5		16686.4		21059.2		0	0	4880.739	0			0
SO4--		7628.15		5974.895		2267.72		13823.3		11372.9		12739		29872.2		20812.8		0	6827.2822	287.1449	0			0
SiO3--		700.175		287.0366		2133.01		1817.73		1319.85		1869.83		1076.2		2566.27		0	28371.577	0	0			0
F-		1181.89		948.0084		3.93211		930.791		648.977		611.387		1189.3		1140.89		0	300.55842	0	77805.546			0
Cl-		1810.2		1376.542		2760.96		3327.8		2859.93		2905.19		2446.05		2157.78		0	945.31318	102.4129	109.03968			21.0305
C6H5O7---		0		0		40.427		2008.57		2772.32		2701.1		5381.01		2422.07		0	0	0	0			0
EDTA----		0		0		2.39965		1856.67		948.252		2128.1		4956.1		3494.35		0	0	0	0			0
HEDTA---		0		0		1.89588		3430.01		121.777		3829.14		8838.1		5886.15		0	0	0	0			0
		0		0		0		0		0		0		0		0		0	0	0	0			0
glycolate-		0		0		22.6426		2869.45		774.457		3296.36		6954.68		3431.18		0	0	0	0			0
acetate-		0		0		1.84896		71.3429		1155.86		152.165		408.576		524.471		0	0	0	0			0
oxalate--		0		0		1.1E-06		5.1E-05		0.14471		0.62354		1.00794		0.38569		0	0	0	0			0
DBP		2.49299		1.956569		39.8644		1757.26		3273.68		2076.33		4339.97		2221.52		0	0	529.4767	0			0
butanol		0.87907		0.689919		14.0569		619.639		1154.35		732.147		1530.35		783.344		0	0	186.7023	0			0
		0		0		0		0		0		0		0		0		0	0	0	0			0
NH3		531.645		367.4882		357.756		283.965		140.362		240.42		730.568		1289.15		0	2236.9496	0	8620.1664			547.705
NiFe(CN)6--		0		0		0		0		0		0		0		0		0	0	0	0			0

pred. sludge ppm	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3 (µCi/g)	0.0005635	0.0008427	0.0002453	0.00053088	3.028E-05	2.821E-05	4.401E-06	0.0012953	0.0017149	0.0014872	0.002574	0.0003771	0.01665002	0.0842744	0.0005711	0.00075322	0.0225281	0.0949591		0	0.00063253
C-14 (µCi/g)	0.0016178	0.0031846	6.274E-05	0.00010236	9.504E-06	1.107E-05	1.364E-06	0.0001791	0.0002381	0.0002063	0.000463	0.0001192	0.00128887	0.0036264	6.157E-05	8.8837E-05	0.00954097	0.0176991		0	9.1281E-05
Ni-59 (µCi/g)	5.708E-05	6.309E-05	1.787E-05	2.9089E-05	2.708E-06	3.147E-06	3.876E-07	5.092E-05	0.0020169	0.0022545	0.008577	0.000624	0.00845943	0.0464484	1.746E-05	2.5148E-05	0.081462724	0.0877248		0	2.5863E-05
Ni-63 (µCi/g)	0.0050107	0.0057562	0.0015689	0.00265401	0.0002377	0.0002871	3.574E-05	0.0045909	0.181837	0.2032584	0.773224	0.0569322	0.78986551	4.5946124	0.0016376	0.00249839	7.864820271	8.8090338		0	0.00247679
Co-60 (µCi/g)	2.793E-05	5.984E-05	8.746E-06	2.7591E-05	1.325E-06	2.985E-06	4.377E-07	4.097E-05	5.447E-05	4.72E-05	0.000106	3.213E-05	0.00050879	0.0040523	2.662E-05	0.00010192	0.006679139	0.0243937		0	5.4945E-05
Se-79 (µCi/g)	4.217E-05	4.688E-05	1.32E-05	2.1614E-05	2E-06	2.338E-06	2.877E-07	3.777E-05	5.022E-05	4.351E-05	9.76E-05	2.517E-05	0.00027361	0.0199686	1.34E-05	2.3392E-05	0.038598453	0.082993		0	1.9349E-05
Sr-90 (µCi/g)	1.1864378	1.4692393	5.5105284	10.0485767	0.8577121	1.116864	0.1424137	2.9106512	173.02192	193.90424	584.2341	148.32831	528.596021	7150.5294	1.1560476	2.45095582	8981.678806	12038.73		0	1.7639683
Y-90 (µCi/g)	1.1867405	1.469652	5.5119344	10.0513989	0.8579309	1.1171776	0.1424521	2.911447	173.06922	193.95725	584.3938	148.36996	528.718182	7152.2903	1.1563215	2.45156415	8983.721513	12041.866		0	1.76436286
Zr-93 (µCi/g)	0.000201	0.0002223	6.294E-05	0.00010249	9.536E-06	1.109E-05	1.366E-06	0.0001794	0.0002385	0.0002067	0.000464	0.0001194	0.00129172	0.0835208	6.34E-05	0.00011225	0.161466178	0.3810617		0	9.1179E-05
Nb-93m (µCi/g)	0.0001731	0.0001858	5.422E-05	8.5671E-05	8.214E-06	9.268E-06	1.13E-06	0.0001514	0.0002013	0.0001744	0.000391	9.977E-05	0.00105611	0.0792229	5.152E-05	8.4193E-05	0.156470895	0.2862244		0	7.2365E-05
Tc-99 (µCi/g)	0.001386	0.0015433	0.000434	0.00071157	6.575E-05	7.698E-05	9.467E-06	0.0012428	0.0016524	0.0014317	0.003211	0.0008286	0.00902176	0.0295923	0.0004424	0.00077883	0.066729319	0.1254948		0	0.0006382
Ru-106 (µCi/g)	6.584E-13	3.043E-11	2.062E-13	1.4032E-11	3.123E-14	1.518E-12	3.282E-13	1.705E-11	2.266E-11	1.964E-11	4.4E-11	1.634E-11	1.4212E-09	1.101E-06	1.557E-10	2.8579E-08	2.10274E-07	0.0002842		0	7.484E-10
Cd-113m (µCi/g)	0.0004085	0.000585	0.0001279	0.00026973	1.938E-05	2.918E-05	3.823E-06	0.0004384	0.0005829	0.0005051	0.001133	0.0003141	0.00398108	0.0166451	0.000198	0.00044008	0.036534519	1.6344384		0	0.00033135
Sb-125 (µCi/g)	1.508E-05	6.086E-05	4.72E-06	2.806E-05	7.151E-07	3.036E-06	5.047E-07	3.794E-05	5.044E-05	4.37E-05	9.8E-05	3.268E-05	0.00074709	0.0156753	4.455E-05	0.00043453	0.016562567	0.1095825		0	0.00011645
Sn-126 (µCi/g)	6.262E-05	7.094E-05	1.961E-05	3.2708E-05	2.971E-06	3.538E-06	4.337E-07	5.682E-05	7.555E-05	6.546E-05	0.000147	3.809E-05	0.00042053	0.0251779	2.04E-05	3.327E-05	0.063255188	0.1294902		0	2.9931E-05
I-129 (µCi/g)	2.581E-06	2.923E-06	8.082E-07	1.3477E-06	1.224E-07	1.458E-07	1.787E-08	2.342E-06	3.113E-06	2.698E-06	6.05E-06	1.569E-06	1.7331E-05	5.583E-05	8.469E-07	1.4587E-06	0.00012904	0.0002428		0	1.2326E-06
Cs-134 (µCi/g)	1.613E-08	1.835E-07	7.491E-08	1.2547E-06	1.166E-08	1.395E-07	2.174E-08	4.764E-07	1.587E-05	1.778E-05	5.36E-05	1.852E-05	1.5477E-05	0.001393	9.339E-07	2.21E-05	0.000499143	0.0058141		0	3.0458E-06
Cs-137 (µCi/g)	1.3375008	1.6729259	6.2121558	11.4416516	0.9669202	1.2716993	0.1615518	5.8386456	194.48226	217.94327	656.6338	168.89166	31.8949395	150.32011	1.3268994	2.77603959	218.0071336	462.65623		0	2.03359886
Ba-137m (µCi/g)	1.2652287	1.5825896	5.8764809	10.8238136	0.9146725	1.2030288	0.1528282	5.5233038	183.97839	206.17228	621.1694	159.77168	30.1733702	142.20605	1.2552807	2.6261881	206.2342223	437.67057		0	1.9237796
Sm-151 (µCi/g)	0.1593833	0.1732752	0.0499051	0.07989172	0.0075606	0.0086429	0.0010882	0.1405888	0.1869229	0.161963	0.363285	0.0930356	0.97644758	71.632664	0.0478047	0.08393453	145.7476731	309.40802		0	0.06941892
Eu-152 (µCi/g)	3.73E-05	0.000253	6.125E-06	3.9589E-05	1.706E-06	1.357E-05	1.424E-06	0.0004094	0.0003224	0.0003596	0.001079	0.0001057	0.00398431	0.0641965	9.892E-05	0.0007949	0.057064938	0.0944406		0	0.00014254
Eu-154 (µCi/g)	0.0003756	0.0011425	0.0001176	0.00052675	1.782E-05	5.698E-05	7.024E-06	0.000738	0.0009813	0.0008502	0.001907	0.0006134	0.01229122	0.0987305	0.0006484	0.00232819	0.147750833	5.4443983		0	0.00126132
Eu-155 (µCi/g)	0.0056403	0.0169884	0.0009262	0.00265834	0.000258	0.0009114	0.0001285	0.0308533	0.0242966	0.0270992	0.081309	0.0070974	0.18810294	3.2815668	0.0047056	0.04719264	3.210833941	7.0339527		0	0.00750283
Ra-226 (µCi/g)	8.149E-08	9.513E-09	5.631E-09	4.386E-09	8.531E-10	4.745E-10	6.422E-11	1.03E-08	1.37E-08	1.187E-08	2.66E-08	5.108E-09	6.1517E-07	4.249E-06	1.596E-09	1.7722E-09	6.55118E-06	5.505E-06		0	1.699E-09
Ra-228 (µCi/g)	5.078E-13	6.986E-13	8.339E-14	1.0931E-13	2.323E-14	3.748E-14	4.129E-15	1.564E-12	1.232E-12	1.374E-12	4.12E-12	2.919E-13	5.2752E-12	1.126E-10	1.648E-13	1.537E-12	4.20414E-11	4.98E-11		0	1.1933E-13
Ac-227 (µCi/g)	2.036E-07	4.921E-08	2.838E-08	2.269E-08	4.299E-09	2.455E-09	3.389E-10	5.262E-08	6.996E-08	6.062E-08	1.36E-07	2.642E-08	2.7107E-06	1.896E-05	8.186E-09	8.6388E-09	3.35392E-05	2.968E-05		0	8.9364E-09
Pa-231 (µCi/g)	1.888E-07	1.11E-07	5.911E-08	5.1178E-08	8.955E-09	5.537E-09	7.82E-10	1.143E-07	1.52E-07	1.317E-07	2.95E-07	5.96E-08	4.0872E-07	2.091E-05	1.942E-08	2.3731E-08	4.6599E-05	6.683E-05		0	2.2173E-08
Th-229 (µCi/g)	9.792E-11	1.361E-10	1.608E-11	2.1289E-11	4.479E-12	7.299E-12	7.988E-13	3.036E-10	2.391E-10	2.667E-10	8E-10	5.684E-11	1.0064E-09	6.941E-09	2.329E-11	9.0413E-11	8.32908E-09	7.772E-09		0	2.3598E-11
Th-232 (µCi/g)	6.228E-14	6.07E-14	1.95E-14	2.7988E-14	2.954E-15	3.028E-15	3.609E-16	5.105E-14	6.788E-14	5.882E-14	1.32E-13	3.259E-14	3.3635E-13	3.555E-12	2.278E-14	9.5708E-14	2.10928E-12	4.493E-12		0	2.0829E-14
U-232 (µCi/g)	9.669E-07	1.971E-06	1.37E-07	2.5906E-07	4.179E-09	3.463E-09	4.188E-10	5.839E-10	7.763E-10	6.726E-10	1.51E-09	7.239E-07	2.9808E-09	8.019E-09	3.65E-07	2.2506E-06	1.50366E-09	6.245E-09		0	3.9807E-07
U-233 (µCi/g)	5.788E-08	9.021E-08	8.198E-09	1.186E-08	2.501E-10	1.586E-10	1.911E-11	2.893E-11	3.847E-11	3.333E-11	7.48E-11	3.314E-08	1.1363E-10	1.859E-10	1.351E-08	6.6432E-08	4.93009E-11	1.473E-10		0	1.3357E-08
U-234 (µCi/g)	0.0815677	0.081893	0.0115542	0.01076578	0.0003525	0.0001439	2.088E-05	3.096E-05	4.116E-05	3.567E-05	8E-05	0.0300839	6.7846E-05	8.114E-05	0.0083584	0.03378717	2.87982E-05	7.699E-05		0	0.0075779
U-235 (µCi/g)	0.0036687	0.0036168	0.0005197	0.00047548	1.585E-05	6.357E-06	9.29E-07	1.378E-06	1.832E-06	1.588E-06	3.56E-06	0.0013287	2.9191E-06	3.068E-06	0.000355	0.00128059	1.23093E-06	3.211E-06		0	0.00032341
U-236 (µCi/g)	0.0005208	0.000839	7.377E-05	0.00011029	2.251E-06	1.474E-06	1.821E-07	2.662E-07	3.54E-07	3.067E-07	6.88E-07	0.0003082	1.0732E-06	5.484E-06	0.000184	0.00221593	4.90386E-07	2.1E-06		0	0.00013135
U-238 (µCi/g)	0.0825963	0.0832585	0.0116999	0.01094529	0.0003569	0.0001463	2.12E-05	3.142E-05	4.178E-05	3.62E-05	0.021245	0.0305855	6.9239E-05	5.674E-05	0.0081374	0.02345937	2.94892E-05	7.494E-05		0	0.00776209
U-Total (µg/g)	247448.07	249398.61	35051.48	32786.3348	1069.3691	438.31552	63.499666	94.127827	125.14975	108.43842	243.2286	91618.033	207.369034	170.33162	24377.719	70427.0902	88.3135599	224.49541		0	23245.5026
Np-237 (µCi/g)	8.325E-06	9.641E-06	2.607E-06	4.4451E-06	3.949E-07	4.809E-07	5.868E-08	7.67E-06	1.02E-05	8.837E-06	1.98E-05	5.176E-06	5.8558E-05	0.0001054	3.095E-06	8.16E-06	0.000267144	0.0002681		0	4.1427E-06
Pu-238 (µCi/g)	6.278E-06	0.0001867	3.881E-05	0.00033027	0.0001814	0.000571	2.505E-06	1.015E-05	1.35E-05	1.169E-05	2.62E-05	0.0008365	0.00376616	0.0431145	0.0141718	0.11335243	0.028793332	0.0701474		0	0.01649166
Pu-239 (µCi/g)	0.0019662	0.0231775	0.0121531	0.04100647	0.0568069	0.0708944	0.0003627	0.0015439	0.0020527	0.0017786	0.003989	0.1038646	0.26872866	0.8347316	0.9080799	3.14789236	1.881494485	1.8171165		0	1.05282188
Pu-240 (µCi/g)	0.0001159	0.0022633	0.0007162	0.00400431	0.0033478	0.0069229	3.183E-05	0.0001325	0.0001761	0.0001526	0.000342	0.0101424	0.03846422	0.161618	0.1280782	0.52019747	0.281809888	0.346728		0	0.16102903
Pu-241 (µCi/g)	7.418E-05	0.0081924	0.0004585	0.01449432	0.0021433	0.0250586	0.0001052	0.0003991	0.0005307	0.0004598	0.001031	0.0367124	0.22625206	2.0702517	0.7822153	4.63004433	2.123708157	4.993021		0	1.19974585
Pu-242 (µCi/g)	2.267E-10	3.744E-08	1.401E-09	6.6246E-08	6.549E-09	1.145E-07	4.867E-10	1.798E-09	2.391E-09	2.071E-09	4.65E-09	1.678E-07	1.0375E-06	1.187E-05	3.319E-06	1.2227E-05	7.93127E-06	2.887E-05		0	4.582E-06
Pu-Total (µg/g)	0.0321406	0.3828995	0.1986621	0.67743999	0.9286051	1.1711987	0.0059753	0.0254219	0.0338002	0.0292869	0.065691	1.7158762	4.49464171	14.163648	15.180035	52.9791132	31.52950114	30.814431		0	17.657678
Am-241 (µCi/g)	6.962E-05	0.0005863	2.18E-05	0.00027034	3.302E-06	2.925E-05	2.966E-06	0.0003443	0.0004578	0.0003967	0.00089	0.0003148	0.00460723	1.2607563	0.0002307	0.00046421	0.795051703	2.8578157		0	0.00030276
Am-243 (µCi/g)	1.946E-10	4.239E-09	6.095E-11	1.9545E-09	9.233E-12	2.114E-10	2.41E-11	2.403E-09	3.195E-09	2.768E-09	6.21E-09	2.276E-09	4.309E-08	5.685E-05	2.104E-09	3.7453E-09	7.93873E-06	8.766E-05		0	2.9531E-09
Cm-242 (µCi/g)	1.497E-07	5.024E-06	2.458E-08	7.8616E-07	6.846E-09	2.695E-07	2.895E-08	7.497E-06	5.904E-06	6.585E-06	1.98E-05	2.099E-06	9.164E-05	0.0030396	2.062E-06	7.9805E-06	0.001135174	0.0026095		0	2.9401E-06
Cm-243 (µCi/g)	2.222E-09	1.035E-07	3.648E-10	1.6195E-08	1.016E-10	5.552E-09	6.235E-10	1.535E-07	1.209E-07	1.348E-07	4.05E-07	4.324E-08	2.1007E-06	0.0003079	4.706E-08	1.8378E-07	2.87691E-05	0.0002005		0	7.2796E-08
Cm-244 (µCi/g)	2.979E-09	1.011E-07	9.328E-10	4.6591E-08	1.413E-10	5.04E-09	6.125E-10	5.682E-08	7.555E-08	6.546E-08	1.47E-07	5.426E-08	1.5398E-06	0.0093191	7.331E-08	1.1696E-07	1.71104E-05	0.0061667		0	1.4981E-07

pred. sludge ppm	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3 (µCi/g)	0.00036455	0.000752	0	0	0	0	0.000149	0.003655	0.020002	0.0037551	0.0364665	0.0102199	0.0627462		0.061267	0	0	0	0	0	0
C-14 (µCi/g)	5.105E-05	0.000427	0	0	0	0	0.000206	1.03E-08	4.75E-08	0.0085197	0.0112395	0.0006884	0.0051218		0.012821	0	0	0	0	0	0
Ni-59 (µCi/g)	1.444E-05	2.57E-05	0	0	0	0	0.077246	0	0	0.0859471	0.054692	0.1169185	0.4610998		0.159859	0	0	0	0	0	0
Ni-63 (µCi/g)	0.00145181	0.002691	0	0	0	0	7.573021	0	0	8.433718	5.6737483	11.585806	45.390035		15.81982	0	0	0	0	0	0
Co-60 (µCi/g)	7.4496E-05	0.001044	0	0	0	0	0.000217	0	0	0.0086506	0.0270344	0.0015488	0.0103766		0.014676	0	0	0	0	0	0
Se-79 (µCi/g)	1.1344E-05	5.4E-05	0	0	0	0	0.000902	8.44E-05	0.0003887	0.0387711	0.2050015	0.0004669	0.2569947		0.117581	0	0	0	0	0	0
Sr-90 (µCi/g)	1.20917068	5.961329	0	0	0	0	5617.261	5.749047	81.109256	9521.8882	6680.1583	4599.5238	7241.2698		28.26539	0	0	0	0	0	0
Y-90 (µCi/g)	1.20947872	5.962985	0	0	0	0	5618.62	5.75046	81.123917	9524.1895	6681.9521	4600.6585	7243.0347		28.27219	0	0	0	0	0	0
Zr-93 (µCi/g)	5.3486E-05	0.000258	0	0	0	0	0.003979	0.000218	0.0010051	0.1625493	0.8942576	0.0021003	1.1110682		0.584819	0	0	0	0	0	0
Nb-93m (µCi/g)	3.9073E-05	0.000178	0	0	0	0	0.003354	0.000159	0.0006944	0.1472459	0.593887	0.0016813	0.9529382		0.414465	0	0	0	0	0	0
Tc-99 (µCi/g)	0.00037589	0.001807	0	0	0	0	0.001451	0.000907	0.004175	0.0599693	0.0746756	0.0046054	0.0346041		0.090374	0	0	0	0	0	0
Ru-106 (µCi/g)	1.2316E-07	1.04E-05	0	0	0	0	1.72E-06	2.75E-08	1.274E-06	9.96E-06	0.0248788	0.0009865	0.0019871		1.9E-06	0	0	0	0	0	0
Cd-113m (µCi/g)	0.00025944	0.001536	0	0	0	0	0.010258	0.000442	0.0023534	0.1137516	4.4566119	0.0071637	2.3675279		3.019809	0	0	0	0	0	0
Sb-125 (µCi/g)	0.00040575	0.004386	0	0	0	0	0.000834	0.001306	0.0133251	0.0324443	0.1688475	0.0094735	0.0611872		0.063529	0	0	0	0	0	0
Sn-126 (µCi/g)	1.737E-05	8.84E-05	0	0	0	0	0.001439	7.76E-05	0.0003571	0.0632054	0.3248677	0.0007374	0.4133117		0.176788	0	0	0	0	0	0
I-129 (µCi/g)	7.2481E-07	3.75E-06	0	0	0	0	2.81E-06	3.32E-06	1.527E-05	0.000116	0.0001454	8.96E-06	6.725E-05		0.000175	0	0	0	0	0	0
Cs-134 (µCi/g)	2.691E-05	0.000993	0	0	0	0	8.06E-07	4.46E-05	0.000607	0.0014821	0.0012996	0	0.0073841		0.000119	0	0	0	0	0	0
Cs-137 (µCi/g)	1.39134331	7.34041	0	0	0	0	0.101186	5.289197	26.135278	200.38553	17.996848	0	133.6296		16.2788	0	0	0	0	0	0
Ba-137m (µCi/g)	1.31619967	6.943779	0	0	0	0	0.095722	5.003621	24.723025	189.56399	17.024583	0	126.41109		15.39973	0	0	0	0	0	0
Sm-151 (µCi/g)	0.04097163	0.134705	0	0	0	0	3.382999	0.081426	0.3838238	148.93779	590.65285	1.6916134	961.71477		412.3469	0	0	0	0	0	0
Eu-152 (µCi/g)	0.00043161	0.001834	0	0	0	0	0.059375	0.000208	0.0011224	0.0569685	0.8705004	0.0931203	0.2402163		0.15807	0	0	0	0	0	0
Eu-154 (µCi/g)	0.00147328	0.027742	0	0	0	0	0.03444	0.00141	0.0083324	0.1851309	66.570518	0.0468458	5.6527833		6.156534	0	0	0	0	0	0
Eu-155 (µCi/g)	0.03079024	0.040506	0	0	0	0	3.871545	0.014771	0.1052605	3.7441469	42.153796	5.3359501	14.740776		9.404217	0	0	0	0	0	0
Ra-226 (µCi/g)	7.4056E-10	1.18E-09	0	0	0	0	6.71E-06	6.08E-06	2.745E-05	5.518E-06	9.157E-06	3.898E-06	3.098E-05		4.07E-06	0	0	0	0	0	0
Ra-228 (µCi/g)	3.5456E-05	4.56E-13	0	0	0	0	3.76E-11	0.043324	0.1953559	6.374E-07	3.636E-10	4.955E-11	1.404E-10		6.88E-05	0	0	0	0	0	0
Ac-227 (µCi/g)	0.00010858	6.15E-09	0	0	0	0	3.28E-05	0.142636	0.6112983	2.876E-05	4.346E-05	1.704E-05	0.0001604		2.5E-05	0	0	0	0	0	0
Pa-231 (µCi/g)	0.00016081	1.9E-08	0	0	0	0	8.88E-07	0.238847	1.0997176	3.955E-05	1.36E-06	4.146E-07	0.0002398		0.00013	0	0	0	0	0	0
Th-229 (µCi/g)	1.6054E-05	5.38E-11	0	0	0	0	6.81E-09	0.001043	0.0042879	2.95E-07	3.412E-08	7.37E-09	2.34E-08		3.11E-06	0	0	0	0	0	0
Th-232 (µCi/g)	1.6524E-06	1.17E-13	0	0	0	0	4.91E-14	0.000236	0.0108414	6.877E-08	4.743E-12	2.76E-13	1.897E-12		1.83E-07	0	0	0	0	0	0
U-232 (µCi/g)	0.00182819	3.33E-06	2.8E-06	0.002133	0.0684611	0	5.34E-11	0.001033	0.0404155	4.035E-05	1.777E-08	9.837E-10	6.199E-09		0.001259	0	0	0	0	0	0
U-233 (µCi/g)	0.00710275	3.89E-08	9.18E-08	0.008454	0.2620709	0	1.4E-12	0.004095	0.1547231	0.0001562	2.35E-10	1.328E-11	8.682E-11		0.004879	0	0	0	0	0	0
U-234 (µCi/g)	0.00955533	0.006935	0.053624	0.010921	0.0199928	0	7.64E-07	2.86E-05	0.0010806	0.0001247	6.294E-05	3.705E-06	2.597E-05		0.006542	0	0	0	0	0	0
U-235 (µCi/g)	0.00039197	0.000261	0.002292	0.000453	0.0006978	0	3.22E-08	8.85E-11	3.345E-09	5.161E-06	2.418E-06	1.434E-07	1.017E-06		0.00027	0	0	0	0	0	0
U-236 (µCi/g)	0.00028696	0.000707	0.000913	0.000296	0.0013984	0	1.78E-08	1.24E-11	4.668E-10	3.424E-06	4.846E-06	2.695E-07	1.713E-06		0.000204	0	0	0	0	0	0
U-238 (µCi/g)	0.00901966	0.004844	0.054911	0.010573	0.0136536	0	7.59E-07	7.24E-19	2.734E-17	0.0001202	4.731E-05	2.856E-06	2.081E-05		0.006289	0	0	0	0	0	0
U-Total (µg/g)	27022.1428	14544.41	164445.8	31671.55	40996.409	0	2.273596	0.436903	16.508296	359.79703	141.96536	8.568999	62.403712		18436.18	0	0	0	0	0	0
Np-237 (µCi/g)	2.8012E-06	2.81E-05	0	0	0	0	4.39E-06	7.73E-11	3.607E-10	0.0001878	0.0002403	1.471E-05	0.0001094		0.000307	0	0	0	0	0	0
Pu-238 (µCi/g)	0.04090499	0.344397	0	0	0	0	0.061225	1.05E-08	5.05E-08	0.0011902	2.5779535	0.1560495	0.3604442		0.000408	0	0	0	0	0	0
Pu-239 (µCi/g)	1.70460223	1.772854	0	0	0	16.1705	2.58441	2.99E-13	1.402E-12	0.0505179	17.418623	2.7345824	9.6788234		0.013066	0	0	0	0	0	0
Pu-240 (µCi/g)	0.30308034	0.748379	0	0	0	4.04263	0.425262	1.6E-14	7.518E-14	0.0083019	6.2659149	0.5932691	1.7985592		0.002287	0	0	0	0	0	0
Pu-241 (µCi/g)	3.27638926	23.16078	0	0	0	0	4.423185	7.01E-14	3.816E-13	0.0860262	178.31274	10.939483	25.559863		0.028453	0	0	0	0	0	0
Pu-242 (µCi/g)	9.219E-06	0.000184	0	0	0	0	2.18E-05	9.27E-20	4.352E-19	4.214E-07	0.0012895	7.119E-05	0.0001507		1.58E-07	0	0	0	0	0	0
Pu-Total (µg/g)	28.7893123	32.0978	0	0	0	282.744	43.49496	6.18E-10	2.972E-09	0.0692704	309.93604	46.729808	163.90878		0.125718	0	0	0	0	0	0
Am-241 (µCi/g)	0.00031934	0.01688	0	0	0	16.9423	0.873837	6.32E-15	2.818E-14	1.2869071	56.399663	2.5236954	10.898621		1.799501	0	0	0	0	0	0
Am-243 (µCi/g)	3.373E-09	2.52E-06	0	0	0	0	2.1E-05	1.76E-20	8.27E-20	2.831E-05	0.0063079	0.0001911	0.0005708		5.56E-05	0	0	0	0	0	0
Cm-242 (µCi/g)	6.2357E-06	0.000351	0	0	0	0	0.001407	0	1.943E-31	0.0013621	0.0751216	0.0049518	0.0091325		0.006485	0	0	0	0	0	0
Cm-243 (µCi/g)	1.7197E-07	4.52E-05	0	0	0	0	7.71E-05	1.07E-20	5.319E-20	7.66E-05	0.0091948	0.0005272	0.0008212		0.000618	0	0	0	0	0	0
Cm-244 (µCi/g)	1.2834E-07	0.001126	0	0	0	0	3.75E-05	1.73E-20	8.971E-20	0.0006049	0.3810975	0.0141212	0.0334658		0.000496	0	0	0	0	0	0

pred. sludge ppm	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (µCi/g)		0.00217		0.001715		0.13016		0.09569		0.08001		0.12526		0.24389		0.09542		0	5.229393	0	0.0135212			0
C-14 (µCi/g)		0.00032		0.000256		0.00668		0.01814		0.02083		0.02418		0.03161		0.0252		0	0.0644072	0	0.0001665			0
Ni-59 (µCi/g)		0.00038		0.000519		0.00398		0.00233		0.00222		0.00219		0.00054		0.00167		0	0.1241321	0	0.0001098			0
Ni-63 (µCi/g)		0.03435		0.046714		0.38657		0.22843		0.22071		0.21406		0.05318		0.16672		0	14.350225	0	0.0126912			0
Co-60 (µCi/g)		6.9E-05		5.77E-05		0.00601		0.02703		0.01951		0.0303		0.02256		0.03668		0	30.372497	0	0.0025676			0
Se-79 (µCi/g)		6.6E-05		5.5E-05		0.00406		0.00247		0.00175		0.00285		0.00201		0.00277		0	0.2267861	0	2.081E-05			0
Sr-90 (µCi/g)		7.46483		6.415731		153.461		95.2114		78.0291		109.832		39.5836		88.4281		0	40132.782	0	3.264073			0
Y-90 (µCi/g)		7.46682		6.417467		153.498		95.2347		78.0479		109.859		39.5934		88.4499		0	40143.181	0	3.2649187			0
Zr-93 (µCi/g)		0.00032		0.000261		0.0192		0.0121		0.00844		0.01394		0.00985		0.01369		0	1.0880965	0	0.0001004			0
Nb-93m (µCi/g)		0.00027		0.000221		0.01559		0.0088		0.0061		0.01024		0.00719		0.00982		0	0.4140218	0	4.239E-05			0
Tc-99 (µCi/g)		0.00219		0.001808		0.05191		0.1125		0.11612		0.1395		0.2807		0.12312		0	0.2689733	0	0.0006955			0
Ru-106 (µCi/g)		2.7E-11		2.28E-11		1.4E-06		4.5E-06		3.9E-06		5.1E-06		3.8E-06		7.3E-06		0	452.73579	0	0.4003637			0
Cd-113m (µCi/g)		0.00076		0.000629		0.02706		0.06282		0.04472		0.07038		0.05104		0.07548		0	12.526457	0	0.0010835			0
Sb-125 (µCi/g)		6.3E-05		5.23E-05		0.02148		0.11709		0.08744		0.13018		0.09921		0.17121		0	464.80652	0	0.0621816			0
Sn-126 (µCi/g)		1E-04		8.26E-05		0.00623		0.00372		0.00261		0.00431		0.00304		0.00418		0	0.3600397	0	3.281E-05			0
I-129 (µCi/g)		4.1E-06		3.4E-06		9.8E-05		0.00022		0.00022		0.00027		0.00054		0.00024		0	0.0005402	0	1.397E-06			0
Cs-134 (µCi/g)		1.7E-06		2.43E-06		0.00134		0.00158		0.00095		0.00155		0.0029		0.00211		0	14.003643	0	0.0275911			0
Cs-137 (µCi/g)		29.2561		34.44064		189.111		163.235		92.2282		175.274		305.005		151.212		0	1955.6599	0	3.8531988			0
Ba-137m (µCi/g)		27.6757		32.58038		178.903		154.421		87.2474		165.81		288.536		143.046		0	1850.1073	0	3.6452305			0
Sm-151 (µCi/g)		0.24783		0.204837		14.4673		8.69166		6.04941		10.051		7.08129		9.72659		0	783.02233	0	0.0719869			0
Eu-152 (µCi/g)		4.7E-05		6.47E-05		0.00518		0.00306		0.00274		0.00321		0.00244		0.00398		0	0.8668386	0	0.000811			0
Eu-154 (µCi/g)		0.00123		0.001026		0.1437		0.43101		0.32937		0.48344		0.3554		0.55673		0	231.03883	0	0.0191895			0
Eu-155 (µCi/g)		0.00358		0.004959		0.26274		0.18489		0.16619		0.18964		0.14504		0.23245		0	157.31567	0	0.1471826			0
Ra-226 (µCi/g)		1.9E-08		1.55E-08		2.7E-07		1.2E-07		8.4E-08		1.3E-07		9E-08		1.1E-07		0	1.079E-06	0	1.678E-10			0
Ra-228 (µCi/g)		1.9E-13		2.58E-13		9.2E-06		5.1E-05		0.00104		3.9E-05		6.4E-05		0.00024		0	7.854E-11	0	7.348E-14			0
Ac-227 (µCi/g)		9.7E-08		7.96E-08		1.6E-06		7.3E-07		1.2E-06		7.9E-07		5.5E-07		6.5E-07		0	6.144E-06	0	9.646E-10			0
Pa-231 (µCi/g)		2.1E-07		1.73E-07		6E-06		3.2E-06		6.1E-06		3.6E-06		2.5E-06		3.1E-06		0	3.596E-05	0	5.505E-09			0
Th-229 (µCi/g)		3.6E-11		5E-11		2.2E-07		1.3E-06		2.4E-05		1E-06		1.5E-06		5.7E-06		0	8.983E-09	0	8.404E-12			0
Th-232 (µCi/g)		9.1E-14		7.49E-14		1.2E-07		4.7E-06		3.9E-05		3.8E-06		7.1E-06		3E-05		0	1.087E-11	0	2.811E-14			0
U-232 (µCi/g)		6.6E-08		6.8E-08		4.1E-05		0.00033		0.00581		0.00025		0.00015		0.00064		0	3.909E-06	1.2E-06	7.926E-07			0
U-233 (µCi/g)		3.2E-09		3.24E-09		0.00016		0.00126		0.02227		0.00098		0.00059		0.00247		0	4.009E-08	1.23E-08	8.128E-09			0
U-234 (µCi/g)		0.00312		0.003196		0.00074		0.00079		0.00158		0.00073		0.00033		0.00084		0	0.0175832	0.00538	0.0035647			0
U-235 (µCi/g)		0.00014		0.000142		3E-05		3.2E-05		5.8E-05		3E-05		1.4E-05		3.4E-05		0	0.0006683	0.000204	0.0001355			0
U-236 (µCi/g)		2.9E-05		2.99E-05		3.1E-05		2.3E-05		5.2E-05		2.1E-05		8E-06		2.9E-05		0	0.0014475	0.000443	0.0002935			0
U-238 (µCi/g)		0.00317		0.003246		0.00065		0.00087		0.0033		0.00096		0.00041		0.0011		0	0.0120715	0.003693	0.0024473			0
U-Total (µg/g)		9492.36		9724.072		1914.66		2174.28		3929.75		2060.2		939.59		2268.99		0	36248.794	11090.94	7348.9184			0
Np-237 (µCi/g)		1.3E-05		1.11E-05		0.00023		0.0004		0.00039		0.00052		0.00102		0.00043		0	0.0039395	0	1.019E-05			0
Pu-238 (µCi/g)		0.00016		0.000212		0.00138		0.00114		0.00155		0.00128		0.0005		0.00171		0	1.1173686	0.230519	0.0934558			0
Pu-239 (µCi/g)		0.02934		0.035265		0.04448		0.04324		0.05561		0.04612		0.01953		0.04798		0	9.0534777	1.867776	0.7572258			0
Pu-240 (µCi/g)		0.00228		0.002869		0.00738		0.00704		0.00954		0.00768		0.00307		0.0081		0	2.7500682	0.567352	0.2300136			0
Pu-241 (µCi/g)		0.00562		0.007803		0.07062		0.07625		0.112		0.08665		0.0334		0.11698		0	114.15189	23.55008	9.547575			0
Pu-242 (µCi/g)		2.5E-08		3.48E-08		3.7E-07		4.1E-07		5.4E-07		4.7E-07		1.8E-07		7.3E-07		0	0.0004256	8.78E-05	3.56E-05			0
Pu-Total (µg/g)		0.48213		0.580001		0.74067		0.55935		0.72407		0.5506		0.23699		0.54986		0	158.99998	32.80246	13.298634			0
Am-241 (µCi/g)		0.00056		0.000467		0.06815		0.0285		0.0273		0.03375		0.06755		0.03036		0	159.39659	0	0.0128264			0
Am-243 (µCi/g)		3.9E-09		3.23E-09		2.2E-06		9E-07		9.4E-07		1.1E-06		2.2E-06		1.5E-06		0	0.0335802	0	2.702E-06			0
Cm-242 (µCi/g)		8.4E-07		1.07E-06		9.2E-07		3.2E-07		3.5E-07		2.8E-07		2E-07		3E-07		0	0.076349	0	7.143E-05			0
Cm-243 (µCi/g)		1.7E-08		2.18E-08		1.9E-08		6.6E-09		7.2E-09		5.7E-09		4.1E-09		6E-09		0	0.0127916	0	1.197E-05			0
Cm-244 (µCi/g)		9.1E-08		7.13E-08		1.1E-07		1.9E-07		1.2E-07		1.7E-07		1.2E-07		1.8E-07		0	0.6115088	0	4.919E-05			0

pred. su. ppm	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
Na	40331.249	40594.757	54634.207	54120.5111	45301.764	27875.87	32474.496	78386.931	78106.152	78166.51	62162.26	34267.151	100160.081	100967.81	68298.629	37730.4511	17182.33139	28253.094		67205.836	47910.4921
Al	0	0	0	0	0	0	0	0	0	0	0	0	18658.6619	21415.497	26271.175	15232.1882	0	0		0	19973.3752
Fe	104.29338	104.2409	101.63984	101.734734	103.42648	106.67158	105.73452	97.241553	97.318915	97.29313	0	105.58755	90.4502799	89.475524	91.523338	100.364466	108.8289023	106.78957		99.3679977	97.1156912
Cr	167.54264	170.38273	319.90736	319.860254	205.43922	269.15203	336.21943	147.11922	147.22726	147.19511	0	98.623925	4859.70799	4744.2798	133.29881	143.025241	406.7376235	400.72885		372.453896	139.317976
Bi	0	0	760.61681	761.326854	773.96427	798.33494	791.32192	0	728.33917	728.1462	0	790.11162	0	0	0	0	0	0		0	0
La	0	0	0	0	0	0	501.9121	0	0	0	0	0	0	0	0	0	0	0		0	0
Hg	0	0	1.8256476	1.82735195	0	0	0	0	0	0	0	0	0	0	1.6439209	1.80243958	0	0		0	1.74409503
Zr	0	0	27.627881	27.6238129	0	0	0	0	0	0	0	258.69997	0	0	0	0	0	0		0	0
Pb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271.68171	297.879221	0	0		11.1301042	288.23694
Ni	94.58104	96.184325	88.907746	88.8946534	88.361439	89.881867	89.318746	83.051628	92.074741	92.050557	94.86664	99.864689	85.5764221	84.654211	75.249742	80.740499	102.9645918	101.0351		94.0138506	78.6476767
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Mn	0	0	0	0	0	0	266.42157	0	0	0	0	0	0	0	0	0	0	0		0	0
Ca	336.81941	336.64992	328.37337	328.679933	334.14528	344.63316	341.60572	314.18083	314.38458	314.33325	323.9497	341.13485	292.238412	289.07637	295.69806	324.256218	351.6026103	345.01391		321.036593	313.76012
K	27.794155	28.265306	333.06332	334.86435	240.20783	138.1164	8584.4257	544.67672	572.7526	572.62753	411.2431	155.73097	662.916769	631.38646	75.60805	123.576522	120.0403966	212.42868		515.129255	51.4546903
balance	**100.01814**	**100.01791**	**99.870218**	**99.8701112**	**99.90943**	**99.990222**	**100.0218**	**100.01076**	**99.875906**	**99.875939**	**100.0324**	**99.989084**	**99.4697948**	**99.053166**	**96.794935**	**98.2247588**	**100.04060**	**100.04655**		**100.051743**	**97.58089**
density	1.0708385	1.0713366	1.0989585	1.09793353	1.0799755	1.0471097	1.0563896	1.1486576	1.1479134	1.148045	1.113965	1.0578481	1.23490335	1.2483508	1.2204216	1.11291225	1.026353921	1.0459541		1.12407347	1.15014208
vol%solids	12	12	13.7	14.2943561	6.8	3.4	3.8795181	2.8	3.7	3.2	1.4	4.8	4.5	1.9	8.1	2.9	2.2	3.9		2.2	8.1
void frac.	0.3956569	0.2632894	0.7183619	0.73734299	0.7700472	0.9436953	0.8854288	0.4527128	0.5835467	0.5216694	0.900124	0.9342765	0.53613647	0.5865419	0.6508536	0.76288382	0.841382091	0.8076671		0.71060168	0.8339275
wt.% H2O	89.020442	88.942254	81.71646	82.0153601	85.411584	91.144178	86.522613	73.577522	73.291902	73.26852	78.37318	90.065432	70.8269646	71.337583	76.835283	86.3746228	94.9945704	91.605741		76.058691	83.455257
TOC wt.%C	0	0	0	0	0	0	0.0113598	0.0003865	0	0	0	0	0	0	0	0	0	0		0	0
species																					
OH	578.97563	580.49148	291.15984	291.656375	935.97965	1230.3726	336.97822	166.20426	279.81885	279.75124	500.4108	2215.9411	26909.8609	26643.109	498.88617	485.012299	3086.432138	3132.7683		799.669149	532.557274
NO3	10999.396	10937.198	87331.456	83559.2601	71426.977	40697.993	81328.887	139822.23	150925.85	151124.71	130831.1	30376.47	95364.0048	61054.729	45296.727	48477.0896	9918.269807	7930.2607		154488.003	36667.0673
NO2	395.54697	586.73705	9284.1227	11029.369	697.33651	299.92943	83.63242	8391.8236	226.33713	209.31521	7208.478	8617.5376	33545.7216	54124.641	55013.018	12557.748	12848.49097	26105.106		411.848058	32130.0328
CO3	22054.785	22091.534	491.65883	492.117834	500.30085	516.0039	511.47104	10106.654	470.71403	470.63719	538.9815	55.713977	437.555567	432.82117	442.73554	485.494402	526.4389383	516.57397		480.673801	469.779061
PO4	13301.621	13294.928	12961.818	12973.9181	13189.275	9923.5999	3249.2741	10915.556	11254.563	11252.09	11098.54	13467.256	0	0	0	0	0	0		8162.75689	0
SO4	20465.873	20812.799	6327.8964	6326.96453	4481.8258	2467.9905	274.01503	12026.02	15553.516	15550.119	1381.652	1821.9003	1509.47029	2326.7641	1014.1361	1088.13473	4095.527523	14693.239		4821.41891	1059.92989
Si	113.13155	115.0493	869.80891	870.620961	884.50486	523.15607	0	0	832.18645	831.96604	0	903.04334	341.771576	765.39693	710.59532	0	931.1557703	913.87901		0	495.121704
F	0	0	3344.8302	3344.33769	3931.941	2104.0405	4318.7879	0	3530.2689	3529.4981	0	4108.0658	0	0	0	0	0	0		0	0
Cl	115.85258	117.81645	1388.2863	1395.7934	1001.2427	575.70167	898.80925	2990.8094	2387.3676	2386.8463	1714.158	649.12333	2763.19307	2631.7673	315.15214	515.096023	500.3566178	885.4527		2147.17994	214.475256
C6H5O7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
EDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NTA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
glycolate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
acetate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
oxalate	0	0	0	0	0	0	416.62093	0	0	0	0	0	0	0	0	0	0	0		0	0
DBP	0	0	0	0	0	0	0	5.641761	0	0	0	0	0	0	0	0	0	0		0	0
butanol	0	0	0	0	0	0	0	1.9893783	0	0	0	0	0	0	0	0	0	0		0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
NH3	0.3495975	0.7695545	1783.9862	1310.95687	0.1631901	0.0524231	0.0020625	11.309411	0.0082257	0.0070261	0.120659	4.5079233	197.000316	548.48043	10.606894	2.97995289	151.7360078	454.36261		0	5.43163993
NiFe(CN)6--	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0

pred. su. ppm	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
Na	33710.8121	12321.25	14905.64	24840.53	34291.41	71629.9	47138.51	71778.01	71778.51	30700.892	14889.527	69489.882	69455.136		95559.41			6770	154983.7	4470.09	14280.9
Al	15340.1037	0	0	0	0	5930.24	0	7386.164	7386.216	560.94047	2027.63	6237.9383	0		10115.68			0	33160.49	0	0
Fe	101.0761	109.8338	109.0507	107.2161	105.50534	97.1873	103.1772	96.34129	96.341966	106.04199	108.66547	98.950735	396.56319		253.9699			0	0	110.955	109.142
Cr	144.038533	157.8079	407.0553	400.1825	393.82554	429.756	385.0894	360.1708	360.17331	843.77261	101.2556	0.009234	0		2409.909			0	0	414.427	407.657
Bi	0	0	0	0	0	0	0	0	0	2.3026598	0	0	0		21.05982			0	0	0	0
La	0	0	0	0	0	0	0	0	0	0	0	0	0		0.000168			0	0	0	0
Hg	1.81521978	1.972441	0	0	0	0	0	0	0	0.0692979	0	0	0		0.210527			0	0	0	0
Zr	0	269.1006	0	0	0	0	0	0	0	0.0039696	0	0	0		1.205038			0	0	0	0
Pb	299.991335	0	0	0	0	0	306.2288	0	0	11.70838	0.2017226	0	0		28.94364			0	0	0	0
Ni	81.3125217	89.08561	103.1748	101.4459	99.820501	91.9506	97.62068	91.15023	91.150866	100.33068	102.81015	93.618675	0		87.91003			0	0	104.979	103.264
Sr	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
Mn	0	0	0	474.6585	45.884099	0	0	0	0	139.01791	0	0	0		175.7757			70.1	0	0	0
Ca	326.555358	354.8495	352.3196	346.3542	340.8653	313.991	181.7992	311.2582	311.26038	342.37558	350.97446	319.60704	320.27183		300.0568			0	0	358.481	352.624
K	88.8250861	8635.72	38.25929	507.7796	204.40842	434.524	3210.108	940.7635	940.77008	284.54098	105.1444	467.69958	472.17112		772.8325			49.89	494.7943	26.877	26.4379
balance	**98.2124788**	**100.2703**	**100.0695**	**100.0693**	**100.09158**	**99.5813**	**100.1202**	**99.14812**	**99.148631**	**99.895824**	**99.801032**	**100.3569**	**100.02508**		**99.8432**			**99.47**	**96.54894**	**100.057**	**100.056**
density	1.1050767	1.016963	1.024265	1.041791	1.0586842	1.14929	1.082574	1.159387	1.1593789	1.0532985	1.0278967	1.1288144	1.1267391		1.202098			1.019	1.505195	1.00666	1.02338
vol%solids	2.9	10.5	0.6	1.1	0.6	2.3	1.2	5.8	5.8	3.1	0.5	0.68	2.6		1			13.6	80	1	1
void frac.	0.763081	0.857291	0.627201	0.802358	0.6254872	0.54965	0.822567	0.934873	0.9348735	0.8305506	0.8456962	0.6682915	0.8572863		0.643658			1	0.8	0.71521	0.71521
wt.% H2O	87.8409686	93.76635	93.85838	91.94731	88.452292	75.8449	82.26376	74.62508	74.754987	90.565029	95.533668	82.2193	73.809655		71.83263			94.73	51.84803	98.2814	95.9742
TOC wt.%C	0	0	0.854066	0.322662	0.2523112	0	2.28832	0.023395	0.1034639	0	0.0701	0.5220781	5.4522221		0.409186			0	0	0	0
species																					
OH	493.040192	4177.394	1073.339	1070.37	1415.2212	4398.76	1858.106	373.5349	381.47696	1812.3279	3096.1499	19186.112	2627.9396		18216.55			-8235	7448.806	873.42	859.151
NO3	38287.188	18774.09	13956.3	22519.37	55341.471	140052	57536.24	143580.5	132252.95	17371.749	14842.706	45745.996	21810.383		73762.58			48685	120135.6	9680.1	9521.95
NO2	12022.6283	781.1567	450.1092	442.5095	435.48016	566.208	3661.9	3571.206	11976.272	20774.094	1612.6372	2169.3431	10380.205		41735.08			0	100850.7	1099.83	631.084
CO3	488.936802	531.3004	12387.48	22519.63	16758.273	10056.6	272.1999	466.033	466.03631	8310.7764	525.49844	14314.666	13185.2		11315.97			0	15947.44	117.265	115.349
PO4	0	0	0	0	0	11.6897	0	7400.211	7400.2627	2116.2696	0	843.22716	0		1079.734			0	7511.288	0	13920
SO4	1095.84385	145.7599	375.9782	369.6301	363.75847	574.304	5993.364	4491.087	4491.1187	7459.9054	1496.4955	3752.7826	8728.3842		10301.18			0	2279.249	382.787	376.534
Si	0	0	0	0	0	0	0	0	0	906.60108	929.42401	846.76624	848.35564		794.3919			0	0	0	0
F	0	4483.967	0	0	0	0	0	1974.013	1974.0268	7.0221625	0	0	0		84.22381			0	901.6393	0	0
Cl	370.243859	202.2655	159.4737	235.1717	715.90849	2776.86	1612.779	1945.846	1945.8593	639.78909	438.2666	1949.4819	1968.1203		2469.803			0	3295.387	112.03	110.199
C6H5O7	0	0	0	0	0	0	7000.48	0	0	0	1840.71	2517.9614	0		4410.343			0	0	0	0
EDTA	0	0	0	0	0	0	21335.43	0	0	0	0	0	38496.887		120.2947			0	0	0	0
HEDTA	0	0	0	0	0	0	0	0	0	0	0	0	73252.321		231.8007			0	0	0	0
NTA	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
glycolate	0	0	0	0	0	0	0	0	0	0	0	13321.87	20048.848		401.7073			0	0	0	0
acetate	0	0	0	0	0	0	27863.62	0	0	0	0	0	0		0			0	0	0	0
oxalate	0	0	0	0	0	0	0	0	0	0	0	0	0		0.000139			0	0	0	0
DBP	0	0	12466.99	4709.972	3683.0422	0	0	341.4984	1510.2849	0	0	0	5.6844663		3112.362			0	0	0	0
butanol	0	0	4396.066	1660.814	1298.7017	0	0	120.418	532.55146	0	0	0	2.0044369		1097.47			0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0
NH3	1.10355942	13067.83	0	0	0	0	4.328302	1.737725	22.147044	281.92406	2.3764101	1.7271285	70.3207		453.1903			0	0	0	0
NiFe(CN)6--	0	0	0	0	0	0	0	0	0	0	0	0	0		0			0	0	0	0

pred. su. ppm	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
Na		94621.2		94705.46		163095		166728		151730		207105		278787		204750		0	57338.155	14413.77	11113.154			1376.54
Al		593.331		392.7826		29796.2		25499.6		29634.1		33318.8		31650.1		27985.8		0	7780.5556	0	0			0
Fe		94.2078		94.27906		77.0954		26.8294		76.6764		24.166		36.7401		46.4107		0	101.03216	109.0973	109.83077			111.469
Cr		398.862		360.6525		4307.09		2504.81		2535.76		2838.39		2528.8		2438.88		0	0	407.229	0			0
Bi		705.077		705.6614		1.26245		314.339		166.138		252.22		555.015		582.016		0	0	0	0			0
La		0		0		2.1E-06		8.7E-05		0.25205		1.316		2.49085		1.1001		0	0	0	0			0
Hg		1.69184		1.686038		0.19034		1.4958		1.37701		1.38495		1.33796		1.38838		0	0	0	1.9723866			0
Zr		19.087		53.77503		0.05501		20.9369		2.7482		15.2621		30.4474		60.4253		0	0	0	269.09314			0
Pb		0		0		31.172		156.465		227.57		191.164		485.491		270.915		0	0	8.812247	0			0
Ni		89.1241		89.2492		72.943		50.9261		72.5461		43.6366		50.7268		60.9472		0	0	103.2189	0			0
Sr		0		0		0		0		0		0		0		0		0	0	0	0			0
Mn		0		0		2.41586		38.9747		157.978		37.9184		45.6304		78.0651		0	0	322.6898	0			0
Ca		304.191		304.4202		248.877		182.642		247.678		157.608		181.114		220.857		0	326.41296	352.4701	354.83968			360.134
K		822.807		757.746		1100.2		1510.01		1381.48		2208.45		5388.62		5176.13		0	392.26201	262.1879	8632.4122			7.8142
balance		**99.8944**		**99.93667**		**99.0651**		**98.6117**		**97.4241**		**99.1603**		**102.731**		**99.2153**		**100**	**100.35802**	**100.0404**	**100.12188**			**100.018**
density		1.1856		1.184708		1.44908		1.46668		1.45634		1.62662		1.82907		1.60018		1	1.1055588	1.023828	1.0169909			1.00204
vol%solids		17.6828		11.44569		13.8204		55.3855		48.966		55.1726		99		45.5227		90	3.9	2	10.5			0.6
void frac.		0.60412		0.524532		0.78481		0.7826		0.77425		0.65085		0.52092		0.50021		0.5	0.7889973	0.888181	0.8503106			0.78419
wt.% H2O		68.845		68.94048		54.4223		51.242		52.5596		43.6976		32.217		40.9546		100	87.088207	95.2383	93.537159			99.3035
TOC wt.%C		0.00039		0.000376		0.00791		0.73895		0.64547		1.07398		2.73793		1.84382		0	0	0.04803	0			0
species																								
OH		1581.81		1866.152		41909.6		26696.6		16240.9		49345		101601		40763.6		0	22077.952	624.4753	1883.4318			271.669
NO3		146399		146481.6		119825		112885		119173		99730.6		89011.2		105940		0	8952.2622	15591.42	23879.369			4101.95
NO2		15314.7		15490.83		75671.5		65622.1		68159.1		77735.1		68063.7		83522.8		0	19265.247	450.3013	412.09434			0
CO3		10274.4		10722.73		634.352		16535.1		15282.6		16420.4		17250		17897.8		0	488.7236	6518.503	531.28566			29.2183
PO4		12020.4		12022.98		37.1272		9851.53		5779.57		9305.11		9150.74		9786.27		0	0	6462.854	0			0
SO4		17536.7		16749.61		3414.66		19678.7		16442.5		22317.1		23845.2		26395		0	11808.66	380.2243	0			0
Si		805.362		804.6587		659.219		534.193		655.639		473.055		519.908		603.356		0	864.60849	0	0			0
F		2717.09		2657.581		5.92086		1325.06		938.269		1071.08		2439.61		2701.15		0	519.85432	0	4483.8432			0
Cl		4161.55		3858.902		4157.37		4737.41		4134.79		5089.54		5017.56		5108.74		0	1635.0403	135.6105	162.81414			32.5714
C6H5O7		0		0		60.8738		2859.37		4008.13		4732.01		11038		5734.47		0	0	0	0			0
EDTA		0		0		3.61332		2643.13		1370.95		3728.18		10166.4		8273.2		0	0	0	0			0
HEDTA		0		0		2.85476		4882.91		176.061		6708.19		18129.5		13936		0	0	0	0			0
NTA		0		0		0		0		0		0		0		0		0	0	0	0			0
glycolate		0		0		34.0946		4084.9		1119.68		5774.82		14266.1		8123.63		0	0	0	0			0
acetate		0		0		2.78411		101.563		1671.11		266.575		838.11		1241.73		0	0	0	0			0
oxalate		0		0		1.7E-06		7.2E-05		0.20922		1.09237		2.06758		0.91316		0	0	0	0			0
DBP		5.73122		5.48491		60.0267		2501.61		4732.98		3637.47		8902.56		5259.65		0	0	701.1091	0			0
butanol		2.02092		1.93407		21.1664		882.109		1668.93		1282.63		3139.19		1854.64		0	0	247.2227	0			0
		0		0		0		0		0		0		0		0		0	0	0	0			0
NH3		1222.22		1030.191		538.699		404.248		202.931		421.187		1498.61		3052.18		0	286.11777	0	13076.862			849.37
NiFe(CN)6--		0		0		0		0		0		0		0		0		0	0	0	0			0

pred. su. ppm	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3 (µCi/g)	0.0022408	0.0050339	0.000429	0.0008889	4.562E-05	3.211E-05	5.682E-06	0.0044163	0.0044008	0.0044038	0.003453	0.0005434	0.04416779	0.2008446	0.0012734	0.00146916	0.032994576	0.1511554		0	0.00094211
C-14 (µCi/g)	0.0004927	0.0006908	0.0001097	0.0001714	1.432E-05	1.261E-05	1.761E-06	0.0006105	0.0006109	0.0006108	0.000621	0.0001718	0.003419	0.0086424	0.0001373	0.00017328	0.013973672	0.0281733		0	0.00013596
Ni-59 (µCi/g)	0.000227	0.0003769	3.126E-05	4.8706E-05	4.079E-06	3.582E-06	5.004E-07	0.0001736	6.159E-05	6.158E-05	3.17E-05	8.755E-06	0.00042724	0.0009939	3.893E-05	4.905E-05	0.001774989	0.0034875		0	3.8521E-05
Ni-63 (µCi/g)	0.0199268	0.0343842	0.0027441	0.00444388	0.0003581	0.0003268	4.614E-05	0.0156527	0.0055531	0.0055516	0.002861	0.0007988	0.03989179	0.0983145	0.0036516	0.0048731	0.171366373	0.3502044		0	0.003689
Co-60 (µCi/g)	0.0001111	0.0003575	1.53E-05	4.6198E-05	1.996E-06	3.398E-06	5.652E-07	0.0001397	0.0001398	0.0001398	0.000142	4.629E-05	0.00134968	0.0096575	5.935E-05	0.0001988	0.009782244	0.0388298		0	8.1837E-05
Se-79 (µCi/g)	0.0001677	0.00028	2.309E-05	3.619E-05	3.014E-06	2.662E-06	3.714E-07	0.0001288	0.0001289	0.0001288	0.000131	3.627E-05	0.0007258	0.0016021	2.988E-05	4.5627E-05	0.001948648	0.0019121		0	2.8818E-05
Sr-90 (µCi/g)	4.7182683	8.7763437	9.6382388	16.8253302	1.2921713	1.2713217	0.183875	9.9238376	0.1986225	0.1985791	0.201804	7.587199	27.5326781	27.235973	2.5778589	4.78058579	33.12700961	32.50623		0	2.62730265
Y-90 (µCi/g)	4.7194721	8.7788086	9.6406979	16.8300557	1.2925009	1.2716788	0.1839246	9.9265509	0.1986768	0.1986334	0.201859	7.5893299	27.539041	27.24268	2.5784696	4.78177233	33.1345437	32.514698		0	2.62789033
Zr-93 (µCi/g)	0.0007994	0.0013279	0.0001101	0.00017162	1.437E-05	1.262E-05	1.763E-06	0.0006117	0.0006121	0.000612	0.000622	0.000172	0.00342658	0.0080106	0.0001414	0.00021894	0.009743238	0.0095607		0	0.0001358
Nb-93m (µCi/g)	0.0006886	0.0011099	9.483E-05	0.00014345	1.237E-05	1.055E-05	1.459E-06	0.0005161	0.0005165	0.0005164	0.000525	0.0001437	0.00280155	0.0056074	0.0001149	0.00016422	0.006820267	0.0066925		0	0.00010778
Tc-99 (µCi/g)	0.005512	0.0092188	0.0007591	0.00119145	9.905E-05	8.763E-05	1.222E-05	0.0042373	0.0042404	0.0042395	0.004308	0.0011939	0.02393217	0.070525	0.0009864	0.0015191	0.097731525	0.1997621		0	0.00095055
Ru-106 (µCi/g)	2.618E-12	1.818E-10	3.606E-13	2.3495E-11	4.705E-14	1.728E-12	4.238E-13	5.812E-11	5.816E-11	5.815E-11	5.91E-11	2.354E-11	3.7701E-09	2.624E-06	3.471E-10	5.5744E-08	3.07966E-07	4.78E-06		0	1.1147E-09
Cd-113m (µCi/g)	0.0016247	0.0034945	0.0002237	0.00045164	2.92E-05	3.322E-05	4.936E-06	0.0014948	0.0014959	0.0014955	0.00152	0.0004526	0.01056067	0.039669	0.0004415	0.00085838	0.053508327	0.0573639		0	0.00049352
Sb-125 (µCi/g)	5.995E-05	0.0003635	8.256E-06	4.6984E-05	1.077E-06	3.455E-06	6.517E-07	0.0001293	0.0001294	0.0001294	0.000132	4.708E-05	0.00198182	0.0373578	9.935E-05	0.00084756	0.024257477	0.174433		0	0.00017344
Sn-126 (µCi/g)	0.000249	0.0004238	3.429E-05	5.4767E-05	4.475E-06	4.028E-06	5.6E-07	0.0001937	0.0001939	0.0001938	0.000197	5.488E-05	0.00111554	0.0024032	4.548E-05	6.4892E-05	0.002922971	0.0028682		0	4.4581E-05
I-129 (µCi/g)	1.027E-05	1.746E-05	1.414E-06	2.2565E-06	1.845E-07	1.66E-07	2.308E-08	7.983E-06	7.989E-06	7.987E-06	8.12E-06	2.261E-06	4.5975E-05	0.0001331	1.889E-06	2.8452E-06	0.000188992	0.0003864		0	1.8358E-06
Cs-134 (µCi/g)	6.414E-08	1.096E-06	1.31E-07	2.1009E-06	1.757E-08	1.587E-07	2.807E-08	9.102E-07	2.76E-08	2.759E-08	2.8E-08	9.474E-07	3.41E-05	0.0022937	2.083E-06	4.3105E-05	0.000731042	0.0092549		0	4.5365E-06
Cs-137 (µCi/g)	5.3190212	9.9930437	10.865426	19.1578939	1.4566968	1.4475702	0.2085849	11.154444	0.3382617	0.3381878	0.34368	8.6390432	70.27626	247.51485	2.9588396	5.41466122	319.2924804	736.45418		0	3.0288978
Ba-137m (µCi/g)	5.031607	9.4534292	10.278311	18.1233865	1.3779839	1.3694028	0.1973215	10.551999	0.3199924	0.3199225	0.325118	8.1725433	66.4830109	234.15435	2.7991377	5.1223761	302.0499159	696.68211		0	2.86532998
Sm-151 (µCi/g)	0.6338413	1.0350407	0.0872869	0.13377065	0.0113902	0.0098382	0.0014051	0.479336	0.479688	0.4795833	0.487371	0.1340498	2.59023899	5.6074062	0.1065993	0.16371418	6.820266684	6.6924591		0	0.10339444
Eu-152 (µCi/g)	7.224E-06	5.062E-05	9.949E-07	6.5427E-06	1.298E-07	4.812E-07	6.133E-08	1.774E-05	1.776E-05	1.775E-05	1.8E-05	6.556E-06	0.00025417	0.0016994	1.135E-05	3.3786E-05	0.001524152	0.0046243		0	1.3605E-05
Eu-154 (µCi/g)	0.0014936	0.0068243	0.0002057	0.00088199	2.684E-05	6.487E-05	9.068E-06	0.0025163	0.0025182	0.0025176	0.002559	0.0008838	0.03260514	0.2352967	0.0014458	0.00454112	0.21639535	0.4780328		0	0.00187864
Eu-155 (µCi/g)	0.0010923	0.0033993	0.0001504	0.00043933	1.963E-05	3.231E-05	5.534E-06	0.001337	0.001338	0.0013377	0.001359	0.0004402	0.01199953	0.0868705	0.00054	0.00200588	0.085758431	0.3444171		0	0.00071611
Ra-226 (µCi/g)	5.789E-08	5.682E-08	9.849E-09	7.3439E-09	1.285E-09	5.401E-10	8.292E-11	3.512E-08	3.515E-08	3.514E-08	3.57E-08	7.359E-09	5.0207E-08	4.967E-08	3.559E-09	3.4567E-09	6.04081E-08	5.928E-08		0	2.5305E-09
Ra-228 (µCi/g)	9.835E-14	1.398E-13	1.354E-14	1.8066E-14	1.767E-15	1.329E-15	1.778E-16	6.779E-14	6.784E-14	6.783E-14	6.89E-14	1.81E-14	3.3652E-13	2.982E-12	1.891E-14	6.5327E-14	1.12289E-12	2.438E-12		0	1.1389E-14
Ac-227 (µCi/g)	3.361E-07	2.94E-07	4.963E-08	3.7992E-08	6.476E-09	2.794E-09	4.375E-10	1.794E-07	1.795E-07	1.795E-07	1.82E-07	3.807E-08	2.9152E-07	2.884E-07	1.825E-08	1.685E-08	3.50757E-07	3.442E-07		0	1.331E-08
Pa-231 (µCi/g)	7.508E-07	6.63E-07	1.034E-07	8.5692E-08	1.349E-08	6.302E-09	1.01E-09	3.897E-07	3.9E-07	3.899E-07	3.96E-07	8.587E-08	1.0842E-06	1.602E-06	4.33E-08	4.6288E-08	1.94865E-06	1.912E-06		0	3.3025E-08
Th-229 (µCi/g)	1.896E-11	2.722E-11	2.612E-12	3.5184E-12	3.408E-13	2.588E-13	3.44E-14	1.316E-11	1.317E-11	1.316E-11	1.34E-11	3.526E-12	6.4203E-11	1.837E-10	2.673E-12	3.8429E-12	2.22462E-10	3.805E-10		0	2.2523E-12
Th-232 (µCi/g)	2.477E-13	3.626E-13	3.411E-14	4.6863E-14	4.451E-15	3.447E-15	4.66E-16	1.741E-13	1.742E-13	1.742E-13	1.77E-13	4.696E-14	8.9224E-13	8.471E-12	5.08E-14	1.8668E-13	3.08924E-12	7.152E-12		0	3.1023E-14
U-232 (µCi/g)	3.475E-09	7.023E-09	3.385E-09	6.852E-09	3.445E-09	3.942E-09	5.407E-10	1.991E-09	1.992E-09	1.992E-09	2.02E-09	7.112E-09	7.9072E-09	1.911E-08	1.168E-08	2.7339E-08	2.20226E-09	9.94E-09		0	1.4176E-08
U-233 (µCi/g)	2.08E-10	3.215E-10	2.026E-10	3.1369E-10	2.062E-10	1.805E-10	2.467E-11	9.864E-11	9.871E-11	9.869E-11	1E-10	3.256E-10	3.0144E-10	4.429E-10	4.324E-10	8.0699E-10	7.22059E-11	2.344E-10		0	4.7568E-10
U-234 (µCi/g)	0.0002931	0.0002918	0.0002856	0.00028475	0.0002906	0.0001638	2.696E-05	0.0001056	0.0001056	0.0001056	0.000107	0.0002955	0.00017998	0.0001934	0.0002675	0.00041043	4.21778E-05	0.0001226		0	0.00026987
U-235 (µCi/g)	1.318E-05	1.289E-05	1.284E-05	1.2576E-05	1.307E-05	7.236E-06	1.199E-06	4.698E-06	4.702E-06	4.701E-06	4.78E-06	1.305E-05	7.7434E-06	7.312E-06	1.136E-05	1.5556E-05	1.80281E-06	5.111E-06		0	1.1518E-05
U-236 (µCi/g)	1.871E-06	2.99E-06	1.823E-06	2.9172E-06	1.856E-06	1.678E-06	2.351E-07	9.077E-07	9.084E-07	9.082E-07	9.23E-07	3.028E-06	2.847E-06	1.307E-05	5.888E-06	2.6918E-05	7.18218E-07	3.343E-06		0	4.6778E-06
U-238 (µCi/g)	0.0002968	0.0002967	0.0002892	0.0002895	0.0002943	0.0001666	2.737E-05	0.0001071	0.0001072	0.0001072	0.028501	0.0003005	0.00018367	0.0001352	0.0002604	0.00028498	4.31898E-05	0.0001193		0	0.00027643
U-Total (µg/g)	889.19031	888.77692	866.38391	867.192756	881.61258	498.93277	81.986513	320.92793	321.1636	321.09347	326.3078	900.05363	550.091341	405.938	780.15661	855.521178	129.3437289	357.35082		0	827.828157
Np-237 (µCi/g)	3.311E-05	5.759E-05	4.559E-06	7.4429E-06	5.95E-07	5.474E-07	7.576E-08	2.615E-05	2.617E-05	2.617E-05	2.66E-05	7.458E-06	0.00015534	0.0002511	6.901E-06	1.5916E-05	0.000391258	0.0004268		0	6.1703E-06
Pu-238 (µCi/g)	2.497E-05	6.734E-05	2.631E-05	6.5731E-05	2.677E-05	6.891E-05	3.234E-06	3.461E-05	3.463E-05	3.463E-05	3.52E-05	6.818E-05	0.00010042	0.0003609	0.0001132	0.00028454	0.000131686	0.0003221		0	0.00012019
Pu-239 (µCi/g)	0.0078192	0.0083609	0.0082402	0.00816124	0.0083851	0.0085556	0.0004682	0.0052637	0.0052676	0.0052665	0.005352	0.0084659	0.00716556	0.0069871	0.0072558	0.00790184	0.008605	0.0083441		0	0.00767262
Pu-240 (µCi/g)	0.0004608	0.0008164	0.0004856	0.00079695	0.0004941	0.0008355	4.11E-05	0.0004517	0.000452	0.0004519	0.000459	0.0008267	0.00102564	0.0013528	0.0010234	0.0013058	0.001288855	0.0015922		0	0.00117353
Pu-241 (µCi/g)	0.000295	0.0029553	0.0003109	0.00288471	0.0003164	0.0030241	0.0001358	0.0013609	0.0013619	0.0013616	0.001384	0.0029924	0.00603294	0.017329	0.0062501	0.01162234	0.009712762	0.0229276		0	0.00874336
Pu-242 (µCi/g)	9.014E-10	1.351E-08	9.5E-10	1.3185E-08	9.667E-10	1.382E-08	6.284E-10	6.13E-09	6.135E-09	6.133E-09	6.23E-09	1.368E-08	2.7664E-08	9.937E-08	2.652E-08	3.0691E-08	3.62736E-08	1.326E-07		0	3.3392E-08
Pu-Total (µg/g)	0.1278178	0.1381243	0.1347006	0.13482631	0.1370681	0.1413413	0.0077149	0.0866757	0.0867393	0.0867204	0.088129	0.1398586	0.11984813	0.1185566	0.1212923	0.13298821	0.144199924	0.1414977		0	0.12868342
Am-241 (µCi/g)	0.0002769	0.0035025	3.813E-05	0.00045266	4.975E-06	3.329E-05	3.829E-06	0.001174	0.0011749	0.0011746	0.001194	0.0004536	0.01222167	0.0240317	0.0005144	0.00090544	0.029229683	0.0286819		0	0.00045094
Am-243 (µCi/g)	7.741E-10	2.532E-08	1.066E-10	3.2726E-09	1.391E-11	2.407E-10	3.112E-11	8.193E-09	8.199E-09	8.198E-09	8.33E-09	3.279E-09	1.1431E-07	1.084E-06	4.693E-09	7.3052E-09	2.91863E-07	8.798E-07		0	4.3985E-09
Cm-242 (µCi/g)	2.899E-08	1.005E-06	3.992E-09	1.2993E-07	5.209E-10	9.555E-09	1.247E-09	3.249E-07	3.251E-07	3.25E-07	3.3E-07	1.302E-07	5.846E-06	8.046E-05	2.367E-07	3.392E-07	3.03195E-05	0.0001278		0	2.8062E-07
Cm-243 (µCi/g)	4.302E-10	2.071E-08	5.925E-11	2.6765E-09	7.731E-12	1.968E-10	2.685E-11	6.652E-09	6.657E-09	6.656E-09	6.76E-09	2.682E-09	1.3401E-07	8.15E-06	5.4E-09	7.8116E-09	7.68397E-07	9.818E-06		0	6.948E-09
Cm-244 (µCi/g)	1.185E-08	6.036E-07	1.632E-09	7.8012E-08	2.129E-10	5.737E-09	7.908E-10	1.937E-07	1.939E-07	1.938E-07	1.97E-07	7.817E-08	4.0846E-06	8.011E-05	1.635E-07	2.2814E-07	2.50599E-05	9.561E-05		0	2.2313E-07

pred. su. ppm	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3 (µCi/g)	0.0006563	0.001116	0	0	0	0	0.000243	0.004214	0.0230591	0.0055888	0.0521872	0.0218967	0.0858809		0.124578			0	0	0	0
C-14 (µCi/g)	9.1905E-05	0.000633	0	0	0	0	0.000335	1.19E-08	5.476E-08	0.0126802	0.0160848	0.0014749	0.0070103		0.026069			0	0	0	0
Ni-59 (µCi/g)	2.5996E-05	3.81E-05	0	0	0	0	0.001004	0	0	0.0013757	0.0028504	0.0002495	0		0.001226			0	0	0	0
Ni-63 (µCi/g)	0.00261368	0.003992	0	0	0	0	0.098442	0	0	0.1349938	0.295705	0.0247256	0		0.121284			0	0	0	0
Co-60 (µCi/g)	0.00013411	0.001549	0	0	0	0	0.000352	0	0	0.012875	0.0386889	0.0033183	0.0142025		0.029842			0	0	0	0
Se-79 (µCi/g)	2.0422E-05	8.01E-05	0	0	0	0	0.001466	9.74E-05	0.0004481	0.0018988	0.0019457	0.0010005	0.001775		0.001664			0	0	0	0
Sr-90 (µCi/g)	2.17685278	8.843473	0	0	0	0	31.40665	6.627721	29.326155	32.279638	33.077319	30.119999	120.70187		57.4738			0	0	0	0
Y-90 (µCi/g)	2.17740734	8.84593	0	0	0	0	31.41425	6.62935	29.331456	32.287439	33.086201	30.12743	120.73129		57.48763			0	0	0	0
Zr-93 (µCi/g)	9.629E-05	0.000383	0	0	0	0	0.006467	0.000252	0.0011587	0.009494	0.0097286	0.0045001	0.0088752		0.00832			0	0	0	0
Nb-93m (µCi/g)	7.0342E-05	0.000264	0	0	0	0	0.005451	0.000183	0.0008005	0.0066458	0.00681	0.0036023	0.0062126		0.005824			0	0	0	0
Tc-99 (µCi/g)	0.00067671	0.002681	0	0	0	0	0.002359	0.001045	0.0048131	0.0892546	0.1068682	0.0098674	0.0473628		0.183762			0	0	0	0
Ru-106 (µCi/g)	2.2172E-07	4.92E-06	0	0	0	0	2.8E-06	3.17E-08	1.469E-06	4.747E-06	4.864E-06	4.429E-06	4.438E-06		3.86E-06			0	0	0	0
Cd-113m (µCi/g)	0.00046707	0.002279	0	0	0	0	0.016672	0.000509	0.002713	0.0569641	0.0583717	0.0153486	0.0532512		0.049919			0	0	0	0
Sb-125 (µCi/g)	0.00073047	0.006507	0	0	0	0	0.001356	0.001505	0.0153617	0.0482881	0.2416375	0.0202975	0.083747		0.129177			0	0	0	0
Sn-126 (µCi/g)	3.1272E-05	0.000131	0	0	0	0	0.002339	8.94E-05	0.0004117	0.0028482	0.0029186	0.0015798	0.0026625		0.002496			0	0	0	0
I-129 (µCi/g)	1.3049E-06	5.56E-06	0	0	0	0	4.56E-06	3.82E-06	1.76E-05	0.0001726	0.0002081	1.92E-05	9.204E-05		0.000355			0	0	0	0
Cs-134 (µCi/g)	4.8446E-05	0.001473	0	0	0	0	1.31E-06	5.15E-05	0.0006998	0.0022058	0.0018598	0	0.0101067		0.000242			0	0	0	0
Cs-137 (µCi/g)	2.50481558	10.8893	0	0	0	0	0.164455	6.097588	30.129773	298.24122	25.755275	0	182.89909		33.10071			0	0	0	0
Ba-137m (µCi/g)	2.36953555	10.30091	0	0	0	0	0.155573	5.768365	28.501673	282.13512	24.363868	0	173.01911		31.31325			0	0	0	0
Sm-151 (µCi/g)	0.07376064	0.199831	0	0	0	0	5.498262	0.093871	0.4424871	6.6458127	6.8100363	3.6243872	6.2126141		5.82383			0	0	0	0
Eu-152 (µCi/g)	1.6937E-05	0.000228	0	0	0	0	0.000945	1.24E-05	6.679E-05	0.0021392	0.0052496	0.0009046	0.0071948		0.002063			0	0	0	0
Eu-154 (µCi/g)	0.00265233	0.041154	0	0	0	0	0.055975	0.001626	0.0096059	0.2755371	0.4864312	0.1003702	0.4437602		0.415989			0	0	0	0
Eu-155 (µCi/g)	0.00120822	0.005032	0	0	0	0	0.061633	0.000879	0.0062639	0.1405955	0.2542097	0.0518355	0.4415032		0.122729			0	0	0	0
Ra-226 (µCi/g)	1.3332E-09	1.75E-09	0	0	0	0	5.73E-08	5.35E-08	5.348E-08	5.886E-08	6.032E-08	5.492E-08	5.503E-08		5.16E-08			0	0	0	0
Ra-228 (µCi/g)	1.3913E-06	5.66E-14	0	0	0	0	5.99E-13	0.002578	0.0116253	2.394E-08	2.193E-12	4.813E-13	4.205E-12		8.98E-07			0	0	0	0
Ac-227 (µCi/g)	3.2578E-07	9.12E-09	0	0	0	0	3.33E-07	3.11E-07	3.105E-07	3.418E-07	3.502E-07	3.189E-07	3.195E-07		3E-07			0	0	0	0
Pa-231 (µCi/g)	1.8099E-06	2.82E-08	0	0	0	0	1.44E-06	1.73E-06	1.725E-06	1.899E-06	1.946E-06	8.884E-07	1.775E-06		1.66E-06			0	0	0	0
Th-229 (µCi/g)	6.2995E-07	6.68E-12	0	0	0	0	1.08E-10	6.21E-05	0.0002552	1.108E-08	2.058E-10	7.16E-11	7.01E-10		4.06E-08			0	0	0	0
Th-232 (µCi/g)	2.9748E-06	1.74E-13	0	0	0	0	7.97E-14	0.000272	0.0006038	1.024E-07	6.788E-12	5.913E-13	2.597E-12		3.71E-07			0	0	0	0
U-232 (µCi/g)	5.8291E-05	2.15E-07	1.58E-08	6.16E-05	0.0015018	0	8.67E-11	0.001191	0.0465926	6.006E-05	2.543E-08	2.108E-09	8.484E-09		5.41E-05			0	0	0	0
U-233 (µCi/g)	0.00022647	2.5E-09	5.19E-10	0.000244	0.0057491	0	2.28E-12	0.004721	0.1783709	0.0002324	3.362E-10	2.844E-11	1.188E-10		0.00021			0	0	0	0
U-234 (µCi/g)	0.00030467	0.000446	0.000303	0.000315	0.0004386	0	1.24E-06	3.3E-05	0.0012458	0.0001856	9.007E-05	7.939E-06	3.554E-05		0.000281			0	0	0	0
U-235 (µCi/g)	1.2498E-05	1.68E-05	1.3E-05	1.31E-05	1.531E-05	0	5.23E-08	1.02E-10	3.856E-09	7.681E-06	3.46E-06	3.073E-07	1.392E-06		1.16E-05			0	0	0	0
U-236 (µCi/g)	9.1497E-06	4.55E-05	5.16E-06	8.55E-06	3.068E-05	0	2.89E-08	1.42E-11	5.382E-10	5.096E-06	6.935E-06	5.775E-07	2.345E-06		8.77E-06			0	0	0	0
U-238 (µCi/g)	0.00028759	0.000312	0.00031	0.000305	0.0002995	0	1.23E-06	8.34E-19	3.151E-17	0.0001789	6.771E-05	6.12E-06	2.848E-05		0.00027			0	0	0	0
U-Total (µg/g)	861.587255	936.2389	929.5639	913.9264	899.34276	0	3.69519	0.503678	19.031411	535.49928	203.16653	18.359615	85.412082		792.0473			0	0	0	0
Np-237 (µCi/g)	5.0431E-06	4.17E-05	0	0	0	0	7.14E-06	8.91E-11	4.159E-10	0.0002794	0.0003439	3.153E-05	0.0001498		0.000625			0	0	0	0
Pu-238 (µCi/g)	0.00019029	0.001561	0	0	0	0	0.000192	1.21E-08	5.821E-08	0.0017713	0.0011976	0.0004378	0.0011554		0.00083			0	0	0	0
Pu-239 (µCi/g)	0.00793	0.008038	0	0	0	0.00736	0.008123	3.44E-13	1.617E-12	0.0751877	0.008092	0.0076725	0.0310254		0.026568			0	0	0	0
Pu-240 (µCi/g)	0.00140996	0.003393	0	0	0	0.00184	0.001337	1.85E-14	8.667E-14	0.012356	0.0029109	0.0016645	0.0057653		0.00465			0	0	0	0
Pu-241 (µCi/g)	0.01524214	0.105011	0	0	0	0	0.013903	8.08E-14	4.399E-13	0.128036	0.0828368	0.0306931	0.0819319		0.057856			0	0	0	0
Pu-242 (µCi/g)	4.2888E-08	8.34E-07	0	0	0	0	6.84E-08	1.07E-19	5.017E-19	6.271E-07	5.991E-07	1.997E-07	4.831E-07		3.21E-07			0	0	0	0
Pu-Total (µg/g)	0.13393117	0.145531	0	0	0	0.12878	0.136711	7.12E-10	3.427E-09	0.1030977	0.1439836	0.1311106	0.5254082		0.255629			0	0	0	0
Am-241 (µCi/g)	0.00057491	0.02504	0	0	0	0.0261	0.027712	7.29E-15	3.249E-14	0.028482	0.0291858	0.0265766	0.0266255		0.024948			0	0	0	0
Am-243 (µCi/g)	6.0724E-09	3.73E-06	0	0	0	0	6.65E-07	2.03E-20	9.534E-20	6.265E-07	3.264E-06	2.012E-06	1.394E-06		7.7E-07			0	0	0	0
Cm-242 (µCi/g)	2.4469E-07	4.35E-05	0	0	0	0	2.24E-05	0	1.156E-32	5.115E-05	0.000453	4.81E-05	0.0002735		8.46E-05			0	0	0	0
Cm-243 (µCi/g)	6.748E-09	5.61E-06	0	0	0	0	1.23E-06	6.38E-22	3.165E-21	2.876E-06	5.545E-05	5.122E-06	2.46E-05		8.07E-06			0	0	0	0
Cm-244 (µCi/g)	2.3105E-07	9.83E-05	0	0	0	0	6.09E-05	2E-20	1.034E-19	9.494E-05	9.729E-05	8.859E-05	8.875E-05		8.32E-05			0	0	0	0

pred. su. ppm	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
H-3 (µCi/g)		0.00498		0.004808		0.19599		0.13623		0.11568		0.21944		0.50029		0.22591		0	9.0449055	0	0.0201894			0
C-14 (µCi/g)		0.00072		0.000717		0.01006		0.01958		0.0191		0.02607		0.02549		0.02476		0	0.1114005	0	0.0002487			0
Ni-59 (µCi/g)		0.00011		0.000117		0.00056		0.00029		0.00033		0.00028		0.00025		0.00032		0	0	0	0			0
Ni-63 (µCi/g)		0.01025		0.010524		0.05446		0.02867		0.03288		0.02748		0.02479		0.03214		0	0	0	0			0
Co-60 (µCi/g)		0.00016		0.000162		0.00905		0.0127		0.02821		0.01634		0.02292		0.01977		0	0.0904516	0	0.0038338			0
Se-79 (µCi/g)		0.00015		0.000154		0.00138		0.00116		0.00137		0.00154		0.00204		0.00149		0	0.001809	0	3.108E-05			0
Sr-90 (µCi/g)		17.1612		17.98542		23.4681		21.8177		23.3408		20.5956		24.2503		25.153		0	30.753561	0	4.8737969			0
Y-90 (µCi/g)		17.1658		17.99028		23.4737		21.823		23.3464		20.6005		24.2563		25.1592		0	30.76153	0	4.8750597			0
Zr-93 (µCi/g)		0.00073		0.000732		0.0069		0.00569		0.00686		0.00752		0.01001		0.00738		0	0.0090452	0	0.0001499			0
Nb-93m (µCi/g)		0.00061		0.000619		0.00483		0.00414		0.00481		0.00552		0.0073		0.00529		0	0.0063316	0	6.329E-05			0
Tc-99 (µCi/g)		0.00503		0.005069		0.07817		0.16016		0.16788		0.24439		0.5758		0.29149		0	0.4652238	0	0.0010384			0
Ru-106 (µCi/g)		6.3E-11		6.4E-11		2.1E-06		2.1E-06		3.4E-06		2.7E-06		3.9E-06		4E-06		0	4.523E-06	0	4.916E-06			0
Cd-113m (µCi/g)		0.00175		0.001764		0.04074		0.02952		0.04119		0.03796		0.05185		0.04068		0	0.054271	0	0.0016179			0
Sb-125 (µCi/g)		0.00014		0.000147		0.03235		0.05502		0.12642		0.07021		0.10077		0.09229		0	17.185813	0	0.0928473			0
Sn-126 (µCi/g)		0.00023		0.000232		0.00207		0.00175		0.00206		0.00233		0.00309		0.00225		0	0.0027135	0	4.9E-05			0
I-129 (µCi/g)		9.5E-06		9.54E-06		0.00015		0.00031		0.00033		0.00047		0.00111		0.00056		0	0.0009343	0	2.085E-06			0
Cs-134 (µCi/g)		7.5E-07		1.06E-06		0.00178		0.00203		0.00087		0.00217		0.00564		0.00424		0	18.272298	0	0.0411981			0
Cs-137 (µCi/g)		13.1053		15.11693		250.617		209.955		84.0454		245.683		593.796		303.771		0	2551.7932	0	5.7534585			0
Ba-137m (µCi/g)		12.3974		14.30041		237.089		198.618		79.5066		232.417		561.733		287.367		0	2414.0655	0	5.4429277			0
Sm-151 (µCi/g)		0.56975		0.574226		4.83167		4.08455		4.80545		5.42064		7.19316		5.24284		0	6.3316155	0	0.1074883			0
Eu-152 (µCi/g)		1.1E-05		1.08E-05		0.00078		0.00144		0.00119		0.00173		0.00248		0.00215		0	0.045118	0	0.0001007			0
Eu-154 (µCi/g)		0.00283		0.002876		0.21638		0.20255		0.34325		0.26073		0.36101		0.30009		0	0.4522582	0	0.028653			0
Eu-155 (µCi/g)		0.00085		0.00083		0.03978		0.08689		0.07181		0.10228		0.14734		0.1253		0	8.1881129	0	0.0182769			0
Ra-226 (µCi/g)		4.4E-08		4.34E-08		4.3E-08		5.5E-08		4.3E-08		6.9E-08		9.1E-08		6E-08		0	5.608E-08	0	2.505E-10			0
Ra-228 (µCi/g)		4.4E-14		4.32E-14		1.4E-06		2.4E-05		0.00045		2.1E-05		6.5E-05		0.00013		0	4.088E-12	0	9.125E-15			0
Ac-227 (µCi/g)		2.2E-07		2.23E-07		2.5E-07		3.4E-07		2.5E-07		4.3E-07		5.6E-07		3.5E-07		0	3.256E-07	0	1.44E-09			0
Pa-231 (µCi/g)		4.8E-07		4.85E-07		1.4E-06		1.5E-06		1.4E-06		1.9E-06		2.5E-06		1.6E-06		0	1.809E-06	0	8.22E-09			0
Th-229 (µCi/g)		8.5E-12		8.38E-12		3.3E-08		6.2E-07		1E-05		5.4E-07		1.6E-06		3.1E-06		0	4.676E-10	0	1.044E-12			0
Th-232 (µCi/g)		2.1E-13		2.1E-13		1.9E-07		2.2E-06		5.6E-05		2E-06		7.2E-06		1.6E-05		0	1.881E-11	0	4.198E-14			0
U-232 (µCi/g)		5.6E-09		5.62E-09		1.4E-05		6.6E-05		0.00097		4.9E-05		8.5E-05		0.00021		0	9.288E-08	1E-07	1.01E-07			0
U-233 (µCi/g)		2.7E-10		2.67E-10		5.4E-05		0.00025		0.0037		0.00019		0.00033		0.0008		0	9.525E-10	1.03E-09	1.035E-09			0
U-234 (µCi/g)		0.00026		0.000264		0.00026		0.00016		0.00026		0.00014		0.00018		0.00027		0	0.0004177	0.000451	0.0004541			0
U-235 (µCi/g)		1.2E-05		1.17E-05		1E-05		6.5E-06		9.7E-06		5.8E-06		7.7E-06		1.1E-05		0	1.588E-05	1.71E-05	1.726E-05			0
U-236 (µCi/g)		2.5E-06		2.47E-06		1.1E-05		4.7E-06		8.7E-06		3.9E-06		4.4E-06		9.6E-06		0	3.439E-05	3.71E-05	3.739E-05			0
U-238 (µCi/g)		0.00027		0.000268		0.00022		0.00017		0.00055		0.00018		0.00023		0.00036		0	0.0002868	0.00031	0.0003118			0
U-Total (µg/g)		803.073		803.6746		657.497		437.006		653.582		392.855		521.082		739.578		0	861.21156	929.9609	936.21293			0
Np-237 (µCi/g)		3.1E-05		3.12E-05		0.00034		0.00057		0.00056		0.00091		0.0021		0.00103		0	0.0068139	0	1.521E-05			0
Pu-238 (µCi/g)		4.2E-05		4.57E-05		0.00019		0.00026		0.00022		0.00028		0.00024		0.00047		0	0.0009408	0.001016	0.0010227			0
Pu-239 (µCi/g)		0.0076		0.0076		0.00614		0.00994		0.0078		0.0101		0.00933		0.01317		0	0.0076225	0.008231	0.0082863			0
Pu-240 (µCi/g)		0.00059		0.000618		0.00102		0.00162		0.00134		0.00168		0.00147		0.00222		0	0.0023154	0.0025	0.002517			0
Pu-241 (µCi/g)		0.00145		0.001681		0.00974		0.01753		0.01572		0.01898		0.01596		0.03212		0	0.096109	0.103782	0.1044794			0
Pu-242 (µCi/g)		6.4E-09		7.5E-09		5.2E-08		9.4E-08		7.6E-08		1E-07		8.6E-08		2E-07		0	3.584E-07	3.87E-07	3.896E-07			0
Pu-Total (µg/g)		0.12483		0.124991		0.10216		0.12856		0.1016		0.12061		0.11321		0.15096		0	0.1338684	0.144556	0.1455273			0
Am-241 (µCi/g)		0.00128		0.00131		0.02071		0.04058		0.0206		0.05913		0.13856		0.07187		0	0.0271356	0	0.0191519			0
Am-243 (µCi/g)		8.9E-09		9.06E-09		6.6E-07		1.3E-06		7.1E-07		1.9E-06		4.5E-06		3.6E-06		0	5.717E-06	0	4.035E-06			0
Cm-242 (µCi/g)		2E-07		1.79E-07		1.4E-07		1.5E-07		1.5E-07		1.5E-07		2E-07		1.6E-07		0	0.0039739	0	8.87E-06			0
Cm-243 (µCi/g)		4.1E-09		3.65E-09		2.9E-09		3.1E-09		3.1E-09		3.1E-09		4.2E-09		3.3E-09		0	0.0006658	0	1.486E-06			0
Cm-244 (µCi/g)		2.1E-07		2E-07		1.7E-07		9.1E-08		1.8E-07		8.9E-08		1.2E-07		9.5E-08		0	9.045E-05	0	7.344E-05			0

	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
B	7		2990		219	194		4472	172												
B'																					
BY	1		110	1	3	13	5	501	285	819	470	2	23	7	15	17	553	700		159	3,723
BY'																					
A1			4673	66	2	9	5	66		18	20	5	479	25	511	22	326	139		20	19
A1'																					
T1	319		3059	962	79			6465				1034									
T1'																					
R				1					3	2	2		7,796	6,697	457	465	2	1		1	9
R'																					
T2			1098	884	63	176		4420	245	105	49	318	4,361	869	1,082	1,859	2110	1239		110	312
T2'																					
S1			538	172	14	146	37	1091	142	134	107	115	10452	643	1352	750	941	495		133	436
S1'																					
S2			113	2319		2	1	22	10	8	3	1			7	129	70	36		7	11
S2'																					
A2																					
A2'																					
CSR in	0.0	0.0	5.0	10.5	0.4	71.3	0.0	292.3	58.1	24.2	5.7	8.5	2681.7	1728.8	36.8	28.2	20318	5963.5		625.4	259.8
AR in	0.0	0.0	0.5	0.3	0.1	13.4	0.0	26.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2775.4	1164.8		145.3	19.9
			12581	4405	380	540	48	17037	857	1086	651	1475	23111	8241	3424	3242	4002	2610		430	4510
fr.su left			1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	0.79	0.64	0.94	0.90	0.13	0.30	1.00	0.42	0.96
													2,121	2,236	12	10	1,294	2,416	0	0	23
frac NO3- left in su	0.9537717	0.9325701	0.9055398	0.8718317	0.9870122	0.9901647	0.9986159	0.9251605	0.9979828	0.9981367	0.998163	0.9493758	0.67837171	0.4556142	0.9793508	0.97547206	0.372452749	0.1865147	1	1	0.98165062
frac. NO2 to NH3 in su	0.0011353	0.0016741	0.0023785	0.0032864	0.0003137	0.0002372	3.324E-05	0.0018652	4.846E-05	4.476E-05	4.41E-05	0.001246	0.0092702	0.0186898	0.0005006	0.00059583	0.023424761	0.0395006	0	0	0.00044438
frac NO3- left in sl	0.9814475	0.9817874	0.9312022	0.9038127	0.9899837	0.9907159	0.9987744	0.9513833	0.1262034	0.109647	0.006397	0.2548246	0.04231224	2.083E-13	0.9865115	0.98123306	1.59298E-14	5.714E-16	1	1	0.98467446
frac. NO2 to NH3 in sl	0.0004493	0.000441	0.0017092	0.00242425	0.0002416	0.0002238	2.943E-05	0.0011954	0.048463	0.0516691	0.114185	0.0322798	0.07309509	0.50381	0.0003259	0.00045458	0.533498526	0.5693085	0	0	0.00037059
0.05	mol NO2/mol NO3/Ci/yr.																				
2.49	gal TBP lost per ton fuel																				
1.20E-03	mol NH3/mol NO2/Ci/yr.																				
su ionic strength	1.7392132	1.747628	1.8046813	1.80281935	1.648965	1.3101234	1.4003118	2.1794645	2.1407779	2.1415697	1.865083	1.4654654	2.41186967	2.454794	1.9259663	1.38990345	1.048803932	1.4005253	0	1.92788383	1.57618695
complexability	0.9216644	0.9264674	0.3813759	0.38129772	0.359362	0.2547353	0.0843031	0.6013332	0.4669385	0.4668902	0.286392	0.3210626	0.0284092	0.0392412	0.0218883	0.0216104	0.052762411	0.1689918	0	0.25865317	0.02169442

	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
B																				24	
B'																					
BY	13,203		382	43	4,771		583	304	634	21	470	570			6649					575	325
BY'																					
A1		1650	79	181	55	18	38	4		777	751	608	713		556					125	65
A1'																					
T1																					
T1'																					
R	75		1		56		1	1	2		2	21			111					6	
R'																					
T2	2606		320	938	900	1,637	47	100	27	429	403	2389	806		6,038					4598	355
T2'																					
S1	2071		233	380	676	164	107	61	18	710	337	2574	828		8345					2,634	1,444
S1'																					
S2	46		16	37	16		5	3	1	167	127	134	143		146					33	14
S2'																					
A2																					
A2'																					
CSR in	1433.6	15.2	3098.5	7972.4	552.4	0.0	3.4	11.3	0.4	4100.5	5390.6	582.4	70.1		888.4	0.0	0.0	0.0	0.0	763.3	0.2
AR in	189.1	0.0	464.6	1692.2	153.5	0.0	0.0	0.0	0.0	157.9	4785.2	1.2	42.0		58.0	0.0	0.0	0.0	0.0	96.0	0.0
	18001	1650	1031	1579	6474	1819	781	473	682	2104	2090	6296	2490		21845	0	0	0	0	7995	2203
fr.su left	0.93	0.99	0.22	0.09	0.91	1.00	1.00	0.99	1.00	0.27	0.04	0.96	0.97		0.96	1.00	1.00	1.00	1.00	0.90	1.00
	57	16	0	0	0	0	10	4	9	531	163	597	736	0	20,374	0	0	0	0	0	0
frac NO3- left in su	0.99000829	0.968051	1	1	1	1	0.929534	0.971076	0.8944587	0.5957589	0.9043471	0.9506767	0.6187556	1	0.850459	1	1	1	1	1	1
frac. NO2 to NH3 in su	0.00024098	0.000779	0	0	0	0	0.001752	0.000704	0.0026733	0.0123531	0.0024101	0.0012132	0.011455	0	0.00388	0	0	0	0	0	0
frac NO3- left in sl	0.99236646	0.972547	1	1	1	1	2.83E-08	0.972934	0.8050671	6.627E-09	9.624E-07	1.573E-05	1.142E-06	1	0.900992	1	1	1	1	1	1
frac. NO2 to NH3 in sl	0.00018389	0.000668	0	0	0	0	0.341081	0.000658	0.0051904	0.3636268	0.2828651	0.2331275	0.2799129	0	0.002499	0	0	0	0	0	0
0.05																					
2.49																					
1.20E-03																					
su ionic strength	1.31045474	0.934383	0.991644	1.28092	1.4029397	1.96391	1.761656	2.015495	2.0328005	1.4188428	0.9158651	1.9772889	2.4512382	0	2.419943	0	0	0.552	3.310431	0.5127	1.0737
complexability	0.02161033	0.010547	0.276191	0.418299	0.3182049	0.19976	2.808279	0.245775	0.2522211	0.2746116	0.0850608	1.0249697	5.7700854	0	0.603456	0	0	0	0.67381	0.00598	0.30598

	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
B																								
B'		4,445																						
BY		637		15		13																		
BY'										8,124														
A1		48		20				850		2,180		1353												
A1'																4,668								
T1																								
T1'				6,675																				
R		1		6		24																		
R'						7,706																		
T2		56		2,123		239																		
T2'								10,828																
S1		152		514		597		4,110		56														
S1'												11,364												
S2		11		10				1407		377		3,673												
S2'														3,562										
A2																								
A2'																		0						
CSR in	0.0	125.1	0.0	335.9	0.0	2441.7	0.0	0.0	0.0	39.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AR in	0.0	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	5350	0	9363	0	8579	0	17194.8	0	10737	0	16390.3	0	3562	0	4668	0	0	0	0	0	0	0	0
fr.su left	1.00	0.97	1.00	0.95	1.00	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00
	0	78	0	128	0	1,945	0	4,295	0	3,818	0	7,665	0	1,272	0	4,490	0	0	2,118	0	20			
frac NO3- left in su	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2605962	1	0.9949224	1	1	1
frac. NO2 to NH3 in su	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0317595	0	0.0001222	0	0	0
frac NO3- left in sl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.025E-13	1	0.9956808	1	1	1
frac. NO2 to NH3 in sl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5121782	0	0.0001039	0	0	0
0.05																								
2.49																								
1.20E-03																								
su ionic strength	0	2.43	0	2.429963	0	3.30469	0	3.53411	0	3.3219	0	4.11258	0	5.09288	0	4.13663	0	0	2.103785	1.03072	0.8924884	0	0	0.31575
complexability	0	0.71959	0	0.718253	0	0.07371	0	1.8032	0	1.29596	0	2.42272	0	5.03519	0	3.48245	0	0	0.1449101	0.258025	0.0090037	0	0	0.00049

HDW Rad. Partitio	MW1	MW2	1C1	1C2	2C1	2C2	224						R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
st. date	1944	1950	1944	1950	1944	1950	1952						1952	1959	1952	1961	1956	1963	1963	1968	1956
en. date	1949	1956	1949	1956	1949	1956	1956						1958	1967	1960	1967	1962	1967	1972	1976	1960
splits	0.889	0.889	0.1	0.1	0.01	0.01	0.001						1	1	0.004	0.004	1	1	1	1	0.004
U splits																	0.2	0.2	0.2	1	0
Pu splits	0.3333333	0.3333333	0.3333333	0.33333333	0.3333333	0.3333333	0.01														
Sr-90 split	0.35	0.35	0.584	0.584	0.06	0.06	0.006														
Cs-137 split	0.35	0.35	0.584	0.584	0.06	0.06	0.006														
Rad. partition fr.	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
H-3	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
C-14	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ni-59	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ni-63	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Co-60	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Se-79	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Sr-90	0.35	0.35	0.584	0.584	0.06	0.06	0.006	0.365824	0.2088001	0.3253758	0.365824	0.584	1	1	0.004	0.004	1	1	1		0.004
Y-90	0.35	0.35	0.584	0.584	0.06	0.06	0.006	0.365824	0.2088001	0.3253758	0.365824	0.584	1	1	0.004	0.004	1	1	1		0.004
Zr-93	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Nb-93m	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Tc-99	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ru-106	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Cd-113m	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Sb-125	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Sn-126	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
I-129	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Cs-134	0.35	0.35	0.584	0.584	0.06	0.06	0.006	0.365824	0.2088001	0.3253758	0.365824	0.584	1	1	0.004	0.004	1	1	1		0.004
Cs-137	0.35	0.35	0.584	0.584	0.06	0.06	0.006	0.365824	0.2088001	0.3253758	0.365824	0.584	1	1	0.004	0.004	1	1	1		0.004
Ba-137m	0.35	0.35	0.584	0.584	0.06	0.06	0.006	0.365824	0.2088001	0.3253758	0.365824	0.584	1	1	0.004	0.004	1	1	1		0.004
Sm-151	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Eu-152	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Eu-154	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Eu-155	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ra-226	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ra-228	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Ac-227	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Pa-231	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Th-229	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Th-232	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
U-232	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	6.25E-03	3.03E-03	0.004	0.004	0.00039005	0.0007298	0.00191		0.004
U-233	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	6.30E-03	2.55E-03	0.004	0.004	0.000395134	0.0006476	0.001463		0.004
U-234	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	5.87E-03	2.29E-03	0.004	0.004	0.000414078	0.0006083	0.000967		0.004
U-235	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	5.85E-03	2.27E-03	0.004	0.004	0.000415834	0.0006067	0.000954		0.004
U-236	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	6.08E-03	2.39E-03	0.004	0.004	0.000394172	0.0006646	0.001275		0.004
U-238	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	5.89E-03	2.27E-03	0.004	0.004	0.000413707	0.0006021	0.000914		0.004
U-Total	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.0040647	0.00232	0.0036153	0.004065	0.1	5.89E-03	2.27E-03	0.004	0.004	0.000413719	0.0006021	0.000915		0.004
Np-237	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1.00E+00	3.34E-01	0.004	0.004	6.16E-01	3.00E-01	3.00E-01		0.004
Pu-238	0.0096	0.0094855	0.0096	0.00948548	0.0096	0.0094855	0.0002805	0.003491	0.0019925	0.003105	0.003491	0.0094855	8.66E-03	5.17E-03	0.004	0.004	4.78E-03	7.33E-03	2.15E-02		0.004
Pu-239	0.0096	0.0098206	0.0096	0.00982061	0.0096	0.0098206	0.0003008	0.0035523	0.0020275	0.0031595	0.003552	0.0098206	8.43E-03	4.31E-03	0.004	0.004	5.08E-03	4.32E-03	1.09E-02		0.004
Pu-240	0.0096	0.0095931	0.0096	0.00959306	0.0096	0.0095931	0.0002876	0.0035106	0.0020038	0.0031225	0.003511	0.0095931	8.68E-03	4.70E-03	0.004	0.004	4.86E-03	4.84E-03	1.48E-02		0.004
Pu-241	0.0096	0.0093081	0.0096	0.0093081	0.0096	0.0093081	0.0002685	0.0034585	0.001974	0.0030761	0.003459	0.0093081	8.64E-03	5.46E-03	0.004	0.004	4.60E-03	6.36E-03	2.10E-02		0.004
Pu-242	0.0096	0.0092948	0.0096	0.00929478	0.0096	0.0092948	0.0002679	0.0034561	0.0019726	0.003074	0.003456	0.0092948	8.93E-03	6.54E-03	0.004	0.004	4.71E-03	1.07E-02	2.77E-02		0.004
Pu-Total	0.0096	0.0098144	0.0096	0.00981443	0.0096	0.0098144	0.0003005	0.0035511	0.0020269	0.0031585	0.003551	0.0098144	8.44E-03	4.33E-03	0.004	0.004	5.07E-03	4.34E-03	1.12E-02		0.004
Am-241	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Am-243	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Cm-242	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Cm-243	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004
Cm-244	0.889	0.889	0.1	0.1	0.01	0.01	0.001	0.365824	0.2088001	0.3253758	0.365824	0.1	1	1	0.004	0.004	1	1	1		0.004

HDW Rad. Partitio	CWP2	CWZr1	OWW1	OWW2	OWW3			TH1	TH2												
st. date	1961	1963	1956	1963	1968			1965	1970												
en. date	1972	1972	1962	1967	1972			1966	1970												
splits	0.004	0.01	1	1	1			0.05	0.05												
U splits			0.8	0.8	0.8																
Pu splits																					
Sr-90 split																					
Cs-137 split																					
Rad. partition fr.	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
H-3	0.004	0.01				1	1	1	1	1	1	1	1		1						
C-14	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ni-59	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ni-63	0.004	0.01				1	1	1	1	1	1	1	1		1						
Co-60	0.004	0.01				1	1	1	1	1	1	1	1		1						
Se-79	0.004	0.01				1	1	1	1	1	1	1	1		1						
Sr-90	0.004	0.01				1	0.45	1	1	1	0.2	0.45	0.2		1						
Y-90	0.004	0.01				1	0.45	1	1	1	0.2	0.45	0.2		1						
Zr-93	0.004	0.01				1	1	1	1	1	1	1	1		1						
Nb-93m	0.004	0.01				1	1	1	1	1	1	1	1		1						
Tc-99	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ru-106	0.004	0.01				1	1	1	1	1	1	1	1		1						
Cd-113m	0.004	0.01				1	1	1	1	1	1	1	1		1						
Sb-125	0.004	0.01				1	1	1	1	1	1	1	1		1						
Sn-126	0.004	0.01				1	1	1	1	1	1	1	1		1						
I-129	0.004	0.01				1	1	1	1	1	1	1	1		1						
Cs-134	0.004	0.01				1	0.02	1	1	0.05	0.06	0	1		0.06						
Cs-137	0.004	0.01				1	0.02	1	1	0.05	0.06	0	1		0.06						
Ba-137m	0.004	0.01				1	0.02	1	1	0.05	0.06	0	1		0.06						
Sm-151	0.004	0.01				1	1	1	1	1	1	1	1		1						
Eu-152	0.004	0.01				1	1	1	1	1	1	1	1		1						
Eu-154	0.004	0.01				1	1	1	1	1	1	1	1		1						
Eu-155	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ra-226	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ra-228	0.004	0.01				1	1	1	1	1	1	1	1		1						
Ac-227	0.004	0.01				1	1	1	1	1	1	1	1		1						
Pa-231	0.004	0.01				1	1	1	1	1	1	1	1		1						
Th-229	0.004	0.01				1	1	0.05	0.05	1	1	1	1		1						
Th-232	0.004	0.01				1	1	0.05	0.05	1	1	1	1		1						
U-232	0.004	0.01	0.00156	0.004082	0.0336882	1	1	5.10E-03	4.21E-02	1	1	1	1		1						
U-233	0.004	0.01	0.001581	0.004082	0.0335021	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
U-234	0.004	0.01	0.001656	0.002438	0.0042072	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
U-235	0.004	0.01	0.001663	0.002427	0.0038163	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
U-236	0.004	0.01	0.001577	0.002658	0.0050992	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
U-238	0.004	0.01	0.001655	0.002408	0.0036562	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
U-Total	0.004	0.01	0.001655	0.002409	0.0036602	1	1	5.10E-03	4.19E-02	1	1	1	1		1						
Np-237	0.004	0.01				1	1	9.86E-01	1.00E+00	1	1	1	1		1						
Pu-238	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Pu-239	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Pu-240	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Pu-241	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Pu-242	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Pu-Total	0.004	0.01				1	1	9.80E-01	1.00E+00	1	1	1	1		1						
Am-241	0.004	0.01				1	1	1	1	1	1	1	1		1						
Am-243	0.004	0.01				1	1	1	1	1	1	1	1		1						
Cm-242	0.004	0.01				1	1	1	1	1	1	1	1		1						
Cm-243	0.004	0.01				1	1	1	1	1	1	1	1		1						
Cm-244	0.004	0.01				1	1	1	1	1	1	1	1		1						

HDW Rad. Partitio																			P3	PL2	CWZr2
st. date																			1983	1983	1983
en. date																			1988	1988	1988
splits																			1	1	0.01
U splits																			0.2	0.8	
Pu splits																					
Sr-90 split																					
Cs-137 split																					
Rad. partition fr.	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2
H-3																			1		0.01
C-14																			1		0.01
Ni-59																			1		0.01
Ni-63																			1		0.01
Co-60																			1		0.01
Se-79																			1		0.01
Sr-90																			1		0.01
Y-90																			1		0.01
Zr-93																			1		0.01
Nb-93m																			1		0.01
Tc-99																			1		0.01
Ru-106																			1		0.01
Cd-113m																			1		0.01
Sb-125																			1		0.01
Sn-126																			1		0.01
I-129																			1		0.01
Cs-134																			1		0.01
Cs-137																			1		0.01
Ba-137m																			1		0.01
Sm-151																			1		0.01
Eu-152																			1		0.01
Eu-154																			1		0.01
Eu-155																			1		0.01
Ra-226																			1		0.01
Ra-228																			1		0.01
Ac-227																			1		0.01
Pa-231																			1		0.01
Th-229																			1		0.01
Th-232																			1		0.01
U-232																			0.00336	0.01344	0.01
U-233																			0.00336	0.01344	0.01
U-234																			0.00336	0.01344	0.01
U-235																			0.00336	0.01344	0.01
U-236																			0.00336	0.01344	0.01
U-238																			0.00336	0.01344	0.01
U-Total																			0.00336	0.01344	0.01
Np-237																			1		0.01
Pu-238																			0.01	0.01	0.01
Pu-239																			0.01	0.01	0.01
Pu-240																			0.01	0.01	0.01
Pu-241																			0.01	0.01	0.01
Pu-242																			0.01	0.01	0.01
Pu-Total																			0.01	0.01	0.01
Am-241																			1		0.01
Am-243																			1		0.01
Cm-242																			1		0.01
Cm-243																			1		0.01
Cm-244	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		0.01

weighted ave. loss	MW1	MW2	1C1	1C2	2C1	2C2	224						R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
st. date	1944	1950	1944	1950	1944	1950	1952						1952	1959	1952	1961	1956	1963	1963	1968	1956
en. date	1949	1956	1949	1956	1949	1956	1956						1958	1967	1960	1967	1962	1967	1972	1976	1960
U232 (Ci)	1	1	1	1	1	1	1						0.00624775	0.0030302	0.0052303	0.00235006	0.001950248	0.0036492	0.009549	0.00954938	0.00176803
U233 (Ci)	1	1	1	1	1	1	1						0.00630138	0.0025508	0.0053576	0.0023169	0.001975672	0.0032378	0.007316	0.00731642	0.00181918
U234 (Ci)	1	1	1	1	1	1	1						0.00586841	0.0022872	0.0051443	0.00229585	0.002070389	0.0030415	0.004833	0.00483305	0.00194511
U235 (Ci)	1	1	1	1	1	1	1						0.00584811	0.0022742	0.005187	0.00229228	0.002079168	0.0030337	0.00477	0.00477037	0.00195748
U236 (Ci)	1	1	1	1	1	1	1						0.00607695	0.0023854	0.0041555	0.00231105	0.001970859	0.0033229	0.006374	0.00637394	0.00179988
U238 (Ci)	1	1	1	1	1	1	1						0.00588624	0.0022712	0.0053224	0.00228978	0.002068537	0.0030105	0.00457	0.00457027	0.00194249
U-Total (mols)	1	1	1	1	1	1	1						0.005886	0.0022712	0.0053213	0.00228982	0.002068597	0.0030107	0.004573	0.00457251	0.00194257
NP237 (Ci)	1	1	1	1	1	1	1						1	0.3342171	0.8973388	0.3	0.615701521	0.3	0.3	0.3	0.79502857
PU238 (Ci)	0.0288	0.0284565	0.0288	0.02845645	0.0288	0.0284565	0.0280514						0.00866321	0.005165	0.0076163	0.004144	0.004775302	0.0073265	0.021496	0.02149646	0.00544174
PU239 (Ci)	0.0288	0.0294618	0.0288	0.02946183	0.0288	0.0294618	0.0300811						0.00843354	0.0043094	0.0078818	0.0039519	0.005081481	0.0043165	0.010864	0.01086382	0.00581403
PU240 (Ci)	0.0288	0.0287792	0.0288	0.02877917	0.0288	0.0287792	0.0287561						0.00867992	0.0046999	0.0080435	0.00406517	0.00485744	0.0048369	0.014784	0.01478369	0.00553994
PU241 (Ci)	0.0288	0.0279243	0.0288	0.02792429	0.0288	0.0279243	0.0268541						0.00863529	0.0054643	0.0078997	0.00412074	0.00459748	0.0063592	0.021005	0.02100509	0.0052376
PU242 (Ci)	0.0288	0.0278843	0.0288	0.02788433	0.0288	0.0278843	0.026792						0.00892688	0.0065396	0.0083064	0.00407289	0.00470554	0.0107102	0.027689	0.02768875	0.00536021
Pu-Total (kg)	0.0288	0.0294433	0.0288	0.0294433	0.0288	0.0294433	0.030048						0.00844267	0.0043291	0.0078878	0.00395695	0.005071913	0.0043427	0.011167	0.01116666	0.00580263

weighted ave. loss	CWP2	CWZr1	OWW1	OWW2	OWW3			TH1	TH2												
st. date	1961	1963	1956	1963	1968			1965	1970												
en. date	1972	1972	1962	1967	1972			1966	1970												
U232 (Ci)	0.03050281	0.015677	0.00195	0.005102	0.0421102			0.005103	0.042121												
U233 (Ci)	0.03011196	0.015526	0.001976	0.005103	0.0418776			0.005103	0.0418776												
U234 (Ci)	0.00292299	0.01552	0.00207	0.003048	0.0052589			0.005103	0.0418766												
U235 (Ci)	0.00277819	0.015568	0.002079	0.003034	0.0047704			0.005103	0.0418796												
U236 (Ci)	0.00283904	0.015583	0.001971	0.003323	0.0063739			0.005103	0.0418792												
U238 (Ci)	0.00276456	0.015523	0.002069	0.00301	0.0045703			0.005103	0.0418764												
U-Total (mols)	0.00276543	0.015523	0.002069	0.003011	0.0045753			0.005103	0.0418777												
NP237 (Ci)	0.30000001	0.3	0.615702	0.3	0.3			0.98614	1												
PU238 (Ci)	0.00405045	0.030027	0.004775	0.007326	0.0214965			0.980315	1												
PU239 (Ci)	0.00397764	0.029858	0.005081	0.004317	0.0108638			0.98031	1												
PU240 (Ci)	0.00394139	0.029924	0.004857	0.004837	0.0147837			0.980315	1												
PU241 (Ci)	0.00392934	0.030361	0.004597	0.006359	0.0210051			0.980355	1												
PU242 (Ci)	0.0038762	0.029967	0.004706	0.01071	0.0276887			0.980309	1												
Pu-Total (kg)	0.00397591	0.029869	0.005072	0.004343	0.0111667			0.980315	1												

weighted ave. loss																			P3	PL2	CWZr2
st. date																			1983	1983	1983
en. date																			1988	1988	1988
U232 (Ci)																			0.0168	0.0168	0.0168
U233 (Ci)																			0.0168	0.0168	0.0168
U234 (Ci)																			0.0168	0.0168	0.0168
U235 (Ci)																			0.0168	0.0168	0.0168
U236 (Ci)																			0.0168	0.0168	0.0168
U238 (Ci)																			0.0168	0.0168	0.0168
U-Total (mols)																			0.0168	0.0168	0.0168
NP237 (Ci)																			1	1	1
PU238 (Ci)																			0.01	0.01	0.01
PU239 (Ci)																			0.01	0.01	0.01
PU240 (Ci)																			0.01	0.01	0.01
PU241 (Ci)																			0.01	0.01	0.01
PU242 (Ci)																			0.01	0.01	0.01
Pu-Total (kg)																			0.01	0.01	0.01

Appendix C.

TLM Working Spreadsheet
December 1996

The TLM (Tank Layer Model) is a volumetric and chronological description of tank inventory based on the HDW sludges and salt cakes. Each solids layer is attributed to a particular waste addition or process, and any solids layers that have unknown origin are assigned as such and contribute to the uncertainty of that tank's inventory. Many of these unknown layers are assigned as per the history of each tank and such assignments are included in the TLM table in parentheses. The TLM for each tank simply associates layers of solids within each tank with a waste addition or a process campaign. Each tank's history is summarized by rows and its primary waste additions are all indicated.

The bolded entry in the Pred. layer column is the volume in kgal of each residual layer and the Layer Type column has information on the HDW assignment for that layer. This is the information that is used in WSTRS, which adds TLM solids layers to each tank accordingly. These results, then, also appear in the SMM/TLM tables in (App. D). The TLM working spreadsheets are grouped by quadrant, which is a roughly geographical grouping of tanks that has been useful in the HDW model development.

NE Quadrant (A, AX, B, BX, BY, C).....C-2 to C-28

SW Quadrant (S, SX, U).....C-29 to C-38

NW Quadrant (T, TX, TY).....C-39 to C-50

SE Quadrant (AN, AP, AW, AX, AY,. AZ, SY).....C-51 to C-56

Graphs.....C-57 to C-73

Level Discrepancies.....C-74

Table C1. TLM Working Spreadsheet Column Descriptions.

Column Headings	Descriptions
Tank	tank number
Year	year of transaction
Qtr	quarter of transaction
Meas. solids	reported solids from Anderson-91 in kgal
Solids change	calculated solids based on primary fill record or difference between solids records
Pred. layer	kgal predicted layer now in tank
Layer type	Defined Waste Type for that layer
Waste volume	summation of primary waste additions calculated for this time period
Comments	various details of each calculation

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
A-101	1960	1		1		OWW1	83	0.6 vol%
A-101	1961	1		105		P1	4777	2.2 vol %
A-101	1965	1	72	-34				unknown loss
A-101	1966	3		3		P2	70	3.9 vol%
A-101	1967	3	79					
A-101	1967	4	80	24		OWW2	2209	1.1
A-101	1968	1		0		OWW3	28	0.6 vol%, unk. gain
A-101	1968	1	83	-16				
A-101	1968	2						SL A-102, 3-P2,30-P1
A-101	1968	2	50					
A-101	1969	1					-9	SL A-106, 9-P1
A-101	1969	1					-33	SL A-102,33-P1
A-101	1969	1	8					
A-101	1969	3	3	-80				sluicing
A-101	1969	4	11					
A-101	1970	4		1		P2	36	3.9 vol%
A-101	1972	4	16					
A-101	1973	1		53		SRR	1066	5.0 vol%
A-101	1973	4		0		PL	5	2.2 vol%
A-101	1974	2	33	-24				unk loss
A-101	1975	2	11					
A-101	1975	3		0		SRR	6	5.0 vol%
A-101	1975	4					-11	SL A-106 11-SRR
A-101	1975	4	8					
A-101	1976	1	1					
A-101	1976	2	3	-30	**3**	**P1**		residual heel, sluliced
A-101	1977	3	85					
A-101	1978	1	377					
A-101	1978	4	490					
A-101	1979	1	415					
A-101	1979	4	333					
A-101	1980	2	316					
A-101	1980	4	550	547	**547**	**SMMA1**		242-A1 evap campaign, Solids from concentrate calculated by SMM.
A-101	1993	2	953					
A-101	1993	4	953	403	**403**	**SMMA1**		Solids from concentrate calculated by SMM.
A-102	1961	3		166		P1	7564	2.2 vol%
A-102	1962	4		4		OWW1	698	0.6 vol%
A-102	1963	3		3		OWW2	236	1.1 vol%
A-102	1965	1	77					ignore
A-102	1967	3	102	-71				Unknown loss
A-102	1967	4	99					ignore
A-102	1968	2				P1, P2	33	SL A-101, 3-P2,30-P1
A-102	1968	2	124	22				slurry receiver
A-102	1968	3	127					
A-102	1969	1				P1	33	SL A-101, 33-P1
A-102	1969	1	146					
A-102	1969	2	154	30				slurry receiver
A-102	1969	3	149					
A-102	1970	1	138					
A-102	1970	2	146					
A-102	1970	4	154					
A-102	1972	4				P	-85	SL C-105, SRR, SU to C-105
A-102	1972	4	69					
A-102	1973	1				P	-40	SL C-105, SRR
A-102	1973	1	39					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
A-102	1973	2				P	-24	SL A-103
A-102	1973	2	15					
A-102	1974	1				P	-15	SL C-105, SRR
A-102	1974	1	0	-154				sluiced flat bottom tank
A-102	1974	4		8		SRR	150	5.0 vol%
A-102	1974	4	17	9				unk. gain
A-102	1975	1		3		AR	105	3.1 vol%
A-102	1975	2		12		SRR	243	5.0 vol%
A-102	1975	2		1		AR	17	3.1 vol%
A-102	1975	3		0		B	3	0.5 vol%
A-102	1976	1					-16	SL A-106
A-102	1976	1	1					sluiced
A-102	1976	2	2					
A-102	1976	3	6					
A-102	1976	4	3	-30	**3**	**SRR**		SRR heel
A-102	1977	4	6					242-A1 feed tank
A-102	1978	1	8					
A-102	1978	2	17					
A-102	1978	3	11					
A-102	1978	4	17					
A-102	1980	4	22	19	**19**	**SMMA1**		Solids from concentrate calculated by SMM.
A-102	1993	2	37					
A-102	1993	4	37	15	**15**	**SMMA1**		Unk gain, Solids from concentrate calculated by SMM.
A-103	1958	4		6		OWW1	1072	0.6 vol%
A-103	1960	3		83		P1	3773	2.2 vol%
A-103	1964	1				P1	-50	SL C-105, solids to AX-101
A-103	1964	4				P1	-100	SL C-105, solids to AX-101
A-103	1965	1		3		DW	262	1 vol%
A-103	1966	1	0	-92				sluiced
A-103	1966	4					-100	SL C-105, solids to AX-101
A-103	1967	2		2		OWW2	199	1.1 vol%
A-103	1967	4	22					
A-103	1968	1	61					
A-103	1968	2					98	SL A-105
A-103	1968	2	52					
A-103	1968	3					49	SL A-105
A-103	1968	3	102	100				
A-103	1969	2	91					
A-103	1969	3	121					
A-103	1969	4	102					slurry receiver
A-103	1973	2					24	SL A-102
A-103	1973	4		1		CSR	71	1 vol%
A-103	1974	2					-80	SL C-105,SRR
A-103	1974	2	22					
A-103	1974	3					-22	SL C-105,SRR
A-103	1974	3	0	-103				Sluiced
A-103	1974	4	14	8		AR	266	3.1 vol%
A-103	1975	2	6					ignore
A-103	1975	2		1		AR	29	3.1 vol%
A-103	1975	3	14					ignore
A-103	1975	4		7		SRR	141	5.0 vol%
A-103	1975	4		4		AR	118	3.1 vol%
A-103	1976	1	6	-14				sluiced?
A-103	1976	2	16					
A-103	1976	3	17					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
A-103	1976	4					-8	SL A-106
A-103	1976	4	3	-3	**3**	**AR**		residual heel
A-103	1977	3	105					
A-103	1978	1	206					
A-103	1978	2	275					
A-103	1978	4	303					
A-103	1980	3	499					
A-103	1980	4	516	513				242-A1 evap camp
A-103	1993	2	366					
A-103	1993	4	366	-150	**363**	**SMMA1**		unknown loss, Solids from concentrate calculated by SMM.
A-104	1958	1	0					
A-104	1961	4		224		P1	6738	2.2 vol%, ignore measurement
A-104	1962	4		14		OWW1	2264	0.6 vol%
A-104	1965	1	146	-92				unk loss
A-104	1967	3	165					
A-104	1967	4	168	29		OWW2	2676	1.1 vol%
A-104	1968	1	182	7				unk gain
A-104	1968	2	171	1		OWW3	150	0.6 vol%
A-104	1968	3	165					
A-104	1968	4	171					
A-104	1969	2					-97	SL A-106,SRR
A-104	1969	2	74	-109				sluiced
A-104	1969	3					-63	SL A-106,SRR
A-104	1969	3					-35	SL A-106 ??
A-104	1969	3	11					
A-104	1969	4	3					
A-104	1970	1	1	-73	**1**	**P1**		sluiced P heel after sluicing
A-104	1972	3	8					
A-104	1972	4		1		CSR	134	1 vol%
A-104	1973	1		42		AR	1355	3.1 vol%
A-104	1973	1	80	24				unk gain
A-104	1974	2		39		AR	1273	3.1 vol%
A-104	1974	3					-23	SL A-106
A-104	1974	3	57	-50				sluicing
A-104	1974	4		17		AR	545	3.1 vol%
A-104	1974	4	39					
A-104	1975	2	25	8		AR	264	3.1 vol%
A-104	1977	4	28					
A-104	1993	2	28					
A-104	1993	4	28	-54	**27**	**AR**		unk loss, sluiced
A-105	1957	4	17					test water additions only, ignore
A-105	1961	1	50					test water additions only, ignore
A-105	1962	4		8		P1	366	2.2 vol%
A-105	1964	4		120		P2	3084	3.9 vol%
A-105	1965	1	72	-56				unk loss
A-105	1967	3	110					REC from A-101
A-105	1968	1	180	108				unk gain, Tank leaks, Buckled bottom
A-105	1968	2		3		CSR	287	1 vol%, sent to A-103
A-105	1968	2	82					sent to A--103
A-105	1968	3	33	-150				sluiced, sent to A-106 and A-103
A-105	1969	2	52					
A-105	1969	3	63					unk fluctuations
A-105	1969	4	33					sluicing stopped
A-105	1979	2	19					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
A-105	1993	2	19					
A-105	1993	4	19	-14	**19**	**P2**		heel left after sluicing IWW
A-106	1962	3		1		OWW1	210	0.6 vol%
A-106	1962	4		78		P1	3550	2.2 vol%
A-106	1963	1		6		P2	152	3.9 vol%
A-106	1965	1	118	34				unknown gains
A-106	1967	3	140					
A-106	1967	4	176	27		OWW2	2467	1.1 vol%
A-106	1968	1	173					
A-106	1968	2	171	1		OWW3	155	0.6 vol%
A-106	1968	3	168				60	SL A-105
A-106	1968	4	176					
A-106	1969	1	175				2	SL A-101
A-106	1969	2	227				19	SL A-104
A-106	1969	3	254	108			48	SL A-104
A-106	1969	4	234					slurry receiver
A-106	1970	1	195				-28	SL C-106 , SRR
A-106	1970	2	185				-10	SL C-106 , SRR
A-106	1970	3	163				-22	SL C-106 , SRR
A-106	1970	4	124				-39	SL C-106 , SRR
A-106	1971	1	98				-26	SL C-106 , SRR
A-106	1972	1	96					
A-106	1972	2	19				-77	SL C-106 , SRR
A-106	1972	3	22					
A-106	1972	4	11					
A-106	1973	4	6					
A-106	1974	1	0	-254				sluiced
A-106	1974	1		26		SRR	525	5.0 vol%
A-106	1974	2		0		AR	7	3.1 vol%
A-106	1974	3	12	-14	**12**	**SRR**		unk loss
A-106	1974	3		23		AR	23	SL A-104
A-106	1974	3		20		SRR	407	5.0 vol%
A-106	1974	4		32		AR	32	SL A-104
A-106	1974	4	11					Ignore
A-106	1975	3		3		SRR	53	5.0 vol%, blending sludges
A-106	1975	4		11		SRR	11	SL A-101, blending sludges
A-106	1976	1		16			16	SL A-102 SRR/AR 12/4, blending sludges
A-106	1976	1	91	-26				unk loss, blending sludges
A-106	1976	4		8			8	SL A-103 AR/SRR 6/2, blending sludges
A-106	1976	4	102	3				unk gain, blending sludges
A-106	1977	3	80	-22				unk loss
A-106	1977	4	52	-28	**17**	**SRR**		total in,normalized to 102, mixed and ratio taken out, unk loss
A-106	1978	2	50	-2	**21**	**AR**		unk loss
A-106	1980	2	96					
A-106	1980	3	94	44	**44**	**SMMA1**		Solids from concentrate calculated by SMM.
A-106	1993	2	125					
A-106	1993	4	125	31	**31**	**SMMA1**		Unk Prob sltslry, Solids from concentrate calculated by SMM.
AX-101	1965	1		10		P2	263	3.9 vol %
AX-101	1966	1						poss solids in from A-103 1964-66 ?
AX-101	1967	4		20		OWW2	1860	1.1 vol%
AX-101	1968	2		2		P2	40	3.9 vol %
AX-101	1968	4		14		B	2738	0.5 vol %
AX-101	1968	4		7		PL	302	2.2 vol %

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
AX-101	1968	4	41	-12				unk gain
AX-101	1969	1		1		B	294	0.5 vol %
AX-101	1969	1		2		PL	84	2.2 vol %
AX-101	1969	1	39	-5				unk loss
AX-101	1969	2		0		PL	3	2.2 vol %
AX-101	1969	2	25					
AX-101	1969	3	26					
AX-101	1969	4	30					
AX-101	1970	1	41					
AX-101	1970	2	69					
AX-101	1971	1	56					
AX-101	1972	4	58					
AX-101	1973	4	77					
AX-101	1974	4	69	30				unk gain
AX-101	1975	3					-8	SL C-105 , SRR
AX-101	1975	3		0		SRR	6	5.0 vol %
AX-101	1975	3	61					
AX-101	1975	4					-16	SL C-105 , SRR
AX-101	1975	4	45					
AX-101	1976	1					-37	SL C-105 , SRR
AX-101	1976	1		7		SRR	140	5.0 vol %
AX-101	1976	1	8					
AX-101	1976	2					-4	SL C-105 , SRR
AX-101	1976	2		3		SRR	56	5.0 vol %
AX-101	1976	2	4					sluiced
AX-101	1976	3	3	-76	**3**	**SRR**		Residual after sluicing
AX-101	1977	2	184					242-A1 Evap Camp.
AX-101	1977	3	578					Slurry Receiver
AX-101	1977	4	627					
AX-101	1980	1	600					
AX-101	1980	3		10	**10**	**P2**		3.9 vol % washed out? to A-102, no temp variance in upper TCs
AX-101	1980	3	289					adj in salt cake due to pumping to A-102
AX-101	1980	4	525	512	**512**	**SMMA1**		Solids from concentrate calculated by SMM.
AX-101	1993	2	748					
AX-101	1993	4	748	223	**223**	**SMMA1**		242-A1 Evap., Solids from concentrate calculated by SMM.
AX-102	1967	3		5		OWW2	491	1.1 vol%
AX-102	1968	4	14	9				unk gain
AX-102	1969	1	0	-14				flushed tank
AX-102	1969	2		9		B	1834	0.5 vol %
AX-102	1969	2		1		PL	43	2.2 vol %
AX-102	1969	2	17	7				unk gain
AX-102	1969	3		3		B	515	0.5 vol %
AX-102	1969	3		1		PL	35	2.2 vol %
AX-102	1969	3	19	-2				unk loss
AX-102	1969	4		5		B	998	0.5 vol%
AX-102	1969	4	10					
AX-102	1970	1		3		B	568	0.5 vol %
AX-102	1970	1	12					
AX-102	1970	2		2		B	436	0.5 vol %
AX-102	1970	2	17					
AX-102	1970	3		0		B	20	0.5 vol %
AX-102	1970	3	11					
AX-102	1970	4		0		B	7	0.5 vol %
AX-102	1970	4	28					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
AX-102	1971	1		0		B	14	0.5 vol %
AX-102	1971	1	38	9				
AX-102	1971	2	32	-6				unk loss
AX-102	1971	2		1		AR	15	3.1 vol %
AX-102	1971	3	38	5				unk gain
AX-102	1972	2	50					
AX-102	1972	3	63					
AX-102	1972	4	47					
AX-102	1973	1	50	12				unk gain
AX-102	1975	3		1		AR	19	3.1 vol %
AX-102	1975	3		0		B	6	0.5 vol%
AX-102	1975	4	47	-4			-3	SL C-105,SRR
AX-102	1976	1	22	-25			-25	SL C-105,SRR
AX-102	1976	2	17	-5			-5	SL C-105,SRR
AX-102	1976	4	19	2				unk gain
AX-102	1977	1	11	-8	**5**	**B**	-8	SL C-105,SRR, Sr sludge sluicing
AX-102	1977	2	6	-5	**1**	**PL**		heels after sluicing
AX-102	1979	2	39					
AX-102	1980	3	29		**23**	**SMMA1**		slurry rec 242-A1 Evap., Solids from concentrate calculated by SMM.
AX-102	1993	2	36		**4**	**(SMMA1)**		unk assign to A1SltCk, Solids from concentrate calculated by SMM.
AX-102	1993	4	36	30	**3**	**(SMMA1)**		unk assign to A1SltCk, Solids from concentrate calculated by SMM.
AX-103	1966	2		93		P2	2371	3.9 vol %
AX-103	1967	3	14					ignore, unk loss
AX-103	1967	4		10		OWW2	915	1.1 vol%
AX-103	1968	2		1		OWW3	143	0.6 vol%
AX-103	1968	2		0		BL	10	1.7 vol %
AX-103	1968	4		3		PL	152	2.2 vol %
AX-103	1968	4	77	-30				unknown loss
AX-103	1969	1		0		B	11	0.5 vol %
AX-103	1969	1		1		PL	45	2.2 vol %
AX-103	1969	1	83	5				unk gain
AX-103	1969	2	76					
AX-103	1969	3	83					
AX-103	1970	1	80					
AX-103	1970	2	83					
AX-103	1970	4	69					
AX-103	1971	3	66					
AX-103	1972	4		0		B	3	0.5 vol %
AX-103	1972	4	69					
AX-103	1974	3	72					
AX-103	1974	4	88	5				unk gain
AX-103	1975	3		11		AR	342	3.1 vol %
AX-103	1975	4		2		AR	51	3.1 vol %
AX-103	1976	2					-18	SL C-105 , SRR
AX-103	1976	2	70					
AX-103	1976	3					-53	SL C-105 , SRR
AX-103	1976	3	17					
AX-103	1976	4	6					
AX-103	1977	1	11					
AX-103	1977	3	6	-98	**6**	**P2**	-11	SL C-105 , SRR, sluiced Sr sludge
AX-103	1980	2	10	4	**4**	**SMMA1**		Solids from concentrate calculated by SMM.
AX-103	1980	3		8	**8**	**P2**	198	3.9 vol %
AX-103	1980	4	121	103				

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
AX-103	1993	2	112					
AX-103	1993	4	112	-9	**94**	**SMMA1**		Solids from concentrate calculated by SMM.
AX-104	1965	3	0					
AX-104	1967	4		77		P2	1969	3.9 vol %
AX-104	1968	2		0		B	12	0.5 vol %
AX-104	1968	2		1		P2	18	3.9 vol %
AX-104	1968	2		2		PL	88	2.2 vol %
AX-104	1968	2		1		OWW3	237	0.6 vol%
AX-104	1968	4	10					Error due to boiling.
AX-104	1969	1		0		B	37	0.5 vol %
AX-104	1969	1		1		PL	37	2.2 vol %
AX-104	1969	1	8					Error due to boiling.
AX-104	1969	2		0		PL	3	2.2 vol %
AX-104	1969	3	11					Error due to boiling.
AX-104	1969	4	27					early readings seem low
AX-104	1970	1	58					no reason for increase
AX-104	1970	2	48					
AX-104	1970	3	44					
AX-104	1970	4	52					
AX-104	1971	2	47					
AX-104	1972	4	55					
AX-104	1973	4	44					
AX-104	1974	4	47					
AX-104	1976	1	44	-37				unk loss
AX-104	1976	1		0		AR	9	3.1 vol %
AX-104	1976	3	47					
AX-104	1977	1	55					
AX-104	1977	2	22					
AX-104	1977	3	11					
AX-104	1977	4	3					
AX-104	1978	1	8					sluiced
AX-104	1978	2	3					
AX-104	1993	2	7					
AX-104	1993	4	7	-37	**7**	**P2**		residual heel after sluicing
B-101	1946	1		191		MW	1590	12 vol %
B-101	1953	4	0	-191				
B-101	1957	1	0	3	**3**	**MW**		1" sludge heel left after sluicing
B-101	1957	2	106					242-B evap
B-101	1957	3	315	312		BSltCk		
B-101	1963	2	202					
B-101	1965	2	161					
B-101	1969	1	151	-164				loss due to dissolution?
B-101	1970	2		5		B	1005	0.5 vol %
B-101	1970	2	150	-6				unk loss
B-101	1970	3	106					
B-101	1970	4	103					
B-101	1972	3	109	-41				unk. loss
B-101	1973	1		68		BL	4025	1.7 vol %
B-101	1974	4	136	-41	**75**	**BSltCk**		salt cake dissolution until 9" occurance of sludge on top, unk loss
B-101	1976	1	103		**5**	**B**		
B-101	1993	2	113		**20**	**BL**		
B-101	1993	4	113	-23	**10**	**(BSltCk)**		unk assign to BSltck based on low heat load
B-102	1953	1					-530	SL B-103

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
B-102	1953	4	0					
B-102	1957	3	0	3	**3**	**MW**		1" heel after sluicing
B-102	1957	4	84	81	**24**	**BSltCk**		242-B evap
B-102	1963	2	40	-44				unk loss
B-102	1965	2	24	-16	**1**	**CWP2**		Rec 48 CWP2 2.9 vol%
B-102	1970	2	55	31				CW settled in
B-102	1972	1	34					
B-102	1972	3	33					
B-102	1974	4	35					
B-102	1976	4	51					
B-102	1977	1	40					
B-102	1978	4	37					
B-102	1993	2	28					
B-102	1993	4	28	-27				SltCk Dissolution?
B-103	1953	1					1060	SL B-102, SL B-101
B-103	1953	2					-1649	SL UR
B-103	1953	4	0					
B-103	1957	2	0	3	**3**	**MW**		1" sludge heel after sluicing
B-103	1957	3	227					bottoms from B-105, ignore
B-103	1962	4	220					anomalously high solids, ignore
B-103	1963	2	59	56	**56**	**BSltCk**		
B-103	1964	2		9		CWP2	314	2.90 vol %
B-103	1969	3	55	-13				unk loss
B-103	1971	2	59					
B-103	1971	4	20					
B-103	1972	1	52					
B-103	1974	4	68					
B-103	1993	2	59					
B-103	1993	4	59	4				unk gain
B-104	1942	2		173	**173**	**2C1**	2537	6.8 vol%
B-104	1950	2		11	**11**	**2C2**	336	3.4 vol%
B-104	1950	3		121	**121**	**1C2**	486	24.9vol%
B-104	1953	1	309	4	**4**	**UNK (No Assign.)**		unk. gain, (unk, no TLM assignment)
B-104	1953	3					292	SL 242-B
B-104	1953	4		58		BSltCk	292	20 vol% Rec'd TBP Waste Evap Bottoms
B-104	1957	2	40					ignore
B-104	1957	3	365	-2				unk loss
B-104	1957	4	530					
B-104	1963	4	409					
B-104	1970	2	414					
B-104	1970	3	400					
B-104	1976	2	395					
B-104	1993	2	370					
B-104	1993	4	370	5	**61**	**BSltCk**		unk gain
B-105	1953	1	39					Cascaded 1C1 & 2C1
B-105	1953	4	28	28	**16**	**2C1**		Active bottoms tank
B-105	1954	3			**12**	**1C2**	3753	SL-242-B
B-105	1957	4	490	462				
B-105	1975	2	491					
B-105	1975	3	293					salt filled
B-105	1993	2	158					
B-105	1993	4	158	-184	**130**	**BSltCk**		unk loss
B-106	1953	1	0					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
B-106	1954	2	0					Evap feed tank
B-106	1954	3	137	137				
B-106	1956	4	100					
B-106	1957	2	125					
B-106	1957	4	167					
B-106	1963	2	114					
B-106	1965	2	145					
B-106	1971	2	172					
B-106	1972	2	153					
B-106	1973	1	147					
B-106	1974	4	125					
B-106	1993	2	116					
B-106	1993	4	116	-21	**116**	**BSltCk**		unk loss
B-107	1946	2		218		1C1	1590	13.7 vol%
B-107	1953	1	220	2				unk gain, prob 1C1
B-107	1953	3	172					1C re-evaporated bottoms, loss of 1C1
B-107	1954	3	225				897	SL 242-B
B-107	1957	2	230					
B-107	1957	4	261					
B-107	1963	2	271	51				unk gain
B-107	1963	3		8		CWP2	264	2.9 vol%
B-107	1965	2	202	-77				unk loss
B-107	1969	3	200					
B-107	1972	2	193					Suspect leaker
B-107	1993	2	164					
B-107	1993	4	164	-38	**164**	**1C1**		unk loss
B-108	1953	1	34	34	**34**	**1C1**	975	SL 242-B, cascaded 1C solids.
B-108	1954	4	65	31		BSltCk		Cascading
B-108	1957	2	114					
B-108	1963	2	120					
B-108	1963	3		12		CWP2	410	2.9 vol%
B-108	1965	2	125					
B-108	1969	2	117					
B-108	1971	2	122	45				unk gain
B-108	1971	4	78					ignore
B-108	1972	1	113	-9				unk loss
B-108	1973	1	112					
B-108	1974	1	114					
B-108	1976	2	112					Evap.Feed Dil.
B-108	1977	4	70					
B-108	1993	2	94					
B-108	1993	4	94	-19	**60**	**BSltCk**		loss due to redissolution possible upper layer of CW.
B-109	1953	1	0					
B-109	1954	3	128	128			1323	SL 242-B, re-evaporated bottoms
B-109	1957	2	232	104				SL 242-B, re-evaporated bottoms
B-109	1957	3	76					
B-109	1958	3	70					
B-109	1963	2	84	-148	**84**	**BSltCk**		drawdown -solids sent to C-111
B-109	1963	4		13	**13**	**CWP2**	457	2.9 vol%
B-109	1965	2	134	37		unk		unk gain, possible solids from C-farm (1,300 kgal cascaded)
B-109	1970	2	161					
B-109	1972	1	136					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
B-109	1974	4	117					
B-109	1977	3	120					Evap feed conc. resid liq dil
B-109	1993	2	127					
B-109	1993	4	127	-7	**30**	**UNK (No Assign.)**		unk losses and gains, (unk, no TLM assignment)
B-110	1953	1		143	**143**	**2C1**	2103	6.8 vol %
B-110	1953	1		148	**100**	**2C2**	4346	3.4 vol%
B-110	1953	3	378	87				UNK gain
B-110	1953	4	243					
B-110	1955	1	348					
B-110	1955	3	243					
B-110	1963	2	282	-242				unk loss
B-110	1963	4		0		DW	147	1 vol%, also known as 5-6#
B-110	1965	2	332	49				unk gain
B-110	1967	3	243	-89				unk loss
B-110	1967	4		26	**3**	**P2**	674	3.9 vol%
B-110	1968	1		1		B	135	0.5 vol %
B-110	1968	2	297	27				unk gain
B-110	1969	3		2		CSR	199	1 vol%
B-110	1972	2	282					Suspect leaker
B-110	1993	2	245	-54				unk loss
B-110	1993	4	246	1				unk gain
B-111	1953	3	237	237				2C2 by cascade ?
B-111	1953	4	161	-76				unk loss
B-111	1955	2	195					
B-111	1955	3	249					
B-111	1956	4	243	82				unk gain
B-111	1957	1	161					ignore
B-111	1957	1			**209**	**2C2**		
B-111	1962	2		1	**1**	**DW**	216	0.5 vol%, Receives B plant flushes, also known as 5-6#.
B-111	1963	2	300					
B-111	1965	2	310	66				unk gain
B-111	1967	3		26	**26**	**P2**	669	3.9 vol %, also known as FP
B-111	1967	3	161					
B-111	1968	3	241					
B-111	1970	1	232					
B-111	1970	2	244	19		CSR	1874	1 vol%
B-111	1972	1	241					
B-111	1972	2	246					
B-111	1973	1	249					
B-111	1976	2	246					Evap. feed dil.
B-111	1993	2	236					
B-111	1993	4	236	-119				unk loss
B-112	1953	3	0					
B-112	1957	2	23	23				2C2 cascaded solids?
B-112	1957	4	43	20				unk gain
B-112	1961	2	29					
B-112	1962	2	35					
B-112	1962	4		0		DW	5	1 vol%, also known as 5-6#
B-112	1962	4	40					
B-112	1963	2	35					
B-112	1967	3	40	11				unk gain
B-112	1968	2	18					
B-112	1969	2		0		P2	3	3.9 vol%

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
B-112	1972	3	14	-40	**14**	**2C2**		ITS bottoms and recycle, 2C2 cascaded solids?
B-112	1974	4	35					
B-112	1977	2	37					Evap. feed con.
B-112	1993	2	30					
B-112	1993	4	30	-16	**16**	**BYSltCk**		unk loss
B-201	1953	2	55	55				
B-201	1958	2	28					
B-201	1958	3	24					
B-201	1958	4	29					
B-201	1960	4	55					
B-201	1963	2	50					
B-201	1970	3	30					
B-201	1973	1	26					Suspect leaker
B-201	1974	4	29					
B-201	1979	1	27					
B-201	1980	4	28					
B-201	1993	2	28					
B-201	1993	4	28	-27	**28**	**224**		unk loss, Assumed 224 waste summed during campaign period.
B-202	1953	3	26	26				
B-202	1954	3	25					Active cascade to crib
B-202	1962	2		0		B	8	0.5 vol %
B-202	1962	2	26					
B-202	1963	2	25					
B-202	1971	4	29					
B-202	1973	4	27					
B-202	1980	4	28					
B-202	1993	2	27					
B-202	1993	4	27	1	**27**	**224**		unk gain, Assumed 224 waste summed during campaign period.
B-203	1953	2	55	55				
B-203	1957	1	55					
B-203	1963	4	54					
B-203	1969	4	54					
B-203	1971	4	49					
B-203	1973	4	44					
B-203	1974	1	44					
B-203	1976	3	45					
B-203	1977	3	47					
B-203	1980	4	48					
B-203	1993	2	50					
B-203	1993	4	50	-5	**50**	**224**		unk loss, Assumed 224 waste summed during campaign period.
B-204	1953	1		1		DW	123	1 vol%
B-204	1953	2	55	54		224	372	
B-204	1959	4	54					
B-204	1971	4	48					
B-204	1973	4	46					
B-204	1980	4	47					
B-204	1993	2	49					
B-204	1993	4	49	-6	**49**	**224**		unk loss, Assumed 224 waste summed during campaign period.

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BX-101	1951	1		453		MW	3778	12 vol %
BX-101	1953	3	165	-288				unk loss
BX-101	1953	4	150					
BX-101	1954	1	90	-75			-467	SL BX-103, unk loss
BX-101	1954	2	0					ignore
BX-101	1963	2	84	-6				unk loss
BX-101	1965	2	68	-16				unk loss
BX-101	1968	2	59					
BX-101	1968	4	57	-11				unk loss
BX-101	1969	1	51					
BX-101	1969	2	65	8		BL	478	1.7 vol %
BX-101	1969	3	28					ignore
BX-101	1969	4	43					
BX-101	1970	1	48					
BX-101	1970	2	62					
BX-101	1970	3	46					
BX-101	1971	1	51					
BX-101	1971	4	57					
BX-101	1972	3	29	-36	**29**	**MW**		unk loss
BX-101	1972	4		134		CSR	13390	1 vol%
BX-101	1973	4	46					BL from B-101 suspect leaker
BX-101	1974	4	43					
BX-101	1976	2	46	-117				unk loss
BX-101	1993	2	42					
BX-101	1993	4	42	-4	**13**	**(BL)**		unk loss, unk assign to BL
BX-102	1954	1						SL BX-103, MW removal in progress
BX-102	1962	3				CWP1	-530	CWP1 from C-102
BX-102	1964	2	95	95				
BX-102	1964	4	94					
BX-102	1965	2	62	-33				unk loss
BX-102	1968	4				CWP2		CWP2 from BX-103 9 kgal solids lost
BX-102	1968	4	61			BL		BL from BX-101
BX-102	1969	1	63					
BX-102	1969	2	72	10				unk gain
BX-102	1969	3	51	-21				unk loss
BX-102	1969	4	40					
BX-102	1970	1	35	-16	**23**	**MW**		unk loss due to drawdown
BX-102	1970	3	40	5	**5**	**CWP2**	3716	CWP2 from BX-103 5 kgal from BX-103
BX-102	1971	4		68	**68**	**DE**	105	Diatomaceous earth added at 0.651 kgal/ton
BX-102	1971	4	41	-67				tank leaks, unk loss
BX-102	1974	4	40					
BX-102	1993	2	96					LC solids measurment 57 to 96
BX-102	1993	4	96	41				unk gain, swollen DE, LC solids measurement 57 to 96
BX-103	1954	1					997	SL BX-101,BX-102
BX-103	1954	2					-3787	SL UR
BX-103	1964	2	95	95				unk gain
BX-103	1965	2	90	-5				unk loss
BX-103	1968	4	74					
BX-103	1969	1	72	-18				unk loss
BX-103	1969	2	76					
BX-103	1969	2		29		P		P from C-102
BX-103	1969	3	18					ignore
BX-103	1969	4	62	-39				unk loss
BX-103	1970	1	37	-25				unk loss

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BX-103	1970	1		1		B		B from B-101
BX-103	1970	1		12		CWP2	120	CWP2 from C-104
BX-103	1970	2	51	1				unk gain
BX-103	1970	3	48					
BX-103	1970	4	51					
BX-103	1971	4	54	3				unk gain
BX-103	1972	3	11					ignore
BX-103	1973	1	34	-20				unk loss
BX-103	1973	4	46					
BX-103	1974	2	26					
BX-103	1974	3	46					
BX-103	1974	4	65					
BX-103	1975	1	54	20	**54**	**MW**		unk gain
BX-103	1977	1	76	22				unk gain
BX-103	1993	2	62					
BX-103	1993	4	62	-14	**8**	**(CWP2)**		unk assign to CWP2 from secondary transfer, unk loss
BX-104	1951	4					-530	SL BX-106
BX-104	1954	2		341		MW	2843	12 vol %
BX-104	1954	3	80	-261				loss of MW
BX-104	1954	4	7					sluicing
BX-104	1955	1	1					
BX-104	1955	2	0					ignore
BX-104	1963	2	112					ignore
BX-104	1964	2		0		CWP2	12	2.9 vol%
BX-104	1965	2	87	-25				unk loss
BX-104	1968	4	73					
BX-104	1969	1	90					
BX-104	1969	2	88					
BX-104	1969	3	57	-30				unk loss
BX-104	1969	4	65					unk gain
BX-104	1971	1	68					
BX-104	1971	4	78					
BX-104	1972	1	41	-16	**41**	**MW**		unk loss
BX-104	1973	1	62					
BX-104	1974	1	106	65				unk gain
BX-104	1974	4	65	-41				unk loss
BX-104	1976	1	179	114				unk gain
BX-104	1976	2	65					
BX-104	1977	2	76					Customer Waste Receiver, Evap. Feed Trans
BX-104	1977	3	79	-100				unk loss
BX-104	1978	1	114	35				unk gain
BX-104	1978	2	134					
BX-104	1978	4	136	22				unk gain
BX-104	1980	4	90					
BX-104	1993	2	96					
BX-104	1993	4	96	-40	**55**	**UNK (No Assign.)**		unk loss, (unk, no TLM assignment)
BX-105	1954	2					-530	SL BX-106
BX-105	1954	4	5					sluicing
BX-105	1955	1	1					
BX-105	1955	3	0					Leach Tk to recover U
BX-105	1963	2	106				445	CWP2 from C-102, 524 from BY-110
BX-105	1963	2		106		unk		Possibly some PeFCN/2 from BY-110 and MW.
BX-105	1965	2	98	-8				unk loss
BX-105	1968	1	95					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BX-105	1968	2	98	3		CWP2		CWP2 from C-102
BX-105	1969	3	65	-36				unk loss
BX-105	1972	1	52	-13				unk loss
BX-105	1974	4	54					
BX-105	1977	2	62	10		B1SltCk		Evap. feed bottoms
BX-105	1977	3	79	17				unk gain
BX-105	1978	2	62	-17				unk loss
BX-105	1978	3	65					
BX-105	1978	4	73	11				unk gain
BX-105	1980	2	57					
BX-105	1993	2	46					
BX-105	1993	4	46	-27	**46**	**(MW)**		unk assign to MW, unk loss
BX-106	1954	2					1060	SL BX-104, BX-105
BX-106	1955	2					-2922	SL UR
BX-106	1955	2		33		MW		
BX-106	1963	2		13		CWP	443	CWP from C-102 sluiced
BX-106	1965	2	54	8		unk		Possibly some PeFCN/2
BX-106	1968	4	33	-21				unk loss
BX-106	1969	3	0					ignore
BX-106	1970	4	37					
BX-106	1971	1	43					
BX-106	1971	4	51					
BX-106	1972	1	65					
BX-106	1972	2	40	7				unk gain
BX-106	1972	3	10					ignore
BX-106	1974	4	26	-14	**3**	**MW**		unk loss
BX-106	1977	3	29					
BX-106	1993	2	31					
BX-106	1993	4	31	5	**28**	**BYSltCk**		unk gain
BX-107	1949	3		145	**213**	**1C1**	1060	13.7 vol%
BX-107	1950	4		131	**131**	**1C2**	530	24.9 vol%
BX-107	1953	1	437	161				unk gain, probably 1C1
BX-107	1953	2		17		UR	613	2.8 vol %?
BX-107	1963	2	447	-7				unk loss
BX-107	1965	2	428					
BX-107	1968	4	409					158 to BX-106
BX-107	1969	3	376					Evap. feed dil., unk loss
BX-107	1993	2	344					
BX-107	1993	4	344	-103				probably some UR on top, unk loss
BX-108	1953	1	10					ignore
BX-108	1955	1	88	88	**13**	**1C1**		
BX-108	1957	4	87		**13**	**1C2**		
BX-108	1958	2	80					
BX-108	1963	2	57					
BX-108	1965	2	90	2				possibly CWP2 from C-108 or cascaded UR
BX-108	1968	4	87					
BX-108	1969	3	54					
BX-108	1972	2	34	-56				UNK loss
BX-108	1974	4	13					ignore
BX-108	1976	2	15					ignore
BX-108	1978	1	26					
BX-108	1993	2	26					
BX-108	1993	4	26	-8				unk loss

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BX-109	1953	1	34	34	**34**	**1C2**		cascaded 1C2
BX-109	1954	3		176		UR	6277	2.8 vol %
BX-109	1954	3	314	104				increase of UR
BX-109	1955	1	298					
BX-109	1957	2	320					
BX-109	1957	4	298					245 scavenged
BX-109	1964	2	244	-70				unk loss
BX-109	1965	2	296					possibly CWP2 from C-102
BX-109	1968	4	283					
BX-109	1969	1		3		CSR	249	1 vol%
BX-109	1969	3	250					
BX-109	1972	2	211					
BX-109	1974	4	200					
BX-109	1975	1	206					
BX-109	1975	3	200	-47				unk loss
BX-109	1976	2	208					
BX-109	1993	2	193					
BX-109	1993	4	193	-7	**159**	**UR**		unk loss
BX-110	1949	4		58	**58**	**1C1**	420	13.7 vol%
BX-110	1950	2		159	**98**	**1C2**	640	24.9 vol%
BX-110	1953	1	133					ignore
BX-110	1954	1	276	59				unk gain
BX-110	1954	2	236					
BX-110	1957	2	248					
BX-110	1957	4	326			B1SltCk		B1SltCk from 242-B campaign
BX-110	1963	2	197			CWP2		CWP2 from C-102, 2.9 vol%
BX-110	1965	2	277					ignore
BX-110	1969	1		2		CSR	229	1 vol%
BX-110	1969	3	156	122				unk loss, prob washed out
BX-110	1972	1	290					ITS bottoms and recycle
BX-110	1972	2	227					
BX-110	1973	2	238					
BX-110	1974	1	288					
BX-110	1974	4	249					
BX-110	1976	1	250					
BX-110	1976	2	249					Evap. feed concentrate
BX-110	1980	1	200					
BX-110	1993	2	198					
BX-110	1993	4	198	42	**42**	**BYSltCk**		
BX-111	1954	1	32	32	**32**	**1C2**		1C2 cascaded
BX-111	1957	2	62	30		B1SltCk		B1SltCk from 242-B evaporator campaign
BX-111	1957	4	51					ignore
BX-111	1965	2	79	17				Unk gain prob B1Sltck
BX-111	1969	3	33	-46				Unk loss prob dissolved
BX-111	1972	1	118					ITS bottom and recycle
BX-111	1972	2	68					ignore
BX-111	1973	2	128					
BX-111	1974	1	234					
BX-111	1974	4	216					
BX-111	1977	4	211					
BX-111	1993	2	211					
BX-111	1993	4	211	178	**179**	**BYSltCk**		Evap. feed concentrate
BX-112	1951	4		132	**132**	**1C2**	530	24.9 vol%
BX-112	1953	1	239	107		unk		B1Sltck???

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BX-112	1954	1	270	31				unk gain
BX-112	1957	2	287					
BX-112	1963	2	271					
BX-112	1965	2	318	3		CWP2		CWP2 from C-102
BX-112	1969	1		2		CSR	179	1 vol%
BX-112	1969	3	134					ignore
BX-112	1972	3	232					
BX-112	1973	1	216					
BX-112	1974	4	178					Evap. feed dil.
BX-112	1978	4	169					
BX-112	1993	2	164					
BX-112	1993	4	164	-111	**32**	**(BSltCk)**		unk assign to BSltCK?
BY-101	1963	2	37	37	**37**	**(MW)**		unk assign to MW (heel)
BY-101	1967	3	109					filled from BY-108,C-107,C-108
BY-101	1967	4	376					ITS campaign
BY-101	1968	1	378					
BY-101	1968	4	29					ignore
BY-101	1969	1	281					
BY-101	1969	2	274					
BY-101	1969	3	310					
BY-101	1969	4	332					
BY-101	1970	1	337					
BY-101	1970	4	340					
BY-101	1971	2	386					
BY-101	1971	4	398					
BY-101	1972	3	418					
BY-101	1974	4	398					
BY-101	1977	2	439					
BY-101	1993	2	387					
BY-101	1993	4	387	350	**350**	**BYSltCk**		ITS slt ck
BY-102	1957	3	18	18	**18**	**(MW)**		unk assign to MW, sluiced, MW heel
BY-102	1963	2	29	11	**11**	**UNK (No Assign.)**		Rec'd from BY-107, (unk, no TLM assignment)
BY-102	1968	3	314					ITS campaign
BY-102	1968	4	250					
BY-102	1971	2	155					
BY-102	1972	1	197					
BY-102	1972	4	246					
BY-102	1973	1	194					
BY-102	1973	4	208					
BY-102	1974	4	200					
BY-102	1977	2	233					
BY-102	1977	3	436					
BY-102	1978	2	417					
BY-102	1993	2	341					
BY-102	1993	4	341	312	**312**	**BYSltCk**		ITS bottoms
BY-103	1963	2	21					
BY-103	1966	3		34		CWP2	1161	2.90 vol %
BY-103	1969	1	8					uncertain about measurements
BY-103	1969	3	1					uncertain about measurements
BY-103	1969	4	8					uncertain about measurements
BY-103	1970	1	3					uncertain about measurements
BY-103	1970	2	4					ITS feed
BY-103	1970	4	9	-25	**9**	**CWP2**		Unk loss
BY-103	1971	1	65					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-103	1971	2	128					
BY-103	1971	3	142					
BY-103	1971	4	202					
BY-103	1972	1	298					
BY-103	1972	2	351					
BY-103	1972	3	428					
BY-103	1973	1	469					
BY-103	1973	3	458					
BY-103	1974	3	469					
BY-103	1974	4	461					
BY-103	1980	4	458					
BY-103	1993	2	400					
BY-103	1993	4	400	391	**391**	**BYSltCK**		ITS bottoms
BY-104	1956	3	303			PFeCN2	317	SL BY-106, BY-110, BY-107, BY-108, BY-106, BY-107
BY-104	1956	4	323					
BY-104	1957	2	277					
BY-104	1957	3	244					
BY-104	1963	2	263			PFeCN2	226	SL BY-110, BY-108, BY-106, BY-110, BY-108, BY-108
BY-104	1965	2	227	227		PFeCN2		Final PFeCN/2 prediction
BY-104	1967	2	205					
BY-104	1967	3	244					
BY-104	1968	2	212					
BY-104	1969	1	244					
BY-104	1969	2	233					
BY-104	1969	3	244					
BY-104	1969	4	240					
BY-104	1970	1	206					
BY-104	1970	2	44					ignore
BY-104	1970	3	112					
BY-104	1970	4	131					
BY-104	1971	1	150	-77	**150**	**PFeCN2**		loss 77 kgal to ITS
BY-104	1971	3	425					ITS bottoms receiver
BY-104	1971	4	618					
BY-104	1972	3	310					
BY-104	1973	1	469					
BY-104	1973	4	628					
BY-104	1974	1	469					
BY-104	1977	3	623					
BY-104	1993	2	326					
BY-104	1993	4	326	176	**176**	**BYSltCk**		
BY-105	1954	4	14					
BY-105	1955	1	16	16	**16**	**MW**		MW heel after sluicing
BY-105	1955	4				PFeCN1	91	SL BY-108
BY-105	1956	1	350				51	SL BY-110, BY-107, BY-106
BY-105	1956	2				PFeCN2	245	SL BY-108, BY-110, BY-108, BY-106, BY-107, BY-110
BY-105	1956	2	384					ignore
BY-105	1957	3	213					
BY-105	1963	2	222	206		PFeCN2		total PFeCN prediction
BY-105	1965	2	186					
BY-105	1967	3	39					ignore
BY-105	1967	4	88					ignore
BY-105	1968	3	158	-64	**142**	**PFeCN2**		PFeCN loss to ITS

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-105	1969	1	165					
BY-105	1969	2	153					ITS bottoms receiver
BY-105	1969	3	194					
BY-105	1969	4	189					
BY-105	1970	1	191					
BY-105	1970	2	216					
BY-105	1970	3	299					
BY-105	1971	1	340					
BY-105	1971	2	469					
BY-105	1971	4	653					
BY-105	1972	3	591					
BY-105	1973	1	628					
BY-105	1974	4	626					
BY-105	1977	1			**337**	**BYSltCk**		
BY-105	1993	2	503					
BY-105	1993	4	503	-345	**8**	**CEM**	8	Cement layer 63 tons @ 0.12 kgal/ton, unk loss
BY-106	1955	1		54		PFeCN1	1461	3.7 vol %
BY-106	1955	1	40					
BY-106	1955	2	107		**54**	**PFeCN1**		
BY-106	1955	4	120					
BY-106	1956	1	150					
BY-106	1956	2	180					
BY-106	1956	3	164					
BY-106	1956	4	168				-179	SL BY-105, BY-104
BY-106	1957	1		154		PFeCN2	4810	3.2 vol %
BY-106	1957	1	111	-97		PFeCN2		total PFeCN1&2 prediction
BY-106	1963	2	150					ignore
BY-106	1965	2	103					
BY-106	1969	1	105					
BY-106	1969	2	93					
BY-106	1969	3	96					
BY-106	1969	4	95					
BY-106	1970	1	103					
BY-106	1970	2	96					
BY-106	1970	3	98	-13	**44**	**PFeCN2**		loss 13 to ITS
BY-106	1970	4	164					ITS bottoms and recycle
BY-106	1971	1	249					
BY-106	1971	2	288					
BY-106	1972	1	296					
BY-106	1972	4	563					
BY-106	1973	1	447					
BY-106	1973	2	494					
BY-106	1974	4	420					
BY-106	1975	2	351					
BY-106	1977	1	593					
BY-106	1977	3	626					
BY-106	1993	2	642					
BY-106	1993	4	642	544	**544**	**BYSltCK**		
BY-107	1951	3		376		1C2	1511	24.9 vol%
BY-107	1953	1	1		**24**	**1C2**	-757	loss to B-106, ignore
BY-107	1953	2		20		UR	711	2.8 vol %
BY-107	1954	3	44	-352	**20**	**UR**		washed out to B-106, ignore solids measurments
BY-107	1954	4	1					ignore solids, Use 35 kgal drawdown
BY-107	1955	1	72	28				
BY-107	1955	2	45					ignore

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-107	1955	3		145		PFeCN1	3916	3.7 vol %
BY-107	1955	3	142					
BY-107	1955	4	147					
BY-107	1956	1	160					
BY-107	1956	2	168					
BY-107	1956	3	87	-130	**43**	**PFeCN1**	-191	SL BY-104, BY-105
BY-107	1956	4	150					
BY-107	1957	1		168		PFeCN2	5211	3.2 vol %
BY-107	1957	3	178					
BY-107	1957	4	172					
BY-107	1958	4	150					
BY-107	1963	2	178					
BY-107	1965	2	150			PFeCN2		Total PFeCN1&2 layer
BY-107	1970	1	58					ignore
BY-107	1970	2	61					ignore
BY-107	1970	3	43					ignore
BY-107	1970	4	106					
BY-107	1971	1	117	-135	**30**	**PFeCN2**		ITS bottoms, loss to ITS
BY-107	1973	1	175					
BY-107	1974	2	444					
BY-107	1974	4	183					
BY-107	1975	1	367					
BY-107	1978	1	326					
BY-107	1993	2	266					
BY-107	1993	4	266	149	**149**	**BYSltCK**		
BY-108	1955	1		43		PFeCN1	1162	3.7 vol %
BY-108	1955	1	33	-10				loss to B-106 and CRIB
BY-108	1955	2		24		PFeCN1	657	3.7 vol %
BY-108	1955	2	98	41				unk gain, rec from BY-107
BY-108	1955	3		23		PFeCN1	624	3.7 vol %
BY-108	1955	3	197	76				unk gain, rec from BY-107
BY-108	1955	4		43	**133**	**PFeCN1**	1161	3.7 vol %
BY-108	1955	4	200					
BY-108	1956	1	205					
BY-108	1956	2	179					
BY-108	1956	3	194					
BY-108	1956	4	201				-256	SL BY-104, BY-105
BY-108	1957	1		165		PFeCN2	5141	3.2 vol %
BY-108	1957	2	249					
BY-108	1957	3	213				-64	SL BY-104
BY-108	1957	4	210					
BY-108	1963	2	202	-293				202, Total PFeCN1&2 layer, unk loss
BY-108	1965	2	178					
BY-108	1968	3	125					
BY-108	1969	1	165	-37	**32**	**PFeCN2**		ITS Bottoms and recycle, loss to ITS
BY-108	1969	2	222					
BY-108	1969	3	194					
BY-108	1969	4	233					
BY-108	1970	1	224					
BY-108	1970	2	176					
BY-108	1970	3	194					
BY-108	1970	4	65					ignore
BY-108	1971	1	98					ignore
BY-108	1971	2	385					
BY-108	1971	3	388					
BY-108	1971	4	381					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-108	1972	4	304					
BY-108	1974	4	359					
BY-108	1993	2	228					
BY-108	1993	4	228	63	**63**	**BYSltCK**		
BY-109	1956	3	36	36	**36**	**(MW)**		sluiced, assign to MW heel, C-104,B-103,BY-101,BY-108,BY-112
BY-109	1956	4	66					supernatant receiver for MW slurries
BY-109	1957	3	46					
BY-109	1963	2	76					
BY-109	1965	2	57					
BY-109	1968	3	37					ITS feed tank and receiver
BY-109	1968	4	54					
BY-109	1969	1	72					
BY-109	1969	2	87					
BY-109	1969	3	79					
BY-109	1969	4	114					
BY-109	1970	1	190					
BY-109	1970	2	120					
BY-109	1970	3	128					
BY-109	1970	4	142					
BY-109	1971	1	150					
BY-109	1971	2	128					
BY-109	1971	4	153					
BY-109	1972	2	222					
BY-109	1972	3	260					
BY-109	1972	4	334					
BY-109	1973	1	381					
BY-109	1973	2	398					
BY-109	1973	4	411					
BY-109	1974	2	433					
BY-109	1974	4	425					
BY-109	1977	2	433					
BY-109	1993	2	423					
BY-109	1993	4	423	387	**387**	**BYSltCk**		
BY-110	1952	3		161		1C2	649	24.9 vol%
BY-110	1952	4		1		DW	79	1 vol%
BY-110	1954	4	51	-111	**37**	**1C2**		drawdown to 37, loss to B-038
BY-110	1955	1	121	70				gain of PFeCN1
BY-110	1955	2	85					
BY-110	1955	3		136		PFeCN1	3668	3.7 vol %
BY-110	1955	4	148	-109	**111**	**PFeCN1**		unk loss
BY-110	1956	1	150					
BY-110	1956	3	211					
BY-110	1956	4	229				-189	SL BY-104, BY-105
BY-110	1957	1	210					
BY-110	1957	2	205					
BY-110	1957	2		167		PFeCN2	5203	3.2 vol %
BY-110	1957	3	211					
BY-110	1957	4	210	-105				173 Total PFeCN1&2 layer, unk loss
BY-110	1963	2	246					
BY-110	1965	2	230					
BY-110	1969	2	189					
BY-110	1969	3	123					
BY-110	1970	1	201					
BY-110	1970	2	190	-20	**42**	**PFeCN2**		loss to ITS

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-110	1970	3	211					ITS bottoms and receiver
BY-110	1970	4	277					
BY-110	1974	4	296					
BY-110	1977	1	376					
BY-110	1977	3	469					
BY-110	1980	1	505					
BY-110	1993	2	398					
BY-110	1993	4	398	208	**208**	**BYSltCk**		
BY-111	1952	1		116		MW	964	12 vol%
BY-111	1952	4		2		UR	55	2.8 vol %
BY-111	1955	1					390	SL BY-112
BY-111	1955	3					-630	SL UR
BY-111	1957	1	26	-92	**26**	**MW**		
BY-111	1963	2	24					
BY-111	1965	2	26					
BY-111	1967	4		0		CWP2	13	2.9 vol%
BY-111	1968	3	145					ITS bottoms and recycle
BY-111	1969	1	48					
BY-111	1969	2	52					
BY-111	1969	3	101					
BY-111	1969	4	142					
BY-111	1970	1	266					
BY-111	1970	2	290					
BY-111	1970	3	323					
BY-111	1970	4	673					
BY-111	1971	2	686					
BY-111	1972	1	194					
BY-111	1972	2	112					
BY-111	1972	3	142					
BY-111	1974	4	299					
BY-111	1977	3	510					
BY-111	1977	4	615					
BY-111	1980	4	622					
BY-111	1993	2	459					
BY-111	1993	4	459	433	**433**	**BYSltCk**		
BY-112	1952	3		6	**2**	**MW**	46	12 vol %
BY-112	1952	4		0		DW	80	1 vol %
BY-112	1955	1					-390	SL BY-111
BY-112	1957	2		6	**6**	**PFeCN2**	172	3.2 vol %
BY-112	1963	2	29	17				Unknown gain
BY-112	1965	2	24					
BY-112	1967	4		0		CWP2	4	2.9 vol %
BY-112	1968	2	17	-12				Unknown loss
BY-112	1968	3	2					ignore
BY-112	1969	1	43					ITS Bottoms and recycle
BY-112	1969	2	59					
BY-112	1969	3	79					
BY-112	1970	1	85					
BY-112	1970	2	94					
BY-112	1970	3	145					
BY-112	1970	4	164					
BY-112	1971	1	255					
BY-112	1971	2	59					
BY-112	1971	3	166					
BY-112	1971	4	194					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
BY-112	1972	1	263					
BY-112	1972	2	334					
BY-112	1972	4	315					
BY-112	1973	1	288					
BY-112	1973	3	311					
BY-112	1973	4	331					
BY-112	1974	4	310					
BY-112	1993	2	291					
BY-112	1993	4	291	274	**283**	**BYSltCk**		
C-101	1946	4		190	**3**	**MW**	1590	12 vol %
C-101	1953	4		30	**30**	**UR**	1055	2.8 vol %
C-101	1957	4	0	-220				sluicing tank
C-101	1958	1	98		**28**	**(CWP1)**		ignore, unk assign to CWP1, tank drawn to 61
C-101	1960	4		2	**2**	**CWP1**	19	8.1 vol %
C-101	1962	2		19	**19**	**CWP2**	637	2.90 vol %
C-101	1963	2	109	88				unk gain
C-101	1965	2		0		DW	28	1 vol %
C-101	1965	2	51	-58				unk loss, sent to B farm
C-101	1969	3	106	55				washed out
C-101	1969	4	125	19				unk gain
C-101	1970	1	87	-38				unk loss
C-101	1970	3	81					
C-101	1974	4	62					ignore
C-101	1976	2	73					
C-101	1993	2	88					
C-101	1993	4	88	1	**6**	**(CWP2)**		unk gain, assign to CWP2
C-102	1952	4				MW	-530	SL C-103
C-102	1954	1		5	**5**	**MW**		small sludge heel
C-102	1954	1		16	**16**	**UR**	552	2.8 vol %
C-102	1958	1	98				552	ignore Questionable stat record
C-102	1960	4		33	**33**	**CWP1**	401	8.10 vol %
C-102	1965	2	238	184				unk gain, REC from C-105 and C-108
C-102	1966	1		200		CWP2	6892	2.9 vol %
C-102	1966	2		26	**26**	**TH1**	443	5.8 vol %
C-102	1968	3		125	**252**	**CWP2**	4320	2.9 vol %
C-102	1968	4	307					still settling
C-102	1969	1	332	-257				numerous xfers- wash out
C-102	1969	2		25		CWP2	872	2.9 vol %
C-102	1969	2	369	12				unk gain, REC from C-110 and C-104
C-102	1969	3		14		OWW3	2262	0.6 vol%
C-102	1969	3	351	-18				unk loss
C-102	1969	4		57		CWZr1	550	10.5 vol %
C-102	1969	4	345	-63	**13**	**CWZr1**		washed out
C-102	1970	1	326					
C-102	1970	2	312					
C-102	1970	3	299					
C-102	1974	4	332					
C-102	1976	1	62					ignore
C-102	1976	2	431					
C-102	1993	2	423					
C-102	1993	4	423	78	**78**	**(CWP2)**		unk gain. unk assign to CWP2. pic shows sludge w/ shallow pools liquid
C-103	1952	4					1060	SL C-102, C-101
C-103	1953	1					-1687	SL UR

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
C-103	1953	2						Prob MW left after sluicing
C-103	1953	3						UR from C-101
C-103	1960	4		39		CWP1	479	8.1 vol %
C-103	1967	3	35	-4	**37**	**CWP1**		Unk loss
C-103	1970	2	85	50				unk gain, REC from BX-101
C-103	1970	3	99	25	**25**	**AR**		secondary transfer of AR solids from C-106
C-103	1971	1	92	-7				unk loss to C-106
C-103	1971	3	90					
C-103	1971	4	102					ignore
C-103	1972	3	90					
C-103	1974	4	73	-19				some xfer to C-104 ?
C-103	1977	1	68	-5				washed out
C-103	1977	3	150					solids continue to increase
C-103	1977	4	153	85				unk gain, Evap B plant recovery
C-103	1978	1	164	11				unk gain, REC from C-107
C-103	1978	2	167					solids continue to increase
C-103	1978	3	175	11				unk gain
C-103	1993	2	62					
C-103	1993	4	62	-113				unk loss, Prob CWP1 or AR
								Note: unaccounted solids from core 30 kgal
C-104	1947	4		190	**3**	**MW**	1590	12 vol %
C-104	1953	2					-530	SL C-106
C-104	1955	2	0	-190				
C-104	1956	1	45					ignore
C-104	1957	3	46					ignore
C-104	1958	2		103	**98**	**CWP1**	1269	8.1 vol %
C-104	1963	2	101	-2				unknown loss
C-104	1965	2	90	-11				unknown loss
C-104	1970	1		16		CWP2	535	2.9 vol %
C-104	1970	1	96	-10				unknown loss
C-104	1970	2	149					ignore
C-104	1970	3		17		CWP2	581	2.9 vol %
C-104	1970	3		29		THL	499	5.8 vol %
C-104	1970	3	92	-50				washed out BX-101?? ignore
C-104	1970	4		8	**3**	**CWP2**	279	2.9 vol %
C-104	1970	4		4	**4**	**PL**	175	2.2 vol %
C-104	1970	4		24	**24**	**TH2**	413	5.8 vol %
C-104	1970	4	132	4				unk gian, probably CWP uncertainty
C-104	1971	1		5		CWP2	189	2.9 vol %
C-104	1971	1	153	16				unknown gain
C-104	1971	3		44		CWP2	1520	2.9 vol %
C-104	1971	4	175	-22				unknown loss
C-104	1972	1		11		CWP2	364	2.9 vol %
C-104	1972	1	188	2				CWP2
C-104	1972	2		8	**66**	**CWP2**	281	2.9 vol %
C-104	1972	2	198	2				CWP2
C-104	1972	3		31	**31**	**OWW3**	5163	0.6 vol%
C-104	1972	3		65	**18**	**CWZr1**	623	10.5 vol %
C-104	1972	4		9	**9**	**CWZr1**		secondary xfer from C-103
C-104	1973	4		1	**1**	**P2**	31	3.9 vol %
C-104	1973	4		15	**15**	**(CWR2)**	1504	unk assign to CWR2 from U-107
C-104	1973	4	274					
C-104	1974	1		1		P2	27	3.9 vol %
C-104	1974	1		1		DW	90	1 vol%
C-104	1974	4		1		PL	37	2.2 vol %
C-104	1974	4	235	-87				Unk loss
C-104	1975	2		1	**1**	**P2**	33	3.9 vol %

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
C-104	1976	2		6	**6**	**PL**	261	2.2 vol %
C-104	1976	2		7		SRR		SRR solids from A-101
C-104	1976	4	246					
C-104	1977	1	268					
C-104	1977	3	274					
C-104	1977	4	290	44	**11**	**(SRR)**		unk gain Purex Waste Storage??, unk assign to SRR
C-104	1978	1	304					
C-104	1980	1	293					
C-104	1993	2	295					
C-104	1993	4	295	5	**5**	**SMMA1**		CPLX, Solids from concentrate calculated by SMM.
C-105	1953	2					-530	SL C-106
C-105	1954	3		15	**15**	**UR**	546	2.8 vol %
C-105	1956	2	15	0				
C-105	1960	2		255	**81**	**CWP1**	3151	8.1 vol %
C-105	1965	2	109					
C-105	1966	4					250	SL A-103
C-105	1968	4	96	-174				unk loss
C-105	1969	1	109					
C-105	1969	2	99	3	**3**	**(CWP1)**		unk gain, assign to CWP1
C-105	1969	3	139					various rec eventually washed out
C-105	1969	4	233					various rec eventually washed out
C-105	1970	1	123					various rec eventually washed out
C-105	1970	2	136					various rec eventually washed out
C-105	1970	3	139					various rec eventually washed out
C-105	1970	4	156					various rec eventually washed out
C-105	1971	1	162					various rec eventually washed out
C-105	1971	2	164					various rec eventually washed out
C-105	1972	1	98					various rec eventually washed out
C-105	1973	2	112					unknown loss
C-105	1974	3					48	SL A-103, A-102
C-105	1974	4	139					
C-105	1977	1	167	68				unk gain
C-105	1977	3					39	SL AX-103, AX-101, AX-102
C-105	1979	3	150	-17				unk loss
C-105	1993	2	150					
C-105	1993	4	150		**51**	**(CWP1)**		unk assign to CWP1
C-106	1953	2					1060	SL C-104, C-1105
C-106	1954	1					-1906	SL UR
C-106	1954	3		15		UR	538	2.8 vol %
C-106	1955	1	12		**15**	**UR**		ignore
C-106	1957	4	29	14		P		xfer from A-101 and A-102
C-106	1960	2		34	**34**	**CWP1**	420	8.1 vol %
C-106	1963	2	24					ignore
C-106	1965	1		0		DW	36	1 vol%
C-106	1965	2	62	-1				
C-106	1969	4		9		AR	276	3.1 vol%
C-106	1969	4	57	-14				unk loss
C-106	1970	3		13		AR	432	3.1 vol%
C-106	1970	3	79	5				unk gain
C-106	1970	4		10		AR	311	3.1 vol %
C-106	1970	4	145	60				unk gain
C-106	1971	1	150					
C-106	1972	2		5		AR	151	3.1 vol%
C-106	1972	2	125	-25	**64**	**AR**		unk loss, more AR cascaded from C--103

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
C-106	1974	4		13		BL	789	1.7 vol %
C-106	1974	4	106	-32				unk loss
C-106	1976	2		37	**20**	**BL**	2148	1.7 vol %
C-106	1977	1	145					
C-106	1977	4	156					
C-106	1978	4	142	-1				unk loss
C-106	1979	1	197	55				unk gain
C-106	1993	2	197		**32**	**(BL)**		unk assign to BL
C-106	1993	4	197		**32**	**(AR)**		unk assign to AR
C-107	1948	3		218	**218**	**1C1**	1588	13.7 vol%
C-107	1952	1	399	181				unknown gain
C-107	1953	1					-29	SL C-108
C-107	1953	3		6		UR	211	2.8 vol %
C-107	1956	4	375	-30				unknown loss
C-107	1962	2		40	**37**	**CWP2**	1370	2.9 vol %
C-107	1963	2	321					
C-107	1965	2	225	-202				unk loss
C-107	1966	1	255					
C-107	1967	4		5		HS	242	2 vol%
C-107	1970	2	200					1C measurement problems
C-107	1970	3	195					1C measurement problems
C-107	1971	2	197					1C measurement problems
C-107	1972	3	206					1C measurement problems
C-107	1974	4	191					1C measurement problems
C-107	1977	4	296					1C measurement problems
C-107	1978	1	337	20	**20**	**SRR**	393	5 vol %, Sr solids reported in Welty,
C-107	1993	2	275					
C-107	1993	4	275	25				unk gain
C-108	1952	2		25	**25**	**1C1**		cascaded solids
C-108	1952	2	34	9	**4**	**(1C1)**		unk assign to 1C1
C-108	1953	2		25	**25**	**UR**	902	2.8 vol %
C-108	1957	4	79	16	**12**	**TFeCN**	1134	1.4 vol %
C-108	1961	2		15		CWP2	502	2.9 vol %
C-108	1965	2		3		HS	142	2 vol%, also known as HS
C-108	1965	2	98	5				unk gain
C-108	1970	2	95					
C-108	1970	3	69					
C-108	1972	3	76					
C-108	1974	4	65					
C-108	1993	2	66					
C-108	1993	4	66	-32				loss to C-102,C-103, and/or C-104
C-109	1952	2	10	10	**10**	**1C1**		Cascaded solids
C-109	1956	4		14		TFeCN	995	1.4 vol %
C-109	1957	1	35	11				unk gain
C-109	1957	2		9		TFeCN	586	1.4 vol %
C-109	1957	2	51	7				unk gain
C-109	1957	3		13		TFeCN	949	1.4 vol %
C-109	1957	3	35	-29				loss to CRIB
C-109	1957	3		6	**42**	**TFeCN**	448	1.4 vol%
C-109	1957	4	90	49				unk gain
C-109	1964	2		3	**7**	**HS**	133	2 vol %, also known as HS
C-109	1965	2	79	-14				unk loss
C-109	1970	2	106					
C-109	1970	3	95					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
C-109	1974	4	79					
C-109	1975	4	62					
C-109	1993	2	62					
C-109	1993	4	62	-17	**3**	**(TFeCN)**		assign to TFeCN, solids loss to C-103
C-110	1947	2		218		1C1	1589	13.7 vol%
C-110	1952	2	231					ignore, 1C measurment probably
C-110	1952	4		9		UR	307	2.8 vol %
C-110	1956	4		2		OWW1	360	0.6 vol%
C-110	1963	2	230	-12				unk loss
C-110	1965	2	191					problems w/ 1C1 solids measurements
C-110	1970	2	211					
C-110	1970	3	189					
C-110	1972	3	183					
C-110	1974	1	200					
C-110	1974	4	211					Poss UR remnant
C-110	1993	2	187					
C-110	1993	4	187	-43	**187**	**1C1**		unk loss
C-111	1952	2	36	36	**36**	**1C1**		UR settled on bottom
C-111	1952	4				UR	990	2.8 vol % No solids from UR
C-111	1956	1		5	**5**	**TFeCN**	397	1.4 vol %
C-111	1956	4		0		OWW1	17	0.6 vol%
C-111	1957	1		27	**16**	**CWP1**	339	8.1 vol %
C-111	1957	2	13					ignore solids reading
C-111	1957	3	54					ignore solids readings
C-111	1957	4		36		TFeCN	2554	1.4 vol %
C-111	1960	4		1		CWP1	8	8.1 vol %,unknown solids loss
C-111	1960	4	95	-10				
C-111	1964	2		5		HS	228	2 vol%
C-111	1965	2	81					unknown loss
C-111	1970	2	96					
C-111	1970	3	92					washed out
C-111	1972	2	76					
C-111	1974	4	62					
C-111	1993	2	57					
C-111	1993	4	57	-43				solids loss to C-104 and C-103, lost 12HS,29TFeCN, and 11CWP
C-112	1952	2	15	15	**15**	**1 C1**		
C-112	1954	3				UR	321	5.0 vol %, No solids from UR ?
C-112	1955	2	17					ignore
C-112	1956	4		25		TFeCN	1811	1.4 vol %
C-112	1956	4	39	-1				unknown loss
C-112	1957	2	21					ignore
C-112	1957	3	39					ignore solids volume
C-112	1957	4		38	**68**	**TFeCN**	2728	1.4 vol %
C-112	1958	1	46					ignore
C-112	1960	4		13	**13**	**CWP1**	166	8.1 vol %
C-112	1961	2		3	**3**	**CWP2**	88	2.9 vol %
C-112	1962	2		1	**1**	**HS**	53	2 vol%
C-112	1965	2	128	34				unknown gain
C-112	1970	2	138					
C-112	1970	3	136					
C-112	1972	3	120					
C-112	1974	4	128					
C-112	1975	4	109					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
C-112	1993	2	104					
C-112	1993	4	104	-24	**4**	**(TFeCN)**		Unk loss to C-103, unk assign to TFeCN
C-201	1948	1		26		MW	220	12 vol %
C-201	1954	1	0	-26				
C-201	1954	4					-53	SL C-204
C-201	1955	4		1	**1**	**HS**	57	2 vol%, also known as SSW
C-201	1970	1	1					
C-201	1974	4	0					
C-201	1993	2	2					
C-201	1993	4	2	2	**1**	**MW**		MW heel
C-202	1954	1	0	0				
C-202	1956	2		1	**1**	**HS**	55	2 vol%, also known as SSW
C-202	1980	3	1					
C-202	1993	2	1					
C-202	1993	4	1	1				
C-203	1954	1	0					
C-203	1956	4	1		**1**	**HS**	30	2 vol%, also known as SSW
C-203	1969	4	0	0				
C-203	1970	1	5					
C-203	1972	1	3		**2**	**MW**		MW heel
C-203	1977	4	4					
C-203	1980	3	5					
C-203	1993	2	5					
C-203	1993	4	5	5	**2**	**(MW)**		unk assign to MW heel
C-204	1948	1			**2**	**MW**		MW heel
C-204	1954	1	11	11				
C-204	1954	4					53	SL C-201
C-204	1954	4	11				-53	SL UR
C-204	1955	1	0					
C-204	1956	2		1	**1**	**HS**	34	2 vol%, also known as SSW
C-204	1961	4	0					
C-204	1962	2	11					
C-204	1970	1	2					
C-204	1972	1	1					
C-204	1974	4	0					
C-204	1980	3	1					
C-204	1993	2	3					
C-204	1993	4	3	-8				

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
S-101	1954	1		85	85	R1	1924	4.4 vol%
S-101	1954	1		2	**2**	CWR1	21	8.1 vol%
S-101	1954	1		1	1	R1	23	4.4 vol%
S-101	1954	2		11	**11**	CWR1	131	8.1 vol%
S-101	1954	2		6	**6**	R1	135	4.4 vol%
S-101	1955	3		16	**16**	CWR1	197	8.1 vol%
S-101	1969	4	211	90	**90**	RSltCk		unk gain
S-101	1974	1	244					
S-101	1975	2	332	121	**121**	SMMS1		Bottoms receiver, Solids from concentrate calculated by SMM.
S-101	1980	4	415					
S-101	1993	2	415					Hanlon report data
S-101	1993	4	415	83	**83**	SMMS2		Solids from concentrate calculated by SMM.
S-102	1969	3	5					
S-102	1970	4	4	4	**4**	R1		cascaded solids R1-poss some CWR1
S-102	1973	4	51					
S-102	1974	3	103					
S-102	1974	4	145					
S-102	1975	4	200					
S-102	1977	1	208	204	**204**	SMMS1		242-S feed tank, Solids from concentrate calculated by SMM.
S-102	1979	4	510					
S-102	1980	3	555	347				
S-102	1993	2	549					
S-102	1993	4	549	-6	**341**	SMMS2		Solids from concentrate calculated by SMM.
S-103	1954	2	0					
S-103	1966	4	5					
S-103	1969	4	9	9	**9**	**(R1)**		unk assign to R1
S-103	1978	2	120					
S-103	1978	3	167					
S-103	1978	4	128	119	**119**	**SMMS1**		bottoms receiver, Solids from concentrate calculated by SMM.
S-103	1979	4	153					
S-103	1980	4	231					
S-103	1993	2	231					
S-103	1993	4	231	103	**103**	**SMMS2**		DSS from sec 242-S, Solids from concentrate calculated by SMM.
S-104	1953	1	0					
S-104	1953	1		5	**5**	CWR1	61	8.1 vol %
S-104	1953	1		30	**30**	R1	681	4.4 vol %
S-104	1953	2		8	**8**	CWR1	92	8.1 vol %
S-104	1953	2		49	**49**	R1	1109	4.4 vol %
S-104	1953	3		3	**3**	CWR1	40	8.1 vol %
S-104	1954	1		12	**12**	R1	264	4.4 vol %
S-104	1954	2		1	**1**	CWR1	8	8.1 vol %
S-104	1954	2		17	**17**	R1	375	4.4 vol %
S-104	1955	3		7	**7**	CWR1	83	8.1 vol %
S-104	1969	4	241	109				unk gain
S-104	1975	1	299	58				unk gain
S-104	1993	2	293					
S-104	1993	4	293	-6	**161**	RSltCk		
S-105	1953	2	0					
S-105	1969	4	2	2	**2**	R1		cascaded solids primarily R1
S-105	1973	4	249					
S-105	1974	1	549	547				bottoms receiver
S-105	1980	4	488					
S-105	1993	2	407					
S-105	1993	4	407	-142	**405**	SMMS1		Solids from concentrate calculated by SMM.

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
S-106	1953	2	0					
S-106	1965	2	13	13				CWR1 from S-107 Nominal 7 vol% of rec
S-106	1969	4	32	19	**32**	(CWR1)		unk assign to CWR1 ? measurement error
S-106	1973	4	384					bottoms receiver
S-106	1974	1	436					
S-106	1974	4	557					
S-106	1975	1	607					
S-106	1975	3	673	641				bottoms receiver
S-106	1977	2	582					
S-106	1980	4	612					
S-106	1993	2	543	-130				unknown loss
S-106	1993	4	475	-68	**443**	**SMMS1**		unknown loss, Solids from concentrate calculated by SMM.
S-107	1953	1	0					
S-107	1954	2		92	**92**	R1	2091	4.4vol%
S-107	1954	2	194	13	**13**	RSltCk		ignore
S-107	1960	4		89	**89**	CWR1	1108	8.1 vol %
S-107	1967	1		65	**18**	**CWZr1**	618	10.5 vol%, 269 tons of Zircaloy clad fuel was indeed processed in Redox in 1966, see HDW for justification.
S-107	1967	1		42	42	CWR2	1464	2.9 vol %
S-107	1969	4	285					ignore
S-107	1970	2	293	-8	**39**	**SMMT2**	923	From Redox Evap, Solids from concentrate calculated by SMM.
S-107	1971	3						
S-107	1972	1		2		R2	66	1.9 vol %
S-107	1974	2	343	1				242-S evap camp
S-107	1974	3	282					
S-107	1974	4	343					
S-107	1980	3	340	-3	**47**	SMMS1		Solids from concentrate calculated by SMM.
S-107	1993	2	362					
S-107	1993	4	362	22	**22**	SMMS2		Solids from concentrate calculated by SMM.
S-108	1952	4	0					
S-108	1965	2	4					
S-108	1969	4	5	5	**5**	R1		Cascaded solids- mostly R1 possibly some CWR1
S-108	1974	1	373					
S-108	1974	2	585					
S-108	1974	3	702					Bottoms receiver
S-108	1974	4	706					
S-108	1977	1	670					
S-108	1979	4	612					
S-108	1993	2	502					
S-108	1993	4	502	497	**497**	SMMS1		Solids from concentrate calculated by SMM.
S-109	1953	2	0					
S-109	1965	2	7					
S-109	1971	3	13	13	**13**	(CWR1)		assign to CWR1, Centrifuge solids added to S-109
S-109	1974	1	263					
S-109	1974	2	488					bottoms receiver
S-109	1974	3	653					
S-109	1977	1	568					
S-109	1993	2	507					
S-109	1993	4	507	494	**494**	SMMS1		Solids from concentrate calculated by SMM.
S-110	1952	3		87	**87**	R1	1983	4.4 vol%
S-110	1953	3		12	**12**	CWR1	152	R1 on bottom washed off CWR1 layer 8.1 vol %
S-110	1954	1	0					ignore
S-110	1954	1		2	**2**	R1	39	4.4 vol %
S-110	1965	2	106	5				unk gain
S-110	1969	4	113	7	**12**	CWR1		Unknown loss,Cascaded solids?

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
S-110	1974	1	131					
S-110	1974	4	255					
S-110	1975	1	414					
S-110	1975	3	755	642				Bottoms receiver
S-110	1975	4	689					
S-110	1977	1	475	-280				unknown loss
S-110	1979	1	692	217				unknown gain
S-110	1993	2	390					
S-110	1993	4	390	-302	**277**	SMMS1		unknown loss, Solids from concentrate calculated by SMM.
S-111	1952	3	0					
S-111	1965	2	144		**63**	R1		cascaded solids seems high
S-111	1969	4	139	139	**12**	CWR1		cascaded solids seems high
S-111	1974	2	334		**3**	R1		cascaded solids seems high
S-111	1974	3	502		**61**	UNK (No Assign.)		? more cascaded solids R1/CWR1? (unk, no TLM assignment)
S-111	1974	4	563					bottoms receiver
S-111	1975	1	596					
S-111	1975	3	750					
S-111	1976	4	623					
S-111	1993	2	538					
S-111	1993	4	538	399	**399**	SMMS1		Solids from concentrate calculated by SMM.
S-112	1957	1	0					
S-112	1965	2	4		**3**	(CWR1)		unk assign to CWR1, rec from S-107
S-112	1971	3	6	6	**3**	(R1)		unk assign to R1, cascaded solids
S-112	1974	1	367					
S-112	1974	2	598					
S-112	1974	3	686					bottoms receiver
S-112	1974	4	673					
S-112	1975	1	714					
S-112	1976	2	706					
S-112	1977	1	673					
S-112	1980	2	672					
S-112	1993	2	637					
S-112	1993	4	523	517	**517**	SMMS1		Solids from concentrate calculated by SMM.
SX-101	1954	2	0					
SX-101	1955	3		154	**154**	R1	3490	4.4 vol %
SX-101	1965	2	447	293	**156**	RSltCk		
SX-101	1969	3	464					
SX-101	1969	4	465					
SX-101	1970	4	466					Anderson reports 128 sl and 338 salt cake
SX-101	1974	1	466					bottoms receiver,unknown loss
SX-101	1978	1	403	93	**93**	(SMMS1)		unk assign to S1SltCk, Solids from concentrate calculated by SMM.
SX-101	1980	3	447					
SX-101	1980	4	455					
SX-101	1993	2	455					
SX-101	1993	4	455	52	**52**	SMMS2		Solids from concentrate calculated by SMM.
SX-102	1954	2	0					
SX-102	1957	4	26	26	**26**	R1		cascaded solids
SX-102	1959	1	0					ignore ???
SX-102	1965	2	84	58				poss from SX-115
SX-102	1969	3	46	-38				unknown loss
SX-102	1969	4	51					
SX-102	1970	3	59	13	**33**	(R1)		unk assign to R1, cascaded solids from SX-103,106,107,110,114
SX-102	1974	4	117	58				bottoms receiver
SX-102	1975	1	150					
SX-102	1975	2	612					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
SX-102	1975	4	499					
SX-102	1976	1	475					
SX-102	1976	4	491					
SX-102	1977	1	497	380	**438**	SMMS1		Solids from concentrate calculated by SMM.
SX-102	1980	3	518					
SX-102	1993	2	543					
SX-102	1993	4	543	46	**46**	SMMS2		Solids from concentrate calculated by SMM.
SX-103	1957	4		13	**10**	R1	286	4.4 vol.%
SX-103	1957	4	10	-3				unk loss
SX-103	1965	2	73					
SX-103	1967	4	128		**102**	RSltCk		RSltCk from SX-108,111,114
SX-103	1974	4	79					unk loss
SX-103	1975	1	112	102				And reports 112 sludge 511 salt cake
SX-103	1975	2	249					bottoms receiver
SX-103	1977	1	623					
SX-103	1978	1	758					
SX-103	1980	1	714					
SX-103	1993	2	651					
SX-103	1993	4	651	539	**539**	SMMS1		unknown loss, Solids from concentrate calculated by SMM.
SX-104	1954	2	0					
SX-104	1956	3		99	**99**	**R1**	2242	4.5 vol%
SX-104	1965	2	191	92				
SX-104	1970	3	169	-22	**70**	RSltCk		unk loss
SX-104	1975	3	282					bottoms receiver
SX-104	1975	4	519					
SX-104	1976	1	563					
SX-104	1977	1	673					
SX-104	1977	3	807					
SX-104	1980	1	755					
SX-104	1980	3	713					
SX-104	1993	2	614					
SX-104	1993	4	614	445	**445**	SMMS1		Solids from concentrate calculated by SMM.
SX-105	1955	3	0	42	**15**	**R1**	961	4.5 vol%
SX-105	1957	3	15					ignore
SX-105	1965	2	43	1	**31**	**RSltCk**		
SX-105	1966	4		9		R2	372	1.9 vol%
SX-105	1968	2	55	3	**9**	**R2**		Redox evap solids in 68q1
SX-105	1969	1	59					
SX-105	1969	3	58					
SX-105	1970	2	68					
SX-105	1970	3	66					
SX-105	1974	4	37					ignore
SX-105	1975	1	73	18	**18**	SMMT2		Solids from concentrate calculated by SMM.
SX-105	1975	3	263					bottoms receiver
SX-105	1975	4	464					
SX-105	1976	1	491					
SX-105	1976	4	480					
SX-105	1977	1	739					
SX-105	1978	3	741					
SX-105	1980	3	673					
SX-105	1993	2	683					
SX-105	1993	4	683	610	**610**	SMMS1		Solids from concentrate calculated by SMM.
SX-106	1954	1	0					
SX-106	1969	3	1		**1**	RSltCk		
SX-106	1975	1	9	8				unk gain, SltCk

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
SX-106	1975	4	26	20				unk gain, SltCk
SX-106	1976	4	29					
SX-106	1977	1	373					
SX-106	1978	1	150					
SX-106	1978	4	87	58	**86**	SMMS1		Solids from concentrate calculated by SMM.
SX-106	1980	4	477					
SX-106	1993	2	477					
SX-106	1993	4	477	390	**390**	SMMS2		Solids from concentrate calculated by SMM.
SX-107	1956	2	0					
SX-107	1957	4		63	**63**	R1	1423	4.5 vol%
SX-107	1958	3	2					ignore
SX-107	1964	2		24	**24**	R2	1045	1.9 vol%
SX-107	1965	2	13					ignore
SX-107	1967	4						
SX-107	1967	4	101	14		RSltCk		unk gain
SX-107	1968	2	98					ignore
SX-107	1968	3	146	45				unk gain
SX-107	1968	4	147					
SX-107	1969	1	136					
SX-107	1969	2	135					
SX-107	1969	4	134					
SX-107	1970	2	131					
SX-107	1971	4	110	-36				unk loss
SX-107	1974	4	109					
SX-107	1993	2	104					
SX-107	1993	4	104	-6	**17**	RSltCk		
SX-108	1958	3		69	**69**	R1	1564	4.5 vol%
SX-108	1958	3	3					ignore
SX-108	1962	3		27	**18**	R2	1193	1.9 vol %
SX-108	1965	2	16					ignore
SX-108	1967	4	120	24				unk gain
SX-108	1968	2	130					
SX-108	1968	3	126					
SX-108	1969	1	145					RATIO OF R1/R2?
SX-108	1969	2	143					
SX-108	1969	4	142					
SX-108	1974	4	87					
SX-108	1993	2	87					
SX-108	1993	4	87	-33				unk loss
SX-109	1956	4		44	**44**	R1	1000	4.5 vol%
SX-109	1962	3		16	**16**	R2	712	1.9 vol %
SX-109	1965	2	68	8		RSltCk		ignore
SX-109	1967	4	164	59				unk gain
SX-109	1968	2	180					
SX-109	1968	3	186					
SX-109	1968	4	187					
SX-109	1969	1	191					
SX-109	1969	2	187					
SX-109	1969	3	178					
SX-109	1969	4	176					
SX-109	1970	2	194					
SX-109	1970	3	193					
SX-109	1970	4	189					
SX-109	1972	2	35					ignore
SX-109	1972	3	189					self conc,leaker
SX-109	1974	1	257					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
SX-109	1993	2	250					
SX-109	1993	4	250	86	**190**	RSltCk		unk gain
SX-110	1960	4		16		**R2**	714	1.9 vol %
SX-110	1965	2	51					ignore
SX-110	1965	4		21		R2	910	1.9 vol %
SX-110	1967	4	32	-5	**32**	R2		
SX-110	1968	2	58					
SX-110	1968	3	50					
SX-110	1968	4	42					
SX-110	1969	2	8					low sludge due to agitation
SX-110	1969	4	24					
SX-110	1970	2	32					
SX-110	1979	4	62					
SX-110	1993	2	62					
SX-110	1993	4	62	30	**30**	RSltCk		self conc
SX-111	1956	2		42	**42**	R1	963	4.5vol %
SX-111	1958	3	29					ignore
SX-111	1959	1	0					ignore
SX-111	1965	2	24					ignore
SX-111	1967	4		41	**41**	R2	1809	1.9 vol %
SX-111	1967	4	84	1		RSltCk		unk gain
SX-111	1968	2	102					
SX-111	1968	3	88					
SX-111	1969	1	90					
SX-111	1969	3	72					
SX-111	1969	4	77					
SX-111	1974	2	83					
SX-111	1974	3	128					
SX-111	1974	4	125					
SX-111	1993	2	125					
SX-111	1993	4	125	41	**42**	RSltCk		self conc.
SX-112	1957	1	0	44	**44**	**R1**	1001	4.5 vol %
SX-112	1958	3	48	4	**4**	**RSltCk**		
SX-112	1960	3	0					ignore
SX-112	1965	2		33		**R2**	1446	1.9 vol %
SX-112	1965	2	73	-8	25	R2		unknown loss
SX-112	1967	4	43					
SX-112	1968	2	58					
SX-112	1968	3	54					
SX-112	1968	4	46					
SX-112	1969	1	39					
SX-112	1969	2	42					
SX-112	1969	3	35					
SX-112	1974	3	112					measmnt anomalies expected
SX-112	1974	4	106					
SX-112	1993	2	92					
SX-112	1993	4	92	19	**19**	RSltCk		
SX-113	1958	1		21		R1	487	4.5 vol %
SX-113	1965	2	3					bulged tank
SX-113	1969	4	2	-19				unk loss
SX-113	1972	1		29		DE	45	diatomaceous added 0.651 kgal/ton
SX-113	1974	1	0					Tank leaks, 15 outx to RCOND
SX-113	1974	3	2		**2**	R1		
SX-113	1976	2	6					
SX-113	1977	4	10					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
SX-113	1993	2	31		**29**	DE		LC solids from 26 to 31
SX-113	1993	4	31					unk gain, LC solids from 26 to 31
SX-114	1956	4		77		R1	1749	4.5 vol %
SX-114	1958	3	1					ignore tank boiling
SX-114	1963	4		-66	**11**	R1		draw down to 11
SX-114	1964	1		37	**37**	R2	1587	1.9 vol %
SX-114	1965	2	21					ignore
SX-114	1967	4	57	9				unk gain
SX-114	1968	2	127					
SX-114	1968	3	84					
SX-114	1968	4	80	23				unk gain
SX-114	1969	2	183					Acc due to solids pumping from SX-112
SX-114	1969	3	204					
SX-114	1971	2	200					
SX-114	1993	2	181					
SX-114	1993	4	181	101	**133**	RSltCk		
SX-115	1958	3		6		R1	145	4.5 vol %
SX-115	1960	3		19		R2	836	1.9 vol %
SX-115	1965	2	3	-22				unk loss
SX-115	1969	3	6					Tank leaks pumped to SX-105
SX-115	1974	3	8					ignore
SX-115	1976	2	6	3	**6**	R1		unk gain
SX-115	1976	3	10					
SX-115	1993	2	12					
SX-115	1993	4	12	6	**6**	RSltCk		
U-101	1953	2	146					ignore
U-101	1955	2	40					ignore, sluiced
U-101	1956	3	5	476		**MW**	3963	12 vol%
U-101	1956	4	0	-481				sluiced
U-101	1969	4	40	40				unk gain
U-101	1970	1	39					
U-101	1971	3	40					
U-101	1978	3	28					
U-101	1978	4	40					
U-101	1979	1	49					
U-101	1979	2	40					
U-101	1980	1	21					
U-101	1993	2	22					
U-101	1993	4	22	-18	**22**	MW		MW heel? Redox solids from SX-103 unlikely.
U-102	1955	3	5					ignore
U-102	1969	3	8					bad meas.??
U-102	1969	4	41					ignore
U-102	1971	3	43	43	**43**	MW		MW heel
U-102	1977	4	257	214	**214**	SMMT2		242-T bottoms, Solids from concentrate calculated by SMM.
U-102	1978	1	428					
U-102	1978	3	410					
U-102	1978	4	421					Ratio of 242-T/242-S?
U-102	1979	1	422					
U-102	1979	3	378					
U-102	1993	2	356					
U-102	1993	4	356	99	**99**	SMMS2		Solids from concentrate calculated by SMM.
U-103	1955	4	13					ignore
U-103	1969	4	32	32	**32**	MW		MW heel
U-103	1977	1	51					19 ? from 242-T bottoms

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
U-103	1977	3	334	302	**302**	SMMS1		Solids from concentrate calculated by SMM.
U-103	1977	4	411					
U-103	1978	3	399					
U-103	1978	4	411					
U-103	1993	2	455					
U-103	1993	4	455	121	**121**	SMMS2		Solids from concentrate calculated by SMM.
U-104	1953	1		317		**MW**	2640	12 vol%
U-104	1953	3	182	-135				unk loss
U-104	1956	1	20					
U-104	1956	2	8					sluiced
U-104	1956	3	1					tank bulged,leaks
U-104	1969	4	40	-142	**40**	MW		MW heel, ignore previous solids measurements.
U-104	1972	2	131	39	**39**	DE	60	add 60 tons DE =0.651 kgal/ton DE
U-104	1972	3	129					
U-104	1978	1	124					
U-104	1978	3	113					ignore
U-104	1978	4	125					mounding effect?
U-104	1993	2	122					
U-104	1993	4	122	43	**43**	**UNK (No Assign.)**		maybe more than 60 tons DE?? (unk, no TLM assignment)
U-105	1956	2	3					ignore
U-105	1958	1	0					
U-105	1969	4	32	32	**32**	MW		MW heel
U-105	1976	4	106	74	**74**	**SMMT2**		Solids from concentrate calculated by SMM.
U-105	1977	1	249	143				
U-105	1978	2	442					
U-105	1978	3	369					
U-105	1978	4	381					
U-105	1993	2	381					
U-105	1993	4	381	132	**275**	**SMMS2**		DSS, Solids from concentrate calculated by SMM.
U-106	1956	2	6					ignore
U-106	1956	3	0					sluiced in 57, empty for 2 years
U-106	1969	4	26	26	**26**	MW		MW heel
U-106	1977	1	73					
U-106	1977	3	211					242-S bottoms & recycle 1976,
U-106	1978	3	198					ignore
U-106	1978	4	211					
U-106	1993	2	211					
U-106	1993	4	211	185	**185**	SMMS1		Solids from concentrate calculated by SMM.
U-107	1949	3		191		MW	1590	12 vol %
U-107	1953	3	6					ignore
U-107	1953	3	0					sluiced
U-107	1954	1	8					ignore
U-107	1954	4		190		MW	1585	4.4 vol%
U-107	1956	1	1	-380				ignore
U-107	1957	1	0					sluiced
U-107	1968	4	76	76	**76**	(CWR1)		unk assign to CWR1
U-107	1969	4	90	14	**14**	(SMMT2)		unk assign to T2SltCk, Solids from concentrate calculated by SMM.
U-107	1974	4	15					ignore
U-107	1977	1	114					
U-107	1977	3	150					
U-107	1977	4	101					
U-107	1978	2	180					
U-107	1978	3	190					
U-107	1978	4	156					add1646 NIT
U-107	1980	4	375					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
U-107	1993	2	375					
U-107	1993	4	375	285	**285**	SMMS2		Solids from concentrate calculated by SMM.
U-108	1953	3						
U-108	1955	4		3	**3**	MW		MW heel
U-108	1956	1	1	-2				unk loss
U-108	1956	4	0					sluicing
U-108	1968	3		27	**26**	CWR2	948	2.9 vol%
U-108	1969	4	29	2				unk gain
U-108	1976	1	200					242-S bottoms & recycle
U-108	1976	4	277					
U-108	1977	1	260	231	**231**	SMMS1		Solids from concentrate calculated by SMM.
U-108	1978	3	248					
U-108	1978	4	263					
U-108	1979	3	444					
U-108	1993	2	444					
U-108	1993	4	444	184	184	SMMS2		Solids from concentrate calculated by SMM.
U-109	1958	1	0					
U-109	1965	1	35	35	24	(MW)		unk assign to MW heel
U-109	1969	4	48	13	**24**	**(CWR1)**		unk assign to CWR1
U-109	1976	1	256					242-S bottoms & recycle
U-109	1976	2	255					
U-109	1976	4	373					
U-109	1977	1	263	215	**215**	**SMMS1**		Solids from concentrate calculated by SMM.
U-109	1977	4	440					
U-109	1978	1	444					
U-109	1978	3	432					
U-109	1978	4	444					
U-109	1993	2	444					
U-109	1993	4	444	181	**181**	SMMS2		Solids from concentrate calculated by SMM.
U-110	1948	2		24	**24**	**MW**	196	12 vol%, MW heel
U-110	1948	2		191		1C1	1394	13.7 vol%
U-110	1953	3	335	120				unk gain
U-110	1954	2		52		**R1**	1192	4.5 vol%
U-110	1955	1	329	-58				unk. loss
U-110	1955	3	319					
U-110	1956	4	311					41 CWR1
U-110	1957	1	319					13 CWR1
U-110	1957	2	311	-18				unk. loss
U-110	1957	3		64		CWR1	806	8.1 vol%
U-110	1960	3	331					ignore
U-110	1961	3	311					ignore
U-110	1969	4	184	-191				unk. loss probably to TX-118 evap feed tank.
U-110	1971	4	183					
U-110	1975	3	195					385 add of LW
U-110	1975	4	175					
U-110	1976	1	161					
U-110	1978	3	149					
U-110	1978	4	161					
U-110	1993	2	186					
U-110	1993	4	186	2	**162**	1C1		but probable R1 and CWR1 sludge remnants
U-111	1953	1	14					
U-111	1956	4	15					
U-111	1965	1	29					
U-111	1969	4			**13**	(1C1)		unk assign to 1C1
U-111	1969	4	26	26	**13**	**(R1)**		unk assign to R1

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
U-111	1977	1	136	110	**110**	**SMMS1**		Solids from concentrate calculated by SMM.
U-111	1977	3	161					
U-111	1977	4	235					
U-111	1978	2	381					
U-111	1978	3	369					
U-111	1978	4	381					add 17 NIT
U-111	1980	3	224					
U-111	1980	4	278					
U-111	1993	2	329					
U-111	1993	4	329	193	**193**	SMMS2		Solids from concentrate calculated by SMM.
U-112	1953	1	32	32				1C, R1 or CWR1 from cascaded solids
U-112	1965	1	46					
U-112	1969	4	48					
U-112	1974	2	60					
U-112	1974	4	62					
U-112	1975	1	51					
U-112	1976	2	37					
U-112	1978	3	25					
U-112	1979	4	37					
U-112	1980	4	46					
U-112	1993	2	45					
U-112	1993	4			**32**	(1C1)		unk assign to 1C1
U-112	1993	4			**7**	(R1)		unk assign to R1
U-112	1993	4	45	13	**6**	(CWR1)		un assign to CWR1
U-201	1958	1	0					
U-201	1964	4	0	0				
U-201	1965	1	4					
U-201	1977	2	45					bad meas. ?
U-201	1977	3	4					
U-201	1978	3	3					
U-201	1980	3	4					
U-201	1993	2	4					
U-201	1993	4	4	4	**4**	CWR1		Recieved CWR1 primary added to U-110 in same qtr.
U-202	1958	1	0	0				
U-202	1965	1	4					
U-202	1978	3	3					
U-202	1980	3	4					
U-202	1993	2	4					
U-202	1993	4	4	4	**4**	CWR1		Recieved CWR1 primary added to U-110 in same qtr.
U-203	1956	1	0	0				
U-203	1965	1	4					
U-203	1977	4	3					
U-203	1978	3	2					
U-203	1993	2	2					
U-203	1993	4	2	2	**2**	CWR1		Recieved CWR1 primary added to U-110 in same qtr.
U-204	1958	1	0	0				
U-204	1965	1	1					
U-204	1977	3	2					
U-204	1978	3	1					
U-204	1993	2	2					
U-204	1993	4	2	2	**2**	**CWR1**		Recieved CWR1 primary added to U-110 in same qtr.

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
T-101	1946	1		189		MW	1572	12 vol%
T-101	1953	4		20		PFeCN1	530	3.7 vol%
T-101	1955	2		190		MW	1581	12 vol%
T-101	1956	2	10					ignore, still sluicing to T-103
T-101	1956	3	2	-397	**2**	MW		MW heel left after sluicing.
T-101	1957	2	0					ignore
T-101	1969	4	37	35	**35**	CWR2		REC secondary transfers from U-108 and S-107
T-101	1972	3		0		CWR2	3	2.9 vol%
T-101	1977	1	40					
T-101	1977	3	62					
T-101	1977	4	103	66				unk gain
T-101	1978	3	91					unk loss
T-101	1978	4	103					unk gain
T-101	1993	2	101					
T-101	1993	4	101	-2	**64**	(SMMT2)		unk loss, INT LIQ REC from 242-T bottoms REC, T-farm solids from saltwell pumping, unk assign to T2SltCk, Solids from concentrate calculated by SMM.
T-102	1952	2	0					
T-102	1953	3	1					
T-102	1956	2	10	10				cascaded MW, supernatant pumped to TX-115 sluicing initiated.
T-102	1956	3	2	-8	**2**	MW		MW heel
T-102	1957	2	0					ignore
T-102	1969	4	24	22		CWP2		CWP2 from C-102
T-102	1972	3	13					ignore
T-102	1972	4	24					
T-102	1974	3	59	35				unk gain, solids from T-101
T-102	1976	2	62	3				unk gain, saltwell pump installed
T-102	1978	3	50	-12				unk loss
T-102	1978	4	15					ignore
T-102	1993	2	19					
T-102	1993	4	19	-31	**17**	**CWP2**		
T-103	1956	2	5					Metal waste removal in process.
T-103	1956	3	1	1	**1**	**MW**		MW heel
T-103	1956	4	0					ignore
T-103	1969	4	18	17	**17**	**CWP2**		received CWP from C-102
T-103	1974	4	35	17				unk gain
T-103	1978	3	22	-13				unk loss
T-103	1978	4	35	13				unk gain
T-103	1993	2	23					
T-103	1993	4	23	-12	**5**	(SMMT2)		unk loss, unk assign to T2SltCk, Solids from concentrate calculated by SMM.
T-104	1951	4		186	**186**	1C1	1359	13.7 vol%
T-104	1953	1	372					ignore
T-104	1954	1	377	191				unk gain
T-104	1954	3		523		1C2	2101	24.9 vol%
T-104	1954	3	508	-392				
T-104	1954	3	525					cascade to T-105
T-104	1965	2	488					unk loss
T-104	1969	3	483					
T-104	1970	3	482					
T-104	1970	4	483					
T-104	1971	1	482					Salt well, pump installed.
T-104	1971	2	483	-25		1C2		Sent to TY-103
T-104	1978	3	470					
T-104	1978	4	483					
T-104	1993	2	442					
T-104	1993	4	442	-41	**256**	1C2		unk loss

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
T-105	1948	1		72	**72**	2C1	1060	6.8 vol%
T-105	1953	1	149	77		1C2		cascaded from T-104
T-105	1954	3	197	48		1C2		cascaded from T-104
T-105	1954	4	188	-9		1C2		Send to TX-118
T-105	1955	2		17		CWR1	204	8.1 vol%
T-105	1955	3	149					ignore
T-105	1955	4		3		CWR1	36	8.1 vol%
T-105	1955	4	188	-20				unk loss
T-105	1956	3		2		CWR1	19	8.1 vol%
T-105	1965	2	62					ignore
T-105	1969	4	99	-91				unk loss
T-105	1971	2	100					
T-105	1974	4	101					
T-105	1976	2	114	15				salt well installed, unk gain
T-105	1978	3	102					
T-105	1978	4	114					
T-105	1980	2	99					
T-105	1993	2	98					
T-105	1993	4	98	-16	**26**	**1C2**		unk loss
T-106	1953	1	10	10	**10**	**1C2**		cascaded from T-105
T-106	1956	2		7	**7**	**CWR1**		Received from U-110
T-106	1965	2	26	9		CWR2		solids in proportion to vol IN
T-106	1969	4	39					ignore
T-106	1974	3	23	-3				Tank leaks, also send to T-101, T-112 and OOS
T-106	1974	4	24					36% CWR1, 64% CWR2
T-106	1976	2	26	3				
T-106	1978	3	14	-12				Tank leaks, ignore
T-106	1979	1	26					
T-106	1979	3	14					ignore
T-106	1979	4	26	12				
T-106	1993	2	19					
T-106	1993	4	19	-7	**2**	CWR2		unk loss
T-107	1946	1		218		1C1	1590	13.7 vol%
T-107	1953	1		36		UR	1269	2.8 vol%
T-107	1953	1	201	-53				some cascaded to T-108
T-107	1965	2	186	-15				sent to TX-118
T-107	1969	4	109	-77				sent to TX-118 and TY-103
T-107	1976	2	131	22	**131**	1C1		
T-107	1977	3	150	19				
T-107	1978	3	138	-12				unk loss
T-107	1978	4	150					
T-107	1980	1	167					
T-107	1993	2	171					
T-107	1993	4	171	33	**40**	(1C1)		unk gain, unk assign to 1C1
T-108	1953	1	21	21	**21**	1C1		cascaded from T-107
T-108	1956	4	73	52		T1SltCk		received EB from TX-117
T-108	1957	1	21	-52				unk loss, probably cascaded to T-109
T-108	1957	2	29					
T-108	1965	2	62					
T-108	1969	4	106	85				unk gain
T-108	1974	4	103					
T-108	1975	1	79	-27				sent to T-101
T-108	1975	2	15					ignore
T-108	1975	3	51	-28				sent to T-101

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
T-108	1975	4	35	-16				unk loss
T-108	1978	1	46	11				unk gain, salt well completed.
T-108	1978	3	33					ignore
T-108	1978	4	46	0				
T-108	1993	2	44					
T-108	1993	4	44	-2	23	T1SltCk		unk loss, NCLPX ??
T-109	1957	2	54	54		T1SltCk		REC from TX-117
T-109	1957	3	0					ignore
T-109	1957	4	54	0				
T-109	1965	2	128	74				unk gain
T-109	1969	4	134					
T-109	1970	4	135					
T-109	1971	2	136					
T-109	1972	4	138					
T-109	1974	3	147	19				unk gain
T-109	1974	4	132	-15				unk loss
T-109	1975	1	142	10				unk gain
T-109	1976	2	147	5				
T-109	1978	3	135	-12				
T-109	1978	4	147	12				unk gain
T-109	1993	2	58					
T-109	1993	4	58	-89	**58**	T1SltCk		unk loss
T-110	1951	4		222	**222**	**2C1**	3262	6.8 vol%
T-110	1952	2		48		224	1220	3.9 vol%, 20% solids
T-110	1953	1	530	260				
T-110	1953	3	521					
T-110	1953	4	530					
T-110	1956	3		608	**144**	2C2	17895	3.4 vol%
T-110	1957	3	46					ignore
T-110	1965	2	508					
T-110	1969	4	293					some cascaded to T-111, ignore
T-110	1972	2	242					ignore
T-110	1972	3	293					ignore
T-110	1974	4	466	-672				unk loss
T-110	1978	3	454					
T-110	1978	4	466					
T-110	1993	2	376					
T-110	1993	4	376	-90	**10**	224		unk loss, lack of measurments
T-111	1953	1	191	191	**139**	2C1		cascaded from T-110
T-111	1953	2	246	55	**69**	2C2		possibly 2C2 from T-110, possible 224 layer from T-110
T-111	1953	3	213	-33	**36**	224		3 tank cascade to crib, T plant active. 2nd cycle waste
T-111	1953	4	230					
T-111	1954	1	299					
T-111	1954	2	312					
T-111	1954	3	377					
T-111	1954	4	439					
T-111	1955	1	487	274		2C2		unk gain, possibly due to 3 tank cascade to crib, T plant active, 2nd cycle waste
T-111	1955	2	402	-85				crib
T-111	1955	3	430					2C2 from T-110
T-111	1955	4	465					unk gain
T-111	1956	1	507					
T-111	1956	2	510	108		**2C2**		221-T waste cascades from T-111 to T-112 and then pumped TY crib.
T-111	1965	2	40					ignore
T-111	1965	3	442					
T-111	1968	4	447	-63				unk gain

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
T-111	1969	4	233	-214				unk loss
T-111	1974	3	485	252				
T-111	1974	4	488	3				unk gain
T-111	1978	3	476	-12				SENT to T-101
T-111	1978	4	488	12				unk gain
T-111	1993	2	456					
T-111	1993	4	456	-32	**212**	2C2		unk loss, lack of measurements this is one possible scenario
T-112	1953	1	28	28		2C2		cascaded from T-111
T-112	1953	2	45	17				unk gain, possibly 2C2 cascaded from T-111
T-112	1953	3	2					ignore
T-112	1953	4	7	-38				T plant active 2nd cycle waste 3 tank cascade to crib, ignore
T-112	1954	1	33	26				unk gain possibly 2C2 cascaded from T-111
T-112	1955	2	170	137				2C2 cascaded from T-111, ignore
T-112	1965	2	40					outx to OOS and sent to TX-118
T-112	1967	4	170					ignore
T-112	1968	1	40					outx to OOS and sent to TX-118
T-112	1968	4	24	-16				sent to Redox Evap.
T-112	1969	4	33	9				unk gain
T-112	1970	2	32	-1				OUTX to REVAP
T-112	1973	3		44		DW	4403	1 vol%
T-112	1973	3	62	-14				
T-112	1978	3	50	-15				unk loss
T-112	1978	4	62	15				
T-112	1993	2	60					
T-112	1993	4	60	-2	**60**	**2C2**		unk loss, possible 224 cascaded from T-111
T-201	1953	1	54.5					
T-201	1955	4	55					
T-201	1956	1	54.5					
T-201	1962	2	53					
T-201	1962	4	50					
T-201	1965	2	33					
T-201	1970	4	31					
T-201	1978	1	28					
T-201	1978	2	27					
T-201	1980	3	28					
T-201	1993	4	28		**28**	**224**		Assumed 224 waste summed during campaign period.
T-202	1953	1	54.5					
T-202	1962	4	50					
T-202	1965	2	30					
T-202	1976	1	25					
T-202	1978	1	20					
T-202	1980	3	21					
T-202	1993	4	21		**21**	224		Assumed 224 waste summed during campaign period.
T-203	1952	2		7		224	173	3.9 vol%
T-203	1953	1	54.5					
T-203	1957	2	55					
T-203	1958	2	54.5					
T-203	1958	3	55					
T-203	1958	4	54.5					
T-203	1962	4	50					
T-203	1965	2	35					
T-203	1978	1	37					
T-203	1978	2	36					
T-203	1980	3	37					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
T-203	1993	2	35					
T-203	1993	4	35		**35**	224		Assumed 224 waste summed during campaign period.
T-204	1953	1	54.5					
T-204	1959	1	54.5					
T-204	1962	4	50					
T-204	1964	1	52					
T-204	1964	2	50					
T-204	1965	2	44					
T-204	1978	1	37					
T-204	1980	3	38					
T-204	1993	4	38		**38**	224		Assumed 224 waste summed during campaign period.
TX-101	1955	1		448		MW	3735	12 vol%
TX-101	1955	4	15	-433				some cascaded to TX-102
TX-101	1956	1	5					Sluicing tank
TX-101	1956	3	3	-12	**3**	MW		MW heel
TX-101	1957	1	0					ignore
TX-101	1965	1	51	48	**48**	R1		REC from SX-102, SX-103 and SX-105, Redox (2,000)
TX-101	1969	4	10					ignore
TX-101	1971	2	128	77				1.2 (kgal) from BX-106
TX-101	1971	4	98					
TX-101	1972	1	73	-55	**22**	**(R1)**		Secondary feed for 242-T2 EVAP, unk assign to R1
TX-101	1975	2		1	**1**	Z	37	2.3 vol%
TX-101	1980	2	106	32	**10**	**SMMT2**		unk gain, Evap. Feed dil., Solids from concentrate calculated by SMM.
TX-101	1993	2	84					
TX-101	1993	4	84	-22				unk loss
TX-102	1955	1		59		MW	488	12 vol%
TX-102	1956	1	10					sluicing
TX-102	1956	2	2	-57	**2**	MW		MW heel, sluiced
TX-102	1957	1	0					ignore
TX-102	1965	1	8	6				REC from TX-101
TX-102	1969	4	12					
TX-102	1971	2	15	7				unk gain, probably TSltCk
TX-102	1971	4	73					242T bottom & recycle
TX-102	1972	3	84					
TX-102	1972	4	186					
TX-102	1974	4	194	179				REC from EVT TX-118
TX-102	1977	1	455					ignore
TX-102	1978	4	334					ignore
TX-102	1993	2	113	-81				unk loss
TX-102	1993	4	217	104	**215**	SMMT2		Solids from concentrate calculated by SMM.
TX-103	1965	1	4	4	**3**	T1SltCk		cascaded from TX-102
TX-103	1969	4	3	-1				Out to UR
TX-103	1976	3	6					242 bottoms & recycle
TX-103	1977	1	120					
TX-103	1977	4	145					
TX-103	1979	1	147					
TX-103	1980	2	145					
TX-103	1980	3	157					
TX-103	1993	4	157	154	**154**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-104	1965	1	0					ignore
TX-104	1968	1	8	8				EVAP secondary feed tank
TX-104	1969	4	11					
TX-104	1971	2	18	10	**18**	(MW)		unk assign to MW

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-104	1977	1	40					242-T bottoms & recycle
TX-104	1980	4	68					
TX-104	1993	2	64					
TX-104	1993	4	64	46	**46**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-105	1952	3		0		**UR**	9	2.8 vol%
TX-105	1955	2	55					ignore
TX-105	1955	3	1					sluicing tank, MW heel
TX-105	1956	2		299			2490	12 vol%, MW heel
TX-105	1956	3		0		**DW**	29	1 vol%
TX-105	1956	4	3	-297				
TX-105	1965	1	8	5	**8**	MW		MW heel
TX-105	1965	2	0					ignore
TX-105	1965	3	8					
TX-105	1969	4	11					ignore
TX-105	1970	1	13	5				ignore
TX-105	1971	4	168			SMMT2		242-T bottoms and recycle
TX-105	1972	1	304					
TX-105	1972	2	351					
TX-105	1972	3	430					
TX-105	1973	1	499					
TX-105	1974	4	502					
TX-105	1977	3	609					
TX-105	1993	2	609					
TX-105	1993	4	609	596	**601**	SMMT2		REC from EVT TX -118, Solids from concentrate calculated by SMM.
TX-106	1955	3	15	15		MW		cascaded from TX-105
TX-106	1955	4	1					sluicing, MW heel
TX-106	1956	4	0					ignore
TX-106	1965	1			**1**	MW		MW heel
TX-106	1965	1	5		**4**	(R1)		unk assign to R1 from TX-101
TX-106	1969	4	15					ignore
TX-106	1971	2	21	6				242-T bottoms and recycle
TX-106	1971	4	142					
TX-106	1972	1	183					
TX-106	1972	2	268					
TX-106	1974	4	257					
TX-106	1977	3	453					
TX-106	1993	2	341					
TX-106	1993	4	341	335	**336**	**SMMT2**		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-107	1954	3	30					ignore
TX-107	1955	1	10	10				sluicing tank
TX-107	1955	3		177		MW	2989	12 vol%
TX-107	1956	4	1	-186	**1**	**MW**		sluicing
TX-107	1957	2	0					ignore
TX-107	1965	1	8	7	**7**	(MW)		unk assign to MW
TX-107	1969	4	6					ignore
TX-107	1971	2	24	16				242-T bottoms and recycle
TX-107	1978	1	40					
TX-107	1993	2	35					
TX-107	1993	4	35	11	**27**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-108	1956	4	2	2	**2**	MW		cascaded from TX-107, sluiced MW heel
TX-108	1965	1	6	4	**4**	(UR)		unk assign to UR from TY-105
TX-108	1966	3	63			SMMT2		Bottoms Receiver
TX-108	1968	1	81					
TX-108	1969	4	110					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-108	1971	2	112					
TX-108	1971	4	81					
TX-108	1978	4	131					
TX-108	1993	2	134					
TX-108	1993	4	134	128	**128**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-109	1950	4		161	**161**	1C1	1177	13.70 vol%
TX-109	1950	4	722	561				unk gain
TX-109	1951	4	0					ignore
TX-109	1953	1	415					
TX-109	1953	3	622					
TX-109	1953	4	630					
TX-109	1954	2	640					
TX-109	1954	4		987	**223**	1C2	3963	24.9 vol%
TX-109	1954	4	650	-1059				Sent to TX-110
TX-109	1956	3	630					
TX-109	1957	1	722					
TX-109	1965	1	590					
TX-109	1969	3	123					ignore
TX-109	1977	3	450					
TX-109	1993	2	384					
TX-109	1993	4	384	-266				unk loss
TX-110	1953	1	9	9	**9**	**1C1**		cascaded from TX-109
TX-110	1953	3	1					ignore
TX-110	1954	3	10					cribbed to T-022
TX-110	1956	3	1					ignore
TX-110	1963	1	0					ignore
TX-110	1965	1	40	31				
TX-110	1969	4	3					ignore
TX-110	1970	1	37		**28**	1C2		
TX-110	1970	2	62					242T bottoms and recycle
TX-110	1970	3	92					
TX-110	1970	4	125					
TX-110	1971	1	158					
TX-110	1971	2	164					
TX-110	1971	3	244					
TX-110	1971	4	400					
TX-110	1972	3	472					
TX-110	1973	1	433					
TX-110	1974	4	420					
TX-110	1977	3	568					
TX-110	1979	4	530					
TX-110	1993	2	462					
TX-110	1993	4	462	422	**425**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-111	1955	1	88					613 to crib
TX-111	1956	3	0					ignore
TX-111	1965	1	4	4				cascaded 1C2 from TX-110
TX-111	1970	1	43	-45	**43**	1C2		242T bottoms and recycle
TX-111	1970	2	66					
TX-111	1970	3	109					
TX-111	1970	4	233					
TX-111	1971	1	285					
TX-111	1971	2	51					ignore
TX-111	1971	3	398	355				
TX-111	1971	4	330					
TX-111	1972	1	389					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-111	1977	4	370					
TX-111	1993	2	370					
TX-111	1993	4	370	-28	**327**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-112	1965	1	24	24	**24**	**T1SltCk**		REC from TX-117
TX-112	1969	2	28					
TX-112	1969	3	24					
TX-112	1969	4	33					
TX-112	1970	1	39					242T bottoms and recycle
TX-112	1970	3	156					
TX-112	1970	4	262					
TX-112	1971	1	370					
TX-112	1971	2	387					
TX-112	1971	4	487	463				
TX-112	1972	1	452					
TX-112	1972	4	516					
TX-112	1973	1	659					
TX-112	1974	4	664					
TX-112	1993	2	649					
TX-112	1993	4	649	162	**625**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-113	1951	4		554		1C2	2224	24.9 vol%
TX-113	1953	3	252	-302		SMMT1		poss T1SltCk layer 468 sl from 242-T some cascaded to TX-114 and sent to TX-118
TX-113	1957	2	142					receive EVAP bottoms 242-T
TX-113	1965	1	183		**183**	1C2		
TX-113	1966	3	171					Receiver for EB
TX-113	1967	4	222					
TX-113	1968	1	211					
TX-113	1968	2	215					
TX-113	1968	3	213	-39				OUTX to EVAP
TX-113	1968	4	290					242-T bottoms and recycle
TX-113	1969	1	318					
TX-113	1969	2	378					
TX-113	1969	3	384					
TX-113	1969	4	398					
TX-113	1970	1	381					
TX-113	1970	2	480					
TX-113	1970	3	524					
TX-113	1970	4	535					
TX-113	1971	1	546					
TX-113	1971	2	598					
TX-113	1971	3	681					
TX-113	1971	4	656					
TX-113	1975	1	681					
TX-113	1993	2	607					
TX-113	1993	4	607	394	**424**	SMMT2		Solids from concentrate calculated by SMM.
TX-114	1953	3	4	4	**4**	1C2		cascaded from TX-113
TX-114	1957	2	15					REC from TX-117
TX-114	1965	1	62	58	**58**	T1SltCk		EVAP feed 242-T1
TX-114	1967	4	140					242-T bottoms and recycle
TX-114	1968	1	103					
TX-114	1968	2	139					
TX-114	1968	3	128					
TX-114	1968	4	123					
TX-114	1969	1	227					
TX-114	1969	2	246					
TX-114	1969	3	244					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-114	1969	4	263					
TX-114	1970	1	294					
TX-114	1970	2	345					
TX-114	1970	3	395					
TX-114	1970	4	563					
TX-114	1971	1	524					
TX-114	1971	2	508					
TX-114	1971	3	590					
TX-114	1971	4	662					
TX-114	1972	1	686					
TX-114	1973	1	656					
TX-114	1974	4	662					
TX-114	1975	1	678					
TX-114	1977	3	645					Salt well pumped
TX-114	1993	2	535					
TX-114	1993	4	535	473	**473**	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-115	1952	3		7		UR	233	2.8 vol%
TX-115	1953	1	0					ignore
TX-115	1962	3	8	1	**8**	UR		
TX-115	1965	1	20					
TX-115	1967	3		4		DW	376	1 vol%
TX-115	1968	2	25	13				unk gain, 242-T bottoms and recycle
TX-115	1968	3	40					
TX-115	1968	4	95					
TX-115	1969	1	230					
TX-115	1969	2	354					
TX-115	1969	3	377					
TX-115	1969	4	389					
TX-115	1970	1	424					
TX-115	1970	2	477					
TX-115	1970	3	574					
TX-115	1970	4	609					
TX-115	1971	1	629					
TX-115	1971	2	618					
TX-115	1971	3	623					
TX-115	1971	4	642					
TX-115	1975	1	640					
TX-115	1993	2	568					
TX-115	1993	4	568	543	560	SMMT2		REC from EVT TX-118, Solids from concentrate calculated by SMM.
TX-116	1957	2	386					ignore
TX-116	1965	1	323	323	**323**	**T1SltCk**		REC from TX-118
TX-116	1966	3	414			**SMMT2**		possibly cascaded to TX-117
TX-116	1967	3	528					242-T bottoms and recycle
TX-116	1967	4	561					
TX-116	1968	1	578					
TX-116	1968	2	576					
TX-116	1968	3	574					
TX-116	1968	4	614					
TX-116	1969	2	598					
TX-116	1969	3	582					
TX-116	1969	4	590					
TX-116	1970	1	676					
TX-116	1970	2	675					
TX-116	1970	3	667	344	**172**	SMMT2		sent to TX-117, Solids from concentrate calculated by SMM.
TX-116	1970	4		68	**68**	DE	105	diatamaceous earth, 0.651 kgal/ton
TX-116	1970	4	705	-30				sent to TX-117 and TX-118

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-116	1971	4	667					
TX-116	1972	1	631					
TX-116	1993	2	563					
TX-116	1993	4	563	-142				sent to TX-118
TX-117	1965	1	197	197	**197**	T1SltCk		
TX-117	1966	3	253					
TX-117	1967	3	388					242-T bottoms and recycle
TX-117	1967	4	484					
TX-117	1968	1	501					
TX-117	1968	2	554					
TX-117	1968	3	525			SMMT2		
TX-117	1968	4	536					
TX-117	1969	2	538					
TX-117	1969	3	590					
TX-117	1969	4	631					
TX-117	1970	1	671					ignore
TX-117	1970	2	673					ignore
TX-117	1970	3	668	471	**306**	SMMT2		Solids from concentrate calculated by SMM.
TX-117	1970	4		29	**29**	DE	45	diatomacious earth, 0.651 kgal/ton
TX-117	1970	4	222					ignore
TX-117	1971	1	700					ignore
TX-117	1971	4	626					
TX-117	1976	3	625					
TX-117	1977	1	626					
TX-117	1993	2	532					
TX-117	1993	4	532	-111				unk loss
TX-118	1957	3	6	6	**6**	T1SltCk		Evaporator feed tank
TX-118	1965	1	8					
TX-118	1966	3	5					
TX-118	1967	3	35					
TX-118	1967	4	58					
TX-118	1968	1	51					
TX-118	1968	2	85					
TX-118	1968	3	91					
TX-118	1968	4	92					
TX-118	1969	1	165					
TX-118	1969	2	178					
TX-118	1969	3	176					
TX-118	1969	4		16		DW	1579	1 vol%
TX-118	1969	4	189	167				
TX-118	1970	1	175					
TX-118	1970	2	173					
TX-118	1970	3	162					
TX-118	1970	4	222					
TX-118	1971	1	249					
TX-118	1971	2	252					
TX-118	1971	4	241					
TX-118	1972	3	289					
TX-118	1973	1	261					
TX-118	1974	4	260	71	**220**	SMMT2		SENT to 242T-EVAP, Solids from concentrate calculated by SMM.
TX-118	1976	2		42	39	Z	1823	2.3 vol%, Z waste possibly sent to other TX tanks.
TX-118	1976	4	299	-3				unk loss
TX-118	1978	2	304					
TX-118	1978	3	425					
TX-118	1978	4	340					
TX-118	1980	4	347					

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TX-118	1993	2	285					
TX-118	1993	4	285	-140	**20**	SMMT2		unk loss, Solids from concentrate calculated by SMM.
TY-101	1953	4		119	**46**	T1SltCk		REC from TX-117 and TX-116, drawdown to 46 kgal.
TY-101	1954	4	164	45				
TY-101	1955	2	195	31				
TY-101	1955	4	200	5				
TY-101	1956	1		111		1CFeCN	1711	6.5 vol%
TY-101	1956	4	183	-128				crib
TY-101	1957	1	178					
TY-101	1965	2	7					ignore
TY-101	1969	4	149	-34				SEND to TX-118, Suspect leaker, 34 FeCN to EVAP
TY-101	1974	2	202	53				
TY-101	1974	3	184					
TY-101	1974	4	169					
TY-101	1993	2	118					
TY-101	1993	4	118	-84	**72**	1CFeCN		unk loss to TX-104, C-104, and TX-118
TY-102	1954	4	10					ignore
TY-102	1957	2	62	62		**T1SltCk**		REC from TX-117
TY-102	1959	4	10					ignore
TY-102	1965	2	57					
TY-102	1969	4	30					
TY-102	1974	4	29	-33	**29**	T1SltCk		SENT to TX-118
TY-102	1977	1	46					
TY-102	1977	4	65					
TY-102	1979	1	68					
TY-102	1980	1	70	41				possible 1CFeCN from TY-101
TY-102	1993	2	64					
TY-102	1993	4	64	-6	**35**	SMMT2		unk loss, Solids from concentrate calculated by SMM.
TY-103	1954	2		61	**61**	UR	2171	2.8 vol%
TY-103	1955	1	124	63				
TY-103	1955	2	196					
TY-103	1955	3	200					
TY-103	1955	4	205					
TY-103	1956	1	210					
TY-103	1956	2	221	97				receiving 1CFeCN
TY-103	1956	3		137		1CFeCN	2107	6.5 vol%
TY-103	1956	4	188	-170				crib
TY-103	1957	1	220					
TY-103	1959	2	226					
TY-103	1959	3	220	32				Total FeCN prediction
TY-103	1965	1	101					ignore
TY-103	1968	4	134	-86	**47**	1CFeCN		less to EVAP 242-T
TY-103	1969	2	131					Tank leaks
TY-103	1969	3	239					
TY-103	1970	2	197					
TY-103	1974	3	215					
TY-103	1974	4	219					
TY-103	1978	4	172					
TY-103	1993	2	162					
TY-103	1993	4	162	28	54	(SMMT2)		unk assign to T2SltCk, Solids from concentrate calculated by SMM.
TY-104	1955	1	74		**30**	**1CFeCN**		cascaded from TY-103
TY-104	1955	1	74	74		UR		cascaded from TY-103
TY-104	1965	1	0					ignore
TY-104	1969	4	43					prob T2SltCk, loss to TX-118

Tank	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer type	Waste volume	comments
TY-104	1970	2	13	-61				SENT to TX-118
TY-104	1974	3	41	28				unk gain, possibly from TY-103
TY-104	1974	4	29	-12				SENT to TY-102
TY-104	1978	4	46					
TY-104	1993	2	43					
TY-104	1993	4	43	14	**13**	UR		possibly 1CFeCN solids cascaded
TY-105	1953	2	0					ignore
TY-105	1954	3		175		UR	6237	2.8 vol%
TY-105	1954	4	158	-17	**158**	**UR**		cascaded to TY-106
TY-105	1957	1	0					ignore
TY-105	1965	1	293	135				
TY-105	1968	3	292					
TY-105	1969	1	291					
TY-105	1969	3	290					
TY-105	1969	4	194					tank leaks, ignore
TY-105	1970	3	285					
TY-105	1975	4	235					
TY-105	1976	1	285					ignore
TY-105	1993	2	231					
TY-105	1993	4	231	-62	**73**	UNK(No Assign.)		unk loss, (unk, no TLM assignment)
TY-106	1965	1	4	4	**1**	UR		cascaded from TY-105, ignore
TY-106	1972	1		20	**20**	DE	30	0.651 kgal/ton of diatomaceous earth
TY-106	1974	3	19	-5				tank leaks, unknown loss
TY-106	1974	4	18					
TY-106	1978	1	21	2				
TY-106	1993	2	17					error in measurement
TY-106	1993	4	17					error in measurement

Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
AN-101	1981	1	0					
AN-101	1983	2		6		PL2	281	2.2 vol%, Sent to AW-102.
AN-101	1984	2		1		BL	57	1.7 vol%, Sent to AW-102.
AN-101	1985	2		3		PL2	143	2.2 vol%, Sent to AY-102
AN-101	1985	3		0		N	50	0.1 vol%, Sent to AY-102.
AN-101	1993	4	0	-10				unk loss
AN-102	1981	1	0					
AN-102	1984	1		0		PL2	3	2.2 vol%
AN-102	1984	4	24					
AN-102	1989	3	89	0				
AN-102	1992	3				PL2	15	2.2 vol%
AN-102	1993	4	89	89	**89**	SMMA2		solids from concentrate calculated by SMM
AN-103	1981	1	0	0				
AN-103	1984	1		1	**2**	BL	63	1.7 vol%%
AN-103	1984	3	63	62				REC from AN-104.
AN-103	1985	1	132					
AN-103	1986	2	912					
AN-103	1987	1	1285					ignore, bad measurement
AN-103	1988	2	937					
AN-103	1993	4	937	876	**935**	SMMA2		solids from concentrate calculated by SMM
AN-104	1981	1						
AN-104	1983	4		0		PL2	5	2.2 vol%
AN-104	1984	3	19					Receive from AW-102.
AN-104	1984	4	18					
AN-104	1985	1	322	322	**264**	**SMMA2**		solids from concentrate calculated by SMM
AN-104	1987	1	264					
AN-104	1993	4	264	-58				Loss of gas due to venting.
AN-105	1981	1	0	0				
AN-105	1993	4	0	0				
AN-106	1981	1	0	0				
AN-106	1987	1	17	17				Receive from AW-102
AN-106	1987	2	6	-11				unk loss
AN-106	1989	3	17					
AN-106	1993	4	17	11	**17**	SMMA2		solids from concentrate calculated by SMM
AN-107	1981	1	0	0				
AN-107	1987	1	92					
AN-107	1989	3	134					
AN-107	1993	4	134	134	**134**	SMMA2		solids due to concentrate calculated by SMM, some receives from AN-102 and AZ-
AP-101	1986	3	0	0				
AP-101	1987	3		0		CWZr2	1	10.5 vol%
AP-101	1989	4		19		PASF	1929	1 vol%
AP-101	1993	4	0	-19				Sent to AW-102 and AP-103.
AP-102	1986	3	0	0		PASF	5	1 vol%
AP-102	1993	4	0	0				Some sent to AW-102 and Grout.
AP-103	1986	3		11		PASF	1068	1 vol%
AP-103	1993	4	0	-11				Sent to AW-102 and AP-101.
AP-104	1986	3	0	2		N	794	1 vol%
AP-104	1993	4	0	-2				Sent to AP-102

Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
AP-105	1986	3	0	0				
AP-105	1993	4	0	0				Sent to AW-102.
AP-106	1986	3	0	0				
AP-106	1993	4	0	0				Sent to AP-105 and AW-102.
AP-107	1986	3	0	0				
AP-107	1990	1		11		PASF	1115	1 vol%
AP-107	1993	4	0	-11				unk loss
AP-108	1986	3	0	0				
AP-108	1990	1		1		**PASF**	110	1 vol%
AP-108	1992	2		2		PL2	92	2.2 vol%
AP-108	1993	4	0	-3				unk loss
AW-101	1980	3	0	0				
AW-101	1983	4		1		N	9	1 vol%
AW-101	1986	1		61	**61**	**PL2**	2764	2.2 vol%
AW-101	1987	3	84					
AW-101	1993	4	84	23	**23**	**SMMA2**		solids from concentrate calculated by SMM
AW-102	1981	1	0	0				
AW-102	1982	2		0		BL	3	1.7 vol%
AW-102	1983	2		0		PL2	21	2.2 vol%
AW-102	1984	1	3	3				
AW-102	1984	4	1	-2				
AW-102	1986	3		20		PL2	898	2.2 vol%
AW-102	1993	4	1	-22	**1**	SMMA2		Sent throughout SE quad., solids from concentrate calculated by SMM
AW-103	1980	3	0	0				
AW-103	1980	4	959	959				SU REC from AX-101 and A-101.
AW-103	1981	4	0					ignore
AW-103	1983	4		28		CWZr2	265	10.5 vol%
AW-103	1983	4	3	-984				sent to AW-105 and AW-106
AW-103	1984	1		43		CWZr2	405	10.5 vol%
AW-103	1984	1	47	1				
AW-103	1984	3		43		CWZr2	406	10.5 vol%
AW-103	1984	3	340	250				unk gain
AW-103	1984	4	47					ignore
AW-103	1986	3		161		CWZr2	1535	10.5 vol%
AW-103	1987	1	371	-130				
AW-103	1988	2		77		CWZr2	729	10.5 vol%
AW-103	1988	3	330	-118				
AW-103	1988	4		13		CWZr2	122	10.5 vol%
AW-103	1989	1	363	20				
AW-103	1991	1		0		PL2	10	2.2 vol%
AW-103	1993	4	363	0	**363**	CWZr2		
AW-104	1980	3	0	0				
AW-104	1982	4		0		PL2	13	2.2 vol%
AW-104	1983	1		5	**5**	CWZr2	47	10.5 vol%
AW-104	1984	1	13	8				
AW-104	1984	4	32	19			8558	unk gain, REC from AW-102
AW-104	1985	1	111	67				
AW-104	1986	1					270	REC from AW-102.
AW-104	1986	4		19		PL2	863	2.2 vol%
AW-104	1987	1	381	251				

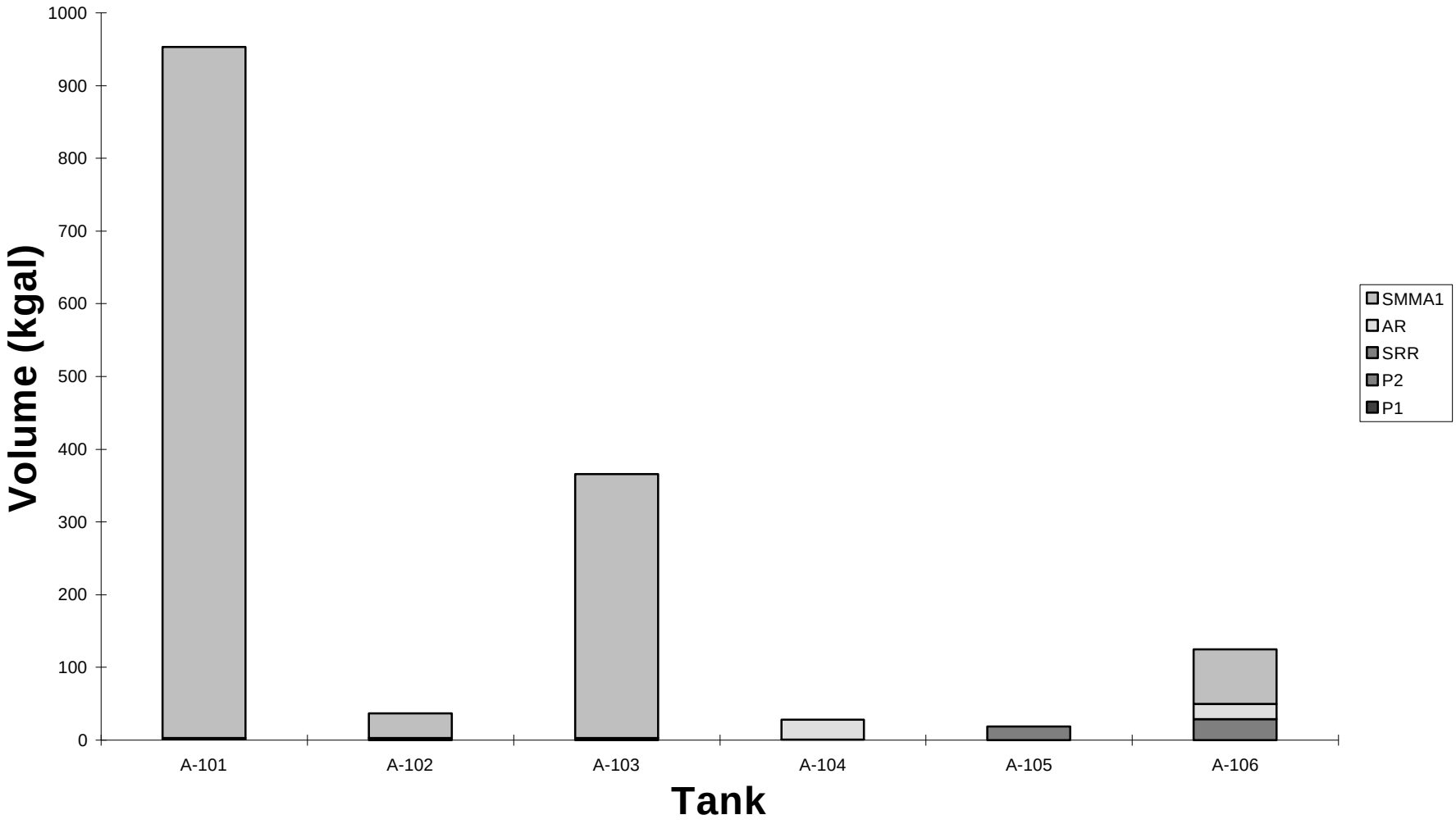
Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
AW-104	1987	3		17		PL2	775	2.2 vol%
AW-104	1987	3	290	-108			11200	Sent to AW-102.
AW-104	1991	2		61	**98**	PL2	2792	2.2 vol%
AW-104	1993	4	290	-61	187	SMMA2	2317	Sent to AW-102, solids from concentrate calculated by SMM
AW-105	1981	1	0	0				
AW-105	1983	1		0		BL	13	1.7 vol%
AW-105	1984	1		30		PL2	1383	2.2 vol%
AW-105	1984	1	14	-16				Sent to AW-101,AW-102, AZ-102 and AN-101.
AW-105	1984	3		10	**24**	PL2	474	2.2 vol%
AW-105	1984	3		33		CWZr2	313	10.5 vol%
AW-105	1984	3	223	166				
AW-105	1984	4	14					ignore
AW-105	1987	1		139	**172**	CWZr2	1322	10.5 vol%
AW-105	1987	1	297	-65				
AW-105	1988	1			**57**	SMMA2	784	from A2EVAP, solids from concentrate calculated by SMM
AW-105	1990	1		43	**43**	CWZr2	410	10.5 vol%
AW-105	1992	4		1	**1**	PL2	58	2.2 vol%
AW-105	1993	4	297	-44				unk loss
AW-106	1980	3	0					
AW-106	1982	4		1	**1**	BL	33	1.7 vol%
AW-106	1984	1	53					Start receiving from AW-102.
AW-106	1985	1	85					
AW-106	1987	1	258					
AW-106	1989	2	283					
AW-106	1992	1	296					
AW-106	1993	4	296	296	**295**	SMMA2		solids from concentrate calculated by SMM
AY-101	1971	2		0		P2	3	3.9 vol%
AY-101	1971	2		2		B	318	.5 vol%
AY-101	1971	2	0	-2				unk loss
AY-101	1971	4		0		P2	11	3.9 vol%
AY-101	1972	2		10		B	1979	.5 vol%
AY-101	1972	2	33	23				unk gain
AY-101	1972	3		3	**13**	B	582	.5 vol%
AY-101	1972	4		0		**AR**	4	3.1 vol%
AY-101	1972	4	0					ignore, bad measurement
AY-101	1974	4	52	16	**32**	UNK (No Assign.)		unk gain (unk, no TLM assignment)
AY-101	1975	2		1		SRR	17	5 vol%, combined with1986 qtr.3 layer.
AY-101	1980	3	61	8				unk gain, rec from A-103 and AX-102.
AY-101	1981	4		3	**5**	BL	203	1.7 vol%
AY-101	1982	2	50	-14				unk loss
AY-101	1984	3		7	**7**	CSR	711	1 vol%
AY-101	1984	4		2		SRR	47	5 vol%
AY-101	1984	4		0		PL2	3	2.2 vol%
AY-101	1984	4	71	12				unk gain
AY-101	1985	3		0		CSR	3	1 vol%
AY-101	1986	3		5	**8**	SRR	101	5 vol%
AY-101	1987	1	84	6				unk gain
AY-101	1987	2	83	-1				unk loss
AY-101	1988	4		0		BL	10	1.7 vol%
AY-101	1991	4			18	SMMA2	37	from A2EVAP, solids from concentrate calculated by SMM
AY-101	1993	4	83	0				
AY-102	1971	2	0	0				
AY-102	1978	4	6	6				unk gain, possibly SltCk
AY-102	1980	2	21	15				REC from A-103.

Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
AY-102	1982	2		0		PL2	20	2.2 vol%
AY-102	1982	2		10	**2**	BL	594	1.7 vol%
AY-102	1982	2	23	-8				unk loss, sent to AW-102 and A-102.
AY-102	1983	2		6	**4**	PL2	263	2.2 vol%
AY-102	1987	1		44		BL	2589	1.7 vol%
AY-102	1987	1	27	-46				unk loss, sent to AW-102, AZ-101, AN-102 and AN-101.
AY-102	1987	2		3		BL	183	1.7 vol%
AY-102	1987	2	28	-2				
AY-102	1988	1		17		BL	993	1.7 vol%
AY-102	1988	1	32	-13				Sent to AW-102.
AY-102	1988	4		1		PL2	35	2.2 vol%
AY-102	1992	4		1		DW	96	0.01
AY-102	1992	4		28	**26**	BL	1630	1.7 vol%
AY-102	1993	4	32	-30				Distributed throughout SE quad.
AZ-101	1976	4	0	0				
AZ-101	1978	1	3	3				REC from C-104 and C-106
AZ-101	1978	3	1	-2				unk loss, sent to A-102.
AZ-101	1980	2	52	51				unk gain
AZ-101	1980	3	72	20				REC from AX-101.
AZ-101	1981	4		1	**1**	PL2	46	2.2 vol%
AZ-101	1981	4	64	-9				Sent to AW-102.
AZ-101	1982	2	17	-47				unk loss
AZ-101	1982	4		0	**1**	BL	21	1.7 vol%, calculated to less then 1/2 kgal.
AZ-101	1982	4		0		**PL2**	16	2.2 vol%
AZ-101	1984	1	8	-9	**6**	UNK (No Assign.)		(unk, no TLM assignment)
AZ-101	1984	4		3		P3	82	3.9 vol %, combined with 1985 qtr 4 layer.
AZ-101	1984	4	20	10				unk gain poss BL from AY-102.
AZ-101	1985	1		7		P3	172	3.9 vol% , combined with 1985 qtr 4 lalyer.
AZ-101	1985	1	16	-4				unk loss
AZ-101	1985	3		0		PL2	8	2.2 vol%
AZ-101	1985	4		17	27	P3	427	3.9 vol%
AZ-101	1985	4	27	-6				unk loss
AZ-101	1986	1		2		P3	46	3.9 vol%
AZ-101	1987	1	48					
AZ-101	1987	2	46					
AZ-101	1987	4	54	25				unk gain
AZ-101	1988	1	49					
AZ-101	1988	2	47					
AZ-101	1989	1	41					
AZ-101	1989	2	37					
AZ-101	1990	3	35					
AZ-101	1993	4	35	-19				Sent to AY-102 and AZ-102.
AZ-102	1976	1	0	0				
AZ-102	1978	1	30	30				
AZ-102	1978	3	23	-7	**2**	SMMA1		Sent to A-102, solids from concentrate calculated by SMM.
AZ-102	1980	2	2					ignore
AZ-102	1980	4	6					unk loss
AZ-102	1982	2	26		**26**	(SRR)		unk gain, unk assign to SRR
AZ-102	1983	3		2				
AZ-102	1983	4		2		PL2	100	2.2 vol%
AZ-102	1984	1	30	30				
AZ-102	1984	3		1	**3**	PL2	34	2.2 vol%
AZ-102	1984	4	32	1	**1**	Z		Secondary transfers of Z from SY-102.
AZ-102	1985	1	39	7				unk gain
AZ-102	1985	4		1		BL	75	1.7 vol%
AZ-102	1985	4	18	-22				Sent to AW-102.

Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
AZ-102	1986	4		7		P3	185	3.9 vol%
AZ-102	1987	1	27	2				unk gain, REC from AN-101
AZ-102	1987	2		0		P3	10	3.9 vol%
AZ-102	1987	2	61	34				unk gain
AZ-102	1987	3		1		P3	32	3.9 vol%
AZ-102	1987	3	66	4				unk gain
AZ-102	1987	4		0		P3	6	3.9 vol%
AZ-102	1987	4	62	-4				unk gain
AZ-102	1988	1		1		P3	34	3.9 vol%
AZ-102	1988	1	74	11				unk gain
AZ-102	1988	2		1		P3	21	3.9 vol%
AZ-102	1988	2	65	-10				unk loss
AZ-102	1988	3		0		PL2	8	2.2 vol%
AZ-102	1988	3		2		P3	56	3.9 vol%
AZ-102	1988	3	77	10				unk gain
AZ-102	1988	4		2	**13**	P3	46	3.9 vol%
AZ-102	1989	1	90	11				unk gain
AZ-102	1989	2		0		P3	3	3.9 vol%
AZ-102	1989	2	88	-2				Sent to AY-102 and AZ-101.
AZ-102	1990	1		0		P3	12	3.9 vol%
AZ-102	1990	3	91	3				unk gain
AZ-102	1991	1		0		**PL2**	4	2.2 vol%
AZ-102	1992	2	95	4				unk gain
AZ-102	1993	4	95	0	**50**	**UNK (No Assign.)**		(unk, no TLM assignment)
SY-101	1977	2	13	13		**SltSlry**		from 242S S2EVAP
SY-101	1977	3	26					Slurry Receiver
SY-101	1977	4	114					
SY-101	1978	3	135					
SY-101	1988	4	565	552	**560**	SMMS2		solids from concentrate calculated by SMM
SY-101	1989	4	560	-5				loss due to vent
SY-101	1993	4	560					solids due to salt slurry
SY-102	1977	2	0	0				
SY-102	1977	4				NIT	52	
SY-102	1977	4	21	21				EVAP feed tank
SY-102	1978	1	87	66				unk gain, REC from S-103, U-102, U-105 and U-107
SY-102	1978	3	77	-10				unk loss, Sent to S-103, S-107 and U-107
SY-102	1978	4	83	6				unk gain, REC from S-107, S-102, SX-106 and U-111
SY-102	1979	3	105	22				unk gain
SY-102	1979	4	83	-22				unk loss
SY-102	1980	1	105	22	**41**	S2SltCk		unk gain, TLM layer as S2Sltck
SY-102	1984	3		18		Z	796	2.3 vol%
SY-102	1984	4		18		DW	1786	1 vol%
SY-102	1984	4	41	-100				pumped throughout SE
SY-102	1985	1		2		Z	86	2.3 vol%
SY-102	1985	1		1		DW	77	1 vol%
SY-102	1985	1	52	8				unk gain
SY-102	1987	1		9		Z	370	2.3 vol%
SY-102	1987	1		7		DW	671	1 vol%
SY-102	1987	1	54	-14				Sent to AY-102 and AZ-102
SY-102	1987	2		0	**25**	Z	11	2.3 vol%
SY-102	1987	2		1	**5**	DW	96	1 vol%
SY-102	1987	2	71	16				unk gain
SY-102	1990	1		5		DW	495	1 vol%
SY-102	1992	1		4		Z	179	2.3 vol%
SY-102	1993	4	71	-9				unk loss, sent to AY-102

Tank_n	Year	Qtr	Meas. solids	Solids change	Pred layer	Layer Type	Waste Volume	Comments
SY-103	1977	2	0	0				
SY-103	1980	4	135					XIN from S2EVAP
SY-103	1981	1	534					
SY-103	1981	2	523					
SY-103	1981	4	517					
SY-103	1984	4	521					
SY-103	1985	4	577					
SY-103	1993	4	577	577	**577**	**SMMS2**		solids from concentrate calculated by SMM

A Farm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A-102
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Tank
SMMA1
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SRR
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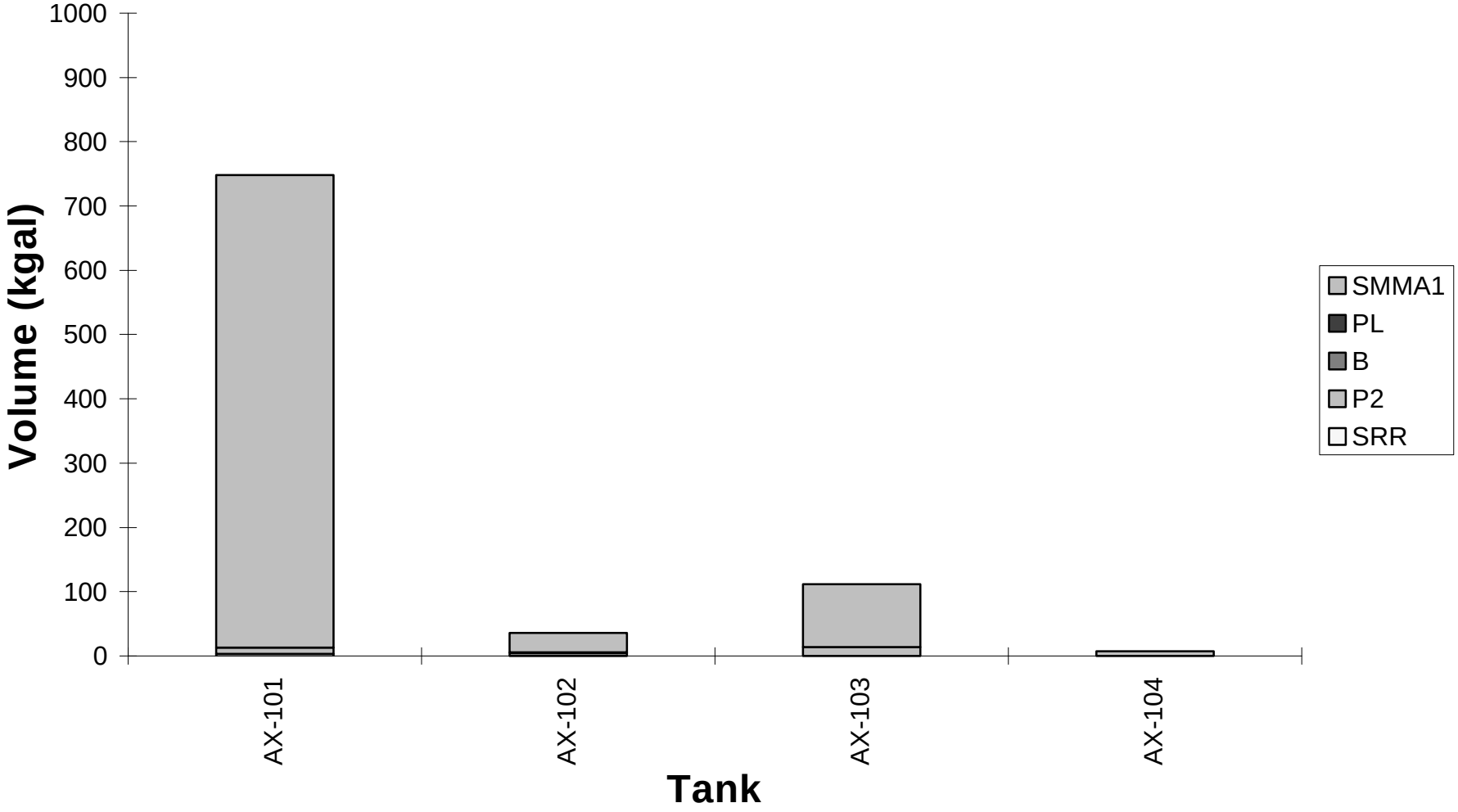
AX Farm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Volume (kgal)
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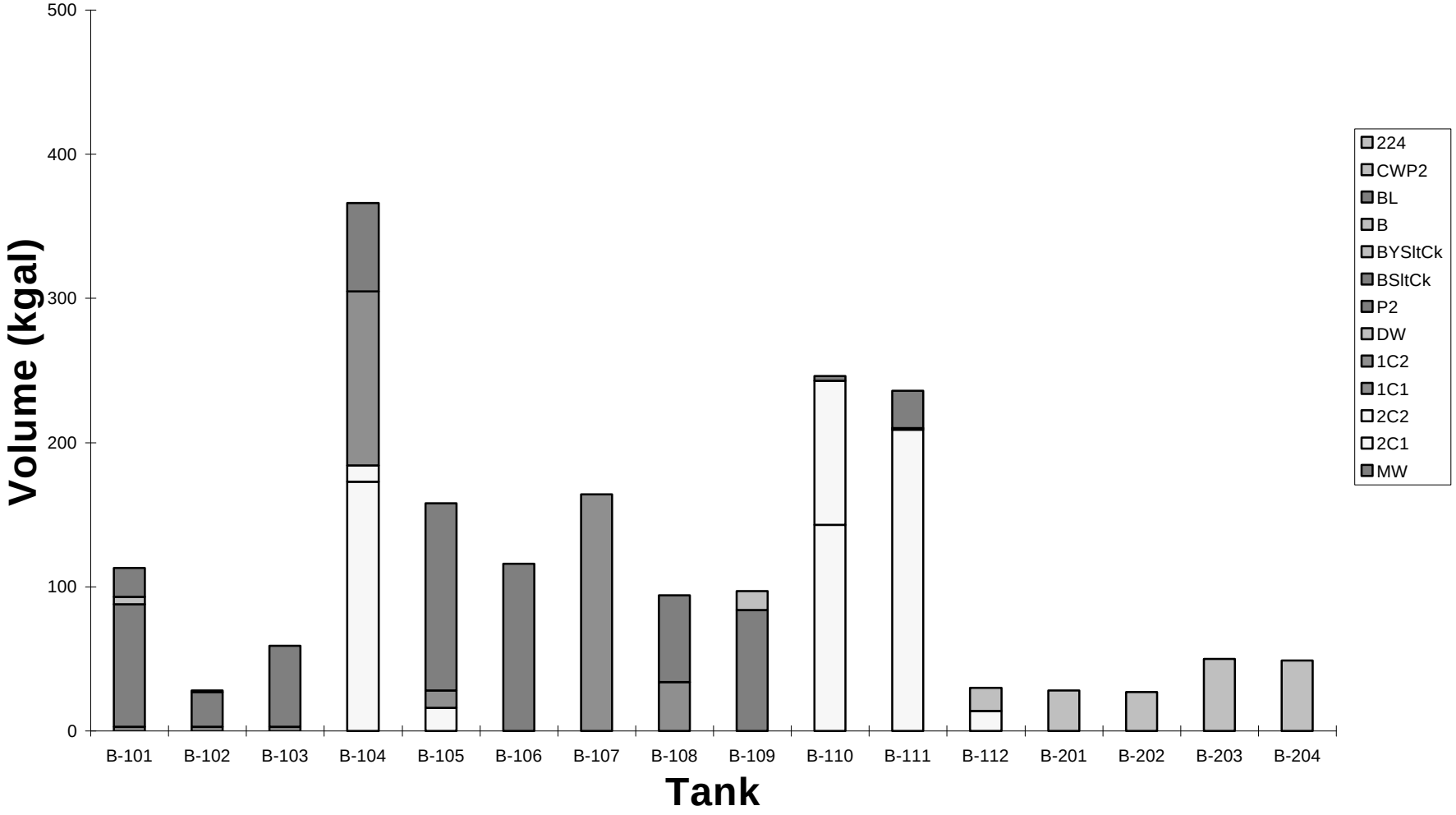
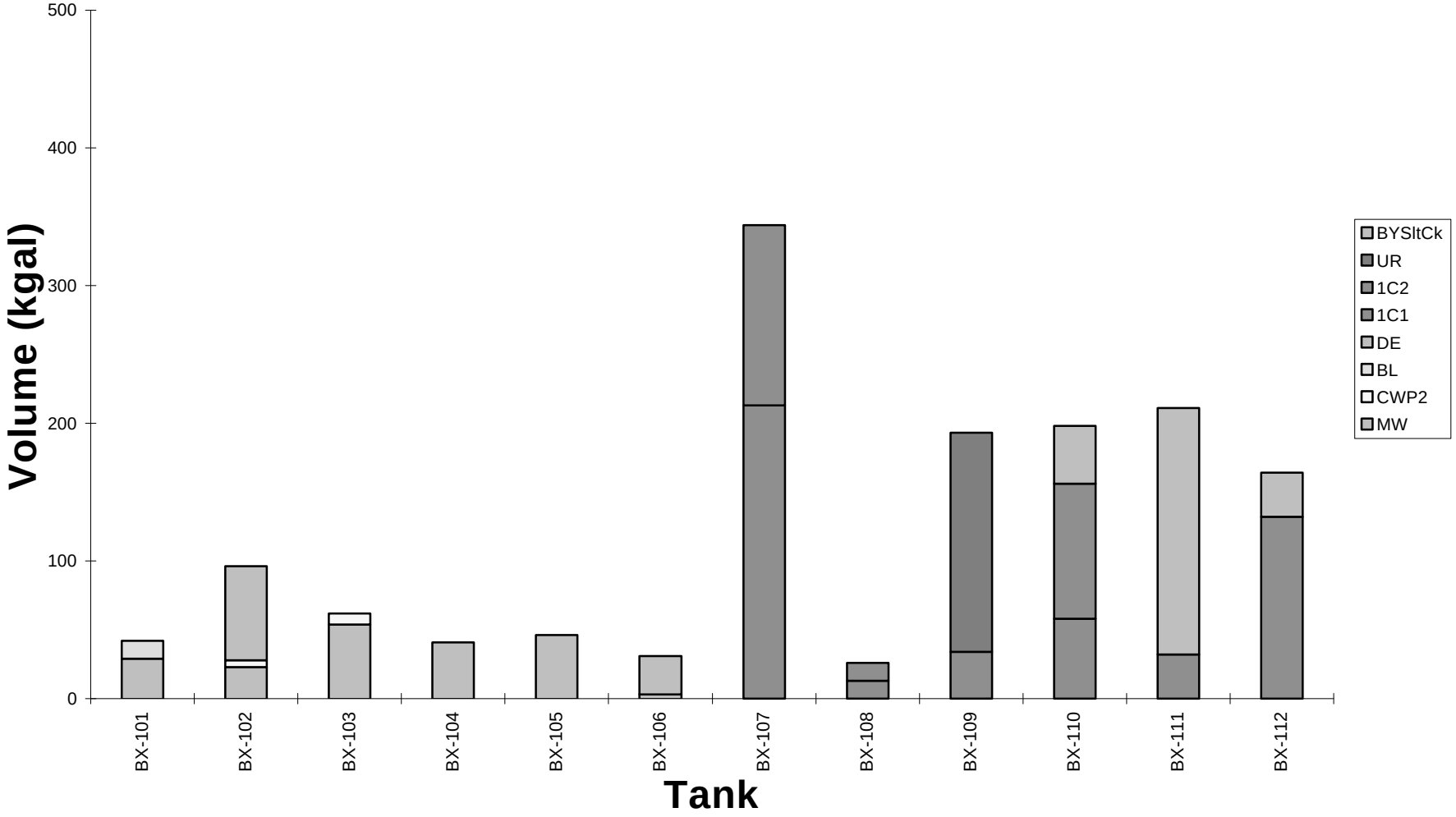
AX-102
AX-103
AX-104
Tank

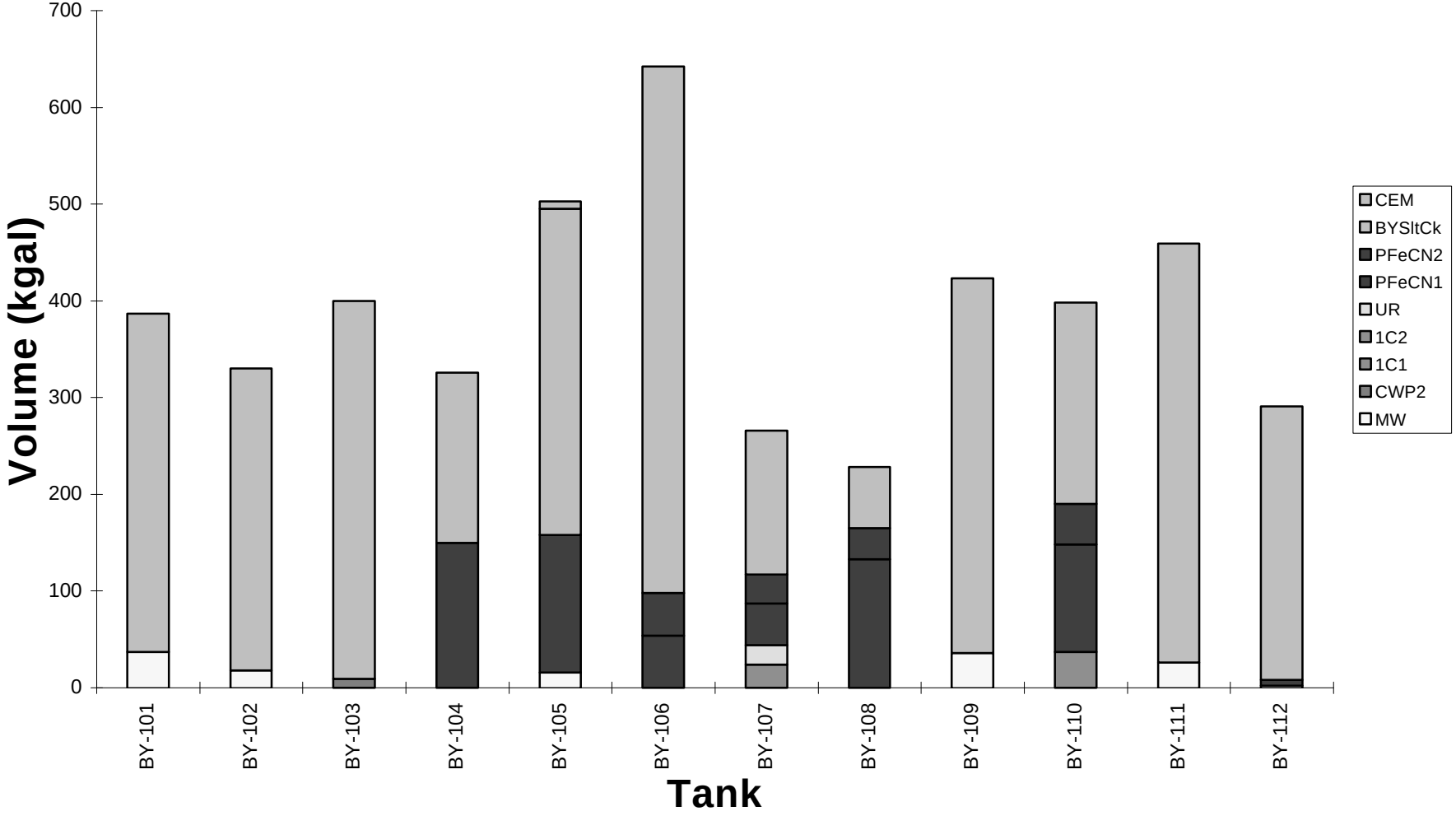
B Farm


500
400
300
200
100
0
Volume (kgal)
B-101
B-102
B-103
B-104
B-105
B-106
B-107
B-108
B-109
B-110
B-111
B-112
B-201
B-202
B-203
B-204
Tank
224
CWP2
BL
B
BYSltCk
BSltCk
P2
DW
1C2
1C1
2C2
2C1
MW

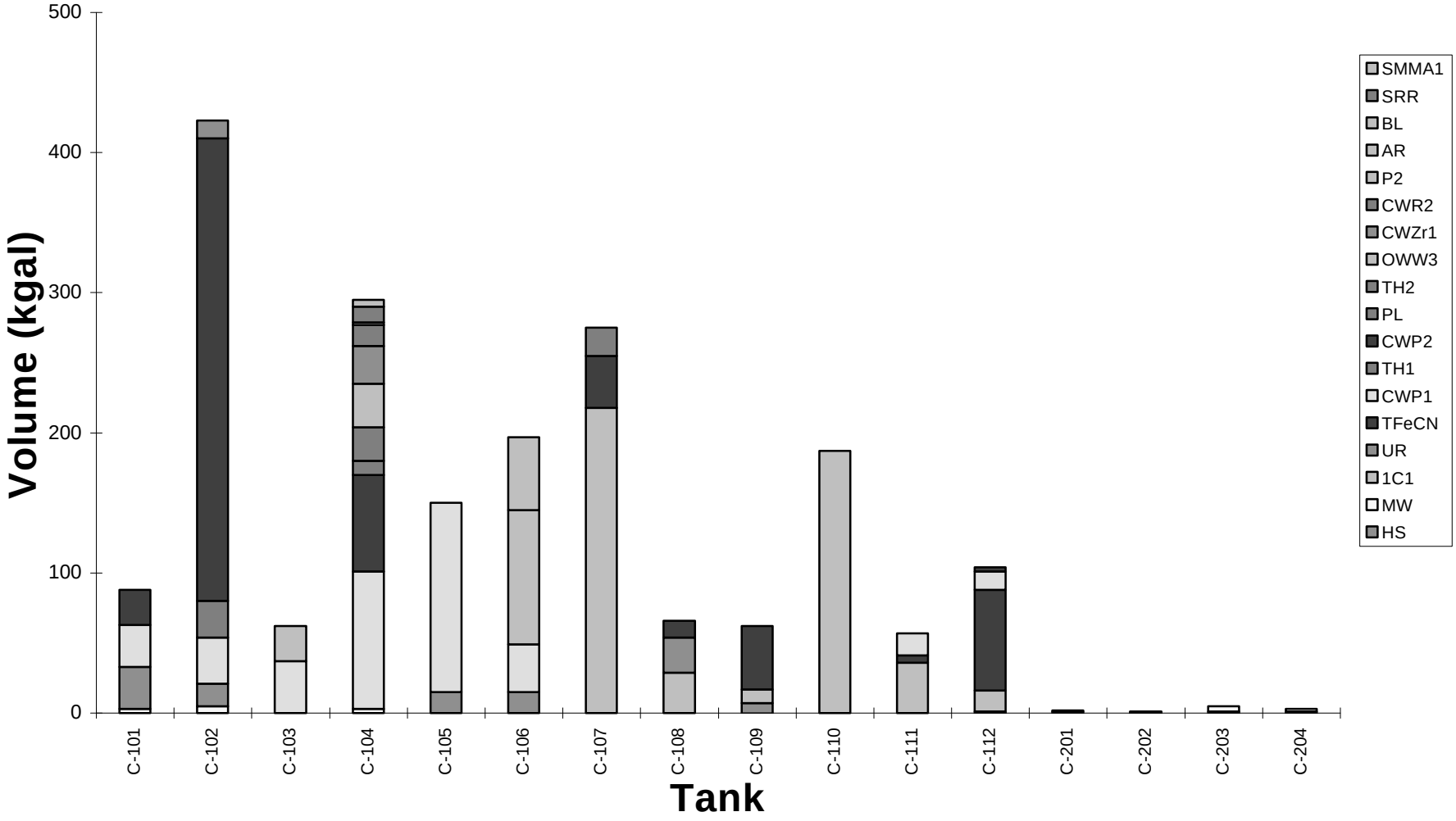
BX Farm


500
400
300
200
100
0
Volume (kgal)
BYSltCk
UR
1C2
1C1
DE
BL
CWP2
MW
BX-101
BX-102
BX-103
BX-104
BX-105
BX-106
BX-107
BX-108
BX-109
BX-110
BX-111
BX-112
Tank

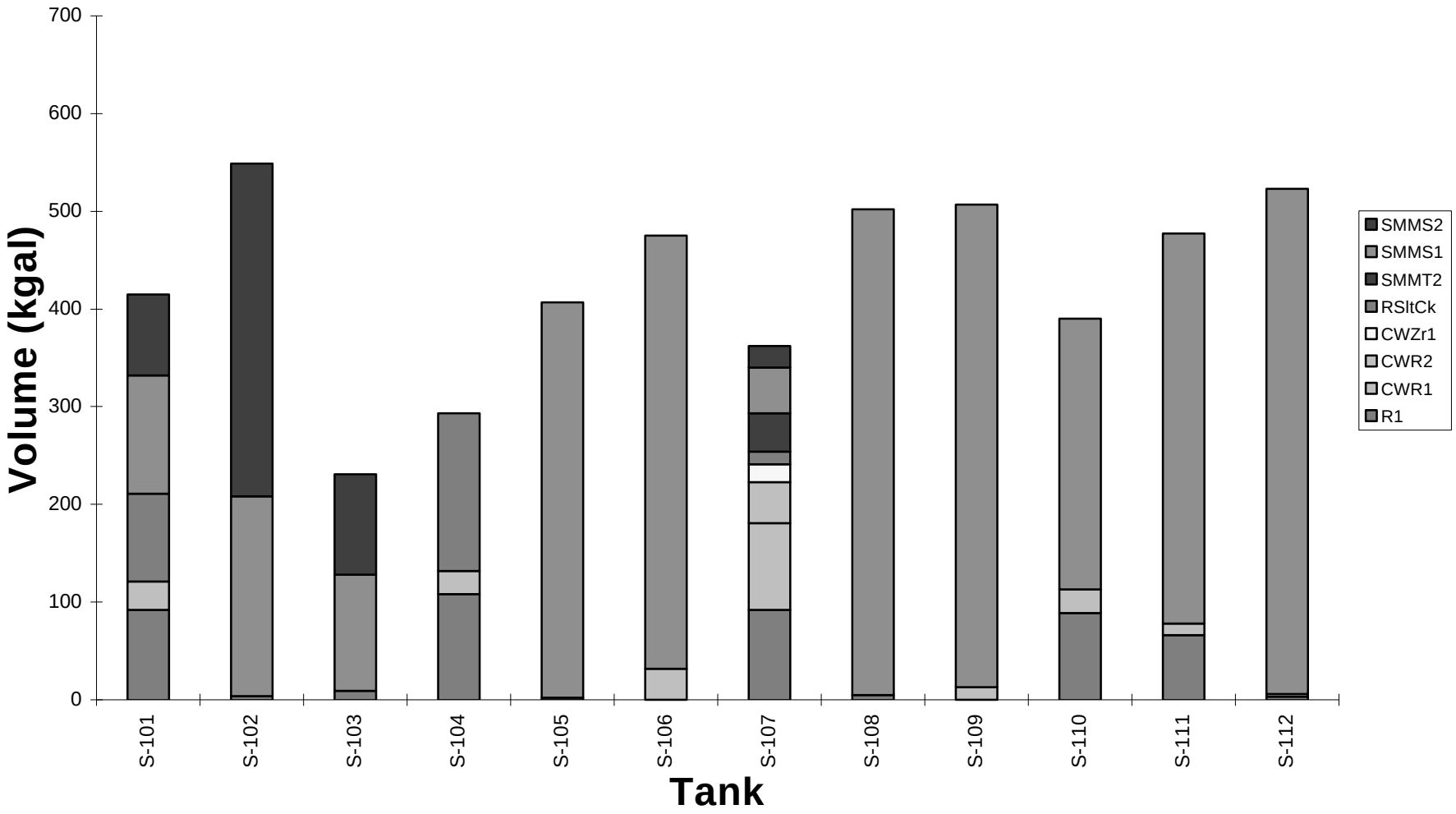
BY Farm


Volume (kgal)
700
600
500
400
300
200
100
0
BY-101
BY-102
BY-103
BY-104
BY-105
BY-106
BY-107
BY-108
BY-109
BY-110
BY-111
BY-112
Tank
CEM
BYSltCk
PFeCN2
PFeCN1
UR
1C2
1C1
CWP2
MW

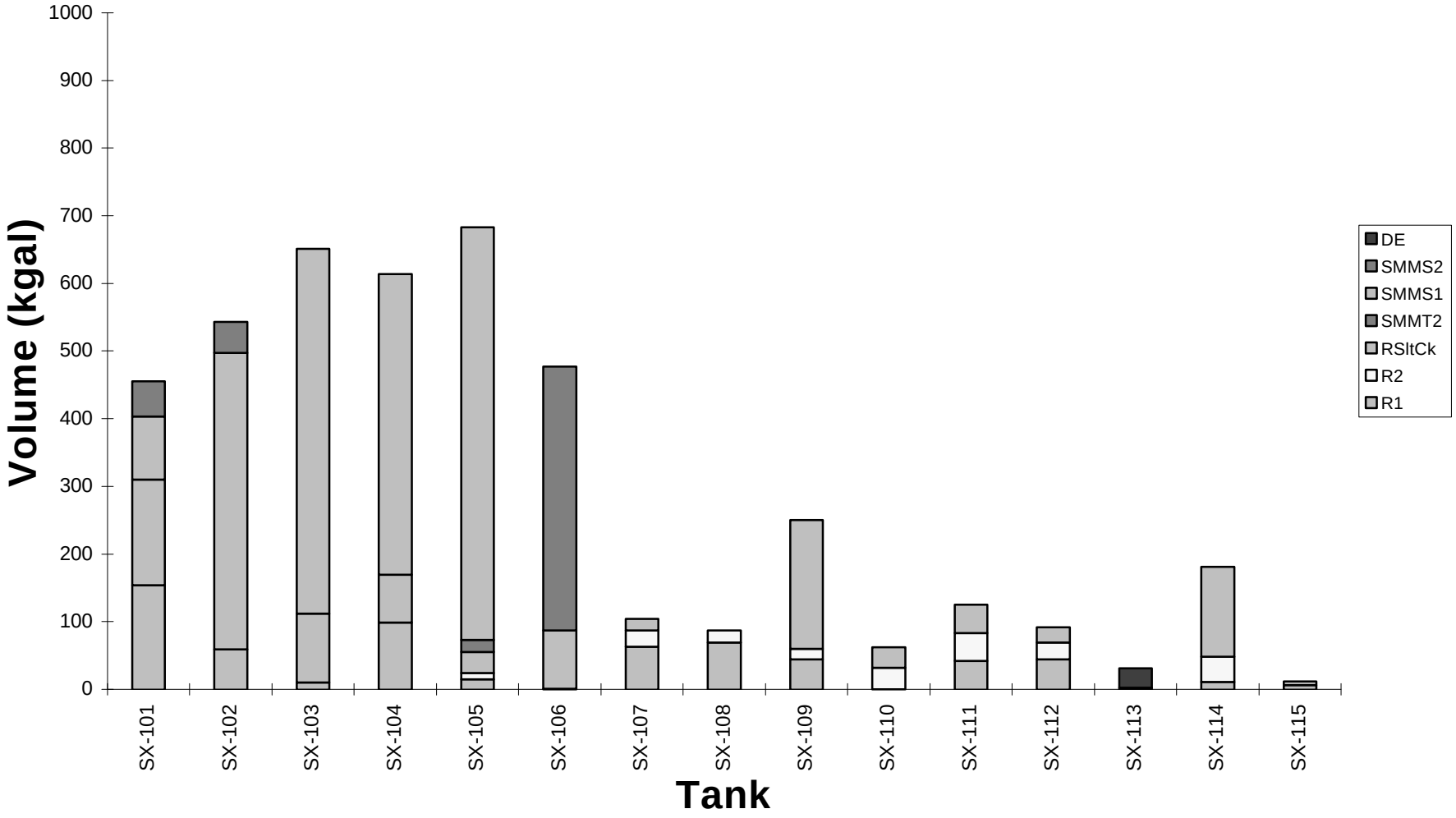
C Farm


Volume (kgal)
500
400
300
200
100
0
C-101
C-102
C-103
C-104
C-105
C-106
C-107
C-108
C-109
C-110
C-111
C-112
C-201
C-202
C-203
C-204
Tank
SMMA1
SRR
BL
AR
P2
CWR2
CWZr1
OWW3
TH2
PL
CWP2
TH1
CWP1
TFeCN
UR
1C1
MW
HS

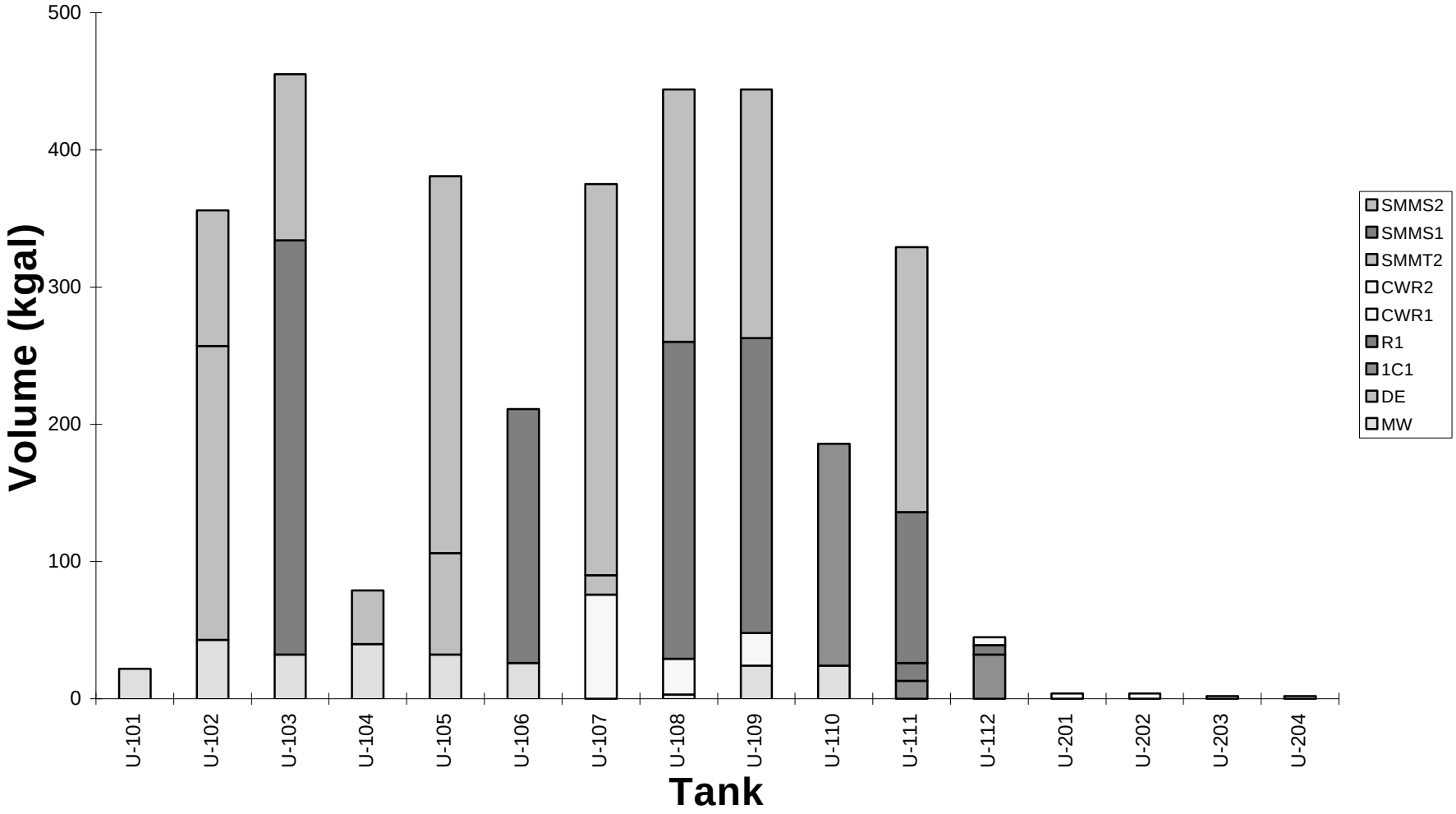
S Farm


Volume (kgal)
700
600
500
400
300
200
100
0
S-101
S-102
S-103
S-104
S-105
S-106
S-107
S-108
S-109
S-110
S-111
S-112
Tank
SMMS2
SMMS1
SMMT2
RSltCk
CWZr1
CWR2
CWR1
R1

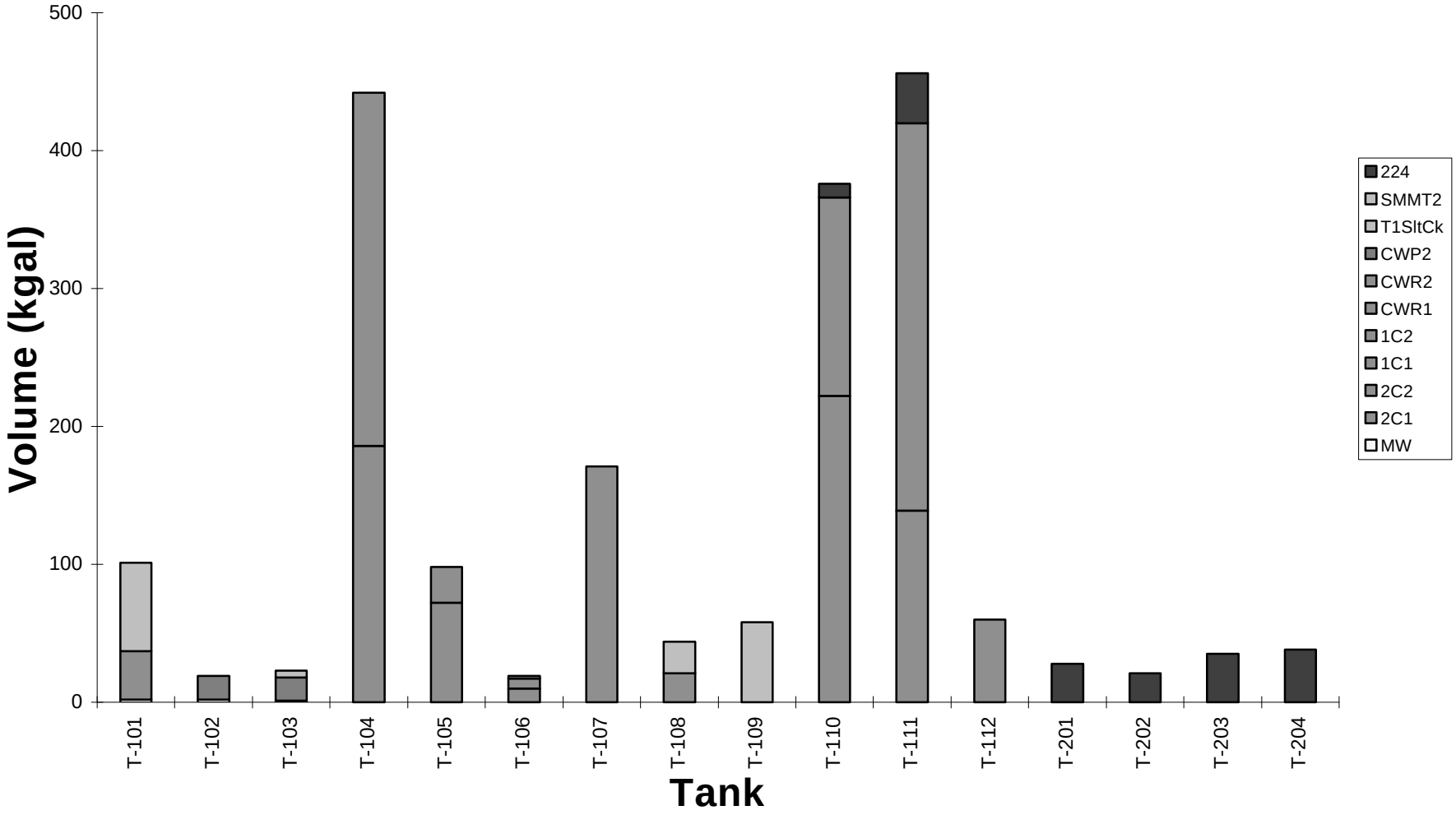
SX Farm


Volume (kgal)
1000
900
800
700
600
500
400
300
200
100
0
SX-101
SX-102
SX-103
SX-104
SX-105
SX-106
SX-107
SX-108
SX-109
SX-110
SX-111
SX-112
SX-113
SX-114
SX-115
Tank
DE
SMMS2
SMMS1
SMMT2
RSltCk
R2
R1

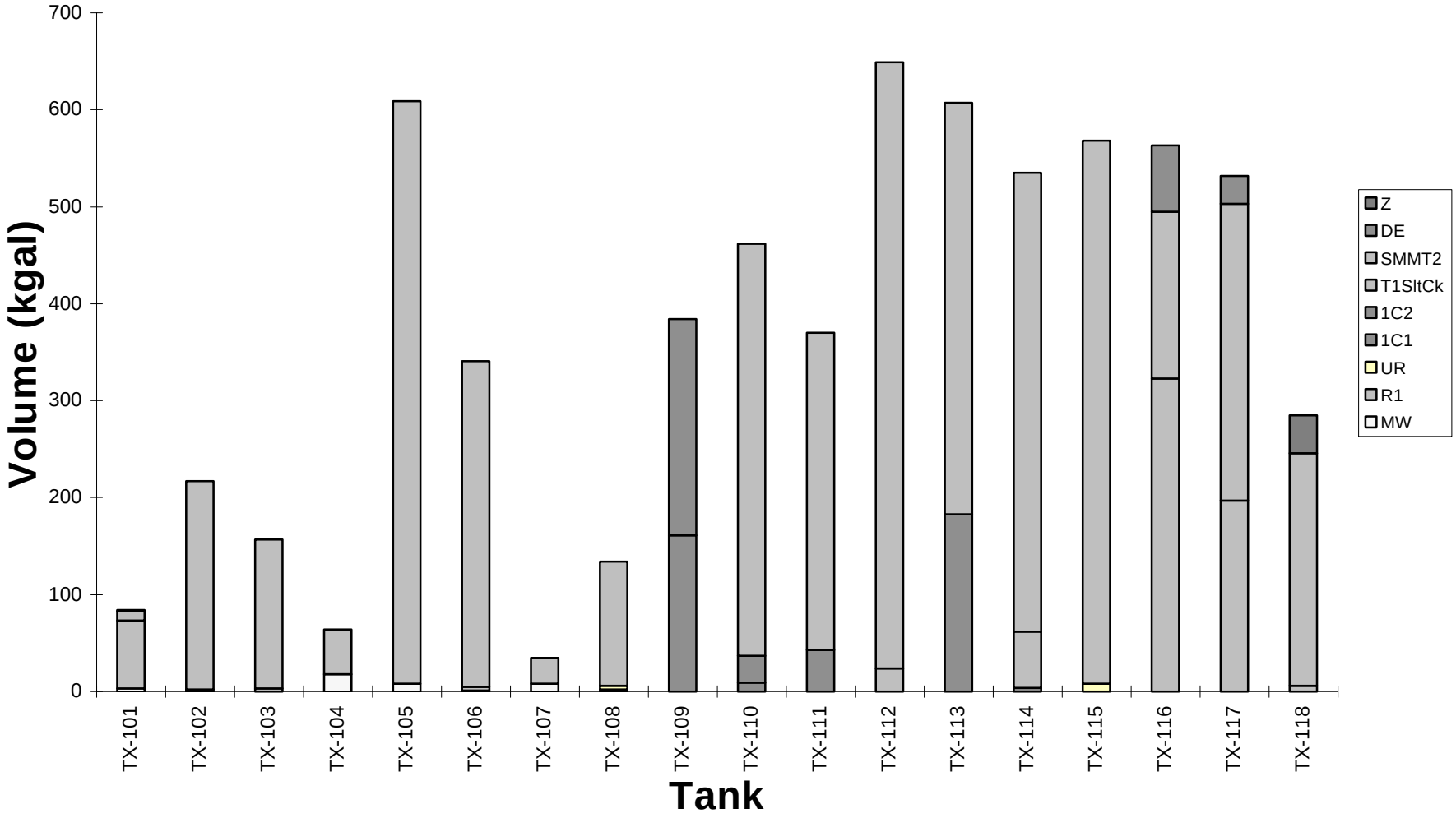
U Farm


500
400
300
200
100
0
Volume (kgal)
U-101
U-102
U-103
U-104
U-105
U-106
U-107
U-108
U-109
U-110
U-111
U-112
U-201
U-202
U-203
U-204
Tank
SMMS2
SMMS1
SMMT2
CWR2
CWR1
R1
1C1
DE
MW

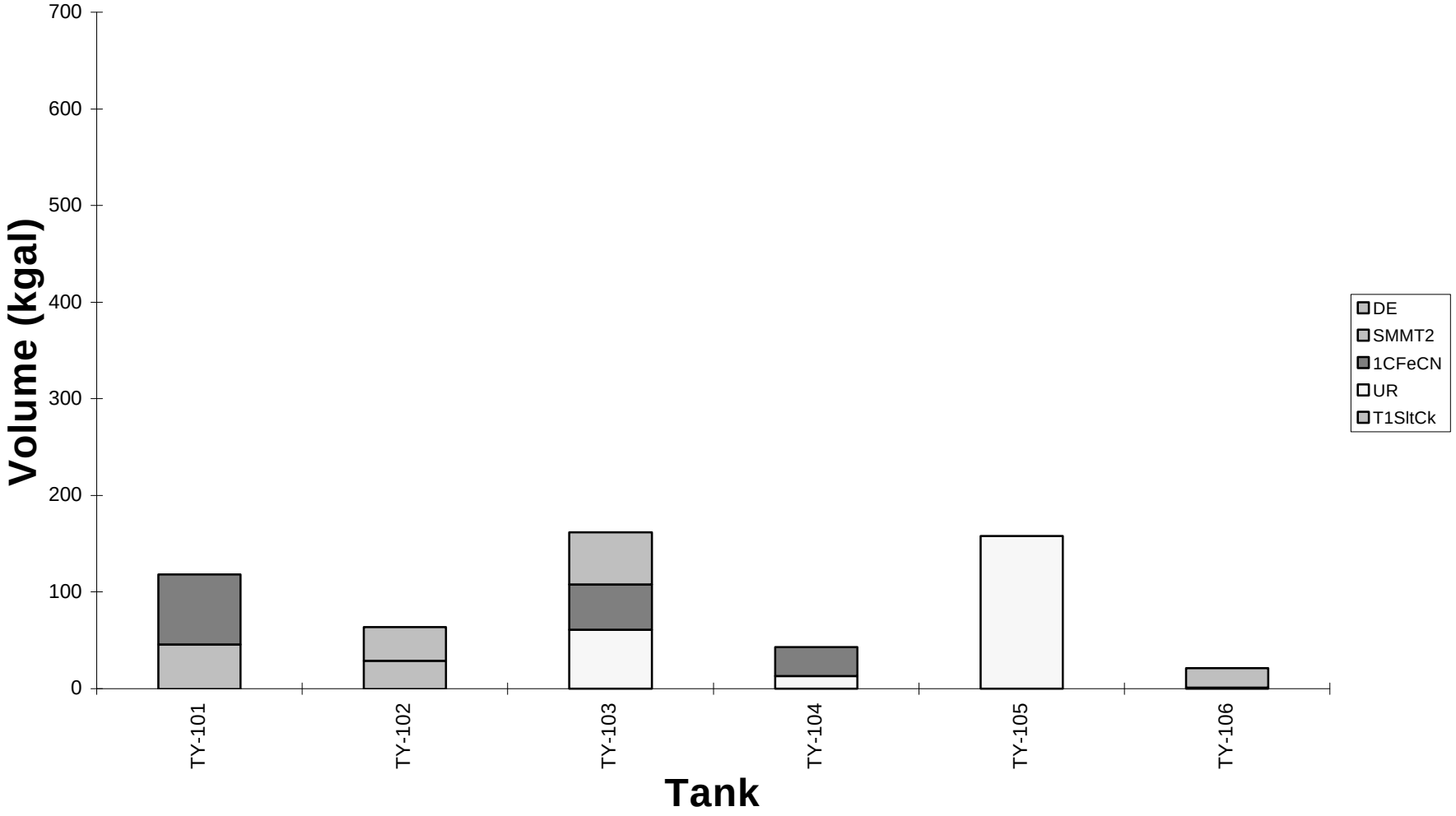
T Farm


Volume (kgal)
500
400
300
200
100
0
T-101
T-102
T-103
T-104
T-105
T-106
T-107
T-108
T-109
T-110
T-111
T-112
T-201
T-202
T-203
T-204
Tank
224
SMMT2
T1SltCk
CWP2
CWR2
CWR1
1C2
1C1
2C2
2C1
MW

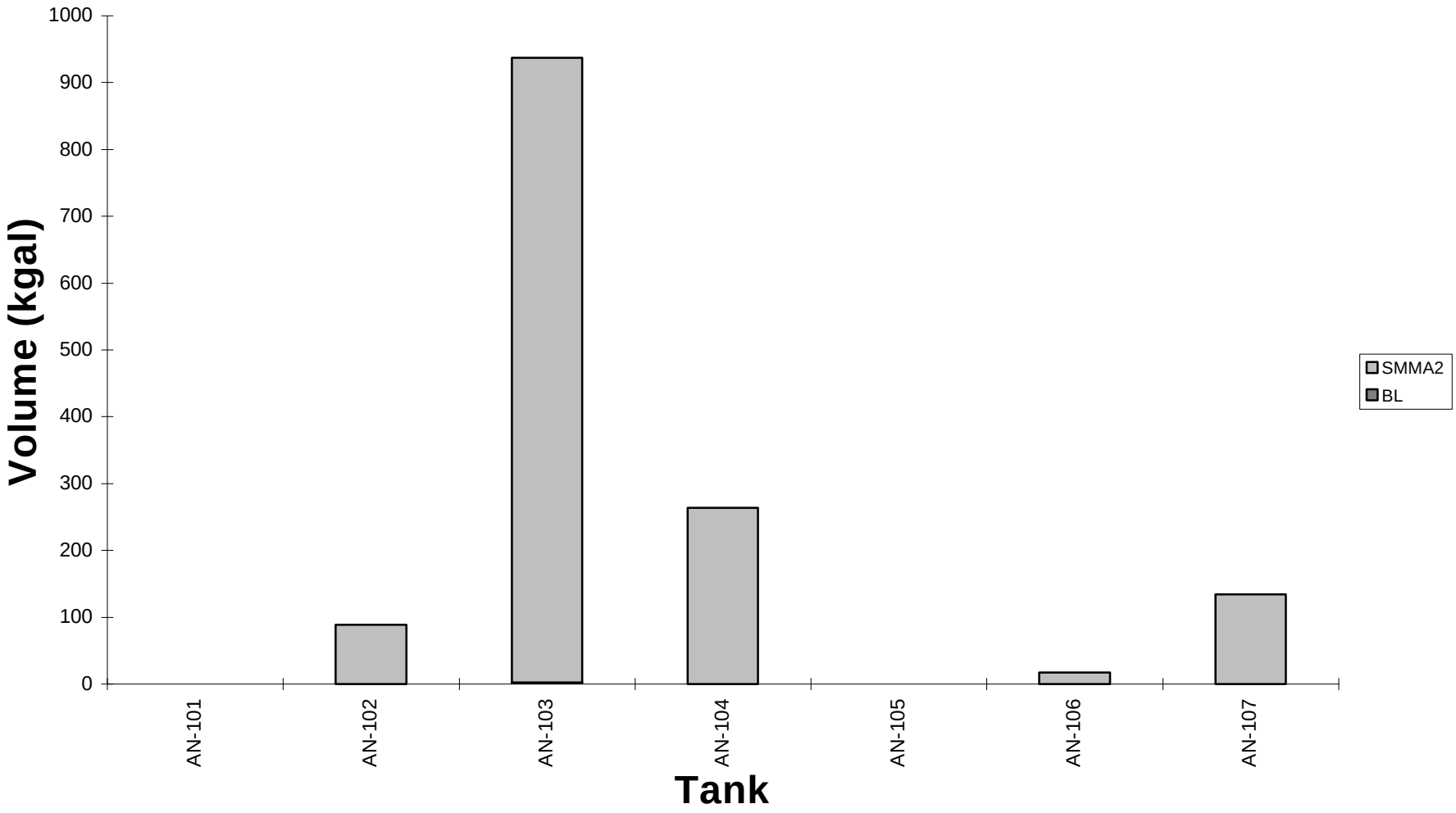
TX Farm


Volume (kgal)
700
600
500
400
300
200
100
0
TX-101
TX-102
TX-103
TX-104
TX-105
TX-106
TX-107
TX-108
TX-109
TX-110
TX-111
TX-112
TX-113
TX-114
TX-115
TX-116
TX-117
TX-118
Tank
Z
DE
SMMT2
T1SltCk
1C2
1C1
UR
R1
MW

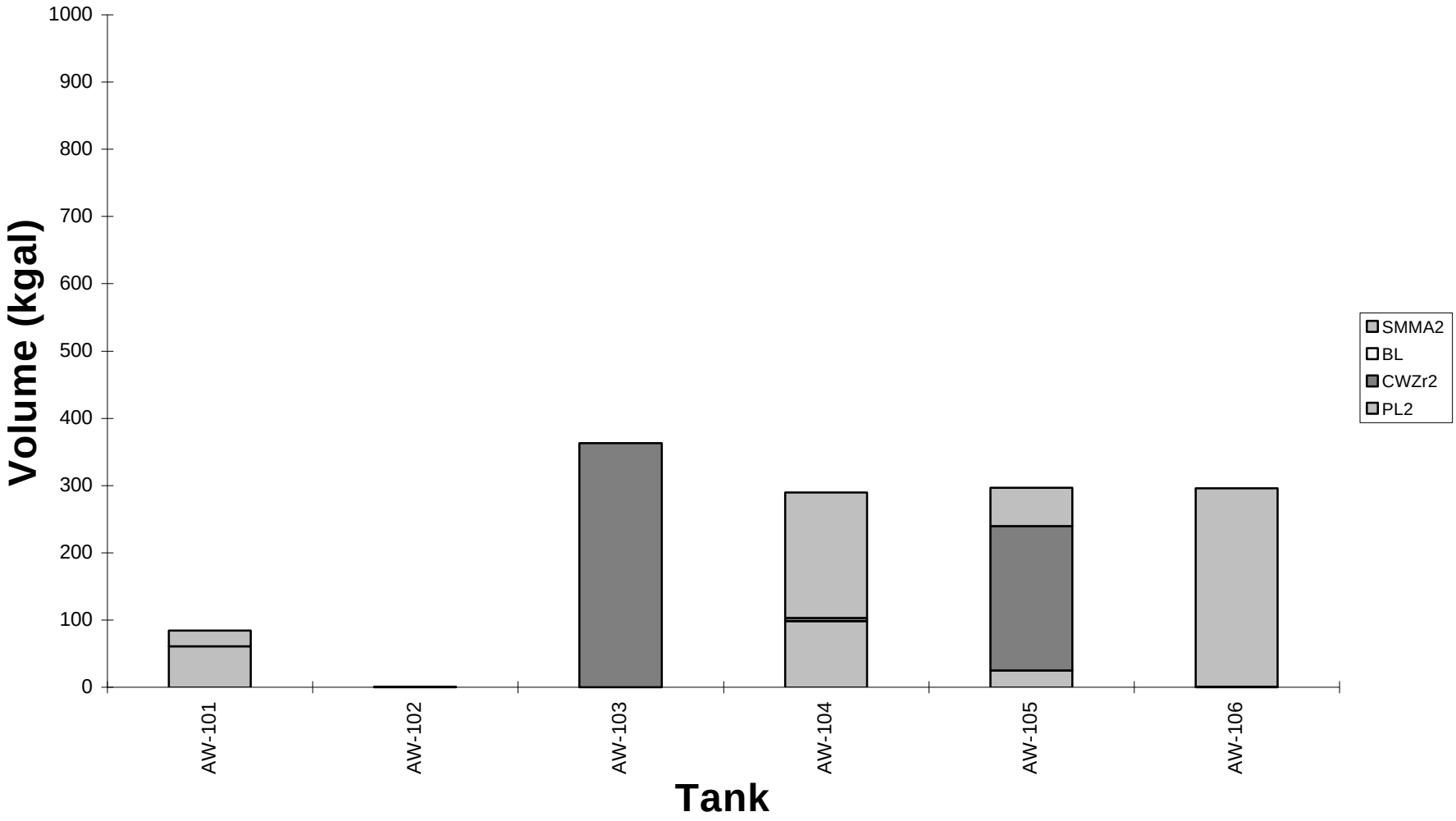
TY Farm


Volume (kgal)
700
600
500
400
300
200
100
0
TY-101
TY-102
TY-103
TY-104
TY-105
TY-106
Tank
DE
SMMT2
1CFeCN
UR
T1SltCk

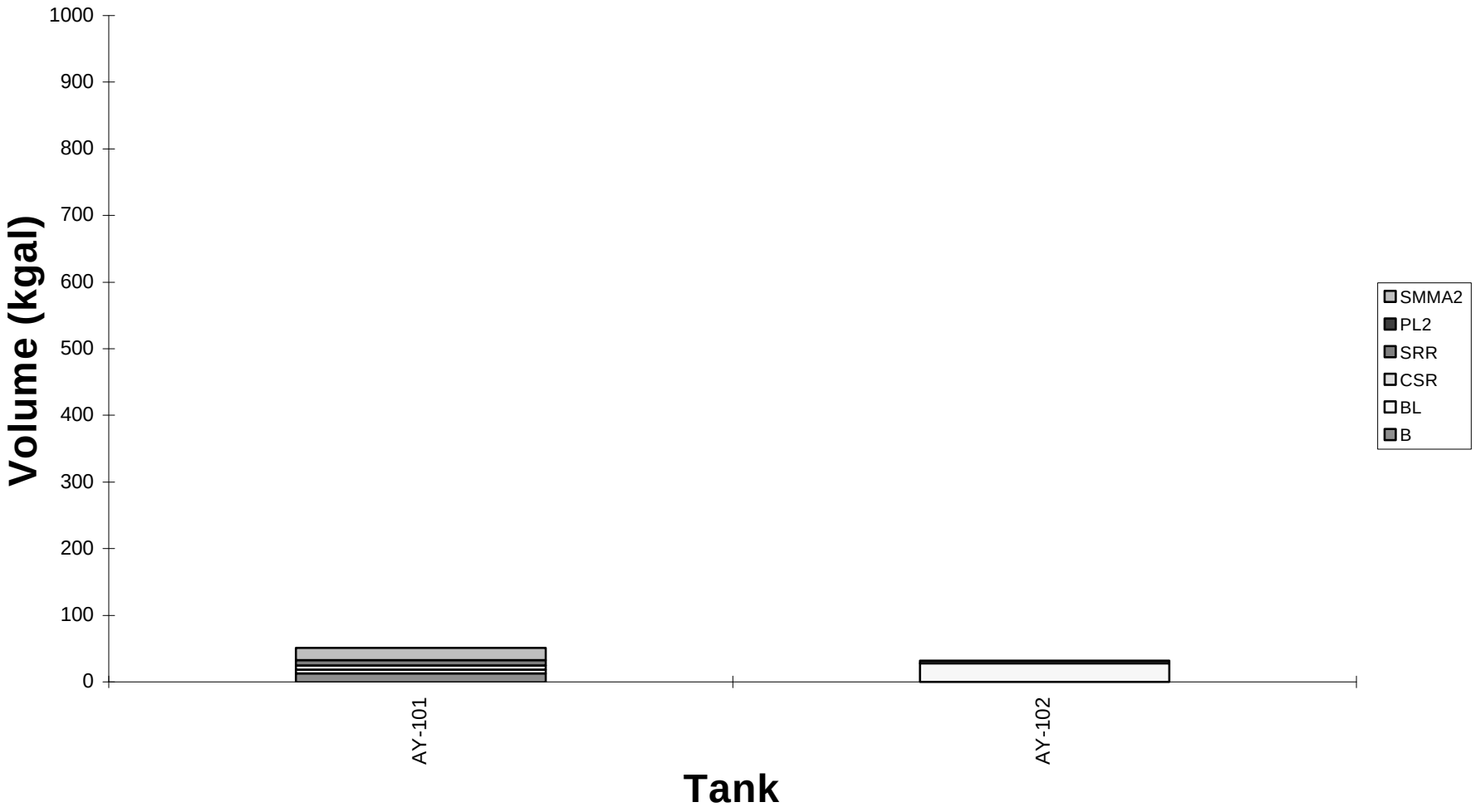
AN Farm


1000
900
800
700
600
500
400
300
200
100
0
Volume (kgal)
SMMA2
BL
AN-101
AN-102
AN-103
AN-104
AN-105
AN-106
AN-107
Tank

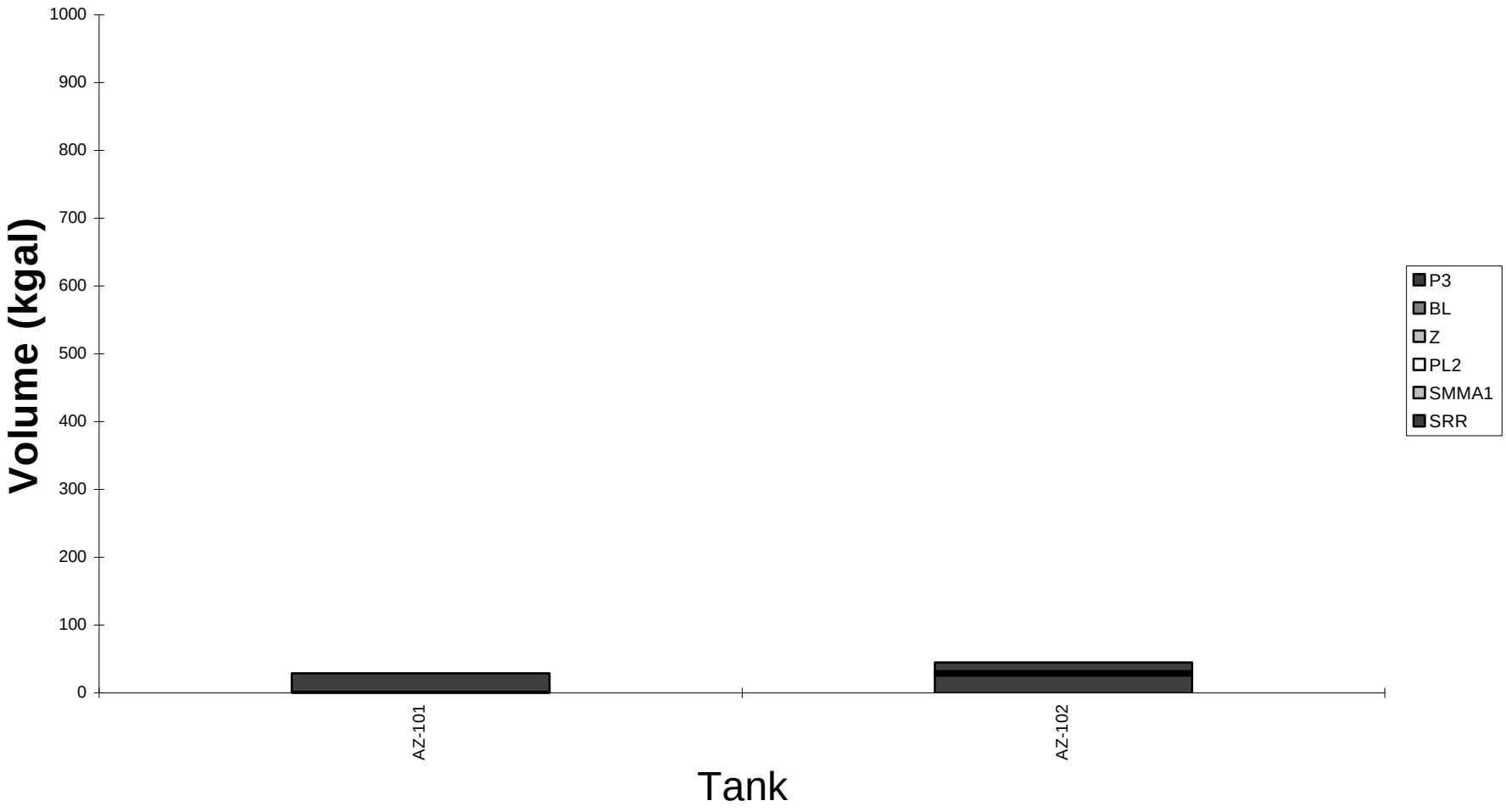
AW Farm


1000
900
800
700
600
500
400
300
200
100
0
Volume (kgal)
SMMA2
BL
CWZr2
PL2
AW-101
AW-102
AW-103
AW-104
AW-105
AW-106
Tank

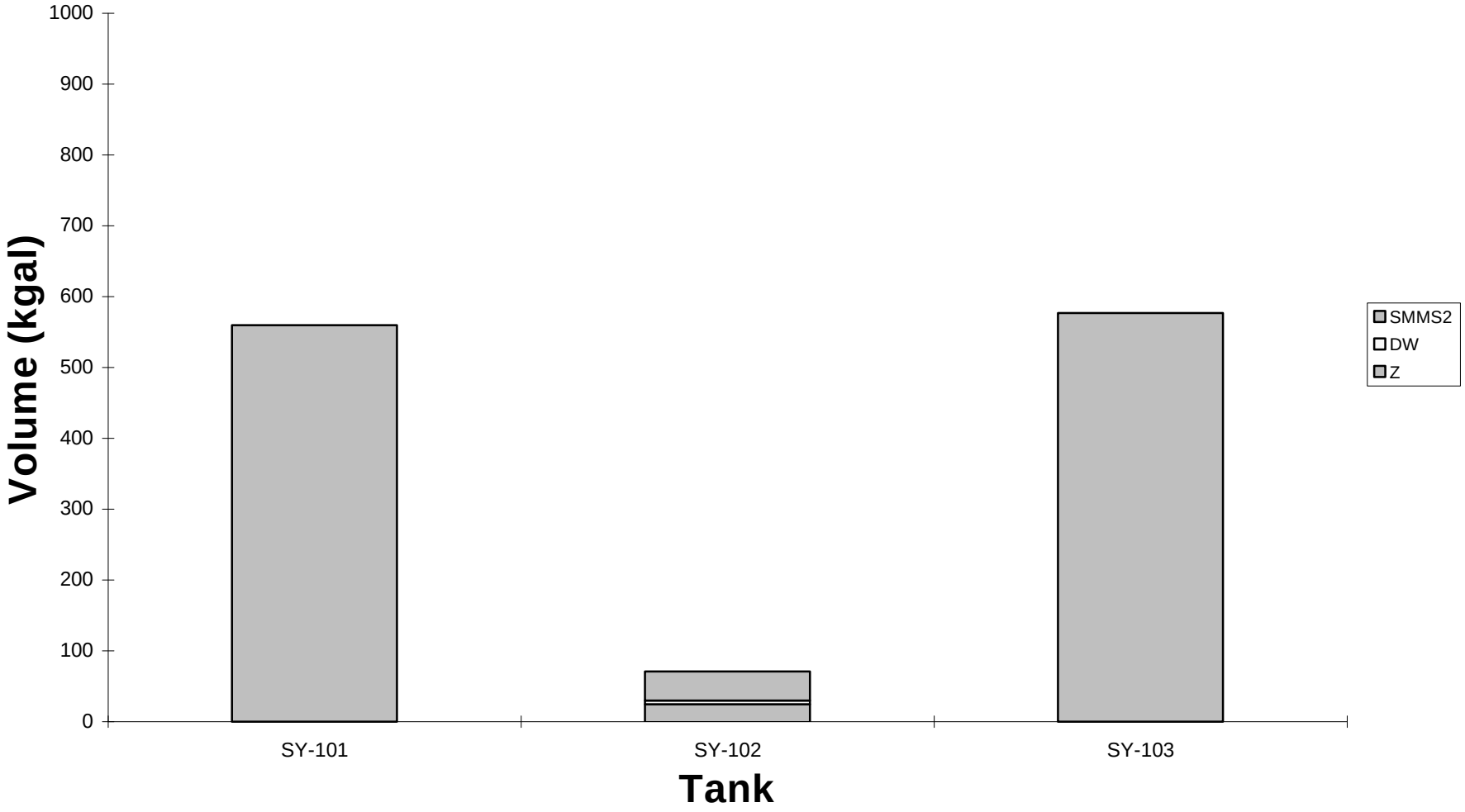
AY Farm


1000
900
800
700
600
500
400
300
200
100
0
Volume (kgal)
SMMA2
PL2
SRR
CSR
BL
B
AY-101
AY-102
Tank

AZ Farm


1000
900
800
700
600
500
400
300
200
100
0
Volume (kgal)
P3
BL
Z
PL2
SMMA1
SRR
AZ-101
AZ-102
Tank

SY Farm


1000
900
800
700
600
500
400
300
200
100
0
Volume (kgal)
SY-101
SY-102
SY-103
Tank
SMMS2
DW
Z

Hanlon-Welty Level Discrepancies (>10 kgals)

Tank	Welty (in)	Welty (kgal)	Welty date	Hanlon date	lon (kgal)	(+) diffs	(-) diffs	Tent. new value	comments
A-105	13.00	36	10/1/86	8/23/79	19	17			Boyles-annulus of waste calculation
A-106	37.70	104	10/4/84	9/7/82	125		-21		Hanlon-Welty 104 kgal is from one field reading
B-105	**39.25**	**120**	**1/2/87**	**12/27/84**	**306**		**-186**	**158**	**"306 to 158, boyles 123+183 sltck. lanl calcs123+ (20-50) sltck. ledge of sltck in tank from pictures.**
BX-105	24.80	81	2/2/87	9/3/86	51	30			Welty-later records
BX-111	79.00	230	3/2/87	7/26/77	211	19			Welty-later records
BY-101	144.50	377	3/2/87	5/30/84	387		-10		Welty-later records
BY-104	**130.50**	**338**	**3/2/87**	**4/28/82**	**406**		**-68**	**326**	**126" from surface level data-Husa**
BY-105	186.00	491	3/16/87	4/28/82	503		-12		Welty-later records
C-104	93.70	270	4/6/86	9/22/89	295		-25		Welty-Do not understand Boyle-Hanlon. Latest surv. records show 252 kgal.
C-106	74.90	218	4/6/87	4/28/82	229		-11		Welty-later records
S-102	201.60	534	6/1/87	4/28/82	549		-15		Welty-later records
S-103	103.80	265	6/1/87	11/20/80	248	17			Welty-later records
S-105	**137.60**	**358**	**6/1/87**	**9/26/88**	**456**		**-98**	**407**	**137.60"from surface level data -Husa +18" from measmnt corr for slope and irregularities**
S-108	**171.90**	**452**	**6/8/87**	**4/28/82**	**604**		**-152**	**502**	**172" from latest surface level data-Husa + 18" for msrmnt corr due to irregular surface**
S-109	**183.80**	**485**	**6/8/87**	**9/30/75**	**568**		**-83**	**507**	**173.80" from surface level data-Husa +18" for msrmnt corr for irregular surface**
S-111	**203.10**	**538**	**6/8/87**	**4/28/82**	**596**		**-58**	**538**	**203.10" from surface level data-Welty**
SX-106	194.80	521	7/6/87	10/28/80	538		-17		Welty-later records
U-104	34.00	106	10/1/86	4/28/82	122		-16		Welty-later records
T-109	4.65	25	8/20/84	12/30/84	58		-33		Boyles-FIC plummet contacting solids in depression
T-110	147.00	417	9/8/87	4/28/82	379	38			Welty-later records
TX-103	56.00	134	10/3/85	8/14/80	157		-24		Welty-later records
TX-105	219.25	582	7/1/86	8/22/77	609		-27		Welty-later records
TX-106	**147.50**	**385**	**7/1/86**	**8/29/77**	**453**		**-68**	**341**	**131.5" from surface level data-Husa**
TX-110	170.00	447	7/1/86	5/30/83	462		-15		Welty-later records
TX-113	224.25	596	7/1/86	5/30/83	607		-11		Welty-later records
TX-115	**208.00**	**552**	**7/1/86**	**3/25/83**	**640**		**-89**	**568**	**208" from surface level data-Husa + 6" due to msmrmnt corr for irregular surface**
TX-116	**214.50**	**569**	**7/1/86**	**3/31/72**	**631**		**-62**	**563**	**212" from surface level data-Husa**
TX-117	**186.25**	**492**	**7/1/86**	**12/31/71**	**626**		**-134**	**532**	**201" from surface level data and pumping records from waste level history -about 18" pumped to swliq**
TX-118	**113.80**	**292**	**2/12/85**	**11/17/80**	**347**		**-55**	**285**	**111.2" from surface level data-Husa**
TY-101	44.60	102	11/2/84	4/28/82	118		-16		Welty-later records

Appendix D.

SMM / TLM Volumes Tables

December 1996

The SMM (Supernatant Mixing Model) provides a description of each tank's free supernatant and supernatant concentrate based on a linear combination of Hanford Defined Waste (HDW) supernatants. The output of the SMM is an table whose column are theHDW's and whose rows are the tanks and processes that hold HDW inventory. The fill of the array are composition row vectors for each tank or process and are all given in kgal (1 kgal = 1,000 gal) of original HDW. The row sum of this table represents a total volume that is usually greater than the actual volume of free supernatant or concentrate within each tank. This difference is because of active evaporation or dilution of waste sometime during its history.

The TLM table correspondingly provides composition row vectors for the TLM sludges for each tank. In contrast to the SMM, the row sum of a tank's HDWsludges does equal the total volume of the sludges predicted by the TLM. This value may be still be different from the actual solids level reported for a tank because the salt cakes from later evaporator campaigns are treated as concentrates and therefore predicted by the SMM.

The tank composition table provides a description of each tank's SMM composition in terms of per cent of HDW supernatants in rows that sum to 100%. The HDW distribution table gives per cent distribution of each HDW supernatant in columns summing to 100%.

SMM Rev. 4.....D-2 to D-13

TLM Rev. 4.....D-14 to D-29

HDW Distributions Rev. 4 .....D-30 to D-44

Tank Compositions Rev. 4.....D-45 to D-56

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
A-101	0.6	0.2	3.3	14.2	0.0	4.8	4.7	44.8	5.3	5.9	3.8	2.0	230.3	38.6	45.4	34.1	63.8	32.7		7.9	33.8
A-102	0.0	0.0	0.1	0.6	0.0	0.2	0.2	1.8	0.2	0.3	0.2	0.1	9.2	1.5	1.8	1.4	2.5	1.3		0.3	1.5
A-103	0.2	0.1	1.3	5.4	0.0	1.8	1.8	17.1	2.0	2.4	1.5	0.8	86.4	14.5	17.0	12.8	23.7	12.4		3.1	13.6
A-104																					
A-105	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0						0.0	0.0		0.0	0.0
A-106	0.1	0.0	0.4	1.9	0.0	0.7	0.6	5.9	0.7	0.6	0.4	0.3	33.5	5.4	6.6	4.7	9.2	4.4		0.9	3.6
AX-101	0.5	0.2	2.6	11.2	0.0	3.8	3.7	35.7	4.3	5.0	3.2	1.6	180.8	30.3	35.6	26.8	49.6	25.8		6.4	28.2
AX-102	0.0	0.0	0.2	0.7	0.0	0.3	0.2	2.2	0.3	0.3	0.2	0.1	12.7	2.0	2.5	1.8	3.5	1.7		0.3	1.4
AX-103	0.1	0.0	0.3	1.4	0.0	0.5	0.4	4.4	0.5	0.6	0.4	0.2	22.7	3.7	4.5	3.3	6.5	3.3		0.7	3.3
AX-104																					
B-101																					
B-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1
B-103	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1
B-104			0.0	0.0	0.0	0.0		0.0													
B-105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
B-106	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
B-107	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0						0.0	0.0			0.0
B-108	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
B-109																					
B-110																					
B-111	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0						0.0	0.0			0.0
B-112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
B-201																					
B-202																					
B-203																					
B-204							0.0														
BX-101																					
BX-102	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.2						0.0	0.0			1.7
BX-103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BX-104	0.1	0.0	0.3	1.4	0.0	0.5	0.5	4.2	0.5	0.4	0.3	0.2	22.8	3.9	4.4	3.4	4.8	2.5		0.8	2.4
BX-105	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.6	0.3	0.3	0.2	0.4	0.2		0.1	0.2
BX-106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		0.0	0.3
BX-107	0.0	0.0	0.0	0.0	0.0	0.0		0.2	0.0	0.0	0.0						0.0	0.0			0.0
BX-108																					
BX-109	0.0		0.0	0.0				0.0	0.0	0.0	0.0						0.0				0.0
BX-110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BX-111	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1
BX-112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BY-101																					
BY-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		0.0	0.1
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BY-108	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BY-109																					
BY-110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
BY-111																					
BY-112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
C-101																					
C-102	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0						0.0	0.0			0.0
C-103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.1	0.4	0.0	0.1	0.1	0.2	0.1	0.7	0.4		0.1	2.6
C-104	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.1	0.2	0.2	0.2	0.3	0.1		0.0	0.1
C-105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
A-101	150.7	9.5	13.2	27.2	55.4	33.0	8.9	2.5	5.7	93.3	31.3	215.7	160.2		430.6			16.8		135.9	45.0
A-102	6.4	0.4	0.5	1.1	2.4	1.3	0.4	0.1	0.2	4.4	1.2	9.2	7.4		18.0			0.7		5.5	1.8
A-103	59.7	3.6	5.0	10.1	22.0	12.4	3.7	1.0	2.3	40.6	12.6	86.7	68.9		168.2			6.3		51.1	17.0
A-104																					
A-105	0.0		0.0	0.0	0.0						0.0	0.0			0.0					0.0	
A-106	17.1	1.3	1.8	4.0	6.3	4.4	0.9	0.3	0.6	5.5	2.9	21.9	11.8		52.4			2.4		18.1	5.7
AX-101	124.3	7.5	10.5	21.0	45.7	26.0	7.5	2.1	4.7	85.0	24.2	178.4	140.5		349.2			13.1		107.2	35.7
AX-102	6.7	0.5	0.7	1.5	2.5	1.7	0.4	0.1	0.2	2.5	2.5	8.8	5.2		20.3			0.9		6.9	2.2
AX-103	14.6	0.9	1.3	2.8	5.4	3.1	0.9	0.2	0.5	7.8	2.4	27.3	14.8		42.1			1.6		12.8	4.1
AX-104																					
B-101																					
B-102	0.5	0.0	0.0	0.0	0.2		0.0	0.0	0.0	0.0	0.0	0.0			0.3					0.0	0.0
B-103	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1			0.3					0.1	0.0
B-104																					
B-105	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
B-106	0.2	0.0	0.0	0.0	0.1		0.0	0.0	0.0	0.0	0.0	0.0			0.1					0.0	0.0
B-107	0.2		0.0																		
B-108	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
B-109																					
B-110																					
B-111	0.0		0.0	0.0	0.0		0.0	0.0			0.0	0.0			0.0					0.0	
B-112	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
B-201																					
B-202																					
B-203																					
B-204																				0.9	
BX-101																					
BX-102	4.9		0.0	0.0	3.8		1.0	0.0			1.7	0.2			2.3					0.0	
BX-103	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1		1.1					0.0	0.0
BX-104	11.8	1.0	1.0	1.9	4.3	3.5	0.6	0.2	0.4	4.6	0.9	15.3	8.2		37.3			1.6		14.0	4.7
BX-105	0.9	0.1	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.4	0.1	1.2	0.7		2.7			0.1		1.0	0.3
BX-106	1.0	0.0	0.0	0.1	0.4	0.0	0.1	0.0	0.0	0.8	0.1	0.6	0.4		0.6					0.0	0.0
BX-107	0.0		0.0	0.0			0.0	0.0							0.7					0.0	
BX-108																					
BX-109	0.0		0.0												0.0						
BX-110	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
BX-111	0.5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1		0.3					0.0	0.0
BX-112	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1		0.1					0.0	0.0
BY-101																					
BY-102	0.5	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.9	0.1	0.7	1.1		0.9					0.0	0.0
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
BY-108	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
BY-109																					
BY-110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0		0.0	0.0
BY-111																					
BY-112	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0
C-101																					
C-102	0.0		0.0	0.0	0.0		0.0	0.0			0.0				0.0					0.0	
C-103	5.5	0.0	0.2	0.3	2.9	0.0	2.2	0.1	0.1	3.9	0.4	4.5	36.9		9.2			0.0		0.6	0.8
C-104	0.6	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.1	0.8	0.8		1.8			0.1		0.6	0.2
C-105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0		0.0	0.0

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
A-101		13.7		82.7		73.5				319.2														
A-102		0.6		3.3		2.9				15.8														
A-103		5.4		31.1		27.6				147.0														
A-104																								
A-105		0.0																						
A-106		1.4		11.5		10.7				19.4														
AX-101		11.3		65.0		57.8				301.9														
AX-102		0.6		4.3		4.0				9.6														
AX-103		1.2		8.0		7.1				33.4														
AX-104																								
B-101																								
B-102		0.4		0.0		0.0				0.1														
B-103		0.2		0.0		0.0																		
B-104		5.2																						
B-105		0.0		0.0		0.0																		
B-106		0.3		0.0		0.0																		
B-107		0.0																						
B-108		0.0		0.0		0.0																		
B-109										35.2														
B-110										0.0														
B-111		0.0								1.0														
B-112		0.0		0.0		0.0				2.3														
B-201																								
B-202																								
B-203																								
B-204																								
BX-101										0.8														
BX-102		0.0																						
BX-103		0.0		0.0		0.0				1.6														
BX-104		1.2		8.4		7.4				0.5														
BX-105		0.1		0.6		0.5				0.7														
BX-106		0.1		0.0		0.0				7.0														
BX-107		0.0																						
BX-108																								
BX-109																								
BX-110		0.0		0.0		0.0				0.0														
BX-111		0.0		0.0		0.0				0.9														
BX-112		0.0		0.0		0.0				0.7														
BY-101																								
BY-102		0.0		0.0		0.0				6.8														
BY-103										0.0														
BY-104																								
BY-105										0.0														
BY-106																								
BY-107		0.0		0.0		0.0				0.0														
BY-108		0.0		0.0		0.0				0.0														
BY-109																								
BY-110		0.0		0.0		0.0				0.0														
BY-111																								
BY-112		0.0		0.0		0.0				0.0														
C-101																								
C-102		0.0								0.0														
C-103		0.2		0.1		0.0				18.0														
C-104		0.0		0.4		0.3				0.9														
C-105		0.0		0.0		0.0				0.0														

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
C-106	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0						0.0	0.0		0.0	0.0
C-107																					
C-108																					
C-109																					
C-110	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0						0.0	0.0		0.0	0.0
C-111			0.0					0.0			0.0										0.0
C-112	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0						0.0	0.0		0.0	0.0
C-201																					
C-202																					
C-203																					
C-204																					
S-101	0.3	0.1	1.3	5.5	0.0	1.9	1.9	16.7	2.0	1.8	1.2	0.8	101.4	16.0	19.8	13.8	18.1	9.5		2.5	10.4
S-102	0.3	0.1	1.6	7.6	0.0	2.7	2.2	22.5	2.7	2.2	1.5	1.1	141.2	21.6	26.6	18.9	24.2	12.5		3.2	12.2
S-103	0.4	0.1	1.8	9.3	0.0	3.0	2.9	26.6	3.2	2.6	1.7	1.3	140.3	24.6	27.9	21.8	27.5	14.4		3.4	13.8
S-104													0.0		0.0	0.0					
S-105	0.3	0.1	1.3	6.6	0.0	5.3	0.0	20.1	2.5	1.1	0.9	1.3	486.3	26.0	68.9	25.9	23.8	12.7		1.5	6.8
S-106	0.3	0.1	1.2	5.9	0.0	5.1	0.0	18.5	2.4	1.2	1.0	1.2	444.3	30.1	59.7	23.9	29.1	12.6		5.0	7.7
S-107	0.1	0.0	0.5	2.5	0.0	0.8	0.9	7.4	0.9	0.8	0.5	0.4	37.9	6.7	7.4	5.9	8.4	4.4		1.4	4.3
S-108	0.4	0.2	1.6	8.5	0.0	7.1	0.0	26.2	3.3	1.4	1.3	1.8	608.1	39.9	87.8	34.1	31.3	17.4		3.0	9.1
S-109	0.4	0.2	1.6	8.1	0.0	6.8	0.0	25.0	3.2	1.5	1.3	1.7	563.9	39.8	82.1	32.5	29.9	16.8		4.1	9.4
S-110	0.2	0.1	1.0	4.3	0.0	2.4	0.5	14.1	1.9	2.4	1.3	0.7	176.6	16.4	25.7	13.4	20.0	9.9		3.4	12.9
S-111	0.4	0.2	1.8	8.4	0.0	5.7	1.9	26.4	3.4	2.5	1.8	1.6	446.3	36.1	62.9	29.1	37.0	17.3		6.3	14.8
S-112	0.4	0.2	1.7	9.0	0.0	7.5	0.1	27.7	3.5	1.6	1.4	1.9	639.4	42.1	92.3	36.0	33.1	18.5		3.2	9.9
SX-101	0.1	0.0	0.5	2.2	0.0	0.8	0.6	6.5	0.8	0.6	0.4	0.3	40.8	6.2	7.7	5.5	6.9	3.6		0.9	3.4
SX-102	0.8	0.3	3.9	18.8	0.0	6.1	8.8	57.1	6.9	6.5	4.2	2.8	270.8	51.7	53.7	45.4	59.4	32.4		8.4	35.8
SX-103	0.9	0.3	4.4	23.7	0.0	7.4	9.2	69.2	8.2	6.6	4.4	3.3	275.1	60.5	58.6	54.5	69.0	36.4		8.7	35.5
SX-104	0.8	0.2	3.5	15.0	0.0	5.1	5.3	45.7	5.5	5.1	3.3	2.2	261.4	42.6	51.0	37.2	48.8	25.8		7.2	28.5
SX-105	1.1	0.3	4.9	20.4	0.0	7.3	8.7	62.8	7.6	7.4	4.8	3.1	367.2	58.9	69.9	50.9	68.0	36.1		10.6	41.9
SX-106	0.8	0.3	3.7	19.0	0.0	6.1	5.8	54.4	6.5	5.2	3.5	2.7	282.3	50.0	56.5	44.5	55.9	29.3		6.9	28.1
SX-107													0.0	0.0	0.0						
SX-108													0.1	0.1	0.0						
SX-109													0.0	0.0							
SX-110																					
SX-111	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0		0.0	0.0
SX-112													6.3	20.8	0.0						
SX-113													13.4								
SX-114	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.7	0.0	0.0	0.0	0.0		0.0	0.0
SX-115																					
U-101																					
U-102	0.6	0.2	2.8	14.0	0.0	4.3	4.4	41.9	5.1	3.8	2.6	2.1	160.0	37.3	38.3	35.2	43.6	22.8		4.9	20.6
U-103	1.0	0.2	4.2	18.0	0.0	5.1	4.8	53.5	6.3	4.9	3.4	2.6	210.8	46.4	52.5	41.9	52.6	27.7		6.2	26.5
U-104	0.1	0.2	0.3	1.6	0.0	2.2	0.0	9.9	2.3	0.4	0.1	1.5	23.8	15.9	21.4	27.4	28.4	12.8			2.0
U-105	0.9	0.2	3.9	17.4	0.0	5.1	5.3	51.7	6.1	4.9	3.3	2.5	207.5	45.0	49.5	40.5	51.2	27.1		6.4	26.5
U-106	0.3	0.1	1.7	7.1	0.0	2.7	4.4	22.2	2.7	3.0	1.9	1.1	130.2	20.6	23.2	17.7	24.3	13.4		5.0	16.8
U-107	0.5	0.2	2.4	12.4	0.0	4.0	3.8	35.5	4.2	3.4	2.3	1.7	183.1	32.6	36.7	29.0	36.5	19.1		4.5	18.4
U-108	0.6	0.2	3.1	12.3	0.0	4.7	6.1	39.4	4.8	5.1	3.3	1.9	250.8	37.8	44.4	31.9	44.3	23.7		7.6	29.9
U-109	0.9	0.2	4.0	13.2	0.0	5.1	6.3	43.2	5.3	5.5	3.6	2.2	270.9	45.6	48.2	36.0	50.6	26.8		9.2	32.1
U-110																					
U-111	0.4	0.1	1.6	7.8	0.0	2.6	2.3	22.9	2.8	2.2	1.5	1.1	128.6	21.5	25.5	19.1	24.0	12.5		3.0	11.8
U-112																					
U-201	0.0		0.0										0.0		0.0						
U-202																					
U-203	0.0		0.1										1.5		1.0						
U-204																					
T-101	0.0	0.0	0.0	0.5	0.0	0.8	2.6	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.0	0.0		0.0	0.0

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
C-106	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	5.0			0.0					0.0	
C-107													1.1								
C-108																					
C-109																					
C-110	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0			0.0					0.0	
C-111			0.0				0.0														
C-112	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0			0.0					0.0	
C-201																					
C-202																					
C-203							0.9														
C-204							38.5														
S-101	49.2	3.8	3.9	6.8	17.8	12.4	2.6	0.8	1.8	3.9	2.5	53.0	16.1		163.4			7.4		54.0	21.1
S-102	61.1	5.2	5.1	9.2	22.5	17.4	2.7	0.9	2.2	6.2	3.3	66.3	20.7		200.5			32.7		71.7	23.5
S-103	69.2	6.1	5.7	10.7	25.4	22.5	3.0	1.0	2.6	6.9	3.8	72.9	23.7		213.3			35.5		81.2	24.4
S-104																					
S-105	46.6	5.9	4.3	10.9	17.5	0.7	1.9	0.4	1.5	0.1	1.6	41.1	3.4		220.5					79.7	32.2
S-106	50.5	5.4	5.3	10.3	20.3	0.7	2.1	0.5	1.5	0.7	1.9	83.1	4.0		322.2					95.9	50.9
S-107	20.8	1.7	1.8	3.3	7.5	6.2	1.0	0.3	0.8	9.1	1.7	27.7	15.7		64.9			2.6		24.6	8.3
S-108	62.3	7.7	5.7	14.4	24.1	1.1	2.6	0.6	2.0	0.2	2.3	66.0	5.3		347.5					118.5	58.5
S-109	63.1	7.3	5.5	13.7	25.0	1.0	2.6	0.6	2.0	0.2	2.4	75.3	5.0		363.6					120.9	64.7
S-110	60.5	3.3	4.3	6.3	22.1	5.6	2.6	1.1	2.1	1.7	2.8	70.1	12.1		234.7					55.4	25.2
S-111	80.2	7.0	7.3	13.2	30.4	7.4	4.0	1.0	2.6	4.6	3.6	113.4	16.2		405.1					120.0	61.2
S-112	66.8	8.1	6.0	15.1	25.8	1.2	2.9	0.6	2.1	0.2	2.5	70.5	5.8		370.2					125.2	62.3
SX-101	17.2	1.5	1.4	2.7	6.3	5.0	0.8	0.3	0.6	1.8	0.9	18.9	6.0		56.5			3.3		20.7	6.8
SX-102	169.3	12.9	13.0	22.5	60.9	44.6	8.3	2.7	6.2	15.4	9.2	178.1	57.2		529.7			0.1		178.8	62.3
SX-103	175.5	15.7	14.6	26.9	64.3	58.5	7.7	2.7	6.7	18.8	9.9	188.8	66.5		506.3			2.2		206.1	56.2
SX-104	134.1	10.4	10.7	18.3	48.2	34.6	7.0	2.1	4.8	11.1	7.0	151.7	47.2		439.2			7.6		147.1	57.5
SX-105	193.3	14.2	15.1	25.1	68.9	46.0	10.8	3.0	6.8	15.6	9.9	223.2	68.6		656.2			6.8		209.8	89.3
SX-106	140.6	12.5	11.7	21.7	51.7	46.3	6.1	2.1	5.3	14.0	7.7	147.6	48.1		431.1			75.7		165.2	49.1
SX-107																					
SX-108																					
SX-109																					
SX-110																					
SX-111	0.2	0.0	0.0	0.0	0.2		0.0	0.0	0.0		0.0	0.2			5.5					0.0	
SX-112																					
SX-113																					
SX-114	0.4	0.0	0.0	0.0	0.3		0.0	0.0	0.0		0.0	3.5			27.2					0.0	
SX-115																					
U-101																					
U-102	105.6	10.0	9.0	17.4	39.0	35.1	4.4	1.6	3.9	10.6	5.7	105.7	38.0		283.4			14.3		125.0	30.8
U-103	132.1	12.1	11.1	20.6	48.5	46.9	5.7	2.0	5.1	11.2	7.3	133.5	47.8		363.2			17.9		153.6	39.4
U-104	35.5	6.9	4.8	13.5	15.0		0.2	0.2			0.0				0.0					55.4	
U-105	130.7	11.7	10.8	20.0	47.9	44.8	5.7	2.0	5.0	11.7	7.2	137.1	48.6		366.5			2.6		150.7	40.5
U-106	75.7	4.9	5.6	8.8	26.7	16.1	4.3	1.2	2.6	6.4	4.0	103.2	30.5		256.4					77.1	34.5
U-107	92.1	8.2	7.6	14.2	33.9	30.1	4.1	1.4	3.4	9.4	5.1	97.0	31.8		282.7			41.1		107.9	32.3
U-108	133.1	8.8	10.2	16.0	46.7	25.4	8.3	2.1	4.5	12.1	6.8	157.6	48.0		474.7					162.2	78.2
U-109	144.1	10.2	11.4	18.7	50.5	28.2	9.0	2.3	4.8	13.7	7.2	188.2	60.3		507.9					145.7	71.3
U-110																					
U-111	59.5	5.3	5.0	9.3	21.9	18.3	2.6	0.9	2.2	6.8	3.3	64.1	21.6		187.3			15.2		71.5	22.0
U-112																					
U-201																					
U-202																					
U-203																					
U-204																					
T-101	0.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	2.7			9.2					0.1	

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
C-106		0.0																						
C-107																								
C-108																								
C-109																								
C-110		0.0																						
C-111																								
C-112		0.0																						
C-201																								
C-202																								
C-203																								
C-204																								
S-101		5.1		33.0		33.6				1.3														
S-102		5.5		45.4		45.7				1.6														
S-103		6.2		53.5		44.0				2.2														
S-104						0.6																		
S-105		0.6		48.9		70.9																		
S-106		0.7		45.3		140.9																		
S-107		2.1		14.6		12.3				0.8														
S-108		0.8		64.3		99.4																		
S-109		0.9		61.2		95.9																		
S-110		7.4		28.3		65.4				0.4														
S-111		5.9		59.1		144.2				2.6														
S-112		1.1		67.7		105.2																		
SX-101		1.5		13.2		12.7				0.5														
SX-102		21.8		111.8		91.8				13.8														
SX-103		15.9		137.4		90.9				6.0														
SX-104		14.4		89.8		85.5				4.7														
SX-105		21.6		122.2		123.9				5.6														
SX-106		12.5		109.3		88.5				4.6														
SX-107						27.0																		
SX-108						43.0																		
SX-109						30.1																		
SX-110																								
SX-111		0.0		0.0		0.2																		
SX-112						19.0																		
SX-113																								
SX-114		0.0		0.0		3.4																		
SX-115																								
U-101																								
U-102		9.0		84.5		51.1				3.3														
U-103		11.2		106.1		65.7				3.5														
U-104		0.2		30.6		4.8																		
U-105		11.9		102.4		65.5				4.5														
U-106		10.8		42.4		44.2				6.2														
U-107		8.3		71.2		57.7				3.1														
U-108		16.3		75.2		88.3				3.8														
U-109		17.0		82.8		95.2				1.5														
U-110																								
U-111		5.1		46.3		40.4				1.7														
U-112																								
U-201																								
U-202																								
U-203																								
U-204																								
T-101		0.0		0.3		0.2																		

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
T-102																					
T-103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0		0.0	0.0
T-104	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.9	0.1	0.2	0.1	0.2	0.1		0.0	0.1
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110					0.0	1.9	0.0														
T-111					0.0	0.8	0.0														
T-112																					
T-201																					
T-202																					
T-203							8.8														
T-204																					
TX-101	0.0	0.0	0.1	0.3	0.0	0.1	0.1	0.8	0.1	0.1	0.0	0.0	5.4	0.8	1.0	0.7	0.8	0.4		0.1	0.4
TX-102	0.4	0.2	1.6	11.0	0.0	2.1	0.0	32.3	3.7	2.0	1.5	1.5	48.7	25.2	18.4	24.5	27.5	14.6		1.5	9.6
TX-103	0.1	0.0	0.5	4.3	0.0	1.1	1.4	10.1	1.2	0.6	0.5	0.5	16.6	8.0	5.8	7.7	8.7	4.4		0.4	3.0
TX-104	0.1	0.0	0.3	2.4	0.0	0.4	0.0	6.9	0.8	0.4	0.3	0.3	11.4	5.4	3.9	5.2	6.0	3.1		0.4	2.0
TX-105	1.1	0.5	4.8	32.8	0.0	6.2	0.0	96.3	11.0	6.0	4.5	4.6	152.5	75.2	54.7	72.9	82.3	42.1		3.3	28.5
TX-106	0.6	0.2	2.6	17.6	0.0	3.3	0.0	51.6	5.9	3.2	2.4	2.4	83.1	40.3	29.4	39.0	44.4	22.8		2.4	15.3
TX-107	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.8	0.1	0.0	0.0	0.0	1.3	0.6	0.4	0.6	0.7	0.4		0.0	0.2
TX-108	0.2	0.1	0.8	5.3	0.0	1.0	0.0	15.5	1.8	1.0	0.7	0.8	24.6	12.3	9.1	12.1	13.4	6.9		0.5	4.6
TX-109	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
TX-110	0.6	0.3	2.8	19.0	0.0	3.6	0.0	55.6	6.4	3.5	2.6	2.6	91.1	43.4	31.6	42.1	48.0	25.0		3.5	16.5
TX-111	0.5	0.2	2.3	15.8	0.0	3.0	0.0	46.3	5.3	2.9	2.2	2.2	77.0	36.2	26.3	35.1	40.3	21.0		3.2	13.7
TX-112	1.1	0.5	4.9	33.9	0.0	6.4	0.0	99.4	11.4	6.2	4.7	4.7	157.3	77.6	56.5	75.2	84.9	43.5		3.4	29.4
TX-113	0.7	0.3	3.1	21.5	0.0	4.1	0.0	63.1	7.2	4.0	3.0	3.0	102.2	49.3	35.9	47.7	54.4	28.1		3.2	18.7
TX-114	0.8	0.3	3.5	24.3	0.0	4.6	0.0	71.2	8.2	4.5	3.3	3.4	115.4	55.6	40.5	53.9	61.4	31.7		3.7	21.1
TX-115	1.0	0.4	4.4	30.5	0.0	5.8	0.0	89.5	10.3	5.6	4.2	4.2	141.9	69.9	50.9	67.7	76.5	39.2		3.2	26.5
TX-116	0.4	0.2	1.8	9.8	0.0	2.4	0.0	27.0	3.1	2.7	2.1	1.6	44.8	23.2	20.7	27.0	31.3	17.0		0.8	12.8
TX-117	0.8	0.3	3.4	18.7	0.0	3.8	0.0	48.6	5.2	4.7	3.7	2.6	77.8	32.5	35.5	45.2	50.7	27.5		1.6	21.9
TX-118	0.2	0.1	0.9	6.5	0.0	1.5	0.7	16.8	2.0	1.2	0.9	0.8	51.7	14.1	12.9	13.3	15.4	8.0		1.3	5.9
TY-101	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
TY-102	0.1	0.0	0.3	1.7	0.0	0.3	0.0	5.1	0.6	0.3	0.2	0.2	7.9	3.9	2.9	3.8	4.3	2.2		0.2	1.5
TY-103	0.1	0.0	0.4	2.1	0.0	0.4	0.0	6.3	0.8	0.4	0.3	0.3	9.9	5.3	4.1	5.4	5.7	3.0		0.2	1.9
TY-104																					
TY-105								97.3													
TY-106																					
AN-101	0.2	0.1	0.9	3.9	0.0	14.6	0.6	13.2	1.6	1.3	0.8	0.8	248.2	16.2	35.8	14.5	15.6	8.6		1.6	7.9
AN-102	1.0	0.3	5.2	23.2	0.0	17.0	6.8	73.2	8.8	9.2	5.9	3.5	388.2	64.4	77.1	58.5	100.3	51.7		12.0	51.9
AN-103	0.6	0.3	3.4	16.0	0.0	24.8	2.9	60.8	6.6	8.1	4.8	2.6	281.2	46.0	56.6	44.4	63.2	34.9		6.4	43.8
AN-104	0.7	0.2	3.3	16.6	0.0	8.5	3.3	50.9	6.0	5.5	3.6	2.4	222.3	43.4	47.3	40.4	60.4	31.4		6.4	29.9
AN-105	1.4	0.6	6.9	37.1	0.0	22.5	5.5	115.5	13.2	11.0	7.5	5.5	420.4	94.7	97.3	90.6	127.5	66.3		11.7	58.7
AN-106	0.0	0.0	0.1	0.4	0.0	0.1	0.1	1.1	0.1	0.1	0.1	0.1	5.8	1.0	1.2	0.9	1.6	0.8		0.2	0.7
AN-107	0.5	0.2	2.9	12.7	0.0	3.7	2.9	43.0	4.9	6.7	4.2	1.8	146.9	31.4	32.9	29.0	58.7	31.6		6.3	38.1
AP-101	0.0	0.0	0.2	0.7	0.0	0.4	0.3	3.1	0.3	0.3	0.2	0.1	10.1	1.7	2.0	1.6	2.4	1.3		0.3	1.9
AP-102	0.6	0.2	2.9	13.5	0.0	4.5	3.6	42.1	4.9	4.3	2.9	2.0	215.1	36.9	43.4	33.0	60.8	29.6		5.8	24.2
AP-103	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.7	0.1	0.1	0.0	0.0	2.5	0.4	0.5	0.4	0.6	0.3		0.1	0.4
AP-104																					
AP-105	0.3	0.1	1.6	6.7	0.0	4.1	3.0	31.1	2.6	3.4	2.0	1.0	102.9	17.6	20.5	16.1	24.5	13.7		2.9	19.1
AP-106	0.1	0.0	0.6	2.4	0.0	1.5	1.0	11.2	0.9	1.2	0.7	0.3	37.4	6.4	7.5	5.9	8.9	4.9		1.0	6.8
AP-107																					
AP-108	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.1	0.1	0.1	0.1	0.1		0.0	0.1
AW-101	0.7	0.3	3.9	17.5	0.0	15.4	3.9	81.3	7.3	10.8	6.2	2.7	290.7	48.2	57.7	45.1	68.7	39.3		7.8	58.5

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
T-102																					
T-103	0.2	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.6			2.3					0.0	
T-104	0.5	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.7	0.3		1.6					0.5	0.2
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110																					
T-111																					
T-112																					
T-201																					
T-202																					
T-203																					
T-204																					
TX-101	2.0	0.2	0.2	0.3	0.7	0.6	0.1	0.0	0.1	0.2	0.1	2.2	0.7		6.7			0.2		2.5	0.8
TX-102	56.6	7.4	5.3	11.8	22.1	29.8	1.0	0.8	2.5	4.0	3.4	35.0	28.8		87.0					75.0	0.1
TX-103	17.9	2.3	1.7	3.6	6.9	12.1	0.3	0.3	0.8	0.4	1.0	13.6	2.9		33.1					23.4	0.2
TX-104	12.1	1.6	1.2	2.5	4.7	7.3	0.2	0.2	0.5	0.7	0.7	9.7	5.3		18.6					16.0	0.0
TX-105	168.3	21.9	15.9	34.6	65.7	85.0	3.1	2.4	7.4	1.1	9.3	103.7	11.0		258.9					223.2	0.5
TX-106	90.1	11.7	8.6	18.7	35.2	51.4	1.6	1.3	4.0	2.3	5.1	62.3	18.7		138.7					119.6	0.3
TX-107	1.4	0.2	0.1	0.3	0.5	0.8	0.0	0.0	0.1	0.1	0.1	1.1	0.5		2.1					1.8	0.0
TX-108	27.5	3.6	2.6	5.7	10.8	12.2	0.5	0.4	1.2	0.1	1.5	16.0	1.4		42.0					36.7	0.1
TX-109	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0					0.0	0.0
TX-110	97.2	12.7	9.2	20.3	38.0	58.5	1.8	1.4	4.3	5.5	5.8	77.4	41.3		149.5					128.9	0.3
TX-111	81.0	10.5	7.7	16.9	31.6	49.3	1.5	1.1	3.6	5.1	4.8	67.1	38.5		124.5					107.4	0.3
TX-112	173.5	22.6	16.4	35.7	67.7	87.8	3.2	2.4	7.7	1.2	9.6	107.2	12.0		267.0					230.3	0.6
TX-113	110.3	14.4	10.5	22.9	43.1	66.0	2.0	1.6	4.9	3.7	6.3	79.4	28.9		169.6					146.3	0.4
TX-114	124.4	16.2	11.8	25.8	48.6	74.9	2.3	1.8	5.5	4.3	7.2	90.1	33.4		191.4					165.1	0.4
TX-115	156.3	20.4	14.8	32.2	61.0	79.8	2.9	2.2	6.9	1.2	8.7	97.3	11.9		240.5					207.4	0.5
TX-116	71.4	7.0	6.2	13.7	27.1		1.3	1.1	3.0		4.0	21.0			85.5					85.4	
TX-117	123.7	11.4	10.2	22.1	48.6		2.3	1.8	5.8		7.4	27.8			110.9					133.1	
TX-118	33.4	3.9	3.0	6.4	12.8	18.8	0.9	0.5	1.4	2.1	1.9	28.9	10.7		74.8			1.2		43.2	4.9
TY-101	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0					0.0	
TY-102	8.8	1.2	0.8	1.8	3.4	4.4	0.2	0.1	0.4	0.1	0.5	5.4	0.5		13.6					11.7	0.0
TY-103	11.8	1.6	1.1	2.6	4.8	2.3	0.2	0.2	0.6		0.6	5.3			17.4					16.2	
TY-104																					
TY-105																					
TY-106																					
AN-101	45.5	3.3	3.1	6.8	14.9	7.5	1.9	0.5	1.4	7.8	8.3	50.5	12.4		174.2			0.3		59.5	23.4
AN-102	238.4	16.2	20.7	42.6	88.6	80.3	13.4	3.9	8.8	136.3	54.2	493.6	234.2		1011.0			25.2		288.9	90.8
AN-103	209.1	12.0	13.9	26.2	83.0	159.6	9.8	3.5	7.9	50.2	20.5	741.7	97.8		407.2			11.7		395.0	97.3
AN-104	143.9	11.4	12.4	25.4	53.9	93.3	6.9	2.3	5.6	62.5	21.3	508.1	130.3		373.4			17.3		324.7	50.5
AN-105	293.9	25.6	25.8	54.1	111.3	359.5	12.4	4.5	11.6	101.8	53.6	1086.5	201.4		700.3			31.2		944.1	88.4
AN-106	3.1	0.2	0.3	0.7	1.2	1.4	0.2	0.0	0.1	1.0	0.5	5.0	2.1		9.2			0.4		5.6	17.6
AN-107	160.4	8.3	12.5	25.7	60.1	63.3	10.2	2.9	6.4	138.8	44.0	339.4	227.0		368.6			13.4		245.6	26.8
AP-101	8.5	0.4	0.5	1.0	3.2	13.4	0.4	0.1	0.3	2.2	0.8	75.0	4.3		17.8			0.9		29.6	2.7
AP-102	116.1	9.2	11.9	26.6	43.0	52.2	5.8	1.8	4.4	36.5	20.0	184.6	78.4		339.9			15.4		206.4	705.2
AP-103	2.0	0.1	0.1	0.2	0.8	68.0	0.1	0.0	0.1	0.6	0.2	371.9	1.1		4.3			0.2		221.3	0.6
AP-104																					15.6
AP-105	85.8	4.5	5.5	9.9	32.8	138.9	4.3	1.5	3.3	22.2	8.5	767.6	44.4		179.9			9.5		309.4	27.4
AP-106	30.8	1.6	2.0	3.6	11.8	71.3	1.6	0.5	1.2	8.0	3.1	519.0	16.0		64.8			3.5		181.8	9.9
AP-107																					
AP-108	0.3	0.0	0.0	0.0	0.1	7.3	0.0	0.0	0.0	0.1	0.0	368.1	0.2		0.7			0.0		63.5	0.1
AW-101	264.8	12.3	15.9	28.0	105.2	302.0	13.4	4.7	10.3	64.0	25.7	960.8	124.8		474.8			14.4		571.8	91.9

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
T-102																								
T-103		0.0		0.0		0.2																		
T-104		0.1		0.3		0.3																		
T-105																								
T-106																								
T-107																								
T-108																								
T-109																								
T-110																								
T-111																								
T-112																								
T-201																								
T-202																								
T-203																								
T-204																								
TX-101		0.2		1.6		1.6				0.0														
TX-102		1.2		65.7		13.7																		
TX-103		0.4		20.6		4.5																		
TX-104		0.2		14.0		2.9																		
TX-105		3.4		195.6		40.8																		
TX-106		1.8		104.7		21.8																		
TX-107		0.0		1.6		0.3																		
TX-108		0.6		32.1		6.7																		
TX-109		0.0		0.0		0.0																		
TX-110		2.0		112.9		23.5																		
TX-111		1.7		94.1		19.6																		
TX-112		3.5		201.7		42.1																		
TX-113		2.3		128.1		26.7																		
TX-114		2.5		144.6		30.2																		
TX-115		3.2		181.7		37.9																		
TX-116		1.6		66.6		14.9																		
TX-117		2.5		112.1		21.7																		
TX-118		1.4		34.3		14.9				0.2														
TY-101		0.0		0.0		0.0																		
TY-102		0.2		10.3		2.1																		
TY-103		0.2		14.1		3.0																		
TY-104																								
TY-105																								
TY-106																								
AN-101		41.7		28.0		43.9				45.9									0.0	47.6	22.6			
AN-102		20.2		139.2		119.7				490.5									0.5	161.8	4.5			
AN-103		27.2		102.1		77.6				241.6									1.3	956.1	498.0			
AN-104		10.2		99.4		67.7				288.6									1.0	655.4	217.3			
AN-105		17.9		224.5		124.6				557.4									2.4	765.7	42.3			
AN-106		0.2		2.2		1.8				3.7									0.0	0.1	0.1			
AN-107		12.2		72.6		45.6				679.8									0.5	74.6	1.1			
AP-101		1.2		3.8		3.0				8.7									0.0	129.0	70.6			993.7
AP-102		9.2		80.5		68.0				135.4									0.1	4.5	3.3			5.0
AP-103		0.3		1.0		0.8				2.2									25.5	32.0	15.4			41.0
AP-104																								
AP-105		12.4		38.8		30.6				88.7									0.2	1512.2	797.0			643.1
AP-106		4.4		14.1		11.1				32.0									2.5	549.6	283.0			281.4
AP-107																								1115.0
AP-108		0.0		0.2		0.1				0.4									13.0	95.6	1.6			112.3
AW-101		40.0		106.6		83.0				292.2									1.0	2260.4	1137.8			

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
AW-102	0.2	0.1	1.4	18.3	0.0	3.1	2.3	24.0	2.2	2.6	1.6	0.8	91.3	15.3	17.7	13.9	20.0	11.1		2.5	14.5
AW-103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0
AW-104	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0
AW-105	0.1	0.0	0.5	2.1	0.0	1.5	0.7	11.4	0.9	1.2	0.7	0.3	33.9	5.8	6.8	5.3	8.2	4.6		0.9	6.4
AW-106	0.3	0.1	1.4	6.3	0.0	3.5	2.3	27.1	2.5	2.8	1.7	0.9	100.0	17.7	20.0	15.7	22.2	12.2		2.5	15.6
AY-101	0.1	0.0	0.4	2.0	0.0	0.7	1.9	6.9	0.9	1.2	0.6	0.3	18.9	6.2	5.0	5.1	7.4	4.8		0.6	6.0
AY-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.0	0.0
AZ-101	0.0	0.0	0.2	0.8	0.0	0.3	0.2	2.4	0.3	0.3	0.2	0.1	11.9	2.1	2.4	1.8	3.1	1.6		0.4	1.6
AZ-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1		0.0	0.1
SY-101	2.2	0.7	10.3	49.0	0.0	15.4	17.7	144.9	17.4	14.9	9.9	7.0	676.2	130.1	141.3	115.6	151.0	79.9		20.9	81.2
SY-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0
SY-103	1.0	0.3	4.7	23.2	0.0	7.5	7.3	67.8	8.1	7.0	4.6	3.3	354.7	61.8	70.5	54.8	73.4	38.4		9.7	38.2
COND																					
CRIB	343.2	1.2	5829.6	6376.8	8174.3	21083.5	7756.4	1710.2	10236.1	19269.4	10413.3	2532.3					32.8				276.1
CSR	0.0	0.0	4.9	10.5	0.4	71.1	0.0	292.2	58.0	23.6	5.7	8.2	3698.9	2562.9	40.2	42.3	20288.6	5954.4		625.3	259.5
GROUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.1	0.1	0.1	0.1	0.1		0.0	0.1
LEAK	92.0	0.0	14.1	5.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	152.2	83.2	5.8	39.2	0.8	0.4		0.0	0.0
PCOND																					
R202S													363.7	236.3	4.3	15.5					
RCOND																					
SRR	0.0	0.0	0.2	0.0	0.0	1.8		3.8	0.8	2.0	0.3						439.3	145.7		9.6	4.9
TFeCN	41.9		313.8	152.0	6.5	413.3		5349.3	1142.8		576.7										102.0
UNK	0.0		0.5	0.3	0.1	13.3		25.8	2.4		0.0						2755.7	1162.5		145.8	19.7
UR	22823.5	12048.5	164.4	655.3	7.5			1007.1	784.9	109.7											
VENT																					
A1COND																					
A2COND																					
BCOND																					
BYCOND																					
S1COND																					
S2COND																					
T1COND																					
T2COND																					
A1-in	17.4	5.4	142.6	434.9	0.2	138.9	164.4	1803.1	199.3	444.6	237.1	55.0	5652.4	1019.5	1176.9	915.0	3139.4	1740.6		343.1	2457.1
A2-in																					
B-in			23872.7	9449.4	1113.2	1316.5		9560.0													
BY-in	4.8	1.2	236.2	55.7	0.4	45.3	6.2	1194.7	437.6	2162.9	1526.9	1.3	29.7	17.3	16.9	21.9	1959.1	1548.8		75.1	8071.6
S1-in	164.0	61.6	762.9	3462.3	0.7	2104.3	701.9	10836.2	1363.2	1122.3	757.3	640.0	194586	13401.7	26591.7	11926.5	13792.7	7175.0		1893.8	6524.6
S2-in	87.6	26.5	395.8	1902.0	0.3	576.3	547.4	5606.1	666.9	527.7	357.7	272.6	25345.1	5001.0	5489.9	4485.8	5640.3	2968.5		698.8	2845.1
T1-in	1434.6		20386.9	10611.8	938.4			8984.4				160.5									
T2-in	1732.6	820.8	7628.3	46329.9	5.0	12928.4	4.2	137991	17571.4	8294.6	5851.9	8692.8	227379	122529.6	105180	140420	154144	76792.3		3123.2	39689.2
STATLOSS																					
B-bot	6.7		1848.1	1143.9	76.6	384.2		4481.8	172.2												
BY-bot	1.8	0.5	74.6	41.8	0.2	20.8	12.1	521.2	143.7	715.0	417.1	2.9	134.8	45.5	45.7	50.3	588.0	715.0		159.5	3713.1
S1-bot																					
S2-bot																					
T1-bot	319.3		1837.1	2236.3	78.7			6468.0				1033.4									
T2-bot																					
A1-bot																					
R-bot	0.0	0.0	0.8	2.7	0.0	0.1		13.0	3.9	6.2	6.2	0.4	7644.5	5269.3	448.3	163.5	7.6	3.7		1.8	30.4
swpump	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
AW-102	65.9	3.9	4.5	8.0	24.9	90.1	3.3	1.1	2.5	15.1	6.0	515.8	33.0		151.2			6.0		207.8	21.9
AW-103	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0		0.1			0.0		0.1	0.0
AW-104	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.1		0.2			0.0		0.2	0.0
AW-105	28.9	1.5	1.8	3.3	11.3	50.6	1.5	0.5	1.1	7.8	3.0	220.8	15.5		57.2			2.3		99.4	9.7
AW-106	72.1	4.4	4.9	9.0	27.5	102.3	3.5	1.2	2.8	16.5	6.7	648.6	33.8		158.2			7.9		237.6	22.7
AY-101	27.4	1.5	1.7	3.1	10.1	7.1	1.2	0.5	1.1	6.9	4.7	45.4	152.9		383.5			1.0		27.5	3.7
AY-102	0.1	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	350.2	0.1		0.3			0.0		107.2	0.0
AZ-101	7.4	0.5	0.7	1.3	2.7	2.0	0.4	0.1	0.3	4.0	1.6	20.8	7.0		21.3			0.9		7.8	2.3
AZ-102	0.3	0.0	0.0	0.0	0.1	2.2	0.0	0.0	0.0	0.2	0.0	25.4	0.2		0.6			0.0		2.5	0.2
SY-101	393.7	32.9	32.2	58.5	143.0	120.1	18.5	6.1	14.6	64.2	23.5	437.5	170.5		1194.3			116.1		448.1	141.3
SY-102	0.0	0.0	0.0	0.0	0.0	100.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0		0.1			0.0		317.0	0.0
SY-103	185.8	15.4	15.5	28.8	68.0	56.0	8.8	2.9	6.9	39.7	14.5	212.9	92.7		568.7			66.1		210.2	66.0
COND																					
CRIB			12.9																	305.4	
CSR	1430.8	15.2	3094.3	7961.8	552.2	0.0	3.4	11.3	0.4	4100.4	5359.3	586.4	67.9		892.6			0.0		762.2	0.2
GROUT	0.3	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.1	0.0	2.6	0.2		0.7			0.0		1.2	726.0
LEAK	0.6	0.6	0.1	0.4	0.0		0.0	0.0	0.0		0.0	20.2			67.3					7.4	
PCOND																					
R202S																					
RCOND																					
SRR	51.8		86.4	262.5	20.7		0.1	0.7		94.3	238.0	1.1	35.6		62.8					12.8	
TFeCN																				7.5	
UNK	186.9		462.0	1686.8	154.2					159.4	4833.2	1.2	42.0		58.2					95.2	
UR																				108.2	
VENT																					
A1COND																					
A2COND																					
BCOND																					
BYCOND																					
S1COND																					
S2COND																					
T1COND																					
T2COND																					
A1-in	9781.0	256.9	699.6	1432.1	3571.3	910.6	601.4	194.4	404.2	10791.1	2104.6	11937.6	13118.5		20421.3			460.1		3727.2	1216.8
A2-in																					
B-in																					
BY-in	28012.4	5.7	976.9	95.2	4774.3		814.9	930.6	375.1	11.1	391.8	321.5			4860.9					552.5	115.3
S1-in	33583.3	2850.2	2798.7	5397.9	12380.9	3032.9	1646.5	473.0	1135.5	2178.1	1558.0	38053.2	7924.1		141634.8					45179.1	22166.7
S2-in	14192.1	1280.3	1183.2	2201.4	5216.5	4775.2	615.9	215.7	536.8	1356.3	785.7	14902.6	5174.3		41332.0			1415.0		16641.5	4637.4
T1-in																					
T2-in	266996.0	39028.6	28429.1	69704.9	107774	48237.4	4062.0	3360.1	10028.7	629.5	12032.2	88253.4	4948.2		284039.4					382594.0	126.3
STATLOSS																					
B-bot																				23.7	
BY-bot	13315.2	13.2	387.1	58.2	4743.1	1.3	658.1	303.4	631.1	21.0	469.7	590.6	4.4		6764.8					507.3	325.5
S1-bot																					
S2-bot																					
T1-bot																					
T2-bot																					
A1-bot																					
R-bot	243.6	2.6	3.9	0.2	180.9		3.2	2.1	6.9		4.9	69.5			359.8					13.3	
swpump	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0					0.0	0.0

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
AW-102		8.9		33.5		26.5				55.8									0.1	1131.9	542.2			424.5
AW-103		0.0		0.0		0.0				0.0									0.0	10.3	220.5			
AW-104		0.0		0.0		0.0				0.1									0.0	934.5	0.3			
AW-105		4.1		12.7		9.9				33.7									0.1	543.6	514.0			80.9
AW-106		9.5		38.4		28.6				67.7									0.2	1227.3	597.3			528.5
AY-101		6.6		13.8		5.6				32.7									0.0	21.7	0.6			
AY-102		0.0		0.1		0.1				0.2									5.6	1.5	0.7			1.0
AZ-101		0.7		4.5		3.8				12.7									663.4	10.8	0.0			
AZ-102		0.0		0.1		0.1				0.8									378.4	12.1	0.0			
SY-101		40.4		286.5		220.2				17.4														
SY-102		0.0		0.0		0.0				0.1									0.0	0.3	0.0			
SY-103		17.1		134.2		112.3				67.3														
COND																								
CRIB				417.3																				
CSR		124.9		335.9		1827.8				40.5														
GROUT		0.0		0.1		0.1				0.3									0.0	4.5	2.7			0.5
LEAK		0.0		0.4		3.9																		
PCOND																								
R202S						272.2																		
RCOND																								
SRR		2.5																						
TFeCN		2290.7																						
UNK		18.2																						
UR																								
VENT																								
A1COND																								
A2COND																								
BCOND																								
BYCOND																								
S1COND																								
S2COND																								
T1COND																								
T2COND																								
A1-in		870.2		2227.1		1779.7				52512.0														
A2-in																								
B-in																								
BY-in		1107.5		43.1		11.4				1683.0														
S1-in		2718.7		23721.4		42517.7				710.1														
S2-in		1249.0		11188.7		7967.1				450.2														
T1-in		426.0		70.0																				
T2-in		4700.3		316040.4		65167.2																		
STATLOSS																								
B-bot																								
BY-bot		701.6		99.0		51.9																		
S1-bot																								
S2-bot																								
T1-bot																								
T2-bot																								
A1-bot																								
R-bot		3.5		50.6		10.3																		
swpump		0.0		0.0		0.0				7.6														

	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
A-101																	2.99				
A-102																					
A-103																					
A-104																	0.99				
A-105																		19.00			
A-106																					
AX-101																		10.00			
AX-102																				1.00	
AX-103																		13.99			
AX-104																		6.99			
B-101	3.00																				
B-102	3.00																				
B-103	3.00																				
B-104				121.00	172.98	11.00															
B-105				12.00	15.99																
B-106																					
B-107			163.99																		
B-108			34.00																		
B-109																					
B-110					142.98	99.98												3.00			
B-111						208.99												25.99			
B-112						13.99															
B-201							28.00														
B-202							27.00														
B-203							50.00														
B-204							49.00														
BX-101	29.00																				
BX-102	23.00																				
BX-103	54.00																				
BX-104	41.00																				
BX-105	46.00																				
BX-106	3.00																				
BX-107			212.99	131.00																	
BX-108			13.00	13.00																	
BX-109				34.00				158.99													
BX-110			58.00	98.00																	
BX-111				32.00																	
BX-112				132.00																	
BY-101	37.00																				
BY-102	18.00																				
BY-103																					
BY-104										149.99											
BY-105	16.00									142.00											
BY-106									54.00	44.00											
BY-107				24.00				20.00	43.00	29.99											
BY-108									133.00	32.00											

	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
A-101																					
A-102													3.00								
A-103										3.00											
A-104										27.00											
A-105																					
A-106										21.00			29.00								
AX-101													3.00								
AX-102											4.98										
AX-103																					
AX-104																					
B-101											5.00	19.99									
B-102	1.00																				
B-103																					
B-104																					
B-105																					
B-106																					
B-107																					
B-108																					
B-109	13.00																				
B-110																					
B-111																				1.00	
B-112																					
B-201																					
B-202																					
B-203																					
B-204																					
BX-101												13.00									
BX-102	5.00															68.00					
BX-103	8.00																				
BX-104																					
BX-105																					
BX-106																					
BX-107																					
BX-108																					
BX-109																					
BX-110																					
BX-111																					
BX-112																					
BY-101																					
BY-102																					
BY-103	9.00																				
BY-104																					
BY-105																	8.00				
BY-106																					
BY-107																					
BY-108																					

	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF	WTR	GAS
A-101																										
A-102																										
A-103																										
A-104																										
A-105																										
A-106																										
AX-101																										
AX-102																										
AX-103																										
AX-104																										
B-101		85.00																								
B-102		24.00																								
B-103		56.00																								
B-104		61.00																								
B-105		130.00																								
B-106		116.00																								
B-107																										
B-108		60.00																								
B-109		84.00																								
B-110																										
B-111																										
B-112										16.00																
B-201																										
B-202																										
B-203																										
B-204																										
BX-101																										
BX-102																										
BX-103																										
BX-104																										
BX-105																										
BX-106										28.00																
BX-107																										
BX-108																										
BX-109																										
BX-110										42.00																
BX-111										179.00																
BX-112		32.00																								
BY-101										350.00																
BY-102										312.00																
BY-103										391.00																
BY-104										176.00																
BY-105										337.00																
BY-106										544.00																
BY-107										149.00																
BY-108										63.00																

	SWLIQ	UNK	assume	tlmVol	tankVol
A-101				3.0	953.0
A-102				3.0	41.0
A-103				3.0	371.0
A-104				28.0	28.0
A-105				19.0	19.0
A-106				50.0	125.0
AX-101				13.0	748.0
AX-102				6.0	39.0
AX-103				14.0	112.0
AX-104				7.0	7.0
B-101				113.0	113.0
B-102				28.0	32.0
B-103				59.0	59.0
B-104				366.0	371.0
B-105				158.0	158.0
B-106				116.0	117.0
B-107				164.0	165.0
B-108				94.0	94.0
B-109				97.0	127.0
B-110				246.0	246.0
B-111				236.0	237.0
B-112				30.0	33.0
B-201				28.0	29.0
B-202				27.0	27.0
B-203				50.0	51.0
B-204				49.0	50.0
BX-101				42.0	43.0
BX-102				96.0	96.0
BX-103				62.0	66.0
BX-104				41.0	99.0
BX-105				46.0	51.0
BX-106				31.0	46.0
BX-107				344.0	345.0
BX-108				26.0	26.0
BX-109				193.0	193.0
BX-110				198.0	198.0
BX-111				211.0	211.0
BX-112				164.0	165.0
BY-101				387.0	387.0
BY-102				330.0	341.0
BY-103				400.0	400.0
BY-104				326.0	326.0
BY-105				503.0	503.0
BY-106				642.0	642.0
BY-107				266.0	266.0
BY-108				228.0	228.0

	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
BY-109	36.00																				
BY-110				37.00					111.00	42.00											
BY-111	26.00																				
BY-112	2.00									6.00											
C-101	3.00							30.00													30.00
C-102	5.00							16.00													33.00
C-103																					37.00
C-104	3.00															15.00		2.00		10.00	97.99
C-105								15.00													134.98
C-106								15.00													34.00
C-107			217.99																		
C-108			29.00					25.00			12.00										
C-109			10.00								44.99										
C-110			186.99																		
C-111			36.00								4.99										16.00
C-112			15.00								72.00										13.00
C-201	1.00																				
C-202																					
C-203	4.00																				
C-204	2.00																				
S-101													92.00		28.99						
S-102													4.00								
S-103													9.00								
S-104													108.00		24.00						
S-105													2.00								
S-106															32.00						
S-107													91.99		88.97	41.99					
S-108													5.00								
S-109															13.00						
S-110													89.00		24.00						
S-111													66.00		12.00						
S-112													3.00		3.00						
SX-101													153.99								
SX-102													59.00								
SX-103													10.00								
SX-104													98.99								
SX-105													15.00	9.00							
SX-106																					
SX-107													63.00	23.99							
SX-108													68.99	17.99							
SX-109													44.00	16.00							
SX-110														31.99							
SX-111													42.00	40.99							
SX-112													44.00	25.00							
SX-113													2.00								
SX-114													10.99	36.99							

	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
BY-109																					
BY-110																					
BY-111																					
BY-112																					
C-101	25.00																				
C-102	329.99	13.00						26.00													
C-103										25.00											
C-104	69.00	27.00			30.99				24.00				11.00								
C-105																					
C-106										95.99		52.00									
C-107	37.00												20.00								
C-108																					
C-109							7.00														
C-110																					
C-111																					
C-112	3.00						1.00														
C-201							1.00														
C-202							1.00														
C-203							1.00														
C-204							1.00														
S-101																					
S-102																					
S-103																					
S-104																					
S-105																					
S-106																					
S-107		18.00																			
S-108																					
S-109																					
S-110																					
S-111																					
S-112																					
SX-101																					
SX-102																					
SX-103																					
SX-104																					
SX-105																					
SX-106																					
SX-107																					
SX-108																					
SX-109																					
SX-110																					
SX-111																					
SX-112																					
SX-113																29.00					
SX-114																					

	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF	WTR	GAS
BY-109										387.00																
BY-110										208.00																
BY-111										433.00																
BY-112										283.00																
C-101																										
C-102																										
C-103																										
C-104																										
C-105																										
C-106																										
C-107																										
C-108																										
C-109																										
C-110																										
C-111																										
C-112																										
C-201																										
C-202																										
C-203																										
C-204																										
S-101						90.00																				
S-102																										
S-103																										
S-104						161.00																				
S-105																										
S-106																										
S-107						13.00																				
S-108																										
S-109																										
S-110																										
S-111																										
S-112																										
SX-101						156.00																				
SX-102																										
SX-103						102.00																				
SX-104						70.00																				
SX-105						31.00																				
SX-106						1.00																				
SX-107						17.00																				
SX-108																										
SX-109						190.00																				
SX-110						30.00																				
SX-111						42.00																				
SX-112						23.00																				
SX-113																										
SX-114						133.00																				

	SWLIQ	UNK	assume	tlmVol	tankVol
BY-109				423.0	423.0
BY-110				398.0	398.0
BY-111				459.0	459.0
BY-112				291.0	291.0
C-101				88.0	88.0
C-102				423.0	423.0
C-103				62.0	195.0
C-104				290.0	295.0
C-105				150.0	150.0
C-106				197.0	229.0
C-107				275.0	275.0
C-108				66.0	66.0
C-109				62.0	66.0
C-110				187.0	187.0
C-111				57.0	57.0
C-112				104.0	104.0
C-201				2.0	2.0
C-202				1.0	1.0
C-203				5.0	5.0
C-204				3.0	3.0
S-101				211.0	427.0
S-102				4.0	549.0
S-103				9.0	248.0
S-104				293.0	294.0
S-105				2.0	407.0
S-106				32.0	479.0
S-107				253.9	376.0
S-108				5.0	502.0
S-109				13.0	507.0
S-110				113.0	390.0
S-111				78.0	538.0
S-112				6.0	523.0
SX-101				310.0	456.0
SX-102				59.0	543.0
SX-103				112.0	652.0
SX-104				169.0	614.0
SX-105				55.0	683.0
SX-106				1.0	538.0
SX-107				104.0	104.0
SX-108				87.0	87.0
SX-109				250.0	250.0
SX-110				62.0	62.0
SX-111				125.0	125.0
SX-112				92.0	92.0
SX-113				31.0	31.0
SX-114				181.0	181.0

	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
SX-115													6.00								
U-101	22.00																				
U-102	43.00																				
U-103	32.00																				
U-104	40.00																				
U-105	32.00																				
U-106	26.00																				
U-107															76.00						
U-108	3.00															26.00					
U-109	24.00														24.00						
U-110	24.00		161.99																		
U-111			12.99										13.00								
U-112			32.00										7.00		6.00						
U-201															4.00						
U-202															4.00						
U-203															2.00						
U-204															2.00						
T-101	2.00															35.00					
T-102	2.00																				
T-103	1.00																				
T-104			185.99	255.99																	
T-105				26.00	71.99																
T-106				10.00											7.00	2.00					
T-107			170.99																		
T-108			21.00																		
T-109																					
T-110					221.98	143.96	9.99														
T-111					138.99	280.96	35.99														
T-112						59.97															
T-201							28.00														
T-202							21.00														
T-203							35.00														
T-204							38.00														
TX-101	3.00												70.00								
TX-102	2.00																				
TX-103																					
TX-104	18.00																				
TX-105	8.00																				
TX-106	1.00												4.00								
TX-107	8.00																				
TX-108	2.00							4.00													
TX-109			160.99	222.98																	
TX-110			9.00	27.98																	
TX-111				43.00																	
TX-112																					
TX-113				182.99																	

	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
SX-115																					
U-101																					
U-102																					
U-103																					
U-104																39.00					
U-105																					
U-106																					
U-107																					
U-108																					
U-109																					
U-110																					
U-111																					
U-112																					
U-201																					
U-202																					
U-203																					
U-204																					
T-101																					
T-102	17.00																				
T-103	17.00																				
T-104																					
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110																					
T-111																					
T-112																					
T-201																					
T-202																					
T-203																					
T-204																					
TX-101						1.00															
TX-102																					
TX-103																					
TX-104																					
TX-105																					
TX-106																					
TX-107																					
TX-108																					
TX-109																					
TX-110																					
TX-111																					
TX-112																					
TX-113																					

	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF	WTR	GAS
SX-115						6.00																				
U-101																										
U-102																										
U-103																										
U-104																										
U-105																										
U-106																										
U-107																										
U-108																										
U-109																										
U-110																										
U-111																										
U-112																										
U-201																										
U-202																										
U-203																										
U-204																										
T-101																										
T-102																										
T-103																										
T-104																										
T-105																										
T-106																										
T-107																										
T-108				23.00																						
T-109				58.00																						
T-110																										
T-111																										
T-112																										
T-201																										
T-202																										
T-203																										
T-204																										
TX-101																										
TX-102																										
TX-103				3.00																						
TX-104																										
TX-105																										
TX-106																										
TX-107																										
TX-108																										
TX-109																										
TX-110																										
TX-111																										
TX-112				24.00																						
TX-113																										

	SWLIQ	UNK	assume	tlmVol	tankVol
SX-115				12.0	12.0
U-101				22.0	25.0
U-102				43.0	374.0
U-103				32.0	468.0
U-104				79.0	122.0
U-105				32.0	418.0
U-106				26.0	226.0
U-107				76.0	406.0
U-108				29.0	468.0
U-109				48.0	463.0
U-110				186.0	186.0
U-111				26.0	329.0
U-112				45.0	49.0
U-201				4.0	5.0
U-202				4.0	5.0
U-203				2.0	3.0
U-204				2.0	3.0
T-101				37.0	102.0
T-102				19.0	32.0
T-103				18.0	27.0
T-104				442.0	445.0
T-105				98.0	98.0
T-106				19.0	21.0
T-107				171.0	180.0
T-108				44.0	44.0
T-109				58.0	58.0
T-110				375.9	379.0
T-111				455.9	458.0
T-112				60.0	67.0
T-201				28.0	29.0
T-202				21.0	21.0
T-203				35.0	35.0
T-204				38.0	38.0
TX-101				74.0	87.0
TX-102				2.0	217.0
TX-103				3.0	157.0
TX-104				18.0	65.0
TX-105				8.0	609.0
TX-106				5.0	341.0
TX-107				8.0	36.0
TX-108				6.0	134.0
TX-109				384.0	384.0
TX-110				37.0	462.0
TX-111				43.0	370.0
TX-112				24.0	649.0
TX-113				183.0	607.0

	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
TX-114				4.00																	
TX-115								8.00													
TX-116																					
TX-117																					
TX-118																					
TY-101												72.00									
TY-102																					
TY-103								61.00				46.99									
TY-104								13.00				30.00									
TY-105								157.99													
TY-106								0.99													
AN-101																					
AN-102																					
AN-103																					
AN-104																					
AN-105																					
AN-106																					
AN-107																					
AP-101																					
AP-102																					
AP-103																					
AP-104																					
AP-105																					
AP-106																					
AP-107																					
AP-108																					
AW-101																					
AW-102																					
AW-103																					
AW-104																					
AW-105																					
AW-106																					
AY-101																					
AY-102																					
AZ-101																					
AZ-102																					
SY-101																					
SY-102																					
SY-103																					

	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	CSR in	CSR	DE	CEM	NIT	Salt Slurry	DW	N
TX-114																					
TX-115																					
TX-116																68.00					
TX-117																29.00					
TX-118						38.99															
TY-101																					
TY-102																					
TY-103																					
TY-104																					
TY-105																					
TY-106																20.00					
AN-101																					
AN-102																					
AN-103												2.00									
AN-104																					
AN-105																					
AN-106																					
AN-107																					
AP-101																					
AP-102																					
AP-103																					
AP-104																					
AP-105																					
AP-106																					
AP-107																					
AP-108																					
AW-101																					
AW-102																					
AW-103																					
AW-104																					
AW-105																					
AW-106												1.00									
AY-101											12.99	5.00	8.00		6.99						
AY-102												27.93									
AZ-101												1.00									
AZ-102						1.00							26.00								
SY-101																					
SY-102						24.97														4.93	
SY-103																					

	B in	B-SltCk	T1 in	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF	WTR	GAS
TX-114				58.00																						
TX-115																										
TX-116				323.00																						
TX-117				197.00																						
TX-118				6.00																						
TY-101				46.00																						
TY-102				29.00																						
TY-103																										
TY-104																										
TY-105																										
TY-106																										
AN-101																										
AN-102																										
AN-103																										
AN-104																										
AN-105																										
AN-106																										
AN-107																										
AP-101																										
AP-102																										
AP-103																										
AP-104																										
AP-105																										
AP-106																										
AP-107																										
AP-108																										
AW-101																				60.99						
AW-102																										
AW-103																					362.96					
AW-104																				97.97	4.999					
AW-105																				24.99	214.97					
AW-106																										
AY-101																										
AY-102																				3.993						
AZ-101																			26.99	0.994						
AZ-102																			12.99	2.998						
SY-101																										
SY-102														41												
SY-103																										

	SWLIQ	UNK	assume	tlmVol	tankVol
TX-114				62.0	535.0
TX-115				8.0	568.0
TX-116				391.0	563.0
TX-117				226.0	532.0
TX-118				45.0	285.0
TY-101				118.0	118.0
TY-102				29.0	64.0
TY-103				108.0	162.0
TY-104				43.0	46.0
TY-105				158.0	231.0
TY-106				21.0	21.0
AN-101					740.0
AN-102					1090.0
AN-103				2.0	953.0
AN-104					1056.0
AN-105					1130.0
AN-106					21.0
AN-107					1063.0
AP-101					1060.0
AP-102					1103.0
AP-103					1131.0
AP-104					18.0
AP-105					820.0
AP-106					1127.0
AP-107					1110.0
AP-108					1131.0
AW-101				61.0	1139.0
AW-102					979.0
AW-103				363.0	646.0
AW-104				103.0	1123.0
AW-105				240.0	1040.0
AW-106				1.0	1108.0
AY-101				33.0	881.0
AY-102				31.9	711.0
AZ-101				29.0	960.0
AZ-102				43.0	963.0
SY-101					1100.0
SY-102				70.9	747.0
SY-103					744.0

Wstrs 4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
A-101	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	0.4%	1.5%	1.5%	0.2%	0.3%		0.6%	0.6%
A-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%		0.0%	0.0%
A-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.1%	0.6%	0.5%	0.1%	0.1%		0.2%	0.2%
A-104																					
A-105	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%		0.0%						0.0%	0.0%		0.0%	0.0%
A-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%		0.1%	0.1%
AX-101	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.7%	0.3%	1.2%	1.1%	0.2%	0.3%		0.5%	0.5%
AX-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%		0.0%	0.0%
AX-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%		0.1%	0.1%
AX-104																					
B-101																					
B-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-104			0.0%	0.0%	0.0%	0.0%		0.0%													
B-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-107	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%		0.0%						0.0%	0.0%			0.0%
B-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-109																					
B-110																					
B-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
B-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-201																					
B-202																					
B-203																					
B-204							0.0%														
BX-101																					
BX-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
BX-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%		0.1%	0.0%
BX-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
BX-108																					
BX-109	0.0%		0.0%	0.0%				0.0%	0.0%	0.0%	0.0%						0.0%				0.0%
BX-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-101																					
BY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-109																					

Wstrs 4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
A-101	0.7%	1.6%	0.3%	0.2%	0.7%	1.0%	0.9%	0.6%	0.6%	1.7%	0.3%	1.5%	4.9%		1.6%			2.6%		1.1%	1.2%
A-102	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%		0.1%			0.1%		0.0%	0.0%
A-103	0.3%	0.6%	0.1%	0.1%	0.3%	0.4%	0.4%	0.2%	0.3%	0.7%	0.1%	0.6%	2.1%		0.6%			1.0%		0.4%	0.4%
A-104																					
A-105	0.0%		0.0%	0.0%	0.0%						0.0%	0.0%			0.0%					0.0%	
A-106	0.1%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.2%	0.4%		0.2%			0.4%		0.1%	0.2%
AX-101	0.6%	1.3%	0.2%	0.2%	0.6%	0.8%	0.8%	0.5%	0.5%	1.5%	0.2%	1.2%	4.3%		1.3%			2.0%		0.9%	0.9%
AX-102	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%		0.1%			0.1%		0.1%	0.1%
AX-103	0.1%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.2%	0.5%		0.2%			0.2%		0.1%	0.1%
AX-104																					
B-101																					
B-102	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-104																					
B-105	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-106	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-107	0.0%		0.0%																		
B-108	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-109																					
B-110																					
B-111	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%	0.0%			0.0%					0.0%	
B-112	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-201																					
B-202																					
B-203																					
B-204																				0.0%	
BX-101																					
BX-102	0.0%		0.0%	0.0%	0.0%		0.1%	0.0%			0.0%	0.0%			0.0%					0.0%	
BX-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
BX-104	0.1%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.3%		0.1%			0.2%		0.1%	0.1%
BX-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
BX-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
BX-107	0.0%		0.0%	0.0%			0.0%	0.0%							0.0%					0.0%	
BX-108																					
BX-109	0.0%		0.0%												0.0%						
BX-110	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BX-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
BX-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
BY-101																					
BY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BY-108	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BY-109																					

Wstrs 4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
A-101		0.4%		1.4%		1.3%				7.6%														
A-102		0.0%		0.1%		0.1%				0.4%														
A-103		0.1%		0.5%		0.5%				3.5%														
A-104																								
A-105		0.0%																						
A-106		0.0%		0.2%		0.2%				0.5%														
AX-101		0.3%		1.1%		1.0%				7.2%														
AX-102		0.0%		0.1%		0.1%				0.2%														
AX-103		0.0%		0.1%		0.1%				0.8%														
AX-104																								
B-101																								
B-102		0.0%		0.0%		0.0%				0.0%														
B-103		0.0%		0.0%		0.0%																		
B-104		0.1%																						
B-105		0.0%		0.0%		0.0%																		
B-106		0.0%		0.0%		0.0%																		
B-107		0.0%																						
B-108		0.0%		0.0%		0.0%																		
B-109										0.8%														
B-110										0.0%														
B-111		0.0%								0.0%														
B-112		0.0%		0.0%		0.0%				0.1%														
B-201																								
B-202																								
B-203																								
B-204																								
BX-101										0.0%														
BX-102		0.0%																						
BX-103		0.0%		0.0%		0.0%				0.0%														
BX-104		0.0%		0.1%		0.1%				0.0%														
BX-105		0.0%		0.0%		0.0%				0.0%														
BX-106		0.0%		0.0%		0.0%				0.2%														
BX-107		0.0%																						
BX-108																								
BX-109																								
BX-110		0.0%		0.0%		0.0%				0.0%														
BX-111		0.0%		0.0%		0.0%				0.0%														
BX-112		0.0%		0.0%		0.0%				0.0%														
BY-101																								
BY-102		0.0%		0.0%		0.0%				0.2%														
BY-103										0.0%														
BY-104																								
BY-105										0.0%														
BY-106																								
BY-107		0.0%		0.0%		0.0%				0.0%														
BY-108		0.0%		0.0%		0.0%				0.0%														
BY-109																								

Wstrs 4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
BY-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-111																					
BY-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
C-101																					
C-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
C-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
C-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
C-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
C-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%		0.0%	0.0%
C-107																					
C-108																					
C-109																					
C-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%		0.0%	0.0%
C-111			0.0%					0.0%			0.0%										0.0%
C-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%		0.0%	0.0%
C-201																					
C-202																					
C-203																					
C-204																					
S-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.6%	0.6%	0.1%	0.1%		0.2%	0.2%
S-102	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.6%	0.2%	0.9%	0.8%	0.1%	0.1%		0.3%	0.2%
S-103	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.6%	0.2%	0.9%	0.9%	0.1%	0.2%		0.3%	0.2%
S-104													0.0%		0.0%	0.0%					
S-105	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	2.0%	0.2%	2.3%	1.1%	0.1%	0.1%		0.1%	0.1%
S-106	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.8%	0.3%	2.0%	1.0%	0.1%	0.1%		0.4%	0.1%
S-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.3%	0.0%	0.0%		0.1%	0.1%
S-108	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	2.5%	0.4%	2.9%	1.5%	0.1%	0.2%		0.2%	0.2%
S-109	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	2.3%	0.4%	2.7%	1.4%	0.1%	0.2%		0.3%	0.2%
S-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.7%	0.2%	0.8%	0.6%	0.1%	0.1%		0.3%	0.2%
S-111	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.8%	0.3%	2.1%	1.2%	0.1%	0.2%		0.5%	0.3%
S-112	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	2.6%	0.4%	3.0%	1.5%	0.1%	0.2%		0.3%	0.2%
SX-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	0.0%	0.0%		0.1%	0.1%
SX-102	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	1.1%	0.5%	1.8%	1.9%	0.2%	0.3%		0.7%	0.6%
SX-103	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	1.1%	0.6%	1.9%	2.3%	0.3%	0.4%		0.7%	0.6%
SX-104	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	1.1%	0.4%	1.7%	1.6%	0.2%	0.3%		0.6%	0.5%
SX-105	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	1.5%	0.6%	2.3%	2.2%	0.3%	0.4%		0.9%	0.7%
SX-106	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%	1.2%	0.5%	1.9%	1.9%	0.2%	0.3%		0.6%	0.5%
SX-107													0.0%	0.0%	0.0%						
SX-108													0.0%	0.0%	0.0%						
SX-109													0.0%	0.0%							
SX-110																					
SX-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SX-112													0.0%	0.2%	0.0%						
SX-113													0.1%								
SX-114	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SX-115																					
U-101																					

Wstrs 4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
BY-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
BY-111																					
BY-112	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
C-101																					
C-102	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%				0.0%					0.0%	
C-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	1.1%		0.0%			0.0%		0.0%	0.0%
C-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
C-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
C-106	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%		0.0%	0.0%	0.0%			0.0%					0.0%	
C-107													0.0%								
C-108																					
C-109																					
C-110	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
C-111			0.0%				0.0%														
C-112	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
C-201																					
C-202																					
C-203							0.1%														
C-204							3.9%														
S-101	0.2%	0.6%	0.1%	0.1%	0.2%	0.4%	0.3%	0.2%	0.2%	0.1%	0.0%	0.4%	0.5%		0.6%			1.1%		0.4%	0.6%
S-102	0.3%	0.9%	0.1%	0.1%	0.3%	0.5%	0.3%	0.2%	0.3%	0.1%	0.0%	0.5%	0.6%		0.8%			5.0%		0.6%	0.6%
S-103	0.3%	1.0%	0.1%	0.1%	0.3%	0.7%	0.3%	0.3%	0.3%	0.1%	0.0%	0.5%	0.7%		0.8%			5.4%		0.7%	0.6%
S-104																					
S-105	0.2%	1.0%	0.1%	0.1%	0.2%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	0.1%		0.8%					0.6%	0.8%
S-106	0.2%	0.9%	0.1%	0.1%	0.3%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	0.6%	0.1%		1.2%					0.8%	1.3%
S-107	0.1%	0.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	0.5%		0.2%			0.4%		0.2%	0.2%
S-108	0.3%	1.3%	0.1%	0.1%	0.3%	0.0%	0.3%	0.1%	0.2%	0.0%	0.0%	0.5%	0.2%		1.3%					1.0%	1.5%
S-109	0.3%	1.2%	0.1%	0.1%	0.3%	0.0%	0.3%	0.2%	0.2%	0.0%	0.0%	0.5%	0.2%		1.4%					1.0%	1.7%
S-110	0.3%	0.6%	0.1%	0.1%	0.3%	0.2%	0.3%	0.3%	0.2%	0.0%	0.0%	0.5%	0.4%		0.9%					0.4%	0.7%
S-111	0.4%	1.2%	0.2%	0.1%	0.4%	0.2%	0.4%	0.2%	0.3%	0.1%	0.0%	0.8%	0.5%		1.5%					1.0%	1.6%
S-112	0.3%	1.4%	0.1%	0.1%	0.3%	0.0%	0.3%	0.2%	0.2%	0.0%	0.0%	0.5%	0.2%		1.4%					1.0%	1.6%
SX-101	0.1%	0.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%		0.2%			0.5%		0.2%	0.2%
SX-102	0.8%	2.1%	0.3%	0.2%	0.8%	1.4%	0.8%	0.6%	0.7%	0.3%	0.1%	1.2%	1.7%		2.0%			0.0%		1.4%	1.6%
SX-103	0.8%	2.6%	0.3%	0.2%	0.8%	1.8%	0.8%	0.6%	0.8%	0.3%	0.1%	1.3%	2.0%		1.9%			0.3%		1.7%	1.5%
SX-104	0.6%	1.7%	0.2%	0.2%	0.6%	1.1%	0.7%	0.5%	0.5%	0.2%	0.1%	1.1%	1.4%		1.7%			1.2%		1.2%	1.5%
SX-105	0.9%	2.4%	0.3%	0.2%	0.9%	1.4%	1.1%	0.7%	0.8%	0.3%	0.1%	1.6%	2.1%		2.5%			1.0%		1.7%	2.4%
SX-106	0.6%	2.1%	0.3%	0.2%	0.6%	1.4%	0.6%	0.5%	0.6%	0.2%	0.1%	1.0%	1.5%		1.6%			11.6%		1.3%	1.3%
SX-107																					
SX-108																					
SX-109																					
SX-110																					
SX-111	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
SX-112																					
SX-113																					
SX-114	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.1%					0.0%	
SX-115																					
U-101																					

Wstrs 4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
BY-110		0.0%		0.0%		0.0%				0.0%														
BY-111																								
BY-112		0.0%		0.0%		0.0%				0.0%														
C-101																								
C-102		0.0%								0.0%														
C-103		0.0%		0.0%		0.0%				0.4%														
C-104		0.0%		0.0%		0.0%				0.0%														
C-105		0.0%		0.0%		0.0%				0.0%														
C-106		0.0%																						
C-107																								
C-108																								
C-109																								
C-110		0.0%																						
C-111																								
C-112		0.0%																						
C-201																								
C-202																								
C-203																								
C-204																								
S-101		0.1%		0.6%		0.6%				0.0%														
S-102		0.1%		0.8%		0.8%				0.0%														
S-103		0.2%		0.9%		0.8%				0.1%														
S-104						0.0%																		
S-105		0.0%		0.8%		1.2%																		
S-106		0.0%		0.8%		2.4%																		
S-107		0.1%		0.2%		0.2%				0.0%														
S-108		0.0%		1.1%		1.7%																		
S-109		0.0%		1.0%		1.7%																		
S-110		0.2%		0.5%		1.1%				0.0%														
S-111		0.2%		1.0%		2.5%				0.1%														
S-112		0.0%		1.2%		1.8%																		
SX-101		0.0%		0.2%		0.2%				0.0%														
SX-102		0.6%		1.9%		1.6%				0.3%														
SX-103		0.4%		2.4%		1.6%				0.1%														
SX-104		0.4%		1.5%		1.5%				0.1%														
SX-105		0.6%		2.1%		2.2%				0.1%														
SX-106		0.3%		1.9%		1.5%				0.1%														
SX-107						0.5%																		
SX-108						0.7%																		
SX-109						0.5%																		
SX-110																								
SX-111		0.0%		0.0%		0.0%																		
SX-112						0.3%																		
SX-113																								
SX-114		0.0%		0.0%		0.1%																		
SX-115																								
U-101																								

Wstrs 4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
U-102	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.7%	0.4%	1.3%	1.5%	0.2%	0.2%		0.4%	0.4%
U-103	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	0.4%	1.7%	1.8%	0.2%	0.3%		0.5%	0.5%
U-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.7%	1.2%	0.1%	0.1%			0.0%
U-105	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	0.4%	1.6%	1.7%	0.2%	0.3%		0.5%	0.5%
U-106	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	0.2%	0.8%	0.8%	0.1%	0.1%		0.4%	0.3%
U-107	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.8%	0.3%	1.2%	1.2%	0.1%	0.2%		0.4%	0.3%
U-108	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	1.0%	0.4%	1.5%	1.4%	0.2%	0.3%		0.6%	0.5%
U-109	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	1.1%	0.4%	1.6%	1.5%	0.2%	0.3%		0.8%	0.6%
U-110																					
U-111	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	0.2%	0.8%	0.8%	0.1%	0.1%		0.2%	0.2%
U-112																					
U-201	0.0%		0.0%										0.0%		0.0%						
U-202																					
U-203	0.0%		0.0%										0.0%		0.0%						
U-204																					
T-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
T-102																					
T-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
T-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110					0.0%	0.0%	0.0%														
T-111					0.0%	0.0%	0.0%														
T-112																					
T-201																					
T-202																					
T-203							0.1%														
T-204																					
TX-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
TX-102	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.6%	1.0%	0.1%	0.2%		0.1%	0.2%
TX-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.0%	0.0%		0.0%	0.1%
TX-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%		0.0%	0.0%
TX-105	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.1%	0.6%	0.7%	1.8%	3.1%	0.3%	0.4%		0.3%	0.5%
TX-106	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.3%	0.4%	1.0%	1.7%	0.2%	0.2%		0.2%	0.3%
TX-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
TX-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.3%	0.5%	0.1%	0.1%		0.0%	0.1%
TX-109	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
TX-110	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.4%	0.4%	1.0%	1.8%	0.2%	0.3%		0.3%	0.3%
TX-111	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	0.9%	1.5%	0.2%	0.2%		0.3%	0.2%
TX-112	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.1%	0.6%	0.7%	1.9%	3.2%	0.3%	0.5%		0.3%	0.5%
TX-113	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%	0.4%	0.5%	1.2%	2.0%	0.2%	0.3%		0.3%	0.3%
TX-114	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%	0.5%	0.5%	1.3%	2.3%	0.2%	0.3%		0.3%	0.4%
TX-115	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.1%	0.6%	0.7%	1.7%	2.9%	0.3%	0.4%		0.3%	0.5%
TX-116	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.7%	1.2%	0.1%	0.2%		0.1%	0.2%

Wstrs 4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
U-102	0.5%	1.7%	0.2%	0.2%	0.5%	1.1%	0.4%	0.4%	0.4%	0.2%	0.0%	0.7%	1.2%		1.1%			2.2%		1.0%	0.8%
U-103	0.6%	2.0%	0.2%	0.2%	0.6%	1.4%	0.6%	0.5%	0.6%	0.2%	0.1%	0.9%	1.5%		1.4%			2.7%		1.2%	1.0%
U-104	0.2%	1.1%	0.1%	0.1%	0.2%		0.0%	0.1%			0.0%				0.0%					0.4%	
U-105	0.6%	2.0%	0.2%	0.2%	0.6%	1.4%	0.6%	0.5%	0.6%	0.2%	0.1%	1.0%	1.5%		1.4%			0.4%		1.2%	1.1%
U-106	0.3%	0.8%	0.1%	0.1%	0.3%	0.5%	0.4%	0.3%	0.3%	0.1%	0.0%	0.7%	0.9%		1.0%					0.6%	0.9%
U-107	0.4%	1.4%	0.2%	0.1%	0.4%	0.9%	0.4%	0.3%	0.4%	0.2%	0.0%	0.7%	1.0%		1.1%			6.3%		0.9%	0.8%
U-108	0.6%	1.5%	0.2%	0.1%	0.6%	0.8%	0.8%	0.5%	0.5%	0.2%	0.1%	1.1%	1.5%		1.8%					1.3%	2.1%
U-109	0.7%	1.7%	0.2%	0.2%	0.6%	0.9%	0.9%	0.5%	0.5%	0.2%	0.1%	1.3%	1.8%		1.9%					1.2%	1.9%
U-110																					
U-111	0.3%	0.9%	0.1%	0.1%	0.3%	0.6%	0.3%	0.2%	0.2%	0.1%	0.0%	0.4%	0.7%		0.7%			2.3%		0.6%	0.6%
U-112																					
U-201																					
U-202																					
U-203																					
U-204																					
T-101	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
T-102																					
T-103	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
T-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110																					
T-111																					
T-112																					
T-201																					
T-202																					
T-203																					
T-204																					
TX-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
TX-102	0.3%	1.2%	0.1%	0.1%	0.3%	0.9%	0.1%	0.2%	0.3%	0.1%	0.0%	0.2%	0.9%		0.3%					0.6%	0.0%
TX-103	0.1%	0.4%	0.0%	0.0%	0.1%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%		0.1%					0.2%	0.0%
TX-104	0.1%	0.3%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%		0.1%					0.1%	0.0%
TX-105	0.8%	3.7%	0.3%	0.3%	0.8%	2.6%	0.3%	0.6%	0.8%	0.0%	0.1%	0.7%	0.3%		1.0%					1.8%	0.0%
TX-106	0.4%	2.0%	0.2%	0.2%	0.4%	1.6%	0.2%	0.3%	0.4%	0.0%	0.0%	0.4%	0.6%		0.5%					1.0%	0.0%
TX-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
TX-108	0.1%	0.6%	0.1%	0.1%	0.1%	0.4%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%		0.2%					0.3%	0.0%
TX-109	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%					0.0%	0.0%
TX-110	0.4%	2.1%	0.2%	0.2%	0.5%	1.8%	0.2%	0.3%	0.5%	0.1%	0.1%	0.5%	1.3%		0.6%					1.0%	0.0%
TX-111	0.4%	1.8%	0.2%	0.2%	0.4%	1.5%	0.1%	0.3%	0.4%	0.1%	0.0%	0.5%	1.2%		0.5%					0.9%	0.0%
TX-112	0.8%	3.8%	0.4%	0.3%	0.8%	2.7%	0.3%	0.6%	0.9%	0.0%	0.1%	0.8%	0.4%		1.0%					1.9%	0.0%
TX-113	0.5%	2.4%	0.2%	0.2%	0.5%	2.0%	0.2%	0.4%	0.5%	0.1%	0.1%	0.6%	0.9%		0.6%					1.2%	0.0%
TX-114	0.6%	2.7%	0.3%	0.2%	0.6%	2.3%	0.2%	0.4%	0.6%	0.1%	0.1%	0.6%	1.0%		0.7%					1.3%	0.0%
TX-115	0.7%	3.4%	0.3%	0.3%	0.8%	2.5%	0.3%	0.5%	0.8%	0.0%	0.1%	0.7%	0.4%		0.9%					1.7%	0.0%
TX-116	0.3%	1.2%	0.1%	0.1%	0.3%		0.1%	0.3%	0.3%		0.0%	0.1%			0.3%					0.7%	

Wstrs 4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
U-102		0.2%		1.4%		0.9%				0.1%														
U-103		0.3%		1.8%		1.1%				0.1%														
U-104		0.0%		0.5%		0.1%																		
U-105		0.3%		1.8%		1.1%				0.1%														
U-106		0.3%		0.7%		0.8%				0.1%														
U-107		0.2%		1.2%		1.0%				0.1%														
U-108		0.4%		1.3%		1.5%				0.1%														
U-109		0.5%		1.4%		1.7%				0.0%														
U-110																								
U-111		0.1%		0.8%		0.7%				0.0%														
U-112																								
U-201																								
U-202																								
U-203																								
U-204																								
T-101		0.0%		0.0%		0.0%																		
T-102																								
T-103		0.0%		0.0%		0.0%																		
T-104		0.0%		0.0%		0.0%																		
T-105																								
T-106																								
T-107																								
T-108																								
T-109																								
T-110																								
T-111																								
T-112																								
T-201																								
T-202																								
T-203																								
T-204																								
TX-101		0.0%		0.0%		0.0%				0.0%														
TX-102		0.0%		1.1%		0.2%																		
TX-103		0.0%		0.4%		0.1%																		
TX-104		0.0%		0.2%		0.1%																		
TX-105		0.1%		3.3%		0.7%																		
TX-106		0.0%		1.8%		0.4%																		
TX-107		0.0%		0.0%		0.0%																		
TX-108		0.0%		0.6%		0.1%																		
TX-109		0.0%		0.0%		0.0%																		
TX-110		0.1%		1.9%		0.4%																		
TX-111		0.0%		1.6%		0.3%																		
TX-112		0.1%		3.5%		0.7%																		
TX-113		0.1%		2.2%		0.5%																		
TX-114		0.1%		2.5%		0.5%																		
TX-115		0.1%		3.1%		0.7%																		
TX-116		0.0%		1.1%		0.3%																		

Wstrs 4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
TX-117	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	1.2%	1.9%	0.2%	0.3%		0.1%	0.4%
TX-118	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.4%	0.6%	0.1%	0.1%		0.1%	0.1%
TY-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
TY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%		0.0%	0.0%
TY-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%		0.0%	0.0%
TY-104																					
TY-105								0.4%													
TY-106																					
AN-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	1.0%	0.2%	1.2%	0.6%	0.1%	0.1%		0.1%	0.1%
AN-102	0.0%	0.0%	0.1%	0.2%	0.0%	0.1%	0.1%	0.3%	0.1%	0.0%	0.1%	0.1%	1.6%	0.6%	2.5%	2.5%	0.4%	0.6%		1.0%	0.9%
AN-103	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%	1.2%	0.4%	1.9%	1.9%	0.2%	0.4%		0.5%	0.8%
AN-104	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	0.4%	1.6%	1.7%	0.2%	0.3%		0.5%	0.5%
AN-105	0.0%	0.0%	0.1%	0.3%	0.0%	0.1%	0.1%	0.5%	0.1%	0.1%	0.1%	0.1%	1.7%	0.9%	3.2%	3.9%	0.5%	0.7%		1.0%	1.0%
AN-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AN-107	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.6%	0.3%	1.1%	1.2%	0.2%	0.3%		0.5%	0.7%
AP-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%		0.0%	0.0%
AP-102	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.9%	0.4%	1.4%	1.4%	0.2%	0.3%		0.5%	0.4%
AP-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AP-104																					
AP-105	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.7%	0.7%	0.1%	0.1%		0.2%	0.3%
AP-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.3%	0.0%	0.1%		0.1%	0.1%
AP-107																					
AP-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-101	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%	0.4%	0.1%	0.1%	0.1%	0.1%	1.2%	0.5%	1.9%	1.9%	0.3%	0.4%		0.6%	1.0%
AW-102	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.1%	0.6%	0.6%	0.1%	0.1%		0.2%	0.3%
AW-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%		0.1%	0.1%
AW-106	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.7%	0.7%	0.1%	0.1%		0.2%	0.3%
AY-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.1%		0.0%	0.1%
AY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AZ-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%		0.0%	0.0%
AZ-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SY-101	0.0%	0.0%	0.1%	0.4%	0.0%	0.1%	0.2%	0.6%	0.1%	0.1%	0.1%	0.2%	2.8%	1.2%	4.6%	4.9%	0.6%	0.9%		1.7%	1.4%
SY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SY-103	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	1.5%	0.6%	2.3%	2.3%	0.3%	0.4%		0.8%	0.7%
COND																					
CRIB	1.5%	0.0%	56.9%	55.7%	98.0%	94.5%	97.6%	7.6%	79.7%	94.6%	89.9%	68.5%					0.1%				4.8%
CSR	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.0%	1.3%	0.5%	0.1%	0.0%	0.2%	15.2%	24.6%	1.3%	1.8%	75.8%	63.5%		51.2%	4.5%
GROUT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
LEAK	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.8%	0.2%	1.7%	0.0%	0.0%		0.0%	0.0%
PCOND																					
R202S													1.5%	2.3%	0.1%	0.7%					
RCOND																					
SRR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						1.6%	1.6%		0.8%	0.1%
TFeCN	0.2%		3.1%	1.3%	0.1%	1.9%		23.8%	8.9%		5.0%										1.8%
UNK	0.0%		0.0%	0.0%	0.0%	0.1%		0.1%	0.0%		0.0%						10.3%	12.4%		11.9%	0.3%

Wstrs 4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
TX-117	0.6%	1.9%	0.2%	0.2%	0.6%		0.2%	0.4%	0.6%		0.1%	0.2%			0.4%					1.1%	
TX-118	0.2%	0.6%	0.1%	0.1%	0.2%	0.6%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	0.3%		0.3%			0.2%		0.3%	0.1%
TY-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%			0.0%					0.0%	
TY-102	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.1%					0.1%	0.0%
TY-103	0.1%	0.3%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%		0.0%	0.0%			0.1%					0.1%	
TY-104																					
TY-105																					
TY-106																					
AN-101	0.2%	0.6%	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	0.4%	0.4%		0.7%			0.1%		0.5%	0.6%
AN-102	1.1%	2.7%	0.5%	0.4%	1.1%	2.5%	1.4%	0.9%	1.0%	2.4%	0.5%	3.5%	7.1%		3.8%			3.8%		2.3%	2.4%
AN-103	1.0%	2.0%	0.3%	0.2%	1.0%	4.9%	1.0%	0.8%	0.9%	0.9%	0.2%	5.2%	3.0%		1.5%			1.8%		3.2%	2.6%
AN-104	0.7%	1.9%	0.3%	0.2%	0.7%	2.9%	0.7%	0.5%	0.6%	1.1%	0.2%	3.6%	4.0%		1.4%			2.7%		2.6%	1.3%
AN-105	1.4%	4.3%	0.6%	0.5%	1.4%	11.1%	1.3%	1.1%	1.3%	1.8%	0.5%	7.6%	6.1%		2.7%			4.8%		7.6%	2.3%
AN-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%		0.0%			0.1%		0.0%	0.5%
AN-107	0.7%	1.4%	0.3%	0.2%	0.7%	2.0%	1.0%	0.7%	0.7%	2.5%	0.4%	2.4%	6.9%		1.4%			2.0%		2.0%	0.7%
AP-101	0.0%	0.1%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%		0.1%			0.1%		0.2%	0.1%
AP-102	0.5%	1.5%	0.3%	0.2%	0.5%	1.6%	0.6%	0.4%	0.5%	0.6%	0.2%	1.3%	2.4%		1.3%			2.3%		1.7%	18.6%
AP-103	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%		0.0%			0.0%		1.8%	0.0%
AP-104																					0.4%
AP-105	0.4%	0.7%	0.1%	0.1%	0.4%	4.3%	0.4%	0.4%	0.4%	0.4%	0.1%	5.4%	1.4%		0.7%			1.5%		2.5%	0.7%
AP-106	0.1%	0.3%	0.0%	0.0%	0.1%	2.2%	0.2%	0.1%	0.1%	0.1%	0.0%	3.6%	0.5%		0.2%			0.5%		1.5%	0.3%
AP-107																					
AP-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%		0.0%			0.0%		0.5%	0.0%
AW-101	1.2%	2.1%	0.3%	0.3%	1.3%	9.3%	1.4%	1.1%	1.2%	1.1%	0.2%	6.7%	3.8%		1.8%			2.2%		4.6%	2.4%
AW-102	0.3%	0.6%	0.1%	0.1%	0.3%	2.8%	0.3%	0.3%	0.3%	0.3%	0.1%	3.6%	1.0%		0.6%			0.9%		1.7%	0.6%
AW-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
AW-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
AW-105	0.1%	0.2%	0.0%	0.0%	0.1%	1.6%	0.2%	0.1%	0.1%	0.1%	0.0%	1.5%	0.5%		0.2%			0.4%		0.8%	0.3%
AW-106	0.3%	0.7%	0.1%	0.1%	0.3%	3.2%	0.3%	0.3%	0.3%	0.3%	0.1%	4.5%	1.0%		0.6%			1.2%		1.9%	0.6%
AY-101	0.1%	0.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.0%	0.3%	4.7%		1.5%			0.1%		0.2%	0.1%
AY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%		0.0%			0.0%		0.9%	0.0%
AZ-101	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%		0.1%			0.1%		0.1%	0.1%
AZ-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%		0.0%			0.0%		0.0%	0.0%
SY-101	1.8%	5.5%	0.7%	0.5%	1.8%	3.7%	1.9%	1.5%	1.6%	1.1%	0.2%	3.1%	5.2%		4.5%			17.7%		3.6%	3.7%
SY-102	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		2.6%	0.0%
SY-103	0.9%	2.6%	0.3%	0.3%	0.8%	1.7%	0.9%	0.7%	0.8%	0.7%	0.1%	1.5%	2.8%		2.2%			10.1%		1.7%	1.7%
COND																					
CRIB			0.3%																	2.5%	
CSR	6.6%	2.5%	67.4%	72.0%	6.8%	0.0%	0.3%	2.7%	0.0%	72.7%	46.6%	4.1%	2.1%		3.4%			0.0%		6.1%	0.0%
GROUT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	19.1%
LEAK	0.0%	0.1%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.1%			0.3%					0.1%	
PCOND																					
R202S																					
RCOND																					
SRR	0.2%		1.9%	2.4%	0.3%		0.0%	0.2%		1.7%	2.1%	0.0%	1.1%		0.2%					0.1%	
TFeCN																				0.1%	
UNK	0.9%		10.1%	15.3%	1.9%					2.8%	42.0%	0.0%	1.3%		0.2%					0.8%	

Wstrs 4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
TX-117		0.1%		1.9%		0.4%																		
TX-118		0.0%		0.6%		0.3%				0.0%														
TY-101		0.0%		0.0%		0.0%																		
TY-102		0.0%		0.2%		0.0%																		
TY-103		0.0%		0.2%		0.1%																		
TY-104																								
TY-105																								
TY-106																								
AN-101		1.1%		0.5%		0.8%				1.1%									0.0%	0.4%	0.5%			
AN-102		0.5%		2.4%		2.1%				11.7%									0.0%	1.5%	0.1%			
AN-103		0.7%		1.7%		1.3%				5.8%									0.1%	8.6%	10.0%			
AN-104		0.3%		1.7%		1.2%				6.9%									0.1%	5.9%	4.4%			
AN-105		0.5%		3.8%		2.2%				13.3%									0.2%	6.9%	0.8%			
AN-106		0.0%		0.0%		0.0%				0.1%									0.0%	0.0%	0.0%			
AN-107		0.3%		1.2%		0.8%				16.2%									0.0%	0.7%	0.0%			
AP-101		0.0%		0.1%		0.1%				0.2%									0.0%	1.2%	1.4%			23.5%
AP-102		0.2%		1.4%		1.2%				3.2%									0.0%	0.0%	0.1%			0.1%
AP-103		0.0%		0.0%		0.0%				0.1%									2.3%	0.3%	0.3%			1.0%
AP-104																								
AP-105		0.3%		0.7%		0.5%				2.1%									0.0%	13.6%	16.0%			15.2%
AP-106		0.1%		0.2%		0.2%				0.8%									0.2%	4.9%	5.7%			6.7%
AP-107																								26.4%
AP-108		0.0%		0.0%		0.0%				0.0%									1.2%	0.9%	0.0%			2.7%
AW-101		1.1%		1.8%		1.4%				7.0%									0.1%	20.3%	22.9%			
AW-102		0.2%		0.6%		0.5%				1.3%									0.0%	10.2%	10.9%			10.0%
AW-103		0.0%		0.0%		0.0%				0.0%									0.0%	0.1%	4.4%			
AW-104		0.0%		0.0%		0.0%				0.0%									0.0%	8.4%	0.0%			
AW-105		0.1%		0.2%		0.2%				0.8%									0.0%	4.9%	10.3%			1.9%
AW-106		0.3%		0.7%		0.5%				1.6%									0.0%	11.0%	12.0%			12.5%
AY-101		0.2%		0.2%		0.1%				0.8%									0.0%	0.2%	0.0%			
AY-102		0.0%		0.0%		0.0%				0.0%									0.5%	0.0%	0.0%			0.0%
AZ-101		0.0%		0.1%		0.1%				0.3%									60.5%	0.1%	0.0%			
AZ-102		0.0%		0.0%		0.0%				0.0%									34.5%	0.1%	0.0%			
SY-101		1.1%		4.9%		3.8%				0.4%														
SY-102		0.0%		0.0%		0.0%				0.0%									0.0%	0.0%	0.0%			
SY-103		0.5%		2.3%		1.9%				1.6%														
COND																								
CRIB				7.1%																				
CSR		3.4%		5.8%		31.7%				1.0%														
GROUT		0.0%		0.0%		0.0%				0.0%									0.0%	0.0%	0.1%			0.0%
LEAK		0.0%		0.0%		0.1%																		
PCOND																								
R202S						4.7%																		
RCOND																								
SRR		0.1%																						
TFeCN		61.7%																						
UNK		0.5%																						

Wstrs 4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
UR	96.5%	99.9%	1.6%	5.7%	0.1%			4.5%	6.1%	0.5%											
VENT																					
A1COND																					
A2COND																					
BCOND																					
BYCOND																					
S1COND																					
S2COND																					
T1COND																					
T2COND																					
A1-in																					
A2-in																					
B-in																					
BY-in																					
S1-in																					
S2-in																					
T1-in																					
T2-in																					
STATLOS																					
B-bot	0.0%		18.0%	10.0%	0.9%	1.7%		19.9%	1.3%												
BY-bot	0.0%	0.0%	0.7%	0.4%	0.0%	0.1%	0.2%	2.3%	1.1%	3.5%	3.6%	0.1%	0.6%	0.4%	1.5%	2.1%	2.2%	7.6%		13.1%	65.1%
S1-bot																					
S2-bot																					
T1-bot	1.3%		17.9%	19.5%	0.9%			28.8%				27.9%									
T2-bot																					
A1-bot																					
R-bot	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.1%	0.0%	0.0%	0.1%	0.0%	31.4%	50.6%	14.7%	7.0%	0.0%	0.0%		0.1%	0.5%
swpump	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%

Wstrs 4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Salt Slurry	DW	N
UR																				0.9%	
VENT																					
A1COND																					
A2COND																					
BCOND																					
BYCOND																					
S1COND																					
S2COND																					
T1COND																					
T2COND																					
A1-in																					
A2-in																					
B-in																					
BY-in																					
S1-in																					
S2-in																					
T1-in																					
T2-in																					
STATLOS																					
B-bot																				0.2%	
BY-bot	61.2%	2.2%	8.4%	0.5%	58.5%	0.0%	66.7%	72.8%	71.1%	0.4%	4.1%	4.1%	0.1%		25.7%					4.1%	8.6%
S1-bot																					
S2-bot																					
T1-bot																					
T2-bot																					
A1-bot																					
R-bot	1.1%	0.4%	0.1%	0.0%	2.2%		0.3%	0.5%	0.8%		0.0%	0.5%			1.4%					0.1%	
swpump	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%

Wstrs 4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	BP /NCplx	PASF
UR																								
VENT																								
A1COND																								
A2COND																								
BCOND																								
BYCOND																								
S1COND																								
S2COND																								
T1COND																								
T2COND																								
A1-in																								
A2-in																								
B-in																								
BY-in																								
S1-in																								
S2-in																								
T1-in																								
T2-in																								
STATLOS																								
B-bot																								
BY-bot		18.9%		1.7%		0.9%																		
S1-bot																								
S2-bot																								
T1-bot																								
T2-bot																								
A1-bot																								
R-bot		0.1%		0.9%		0.2%																		
swpump		0.0%		0.0%		0.0%				0.2%														

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
A-101	0.0%	0.0%	0.1%	0.6%	0.0%	0.2%	0.2%	1.8%	0.2%	0.2%	0.2%	0.1%	9.2%	1.5%	1.8%	1.4%	2.6%	1.3%		0.3%	1.4%
A-102	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.2%	1.7%	0.2%	0.2%	0.2%	0.1%	8.6%	1.4%	1.7%	1.3%	2.3%	1.2%		0.3%	1.4%
A-103	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.2%	1.7%	0.2%	0.2%	0.2%	0.1%	8.6%	1.4%	1.7%	1.3%	2.4%	1.2%		0.3%	1.4%
A-104																					
A-105	0.0%		0.0%	0.0%	0.0%	0.2%		0.4%	0.0%		0.0%						41.4%	15.6%		0.7%	0.3%
A-106	0.0%	0.0%	0.2%	0.7%	0.0%	0.2%	0.2%	2.1%	0.3%	0.2%	0.2%	0.1%	11.9%	1.9%	2.3%	1.7%	3.3%	1.6%		0.3%	1.3%
AX-101	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.2%	1.7%	0.2%	0.2%	0.2%	0.1%	8.7%	1.5%	1.7%	1.3%	2.4%	1.2%		0.3%	1.4%
AX-102	0.0%	0.0%	0.1%	0.6%	0.0%	0.2%	0.2%	2.0%	0.2%	0.2%	0.2%	0.1%	11.2%	1.8%	2.2%	1.6%	3.1%	1.5%		0.3%	1.3%
AX-103	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.2%	1.7%	0.2%	0.2%	0.2%	0.1%	9.1%	1.5%	1.8%	1.3%	2.6%	1.3%		0.3%	1.3%
AX-104																					
B-101																					
B-102	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.8%	0.3%	1.3%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	2.5%		0.1%	6.2%
B-103	0.0%	0.0%	0.1%	0.2%	0.0%	0.1%	3.3%	1.4%	0.3%	1.1%	0.5%	0.0%	1.3%	0.8%	0.7%	0.7%	1.4%	2.5%		0.2%	5.4%
B-104			0.0%	0.0%	0.0%	0.0%		0.0%													
B-105	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	1.2%	0.3%	1.6%	0.7%	0.0%	0.1%	0.1%	0.1%	0.1%	1.0%	1.7%		0.3%	8.3%
B-106	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	18.6%	0.6%	0.2%	1.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	1.9%		0.1%	4.7%
B-107	0.0%		0.0%	0.0%	0.0%	0.0%		0.1%	1.5%		0.0%						5.5%	0.8%			17.7%
B-108	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	1.1%	0.3%	1.7%	0.7%	0.0%	0.3%	0.2%	0.1%	0.2%	1.1%	1.9%		0.4%	9.0%
B-109																					
B-110																					
B-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
B-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
B-201																					
B-202																					
B-203																					
B-204							0.8%														
BX-101																					
BX-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.1%	0.0%	0.1%	1.0%						0.1%	0.0%			10.6%
BX-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.6%		0.1%	1.2%
BX-104	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.3%	2.3%	0.3%	0.2%	0.2%	0.1%	12.5%	2.1%	2.4%	1.9%	2.6%	1.4%		0.4%	1.3%
BX-105	0.0%	0.0%	0.2%	0.7%	0.0%	0.2%	0.2%	2.1%	0.3%	0.2%	0.2%	0.1%	11.6%	1.9%	2.3%	1.7%	2.5%	1.3%		0.4%	1.3%
BX-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.9%		0.2%	2.2%
BX-107	0.0%	0.0%	1.5%	1.9%	0.0%	0.0%		21.4%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
BX-108																					
BX-109	0.0%		0.0%	0.0%				0.2%	0.0%	0.2%	0.0%						0.1%				2.1%
BX-110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BX-111	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.7%	0.2%	1.0%	0.4%	0.0%	0.1%	0.0%	0.0%	0.1%	1.4%	1.4%		0.3%	5.1%
BX-112	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.7%	0.1%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	1.3%	0.9%		0.2%	1.8%
BY-101																					
BY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.7%		0.1%	1.3%
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
BY-109																					
BY-110	0.0%	0.0%	0.1%	0.4%	0.0%	0.1%	0.1%	1.3%	0.1%	0.2%	0.1%	0.1%	5.9%	1.0%	1.2%	0.9%	3.2%	1.5%		0.2%	1.3%

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Slurry	DW	N
A-101	6.0%	0.4%	0.5%	1.1%	2.2%	1.3%	0.4%	0.1%	0.2%	3.7%	1.3%	8.6%	6.4%		17.2%			0.7%		5.4%	1.8%
A-102	6.0%	0.4%	0.5%	1.0%	2.2%	1.2%	0.4%	0.1%	0.2%	4.2%	1.1%	8.6%	7.0%		16.8%			0.6%		5.1%	1.7%
A-103	6.0%	0.4%	0.5%	1.0%	2.2%	1.2%	0.4%	0.1%	0.2%	4.1%	1.3%	8.7%	6.9%		16.8%			0.6%		5.1%	1.7%
A-104																					
A-105	3.1%		6.6%	22.4%	0.6%						5.9%	0.0%			0.8%					1.5%	
A-106	6.1%	0.5%	0.6%	1.4%	2.3%	1.6%	0.3%	0.1%	0.2%	2.0%	1.0%	7.8%	4.2%		18.7%			0.9%		6.5%	2.0%
AX-101	6.0%	0.4%	0.5%	1.0%	2.2%	1.3%	0.4%	0.1%	0.2%	4.1%	1.2%	8.6%	6.8%		16.8%			0.6%		5.2%	1.7%
AX-102	6.0%	0.4%	0.6%	1.3%	2.2%	1.5%	0.3%	0.1%	0.2%	2.2%	2.2%	7.8%	4.6%		18.1%			0.8%		6.1%	1.9%
AX-103	5.8%	0.4%	0.5%	1.1%	2.2%	1.3%	0.4%	0.1%	0.2%	3.1%	1.0%	10.9%	5.9%		16.9%			0.7%		5.1%	1.6%
AX-104																					
B-101																					
B-102	28.2%	0.0%	0.7%	0.1%	8.9%		1.1%	0.6%	0.9%	0.0%	2.2%	2.5%			15.6%					0.4%	0.1%
B-103	22.6%	0.2%	0.7%	0.4%	7.9%	0.1%	0.9%	0.5%	0.8%	0.0%	1.4%	3.9%			21.1%					4.2%	2.2%
B-104																					
B-105	34.5%	0.0%	0.8%	0.1%	14.7%		1.7%	0.7%	1.4%	0.1%	1.1%	1.2%			17.3%					0.8%	0.5%
B-106	21.4%	0.0%	0.5%	0.1%	7.2%		0.9%	0.5%	0.7%	0.0%	1.7%	1.9%			12.3%					0.3%	0.1%
B-107	67.4%		1.4%																		
B-108	31.3%	0.0%	0.8%	0.2%	12.6%		1.5%	0.7%	1.4%	0.1%	1.0%	1.1%			27.4%					1.8%	1.0%
B-109																					
B-110																					
B-111	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%	0.0%			0.0%					0.0%	
B-112	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
B-201																					
B-202																					
B-203																					
B-204																				99.2%	
BX-101																					
BX-102	31.2%		0.1%	0.0%	24.0%		6.3%	0.1%			10.7%	1.3%			14.5%					0.1%	
BX-103	4.5%	0.0%	0.3%	0.5%	1.6%	0.0%	0.2%	0.1%	0.2%	6.1%	0.8%	4.8%	3.1%		29.1%					0.2%	0.1%
BX-104	6.5%	0.5%	0.6%	1.0%	2.3%	1.9%	0.3%	0.1%	0.2%	2.5%	0.5%	8.4%	4.5%		20.5%			0.9%		7.7%	2.6%
BX-105	6.3%	0.5%	0.5%	1.0%	2.3%	1.7%	0.3%	0.1%	0.2%	2.8%	0.7%	8.3%	5.0%		19.4%			0.9%		6.9%	2.3%
BX-106	8.2%	0.0%	0.4%	0.5%	3.0%	0.0%	0.4%	0.2%	0.4%	6.9%	0.9%	5.0%	3.3%		5.3%					0.4%	0.2%
BX-107	0.2%		0.0%	0.0%			0.0%	0.0%							74.9%					0.0%	
BX-108																					
BX-109	23.7%		0.1%												73.6%						
BX-110	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BX-111	18.9%	0.0%	0.6%	0.5%	6.8%	0.0%	1.0%	0.4%	0.9%	5.3%	1.2%	4.2%	3.4%		10.9%					0.7%	0.4%
BX-112	7.1%	0.0%	0.3%	0.6%	2.4%	0.0%	0.3%	0.2%	0.3%	8.5%	1.0%	5.0%	8.3%		9.9%					0.4%	0.2%
BY-101																					
BY-102	4.6%	0.0%	0.3%	0.5%	1.7%	0.0%	0.3%	0.1%	0.2%	7.5%	0.8%	5.5%	9.3%		7.4%					0.3%	0.2%
BY-103																					
BY-104																					
BY-105																					
BY-106																					
BY-107	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BY-108	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%					0.0%	0.0%
BY-109																					
BY-110	5.4%	0.2%	0.6%	1.5%	2.0%	0.8%	0.4%	0.1%	0.2%	4.4%	3.9%	9.6%	8.2%		13.9%			0.5%		3.4%	1.1%

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	/NCplx	PASF
A-101		0.5%		3.3%		2.9%				12.8%														
A-102		0.5%		3.1%		2.8%				14.7%														
A-103		0.5%		3.1%		2.8%				14.7%														
A-104																								
A-105		0.3%																						
A-106		0.5%		4.1%		3.8%				6.9%														
AX-101		0.5%		3.1%		2.8%				14.6%														
AX-102		0.5%		3.8%		3.6%				8.5%														
AX-103		0.5%		3.2%		2.9%				13.4%														
AX-104																								
B-101																								
B-102		21.3%		0.1%		0.0%				4.1%														
B-103		11.0%		1.7%		0.4%																		
B-104		100.0%																						
B-105		9.2%		0.2%		0.0%																		
B-106		23.8%		0.0%		0.0%																		
B-107		5.5%																						
B-108		1.4%		0.4%		0.1%																		
B-109										100.0%														
B-110										100.0%														
B-111		0.0%								99.9%														
B-112		0.0%		0.0%		0.0%				100.0%														
B-201																								
B-202																								
B-203																								
B-204																								
BX-101										100.0%														
BX-102		0.1%																						
BX-103		0.2%		0.0%		0.0%				44.6%														
BX-104		0.6%		4.6%		4.1%				0.3%														
BX-105		0.6%		4.2%		3.7%				5.1%														
BX-106		0.5%		0.1%		0.0%				58.7%														
BX-107		0.0%																						
BX-108																								
BX-109																								
BX-110		0.0%		0.0%		0.0%				100.0%														
BX-111		0.9%		0.1%		0.0%				32.8%														
BX-112		1.4%		0.1%		0.0%				48.2%														
BY-101																								
BY-102		0.4%		0.0%		0.0%				56.8%														
BY-103										100.0%														
BY-104																								
BY-105										100.0%														
BY-106																								
BY-107		0.0%		0.0%		0.0%				99.9%														
BY-108		0.0%		0.0%		0.0%				100.0%														
BY-109																								
BY-110		0.4%		2.1%		1.8%				21.5%														

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
BY-111																					
BY-112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.4%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%	0.4%		0.1%	1.9%
C-101																					
C-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%			0.0%
C-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.2%	0.4%	0.0%	0.1%	0.1%	0.2%	0.1%	0.7%	0.4%		0.1%	2.9%
C-104	0.0%	0.0%	0.1%	0.6%	0.0%	0.2%	0.2%	1.9%	0.2%	0.2%	0.2%	0.1%	10.6%	1.7%	2.1%	1.5%	3.0%	1.5%		0.3%	1.4%
C-105	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	1.0%		0.2%	0.4%
C-106	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%						0.0%	0.0%		0.0%	0.0%
C-107																					
C-108																					
C-109																					
C-110	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%		1.2%	0.0%	0.2%	0.1%						0.1%	0.1%		0.0%	0.6%
C-111			0.0%					0.0%			7.4%										48.4%
C-112	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%		1.2%	0.0%	0.2%	0.1%						0.1%	0.1%		0.0%	0.6%
C-201																					
C-202																					
C-203																					
C-204																					
S-101	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.3%	2.3%	0.3%	0.3%	0.2%	0.1%	14.1%	2.2%	2.8%	1.9%	2.5%	1.3%		0.4%	1.4%
S-102	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.2%	2.4%	0.3%	0.2%	0.2%	0.1%	14.8%	2.3%	2.8%	2.0%	2.5%	1.3%		0.3%	1.3%
S-103	0.0%	0.0%	0.2%	0.9%	0.0%	0.3%	0.3%	2.6%	0.3%	0.2%	0.2%	0.1%	13.5%	2.4%	2.7%	2.1%	2.6%	1.4%		0.3%	1.3%
S-104													0.0%		0.0%	0.0%					
S-105	0.0%	0.0%	0.1%	0.5%	0.0%	0.4%	0.0%	1.6%	0.2%	0.1%	0.1%	0.1%	38.0%	2.0%	5.4%	2.0%	1.9%	1.0%		0.1%	0.5%
S-106	0.0%	0.0%	0.1%	0.4%	0.0%	0.3%	0.0%	1.2%	0.2%	0.1%	0.1%	0.1%	29.8%	2.0%	4.0%	1.6%	2.0%	0.8%		0.3%	0.5%
S-107	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.3%	2.3%	0.3%	0.2%	0.2%	0.1%	11.9%	2.1%	2.3%	1.9%	2.6%	1.4%		0.4%	1.3%
S-108	0.0%	0.0%	0.1%	0.5%	0.0%	0.4%	0.0%	1.5%	0.2%	0.1%	0.1%	0.1%	34.4%	2.3%	5.0%	1.9%	1.8%	1.0%		0.2%	0.5%
S-109	0.0%	0.0%	0.1%	0.5%	0.0%	0.4%	0.0%	1.4%	0.2%	0.1%	0.1%	0.1%	32.4%	2.3%	4.7%	1.9%	1.7%	1.0%		0.2%	0.5%
S-110	0.0%	0.0%	0.1%	0.5%	0.0%	0.3%	0.1%	1.5%	0.2%	0.3%	0.1%	0.1%	19.2%	1.8%	2.8%	1.5%	2.2%	1.1%		0.4%	1.4%
S-111	0.0%	0.0%	0.1%	0.5%	0.0%	0.3%	0.1%	1.5%	0.2%	0.1%	0.1%	0.1%	24.9%	2.0%	3.5%	1.6%	2.1%	1.0%		0.4%	0.8%
S-112	0.0%	0.0%	0.1%	0.5%	0.0%	0.4%	0.0%	1.5%	0.2%	0.1%	0.1%	0.1%	34.2%	2.3%	4.9%	1.9%	1.8%	1.0%		0.2%	0.5%
SX-101	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.2%	2.4%	0.3%	0.2%	0.2%	0.1%	15.3%	2.3%	2.9%	2.1%	2.6%	1.3%		0.3%	1.3%
SX-102	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.4%	2.5%	0.3%	0.3%	0.2%	0.1%	11.9%	2.3%	2.3%	2.0%	2.6%	1.4%		0.4%	1.6%
SX-103	0.0%	0.0%	0.2%	1.0%	0.0%	0.3%	0.4%	2.9%	0.3%	0.3%	0.2%	0.1%	11.4%	2.5%	2.4%	2.3%	2.9%	1.5%		0.4%	1.5%
SX-104	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.3%	2.4%	0.3%	0.3%	0.2%	0.1%	13.6%	2.2%	2.6%	1.9%	2.5%	1.3%		0.4%	1.5%
SX-105	0.0%	0.0%	0.2%	0.7%	0.0%	0.3%	0.3%	2.3%	0.3%	0.3%	0.2%	0.1%	13.3%	2.1%	2.5%	1.8%	2.5%	1.3%		0.4%	1.5%
SX-106	0.0%	0.0%	0.2%	0.9%	0.0%	0.3%	0.3%	2.6%	0.3%	0.2%	0.2%	0.1%	13.4%	2.4%	2.7%	2.1%	2.6%	1.4%		0.3%	1.3%
SX-107													0.1%	0.1%	0.0%						
SX-108													0.2%	0.2%	0.0%						
SX-109													0.0%	0.0%							
SX-110																					
SX-111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	1.8%	0.0%	0.1%	0.2%	0.1%		0.0%	0.1%
SX-112													13.6%	45.1%	0.0%						
SX-113													100.0%								
SX-114	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	7.1%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SX-115																					
U-101																					
U-102	0.0%	0.0%	0.2%	1.0%	0.0%	0.3%	0.3%	2.9%	0.4%	0.3%	0.2%	0.1%	11.2%	2.6%	2.7%	2.5%	3.0%	1.6%		0.3%	1.4%
U-103	0.1%	0.0%	0.2%	1.0%	0.0%	0.3%	0.3%	2.9%	0.3%	0.3%	0.2%	0.1%	11.6%	2.6%	2.9%	2.3%	2.9%	1.5%		0.3%	1.5%

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Slurry	DW	N
BY-111																					
BY-112	7.7%	0.0%	0.2%	0.0%	3.2%		0.4%	0.2%	0.3%	0.0%	0.3%	0.7%			4.1%					0.5%	0.4%
C-101																					
C-102	0.3%		0.0%	0.0%	0.0%		0.0%	0.0%			0.0%				0.0%					0.0%	
C-103	6.0%	0.0%	0.3%	0.3%	3.1%	0.0%	2.4%	0.1%	0.1%	4.2%	0.5%	4.9%	40.5%		10.0%			0.0%		0.7%	0.9%
C-104	6.1%	0.4%	0.6%	1.3%	2.3%	1.4%	0.5%	0.1%	0.2%	2.3%	0.9%	7.6%	7.6%		17.8%			0.8%		5.8%	1.9%
C-105	1.5%	0.0%	0.2%	0.6%	0.7%	0.0%	0.1%	0.0%	0.1%	6.7%	58.8%	2.9%	10.9%		3.0%			0.0%		0.1%	0.1%
C-106	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%		0.0%	0.0%	100.0%			0.0%					0.0%	
C-107													100.0%								
C-108																					
C-109																					
C-110	34.9%		0.5%	0.0%	28.9%		1.9%	0.1%	0.1%		0.0%	0.0%			30.8%					0.1%	
C-111			0.0%				44.2%														
C-112	34.9%		0.5%	0.0%	28.9%		1.9%	0.1%	0.1%		0.0%	0.0%			30.8%					0.1%	
C-201																					
C-202																					
C-203							100.0%														
C-204							100.0%														
S-101	6.9%	0.5%	0.5%	0.9%	2.5%	1.7%	0.4%	0.1%	0.2%	0.5%	0.4%	7.4%	2.2%		22.7%			1.0%		7.5%	2.9%
S-102	6.4%	0.5%	0.5%	1.0%	2.4%	1.8%	0.3%	0.1%	0.2%	0.7%	0.3%	6.9%	2.2%		21.0%			3.4%		7.5%	2.5%
S-103	6.7%	0.6%	0.6%	1.0%	2.4%	2.2%	0.3%	0.1%	0.2%	0.7%	0.4%	7.0%	2.3%		20.5%			3.4%		7.8%	2.3%
S-104																					
S-105	3.6%	0.5%	0.3%	0.9%	1.4%	0.1%	0.2%	0.0%	0.1%	0.0%	0.1%	3.2%	0.3%		17.2%					6.2%	2.5%
S-106	3.4%	0.4%	0.4%	0.7%	1.4%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	5.6%	0.3%		21.6%					6.4%	3.4%
S-107	6.5%	0.5%	0.6%	1.0%	2.3%	1.9%	0.3%	0.1%	0.2%	2.9%	0.5%	8.7%	4.9%		20.4%			0.8%		7.7%	2.6%
S-108	3.5%	0.4%	0.3%	0.8%	1.4%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	3.7%	0.3%		19.7%					6.7%	3.3%
S-109	3.6%	0.4%	0.3%	0.8%	1.4%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	4.3%	0.3%		20.9%					6.9%	3.7%
S-110	6.6%	0.4%	0.5%	0.7%	2.4%	0.6%	0.3%	0.1%	0.2%	0.2%	0.3%	7.6%	1.3%		25.5%					6.0%	2.7%
S-111	4.5%	0.4%	0.4%	0.7%	1.7%	0.4%	0.2%	0.1%	0.1%	0.3%	0.2%	6.3%	0.9%		22.6%					6.7%	3.4%
S-112	3.6%	0.4%	0.3%	0.8%	1.4%	0.1%	0.2%	0.0%	0.1%	0.0%	0.1%	3.8%	0.3%		19.8%					6.7%	3.3%
SX-101	6.5%	0.6%	0.5%	1.0%	2.4%	1.9%	0.3%	0.1%	0.2%	0.7%	0.4%	7.1%	2.3%		21.2%			1.2%		7.8%	2.6%
SX-102	7.4%	0.6%	0.6%	1.0%	2.7%	2.0%	0.4%	0.1%	0.3%	0.7%	0.4%	7.8%	2.5%		23.2%			0.0%		7.8%	2.7%
SX-103	7.3%	0.6%	0.6%	1.1%	2.7%	2.4%	0.3%	0.1%	0.3%	0.8%	0.4%	7.8%	2.8%		21.0%			0.1%		8.5%	2.3%
SX-104	7.0%	0.5%	0.6%	0.9%	2.5%	1.8%	0.4%	0.1%	0.3%	0.6%	0.4%	7.9%	2.4%		22.8%			0.4%		7.6%	3.0%
SX-105	7.0%	0.5%	0.5%	0.9%	2.5%	1.7%	0.4%	0.1%	0.2%	0.6%	0.4%	8.1%	2.5%		23.7%			0.2%		7.6%	3.2%
SX-106	6.7%	0.6%	0.6%	1.0%	2.4%	2.2%	0.3%	0.1%	0.2%	0.7%	0.4%	7.0%	2.3%		20.4%			3.6%		7.8%	2.3%
SX-107																					
SX-108																					
SX-109																					
SX-110																					
SX-111	3.2%	0.0%	0.0%	0.1%	3.0%		0.0%	0.0%	0.0%		0.1%	2.9%			83.9%					0.1%	
SX-112																					
SX-113																					
SX-114	0.9%	0.0%	0.0%	0.0%	0.9%		0.0%	0.0%	0.0%		0.1%	9.1%			70.6%					0.0%	
SX-115																					
U-101																					
U-102	7.4%	0.7%	0.6%	1.2%	2.7%	2.5%	0.3%	0.1%	0.3%	0.7%	0.4%	7.4%	2.7%		19.8%			1.0%		8.7%	2.1%
U-103	7.3%	0.7%	0.6%	1.1%	2.7%	2.6%	0.3%	0.1%	0.3%	0.6%	0.4%	7.4%	2.6%		20.0%			1.0%		8.5%	2.2%

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	/NCplx	PASF
BY-111																								
BY-112		0.8%		0.1%		0.0%				77.4%														
C-101																								
C-102		0.0%								99.7%														
C-103		0.2%		0.1%		0.0%				19.8%														
C-104		0.5%		3.7%		3.4%				8.8%														
C-105		0.1%		0.0%		0.0%				11.1%														
C-106		0.0%																						
C-107																								
C-108																								
C-109																								
C-110		0.0%																						
C-111																								
C-112		0.0%																						
C-201																								
C-202																								
C-203																								
C-204																								
S-101		0.7%		4.6%		4.7%				0.2%														
S-102		0.6%		4.8%		4.8%				0.2%														
S-103		0.6%		5.1%		4.2%				0.2%														
S-104						100.0%																		
S-105		0.0%		3.8%		5.5%																		
S-106		0.0%		3.0%		9.4%																		
S-107		0.7%		4.6%		3.9%				0.2%														
S-108		0.0%		3.6%		5.6%																		
S-109		0.0%		3.5%		5.5%																		
S-110		0.8%		3.1%		7.1%				0.0%														
S-111		0.3%		3.3%		8.0%				0.1%														
S-112		0.1%		3.6%		5.6%																		
SX-101		0.6%		4.9%		4.8%				0.2%														
SX-102		1.0%		4.9%		4.0%				0.6%														
SX-103		0.7%		5.7%		3.8%				0.2%														
SX-104		0.7%		4.7%		4.4%				0.2%														
SX-105		0.8%		4.4%		4.5%				0.2%														
SX-106		0.6%		5.2%		4.2%				0.2%														
SX-107						99.8%																		
SX-108						99.6%																		
SX-109						100.0%																		
SX-110																								
SX-111		0.0%		0.1%		3.4%																		
SX-112						41.3%																		
SX-113																								
SX-114		0.0%		0.0%		8.9%																		
SX-115																								
U-101																								
U-102		0.6%		5.9%		3.6%				0.2%														
U-103		0.6%		5.9%		3.6%				0.2%														

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
U-104	0.0%	0.1%	0.1%	0.5%	0.0%	0.7%	0.0%	3.1%	0.7%	0.1%	0.0%	0.5%	7.5%	5.0%	6.7%	8.6%	9.0%	4.0%			0.6%
U-105	0.0%	0.0%	0.2%	1.0%	0.0%	0.3%	0.3%	2.9%	0.3%	0.3%	0.2%	0.1%	11.6%	2.5%	2.8%	2.3%	2.9%	1.5%		0.4%	1.5%
U-106	0.0%	0.0%	0.2%	0.7%	0.0%	0.3%	0.4%	2.1%	0.3%	0.3%	0.2%	0.1%	12.3%	1.9%	2.2%	1.7%	2.3%	1.3%		0.5%	1.6%
U-107	0.0%	0.0%	0.2%	0.9%	0.0%	0.3%	0.3%	2.6%	0.3%	0.2%	0.2%	0.1%	13.3%	2.4%	2.7%	2.1%	2.7%	1.4%		0.3%	1.3%
U-108	0.0%	0.0%	0.2%	0.6%	0.0%	0.2%	0.3%	2.0%	0.2%	0.3%	0.2%	0.1%	13.0%	2.0%	2.3%	1.7%	2.3%	1.2%		0.4%	1.5%
U-109	0.0%	0.0%	0.2%	0.6%	0.0%	0.2%	0.3%	2.1%	0.3%	0.3%	0.2%	0.1%	13.0%	2.2%	2.3%	1.7%	2.4%	1.3%		0.4%	1.5%
U-110																					
U-111	0.0%	0.0%	0.2%	0.9%	0.0%	0.3%	0.3%	2.5%	0.3%	0.2%	0.2%	0.1%	14.3%	2.4%	2.8%	2.1%	2.7%	1.4%		0.3%	1.3%
U-112																					
U-201	1.1%		3.9%										56.5%		38.5%						
U-202																					
U-203	1.1%		3.9%										56.5%		38.5%						
U-204																					
T-101	0.0%	0.0%	0.0%	3.1%	0.0%	4.3%	15.1%	0.2%	0.1%	0.0%	0.0%	0.0%	1.0%	1.5%	0.4%	0.4%	0.0%	0.0%		0.0%	0.0%
T-102																					
T-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	3.4%	2.6%	2.5%	0.1%	0.0%		0.0%	0.0%
T-104	0.0%	0.0%	0.2%	13.3%	0.0%	0.2%	0.2%	1.9%	0.2%	0.2%	0.1%	0.1%	11.3%	1.7%	1.9%	1.5%	2.0%	1.1%		0.5%	1.3%
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110					0.0%	100.0%	0.0%														
T-111					0.0%	100.0%	0.0%														
T-112																					
T-201																					
T-202																					
T-203							100.0%														
T-204																					
TX-101	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.2%	2.4%	0.3%	0.2%	0.2%	0.1%	17.0%	2.4%	3.1%	2.1%	2.6%	1.3%		0.3%	1.2%
TX-102	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.8%	0.5%	0.3%	0.2%	0.2%	7.2%	3.7%	2.7%	3.6%	4.1%	2.2%		0.2%	1.4%
TX-103	0.1%	0.0%	0.2%	1.9%	0.0%	0.5%	0.6%	4.6%	0.5%	0.3%	0.2%	0.2%	7.5%	3.6%	2.6%	3.5%	3.9%	2.0%		0.2%	1.4%
TX-104	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.7%	0.5%	0.3%	0.2%	0.2%	7.7%	3.6%	2.7%	3.5%	4.0%	2.1%		0.3%	1.4%
TX-105	0.1%	0.0%	0.2%	1.7%	0.0%	0.3%	0.0%	5.0%	0.6%	0.3%	0.2%	0.2%	7.9%	3.9%	2.8%	3.8%	4.3%	2.2%		0.2%	1.5%
TX-106	0.1%	0.0%	0.2%	1.7%	0.0%	0.3%	0.0%	4.8%	0.6%	0.3%	0.2%	0.2%	7.8%	3.8%	2.8%	3.7%	4.2%	2.1%		0.2%	1.4%
TX-107	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.7%	0.5%	0.3%	0.2%	0.2%	7.8%	3.7%	2.7%	3.5%	4.1%	2.1%		0.3%	1.4%
TX-108	0.1%	0.0%	0.3%	1.7%	0.0%	0.3%	0.0%	5.0%	0.6%	0.3%	0.2%	0.2%	7.9%	3.9%	2.9%	3.9%	4.3%	2.2%		0.2%	1.5%
TX-109	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.6%	0.5%	0.3%	0.2%	0.2%	7.6%	3.6%	2.6%	3.5%	4.0%	2.1%		0.3%	1.4%
TX-110	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.7%	0.5%	0.3%	0.2%	0.2%	7.7%	3.7%	2.7%	3.5%	4.0%	2.1%		0.3%	1.4%
TX-111	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.6%	0.5%	0.3%	0.2%	0.2%	7.7%	3.6%	2.6%	3.5%	4.0%	2.1%		0.3%	1.4%
TX-112	0.1%	0.0%	0.2%	1.7%	0.0%	0.3%	0.0%	5.0%	0.6%	0.3%	0.2%	0.2%	7.9%	3.9%	2.8%	3.8%	4.3%	2.2%		0.2%	1.5%
TX-113	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.8%	0.5%	0.3%	0.2%	0.2%	7.8%	3.7%	2.7%	3.6%	4.1%	2.1%		0.2%	1.4%
TX-114	0.1%	0.0%	0.2%	1.6%	0.0%	0.3%	0.0%	4.8%	0.5%	0.3%	0.2%	0.2%	7.8%	3.7%	2.7%	3.6%	4.1%	2.1%		0.2%	1.4%
TX-115	0.1%	0.0%	0.2%	1.7%	0.0%	0.3%	0.0%	5.0%	0.6%	0.3%	0.2%	0.2%	7.9%	3.9%	2.8%	3.8%	4.3%	2.2%		0.2%	1.5%
TX-116	0.1%	0.0%	0.3%	1.5%	0.0%	0.4%	0.0%	4.2%	0.5%	0.4%	0.3%	0.2%	7.0%	3.6%	3.2%	4.2%	4.9%	2.7%		0.1%	2.0%
TX-117	0.1%	0.0%	0.3%	1.8%	0.0%	0.4%	0.0%	4.7%	0.5%	0.5%	0.4%	0.2%	7.6%	3.2%	3.5%	4.4%	4.9%	2.7%		0.2%	2.1%
TX-118	0.0%	0.0%	0.2%	1.4%	0.0%	0.3%	0.2%	3.7%	0.4%	0.3%	0.2%	0.2%	11.4%	3.1%	2.8%	2.9%	3.4%	1.8%		0.3%	1.3%
TY-101	0.1%	0.0%	0.3%	1.5%	0.0%	0.3%	0.0%	5.0%	0.7%	0.3%	0.2%	0.3%	8.7%	5.4%	3.1%	4.0%	4.1%	2.2%		0.1%	1.5%

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Slurry	DW	N
U-104	11.2%	2.2%	1.5%	4.3%	4.7%		0.1%	0.1%			0.0%				0.0%					17.5%	
U-105	7.3%	0.7%	0.6%	1.1%	2.7%	2.5%	0.3%	0.1%	0.3%	0.7%	0.4%	7.7%	2.7%		20.6%			0.1%		8.5%	2.3%
U-106	7.1%	0.5%	0.5%	0.8%	2.5%	1.5%	0.4%	0.1%	0.2%	0.6%	0.4%	9.7%	2.9%		24.2%					7.3%	3.3%
U-107	6.7%	0.6%	0.6%	1.0%	2.5%	2.2%	0.3%	0.1%	0.3%	0.7%	0.4%	7.1%	2.3%		20.6%			3.0%		7.9%	2.3%
U-108	6.9%	0.5%	0.5%	0.8%	2.4%	1.3%	0.4%	0.1%	0.2%	0.6%	0.3%	8.2%	2.5%		24.6%					8.4%	4.1%
U-109	6.9%	0.5%	0.6%	0.9%	2.4%	1.4%	0.4%	0.1%	0.2%	0.7%	0.3%	9.1%	2.9%		24.4%					7.0%	3.4%
U-110																					
U-111	6.6%	0.6%	0.6%	1.0%	2.4%	2.0%	0.3%	0.1%	0.2%	0.7%	0.4%	7.1%	2.4%		20.8%			1.7%		7.9%	2.4%
U-112																					
U-201																					
U-202																					
U-203																					
U-204																					
T-101	1.6%	0.1%	0.0%	0.0%	0.1%		0.0%	0.0%	0.0%		0.0%	15.6%			53.1%					0.4%	
T-102																					
T-103	5.2%	0.0%	0.0%	0.0%	0.4%		0.0%	0.0%	0.0%		0.1%	17.6%			62.1%					0.0%	
T-104	5.9%	0.4%	0.5%	0.7%	2.1%	1.5%	0.4%	0.1%	0.2%	0.7%	0.3%	9.1%	3.4%		20.3%					6.0%	2.8%
T-105																					
T-106																					
T-107																					
T-108																					
T-109																					
T-110																					
T-111																					
T-112																					
T-201																					
T-202																					
T-203																					
T-204																					
TX-101	6.2%	0.6%	0.5%	1.0%	2.3%	1.7%	0.3%	0.1%	0.2%	0.6%	0.3%	6.8%	2.1%		21.0%			0.6%		7.8%	2.6%
TX-102	8.3%	1.1%	0.8%	1.7%	3.3%	4.4%	0.2%	0.1%	0.4%	0.6%	0.5%	5.2%	4.2%		12.8%					11.1%	0.0%
TX-103	8.1%	1.0%	0.8%	1.6%	3.1%	5.5%	0.2%	0.1%	0.4%	0.2%	0.5%	6.2%	1.3%		15.0%					10.6%	0.1%
TX-104	8.1%	1.1%	0.8%	1.7%	3.2%	4.9%	0.1%	0.1%	0.4%	0.5%	0.5%	6.6%	3.6%		12.5%					10.8%	0.0%
TX-105	8.7%	1.1%	0.8%	1.8%	3.4%	4.4%	0.2%	0.1%	0.4%	0.1%	0.5%	5.4%	0.6%		13.4%					11.6%	0.0%
TX-106	8.5%	1.1%	0.8%	1.8%	3.3%	4.8%	0.2%	0.1%	0.4%	0.2%	0.5%	5.9%	1.8%		13.0%					11.2%	0.0%
TX-107	8.2%	1.1%	0.8%	1.7%	3.2%	5.0%	0.1%	0.1%	0.4%	0.4%	0.5%	6.4%	3.2%		12.6%					10.9%	0.0%
TX-108	8.8%	1.2%	0.8%	1.8%	3.5%	3.9%	0.2%	0.1%	0.4%	0.0%	0.5%	5.1%	0.5%		13.4%					11.8%	0.0%
TX-109	8.0%	1.0%	0.8%	1.7%	3.1%	5.0%	0.1%	0.1%	0.4%	0.6%	0.5%	6.6%	4.5%		12.4%					10.7%	0.0%
TX-110	8.2%	1.1%	0.8%	1.7%	3.2%	4.9%	0.1%	0.1%	0.4%	0.5%	0.5%	6.5%	3.5%		12.6%					10.8%	0.0%
TX-111	8.1%	1.1%	0.8%	1.7%	3.2%	4.9%	0.1%	0.1%	0.4%	0.5%	0.5%	6.7%	3.9%		12.5%					10.7%	0.0%
TX-112	8.7%	1.1%	0.8%	1.8%	3.4%	4.4%	0.2%	0.1%	0.4%	0.1%	0.5%	5.4%	0.6%		13.4%					11.6%	0.0%
TX-113	8.4%	1.1%	0.8%	1.7%	3.3%	5.0%	0.2%	0.1%	0.4%	0.3%	0.5%	6.0%	2.2%		12.9%					11.1%	0.0%
TX-114	8.4%	1.1%	0.8%	1.7%	3.3%	5.0%	0.2%	0.1%	0.4%	0.3%	0.5%	6.1%	2.2%		12.9%					11.1%	0.0%
TX-115	8.7%	1.1%	0.8%	1.8%	3.4%	4.4%	0.2%	0.1%	0.4%	0.1%	0.5%	5.4%	0.7%		13.4%					11.5%	0.0%
TX-116	11.2%	1.1%	1.0%	2.1%	4.2%		0.2%	0.2%	0.5%		0.6%	3.3%			13.4%					13.4%	
TX-117	12.1%	1.1%	1.0%	2.2%	4.7%		0.2%	0.2%	0.6%		0.7%	2.7%			10.8%					13.0%	
TX-118	7.3%	0.9%	0.7%	1.4%	2.8%	4.1%	0.2%	0.1%	0.3%	0.5%	0.4%	6.4%	2.4%		16.5%			0.3%		9.5%	1.1%
TY-101	8.9%	1.2%	0.8%	1.8%	3.5%	1.2%	0.2%	0.1%	0.4%		0.5%	3.9%			13.6%					12.2%	

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	/NCplx	PASF
U-104		0.1%		9.6%		1.5%																		
U-105		0.7%		5.7%		3.7%				0.2%														
U-106		1.0%		4.0%		4.2%				0.6%														
U-107		0.6%		5.2%		4.2%				0.2%														
U-108		0.8%		3.9%		4.6%				0.2%														
U-109		0.8%		4.0%		4.6%				0.1%														
U-110																								
U-111		0.6%		5.1%		4.5%				0.2%														
U-112																								
U-201																								
U-202																								
U-203																								
U-204																								
T-101		0.0%		1.8%		1.2%																		
T-102																								
T-103		0.0%		0.0%		4.7%																		
T-104		0.6%		3.5%		3.6%																		
T-105																								
T-106																								
T-107																								
T-108																								
T-109																								
T-110																								
T-111																								
T-112																								
T-201																								
T-202																								
T-203																								
T-204																								
TX-101		0.5%		4.9%		5.1%				0.1%														
TX-102		0.2%		9.7%		2.0%																		
TX-103		0.2%		9.3%		2.0%																		
TX-104		0.2%		9.5%		2.0%																		
TX-105		0.2%		10.1%		2.1%																		
TX-106		0.2%		9.8%		2.1%																		
TX-107		0.2%		9.5%		2.0%																		
TX-108		0.2%		10.3%		2.2%																		
TX-109		0.2%		9.3%		1.9%																		
TX-110		0.2%		9.5%		2.0%																		
TX-111		0.2%		9.4%		2.0%																		
TX-112		0.2%		10.1%		2.1%																		
TX-113		0.2%		9.7%		2.0%																		
TX-114		0.2%		9.7%		2.0%																		
TX-115		0.2%		10.1%		2.1%																		
TX-116		0.2%		10.4%		2.3%																		
TX-117		0.2%		10.9%		2.1%																		
TX-118		0.3%		7.6%		3.3%				0.1%														
TY-101		0.2%		11.7%		2.3%																		

Wstrs4.341	MW1	MW2	1C1	1C2	2C1	2C2	224	UR/TBP	PFeCN1	PFeCN2	TFeCN	1CFeCN	R1	R2	CWR1	CWR2	P1	P2	P2'	PL1	CWP1
TY-102	0.1%	0.0%	0.2%	1.7%	0.0%	0.3%	0.0%	5.0%	0.6%	0.3%	0.2%	0.2%	7.8%	3.9%	2.8%	3.8%	4.3%	2.2%		0.2%	1.5%
TY-103	0.1%	0.0%	0.3%	1.6%	0.0%	0.3%	0.0%	4.9%	0.6%	0.3%	0.2%	0.3%	7.7%	4.1%	3.2%	4.2%	4.5%	2.3%		0.1%	1.5%
TY-104																					
TY-105								100.0%													
TY-106																					
AN-101	0.0%	0.0%	0.1%	0.4%	0.0%	1.4%	0.1%	1.3%	0.2%	0.1%	0.1%	0.1%	23.9%	1.6%	3.5%	1.4%	1.5%	0.8%		0.2%	0.8%
AN-102	0.0%	0.0%	0.1%	0.5%	0.0%	0.4%	0.1%	1.5%	0.2%	0.2%	0.1%	0.1%	8.2%	1.4%	1.6%	1.2%	2.1%	1.1%		0.3%	1.1%
AN-103	0.0%	0.0%	0.1%	0.3%	0.0%	0.5%	0.1%	1.2%	0.1%	0.2%	0.1%	0.1%	5.7%	0.9%	1.1%	0.9%	1.3%	0.7%		0.1%	0.9%
AN-104	0.0%	0.0%	0.1%	0.4%	0.0%	0.2%	0.1%	1.4%	0.2%	0.1%	0.1%	0.1%	5.9%	1.2%	1.3%	1.1%	1.6%	0.8%		0.2%	0.8%
AN-105	0.0%	0.0%	0.1%	0.5%	0.0%	0.3%	0.1%	1.6%	0.2%	0.2%	0.1%	0.1%	6.0%	1.3%	1.4%	1.3%	1.8%	0.9%		0.2%	0.8%
AN-106	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.1%	1.6%	0.2%	0.2%	0.1%	0.1%	8.2%	1.4%	1.6%	1.3%	2.3%	1.1%		0.2%	0.9%
AN-107	0.0%	0.0%	0.1%	0.4%	0.0%	0.1%	0.1%	1.4%	0.2%	0.2%	0.1%	0.1%	4.7%	1.0%	1.1%	0.9%	1.9%	1.0%		0.2%	1.2%
AP-101	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.7%	0.1%	0.1%	0.1%	0.2%	0.1%		0.0%	0.1%
AP-102	0.0%	0.0%	0.1%	0.5%	0.0%	0.2%	0.1%	1.6%	0.2%	0.2%	0.1%	0.1%	8.0%	1.4%	1.6%	1.2%	2.3%	1.1%		0.2%	0.9%
AP-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.0%		0.0%	0.1%
AP-104																					
AP-105	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.6%	0.1%	0.1%	0.0%	0.0%	2.0%	0.3%	0.4%	0.3%	0.5%	0.3%		0.1%	0.4%
AP-106	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.5%	0.0%	0.1%	0.0%	0.0%	1.7%	0.3%	0.3%	0.3%	0.4%	0.2%		0.0%	0.3%
AP-107																					
AP-108	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-101	0.0%	0.0%	0.1%	0.2%	0.0%	0.2%	0.1%	1.0%	0.1%	0.1%	0.1%	0.0%	3.7%	0.6%	0.7%	0.6%	0.9%	0.5%		0.1%	0.8%
AW-102	0.0%	0.0%	0.0%	0.5%	0.0%	0.1%	0.1%	0.7%	0.1%	0.1%	0.0%	0.0%	2.5%	0.4%	0.5%	0.4%	0.6%	0.3%		0.1%	0.4%
AW-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AW-105	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.6%	0.0%	0.1%	0.0%	0.0%	1.9%	0.3%	0.4%	0.3%	0.5%	0.3%		0.1%	0.4%
AW-106	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%	0.1%	0.7%	0.1%	0.1%	0.0%	0.0%	2.4%	0.4%	0.5%	0.4%	0.5%	0.3%		0.1%	0.4%
AY-101	0.0%	0.0%	0.1%	0.2%	0.0%	0.1%	0.2%	0.8%	0.1%	0.1%	0.1%	0.0%	2.3%	0.8%	0.6%	0.6%	0.9%	0.6%		0.1%	0.7%
AY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
AZ-101	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	1.5%	0.3%	0.3%	0.2%	0.4%	0.2%		0.0%	0.2%
AZ-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SY-101	0.0%	0.0%	0.2%	0.9%	0.0%	0.3%	0.3%	2.6%	0.3%	0.3%	0.2%	0.1%	11.9%	2.3%	2.5%	2.0%	2.7%	1.4%		0.4%	1.4%
SY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%
SY-103	0.0%	0.0%	0.2%	0.8%	0.0%	0.3%	0.3%	2.4%	0.3%	0.2%	0.2%	0.1%	12.6%	2.2%	2.5%	1.9%	2.6%	1.4%		0.3%	1.4%

Wstrs4.341	CWP2	CWZr1	OWW1	OWW2	OWW3	Z	HS	TH1	TH2	AR	B	BL	SRR	SRR'	CSR	DE	CEM	NIT	Slurry	DW	N
TY-102	8.7%	1.1%	0.8%	1.8%	3.4%	4.4%	0.2%	0.1%	0.4%	0.1%	0.5%	5.4%	0.5%		13.4%					11.6%	0.0%
TY-103	9.2%	1.2%	0.9%	2.0%	3.7%	1.8%	0.2%	0.1%	0.4%		0.5%	4.1%			13.5%					12.6%	
TY-104																					
TY-105																					
TY-106																					
AN-101	4.4%	0.3%	0.3%	0.7%	1.4%	0.7%	0.2%	0.1%	0.1%	0.8%	0.8%	4.9%	1.2%		16.8%			0.0%		5.7%	2.3%
AN-102	5.0%	0.3%	0.4%	0.9%	1.9%	1.7%	0.3%	0.1%	0.2%	2.9%	1.1%	10.4%	4.9%		21.3%			0.5%		6.1%	1.9%
AN-103	4.2%	0.2%	0.3%	0.5%	1.7%	3.2%	0.2%	0.1%	0.2%	1.0%	0.4%	15.0%	2.0%		8.2%			0.2%		8.0%	2.0%
AN-104	3.8%	0.3%	0.3%	0.7%	1.4%	2.5%	0.2%	0.1%	0.1%	1.7%	0.6%	13.5%	3.5%		9.9%			0.5%		8.6%	1.3%
AN-105	4.2%	0.4%	0.4%	0.8%	1.6%	5.1%	0.2%	0.1%	0.2%	1.4%	0.8%	15.4%	2.9%		10.0%			0.4%		13.4%	1.3%
AN-106	4.4%	0.4%	0.5%	1.0%	1.6%	2.0%	0.2%	0.1%	0.2%	1.4%	0.8%	7.0%	3.0%		12.9%			0.6%		7.8%	24.8%
AN-107	5.2%	0.3%	0.4%	0.8%	1.9%	2.0%	0.3%	0.1%	0.2%	4.5%	1.4%	11.0%	7.3%		11.9%			0.4%		7.9%	0.9%
AP-101	0.6%	0.0%	0.0%	0.1%	0.2%	1.0%	0.0%	0.0%	0.0%	0.2%	0.1%	5.4%	0.3%		1.3%			0.1%		2.1%	0.2%
AP-102	4.3%	0.3%	0.4%	1.0%	1.6%	1.9%	0.2%	0.1%	0.2%	1.4%	0.7%	6.9%	2.9%		12.6%			0.6%		7.7%	26.2%
AP-103	0.2%	0.0%	0.0%	0.0%	0.1%	8.5%	0.0%	0.0%	0.0%	0.1%	0.0%	46.7%	0.1%		0.5%			0.0%		27.8%	0.1%
AP-104																					100.0%
AP-105	1.7%	0.1%	0.1%	0.2%	0.6%	2.7%	0.1%	0.0%	0.1%	0.4%	0.2%	15.2%	0.9%		3.6%			0.2%		6.1%	0.5%
AP-106	1.4%	0.1%	0.1%	0.2%	0.5%	3.2%	0.1%	0.0%	0.1%	0.4%	0.1%	23.5%	0.7%		2.9%			0.2%		8.2%	0.5%
AP-107																					
AP-108	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	55.4%	0.0%		0.1%			0.0%		9.6%	0.0%
AW-101	3.4%	0.2%	0.2%	0.4%	1.4%	3.9%	0.2%	0.1%	0.1%	0.8%	0.3%	12.4%	1.6%		6.1%			0.2%		7.4%	1.2%
AW-102	1.8%	0.1%	0.1%	0.2%	0.7%	2.5%	0.1%	0.0%	0.1%	0.4%	0.2%	14.2%	0.9%		4.2%			0.2%		5.7%	0.6%
AW-103	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%		0.0%			0.0%		0.0%	0.0%
AW-104	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		0.0%	0.0%
AW-105	1.6%	0.1%	0.1%	0.2%	0.6%	2.8%	0.1%	0.0%	0.1%	0.4%	0.2%	12.2%	0.9%		3.2%			0.1%		5.5%	0.5%
AW-106	1.8%	0.1%	0.1%	0.2%	0.7%	2.5%	0.1%	0.0%	0.1%	0.4%	0.2%	15.8%	0.8%		3.8%			0.2%		5.8%	0.6%
AY-101	3.3%	0.2%	0.2%	0.4%	1.2%	0.9%	0.1%	0.1%	0.1%	0.8%	0.6%	5.5%	18.4%		46.2%			0.1%		3.3%	0.5%
AY-102	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	74.4%	0.0%		0.1%			0.0%		22.8%	0.0%
AZ-101	0.9%	0.1%	0.1%	0.2%	0.3%	0.3%	0.1%	0.0%	0.0%	0.5%	0.2%	2.6%	0.9%		2.6%			0.1%		1.0%	0.3%
AZ-102	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.1%		0.1%			0.0%		0.6%	0.0%
SY-101	7.0%	0.6%	0.6%	1.0%	2.5%	2.1%	0.3%	0.1%	0.3%	1.1%	0.4%	7.7%	3.0%		21.1%			2.0%		7.9%	2.5%
SY-102	0.0%	0.0%	0.0%	0.0%	0.0%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%			0.0%		75.7%	0.0%
SY-103	6.6%	0.5%	0.5%	1.0%	2.4%	2.0%	0.3%	0.1%	0.2%	1.4%	0.5%	7.5%	3.3%		20.1%			2.3%		7.4%	2.3%

Wstrs4.341	B'	B-SltCk	BL'	T1-SltCk	R in	RSltCk	T2 in	T2-SltCk	BY in	BY-SltCk	S1 in	S1-SltCk	S2 in	S2-SltSlr	A1 in	A1-SltCk	A2 in	A2-SltSlr	P3	PL2	CWZr2	BP /Cplx	/NCplx	PASF
TY-102		0.2%		10.1%		2.1%																		
TY-103		0.2%		11.0%		2.3%																		
TY-104																								
TY-105																								
TY-106																								
AN-101		4.0%		2.7%		4.2%				4.4%									0.0%	4.6%	2.2%			
AN-102		0.4%		2.9%		2.5%				10.3%									0.0%	3.4%	0.1%			
AN-103		0.5%		2.1%		1.6%				4.9%									0.0%	19.3%	10.0%			
AN-104		0.3%		2.6%		1.8%				7.7%									0.0%	17.4%	5.8%			
AN-105		0.3%		3.2%		1.8%				7.9%									0.0%	10.9%	0.6%			
AN-106		0.4%		3.1%		2.6%				5.1%									0.0%	0.2%	0.1%			
AN-107		0.4%		2.3%		1.5%				21.9%									0.0%	2.4%	0.0%			
AP-101		0.1%		0.3%		0.2%				0.6%									0.0%	9.2%	5.0%			71.1%
AP-102		0.3%		3.0%		2.5%				5.0%									0.0%	0.2%	0.1%			0.2%
AP-103		0.0%		0.1%		0.1%				0.3%									3.2%	4.0%	1.9%			5.2%
AP-104																								
AP-105		0.2%		0.8%		0.6%				1.8%									0.0%	29.9%	15.8%			12.7%
AP-106		0.2%		0.6%		0.5%				1.5%									0.1%	24.9%	12.8%			12.7%
AP-107																								100.0%
AP-108		0.0%		0.0%		0.0%				0.1%									2.0%	14.4%	0.2%			16.9%
AW-101		0.5%		1.4%		1.1%				3.8%									0.0%	29.1%	14.6%			
AW-102		0.2%		0.9%		0.7%				1.5%									0.0%	31.2%	14.9%			11.7%
AW-103		0.0%		0.0%		0.0%				0.0%									0.0%	4.5%	95.1%			
AW-104		0.0%		0.0%		0.0%				0.0%									0.0%	99.8%	0.0%			
AW-105		0.2%		0.7%		0.6%				1.9%									0.0%	30.1%	28.5%			4.5%
AW-106		0.2%		0.9%		0.7%				1.6%									0.0%	29.8%	14.5%			12.9%
AY-101		0.8%		1.7%		0.7%				3.9%									0.0%	2.6%	0.1%			
AY-102		0.0%		0.0%		0.0%				0.0%									1.2%	0.3%	0.1%			0.2%
AZ-101		0.1%		0.6%		0.5%				1.6%									82.3%	1.3%	0.0%			
AZ-102		0.0%		0.0%		0.0%				0.2%									89.1%	2.9%	0.0%			
SY-101		0.7%		5.1%		3.9%				0.3%														
SY-102		0.0%		0.0%		0.0%				0.0%									0.0%	0.1%	0.0%			
SY-103		0.6%		4.7%		4.0%				2.4%														

Appendix E.

Inventory Estimates

December 1996

Every tank's inventory estimate appears on two pages and each page has three tables: TLM Solids Composite, SMM Composite, and Total Inventory Estimates for stable analytes on one page and radionuclides on the other page. Furthermore, each table expresses stable analyte as mol/L, ppm, and kg, with radionuclides as Ci/L, µCi/g, and MCi. Total site inventories in Mmols, kg, and Ci are also shown for Rev. 4 as well as for previous revisions, Rev. 1, 2, and 3. These site inventories are further broken down into DST, SST, Crib, and Leak destinations.

Each analyte has a range of variabilites that are labeled as -95 CI, -67 CI, 67 CI, and 95 CI. These designations represent Confidence Intervals for that analyte in either mol/L or Ci/L. These variability calculations are described in more detail in the text.

Total Site Inventories Rev. 4 ..... E-2 to E-6

Total Site Inventories Rev. 3a E-7

Total Site Inventories Rev. 2.1 ..... E-8

Total Site Inventories Rev. 1 ..... E-9

NE Quadrant (A, AX, B, BX, BY, C) ..... E-10 to E-141

SW Quadrant (S, SX, U) ..... E-142 to E-227

NW Quadrant (T, TX, TY) ..... E-228 to E-307

SE of DST Quadrant (AN, AP, AW, AY, AZ, SY) ..... E-308 to E-363

(kg/Ci)	Volume (kgal)	Heat Load (BTU)	Na^{+}	Al^{3+}	Fe^{3+} (total Fe)	Cr^{3+}	Bi^{3+}	La^{3+}	Hg^{2+}	Zr (as $ZrO(OH)_2$)	Pb^{2+}	Ni^{2+}	Sr^{2+}	Mn^{4+}	Ca^{2+}	K^{+}	H_2O (kg)
NE Quad.	12,701	636,023	10,440,657	1,851,760	831,270	96,479	301,509	304	3,447	13,125	189,114	92,110	0	4,892	252,717	55,582	32,676,773
SW Quad.	13,220	642,140	15,516,159	3,641,310	420,849	520,340	19,747	173	1,745	6,562	56,929	36,118	0	7,816	133,098	107,340	26,065,772
NW Quad.	9,277	115,944	6,720,860	775,092	394,955	87,742	159,413	308	623	2,066	22,434	16,757	0	2,440	111,761	44,684	25,236,812
SE Quad.	25,694	776,239	16,492,077	2,103,766	225,471	289,517	11,508	138	1,047	192,390	10,973	38,507	0	23,700	122,751	312,958	73,259,827
SST's	35,198	1,394,107	32,677,677	6,268,162	1,647,074	704,562	480,668	785	5,815	21,753	268,476	144,985	0	15,148	497,576	207,606	83,979,356
DST's	25,694	776,239	16,492,077	2,103,766	225,471	289,517	11,508	138	1,047	192,390	10,973	38,507	0	23,700	122,751	312,958	73,259,827
All Tanks	60,892	2,170,346	49,169,753	8,371,928	1,872,546	994,078	492,176	923	6,862	214,143	279,449	183,492	0	38,849	620,327	520,564	157,239,183
CRIB	118,238	44,649	21,586,791	24,740	35,665	78,613	258,425	15,566	97.9	4,126	346	35,877	0	8,263	129,446	401,423	410,190,504
Leaks	428	3,963	177,818	29,225	258	6,283	69.5	5.21E-05	0.570	3.36	66.8	193	0	54.6	675	1,105	1,378,437
Total Site	**179,558**	**2,218,958**	**70,934,363**	**8,425,893**	**1,908,469**	**1,078,975**	**750,670**	**16,489**	**6,961**	**218,272**	**279,863**	**219,561**	**0**	**47,166**	**750,448**	**923,092**	**568,808,124**

(kg/Ci)	TOC (kg)	free OH^-	OH^-	NO^{3-}	NO^{2-}	$CO3^{2-}$	$PO4^{3-}$	$SO4^{2-}$	Si (as SiO_3^{2-})	F^-	Cl^-	$C_6H_5O_7^{3-}$	$EDTA^{4-}$	$HEDTA^{3-}$	$glycolate^-$	$acetate^-$	$oxalate^{2-}$
NE Quad.	352,739	287,977	6,252,403	12,955,883	2,520,205	1,139,079	1,361,531	631,970	232,392	87,210	162,625	118,351	117,840	165,515	106,384	40,340	54,502
SW Quad.	421,742	283,027	11,902,808	14,760,909	5,331,687	1,159,820	428,251	897,270	156,424	51,345	370,429	200,415	137,809	242,511	229,905	13,606	144
NW Quad.	151,343	15,133	2,987,735	7,884,183	1,506,888	571,674	1,286,616	448,138	135,235	72,291	141,146	51,634	43,883	79,292	73,564	2,907	59,433
SE Quad.	892,667	25,082	8,298,086	14,829,477	4,734,713	1,965,896	718,998	1,248,561	137,655	363,737	424,975	307,785	319,951	546,836	690,970	42,620	115
SST's	925,824	586,136	21,142,946	35,600,976	9,358,780	2,870,572	3,076,397	1,977,377	524,052	210,846	674,200	370,400	299,532	487,318	409,853	56,853	114,079
DST's	892,667	25,082	8,298,086	14,829,477	4,734,713	1,965,896	718,998	1,248,561	137,655	363,737	424,975	307,785	319,951	546,836	690,970	42,620	115
All Tanks	1,818,491	611,218	29,441,031	50,430,453	14,093,493	4,836,468	3,795,395	3,225,938	661,707	574,583	1,099,174	678,185	619,483	1,034,154	1,100,823	99,474	114,194
CRIB	3,989	0	309,627	39,446,737	1,133,316	312,615	4,217,584	2,910,093	235,640	1,110,035	598,047	0	0	0	0	0	12,921
Leaks	1,717	0	111,790	142,118	64,386	13,633	6,447	13,984	1,012	313	4,280	1,570	37.1	71.1	1,274	0.330	4.32E-05
Total Site	**1,824,197**	**611,218**	**29,862,448**	**90,019,308**	**15,291,195**	**5,162,716**	**8,019,426**	**6,150,015**	**898,359**	**1,684,930**	**1,701,501**	**679,755**	**619,520**	**1,034,225**	**1,102,097**	**99,474**	**127,115**

(kg/Ci)	DBP	butanol	NH_3	$Fe(CN)_6^{4-}$	H-3	C-14	Ni-59	Ni-63	Co-60	Se-79	Sr-90	Y-90	Zr-93	Nb-93m	Tc-99	Ru-106	Cd-113m	Sb-125	Sn-126	I-129
NE Quad.	124,714	43,976	44,352	131,900	4,011	837	420	41,306	890	236	22,986,095	22,991,812	1,067	849	5,313	2.63	3,689	3,995	371	10.3
SW Quad.	149,437	52,694	83,415	0	11,165	1,472	243	23,550	1,586	197	19,159,986	19,164,613	944	724	10,509	0.279	3,815	6,722	293	20.2
NW Quad.	48,769	17,197	35,607	15,897	2,886	410	38.4	3,720	451	43.4	1,899,539	1,900,007	213	155	2,921	8.24E-02	1,096	1,932	65.5	5.63
SE Quad.	238,869	84,207	337,698	0	53,532	2,088	233	23,455	9,370	295	17,548,685	17,553,116	1,404	957	13,812	104,490	8,285	195,645	457	26.8
SST's	322,921	113,867	163,374	147,797	18,062	2,720	701	68,576	2,928	477	44,045,620	44,056,431	2,224	1,728	18,744	2.99	8,601	12,648	729	36.2
DST's	238,869	84,207	337,698	0	53,532	2,088	233	23,455	9,370	295	17,548,685	17,553,116	1,404	957	13,812	104,490	8,285	195,645	457	26.8
All Tanks	561,790	198,074	501,072	147,797	71,594	4,808	934	92,032	12,297	773	61,594,305	61,609,547	3,628	2,685	32,557	104,493	16,885	208,294	1,186	63.0
CRIB	676	238	80,099	0	810	125	14.0	1,261	29.4	26.3	1,067,365	1,067,656	125	105	868	5.22E-05	308	29.3	39.5	1.64
Leaks	969	342	675	0	156	14.5	1.21	117	14.5	1.85	54,779	54,792	9.07	6.72	107	2.67E-03	41.6	58.6	2.81	0.204
Total Site	**563,435**	**198,654**	**581,845**	**147,797**	**72,560**	**4,947**	**949**	**93,410**	**12,341**	**801**	**62,716,449**	**62,731,995**	**3,762**	**2,796**	**33,531**	**104,493**	**17,235**	**208,381**	**1,228**	**64.8**

(kg/Ci)	Cs-134	Cs-137	Ba-137m	Sm-151	Eu-152	Eu-154	Eu-155	Ra-226	Ra-228	Ac-227	Pa-231	Th-229	Th-232	U-232	U-233	U-234	U-235	U-236	U-238
NE Quad.	64.6	6,708,895	6,346,586	859,981	374	21,561	22,936	2.77E-02	55.8	87.4	155	1.31	2.53	173	662	390	17.0	5.24	448
SW Quad.	107	12,591,260	11,911,477	698,550	306	26,062	16,685	1.83E-02	4.94	9.47E-02	0.247	0.116	0.330	26.0	99.6	214	9.30	3.58	214
NW Quad.	39.4	4,515,937	4,272,095	152,941	53.8	7,423	3,200	2.49E-03	3.34	3.65E-02	9.19E-02	8.03E-02	0.205	17.0	65.2	165	7.24	2.23	168
SE Quad.	88,013	23,288,711	22,031,483	1,039,476	743	92,223	93,541	1.47E-02	13.0	8.28E-02	0.261	0.301	1.30	43.6	167	80.9	3.14	5.06	75.2
SST's	211	23,816,092	22,530,157	1,711,472	734	55,046	42,820	4.85E-02	64.1	87.5	155	1.51	3.06	216	827	769	33.5	11.0	830
DST's	88,013	23,288,711	22,031,483	1,039,476	743	92,223	93,541	1.47E-02	13.0	8.28E-02	0.261	0.301	1.30	43.6	167	80.9	3.14	5.06	75.2
All Tanks	88,224	47,104,804	44,561,641	2,750,948	1,477	147,269	136,361	6.31E-02	77.1	87.6	156	1.81	4.36	259	994	850	36.6	16.1	906
CRIB	0.195	1,256,247	1,188,398	97,674	3.75	535	279	7.11E-03	1.38E-08	3.64E-02	7.92E-02	2.67E-06	3.56E-08	1.19E-03	5.85E-05	62.0	2.76	0.539	1,310
Leaks	1.06	168,938	159,818	6,555	1.60	259	87.2	1.00E-04	3.57E-04	5.81E-04	2.33E-03	1.61E-05	1.30E-04	1.72E-02	6.65E-02	0.507	2.11E-02	1.58E-02	0.463
Total Site	**88,225**	**48,529,989**	**45,909,857**	**2,855,176**	**1,482**	**148,063**	**136,728**	**7.03E-02**	**77.1**	**87.6**	**156**	**1.81**	**4.36**	**259**	**994**	**913**	**39.4**	**16.7**	**2,216**

(kg/Ci)	U-Total (kg)	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-Total (kg)	Am-241	Am-243	Cm-242	Cm-243	Cm-244
NE Quad.	1,147,765	18.1	640	16,504	3,135	45,598	0.253	272	11,074	0.689	13.0	1.27	40.6
SW Quad.	620,223	39.4	261	8,921	1,457	14,456	7.56E-02	142	4,544	0.171	10.6	0.963	17.9
NW Quad.	489,198	10.6	59.1	6,810	1,426	3,210	1.25E-02	115	5,196	2.66E-02	2.01	0.181	1.75
SE Quad.	186,564	73.3	1,116	14,722	3,852	103,420	0.450	246	49,037	8.45	51.4	7.63	181
SST's	2,257,185	68.1	960	32,235	6,017	63,265	0.341	529	20,815	0.886	25.6	2.42	60.3
DST's	186,564	73.3	1,116	14,722	3,852	103,420	0.450	246	49,037	8.45	51.4	7.63	181
All Tanks	2,443,749	141	2,076	46,956	9,869	166,685	0.790	774	69,851	9.34	77.0	10.0	242
CRIB	188,469	5.33	16.3	2,496	214	643	2.88E-03	41.1	239	1.68E-03	6.89E-02	1.43E-03	4.22E-02
Leaks	1,382	0.428	0.577	22.0	3.33	34.3	1.84E-04	0.309	29.0	9.44E-04	6.63E-02	6.25E-03	6.80E-02
Total Site	**2,633,600**	**147**	**2,093**	**49,475**	**10,086**	**167,362**	**0.794**	**816**	**70,120**	**9.34**	**77.1**	**10.1**	**242**

Rev. 3a	All Quadrants	SST's	DST's	CRIB	Leaks	All Quadrants	SST's	DST's	CRIB	Leaks	Total Site
	kg or Ci	kg or Ci	kg or Ci	kg or Ci	kg or Ci	Mmol	Mmol	Mmol	Mmol	Mmol	Mmol
Na+	40,278,796	25,846,590	14,432,205	19,970,700	125,804	1,752.01	1,124.25	627.76	868.67	5.47	2,626.15
Al+++	7,718,242	5,528,101	2,190,140	238,498	24,421	286.07	204.90	81.18	8.84	0.91	295.82
Fe+++(total)	1,834,821	1,614,566	220,255	32,982	200	32.85	28.91	3.94	0.59	3.58E-03	33.45
Cr+++	784,651	651,600	133,051	65,835	1,798	15.09	12.53	2.56	1.27	0.03	16.39
Bi+++	524,044	512,758	11,286	238,438	70	2.51	2.45	0.05	1.14	3.35E-04	3.65
La+++	40,439	40,301	137	4,618	0	0.29	0.29	9.89E-04	0.03	5.92E-10	0.32
Hg++	6,859	5,814	1,045	98	1	0.03	0.03	0.01	4.88E-04	2.89E-06	0.03
ZrO-- (as Zr)	231,633	37,047	194,585	15,676	23	2.54	0.41	2.13	0.17	2.52E-04	2.71
Pb++	279,158	268,445	10,712	346	68	1.35	1.30	0.05	1.67E-03	3.29E-04	1.35
Ni++	182,028	143,822	38,206	33,641	185	3.10	2.45	0.65	0.57	3.15E-03	3.68
Sr++	167,309	167,280	29	971	1.73E-05	1.91	1.91	3.31E-04	0.01	1.97E-10	1.92
Mn++++	38,719	15,164	23,555	1,409	55	0.70	0.28	0.43	0.03	9.99E-04	0.73
Ca++	618,706	496,631	122,075	120,738	651	15.44	12.39	3.05	3.01	0.02	18.47
K+	481,105	181,333	299,772	190,221	807	12.30	4.64	7.67	4.86	0.02	17.19
balance											
density											
vol%solids											
void frac.											
H2O (kg)	167,290,147	92,747,189	74,542,958	389,945,072	1,494,089						558,729,308 (kg)
TOC (kg)	1,804,768	908,245	896,523	1,175	1,710						1,807,653 (kg)
free OH-	117,973	108,761	9,212	0	0						
OH-	22,987,261	16,474,351	6,512,909	264,712	2,750	1,352.19	969.08	383.11	15.57	0.16	1,367.92
NO3-	45,356,204	29,146,381	16,209,823	34,615,677	134,991	731.55	470.10	261.45	558.32	2.18	1,292.05
NO2-	13,558,862	8,980,065	4,578,797	1,191,079	58,948	294.76	195.22	99.54	25.89	1.28	321.93
CO3--	4,828,553	2,877,517	1,951,035	294,098	13,617	80.46	47.95	32.51	4.90	0.23	85.59
PO4---	4,027,865	3,313,321	714,543	4,121,004	6,459	42.41	34.89	7.52	43.39	0.07	85.87
SO4--	3,216,632	1,997,496	1,219,136	2,837,184	13,917	33.49	20.79	12.69	29.54	0.14	63.17
SiO3--(as Si)	613,786	477,306	136,479	235,421	987	21.85	16.99	4.86	8.38	0.04	30.27
F-	638,880	269,420	369,461	1,036,301	383	33.63	14.18	19.45	54.54	0.02	88.19
Cl-	956,820	575,672	381,148	558,785	3,063	27.01	16.25	10.76	15.77	0.09	42.86
C6H5O7---	677,916	371,956	305,960	0	1,575	3.59	1.97	1.62	0.00	0.01	3.59
EDTA----	619,298	295,066	324,231	0	37	2.15	1.02	1.13	0.00	1.30E-04	2.15
HEDTA---	1,033,866	478,663	555,203	0	71	3.77	1.75	2.03	0.00	2.60E-04	3.77
glycolate-	1,100,157	406,684	693,473	0	1,277	14.66	5.42	9.24	0.00	0.02	14.68
acetate-	99,430	56,963	42,467	0	1	1.68	0.97	0.72	0.00	9.44E-06	1.68
oxalate--	69,140	69,065	74	2,503	0	0.79	0.78	8.46E-04	0.03	5.06E-10	0.81
DBP	561,734	325,238	236,496	674	975	3.49	2.02	1.47	4.18E-03	6.05E-03	3.50
butanol	198,054	114,684	83,370	238	344	2.67	1.55	1.12	3.21E-03	4.64E-03	2.68
NH3	412,232	90,575	321,657	804	435	24.25	5.33	18.92	0.05	0.03	24.32
Fe(CN)6----	144,596	144,596	0	0	0	0.53	0.53	0.00	0.00	0.00	0.53
Pu (Kg)	761	561	200	47	1	761 (kg)	561 (kg)	200 (kg)	47 (kg)	1 (kg)	809 (kg)
U	2,340,778	2,100,669	240,110	166,241	1,632	9.83	8.83	1.01	0.70	0.01	10.54
Cs (Ci)	45,954,431	22,659,039	23,295,392	1,380,005	146,180	45.95 (MCi)	22.66 (MCi)	23.30 (MCi)	1.38 (MCi)	0.15 (MCi)	47.48 (MCi)
Sr (Ci)	57,531,391	39,005,853	18,525,538	628,583	56,689	57.53 (MCi)	39.01 (MCi)	18.53 (MCi)	0.63 (MCi)	0.06 (MCi)	58.22 (MCi)
BTU	2,058,493	1,259,679	798,814	36,537	3,643	2,058,493	1,259,679	798,814	36,537	3,643	2,098,673.12
Kgal	60,892	35,198	25,694	111,701	428	60,892	35,198	25,694	111,701	428	173,020.58

Rev. 2.1	All Quadrants	SST's	DST's	CRIB	All Quadrants	SST's	DST's	CRIB		Total Site
	kg or Ci	kg or Ci	kg or Ci	kg or Ci	Mmol	Mmol	Mmol	Mmol		Mmol
Na+	39,869,088	26,349,790	13,519,298	19,816,905	1,734.19	1,146.14	588.05	861.98		2,596.17
Al+++	7,227,434	5,238,168	1,989,266	990,172	267.88	194.15	73.73	36.70		304.58
Fe+++(total)	1,959,378	1,696,120	263,258	31,155	35.08	30.37	4.71	0.56		35.64
Cr+++	772,727	650,112	122,615	61,940	14.86	12.50	2.36	1.19		16.05
Bi+++	518,514	509,598	8,917	217,594	2.48	2.44	0.04	1.04		3.52
La+++	40,395	40,274	122	4,618	0.29	0.29	8.78E-04	0.03		0.32
Hg++	6,738	5,703	1,036	90	0.03	0.03	0.01	0.00		0.03
ZrO-- (as Zr)	223,514	29,846	193,668	13,712	2.45	0.33	2.12	0.15		2.60
Pb++	3,058	2,199	858	0	0.01	0.01	4.14E-03	8.69E-08		0.01
Ni++	207,270	163,375	43,895	32,298	3.53	2.78	0.75	0.55		4.08
Sr++	156,060	155,978	81	3,074	1.78	1.78	0.00	0.04		1.82
Mn++++	218,859	147,120	71,739	1,483	3.98	2.68	1.31	0.03		4.01
Ca++	687,768	549,841	137,927	115,871	17.16	13.72	3.44	2.89		20.05
K+	583,042	252,607	330,434	189,162	14.91	6.46	8.45	4.84		19.75
balance										
density										
vol%solids										
void frac.										
H2O (kg)	173,557,939	97,530,137	76,027,802	380,968,142						554,526,081 (kg)
TOC (kg)	2,285,697	1,198,955	1,086,742	3,706						2,289,402 (kg)
free OH-	169,563	161,684	7,879	0						
OH-	22,108,986	15,945,020	6,163,966	262,266	1,300.53	937.94	362.59	15.43		1,315.96
NO3-	43,518,622	29,068,830	14,449,792	34,348,733	701.91	468.85	233.06	554.01		1,255.93
NO2-	14,307,743	9,882,971	4,424,772	1,088,886	311.04	214.85	96.19	23.67		334.71
CO3--	4,457,848	2,675,391	1,782,458	289,889	74.29	44.58	29.70	4.83		79.12
PO4---	3,930,206	3,240,958	689,248	4,058,985	41.38	34.13	7.26	42.74		84.12
SO4--	3,020,692	1,963,288	1,057,404	2,783,749	31.45	20.44	11.01	28.98		60.43
SiO3--(as Si)	680,926	531,491	149,434	236,052	24.24	18.92	5.32	8.40		32.64
F-	613,936	254,083	359,853	1,041,922	32.31	13.37	18.94	54.84		87.15
Cl-	956,718	597,152	359,567	553,371	27.00	16.85	10.15	15.62		42.62
C6H5O7---	687,055	397,293	289,762	214	3.63	2.10	1.53	1.13E-03		3.64
EDTA----	615,106	303,638	311,467	0	2.14	1.05	1.08	0.00		2.14
HEDTA---	1,013,650	479,980	533,670	0	3.70	1.75	1.95	1.60E-06		3.70
										0.00
glycolate-	1,063,514	402,773	660,741	14	14.18	5.37	8.81	1.93E-04		14.18
acetate-	108,311	67,573	40,739	0	1.84	1.14	0.69	0.00E+00		1.84
oxalate--	23,482	23,191	291	11,030	0.27	0.26	3.31E-03	0.13		0.39
DBP	633,577	457,447	176,129	629	3.94	2.84	1.09	3.91E-03		3.94
butanol	208,335	127,423	80,912	290	2.81	1.72	1.09	3.91E-03		2.81
										0.00
NH3	374,658	65,318	309,340	762	22.04	3.84	18.20	0.04		22.08
Fe(CN)6----	145,854	145,854	0	0	0.54	0.54	0.00	0.00		0.54
Pu (Kg)	799	591	208	40	799 (kg)	591 (kg)	208 (kg)	40 (kg)		839 (kg)
U	1,878,401	1,624,415	253,986	174,555	7.89	6.82	1.07	0.73		8.62
Cs (Ci)	46,289,261	23,483,524	22,805,737	956,353	46.29 (MCi)	23.48 (MCi)	22.81 (MCi)	0.96 (MCi)		47.25 (MCi)
Sr (Ci)	56,990,048	38,645,507	18,344,541	615,691	56.99 (MCi)	38.65 (MCi)	18.34 (MCi)	0.62 (MCi)		57.61 (MCi)
BTU	2,051,399	1,264,583	786,816	29,463	2,051,399	1,264,583	786,816	29,463		2,080,862
Kgal	61,051	35,426	25,625	109,382	61,051	35,426	25,625	109,382		170,433

Rev. 1	All Quadrants	All Quadrants
	kg or Ci	Mmol
Na+	41,819,736	1,819.04
Al+++	7,399,058	274.24
Fe+++(total)	2,765,546	49.52
Cr+++	825,430	15.87
Bi+++	560,647	2.68
La+++	40,260	0.29
Hg++	6,560	0.03
ZrO-- (as Zr)	264,533	2.90
Pb++	14,332	0.07
Ni++	229,135	3.90
Sr++	156,064	1.78
Mn++++	72,799	1.33
Ca++	614,585	15.33
K+	296,027	7.57
balance		
density		
vol%solids		
void frac.		
H2O (kg)	175,691,357	
TOC (kg)	1,675,594	
free OH-	596,539	
OH-	22,841,487	1,343.62
NO3-	38,330,554	618.23
NO2-	22,076,614	479.93
CO3--	4,522,265	75.36
PO4---	4,738,086	49.89
SO4--	3,670,995	38.22
SiO3--(as Si)	459,592	16.36
F-	754,456	39.71
Cl-	739,159	20.86
C6H5O7---	753,819	3.99
EDTA----	585,578	2.03
HEDTA---	952,458	3.47
glycolate-	1,072,884	14.30
acetate-	111,888	1.90
oxalate--	23,080	0.26
DBP	447,348	2.78
butanol	146,702	1.98
NH3	386,204	22.72
Fe(CN)6----	139,035	0.51
Pu (kg)	718	718 (kg)
U	1,875,663	7.88
Cs (Ci)	60,772,917	60.77 (MCi)
Sr (Ci)	59,325,367	59.33 (MCi)
BTU	2,336,850	2,336,850
Kgal	60,621	60,621

HDW Model Rev. 4

Single-Shell Tank 241-A-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.43E+04 (kg)	(2.99 kgal)	----	----	----	----	----
Heat Load	0.879 (kW)	(3.00E+03 BTU/hr)	----	0.742	0.833	0.907	0.926
Bulk Density	1.26 (g/cc)	----	----	1.16	1.20	1.30	1.33
Void Fraction	0.841	----	----	0.796	0.813	0.890	0.925
Water wt%	67.2	----	----	63.3	64.8	71.1	74.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.83	3.33E+04	475	0.348	0.564	2.62	3.30
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.63	1.16E+05	1.66E+03	2.53	2.60	2.65	2.67
Cr^{3+}	6.75E-03	278	3.97	3.52E-03	5.22E-03	8.29E-03	9.78E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.102	4.73E+03	67.5	1.13E-02	7.18E-02	0.119	0.130
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.421	1.34E+04	191	7.95E-03	0.271	0.508	0.577
K^{+}	2.65E-03	82.0	1.17	1.38E-03	2.05E-03	3.26E-03	3.84E-03
OH^{-}	8.24	1.11E+05	1.58E+03	7.69	8.05	8.37	8.46
$NO3^{-}$	2.20E-15	1.08E-10	1.54E-12	3.31E-16	7.31E-16	1.21E-14	2.80E-13
$NO2^{-}$	0.379	1.38E+04	197	0.198	0.293	0.466	0.549
$CO3^{2-}$	0.421	2.00E+04	286	7.95E-03	0.271	0.508	0.577
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	3.68E-02	2.80E+03	40.0	1.92E-02	2.84E-02	4.52E-02	5.33E-02
Si (as SiO_x^{2-})	0.621	1.38E+04	197	2.06E-02	5.49E-02	1.00	1.37
F^{-}	0	0	0	0	0	0	0
Cl^{-}	1.22E-02	342	4.88	6.35E-03	9.42E-03	1.50E-02	1.77E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.170	2.29E+03	32.7	8.66E-02	0.134	0.207	0.242
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.36E+06 (kg)	(950 kgal)	----	----	----	----	----
Heat Load	6.42 (kW)	(2.19E+04 BTU/hr)	----	5.78	6.16	6.65	7.00
Bulk Density*	1.49 (g/cc)	----	----	1.44	1.47	1.50	1.51
Water wt%	42.2	----	----	40.1	40.8	43.6	45.3
TOC wt% C (wet)	1.19	----	----	0.665	0.923	1.46	1.71

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.2	1.73E+05	9.27E+05	10.2	10.8	11.6	11.9
Al^{3+}	1.40	2.53E+04	1.36E+05	1.17	1.35	1.44	1.47
Fe^{3+} (total Fe)	7.80E-03	293	1.57E+03	6.69E-03	7.24E-03	8.37E-03	8.91E-03
Cr^{3+}	9.86E-02	3.44E+03	1.84E+04	8.72E-02	9.33E-02	0.103	0.110
Bi^{3+}	1.02E-03	143	767	9.61E-04	9.90E-04	1.05E-03	1.10E-03
La^{3+}	1.96E-05	1.83	9.78	1.44E-05	1.69E-05	2.22E-05	2.48E-05
Hg^{2+}	8.15E-06	1.10	5.88	7.81E-06	7.98E-06	8.32E-06	8.48E-06
Zr (as $ZrO(OH)_2$)	1.29E-04	7.90	42.3	1.19E-04	1.23E-04	1.33E-04	1.39E-04
Pb^{2+}	1.10E-03	152	817	8.52E-04	9.72E-04	1.22E-03	1.34E-03
Ni^{2+}	4.31E-03	170	911	4.14E-03	4.22E-03	4.36E-03	4.40E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.77E-03	139	746	3.24E-03	3.50E-03	4.05E-03	4.31E-03
Ca^{2+}	2.35E-02	632	3.39E+03	2.19E-02	2.27E-02	2.43E-02	2.51E-02
K^{+}	5.39E-02	1.41E+03	7.57E+03	4.64E-02	4.95E-02	5.89E-02	6.58E-02
OH^{-}	7.88	8.99E+04	4.82E+05	6.80	7.58	8.07	8.22
$NO3^{-}$	3.58	1.49E+05	7.98E+05	3.40	3.49	3.67	3.76
$NO2^{-}$	2.04	6.31E+04	3.38E+05	1.65	1.81	2.29	2.36
$CO3^{2-}$	0.422	1.70E+04	9.11E+04	0.389	0.405	0.439	0.450
$PO4^{3-}$	7.68E-02	4.90E+03	2.62E+04	6.67E-02	7.11E-02	8.13E-02	8.73E-02
$SO4^{2-}$	0.235	1.51E+04	8.11E+04	0.188	0.208	0.267	0.269
Si (as SiO_x^{2-})	6.27E-02	1.18E+03	6.33E+03	5.51E-02	5.88E-02	6.66E-02	7.03E-02
F^{-}	5.53E-02	705	3.78E+03	4.73E-02	5.06E-02	6.05E-02	6.83E-02
Cl^{-}	0.194	4.62E+03	2.47E+04	0.167	0.180	0.200	0.205
$C_6H_5O_7^{3-}$	2.72E-02	3.46E+03	1.85E+04	2.49E-02	2.59E-02	2.87E-02	3.09E-02
$EDTA^{4-}$	2.87E-02	5.55E+03	2.97E+04	9.27E-03	1.88E-02	3.87E-02	4.84E-02
$HEDTA^{3-}$	5.15E-02	9.48E+03	5.08E+04	1.27E-02	3.17E-02	7.15E-02	9.11E-02
glycolate^{-}	0.107	5.37E+03	2.87E+04	6.77E-02	8.67E-02	0.127	0.146
acetate^{-}	1.86E-02	739	3.96E+03	1.48E-02	1.65E-02	2.10E-02	2.46E-02
oxalate^{2-}	2.57E-05	1.52	8.12	2.29E-05	2.42E-05	2.71E-05	2.85E-05
DBP	2.18E-02	3.07E+03	1.65E+04	1.82E-02	1.98E-02	2.40E-02	2.72E-02
butanol	2.18E-02	1.08E+03	5.80E+03	1.82E-02	1.98E-02	2.40E-02	2.72E-02
NH_3	5.02E-02	573	3.07E+03	4.16E-02	4.50E-02	5.69E-02	6.46E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.37E+06 (kg)	(953 kgal)	----	----	----	----	----
Heat Load	7.29 (kW)	(2.49E+04 BTU/hr)	----	6.66	7.03	7.53	7.88
Bulk Density†	1.49 (g/cc)	----	----	1.44	1.47	1.50	1.51
Water wt%†	42.3	----	----	40.1	40.8	43.6	45.4
TOC wt% C (wet)†	1.19	----	----	0.664	0.921	1.45	1.71

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.2	1.73E+05	9.27E+05	10.2	10.7	11.6	11.9
Al^{3+}	1.39	2.53E+04	1.36E+05	1.17	1.34	1.43	1.47
Fe^{3+} (total Fe)	1.60E-02	601	3.23E+03	1.49E-02	1.55E-02	1.66E-02	1.71E-02
Cr^{3+}	9.83E-02	3.43E+03	1.84E+04	8.69E-02	9.30E-02	0.103	0.109
Bi^{3+}	1.02E-03	143	767	9.58E-04	9.87E-04	1.05E-03	1.10E-03
La^{3+}	1.95E-05	1.82	9.78	1.44E-05	1.69E-05	2.22E-05	2.47E-05
Hg^{2+}	8.12E-06	1.09	5.88	7.79E-06	7.95E-06	8.29E-06	8.46E-06
Zr (as $ZrO(OH)_2$)	1.29E-04	7.88	42.3	1.19E-04	1.22E-04	1.33E-04	1.38E-04
Pb^{2+}	1.09E-03	152	817	8.49E-04	9.68E-04	1.22E-03	1.34E-03
Ni^{2+}	4.62E-03	182	978	4.34E-03	4.53E-03	4.67E-03	4.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.76E-03	139	746	3.23E-03	3.49E-03	4.03E-03	4.29E-03
Ca^{2+}	2.47E-02	666	3.58E+03	2.32E-02	2.39E-02	2.55E-02	2.63E-02
K^{+}	5.37E-02	1.41E+03	7.58E+03	4.62E-02	4.94E-02	5.88E-02	6.56E-02
OH^{-}	7.88	9.00E+04	4.83E+05	6.80	7.58	8.07	8.22
$NO3^{-}$	3.57	1.49E+05	7.98E+05	3.39	3.48	3.66	3.75
$NO2^{-}$	2.04	6.30E+04	3.38E+05	1.64	1.81	2.29	2.35
$CO3^{2-}$	0.422	1.70E+04	9.13E+04	0.389	0.405	0.439	0.450
$PO4^{3-}$	7.66E-02	4.88E+03	2.62E+04	6.65E-02	7.09E-02	8.11E-02	8.70E-02
$SO4^{2-}$	0.234	1.51E+04	8.11E+04	0.188	0.207	0.266	0.268
Si (as SiO_x^{2-})	6.45E-02	1.22E+03	6.53E+03	5.69E-02	6.06E-02	6.83E-02	7.21E-02
F^{-}	5.51E-02	704	3.78E+03	4.72E-02	5.05E-02	6.03E-02	6.81E-02
Cl^{-}	0.194	4.61E+03	2.47E+04	0.167	0.179	0.200	0.205
$C_6H_5O_7^{3-}$	2.72E-02	3.45E+03	1.85E+04	2.49E-02	2.58E-02	2.86E-02	3.08E-02
$EDTA^{4-}$	2.86E-02	5.53E+03	2.97E+04	9.24E-03	1.87E-02	3.86E-02	4.83E-02
$HEDTA^{3-}$	5.14E-02	9.46E+03	5.08E+04	1.27E-02	3.16E-02	7.13E-02	9.08E-02
glycolate^{-}	0.106	5.35E+03	2.87E+04	6.75E-02	8.64E-02	0.126	0.146
acetate^{-}	1.86E-02	737	3.96E+03	1.48E-02	1.64E-02	2.09E-02	2.45E-02
oxalate^{2-}	2.56E-05	1.51	8.12	2.28E-05	2.42E-05	2.70E-05	2.84E-05
DBP	2.17E-02	3.06E+03	1.65E+04	1.81E-02	1.97E-02	2.39E-02	2.71E-02
butanol	2.17E-02	1.08E+03	5.80E+03	1.81E-02	1.97E-02	2.39E-02	2.71E-02
NH_3	5.06E-02	578	3.10E+03	4.20E-02	4.54E-02	5.72E-02	6.49E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.43E+04 (kg)	(2.99 kgal)	----	----	----	----	----
Heat Load	0.879 (kW)	(3.00E+03 BTU/hr)	----	0.742	0.833	0.907	0.926
Bulk Density	1.26 (g/cc)	----	----	1.16	1.20	1.30	1.33
Void Fraction	0.841	----	----	0.796	0.813	0.890	0.925
Water wt%	67.2	----	----	63.3	64.8	71.1	74.6
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.85E-05	2.25E-02	0.322	7.26E-06	1.66E-05	4.36E-05	6.12E-05
C-14	1.21E-05	9.54E-03	0.136	6.28E-06	9.32E-06	1.48E-05	1.75E-05
Ni-59	1.03E-04	8.15E-02	1.16	1.15E-05	7.26E-05	1.21E-04	1.32E-04
Ni-63	9.95E-03	7.86	112	1.11E-03	7.01E-03	1.16E-02	1.27E-02
Co-60	8.45E-06	6.68E-03	9.54E-02	4.40E-06	6.53E-06	1.04E-05	1.22E-05
Se-79	4.88E-05	3.86E-02	0.552	1.33E-06	1.55E-05	8.10E-05	1.12E-04
Sr-90	11.4	8.98E+03	1.28E+05	9.65	10.8	11.7	11.9
Y-90	11.4	8.98E+03	1.28E+05	9.65	10.8	11.7	11.9
Zr-93	2.04E-04	0.161	2.31	6.28E-06	3.74E-05	3.65E-04	5.19E-04
Nb-93m	1.98E-04	0.156	2.24	4.92E-06	8.12E-05	3.10E-04	4.19E-04
Tc-99	8.44E-05	6.67E-02	0.954	4.39E-05	6.52E-05	1.04E-04	1.22E-04
Ru-106	2.66E-10	2.10E-07	3.00E-06	1.38E-10	2.05E-10	3.27E-10	3.85E-10
Cd-113m	4.62E-05	3.65E-02	0.522	2.41E-05	3.57E-05	7.85E-04	1.71E-03
Sb-125	2.09E-05	1.66E-02	0.237	1.09E-05	1.62E-05	2.57E-05	3.03E-05
Sn-126	8.00E-05	6.33E-02	0.904	2.06E-06	3.00E-05	1.28E-04	1.75E-04
I-129	1.63E-07	1.29E-04	1.84E-03	8.50E-08	1.26E-07	2.00E-07	2.36E-07
Cs-134	6.31E-07	4.99E-04	7.13E-03	3.29E-07	4.88E-07	7.75E-07	9.14E-07
Cs-137	0.276	218	3.12E+03	0.144	0.213	0.339	0.399
Ba-137m	0.261	206	2.95E+03	0.136	0.202	0.320	0.378
Sm-151	0.184	146	2.08E+03	4.79E-03	6.76E-02	0.297	0.405
Eu-152	7.22E-05	5.71E-02	0.815	7.15E-05	7.19E-05	7.25E-05	7.28E-05
Eu-154	1.87E-04	0.148	2.11	9.73E-05	1.44E-04	2.29E-04	3.59E-03
Eu-155	4.06E-03	3.21	45.9	4.03E-03	4.04E-03	4.08E-03	4.09E-03
Ra-226	8.29E-09	6.55E-06	9.36E-05	5.17E-09	7.25E-09	9.28E-09	1.02E-08
Ra-228	5.32E-14	4.20E-11	6.01E-10	5.27E-14	5.30E-14	5.34E-14	5.36E-14
Ac-227	4.24E-08	3.35E-05	4.79E-04	2.43E-08	3.64E-08	4.82E-08	5.38E-08
Pa-231	5.89E-08	4.66E-05	6.66E-04	1.43E-09	2.56E-08	9.11E-08	1.22E-07
Th-229	1.05E-11	8.33E-09	1.19E-07	1.04E-11	1.05E-11	1.06E-11	1.06E-11
Th-232	2.67E-15	2.11E-12	3.01E-11	1.39E-15	2.06E-15	3.28E-15	3.86E-15
U-232	1.90E-12	1.50E-09	2.15E-08	9.90E-13	1.47E-12	2.34E-12	2.75E-12
U-233	6.24E-14	4.93E-11	7.04E-10	3.25E-14	4.82E-14	7.66E-14	9.03E-14
U-234	3.64E-08	2.88E-05	4.12E-04	1.90E-08	2.81E-08	4.47E-08	5.27E-08
U-235	1.56E-09	1.23E-06	1.76E-05	8.11E-10	1.20E-09	1.91E-09	2.25E-09
U-236	6.20E-10	4.90E-07	7.01E-06	3.23E-10	4.79E-10	7.62E-10	8.98E-10
U-238	3.73E-08	2.95E-05	4.21E-04	1.94E-08	2.88E-08	4.58E-08	5.40E-08
Np-237	3.38E-07	2.67E-04	3.82E-03	1.76E-07	2.61E-07	4.15E-07	4.89E-07
Pu-238	3.64E-05	2.88E-02	0.411	2.96E-05	3.42E-05	3.86E-05	4.07E-05
Pu-239	2.38E-03	1.88	26.9	1.94E-03	2.23E-03	2.52E-03	2.66E-03
Pu-240	3.56E-04	0.282	4.03	2.90E-04	3.34E-04	3.78E-04	3.98E-04
Pu-241	2.69E-03	2.12	30.3	2.18E-03	2.52E-03	2.85E-03	3.00E-03
Pu-242	1.00E-08	7.93E-06	1.13E-04	8.16E-09	9.41E-09	1.06E-08	1.12E-08
Am-241	1.01E-03	0.795	11.4	2.26E-05	5.05E-04	1.49E-03	1.95E-03
Am-243	1.00E-08	7.94E-06	1.13E-04	2.26E-10	5.04E-09	1.49E-08	1.95E-08
Cm-242	1.44E-06	1.14E-03	1.62E-02	1.42E-06	1.43E-06	1.44E-06	1.45E-06
Cm-243	3.64E-08	2.88E-05	4.11E-04	3.61E-08	3.62E-08	3.65E-08	3.67E-08
Cm-244	2.16E-08	1.71E-05	2.45E-04	1.13E-08	1.67E-08	2.66E-08	3.13E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.99E-02 (g/L)	----	0.451	3.24E-02	3.74E-02	4.23E-02	4.45E-02
U	4.69E-04	88.3	1.26	2.44E-04	3.63E-04	5.76E-04	6.79E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.36E+06 (kg)	(950 kgal)	----	----	----	----	----
Heat Load	6.42 (kW)	(2.19E+04 BTU/hr)	----	5.78	6.16	6.65	7.00
Bulk Density*	1.49 (g/cc)	----	----	1.44	1.47	1.50	1.51
Water wt%†	42.2	----	----	40.1	40.8	43.6	45.3
TOC wt% C (wet)	1.19	----	----	0.665	0.923	1.46	1.71
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.03E-04	0.136	731	1.35E-04	1.35E-04	2.18E-04	2.37E-04
C-14	3.19E-05	2.14E-02	115	1.77E-05	1.77E-05	3.24E-05	3.30E-05
Ni-59	1.67E-06	1.12E-03	6.00	1.00E-06	1.00E-06	1.70E-06	1.73E-06
Ni-63	1.64E-04	0.110	591	9.82E-05	9.82E-05	1.68E-04	1.71E-04
Co-60	4.03E-05	2.71E-02	145	2.41E-05	2.41E-05	4.14E-05	4.25E-05
Se-79	3.15E-06	2.11E-03	11.3	2.24E-06	2.24E-06	3.48E-06	3.79E-06
Sr-90	9.80E-02	65.8	3.53E+05	9.03E-02	9.58E-02	0.100	0.103
Y-90	9.81E-02	65.8	3.53E+05	6.67E-02	6.67E-02	0.100	0.103
Zr-93	1.55E-05	1.04E-02	55.8	1.10E-05	1.10E-05	1.72E-05	1.87E-05
Nb-93m	1.11E-05	7.47E-03	40.0	7.96E-06	7.96E-06	1.23E-05	1.34E-05
Tc-99	2.41E-04	0.162	868	1.88E-04	2.14E-04	2.72E-04	3.13E-04
Ru-106	7.11E-09	4.77E-06	2.56E-02	5.01E-09	5.01E-09	7.72E-09	8.30E-09
Cd-113m	8.55E-05	5.74E-02	307	5.83E-05	5.83E-05	9.53E-05	1.05E-04
Sb-125	1.81E-04	0.121	651	1.11E-04	1.11E-04	1.87E-04	1.93E-04
Sn-126	4.75E-06	3.19E-03	17.1	3.39E-06	3.39E-06	5.24E-06	5.71E-06
I-129	4.66E-07	3.13E-04	1.68	3.64E-07	4.14E-07	5.25E-07	6.04E-07
Cs-134	3.51E-06	2.35E-03	12.6	2.04E-06	2.76E-06	4.26E-06	5.00E-06
Cs-137	0.240	161	8.63E+05	0.213	0.224	0.254	0.274
Ba-137m	0.227	152	8.16E+05	0.188	0.188	0.240	0.253
Sm-151	1.11E-02	7.43	3.98E+04	7.89E-03	7.89E-03	1.22E-02	1.33E-02
Eu-152	4.24E-06	2.85E-03	15.3	3.12E-06	3.12E-06	4.78E-06	5.31E-06
Eu-154	6.30E-04	0.423	2.27E+03	4.03E-04	4.03E-04	7.12E-04	7.49E-04
Eu-155	2.54E-04	0.171	915	1.87E-04	1.87E-04	2.87E-04	3.20E-04
Ra-226	1.20E-10	8.06E-08	4.32E-04	9.19E-11	9.19E-11	1.30E-10	1.40E-10
Ra-228	3.09E-07	2.08E-04	1.11	8.90E-08	8.90E-08	3.41E-07	3.75E-07
Ac-227	7.47E-10	5.01E-07	2.69E-03	5.84E-10	5.84E-10	8.06E-10	8.63E-10
Pa-231	3.61E-09	2.43E-06	1.30E-02	2.71E-09	2.71E-09	3.94E-09	4.26E-09
Th-229	7.18E-09	4.82E-06	2.58E-02	2.09E-09	2.09E-09	7.87E-09	8.61E-09
Th-232	3.30E-08	2.21E-05	0.119	5.75E-09	5.75E-09	4.05E-08	4.76E-08
U-232	9.40E-07	6.31E-04	3.38	7.26E-07	8.16E-07	1.08E-06	1.23E-06
U-233	3.60E-06	2.42E-03	13.0	2.79E-06	3.13E-06	4.15E-06	4.72E-06
U-234	6.10E-07	4.09E-04	2.19	5.90E-07	6.02E-07	6.18E-07	6.25E-07
U-235	2.42E-08	1.62E-05	8.70E-02	2.34E-08	2.39E-08	2.46E-08	2.48E-08
U-236	1.96E-08	1.32E-05	7.05E-02	1.90E-08	1.94E-08	1.98E-08	2.01E-08
U-238	8.36E-07	5.61E-04	3.01	8.18E-07	8.29E-07	8.45E-07	8.71E-07
Np-237	8.41E-07	5.65E-04	3.02	6.68E-07	7.53E-07	9.39E-07	1.07E-06
Pu-238	1.29E-06	8.65E-04	4.63	1.09E-06	1.19E-06	1.39E-06	1.49E-06
Pu-239	4.27E-05	2.87E-02	154	3.75E-05	4.01E-05	4.54E-05	4.79E-05
Pu-240	7.38E-06	4.95E-03	26.5	6.41E-06	6.89E-06	7.87E-06	8.35E-06
Pu-241	8.94E-05	6.00E-02	321	7.56E-05	8.23E-05	9.65E-05	1.03E-04
Pu-242	4.89E-10	3.28E-07	1.76E-03	4.06E-10	4.47E-10	5.31E-10	5.72E-10
Am-241	5.17E-05	3.47E-02	186	4.21E-05	4.68E-05	5.67E-05	6.14E-05
Am-243	1.99E-09	1.33E-06	7.15E-03	1.61E-09	1.78E-09	2.23E-09	2.43E-09
Cm-242	1.44E-07	9.70E-05	0.519	9.83E-08	9.83E-08	1.65E-07	1.85E-07
Cm-243	1.35E-08	9.06E-06	4.85E-02	9.09E-09	9.09E-09	1.53E-08	1.71E-08
Cm-244	1.10E-07	7.40E-05	0.397	6.50E-08	6.50E-08	1.26E-07	1.35E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.81E-04 (g/L)	----	1.73	3.82E-04	4.31E-04	5.31E-04	5.79E-04
U	6.84E-03	1.09E+03	5.86E+03	6.61E-03	6.75E-03	6.95E-03	7.03E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.37E+06 (kg)	(953 kgal)	----	----	----	----	----
Heat Load	7.29 (kW)	(2.49E+04 BTU/hr)	----	6.66	7.03	7.53	7.88
Bulk Density†	1.49 (g/cc)	----	----	1.44	1.47	1.50	1.51
Water wt%†	42.3	----	----	40.1	40.8	43.6	45.4
TOC wt% C (wet)†	1.19	----	----	0.664	0.921	1.45	1.71
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.03E-04	0.136	731	1.35E-04	1.35E-04	2.18E-04	2.37E-04
C-14	3.18E-05	2.14E-02	115	1.76E-05	1.76E-05	3.24E-05	3.29E-05
Ni-59	1.99E-06	1.33E-03	7.16	1.32E-06	1.32E-06	2.04E-06	2.08E-06
Ni-63	1.95E-04	0.131	703	1.29E-04	1.29E-04	2.00E-04	2.04E-04
Co-60	4.02E-05	2.70E-02	145	2.40E-05	2.40E-05	4.13E-05	4.24E-05
Se-79	3.29E-06	2.21E-03	11.9	2.39E-06	2.39E-06	3.62E-06	3.93E-06
Sr-90	0.133	89.5	4.81E+05	0.126	0.131	0.136	0.138
Y-90	0.133	89.6	4.81E+05	0.102	0.102	0.136	0.138
Zr-93	1.61E-05	1.08E-02	58.1	1.16E-05	1.16E-05	1.77E-05	1.93E-05
Nb-93m	1.17E-05	7.87E-03	42.3	8.55E-06	8.55E-06	1.29E-05	1.40E-05
Tc-99	2.41E-04	0.162	869	1.88E-04	2.14E-04	2.71E-04	3.12E-04
Ru-106	7.09E-09	4.76E-06	2.56E-02	4.99E-09	4.99E-09	7.69E-09	8.27E-09
Cd-113m	8.53E-05	5.73E-02	308	5.82E-05	5.82E-05	9.52E-05	1.05E-04
Sb-125	1.80E-04	0.121	651	1.10E-04	1.10E-04	1.87E-04	1.93E-04
Sn-126	4.98E-06	3.35E-03	18.0	3.63E-06	3.63E-06	5.47E-06	5.95E-06
I-129	4.65E-07	3.13E-04	1.68	3.63E-07	4.13E-07	5.24E-07	6.03E-07
Cs-134	3.50E-06	2.35E-03	12.6	2.03E-06	2.75E-06	4.25E-06	4.99E-06
Cs-137	0.240	161	8.66E+05	0.213	0.225	0.254	0.274
Ba-137m	0.227	152	8.19E+05	0.188	0.188	0.240	0.253
Sm-151	1.16E-02	7.79	4.19E+04	8.44E-03	8.44E-03	1.28E-02	1.38E-02
Eu-152	4.46E-06	2.99E-03	16.1	3.34E-06	3.34E-06	4.99E-06	5.52E-06
Eu-154	6.29E-04	0.422	2.27E+03	4.03E-04	4.03E-04	7.10E-04	7.47E-04
Eu-155	2.66E-04	0.179	961	2.00E-04	2.00E-04	2.99E-04	3.31E-04
Ra-226	1.46E-10	9.78E-08	5.25E-04	1.18E-10	1.18E-10	1.56E-10	1.65E-10
Ra-228	3.08E-07	2.07E-04	1.11	8.87E-08	8.87E-08	3.40E-07	3.74E-07
Ac-227	8.78E-10	5.89E-07	3.17E-03	7.15E-10	7.15E-10	9.36E-10	9.93E-10
Pa-231	3.79E-09	2.54E-06	1.37E-02	2.88E-09	2.88E-09	4.11E-09	4.43E-09
Th-229	7.16E-09	4.81E-06	2.58E-02	2.08E-09	2.08E-09	7.85E-09	8.59E-09
Th-232	3.29E-08	2.21E-05	0.119	5.73E-09	5.73E-09	4.03E-08	4.75E-08
U-232	9.37E-07	6.30E-04	3.38	7.24E-07	8.14E-07	1.08E-06	1.23E-06
U-233	3.59E-06	2.41E-03	13.0	2.78E-06	3.12E-06	4.13E-06	4.71E-06
U-234	6.08E-07	4.08E-04	2.19	5.88E-07	6.00E-07	6.16E-07	6.23E-07
U-235	2.41E-08	1.62E-05	8.70E-02	2.33E-08	2.38E-08	2.45E-08	2.48E-08
U-236	1.96E-08	1.31E-05	7.05E-02	1.90E-08	1.93E-08	1.98E-08	2.00E-08
U-238	8.34E-07	5.60E-04	3.01	8.15E-07	8.26E-07	8.42E-07	8.68E-07
Np-237	8.40E-07	5.64E-04	3.03	6.67E-07	7.51E-07	9.38E-07	1.07E-06
Pu-238	1.40E-06	9.39E-04	5.05	1.20E-06	1.30E-06	1.50E-06	1.60E-06
Pu-239	5.00E-05	3.36E-02	181	4.48E-05	4.74E-05	5.27E-05	5.52E-05
Pu-240	8.47E-06	5.69E-03	30.6	7.51E-06	7.98E-06	8.97E-06	9.44E-06
Pu-241	9.75E-05	6.55E-02	352	8.37E-05	9.05E-05	1.05E-04	1.11E-04
Pu-242	5.19E-10	3.49E-07	1.87E-03	4.37E-10	4.77E-10	5.61E-10	6.02E-10
Am-241	5.47E-05	3.68E-02	197	4.51E-05	4.98E-05	5.96E-05	6.43E-05
Am-243	2.01E-09	1.35E-06	7.26E-03	1.63E-09	1.81E-09	2.25E-09	2.46E-09
Cm-242	1.48E-07	9.97E-05	0.536	1.03E-07	1.03E-07	1.69E-07	1.89E-07
Cm-243	1.36E-08	9.11E-06	4.89E-02	9.18E-09	9.18E-09	1.54E-08	1.72E-08
Cm-244	1.10E-07	7.39E-05	0.397	6.48E-08	6.48E-08	1.25E-07	1.35E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.04E-04 (g/L)	----	2.18	5.06E-04	5.54E-04	6.54E-04	7.02E-04
U	6.82E-03	1.09E+03	5.86E+03	6.59E-03	6.73E-03	6.93E-03	7.00E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-A-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.50E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.741 (kW)	(2.53E+03 BTU/hr)	----	9.37E-03	0.482	0.857	0.920
Bulk Density	1.32 (g/cc)	----	----	1.05	1.20	1.40	1.47
Void Fraction	0.857	----	----	0.751	0.824	0.921	0.992
Water wt%	60.5	----	----	48.2	53.5	71.2	90.4
TOC wt% C (wet)	3.98	----	----	1.37	2.86	5.05	5.58

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.46	1.12E+05	1.69E+03	0.814	3.80	8.17	9.85
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.28	5.40E+04	809	0.279	1.08	1.36	1.41
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.137	4.15E+03	62.2	2.88E-03	6.93E-03	0.234	0.287
K^{+}	1.17E-02	345	5.18	3.17E-03	7.62E-03	1.56E-02	1.82E-02
OH^{-}	3.96	5.09E+04	764	0.873	3.33	4.26	4.43
$NO3^{-}$	3.88E-07	1.82E-02	2.73E-04	1.75E-08	5.44E-08	3.38E-05	0.101
$NO2^{-}$	0.558	1.94E+04	291	5.01E-02	0.365	0.748	0.868
$CO3^{2-}$	0.341	1.55E+04	232	5.84E-02	0.141	0.508	0.935
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.78E-02	6.38E+03	95.7	2.38E-02	5.74E-02	0.118	0.137
Si (as SiO_x^{2-})	1.80	3.83E+04	574	1.87E-02	0.967	2.17	2.43
F^{-}	0	0	0	0	0	0	0
Cl^{-}	5.37E-02	1.44E+03	21.6	1.46E-02	3.51E-02	7.19E-02	8.35E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0.129	2.81E+04	422	3.51E-02	8.44E-02	0.173	0.201
$HEDTA^{3-}$	0.258	5.35E+04	803	7.01E-02	0.169	0.346	0.402
$glycolate^{-}$	0.258	1.46E+04	220	7.01E-02	0.169	0.346	0.402
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	2.61E-05	4.15	6.23E-02	7.10E-06	1.71E-05	3.50E-05	4.07E-05
butanol	2.61E-05	1.46	2.20E-02	7.10E-06	1.71E-05	3.50E-05	4.07E-05
NH_3	0.134	1.72E+03	25.8	3.10E-04	6.46E-02	0.195	0.218
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.21E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	0.280 (kW)	(956 BTU/hr)	----	0.250	0.267	0.291	0.309
Bulk Density*	1.54 (g/cc)	----	----	1.48	1.51	1.56	1.56
Water wt%	38.6	----	----	36.1	36.9	40.2	42.2
TOC wt% C (wet)	1.32	----	----	0.734	1.02	1.62	1.91

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.3	1.84E+05	4.06E+04	11.1	11.7	12.8	13.1
Al^{3+}	1.55	2.71E+04	6.00E+03	1.27	1.48	1.59	1.62
Fe^{3+} (total Fe)	8.39E-03	305	67.4	7.24E-03	7.80E-03	8.98E-03	9.55E-03
Cr^{3+}	0.106	3.57E+03	790	9.43E-02	9.97E-02	0.111	0.120
Bi^{3+}	1.12E-03	153	33.7	1.05E-03	1.08E-03	1.16E-03	1.22E-03
La^{3+}	2.02E-05	1.82	0.403	1.49E-05	1.75E-05	2.29E-05	2.55E-05
Hg^{2+}	9.10E-06	1.19	0.263	8.69E-06	8.90E-06	9.31E-06	9.52E-06
Zr (as $ZrO(OH)_2$)	1.33E-04	7.91	1.75	1.23E-04	1.27E-04	1.37E-04	1.43E-04
Pb^{2+}	1.25E-03	168	37.2	9.46E-04	1.09E-03	1.40E-03	1.55E-03
Ni^{2+}	4.58E-03	175	38.7	4.40E-03	4.49E-03	4.63E-03	4.67E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.23E-03	151	33.4	3.67E-03	3.94E-03	4.51E-03	4.78E-03
Ca^{2+}	2.51E-02	654	145	2.34E-02	2.43E-02	2.59E-02	2.68E-02
K^{+}	5.93E-02	1.51E+03	334	5.01E-02	5.39E-02	6.56E-02	7.40E-02
OH^{-}	8.63	9.54E+04	2.11E+04	7.30	8.26	8.82	8.98
$NO3^{-}$	3.88	1.56E+05	3.46E+04	3.66	3.77	3.99	4.10
$NO2^{-}$	2.26	6.75E+04	1.49E+04	1.77	1.97	2.56	2.65
$CO3^{2-}$	0.470	1.83E+04	4.06E+03	0.433	0.452	0.489	0.500
$PO4^{3-}$	8.53E-02	5.26E+03	1.16E+03	7.28E-02	7.82E-02	9.08E-02	9.81E-02
$SO4^{2-}$	0.263	1.64E+04	3.63E+03	0.205	0.229	0.302	0.304
Si (as SiO_x^{2-})	6.81E-02	1.24E+03	275	6.02E-02	6.41E-02	7.22E-02	7.61E-02
F^{-}	6.15E-02	760	168	5.16E-02	5.57E-02	6.79E-02	7.75E-02
Cl^{-}	0.213	4.90E+03	1.08E+03	0.180	0.195	0.219	0.224
$C_6H_5O_7^{3-}$	3.05E-02	3.74E+03	828	2.76E-02	2.88E-02	3.22E-02	3.50E-02
$EDTA^{4-}$	3.34E-02	6.26E+03	1.39E+03	1.09E-02	2.19E-02	4.50E-02	5.64E-02
$HEDTA^{3-}$	5.99E-02	1.07E+04	2.36E+03	1.47E-02	3.68E-02	8.31E-02	0.106
$glycolate^{-}$	0.120	5.83E+03	1.29E+03	7.44E-02	9.64E-02	0.143	0.165
$acetate^{-}$	2.23E-02	857	190	1.76E-02	1.96E-02	2.52E-02	2.97E-02
$oxalate^{2-}$	2.64E-05	1.51	0.335	2.36E-05	2.50E-05	2.79E-05	2.93E-05
DBP	2.48E-02	3.38E+03	749	2.04E-02	2.23E-02	2.75E-02	3.15E-02
butanol	2.48E-02	1.19E+03	264	2.04E-02	2.23E-02	2.75E-02	3.15E-02
NH_3	5.28E-02	584	129	4.38E-02	4.74E-02	5.97E-02	6.78E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.36E+05 (kg)	(41.0 kgal)	----	----	----	----	----
Heat Load	1.02 (kW)	(3.49E+03 BTU/hr)	----	0.260	0.752	1.15	1.22
Bulk Density†	1.52 (g/cc)	----	----	1.46	1.50	1.54	1.55
Water wt%†	40.0	----	----	37.2	38.4	41.5	43.4
TOC wt% C (wet)†	1.49	----	----	0.766	1.13	1.85	2.16

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.9	1.79E+05	4.23E+04	10.7	11.3	12.3	12.6
Al^{3+}	1.43	2.54E+04	6.00E+03	1.17	1.37	1.47	1.50
Fe^{3+} (total Fe)	0.101	3.71E+03	877	2.82E-02	8.68E-02	0.107	0.111
Cr^{3+}	9.79E-02	3.34E+03	790	8.74E-02	9.24E-02	0.103	0.111
Bi^{3+}	1.04E-03	143	33.7	9.71E-04	1.01E-03	1.08E-03	1.13E-03
La^{3+}	1.87E-05	1.71	0.403	1.38E-05	1.62E-05	2.12E-05	2.36E-05
Hg^{2+}	8.44E-06	1.11	0.263	8.05E-06	8.25E-06	8.63E-06	8.82E-06
Zr (as $ZrO(OH)_2$)	1.24E-04	7.40	1.75	1.14E-04	1.18E-04	1.27E-04	1.33E-04
Pb^{2+}	1.16E-03	157	37.2	8.77E-04	1.01E-03	1.30E-03	1.44E-03
Ni^{2+}	4.25E-03	164	38.7	4.08E-03	4.16E-03	4.29E-03	4.33E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.92E-03	141	33.4	3.40E-03	3.65E-03	4.18E-03	4.43E-03
Ca^{2+}	3.33E-02	876	207	2.24E-02	2.35E-02	4.04E-02	4.42E-02
K^{+}	5.58E-02	1.43E+03	339	4.72E-02	5.08E-02	6.16E-02	6.95E-02
OH^{-}	8.29	9.26E+04	2.19E+04	7.05	7.94	8.47	8.62
$NO3^{-}$	3.60	1.46E+05	3.46E+04	3.39	3.49	3.70	3.80
$NO2^{-}$	2.13	6.45E+04	1.52E+04	1.68	1.87	2.42	2.50
$CO3^{2-}$	0.461	1.82E+04	4.29E+03	0.406	0.429	0.490	0.530
$PO4^{3-}$	7.90E-02	4.93E+03	1.16E+03	6.75E-02	7.25E-02	8.42E-02	9.09E-02
$SO4^{2-}$	0.250	1.58E+04	3.72E+03	0.197	0.219	0.286	0.289
Si (as SiO_x^{2-})	0.195	3.60E+03	850	6.18E-02	0.134	0.222	0.238
F^{-}	5.70E-02	712	168	4.79E-02	5.16E-02	6.30E-02	7.19E-02
Cl^{-}	0.201	4.68E+03	1.11E+03	0.171	0.184	0.207	0.212
$C_6H_5O_7^{3-}$	2.82E-02	3.51E+03	828	2.56E-02	2.67E-02	2.99E-02	3.25E-02
$EDTA^{4-}$	4.04E-02	7.65E+03	1.81E+03	1.26E-02	2.64E-02	5.44E-02	6.69E-02
$HEDTA^{3-}$	7.44E-02	1.34E+04	3.16E+03	1.88E-02	4.64E-02	0.102	0.127
$glycolate^{-}$	0.130	6.39E+03	1.51E+03	7.41E-02	0.102	0.158	0.183
$acetate^{-}$	2.07E-02	803	190	1.63E-02	1.82E-02	2.34E-02	2.75E-02
$oxalate^{2-}$	2.45E-05	1.42	0.335	2.19E-05	2.32E-05	2.59E-05	2.72E-05
DBP	2.30E-02	3.17E+03	749	1.89E-02	2.06E-02	2.55E-02	2.92E-02
butanol	2.30E-02	1.12E+03	264	1.89E-02	2.06E-02	2.55E-02	2.92E-02
NH_3	5.87E-02	656	155	4.82E-02	5.32E-02	6.51E-02	7.26E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.50E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.741 (kW)	(2.53E+03 BTU/hr)	----	9.37E-03	0.482	0.857	0.920
Bulk Density	1.32 (g/cc)	----	----	1.05	1.20	1.40	1.47
Void Fraction	0.857	----	----	0.751	0.824	0.921	0.992
Water wt%	60.5	----	----	48.2	53.5	71.2	90.4
TOC wt% C (wet)	3.98	----	----	1.37	2.86	5.05	5.58

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.30E-05	6.27E-02	0.941	5.43E-06	3.34E-05	1.54E-04	2.24E-04
C-14	6.77E-06	5.12E-03	7.68E-02	1.84E-06	4.43E-06	9.08E-06	4.08E-05
Ni-59	6.10E-04	0.461	6.92	5.66E-04	5.87E-04	6.32E-04	6.54E-04
Ni-63	6.00E-02	45.4	681	5.57E-02	5.78E-02	6.22E-02	6.43E-02
Co-60	1.37E-05	1.04E-02	0.156	3.73E-06	8.97E-06	1.84E-05	4.87E-05
Se-79	3.40E-04	0.257	3.86	6.56E-05	1.71E-04	5.09E-04	6.71E-04
Sr-90	9.57	7.24E+03	1.09E+05	8.91E-02	6.23	11.0	11.8
Y-90	9.58	7.24E+03	1.09E+05	8.92E-02	6.23	11.0	11.8
Zr-93	1.47E-03	1.11	16.7	2.22E-04	6.25E-04	2.31E-03	3.12E-03
Nb-93m	1.26E-03	0.953	14.3	2.10E-04	6.69E-04	1.85E-03	2.42E-03
Tc-99	4.57E-05	3.46E-02	0.519	1.24E-05	2.99E-05	6.13E-05	7.12E-05
Ru-106	2.63E-06	1.99E-03	2.98E-02	2.00E-06	2.48E-06	2.78E-06	2.92E-06
Cd-113m	3.13E-03	2.37	35.5	3.27E-05	1.33E-03	7.43E-03	1.23E-02
Sb-125	8.09E-05	6.12E-02	0.918	2.20E-05	5.29E-05	1.08E-04	1.26E-04
Sn-126	5.46E-04	0.413	6.20	1.13E-04	2.93E-04	8.00E-04	1.04E-03
I-129	8.89E-08	6.72E-05	1.01E-03	2.41E-08	5.81E-08	1.19E-07	1.38E-07
Cs-134	9.76E-06	7.38E-03	0.111	2.65E-06	6.38E-06	1.31E-05	1.52E-05
Cs-137	0.177	134	2.00E+03	4.80E-02	0.115	0.237	0.275
Ba-137m	0.167	126	1.90E+03	4.54E-02	0.109	0.224	0.260
Sm-151	1.27	962	1.44E+04	0.267	0.681	1.86	2.43
Eu-152	3.18E-04	0.240	3.60	3.13E-04	3.15E-04	3.20E-04	3.21E-04
Eu-154	7.47E-03	5.65	84.8	1.59E-04	3.83E-04	2.25E-02	4.84E-02
Eu-155	1.95E-02	14.7	221	1.92E-02	1.93E-02	1.96E-02	1.97E-02
Ra-226	4.10E-08	3.10E-05	4.65E-04	3.07E-08	3.57E-08	4.62E-08	5.12E-08
Ra-228	1.86E-13	1.40E-10	2.11E-09	1.83E-13	1.84E-13	1.87E-13	1.88E-13
Ac-227	2.12E-07	1.60E-04	2.41E-03	1.53E-07	1.82E-07	2.42E-07	2.72E-07
Pa-231	3.17E-07	2.40E-04	3.60E-03	9.28E-09	1.48E-07	4.86E-07	6.48E-07
Th-229	3.09E-11	2.34E-08	3.51E-07	3.04E-11	3.07E-11	3.12E-11	3.13E-11
Th-232	2.51E-15	1.90E-12	2.85E-11	6.81E-16	1.64E-15	3.36E-15	3.91E-15
U-232	8.20E-12	6.20E-09	9.30E-08	2.23E-12	5.36E-12	1.10E-11	1.28E-11
U-233	1.15E-13	8.68E-11	1.30E-09	3.12E-14	7.50E-14	1.54E-13	1.79E-13
U-234	3.43E-08	2.60E-05	3.90E-04	9.33E-09	2.24E-08	4.60E-08	5.35E-08
U-235	1.34E-09	1.02E-06	1.53E-05	3.65E-10	8.79E-10	1.80E-09	2.09E-09
U-236	2.26E-09	1.71E-06	2.57E-05	6.15E-10	1.48E-09	3.04E-09	3.53E-09
U-238	2.75E-08	2.08E-05	3.12E-04	7.47E-09	1.80E-08	3.69E-08	4.28E-08
Np-237	1.45E-07	1.09E-04	1.64E-03	3.93E-08	9.46E-08	1.94E-07	2.25E-07
Pu-238	4.77E-04	0.360	5.41	3.14E-04	4.45E-04	5.08E-04	5.37E-04
Pu-239	1.28E-02	9.68	145	8.44E-03	1.17E-02	1.39E-02	1.49E-02
Pu-240	2.38E-03	1.80	27.0	1.57E-03	2.19E-03	2.57E-03	2.75E-03
Pu-241	3.38E-02	25.6	383	2.23E-02	3.15E-02	3.60E-02	3.81E-02
Pu-242	1.99E-07	1.51E-04	2.26E-03	1.31E-07	1.86E-07	2.11E-07	2.22E-07
Am-241	1.44E-02	10.9	164	9.45E-03	1.19E-02	1.69E-02	1.94E-02
Am-243	7.55E-07	5.71E-04	8.56E-03	5.59E-07	6.93E-07	8.11E-07	8.61E-07
Cm-242	1.21E-05	9.13E-03	0.137	1.19E-05	1.20E-05	1.22E-05	1.22E-05
Cm-243	1.09E-06	8.21E-04	1.23E-02	1.07E-06	1.08E-06	1.09E-06	1.10E-06
Cm-244	4.42E-05	3.35E-02	0.502	3.18E-05	4.12E-05	4.73E-05	5.01E-05

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0.217 (g/L)	----	2.46	0.143	0.198	0.235	0.253
U	3.47E-04	62.4	0.936	9.41E-05	2.27E-04	4.65E-04	5.40E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.21E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	0.280 (kW)	(956 BTU/hr)	----	0.250	0.267	0.291	0.309
Bulk Density*	1.54 (g/cc)	----	----	1.48	1.51	1.56	1.56
Water wt%†	38.6	----	----	36.1	36.9	40.2	42.2
TOC wt% C (wet)	1.32	----	----	0.734	1.02	1.62	1.91

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.23E-04	0.145	32.0	1.52E-04	1.52E-04	2.40E-04	2.62E-04
C-14	3.51E-05	2.28E-02	5.05	2.03E-05	2.03E-05	3.58E-05	3.65E-05
Ni-59	1.76E-06	1.15E-03	0.254	1.07E-06	1.07E-06	1.80E-06	1.83E-06
Ni-63	1.74E-04	0.113	25.0	1.05E-04	1.05E-04	1.77E-04	1.81E-04
Co-60	4.50E-05	2.92E-02	6.47	2.79E-05	2.79E-05	4.62E-05	4.75E-05
Se-79	3.45E-06	2.24E-03	0.496	2.50E-06	2.50E-06	3.79E-06	4.12E-06
Sr-90	0.107	69.5	1.54E+04	9.79E-02	0.105	0.109	0.112
Y-90	0.107	69.5	1.54E+04	7.43E-02	7.43E-02	0.109	0.112
Zr-93	1.70E-05	1.11E-02	2.45	1.23E-05	1.23E-05	1.87E-05	2.04E-05
Nb-93m	1.22E-05	7.93E-03	1.75	8.88E-06	8.88E-06	1.34E-05	1.45E-05
Tc-99	2.68E-04	0.174	38.6	2.08E-04	2.35E-04	3.05E-04	3.56E-04
Ru-106	7.89E-09	5.13E-06	1.14E-03	5.70E-09	5.70E-09	8.64E-09	9.36E-09
Cd-113m	9.43E-05	6.13E-02	13.6	6.59E-05	6.59E-05	1.05E-04	1.14E-04
Sb-125	2.02E-04	0.131	29.1	1.26E-04	1.26E-04	2.09E-04	2.16E-04
Sn-126	5.20E-06	3.38E-03	0.749	3.78E-06	3.78E-06	5.72E-06	6.21E-06
I-129	5.18E-07	3.37E-04	7.45E-02	4.01E-07	4.53E-07	5.90E-07	6.89E-07
Cs-134	3.96E-06	2.58E-03	0.570	2.26E-06	3.09E-06	4.84E-06	5.70E-06
Cs-137	0.262	170	3.76E+04	0.228	0.242	0.279	0.304
Ba-137m	0.247	161	3.56E+04	0.199	0.199	0.262	0.277
Sm-151	1.21E-02	7.88	1.74E+03	8.81E-03	8.81E-03	1.33E-02	1.45E-02
Eu-152	4.70E-06	3.06E-03	0.676	3.49E-06	3.53E-06	5.33E-06	5.94E-06
Eu-154	6.99E-04	0.455	101	4.63E-04	4.63E-04	7.85E-04	8.46E-04
Eu-155	2.82E-04	0.184	40.6	2.08E-04	2.13E-04	3.21E-04	3.58E-04
Ra-226	1.30E-10	8.45E-08	1.87E-05	1.01E-10	1.01E-10	1.41E-10	1.51E-10
Ra-228	3.67E-07	2.39E-04	5.28E-02	9.53E-08	9.53E-08	4.01E-07	4.37E-07
Ac-227	8.08E-10	5.25E-07	1.16E-04	6.38E-10	6.38E-10	8.70E-10	9.29E-10
Pa-231	3.94E-09	2.56E-06	5.66E-04	2.99E-09	2.99E-09	4.28E-09	4.61E-09
Th-229	8.51E-09	5.53E-06	1.22E-03	2.23E-09	2.23E-09	9.26E-09	1.00E-08
Th-232	3.98E-08	2.58E-05	5.72E-03	6.15E-09	6.15E-09	4.90E-08	5.78E-08
U-232	1.08E-06	7.04E-04	0.156	8.27E-07	9.29E-07	1.26E-06	1.44E-06
U-233	4.15E-06	2.70E-03	0.597	3.17E-06	3.56E-06	4.82E-06	5.53E-06
U-234	6.58E-07	4.28E-04	9.46E-02	6.37E-07	6.50E-07	6.66E-07	6.74E-07
U-235	2.60E-08	1.69E-05	3.74E-03	2.52E-08	2.57E-08	2.64E-08	2.67E-08
U-236	2.12E-08	1.38E-05	3.05E-03	2.06E-08	2.10E-08	2.15E-08	2.18E-08
U-238	9.24E-07	6.01E-04	0.133	9.04E-07	9.16E-07	9.33E-07	9.66E-07
Np-237	9.30E-07	6.05E-04	0.134	7.35E-07	8.22E-07	1.05E-06	1.22E-06
Pu-238	1.41E-06	9.18E-04	0.203	1.20E-06	1.30E-06	1.52E-06	1.62E-06
Pu-239	4.69E-05	3.05E-02	6.75	4.15E-05	4.42E-05	4.97E-05	5.23E-05
Pu-240	8.11E-06	5.27E-03	1.17	7.10E-06	7.59E-06	8.62E-06	9.12E-06
Pu-241	9.82E-05	6.39E-02	14.1	8.38E-05	9.08E-05	1.06E-04	1.13E-04
Pu-242	5.36E-10	3.48E-07	7.71E-05	4.49E-10	4.92E-10	5.80E-10	6.22E-10
Am-241	5.65E-05	3.67E-02	8.12	4.64E-05	5.13E-05	6.16E-05	6.65E-05
Am-243	2.17E-09	1.41E-06	3.12E-04	1.77E-09	1.95E-09	2.43E-09	2.64E-09
Cm-242	1.56E-07	1.02E-04	2.25E-02	1.08E-07	1.08E-07	1.80E-07	2.03E-07
Cm-243	1.45E-08	9.44E-06	2.09E-03	9.93E-09	9.93E-09	1.67E-08	1.87E-08
Cm-244	1.18E-07	7.69E-05	1.70E-02	7.10E-08	7.10E-08	1.34E-07	1.45E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.21E-04 (g/L)	----	7.49E-02	4.18E-04	4.69E-04	5.73E-04	6.23E-04
U	7.36E-03	1.14E+03	252	7.11E-03	7.26E-03	7.47E-03	7.55E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.36E+05 (kg)	(41.0 kgal)	----	----	----	----	----
Heat Load	1.02 (kW)	(3.49E+03 BTU/hr)	----	0.260	0.752	1.15	1.22
Bulk Density†	1.52 (g/cc)	----	----	1.46	1.50	1.54	1.55
Water wt%†	40.0	----	----	37.2	38.4	41.5	43.4
TOC wt% C (wet)†	1.49	----	----	0.766	1.13	1.85	2.16

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.12E-04	0.139	32.9	1.47E-04	1.47E-04	2.34E-04	2.59E-04
C-14	3.31E-05	2.17E-02	5.13	1.93E-05	1.93E-05	3.38E-05	3.64E-05
Ni-59	4.62E-05	3.04E-02	7.17	4.30E-05	4.46E-05	4.79E-05	4.94E-05
Ni-63	4.55E-03	2.99	706	4.23E-03	4.39E-03	4.71E-03	4.86E-03
Co-60	4.27E-05	2.80E-02	6.62	2.69E-05	2.69E-05	4.42E-05	4.76E-05
Se-79	2.80E-05	1.84E-02	4.35	8.25E-06	1.58E-05	4.03E-05	5.20E-05
Sr-90	0.799	525	1.24E+05	9.73E-02	0.555	0.906	0.965
Y-90	0.799	525	1.24E+05	9.73E-02	0.555	0.907	0.965
Zr-93	1.23E-04	8.09E-02	19.1	3.20E-05	6.21E-05	1.84E-04	2.43E-04
Nb-93m	1.03E-04	6.79E-02	16.0	2.76E-05	6.07E-05	1.46E-04	1.87E-04
Tc-99	2.52E-04	0.165	39.1	1.96E-04	2.21E-04	2.86E-04	3.33E-04
Ru-106	1.99E-07	1.31E-04	3.09E-02	1.54E-07	1.89E-07	2.10E-07	2.20E-07
Cd-113m	3.16E-04	0.208	49.1	8.49E-05	1.88E-04	6.27E-04	9.79E-04
Sb-125	1.93E-04	0.127	30.0	1.23E-04	1.23E-04	2.02E-04	2.10E-04
Sn-126	4.48E-05	2.94E-02	6.95	1.34E-05	2.65E-05	6.31E-05	8.07E-05
I-129	4.87E-07	3.20E-04	7.55E-02	3.78E-07	4.27E-07	5.54E-07	6.45E-07
Cs-134	4.39E-06	2.88E-03	0.681	2.29E-06	3.33E-06	5.45E-06	6.40E-06
Cs-137	0.255	168	3.96E+04	0.217	0.236	0.274	0.295
Ba-137m	0.242	159	3.75E+04	0.197	0.197	0.260	0.276
Sm-151	0.104	68.5	1.62E+04	3.17E-02	6.15E-02	0.147	0.188
Eu-152	2.76E-05	1.81E-02	4.28	2.61E-05	2.65E-05	2.83E-05	2.90E-05
Eu-154	1.19E-03	0.785	185	5.98E-04	6.61E-04	2.26E-03	4.13E-03
Eu-155	1.69E-03	1.11	262	1.59E-03	1.62E-03	1.73E-03	1.77E-03
Ra-226	3.12E-09	2.05E-06	4.83E-04	2.37E-09	2.74E-09	3.49E-09	3.86E-09
Ra-228	3.40E-07	2.24E-04	5.28E-02	8.83E-08	8.83E-08	3.72E-07	4.05E-07
Ac-227	1.63E-08	1.07E-05	2.52E-03	1.19E-08	1.41E-08	1.85E-08	2.06E-08
Pa-231	2.68E-08	1.76E-05	4.16E-03	4.58E-09	1.46E-08	3.90E-08	5.08E-08
Th-229	7.89E-09	5.18E-06	1.22E-03	2.07E-09	2.07E-09	8.58E-09	9.32E-09
Th-232	3.69E-08	2.42E-05	5.72E-03	5.70E-09	5.70E-09	4.54E-08	5.36E-08
U-232	1.00E-06	6.59E-04	0.156	7.67E-07	8.61E-07	1.16E-06	1.34E-06
U-233	3.85E-06	2.53E-03	0.597	2.94E-06	3.30E-06	4.46E-06	5.12E-06
U-234	6.12E-07	4.02E-04	9.50E-02	5.93E-07	6.05E-07	6.20E-07	6.27E-07
U-235	2.42E-08	1.59E-05	3.76E-03	2.34E-08	2.39E-08	2.46E-08	2.48E-08
U-236	1.98E-08	1.30E-05	3.08E-03	1.93E-08	1.96E-08	2.01E-08	2.03E-08
U-238	8.58E-07	5.64E-04	0.133	8.40E-07	8.51E-07	8.66E-07	8.98E-07
Np-237	8.73E-07	5.73E-04	0.135	6.92E-07	7.72E-07	9.85E-07	1.14E-06
Pu-238	3.62E-05	2.37E-02	5.61	2.43E-05	3.38E-05	3.83E-05	4.04E-05
Pu-239	9.79E-04	0.643	152	6.60E-04	9.01E-04	1.06E-03	1.13E-03
Pu-240	1.81E-04	0.119	28.1	1.22E-04	1.68E-04	1.95E-04	2.07E-04
Pu-241	2.56E-03	1.68	398	1.72E-03	2.40E-03	2.72E-03	2.87E-03
Pu-242	1.51E-08	9.90E-06	2.34E-03	1.01E-08	1.41E-08	1.59E-08	1.67E-08
Am-241	1.11E-03	0.726	172	7.47E-04	9.23E-04	1.29E-03	1.47E-03
Am-243	5.72E-08	3.76E-05	8.88E-03	4.29E-08	5.28E-08	6.12E-08	6.47E-08
Cm-242	1.03E-06	6.75E-04	0.159	9.71E-07	9.83E-07	1.06E-06	1.08E-06
Cm-243	9.28E-08	6.10E-05	1.44E-02	8.77E-08	8.86E-08	9.54E-08	9.77E-08
Cm-244	3.34E-06	2.20E-03	0.519	2.43E-06	3.13E-06	3.56E-06	3.76E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.63E-02 (g/L)	----	2.53	1.09E-02	1.50E-02	1.76E-02	1.89E-02
U	6.85E-03	1.07E+03	253	6.62E-03	6.76E-03	6.95E-03	7.02E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-A-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.48E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.962 (kW)	(3.28E+03 BTU/hr)	----	0.945	0.953	0.971	0.979
Bulk Density	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Void Fraction	0.831	----	----	0.822	0.826	0.835	0.842
Water wt%	69.2	----	----	68.8	69.0	69.4	69.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.65	9.97E+04	1.47E+03	5.23	5.49	5.80	5.95
Al^{3+}	7.11E-02	1.47E+03	21.8	7.09E-02	7.10E-02	7.12E-02	7.13E-02
Fe^{3+} (total Fe)	1.30	5.58E+04	825	1.30	1.30	1.30	1.31
Cr^{3+}	1.42E-02	567	8.38	1.41E-02	1.41E-02	1.43E-02	1.44E-02
Bi^{3+}	9.64E-06	1.55	2.29E-02	8.14E-06	8.88E-06	1.04E-05	1.11E-05
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.02E-07	4.66E-02	6.88E-04	2.72E-07	2.87E-07	3.18E-07	3.33E-07
Zr (as $ZrO(OH)_2$)	3.81E-08	2.67E-03	3.94E-05	3.77E-08	3.79E-08	3.83E-08	3.86E-08
Pb^{2+}	4.94E-05	7.87	0.116	2.75E-05	3.82E-05	6.06E-05	7.14E-05
Ni^{2+}	0.139	6.27E+03	92.6	0.138	0.139	0.139	0.140
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.21E-03	93.4	1.38	1.54E-03	1.87E-03	2.56E-03	2.89E-03
Ca^{2+}	0.110	3.39E+03	50.1	8.99E-02	9.97E-02	0.120	0.130
K^{+}	6.37E-03	191	2.83	6.30E-03	6.33E-03	6.40E-03	6.45E-03
OH^{-}	4.50	5.88E+04	868	4.48	4.49	4.51	4.52
$NO3^{-}$	1.62E-09	7.74E-05	1.14E-06	1.18E-09	1.38E-09	1.92E-09	2.25E-09
$NO2^{-}$	0.640	2.26E+04	334	0.627	0.633	0.643	0.649
$CO3^{2-}$	0.224	1.03E+04	152	0.204	0.214	0.234	0.243
$PO4^{3-}$	1.95E-02	1.42E+03	21.0	1.93E-02	1.94E-02	1.96E-02	1.98E-02
$SO4^{2-}$	6.79E-02	5.01E+03	74.1	6.73E-02	6.76E-02	6.83E-02	6.88E-02
Si (as SiO_x^{2-})	2.27	4.89E+04	723	2.05	2.19	2.35	2.42
F^{-}	3.23E-04	4.72	6.97E-02	3.02E-04	3.19E-04	3.25E-04	3.28E-04
Cl^{-}	1.58E-02	430	6.35	1.56E-02	1.57E-02	1.59E-02	1.60E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.202	2.63E+03	38.9	0.198	0.200	0.204	0.207
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.12E+06 (kg)	(368 kgal)	----	----	----	----	----
Heat Load	2.61 (kW)	(8.92E+03 BTU/hr)	----	2.34	2.49	2.72	2.88
Bulk Density*	1.52 (g/cc)	----	----	1.46	1.50	1.54	1.55
Water wt%	40.0	----	----	37.5	38.3	41.5	43.6
TOC wt% C (wet)	1.29	----	----	0.716	0.996	1.58	1.85

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.9	1.79E+05	3.80E+05	10.7	11.3	12.4	12.7
Al^{3+}	1.49	2.65E+04	5.62E+04	1.22	1.43	1.53	1.57
Fe^{3+} (total Fe)	8.10E-03	298	630	6.98E-03	7.53E-03	8.67E-03	9.22E-03
Cr^{3+}	0.102	3.49E+03	7.39E+03	9.11E-02	9.64E-02	0.108	0.115
Bi^{3+}	1.08E-03	149	315	1.01E-03	1.05E-03	1.12E-03	1.18E-03
La^{3+}	1.94E-05	1.77	3.75	1.43E-05	1.68E-05	2.20E-05	2.45E-05
Hg^{2+}	8.78E-06	1.16	2.45	8.38E-06	8.58E-06	8.99E-06	9.18E-06
Zr (as $ZrO(OH)_2$)	1.29E-04	7.74	16.4	1.19E-04	1.23E-04	1.33E-04	1.39E-04
Pb^{2+}	1.20E-03	164	347	9.13E-04	1.06E-03	1.35E-03	1.50E-03
Ni^{2+}	4.43E-03	171	363	4.26E-03	4.34E-03	4.48E-03	4.52E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.08E-03	147	312	3.54E-03	3.80E-03	4.35E-03	4.61E-03
Ca^{2+}	2.43E-02	640	1.35E+03	2.27E-02	2.34E-02	2.51E-02	2.59E-02
K^{+}	5.73E-02	1.47E+03	3.12E+03	4.84E-02	5.21E-02	6.33E-02	7.15E-02
OH^{-}	8.35	9.33E+04	1.98E+05	7.06	7.98	8.53	8.69
$NO3^{-}$	3.75	1.53E+05	3.24E+05	3.54	3.64	3.86	3.96
$NO2^{-}$	2.18	6.60E+04	1.40E+05	1.71	1.91	2.47	2.56
$CO3^{2-}$	0.454	1.79E+04	3.79E+04	0.419	0.436	0.472	0.483
$PO4^{3-}$	8.22E-02	5.14E+03	1.09E+04	7.02E-02	7.54E-02	8.75E-02	9.46E-02
$SO4^{2-}$	0.253	1.60E+04	3.39E+04	0.198	0.221	0.291	0.294
Si (as SiO_x^{2-})	6.59E-02	1.22E+03	2.58E+03	5.82E-02	6.20E-02	6.98E-02	7.36E-02
F^{-}	5.94E-02	742	1.57E+03	4.98E-02	5.38E-02	6.55E-02	7.48E-02
Cl^{-}	0.206	4.79E+03	1.01E+04	0.174	0.188	0.212	0.217
$C_6H_5O_7^{3-}$	2.95E-02	3.67E+03	7.76E+03	2.67E-02	2.79E-02	3.12E-02	3.39E-02
$EDTA^{4-}$	3.20E-02	6.06E+03	1.28E+04	1.04E-02	2.10E-02	4.31E-02	5.39E-02
$HEDTA^{3-}$	5.72E-02	1.03E+04	2.19E+04	1.41E-02	3.52E-02	7.94E-02	0.101
$glycolate^{-}$	0.115	5.69E+03	1.20E+04	7.21E-02	9.32E-02	0.138	0.159
$acetate^{-}$	2.15E-02	837	1.77E+03	1.70E-02	1.89E-02	2.43E-02	2.86E-02
$oxalate^{2-}$	2.54E-05	1.47	3.11	2.27E-05	2.40E-05	2.68E-05	2.81E-05
DBP	2.39E-02	3.31E+03	7.00E+03	1.97E-02	2.15E-02	2.65E-02	3.04E-02
butanol	2.39E-02	1.17E+03	2.47E+03	1.97E-02	2.15E-02	2.65E-02	3.04E-02
NH_3	5.10E-02	570	1.21E+03	4.23E-02	4.58E-02	5.77E-02	6.55E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.13E+06 (kg)	(371 kgal)	----	----	----	----	----
Heat Load	3.57 (kW)	(1.22E+04 BTU/hr)	----	3.30	3.45	3.68	3.84
Bulk Density†	1.52 (g/cc)	----	----	1.46	1.49	1.54	1.54
Water wt%†	40.2	----	----	37.7	38.5	41.7	43.7
TOC wt% C (wet)†	1.28	----	----	0.711	0.989	1.56	1.84

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.8	1.79E+05	3.81E+05	10.7	11.3	12.3	12.6
Al^{3+}	1.48	2.64E+04	5.62E+04	1.21	1.42	1.52	1.56
Fe^{3+} (total Fe)	1.86E-02	683	1.46E+03	1.74E-02	1.80E-02	1.91E-02	1.97E-02
Cr^{3+}	0.101	3.47E+03	7.40E+03	9.04E-02	9.57E-02	0.107	0.115
Bi^{3+}	1.07E-03	148	315	1.00E-03	1.04E-03	1.11E-03	1.17E-03
La^{3+}	1.92E-05	1.76	3.75	1.42E-05	1.67E-05	2.18E-05	2.43E-05
Hg^{2+}	8.71E-06	1.15	2.45	8.32E-06	8.52E-06	8.92E-06	9.11E-06
Zr (as $ZrO(OH)_2$)	1.28E-04	7.68	16.4	1.18E-04	1.22E-04	1.32E-04	1.37E-04
Pb^{2+}	1.19E-03	163	348	9.06E-04	1.05E-03	1.34E-03	1.48E-03
Ni^{2+}	5.52E-03	214	455	5.35E-03	5.43E-03	5.57E-03	5.60E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.06E-03	147	313	3.53E-03	3.79E-03	4.33E-03	4.59E-03
Ca^{2+}	2.50E-02	659	1.40E+03	2.34E-02	2.41E-02	2.58E-02	2.66E-02
K^{+}	5.69E-02	1.46E+03	3.12E+03	4.80E-02	5.17E-02	6.28E-02	7.09E-02
OH^{-}	8.31	9.31E+04	1.98E+05	7.04	7.96	8.50	8.65
$NO3^{-}$	3.72	1.52E+05	3.24E+05	3.51	3.61	3.82	3.93
$NO2^{-}$	2.17	6.57E+04	1.40E+05	1.70	1.90	2.46	2.54
$CO3^{2-}$	0.452	1.79E+04	3.81E+04	0.417	0.434	0.470	0.481
$PO4^{3-}$	8.17E-02	5.11E+03	1.09E+04	6.98E-02	7.49E-02	8.70E-02	9.40E-02
$SO4^{2-}$	0.252	1.59E+04	3.40E+04	0.197	0.220	0.289	0.292
Si (as SiO_x^{2-})	8.37E-02	1.55E+03	3.30E+03	7.61E-02	7.98E-02	8.76E-02	9.13E-02
F^{-}	5.89E-02	737	1.57E+03	4.94E-02	5.33E-02	6.50E-02	7.42E-02
Cl^{-}	0.204	4.76E+03	1.02E+04	0.172	0.187	0.210	0.215
$C_6H_5O_7^{3-}$	2.92E-02	3.64E+03	7.76E+03	2.65E-02	2.76E-02	3.09E-02	3.36E-02
$EDTA^{4-}$	3.17E-02	6.02E+03	1.28E+04	1.03E-02	2.08E-02	4.27E-02	5.35E-02
$HEDTA^{3-}$	5.68E-02	1.03E+04	2.19E+04	1.40E-02	3.49E-02	7.88E-02	0.100
$glycolate^{-}$	0.114	5.65E+03	1.20E+04	7.16E-02	9.25E-02	0.136	0.158
$acetate^{-}$	2.14E-02	831	1.77E+03	1.69E-02	1.88E-02	2.41E-02	2.84E-02
$oxalate^{2-}$	2.52E-05	1.46	3.11	2.25E-05	2.38E-05	2.66E-05	2.79E-05
DBP	2.37E-02	3.28E+03	7.00E+03	1.95E-02	2.13E-02	2.63E-02	3.01E-02
butanol	2.37E-02	1.16E+03	2.47E+03	1.95E-02	2.13E-02	2.63E-02	3.01E-02
NH_3	5.22E-02	585	1.25E+03	4.36E-02	4.70E-02	5.88E-02	6.66E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.48E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.962 (kW)	(3.28E+03 BTU/hr)	----	0.945	0.953	0.971	0.979
Bulk Density	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Void Fraction	0.831	----	----	0.822	0.826	0.835	0.842
Water wt%	69.2	----	----	68.8	69.0	69.4	69.8
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.89E-06	3.76E-03	5.55E-02	4.58E-06	4.73E-06	5.05E-06	5.22E-06
C-14	1.11E-05	8.52E-03	0.126	1.10E-05	1.10E-05	1.12E-05	1.13E-05
Ni-59	1.12E-04	8.59E-02	1.27	1.07E-04	1.09E-04	1.15E-04	1.17E-04
Ni-63	1.10E-02	8.43	125	1.05E-02	1.07E-02	1.12E-02	1.15E-02
Co-60	1.13E-05	8.65E-03	0.128	1.11E-05	1.12E-05	1.13E-05	1.19E-05
Se-79	5.05E-05	3.88E-02	0.573	2.52E-06	1.74E-05	8.36E-05	1.15E-04
Sr-90	12.4	9.52E+03	1.41E+05	12.2	12.3	12.5	12.6
Y-90	12.4	9.52E+03	1.41E+05	12.2	12.3	12.5	12.6
Zr-93	2.12E-04	0.163	2.40	1.18E-05	4.62E-05	3.77E-04	5.36E-04
Nb-93m	1.92E-04	0.147	2.18	9.00E-06	7.59E-05	3.08E-04	4.19E-04
Tc-99	7.81E-05	6.00E-02	0.886	7.73E-05	7.77E-05	7.85E-05	7.92E-05
Ru-106	1.30E-08	9.96E-06	1.47E-04	4.20E-09	4.29E-09	7.31E-08	1.31E-07
Cd-113m	1.48E-04	0.114	1.68	5.02E-05	5.13E-05	1.08E-03	2.03E-03
Sb-125	4.22E-05	3.24E-02	0.480	4.18E-05	4.20E-05	4.25E-05	4.28E-05
Sn-126	8.23E-05	6.32E-02	0.934	3.89E-06	3.26E-05	1.32E-04	1.80E-04
I-129	1.51E-07	1.16E-04	1.71E-03	1.49E-07	1.50E-07	1.52E-07	1.53E-07
Cs-134	1.93E-06	1.48E-03	2.19E-02	1.91E-06	1.92E-06	1.94E-06	1.95E-06
Cs-137	0.261	200	2.96E+03	0.258	0.260	0.262	0.264
Ba-137m	0.247	190	2.80E+03	0.245	0.246	0.248	0.250
Sm-151	0.194	149	2.20E+03	9.15E-03	7.81E-02	0.310	0.421
Eu-152	7.42E-05	5.70E-02	0.842	7.41E-05	7.42E-05	7.42E-05	7.42E-05
Eu-154	2.41E-04	0.185	2.74	2.27E-04	2.32E-04	2.50E-04	6.43E-03
Eu-155	4.87E-03	3.74	55.3	4.87E-03	4.87E-03	4.88E-03	4.88E-03
Ra-226	7.18E-09	5.52E-06	8.16E-05	5.17E-09	6.16E-09	8.21E-09	9.19E-09
Ra-228	8.30E-10	6.37E-07	9.42E-06	8.30E-10	8.30E-10	8.30E-10	8.30E-10
Ac-227	3.74E-08	2.88E-05	4.25E-04	2.60E-08	3.16E-08	4.33E-08	4.88E-08
Pa-231	5.15E-08	3.95E-05	5.84E-04	2.51E-09	1.92E-08	8.38E-08	1.15E-07
Th-229	3.84E-10	2.95E-07	4.36E-06	3.84E-10	3.84E-10	3.84E-10	3.84E-10
Th-232	8.95E-11	6.88E-08	1.02E-06	8.86E-11	8.91E-11	9.00E-11	9.08E-11
U-232	5.25E-08	4.04E-05	5.96E-04	4.73E-08	4.99E-08	5.52E-08	5.78E-08
U-233	2.03E-07	1.56E-04	2.31E-03	1.83E-07	1.93E-07	2.14E-07	2.24E-07
U-234	1.62E-07	1.25E-04	1.84E-03	1.50E-07	1.56E-07	1.69E-07	1.74E-07
U-235	6.72E-09	5.16E-06	7.63E-05	6.22E-09	6.47E-09	6.97E-09	7.22E-09
U-236	4.46E-09	3.42E-06	5.06E-05	4.11E-09	4.28E-09	4.64E-09	4.81E-09
U-238	1.56E-07	1.20E-04	1.78E-03	1.45E-07	1.51E-07	1.62E-07	1.68E-07
Np-237	2.44E-07	1.88E-04	2.77E-03	2.42E-07	2.43E-07	2.46E-07	2.48E-07
Pu-238	1.55E-06	1.19E-03	1.76E-02	1.51E-06	1.53E-06	1.57E-06	1.59E-06
Pu-239	6.58E-05	5.05E-02	0.747	6.36E-05	6.47E-05	6.69E-05	6.79E-05
Pu-240	1.08E-05	8.30E-03	0.123	1.05E-05	1.06E-05	1.10E-05	1.11E-05
Pu-241	1.12E-04	8.60E-02	1.27	1.09E-04	1.11E-04	1.13E-04	1.15E-04
Pu-242	5.49E-10	4.21E-07	6.23E-06	5.36E-10	5.42E-10	5.55E-10	5.61E-10
Am-241	1.68E-03	1.29	19.0	7.03E-04	1.18E-03	2.17E-03	2.65E-03
Am-243	3.69E-08	2.83E-05	4.18E-04	1.63E-08	2.66E-08	4.66E-08	5.57E-08
Cm-242	1.77E-06	1.36E-03	2.01E-02	1.77E-06	1.77E-06	1.77E-06	1.77E-06
Cm-243	9.97E-08	7.66E-05	1.13E-03	9.97E-08	9.97E-08	9.97E-08	9.98E-08
Cm-244	7.88E-07	6.05E-04	8.94E-03	9.76E-08	9.94E-08	1.99E-06	3.15E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.02E-05 (g/L)	----	1.02E-03	2.71E-05	5.81E-05	1.22E-04	1.53E-04
U	1.97E-03	360	5.32	1.82E-03	1.89E-03	2.04E-03	2.11E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.12E+06 (kg)	(368 kgal)	----	----	----	----	----
Heat Load	2.61 (kW)	(8.92E+03 BTU/hr)	----	2.34	2.49	2.72	2.88
Bulk Density*	1.52 (g/cc)	----	----	1.46	1.50	1.54	1.55
Water wt%†	40.0	----	----	37.5	38.3	41.5	43.6
TOC wt% C (wet)	1.29	----	----	0.716	0.996	1.58	1.85
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.15E-04	0.141	300	1.47E-04	1.47E-04	2.32E-04	2.53E-04
C-14	3.40E-05	2.23E-02	47.3	1.96E-05	1.96E-05	3.46E-05	3.53E-05
Ni-59	1.71E-06	1.13E-03	2.39	1.04E-06	1.04E-06	1.75E-06	1.78E-06
Ni-63	1.69E-04	0.111	235	1.02E-04	1.02E-04	1.72E-04	1.75E-04
Co-60	4.35E-05	2.86E-02	60.6	2.71E-05	2.71E-05	4.47E-05	4.59E-05
Se-79	3.33E-06	2.19E-03	4.64	2.42E-06	2.42E-06	3.67E-06	3.98E-06
Sr-90	0.103	67.9	1.44E+05	9.46E-02	0.101	0.106	0.108
Y-90	0.103	67.9	1.44E+05	7.17E-02	7.17E-02	0.106	0.108
Zr-93	1.65E-05	1.08E-02	22.9	1.19E-05	1.19E-05	1.81E-05	1.97E-05
Nb-93m	1.18E-05	7.75E-03	16.4	8.59E-06	8.59E-06	1.29E-05	1.41E-05
Tc-99	2.59E-04	0.170	361	2.01E-04	2.27E-04	2.95E-04	3.44E-04
Ru-106	7.63E-09	5.02E-06	1.06E-02	5.51E-09	5.51E-09	8.35E-09	9.05E-09
Cd-113m	9.11E-05	5.99E-02	127	6.37E-05	6.37E-05	1.01E-04	1.11E-04
Sb-125	1.96E-04	0.129	273	1.22E-04	1.22E-04	2.03E-04	2.09E-04
Sn-126	5.03E-06	3.31E-03	7.01	3.66E-06	3.66E-06	5.53E-06	6.00E-06
I-129	5.01E-07	3.29E-04	0.697	3.88E-07	4.38E-07	5.70E-07	6.65E-07
Cs-134	3.81E-06	2.51E-03	5.31	2.18E-06	2.98E-06	4.65E-06	5.47E-06
Cs-137	0.252	166	3.51E+05	0.220	0.234	0.268	0.293
Ba-137m	0.238	157	3.32E+05	0.192	0.192	0.253	0.267
Sm-151	1.17E-02	7.71	1.63E+04	8.52E-03	8.52E-03	1.29E-02	1.40E-02
Eu-152	4.54E-06	2.99E-03	6.33	3.38E-06	3.41E-06	5.14E-06	5.72E-06
Eu-154	6.76E-04	0.445	941	4.47E-04	4.47E-04	7.58E-04	8.17E-04
Eu-155	2.73E-04	0.179	380	2.01E-04	2.05E-04	3.09E-04	3.45E-04
Ra-226	1.26E-10	8.27E-08	1.75E-04	9.74E-11	9.74E-11	1.36E-10	1.46E-10
Ra-228	3.54E-07	2.33E-04	0.493	9.17E-08	9.17E-08	3.86E-07	4.21E-07
Ac-227	7.81E-10	5.14E-07	1.09E-03	6.17E-10	6.17E-10	8.41E-10	8.98E-10
Pa-231	3.80E-09	2.50E-06	5.30E-03	2.89E-09	2.89E-09	4.13E-09	4.45E-09
Th-229	8.20E-09	5.40E-06	1.14E-02	2.15E-09	2.15E-09	8.92E-09	9.68E-09
Th-232	3.83E-08	2.52E-05	5.34E-02	5.92E-09	5.92E-09	4.72E-08	5.57E-08
U-232	1.04E-06	6.86E-04	1.45	7.97E-07	8.95E-07	1.21E-06	1.39E-06
U-233	4.00E-06	2.63E-03	5.57	3.06E-06	3.43E-06	4.64E-06	5.33E-06
U-234	6.35E-07	4.18E-04	0.885	6.15E-07	6.28E-07	6.44E-07	6.51E-07
U-235	2.51E-08	1.65E-05	3.50E-02	2.43E-08	2.48E-08	2.55E-08	2.58E-08
U-236	2.05E-08	1.35E-05	2.86E-02	1.99E-08	2.03E-08	2.08E-08	2.10E-08
U-238	8.92E-07	5.87E-04	1.24	8.73E-07	8.84E-07	9.00E-07	9.33E-07
Np-237	8.99E-07	5.91E-04	1.25	7.10E-07	7.94E-07	1.02E-06	1.17E-06
Pu-238	1.36E-06	8.96E-04	1.90	1.16E-06	1.26E-06	1.47E-06	1.57E-06
Pu-239	4.51E-05	2.97E-02	62.8	3.99E-05	4.24E-05	4.78E-05	5.03E-05
Pu-240	7.80E-06	5.13E-03	10.9	6.83E-06	7.31E-06	8.30E-06	8.78E-06
Pu-241	9.47E-05	6.23E-02	132	8.08E-05	8.76E-05	1.02E-04	1.09E-04
Pu-242	5.18E-10	3.41E-07	7.21E-04	4.34E-10	4.75E-10	5.60E-10	6.01E-10
Am-241	5.46E-05	3.59E-02	76.1	4.49E-05	4.97E-05	5.96E-05	6.43E-05
Am-243	2.11E-09	1.39E-06	2.94E-03	1.71E-09	1.90E-09	2.36E-09	2.57E-09
Cm-242	1.52E-07	9.99E-05	0.212	1.05E-07	1.05E-07	1.75E-07	1.97E-07
Cm-243	1.42E-08	9.33E-06	1.97E-02	9.74E-09	9.74E-09	1.62E-08	1.82E-08
Cm-244	1.14E-07	7.53E-05	0.159	6.87E-08	6.87E-08	1.30E-07	1.40E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.03E-04 (g/L)	----	0.700	4.03E-04	4.52E-04	5.53E-04	6.01E-04
U	7.11E-03	1.11E+03	2.36E+03	6.87E-03	7.01E-03	7.21E-03	7.29E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.13E+06 (kg)	(371 kgal)	----	----	----	----	----
Heat Load	3.57 (kW)	(1.22E+04 BTU/hr)	----	3.30	3.45	3.68	3.84
Bulk Density†	1.52 (g/cc)	----	----	1.46	1.49	1.54	1.54
Water wt%†	40.2	----	----	37.7	38.5	41.7	43.7
TOC wt% C (wet)†	1.28	----	----	0.711	0.989	1.56	1.84
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.13E-04	0.141	300	1.45E-04	1.45E-04	2.30E-04	2.51E-04
C-14	3.38E-05	2.22E-02	47.4	1.96E-05	1.96E-05	3.44E-05	3.51E-05
Ni-59	2.60E-06	1.71E-03	3.66	1.94E-06	1.94E-06	2.64E-06	2.67E-06
Ni-63	2.56E-04	0.169	360	1.90E-04	1.90E-04	2.60E-04	2.63E-04
Co-60	4.32E-05	2.85E-02	60.7	2.70E-05	2.70E-05	4.44E-05	4.57E-05
Se-79	3.72E-06	2.45E-03	5.22	2.81E-06	2.81E-06	4.04E-06	4.36E-06
Sr-90	0.203	133	2.84E+05	0.194	0.200	0.205	0.207
Y-90	0.203	133	2.85E+05	0.171	0.171	0.205	0.207
Zr-93	1.80E-05	1.19E-02	25.3	1.35E-05	1.35E-05	1.97E-05	2.12E-05
Nb-93m	1.32E-05	8.72E-03	18.6	1.01E-05	1.01E-05	1.44E-05	1.55E-05
Tc-99	2.58E-04	0.170	362	2.00E-04	2.26E-04	2.93E-04	3.42E-04
Ru-106	7.67E-09	5.05E-06	1.08E-02	5.57E-09	5.57E-09	8.39E-09	9.08E-09
Cd-113m	9.15E-05	6.03E-02	129	6.43E-05	6.43E-05	1.01E-04	1.11E-04
Sb-125	1.94E-04	0.128	273	1.22E-04	1.22E-04	2.01E-04	2.08E-04
Sn-126	5.66E-06	3.73E-03	7.94	4.30E-06	4.30E-06	6.15E-06	6.62E-06
I-129	4.98E-07	3.28E-04	0.699	3.86E-07	4.36E-07	5.67E-07	6.61E-07
Cs-134	3.80E-06	2.50E-03	5.33	2.18E-06	2.97E-06	4.63E-06	5.44E-06
Cs-137	0.252	166	3.54E+05	0.220	0.234	0.268	0.293
Ba-137m	0.239	157	3.35E+05	0.193	0.193	0.253	0.267
Sm-151	1.32E-02	8.69	1.85E+04	1.00E-02	1.00E-02	1.43E-02	1.54E-02
Eu-152	5.10E-06	3.36E-03	7.17	3.95E-06	3.98E-06	5.70E-06	6.28E-06
Eu-154	6.72E-04	0.443	944	4.46E-04	4.46E-04	7.54E-04	8.13E-04
Eu-155	3.10E-04	0.204	435	2.39E-04	2.43E-04	3.46E-04	3.82E-04
Ra-226	1.83E-10	1.20E-07	2.57E-04	1.55E-10	1.55E-10	1.93E-10	2.03E-10
Ra-228	3.51E-07	2.31E-04	0.493	9.10E-08	9.10E-08	3.83E-07	4.18E-07
Ac-227	1.08E-09	7.10E-07	1.51E-03	9.15E-10	9.15E-10	1.14E-09	1.19E-09
Pa-231	4.19E-09	2.76E-06	5.88E-03	3.28E-09	3.28E-09	4.52E-09	4.83E-09
Th-229	8.14E-09	5.36E-06	1.14E-02	2.14E-09	2.14E-09	8.85E-09	9.61E-09
Th-232	3.80E-08	2.50E-05	5.34E-02	5.88E-09	5.88E-09	4.68E-08	5.52E-08
U-232	1.04E-06	6.82E-04	1.45	7.91E-07	8.89E-07	1.20E-06	1.38E-06
U-233	3.97E-06	2.61E-03	5.57	3.03E-06	3.41E-06	4.61E-06	5.29E-06
U-234	6.32E-07	4.16E-04	0.887	6.12E-07	6.24E-07	6.40E-07	6.47E-07
U-235	2.50E-08	1.65E-05	3.51E-02	2.42E-08	2.47E-08	2.53E-08	2.56E-08
U-236	2.04E-08	1.34E-05	2.86E-02	1.98E-08	2.01E-08	2.06E-08	2.09E-08
U-238	8.86E-07	5.84E-04	1.24	8.67E-07	8.78E-07	8.94E-07	9.26E-07
Np-237	8.94E-07	5.89E-04	1.25	7.07E-07	7.90E-07	1.01E-06	1.17E-06
Pu-238	1.36E-06	8.98E-04	1.92	1.16E-06	1.26E-06	1.47E-06	1.57E-06
Pu-239	4.53E-05	2.98E-02	63.6	4.01E-05	4.26E-05	4.79E-05	5.05E-05
Pu-240	7.83E-06	5.16E-03	11.0	6.86E-06	7.33E-06	8.32E-06	8.79E-06
Pu-241	9.49E-05	6.25E-02	133	8.10E-05	8.78E-05	1.02E-04	1.09E-04
Pu-242	5.18E-10	3.41E-07	7.27E-04	4.35E-10	4.76E-10	5.60E-10	6.01E-10
Am-241	6.77E-05	4.46E-02	95.1	5.81E-05	6.28E-05	7.27E-05	7.74E-05
Am-243	2.39E-09	1.58E-06	3.36E-03	2.00E-09	2.18E-09	2.64E-09	2.85E-09
Cm-242	1.65E-07	1.09E-04	0.232	1.19E-07	1.19E-07	1.88E-07	2.10E-07
Cm-243	1.49E-08	9.79E-06	2.09E-02	1.05E-08	1.05E-08	1.69E-08	1.89E-08
Cm-244	1.20E-07	7.90E-05	0.168	7.45E-08	7.45E-08	1.35E-07	1.45E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.99E-04 (g/L)	----	0.701	4.01E-04	4.49E-04	5.49E-04	5.97E-04
U	7.07E-03	1.11E+03	2.36E+03	6.83E-03	6.97E-03	7.17E-03	7.25E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-A-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.38E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	8.95 (kW)	(3.06E+04 BTU/hr)	----	8.80	8.87	9.03	9.10
Bulk Density	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Void Fraction	0.831	----	----	0.823	0.827	0.835	0.842
Water wt%	69.1	----	----	68.7	68.9	69.4	69.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.51	9.75E+04	1.34E+04	5.11	5.36	5.66	5.80
Al^{3+}	6.86E-02	1.42E+03	196	6.84E-02	6.85E-02	6.87E-02	6.88E-02
Fe^{3+} (total Fe)	1.35	5.79E+04	7.98E+03	1.34	1.35	1.35	1.35
Cr^{3+}	1.39E-02	557	76.7	1.38E-02	1.39E-02	1.40E-02	1.41E-02
Bi^{3+}	9.30E-06	1.49	0.206	7.85E-06	8.56E-06	1.00E-05	1.07E-05
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.92E-07	4.50E-02	6.19E-03	2.62E-07	2.77E-07	3.06E-07	3.21E-07
Zr (as $ZrO(OH)_2$)	3.67E-08	2.58E-03	3.55E-04	3.64E-08	3.65E-08	3.69E-08	3.72E-08
Pb^{2+}	4.77E-05	7.60	1.05	2.65E-05	3.69E-05	5.85E-05	6.89E-05
Ni^{2+}	0.138	6.22E+03	856	0.134	0.137	0.138	0.139
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.14E-03	90.2	12.4	1.48E-03	1.80E-03	2.47E-03	2.79E-03
Ca^{2+}	0.121	3.73E+03	514	0.102	0.111	0.131	0.140
K^+	6.23E-03	187	25.8	6.17E-03	6.20E-03	6.27E-03	6.32E-03
OH^-	4.63	6.05E+04	8.34E+03	4.61	4.62	4.64	4.65
$NO3^-$	1.57E-09	7.47E-05	1.03E-05	1.13E-09	1.33E-09	1.85E-09	2.17E-09
$NO2^-$	0.631	2.23E+04	3.07E+03	0.618	0.624	0.634	0.639
$CO3^{2-}$	0.231	1.06E+04	1.47E+03	0.212	0.221	0.240	0.249
$PO4^{3-}$	1.88E-02	1.37E+03	189	1.86E-02	1.87E-02	1.89E-02	1.91E-02
$SO4^{2-}$	6.68E-02	4.94E+03	680	6.62E-02	6.65E-02	6.72E-02	6.77E-02
Si (as SiO_x^{2-})	2.21	4.77E+04	6.58E+03	2.00	2.13	2.29	2.36
F^-	3.12E-04	4.56	0.628	2.92E-04	3.08E-04	3.14E-04	3.16E-04
Cl^-	1.57E-02	427	58.8	1.55E-02	1.56E-02	1.58E-02	1.59E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.201	2.62E+03	361	0.197	0.199	0.203	0.206
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.38E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	8.95 (kW)	(3.06E+04 BTU/hr)	----	8.80	8.87	9.03	9.10
Bulk Density†	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Water wt%†	69.1	----	----	68.7	68.9	69.4	69.7
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.51	9.75E+04	1.34E+04	5.11	5.36	5.66	5.80
Al^{3+}	6.85E-02	1.42E+03	196	6.84E-02	6.85E-02	6.87E-02	6.88E-02
Fe^{3+} (total Fe)	1.35	5.79E+04	7.98E+03	1.34	1.35	1.35	1.35
Cr^{3+}	1.39E-02	557	76.7	1.38E-02	1.39E-02	1.40E-02	1.41E-02
Bi^{3+}	9.29E-06	1.49	0.206	7.85E-06	8.56E-06	1.00E-05	1.07E-05
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.91E-07	4.50E-02	6.19E-03	2.62E-07	2.77E-07	3.06E-07	3.21E-07
Zr (as $ZrO(OH)_2$)	3.67E-08	2.58E-03	3.55E-04	3.64E-08	3.65E-08	3.69E-08	3.72E-08
Pb^{2+}	4.77E-05	7.60	1.05	2.65E-05	3.69E-05	5.85E-05	6.89E-05
Ni^{2+}	0.138	6.22E+03	856	0.134	0.137	0.138	0.139
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.13E-03	90.2	12.4	1.48E-03	1.80E-03	2.47E-03	2.79E-03
Ca^{2+}	0.121	3.73E+03	514	0.102	0.111	0.131	0.140
K^+	6.23E-03	187	25.8	6.17E-03	6.20E-03	6.27E-03	6.32E-03
OH^-	4.63	6.05E+04	8.34E+03	4.61	4.62	4.64	4.65
$NO3^-$	1.57E-09	7.47E-05	1.03E-05	1.13E-09	1.33E-09	1.85E-09	2.17E-09
$NO2^-$	0.631	2.23E+04	3.07E+03	0.618	0.624	0.634	0.639
$CO3^{2-}$	0.231	1.06E+04	1.47E+03	0.212	0.221	0.240	0.249
$PO4^{3-}$	1.88E-02	1.37E+03	189	1.86E-02	1.87E-02	1.89E-02	1.91E-02
$SO4^{2-}$	6.68E-02	4.94E+03	680	6.62E-02	6.65E-02	6.72E-02	6.77E-02
Si (as SiO_x^{2-})	2.21	4.77E+04	6.58E+03	2.00	2.13	2.29	2.36
F^-	3.12E-04	4.56	0.628	2.92E-04	3.08E-04	3.14E-04	3.16E-04
Cl^-	1.57E-02	427	58.8	1.55E-02	1.56E-02	1.58E-02	1.59E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.200	2.62E+03	361	0.197	0.199	0.203	0.206
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.38E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	8.95 (kW)	(3.06E+04 BTU/hr)	----	8.80	8.87	9.03	9.10
Bulk Density	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Void Fraction	0.831	----	----	0.823	0.827	0.835	0.842
Water wt%	69.1	----	----	68.7	68.9	69.4	69.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.72E-06	4.40E-03	0.606	4.97E-06	5.30E-06	6.26E-06	6.88E-06
C-14	1.11E-05	8.55E-03	1.18	1.09E-05	1.10E-05	1.12E-05	1.13E-05
Ni-59	1.12E-04	8.58E-02	11.8	1.07E-04	1.09E-04	1.14E-04	1.17E-04
Ni-63	1.09E-02	8.41	1.16E+03	1.05E-02	1.07E-02	1.12E-02	1.14E-02
Co-60	1.12E-05	8.58E-03	1.18	1.10E-05	1.11E-05	1.12E-05	1.17E-05
Se-79	5.04E-05	3.88E-02	5.34	4.15E-06	1.85E-05	8.24E-05	1.13E-04
Sr-90	12.4	9.50E+03	1.31E+06	12.1	12.3	12.5	12.6
Y-90	12.4	9.51E+03	1.31E+06	12.1	12.3	12.5	12.6
Zr-93	2.11E-04	0.163	22.4	1.86E-05	5.17E-05	3.71E-04	5.24E-04
Nb-93m	1.92E-04	0.148	20.3	1.57E-05	8.02E-05	3.04E-04	4.11E-04
Tc-99	7.83E-05	6.02E-02	8.29	7.69E-05	7.76E-05	7.90E-05	7.96E-05
Ru-106	1.25E-08	9.63E-06	1.33E-03	4.06E-09	4.15E-09	7.05E-08	1.26E-07
Cd-113m	1.45E-04	0.111	15.3	5.00E-05	5.11E-05	1.04E-03	1.96E-03
Sb-125	4.15E-05	3.19E-02	4.39	4.11E-05	4.13E-05	4.17E-05	4.21E-05
Sn-126	8.22E-05	6.32E-02	8.71	6.58E-06	3.43E-05	1.30E-04	1.76E-04
I-129	1.51E-07	1.16E-04	1.60E-02	1.49E-07	1.50E-07	1.53E-07	1.54E-07
Cs-134	1.88E-06	1.45E-03	0.200	1.87E-06	1.87E-06	1.89E-06	1.91E-06
Cs-137	0.261	201	2.77E+04	0.257	0.259	0.264	0.266
Ba-137m	0.247	190	2.62E+04	0.243	0.245	0.249	0.251
Sm-151	0.194	149	2.05E+04	1.53E-02	8.18E-02	0.305	0.413
Eu-152	7.41E-05	5.70E-02	7.85	7.41E-05	7.41E-05	7.41E-05	7.41E-05
Eu-154	2.39E-04	0.184	25.3	2.26E-04	2.30E-04	2.48E-04	6.21E-03
Eu-155	4.85E-03	3.73	513	4.84E-03	4.85E-03	4.85E-03	4.85E-03
Ra-226	7.22E-09	5.55E-06	7.65E-04	5.28E-09	6.23E-09	8.21E-09	9.16E-09
Ra-228	8.01E-10	6.16E-07	8.48E-05	8.00E-10	8.00E-10	8.01E-10	8.01E-10
Ac-227	3.76E-08	2.89E-05	3.99E-03	2.66E-08	3.20E-08	4.32E-08	4.86E-08
Pa-231	5.18E-08	3.98E-05	5.48E-03	4.50E-09	2.06E-08	8.29E-08	1.13E-07
Th-229	3.71E-10	2.85E-07	3.93E-05	3.71E-10	3.71E-10	3.71E-10	3.71E-10
Th-232	8.64E-11	6.64E-08	9.15E-06	8.55E-11	8.59E-11	8.68E-11	8.76E-11
U-232	5.07E-08	3.90E-05	5.37E-03	4.56E-08	4.81E-08	5.33E-08	5.58E-08
U-233	1.96E-07	1.51E-04	2.08E-02	1.77E-07	1.86E-07	2.06E-07	2.16E-07
U-234	1.58E-07	1.21E-04	1.67E-02	1.46E-07	1.52E-07	1.64E-07	1.70E-07
U-235	6.54E-09	5.03E-06	6.92E-04	6.06E-09	6.29E-09	6.78E-09	7.02E-09
U-236	4.32E-09	3.32E-06	4.58E-04	3.98E-09	4.15E-09	4.50E-09	4.66E-09
U-238	1.52E-07	1.17E-04	1.61E-02	1.41E-07	1.47E-07	1.58E-07	1.63E-07
Np-237	2.48E-07	1.90E-04	2.62E-02	2.42E-07	2.45E-07	2.50E-07	2.53E-07
Pu-238	2.78E-06	2.14E-03	0.295	2.54E-06	2.70E-06	2.86E-06	2.93E-06
Pu-239	1.48E-04	0.113	15.6	1.32E-04	1.42E-04	1.53E-04	1.57E-04
Pu-240	2.30E-05	1.77E-02	2.44	2.07E-05	2.22E-05	2.38E-05	2.45E-05
Pu-241	2.03E-04	0.156	21.5	1.85E-04	1.97E-04	2.09E-04	2.14E-04
Pu-242	8.84E-10	6.79E-07	9.36E-05	8.18E-10	8.62E-10	9.05E-10	9.25E-10
Am-241	1.65E-03	1.27	175	7.13E-04	1.17E-03	2.13E-03	2.59E-03
Am-243	3.59E-08	2.76E-05	3.80E-03	1.61E-08	2.60E-08	4.54E-08	5.41E-08
Cm-242	1.76E-06	1.35E-03	0.187	1.76E-06	1.76E-06	1.76E-06	1.76E-06
Cm-243	9.75E-08	7.50E-05	1.03E-02	9.75E-08	9.75E-08	9.75E-08	9.75E-08
Cm-244	7.61E-07	5.85E-04	8.06E-02	9.50E-08	9.67E-08	1.92E-06	3.04E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.50E-03 (g/L)	----	0.158	1.23E-03	1.41E-03	1.58E-03	1.66E-03
U	1.92E-03	350	48.3	1.78E-03	1.84E-03	1.99E-03	2.06E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.38E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	8.95 (kW)	(3.06E+04 BTU/hr)	----	8.80	8.87	9.03	9.10
Bulk Density†	1.30 (g/cc)	----	----	1.29	1.30	1.31	1.31
Water wt%†	69.1	----	----	68.7	68.9	69.4	69.7
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.72E-06	4.40E-03	0.606	4.97E-06	5.30E-06	6.26E-06	6.88E-06
C-14	1.11E-05	8.55E-03	1.18	1.09E-05	1.10E-05	1.12E-05	1.13E-05
Ni-59	1.12E-04	8.58E-02	11.8	1.07E-04	1.09E-04	1.14E-04	1.17E-04
Ni-63	1.09E-02	8.41	1.16E+03	1.05E-02	1.07E-02	1.12E-02	1.14E-02
Co-60	1.12E-05	8.58E-03	1.18	1.10E-05	1.11E-05	1.12E-05	1.17E-05
Se-79	5.04E-05	3.88E-02	5.34	4.15E-06	1.85E-05	8.24E-05	1.13E-04
Sr-90	12.4	9.50E+03	1.31E+06	12.1	12.3	12.5	12.6
Y-90	12.4	9.51E+03	1.31E+06	12.1	12.3	12.5	12.6
Zr-93	2.11E-04	0.163	22.4	1.86E-05	5.17E-05	3.71E-04	5.24E-04
Nb-93m	1.92E-04	0.148	20.3	1.57E-05	8.02E-05	3.04E-04	4.11E-04
Tc-99	7.83E-05	6.02E-02	8.29	7.69E-05	7.76E-05	7.90E-05	7.96E-05
Ru-106	1.25E-08	9.63E-06	1.33E-03	4.06E-09	4.15E-09	7.05E-08	1.26E-07
Cd-113m	1.44E-04	0.111	15.3	5.00E-05	5.11E-05	1.04E-03	1.96E-03
Sb-125	4.15E-05	3.19E-02	4.39	4.11E-05	4.13E-05	4.17E-05	4.21E-05
Sn-126	8.22E-05	6.32E-02	8.71	6.58E-06	3.43E-05	1.30E-04	1.76E-04
I-129	1.51E-07	1.16E-04	1.60E-02	1.49E-07	1.50E-07	1.53E-07	1.54E-07
Cs-134	1.88E-06	1.45E-03	0.200	1.87E-06	1.87E-06	1.89E-06	1.91E-06
Cs-137	0.261	201	2.77E+04	0.257	0.259	0.264	0.266
Ba-137m	0.247	190	2.62E+04	0.243	0.245	0.249	0.251
Sm-151	0.193	149	2.05E+04	1.53E-02	8.18E-02	0.305	0.413
Eu-152	7.41E-05	5.70E-02	7.85	7.41E-05	7.41E-05	7.41E-05	7.41E-05
Eu-154	2.39E-04	0.184	25.3	2.26E-04	2.30E-04	2.48E-04	6.21E-03
Eu-155	4.84E-03	3.73	513	4.84E-03	4.85E-03	4.85E-03	4.85E-03
Ra-226	7.22E-09	5.55E-06	7.65E-04	5.28E-09	6.23E-09	8.21E-09	9.16E-09
Ra-228	8.00E-10	6.16E-07	8.48E-05	8.00E-10	8.00E-10	8.01E-10	8.01E-10
Ac-227	3.76E-08	2.89E-05	3.99E-03	2.66E-08	3.20E-08	4.32E-08	4.86E-08
Pa-231	5.17E-08	3.98E-05	5.48E-03	4.50E-09	2.06E-08	8.29E-08	1.13E-07
Th-229	3.71E-10	2.85E-07	3.93E-05	3.71E-10	3.71E-10	3.71E-10	3.71E-10
Th-232	8.63E-11	6.64E-08	9.15E-06	8.55E-11	8.59E-11	8.68E-11	8.76E-11
U-232	5.07E-08	3.90E-05	5.37E-03	4.56E-08	4.81E-08	5.33E-08	5.58E-08
U-233	1.96E-07	1.51E-04	2.08E-02	1.77E-07	1.86E-07	2.06E-07	2.16E-07
U-234	1.58E-07	1.21E-04	1.67E-02	1.46E-07	1.52E-07	1.64E-07	1.70E-07
U-235	6.53E-09	5.03E-06	6.92E-04	6.06E-09	6.29E-09	6.78E-09	7.02E-09
U-236	4.32E-09	3.32E-06	4.58E-04	3.98E-09	4.15E-09	4.50E-09	4.66E-09
U-238	1.52E-07	1.17E-04	1.61E-02	1.41E-07	1.47E-07	1.58E-07	1.63E-07
Np-237	2.48E-07	1.90E-04	2.62E-02	2.42E-07	2.45E-07	2.50E-07	2.53E-07
Pu-238	2.78E-06	2.14E-03	0.295	2.54E-06	2.70E-06	2.86E-06	2.93E-06
Pu-239	1.47E-04	0.113	15.6	1.32E-04	1.42E-04	1.53E-04	1.57E-04
Pu-240	2.30E-05	1.77E-02	2.44	2.07E-05	2.22E-05	2.38E-05	2.45E-05
Pu-241	2.03E-04	0.156	21.5	1.85E-04	1.97E-04	2.09E-04	2.14E-04
Pu-242	8.83E-10	6.79E-07	9.36E-05	8.18E-10	8.62E-10	9.05E-10	9.25E-10
Am-241	1.65E-03	1.27	175	7.13E-04	1.17E-03	2.13E-03	2.59E-03
Am-243	3.59E-08	2.76E-05	3.80E-03	1.61E-08	2.60E-08	4.54E-08	5.41E-08
Cm-242	1.76E-06	1.35E-03	0.187	1.76E-06	1.76E-06	1.76E-06	1.76E-06
Cm-243	9.74E-08	7.50E-05	1.03E-02	9.75E-08	9.75E-08	9.75E-08	9.75E-08
Cm-244	7.60E-07	5.85E-04	8.06E-02	9.50E-08	9.67E-08	1.92E-06	3.04E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.50E-03 (g/L)	----	0.158	1.23E-03	1.41E-03	1.58E-03	1.66E-03
U	1.91E-03	350	48.3	1.78E-03	1.84E-03	1.99E-03	2.06E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-A-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.67E+04 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	8.05 (kW)	(2.75E+04 BTU/hr)	----	7.08	7.77	8.22	8.35
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.03	6.89E+04	6.66E+03	0.428	2.83	4.78	5.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.96	1.23E+05	1.19E+04	2.86	2.93	2.97	2.98
Cr^{3+}	6.51E-03	252	24.3	2.46E-03	4.49E-03	8.54E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.82E-02	2.54E+03	246	1.23E-03	3.45E-02	6.99E-02	7.66E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.243	7.25E+03	701	5.58E-03	0.125	0.302	0.335
K^{+}	4.59E-03	133	12.9	1.74E-03	3.17E-03	6.02E-03	7.41E-03
OH^{-}	9.15	1.16E+05	1.12E+04	8.64	8.97	9.26	9.34
$NO3^{-}$	6.17E-17	2.85E-12	2.75E-13	7.32E-18	1.96E-17	2.81E-16	5.59E-15
$NO2^{-}$	0.587	2.01E+04	1.94E+03	0.222	0.405	0.771	0.948
$CO3^{2-}$	0.243	1.09E+04	1.05E+03	5.58E-03	0.125	0.302	0.335
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.129	9.23E+03	892	4.89E-02	8.91E-02	0.170	0.209
Si (as SiO_x^{2-})	1.52	3.18E+04	3.08E+03	2.83E-02	1.08	1.75	1.94
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.11E-02	556	53.8	7.98E-03	1.46E-02	2.77E-02	3.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.270	3.41E+03	330	0.106	0.190	0.352	0.431
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.67E+04 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	8.05 (kW)	(2.75E+04 BTU/hr)	----	7.08	7.77	8.22	8.35
Bulk Density†	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Water wt%†	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.03	6.89E+04	6.66E+03	0.428	2.83	4.78	5.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.96	1.23E+05	1.19E+04	2.86	2.93	2.97	2.98
Cr^{3+}	6.51E-03	252	24.3	2.46E-03	4.49E-03	8.54E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.82E-02	2.54E+03	246	1.23E-03	3.45E-02	6.99E-02	7.66E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.243	7.25E+03	701	5.58E-03	0.125	0.302	0.335
K^{+}	4.59E-03	133	12.9	1.74E-03	3.17E-03	6.02E-03	7.41E-03
OH^{-}	9.14	1.16E+05	1.12E+04	8.64	8.97	9.26	9.34
$NO3^{-}$	6.17E-17	2.85E-12	2.75E-13	7.32E-18	1.96E-17	2.81E-16	5.59E-15
$NO2^{-}$	0.587	2.01E+04	1.94E+03	0.222	0.405	0.771	0.948
$CO3^{2-}$	0.243	1.09E+04	1.05E+03	5.58E-03	0.125	0.302	0.335
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.129	9.23E+03	892	4.89E-02	8.91E-02	0.170	0.209
Si (as SiO_x^{2-})	1.52	3.18E+04	3.08E+03	2.83E-02	1.08	1.75	1.94
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.11E-02	556	53.8	7.98E-03	1.46E-02	2.77E-02	3.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.270	3.41E+03	330	0.106	0.190	0.352	0.431
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.67E+04 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	8.05 (kW)	(2.75E+04 BTU/hr)	----	7.08	7.77	8.22	8.35
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.50E-02	9.18	1.76E-05	5.96E-05	2.22E-04	3.38E-04
C-14	2.38E-05	1.77E-02	1.71	9.00E-06	1.64E-05	3.12E-05	3.84E-05
Ni-59	1.18E-04	8.77E-02	8.48	2.49E-06	7.00E-05	1.42E-04	1.55E-04
Ni-63	1.18E-02	8.81	852	2.50E-04	7.03E-03	1.42E-02	1.56E-02
Co-60	3.28E-05	2.44E-02	2.36	1.24E-05	2.26E-05	4.30E-05	3.17E-04
Se-79	1.12E-04	8.30E-02	8.02	1.02E-05	8.53E-05	1.29E-04	1.47E-04
Sr-90	16.2	1.20E+04	1.16E+06	14.5	15.7	16.4	16.5
Y-90	16.2	1.20E+04	1.16E+06	14.5	15.7	16.4	16.5
Zr-93	5.12E-04	0.381	36.8	9.11E-06	3.81E-04	6.02E-04	6.87E-04
Nb-93m	3.85E-04	0.286	27.7	3.00E-05	2.93E-04	4.47E-04	5.07E-04
Tc-99	1.69E-04	0.125	12.1	6.38E-05	1.16E-04	2.21E-04	2.72E-04
Ru-106	3.82E-07	2.84E-04	2.75E-02	1.29E-07	3.16E-07	4.27E-07	4.70E-07
Cd-113m	2.20E-03	1.63	158	4.41E-05	1.41E-03	2.73E-03	3.25E-03
Sb-125	1.47E-04	0.110	10.6	5.57E-05	1.02E-04	1.93E-04	2.38E-04
Sn-126	1.74E-04	0.129	12.5	2.20E-05	1.35E-04	2.01E-04	2.27E-04
I-129	3.26E-07	2.43E-04	2.35E-02	1.23E-07	2.25E-07	4.28E-07	5.27E-07
Cs-134	7.82E-06	5.81E-03	0.562	2.96E-06	5.39E-06	1.03E-05	1.26E-05
Cs-137	0.622	463	4.47E+04	0.235	0.429	0.816	1.00
Ba-137m	0.589	438	4.23E+04	0.223	0.406	0.772	0.950
Sm-151	0.416	309	2.99E+04	6.12E-02	0.324	0.478	0.538
Eu-152	1.27E-04	9.44E-02	9.13	1.25E-04	1.26E-04	1.28E-04	1.29E-04
Eu-154	7.32E-03	5.44	526	2.36E-04	7.46E-04	1.18E-02	1.61E-02
Eu-155	9.46E-03	7.03	680	9.28E-03	9.37E-03	9.55E-03	9.64E-03
Ra-226	7.40E-09	5.51E-06	5.32E-04	4.26E-09	6.59E-09	7.96E-09	8.49E-09
Ra-228	6.70E-14	4.98E-11	4.81E-09	6.57E-14	6.63E-14	6.76E-14	6.82E-14
Ac-227	3.99E-08	2.97E-05	2.87E-03	2.17E-08	3.52E-08	4.31E-08	4.62E-08
Pa-231	8.99E-08	6.68E-05	6.46E-03	1.67E-09	6.36E-08	1.08E-07	1.25E-07
Th-229	1.05E-11	7.77E-09	7.51E-07	1.03E-11	1.04E-11	1.06E-11	1.06E-11
Th-232	6.04E-15	4.49E-12	4.34E-10	2.28E-15	4.17E-15	7.93E-15	9.75E-15
U-232	8.40E-12	6.24E-09	6.04E-07	3.18E-12	5.79E-12	1.10E-11	1.36E-11
U-233	1.98E-13	1.47E-10	1.42E-08	7.49E-14	1.37E-13	2.60E-13	3.20E-13
U-234	1.04E-07	7.70E-05	7.44E-03	3.91E-08	7.14E-08	1.36E-07	1.67E-07
U-235	4.32E-09	3.21E-06	3.10E-04	1.63E-09	2.98E-09	5.67E-09	6.97E-09
U-236	2.82E-09	2.10E-06	2.03E-04	1.07E-09	1.95E-09	3.71E-09	4.56E-09
U-238	1.01E-07	7.49E-05	7.25E-03	3.81E-08	6.95E-08	1.32E-07	1.63E-07
Np-237	3.61E-07	2.68E-04	2.59E-02	1.36E-07	2.49E-07	4.73E-07	5.82E-07
Pu-238	9.43E-05	7.01E-02	6.78	7.72E-05	8.99E-05	9.73E-05	1.00E-04
Pu-239	2.44E-03	1.82	176	2.00E-03	2.33E-03	2.52E-03	2.60E-03
Pu-240	4.66E-04	0.347	33.5	3.82E-04	4.44E-04	4.81E-04	4.95E-04
Pu-241	6.71E-03	4.99	483	5.50E-03	6.40E-03	6.93E-03	7.13E-03
Pu-242	3.88E-08	2.89E-05	2.79E-03	3.18E-08	3.70E-08	4.01E-08	4.12E-08
Am-241	3.84E-03	2.86	276	2.32E-03	3.45E-03	4.11E-03	4.37E-03
Am-243	1.18E-07	8.77E-05	8.48E-03	7.12E-08	1.06E-07	1.26E-07	1.34E-07
Cm-242	3.51E-06	2.61E-03	0.252	3.44E-06	3.48E-06	3.54E-06	3.58E-06
Cm-243	2.70E-07	2.01E-04	1.94E-02	2.64E-07	2.67E-07	2.72E-07	2.75E-07
Cm-244	8.29E-06	6.17E-03	0.596	3.22E-06	6.98E-06	9.18E-06	1.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.14E-02 (g/L)	----	2.98	3.39E-02	3.95E-02	4.28E-02	4.40E-02
U	1.27E-03	224	21.7	4.80E-04	8.75E-04	1.66E-03	2.05E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.67E+04 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	8.05 (kW)	(2.75E+04 BTU/hr)	----	7.08	7.77	8.22	8.35
Bulk Density†	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Water wt%†	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.50E-02	9.18	1.76E-05	5.96E-05	2.22E-04	3.38E-04
C-14	2.38E-05	1.77E-02	1.71	9.00E-06	1.64E-05	3.12E-05	3.84E-05
Ni-59	1.18E-04	8.77E-02	8.48	2.49E-06	7.00E-05	1.42E-04	1.55E-04
Ni-63	1.18E-02	8.81	852	2.50E-04	7.03E-03	1.42E-02	1.56E-02
Co-60	3.28E-05	2.44E-02	2.36	1.24E-05	2.26E-05	4.30E-05	3.17E-04
Se-79	1.12E-04	8.30E-02	8.02	1.02E-05	8.53E-05	1.29E-04	1.47E-04
Sr-90	16.2	1.20E+04	1.16E+06	14.5	15.7	16.4	16.5
Y-90	16.2	1.20E+04	1.16E+06	14.5	15.7	16.4	16.5
Zr-93	5.12E-04	0.381	36.8	9.11E-06	3.81E-04	6.02E-04	6.87E-04
Nb-93m	3.85E-04	0.286	27.7	3.00E-05	2.93E-04	4.47E-04	5.07E-04
Tc-99	1.69E-04	0.125	12.1	6.38E-05	1.16E-04	2.21E-04	2.72E-04
Ru-106	3.82E-07	2.84E-04	2.75E-02	1.29E-07	3.16E-07	4.27E-07	4.70E-07
Cd-113m	2.20E-03	1.63	158	4.41E-05	1.41E-03	2.73E-03	3.25E-03
Sb-125	1.47E-04	0.110	10.6	5.57E-05	1.02E-04	1.93E-04	2.38E-04
Sn-126	1.74E-04	0.129	12.5	2.20E-05	1.35E-04	2.01E-04	2.27E-04
I-129	3.26E-07	2.43E-04	2.35E-02	1.23E-07	2.25E-07	4.28E-07	5.27E-07
Cs-134	7.82E-06	5.81E-03	0.562	2.96E-06	5.39E-06	1.03E-05	1.26E-05
Cs-137	0.622	463	4.47E+04	0.235	0.429	0.816	1.00
Ba-137m	0.588	438	4.23E+04	0.223	0.406	0.772	0.950
Sm-151	0.416	309	2.99E+04	6.12E-02	0.324	0.478	0.538
Eu-152	1.27E-04	9.44E-02	9.13	1.25E-04	1.26E-04	1.28E-04	1.29E-04
Eu-154	7.32E-03	5.44	526	2.36E-04	7.46E-04	1.18E-02	1.61E-02
Eu-155	9.46E-03	7.03	680	9.28E-03	9.37E-03	9.55E-03	9.64E-03
Ra-226	7.40E-09	5.51E-06	5.32E-04	4.26E-09	6.59E-09	7.96E-09	8.49E-09
Ra-228	6.69E-14	4.98E-11	4.81E-09	6.57E-14	6.63E-14	6.76E-14	6.82E-14
Ac-227	3.99E-08	2.97E-05	2.87E-03	2.17E-08	3.52E-08	4.31E-08	4.62E-08
Pa-231	8.98E-08	6.68E-05	6.46E-03	1.67E-09	6.36E-08	1.08E-07	1.25E-07
Th-229	1.04E-11	7.77E-09	7.51E-07	1.03E-11	1.04E-11	1.06E-11	1.06E-11
Th-232	6.04E-15	4.49E-12	4.34E-10	2.28E-15	4.17E-15	7.93E-15	9.75E-15
U-232	8.40E-12	6.24E-09	6.04E-07	3.18E-12	5.79E-12	1.10E-11	1.36E-11
U-233	1.98E-13	1.47E-10	1.42E-08	7.49E-14	1.37E-13	2.60E-13	3.20E-13
U-234	1.04E-07	7.70E-05	7.44E-03	3.91E-08	7.14E-08	1.36E-07	1.67E-07
U-235	4.32E-09	3.21E-06	3.10E-04	1.63E-09	2.98E-09	5.67E-09	6.97E-09
U-236	2.82E-09	2.10E-06	2.03E-04	1.07E-09	1.95E-09	3.71E-09	4.56E-09
U-238	1.01E-07	7.49E-05	7.25E-03	3.81E-08	6.95E-08	1.32E-07	1.63E-07
Np-237	3.60E-07	2.68E-04	2.59E-02	1.36E-07	2.49E-07	4.73E-07	5.82E-07
Pu-238	9.43E-05	7.01E-02	6.78	7.72E-05	8.99E-05	9.73E-05	1.00E-04
Pu-239	2.44E-03	1.82	176	2.00E-03	2.33E-03	2.52E-03	2.60E-03
Pu-240	4.66E-04	0.347	33.5	3.82E-04	4.44E-04	4.81E-04	4.95E-04
Pu-241	6.71E-03	4.99	483	5.50E-03	6.40E-03	6.93E-03	7.13E-03
Pu-242	3.88E-08	2.89E-05	2.79E-03	3.18E-08	3.70E-08	4.01E-08	4.12E-08
Am-241	3.84E-03	2.86	276	2.32E-03	3.45E-03	4.11E-03	4.37E-03
Am-243	1.18E-07	8.77E-05	8.48E-03	7.12E-08	1.06E-07	1.26E-07	1.34E-07
Cm-242	3.51E-06	2.61E-03	0.252	3.44E-06	3.48E-06	3.54E-06	3.58E-06
Cm-243	2.70E-07	2.01E-04	1.94E-02	2.64E-07	2.67E-07	2.72E-07	2.75E-07
Cm-244	8.29E-06	6.17E-03	0.596	3.22E-06	6.98E-06	9.18E-06	1.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.14E-02 (g/L)	----	2.98	3.39E-02	3.95E-02	4.28E-02	4.40E-02
U	1.27E-03	224	21.7	4.80E-04	8.75E-04	1.66E-03	2.05E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-A-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.49E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.75E+04 BTU/hr)	----	6.82	11.4	15.0	15.6
Bulk Density	1.31 (g/cc)	----	----	1.15	1.24	1.36	1.40
Void Fraction	0.846	----	----	0.784	0.827	0.883	0.924
Water wt%	64.1	----	----	56.4	59.8	70.3	80.4
TOC wt% C (wet)	2.33	----	----	0.719	1.60	3.01	3.40

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.12	1.07E+05	2.66E+04	2.84	4.58	7.11	8.09
Al^{3+}	2.99E-02	613	152	2.98E-02	2.98E-02	2.99E-02	3.00E-02
Fe^{3+} (total Fe)	1.29	5.47E+04	1.36E+04	0.709	1.17	1.34	1.37
Cr^{3+}	5.96E-03	236	58.7	5.90E-03	5.93E-03	5.99E-03	6.04E-03
Bi^{3+}	4.05E-06	0.644	0.160	3.42E-06	3.73E-06	4.37E-06	4.68E-06
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.27E-07	1.94E-02	4.82E-03	1.14E-07	1.20E-07	1.33E-07	1.40E-07
Zr (as $ZrO(OH)_2$)	1.60E-08	1.11E-03	2.76E-04	1.58E-08	1.59E-08	1.61E-08	1.62E-08
Pb^{2+}	2.08E-05	3.27	0.814	1.15E-05	1.61E-05	2.55E-05	3.00E-05
Ni^{2+}	5.84E-02	2.61E+03	649	5.81E-02	5.82E-02	5.85E-02	5.87E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.30E-04	38.9	9.67	6.46E-04	7.85E-04	1.07E-03	1.21E-03
Ca^{2+}	0.126	3.83E+03	952	4.79E-02	5.03E-02	0.182	0.213
K^+	9.44E-03	281	69.8	4.51E-03	7.10E-03	1.17E-02	1.32E-02
OH^-	4.19	5.42E+04	1.35E+04	2.40	3.82	4.36	4.46
$NO3^-$	2.26E-07	1.07E-02	2.65E-03	1.08E-08	3.22E-08	1.96E-05	5.88E-02
$NO2^-$	0.592	2.07E+04	5.16E+03	0.298	0.480	0.703	0.773
$CO3^{2-}$	0.292	1.33E+04	3.32E+03	0.128	0.176	0.389	0.636
$PO4^{3-}$	8.19E-03	592	147	8.10E-03	8.14E-03	8.23E-03	8.30E-03
$SO4^{2-}$	7.94E-02	5.81E+03	1.44E+03	4.24E-02	6.18E-02	9.68E-02	0.108
Si (as SiO_x^{2-})	2.00	4.27E+04	1.06E+04	0.964	1.51	2.21	2.36
F^-	1.36E-04	1.96	0.488	1.27E-04	1.34E-04	1.37E-04	1.38E-04
Cl^-	3.78E-02	1.02E+03	253	1.51E-02	2.70E-02	4.83E-02	5.51E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	7.49E-02	1.64E+04	4.08E+03	2.03E-02	4.89E-02	0.100	0.117
$HEDTA^{3-}$	0.150	3.12E+04	7.77E+03	4.07E-02	9.79E-02	0.201	0.233
$glycolate^-$	0.150	8.55E+03	2.13E+03	4.07E-02	9.79E-02	0.201	0.233
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.52E-05	2.42	0.603	4.12E-06	9.90E-06	2.03E-05	2.36E-05
butanol	1.52E-05	0.855	0.213	4.12E-06	9.90E-06	2.03E-05	2.36E-05
NH_3	0.162	2.10E+03	522	8.49E-02	0.122	0.198	0.211
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.68E+05 (kg)	(75.0 kgal)	----	----	----	----	----
Heat Load	0.671 (kW)	(2.29E+03 BTU/hr)	----	0.625	0.651	0.692	0.712
Bulk Density*	1.65 (g/cc)	----	----	1.61	1.63	1.67	1.68
Water wt%	30.7	----	----	28.5	29.4	31.9	33.3
TOC wt% C (wet)	1.11	----	----	0.663	0.880	1.33	1.55

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.0	2.09E+05	9.77E+04	13.9	14.4	15.4	15.8
Al^{3+}	1.84	3.01E+04	1.41E+04	1.66	1.78	1.90	1.94
Fe^{3+} (total Fe)	1.08E-02	365	171	9.05E-03	9.89E-03	1.16E-02	1.25E-02
Cr^{3+}	0.145	4.57E+03	2.14E+03	0.124	0.135	0.149	0.154
Bi^{3+}	1.35E-03	172	80.2	1.26E-03	1.30E-03	1.40E-03	1.45E-03
La^{3+}	2.98E-05	2.51	1.17	2.18E-05	2.57E-05	3.39E-05	3.79E-05
Hg^{2+}	1.02E-05	1.24	0.579	9.66E-06	9.95E-06	1.03E-05	1.04E-05
Zr (as $ZrO(OH)_2$)	2.08E-04	11.5	5.40	1.91E-04	1.97E-04	2.16E-04	2.26E-04
Pb^{2+}	1.27E-03	160	74.7	1.08E-03	1.17E-03	1.37E-03	1.46E-03
Ni^{2+}	6.25E-03	223	104	6.00E-03	6.12E-03	6.31E-03	6.37E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.61E-03	154	71.9	3.79E-03	4.19E-03	5.03E-03	5.43E-03
Ca^{2+}	3.33E-02	810	379	3.09E-02	3.21E-02	3.46E-02	3.58E-02
K^+	7.05E-02	1.67E+03	782	6.47E-02	6.71E-02	7.44E-02	7.97E-02
OH^-	10.7	1.10E+05	5.14E+04	9.83	10.3	11.0	11.2
$NO3^-$	4.97	1.87E+05	8.75E+04	4.66	4.84	5.04	5.11
$NO2^-$	2.69	7.50E+04	3.51E+04	2.34	2.50	2.88	3.04
$CO3^{2-}$	0.511	1.86E+04	8.70E+03	0.468	0.489	0.534	0.547
$PO4^{3-}$	9.69E-02	5.59E+03	2.61E+03	8.67E-02	9.03E-02	0.100	0.105
$SO4^{2-}$	0.286	1.67E+04	7.80E+03	0.241	0.263	0.311	0.332
Si (as SiO_x^{2-})	8.32E-02	1.42E+03	664	7.15E-02	7.72E-02	8.92E-02	9.50E-02
F^-	7.02E-02	810	379	6.20E-02	6.54E-02	7.43E-02	8.02E-02
Cl^-	0.259	5.56E+03	2.60E+03	0.238	0.247	0.268	0.276
$C_6H_5O_7^{3-}$	3.29E-02	3.77E+03	1.76E+03	3.05E-02	3.16E-02	3.41E-02	3.57E-02
$EDTA^{4-}$	2.68E-02	4.68E+03	2.19E+03	8.66E-03	1.75E-02	3.61E-02	4.52E-02
$HEDTA^{3-}$	4.83E-02	8.03E+03	3.76E+03	1.21E-02	2.98E-02	6.69E-02	8.51E-02
$glycolate^-$	0.116	5.28E+03	2.47E+03	7.98E-02	9.75E-02	0.135	0.153
$acetate^-$	1.68E-02	601	281	1.39E-02	1.51E-02	1.86E-02	2.14E-02
$oxalate^{2-}$	3.90E-05	2.08	0.975	3.47E-05	3.68E-05	4.12E-05	4.34E-05
DBP	2.53E-02	3.23E+03	1.51E+03	2.24E-02	2.38E-02	2.70E-02	2.95E-02
butanol	2.53E-02	1.14E+03	533	2.24E-02	2.38E-02	2.70E-02	2.95E-02
NH_3	7.68E-02	793	371	6.36E-02	6.88E-02	8.70E-02	9.90E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.16E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.6 (kW)	(4.98E+04 BTU/hr)	----	7.45	12.1	15.7	16.3
Bulk Density†	1.51 (g/cc)	----	----	1.44	1.48	1.54	1.56
Water wt%†	42.3	----	----	38.9	40.4	44.4	47.5
TOC wt% C (wet)†	1.53	----	----	0.681	1.12	1.93	2.21

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.4	1.74E+05	1.24E+05	9.87	10.7	11.9	12.4
Al^{3+}	1.12	1.99E+04	1.42E+04	1.01	1.08	1.15	1.18
Fe^{3+} (total Fe)	0.521	1.92E+04	1.38E+04	0.290	0.476	0.541	0.552
Cr^{3+}	8.93E-02	3.07E+03	2.20E+03	7.67E-02	8.35E-02	9.16E-02	9.45E-02
Bi^{3+}	8.13E-04	112	80.4	7.56E-04	7.84E-04	8.42E-04	8.70E-04
La^{3+}	1.79E-05	1.64	1.17	1.31E-05	1.54E-05	2.03E-05	2.27E-05
Hg^{2+}	6.15E-06	0.815	0.584	5.85E-06	6.02E-06	6.23E-06	6.30E-06
Zr (as $ZrO(OH)_2$)	1.25E-04	7.54	5.40	1.15E-04	1.18E-04	1.29E-04	1.35E-04
Pb^{2+}	7.70E-04	105	75.5	6.57E-04	7.13E-04	8.28E-04	8.83E-04
Ni^{2+}	2.71E-02	1.05E+03	753	2.69E-02	2.70E-02	2.72E-02	2.72E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.14E-03	114	81.6	2.65E-03	2.89E-03	3.39E-03	3.63E-03
Ca^{2+}	7.02E-02	1.86E+03	1.33E+03	3.86E-02	3.99E-02	9.28E-02	0.105
K^+	4.61E-02	1.19E+03	852	4.26E-02	4.41E-02	4.84E-02	5.16E-02
OH^-	8.07	9.06E+04	6.49E+04	7.34	7.87	8.28	8.38
$NO3^-$	2.98	1.22E+05	8.75E+04	2.80	2.91	3.02	3.06
$NO2^-$	1.85	5.62E+04	4.02E+04	1.64	1.74	1.96	2.06
$CO3^{2-}$	0.423	1.68E+04	1.20E+04	0.340	0.368	0.471	0.574
$PO4^{3-}$	6.14E-02	3.85E+03	2.76E+03	5.53E-02	5.74E-02	6.35E-02	6.63E-02
$SO4^{2-}$	0.204	1.29E+04	9.25E+03	0.176	0.189	0.218	0.231
Si (as SiO_x^{2-})	0.849	1.58E+04	1.13E+04	0.434	0.655	0.934	0.994
F^-	4.22E-02	530	379	3.72E-02	3.93E-02	4.46E-02	4.82E-02
Cl^-	0.170	3.98E+03	2.85E+03	0.157	0.164	0.177	0.182
$C_6H_5O_7^{3-}$	1.97E-02	2.46E+03	1.76E+03	1.83E-02	1.90E-02	2.05E-02	2.14E-02
$EDTA^{4-}$	4.60E-02	8.75E+03	6.27E+03	1.33E-02	3.01E-02	6.18E-02	7.37E-02
$HEDTA^{3-}$	8.89E-02	1.61E+04	1.15E+04	2.35E-02	5.70E-02	0.120	0.144
$glycolate^-$	0.130	6.42E+03	4.60E+03	6.42E-02	9.76E-02	0.161	0.185
$acetate^-$	1.01E-02	393	281	8.31E-03	9.07E-03	1.12E-02	1.28E-02
$oxalate^{2-}$	2.34E-05	1.36	0.975	2.08E-05	2.21E-05	2.47E-05	2.60E-05
DBP	1.52E-02	2.11E+03	1.51E+03	1.35E-02	1.43E-02	1.62E-02	1.77E-02
butanol	1.52E-02	744	533	1.35E-02	1.43E-02	1.62E-02	1.77E-02
NH_3	0.111	1.25E+03	893	7.96E-02	9.47E-02	0.126	0.132
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.49E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.75E+04 BTU/hr)	----	6.82	11.4	15.0	15.6
Bulk Density	1.31 (g/cc)	----	----	1.15	1.24	1.36	1.40
Void Fraction	0.846	----	----	0.784	0.827	0.883	0.924
Water wt%	64.1	----	----	56.4	59.8	70.3	80.4
TOC wt% C (wet)	2.33	----	----	0.719	1.60	3.01	3.40
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.02E-05	3.82E-02	9.49	5.20E-06	2.14E-05	9.14E-05	1.32E-04
C-14	8.59E-06	6.54E-03	1.62	5.73E-06	7.23E-06	9.92E-06	2.83E-05
Ni-59	4.01E-04	0.305	75.8	3.75E-04	3.88E-04	4.14E-04	4.26E-04
Ni-63	3.94E-02	30.0	7.46E+03	3.69E-02	3.81E-02	4.07E-02	4.19E-02
Co-60	1.27E-05	9.66E-03	2.40	6.89E-06	9.93E-06	1.54E-05	3.30E-05
Se-79	2.18E-04	0.166	41.3	5.92E-05	1.20E-04	3.16E-04	4.10E-04
Sr-90	10.8	8.19E+03	2.04E+06	5.26	8.82	11.6	12.1
Y-90	10.8	8.19E+03	2.04E+06	5.26	8.82	11.6	12.1
Zr-93	9.41E-04	0.716	178	2.18E-04	4.51E-04	1.43E-03	1.90E-03
Nb-93m	8.11E-04	0.618	154	2.03E-04	4.69E-04	1.15E-03	1.48E-03
Tc-99	5.93E-05	4.52E-02	11.2	4.00E-05	5.01E-05	6.84E-05	7.41E-05
Ru-106	1.53E-06	1.16E-03	0.289	1.17E-06	1.44E-06	1.62E-06	1.70E-06
Cd-113m	1.88E-03	1.43	355	8.12E-05	8.32E-04	4.37E-03	7.19E-03
Sb-125	6.47E-05	4.92E-02	12.2	3.05E-05	4.84E-05	8.06E-05	9.08E-05
Sn-126	3.51E-04	0.268	66.5	9.99E-05	2.05E-04	4.98E-04	6.39E-04
I-129	1.15E-07	8.75E-05	2.18E-02	7.74E-08	9.71E-08	1.33E-07	1.44E-07
Cs-134	6.47E-06	4.93E-03	1.22	2.35E-06	4.51E-06	8.40E-06	9.63E-06
Cs-137	0.212	161	4.01E+04	0.137	0.177	0.247	0.269
Ba-137m	0.201	153	3.80E+04	0.130	0.167	0.234	0.255
Sm-151	0.819	623	1.55E+05	0.236	0.476	1.16	1.49
Eu-152	2.15E-04	0.164	40.8	2.12E-04	2.14E-04	2.17E-04	2.18E-04
Eu-154	4.44E-03	3.38	839	1.94E-04	3.23E-04	1.32E-02	2.82E-02
Eu-155	1.34E-02	10.2	2.53E+03	1.32E-02	1.33E-02	1.34E-02	1.35E-02
Ra-226	2.68E-08	2.04E-05	5.07E-03	2.08E-08	2.37E-08	2.98E-08	3.27E-08
Ra-228	3.49E-10	2.65E-07	6.60E-05	3.49E-10	3.49E-10	3.49E-10	3.49E-10
Ac-227	1.39E-07	1.06E-04	2.63E-02	1.04E-07	1.21E-07	1.56E-07	1.73E-07
Pa-231	2.06E-07	1.56E-04	3.89E-02	2.70E-08	1.08E-07	3.03E-07	3.97E-07
Th-229	1.79E-10	1.36E-07	3.39E-05	1.79E-10	1.79E-10	1.79E-10	1.79E-10
Th-232	3.76E-11	2.86E-08	7.12E-06	3.72E-11	3.74E-11	3.78E-11	3.81E-11
U-232	2.21E-08	1.68E-05	4.18E-03	1.99E-08	2.09E-08	2.32E-08	2.43E-08
U-233	8.54E-08	6.50E-05	1.62E-02	7.69E-08	8.10E-08	8.98E-08	9.39E-08
U-234	8.81E-08	6.71E-05	1.67E-02	7.36E-08	8.12E-08	9.49E-08	9.92E-08
U-235	3.60E-09	2.74E-06	6.82E-04	3.03E-09	3.33E-09	3.87E-09	4.04E-09
U-236	3.19E-09	2.43E-06	6.03E-04	2.23E-09	2.73E-09	3.63E-09	3.92E-09
U-238	8.17E-08	6.22E-05	1.55E-02	7.01E-08	7.62E-08	8.71E-08	9.06E-08
Np-237	1.87E-07	1.42E-04	3.53E-02	1.25E-07	1.58E-07	2.15E-07	2.33E-07
Pu-238	2.77E-04	0.211	52.4	1.83E-04	2.58E-04	2.95E-04	3.12E-04
Pu-239	7.45E-03	5.67	1.41E+03	4.92E-03	6.81E-03	8.09E-03	8.70E-03
Pu-240	1.38E-03	1.05	262	9.14E-04	1.27E-03	1.49E-03	1.60E-03
Pu-241	1.96E-02	15.0	3.72E+03	1.30E-02	1.83E-02	2.09E-02	2.22E-02
Pu-242	1.16E-07	8.81E-05	2.19E-02	7.64E-08	1.08E-07	1.23E-07	1.29E-07
Am-241	9.06E-03	6.90	1.71E+03	6.18E-03	7.59E-03	1.05E-02	1.19E-02
Am-243	4.53E-07	3.45E-04	8.58E-02	3.40E-07	4.17E-07	4.86E-07	5.15E-07
Cm-242	7.75E-06	5.90E-03	1.47	7.64E-06	7.69E-06	7.80E-06	7.83E-06
Cm-243	6.72E-07	5.11E-04	0.127	6.62E-07	6.67E-07	6.76E-07	6.79E-07
Cm-244	2.60E-05	1.98E-02	4.92	1.88E-05	2.42E-05	2.77E-05	2.94E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0.126 (g/L)	----	23.8	8.29E-02	0.115	0.136	0.147
U	1.03E-03	186	46.3	8.81E-04	9.58E-04	1.10E-03	1.14E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-A-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.68E+05 (kg)	(75.0 kgal)	----	----	----	----	----
Heat Load	0.671 (kW)	(2.29E+03 BTU/hr)	----	0.625	0.651	0.692	0.712
Bulk Density*	1.65 (g/cc)	----	----	1.61	1.63	1.67	1.68
Water wt%†	30.7	----	----	28.5	29.4	31.9	33.3
TOC wt% C (wet)	1.11	----	----	0.663	0.880	1.33	1.55
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.71E-04	0.165	77.0	1.67E-04	1.67E-04	2.86E-04	3.03E-04
C-14	4.09E-05	2.48E-02	11.6	1.91E-05	1.91E-05	4.15E-05	4.21E-05
Ni-59	2.40E-06	1.46E-03	0.683	1.38E-06	1.38E-06	2.46E-06	2.51E-06
Ni-63	2.36E-04	0.143	67.1	1.35E-04	1.35E-04	2.42E-04	2.46E-04
Co-60	4.90E-05	2.98E-02	13.9	2.40E-05	2.40E-05	5.00E-05	5.11E-05
Se-79	4.06E-06	2.46E-03	1.15	2.66E-06	2.66E-06	4.56E-06	5.05E-06
Sr-90	0.128	77.7	3.63E+04	0.121	0.125	0.132	0.135
Y-90	0.128	77.7	3.64E+04	7.98E-02	7.98E-02	0.132	0.135
Zr-93	2.00E-05	1.21E-02	5.67	1.30E-05	1.30E-05	2.25E-05	2.49E-05
Nb-93m	1.44E-05	8.74E-03	4.09	9.51E-06	9.51E-06	1.62E-05	1.79E-05
Tc-99	3.02E-04	0.184	85.9	2.21E-04	2.61E-04	3.44E-04	3.85E-04
Ru-106	8.53E-09	5.18E-06	2.42E-03	5.29E-09	5.29E-09	9.26E-09	9.91E-09
Cd-113m	1.08E-04	6.54E-02	30.6	6.58E-05	6.58E-05	1.23E-04	1.37E-04
Sb-125	2.16E-04	0.131	61.4	1.08E-04	1.08E-04	2.22E-04	2.28E-04
Sn-126	6.13E-06	3.72E-03	1.74	4.03E-06	4.03E-06	6.88E-06	7.61E-06
I-129	5.84E-07	3.54E-04	0.166	4.26E-07	5.03E-07	6.65E-07	7.44E-07
Cs-134	3.87E-06	2.35E-03	1.10	2.50E-06	3.16E-06	4.57E-06	5.26E-06
Cs-137	0.321	195	9.10E+04	0.290	0.305	0.336	0.351
Ba-137m	0.303	184	8.61E+04	0.254	0.254	0.318	0.332
Sm-151	1.43E-02	8.66	4.05E+03	9.38E-03	9.38E-03	1.60E-02	1.77E-02
Eu-152	5.08E-06	3.08E-03	1.44	3.35E-06	3.35E-06	5.58E-06	6.07E-06
Eu-154	7.74E-04	0.470	220	4.25E-04	4.25E-04	9.01E-04	9.51E-04
Eu-155	3.03E-04	0.184	85.9	2.00E-04	2.00E-04	3.33E-04	3.63E-04
Ra-226	1.62E-10	9.84E-08	4.61E-05	1.19E-10	1.19E-10	1.78E-10	1.93E-10
Ra-228	2.95E-07	1.79E-04	8.38E-02	1.26E-07	1.26E-07	3.40E-07	3.88E-07
Ac-227	1.01E-09	6.15E-07	2.87E-04	7.61E-10	7.61E-10	1.10E-09	1.19E-09
Pa-231	4.79E-09	2.91E-06	1.36E-03	3.39E-09	3.39E-09	5.30E-09	5.78E-09
Th-229	6.87E-09	4.17E-06	1.95E-03	2.95E-09	2.95E-09	7.85E-09	8.90E-09
Th-232	2.91E-08	1.77E-05	8.26E-03	8.13E-09	8.13E-09	3.48E-08	4.03E-08
U-232	1.03E-06	6.25E-04	0.292	7.27E-07	8.75E-07	1.21E-06	1.40E-06
U-233	3.95E-06	2.40E-03	1.12	2.79E-06	3.35E-06	4.64E-06	5.37E-06
U-234	8.56E-07	5.20E-04	0.243	8.28E-07	8.42E-07	8.72E-07	8.80E-07
U-235	3.44E-08	2.09E-05	9.76E-03	3.32E-08	3.38E-08	3.51E-08	3.54E-08
U-236	2.71E-08	1.65E-05	7.70E-03	2.63E-08	2.68E-08	2.75E-08	2.78E-08
U-238	1.08E-06	6.57E-04	0.308	1.06E-06	1.07E-06	1.10E-06	1.11E-06
Np-237	1.08E-06	6.53E-04	0.305	8.10E-07	9.40E-07	1.21E-06	1.35E-06
Pu-238	1.61E-06	9.76E-04	0.457	1.30E-06	1.45E-06	1.77E-06	1.92E-06
Pu-239	5.39E-05	3.27E-02	15.3	4.58E-05	4.98E-05	5.80E-05	6.19E-05
Pu-240	9.24E-06	5.61E-03	2.62	7.75E-06	8.48E-06	1.00E-05	1.07E-05
Pu-241	1.10E-04	6.69E-02	31.3	8.89E-05	9.93E-05	1.21E-04	1.32E-04
Pu-242	6.05E-10	3.67E-07	1.72E-04	4.78E-10	5.40E-10	6.70E-10	7.33E-10
Am-241	6.74E-05	4.09E-02	19.1	5.25E-05	5.98E-05	7.50E-05	8.22E-05
Am-243	2.47E-09	1.50E-06	7.01E-04	1.98E-09	2.20E-09	2.78E-09	3.04E-09
Cm-242	1.81E-07	1.10E-04	5.13E-02	1.10E-07	1.10E-07	2.00E-07	2.18E-07
Cm-243	1.69E-08	1.02E-05	4.78E-03	1.01E-08	1.01E-08	1.86E-08	2.02E-08
Cm-244	1.47E-07	8.93E-05	4.18E-02	7.73E-08	7.73E-08	1.71E-07	1.86E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.46E-04 (g/L)	----	0.183	4.94E-04	5.69E-04	7.23E-04	7.97E-04
U	9.72E-03	1.40E+03	657	9.38E-03	9.54E-03	9.92E-03	1.00E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-A-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.16E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.6 (kW)	(4.98E+04 BTU/hr)	----	7.45	12.1	15.7	16.3
Bulk Density†	1.51 (g/cc)	----	----	1.44	1.48	1.54	1.56
Water wt%†	42.3	----	----	38.9	40.4	44.4	47.5
TOC wt% C (wet)†	1.53	----	----	0.681	1.12	1.93	2.21
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.83E-04	0.121	86.5	1.20E-04	1.20E-04	2.08E-04	2.35E-04
C-14	2.80E-05	1.85E-02	13.2	1.49E-05	1.49E-05	2.88E-05	3.63E-05
Ni-59	1.62E-04	0.107	76.5	1.51E-04	1.56E-04	1.67E-04	1.72E-04
Ni-63	1.59E-02	10.5	7.53E+03	1.49E-02	1.54E-02	1.64E-02	1.69E-02
Co-60	3.45E-05	2.28E-02	16.3	1.95E-05	1.95E-05	3.62E-05	4.38E-05
Se-79	8.97E-05	5.93E-02	42.5	2.63E-05	5.06E-05	1.29E-04	1.66E-04
Sr-90	4.38	2.89E+03	2.07E+06	2.18	3.60	4.72	4.91
Y-90	4.38	2.89E+03	2.07E+06	2.18	3.61	4.72	4.91
Zr-93	3.88E-04	0.256	184	9.90E-05	1.93E-04	5.84E-04	7.71E-04
Nb-93m	3.33E-04	0.220	158	9.01E-05	1.96E-04	4.70E-04	6.01E-04
Tc-99	2.05E-04	0.136	97.1	1.56E-04	1.80E-04	2.30E-04	2.55E-04
Ru-106	6.17E-07	4.07E-04	0.292	4.72E-07	5.82E-07	6.51E-07	6.85E-07
Cd-113m	8.16E-04	0.539	386	9.45E-05	3.99E-04	1.81E-03	2.94E-03
Sb-125	1.56E-04	0.103	73.6	9.06E-05	9.06E-05	1.66E-04	1.73E-04
Sn-126	1.44E-04	9.53E-02	68.3	4.38E-05	8.56E-05	2.03E-04	2.59E-04
I-129	3.96E-07	2.62E-04	0.188	3.02E-07	3.48E-07	4.45E-07	4.92E-07
Cs-134	4.91E-06	3.24E-03	2.32	2.44E-06	3.70E-06	6.10E-06	7.01E-06
Cs-137	0.277	183	1.31E+05	0.232	0.255	0.299	0.315
Ba-137m	0.262	173	1.24E+05	0.220	0.233	0.283	0.298
Sm-151	0.336	222	1.59E+05	0.104	0.199	0.473	0.604
Eu-152	8.92E-05	5.89E-02	42.2	8.74E-05	8.81E-05	9.00E-05	9.07E-05
Eu-154	2.24E-03	1.48	1.06E+03	5.10E-04	5.86E-04	5.71E-03	1.17E-02
Eu-155	5.52E-03	3.65	2.61E+03	5.41E-03	5.46E-03	5.57E-03	5.61E-03
Ra-226	1.08E-08	7.14E-06	5.11E-03	8.43E-09	9.59E-09	1.20E-08	1.32E-08
Ra-228	1.77E-07	1.17E-04	8.39E-02	7.56E-08	7.56E-08	2.04E-07	2.33E-07
Ac-227	5.61E-08	3.70E-05	2.65E-02	4.23E-08	4.91E-08	6.31E-08	6.99E-08
Pa-231	8.51E-08	5.62E-05	4.02E-02	1.38E-08	4.60E-08	1.24E-07	1.62E-07
Th-229	4.19E-09	2.77E-06	1.98E-03	1.84E-09	1.84E-09	4.78E-09	5.41E-09
Th-232	1.75E-08	1.15E-05	8.27E-03	4.89E-09	4.89E-09	2.09E-08	2.42E-08
U-232	6.27E-07	4.14E-04	0.297	4.45E-07	5.34E-07	7.35E-07	8.50E-07
U-233	2.40E-06	1.59E-03	1.14	1.71E-06	2.05E-06	2.82E-06	3.26E-06
U-234	5.49E-07	3.63E-04	0.260	5.32E-07	5.41E-07	5.58E-07	5.63E-07
U-235	2.21E-08	1.46E-05	1.04E-02	2.14E-08	2.17E-08	2.25E-08	2.27E-08
U-236	1.75E-08	1.16E-05	8.30E-03	1.70E-08	1.73E-08	1.78E-08	1.80E-08
U-238	6.83E-07	4.51E-04	0.323	6.66E-07	6.74E-07	6.92E-07	6.99E-07
Np-237	7.20E-07	4.76E-04	0.341	5.60E-07	6.38E-07	8.03E-07	8.82E-07
Pu-238	1.12E-04	7.38E-02	52.9	7.41E-05	1.04E-04	1.19E-04	1.26E-04
Pu-239	3.01E-03	1.99	1.42E+03	2.00E-03	2.76E-03	3.27E-03	3.51E-03
Pu-240	5.59E-04	0.369	264	3.71E-04	5.15E-04	6.02E-04	6.44E-04
Pu-241	7.92E-03	5.23	3.75E+03	5.25E-03	7.40E-03	8.44E-03	8.92E-03
Pu-242	4.67E-08	3.08E-05	2.21E-02	3.09E-08	4.36E-08	4.94E-08	5.20E-08
Am-241	3.66E-03	2.42	1.73E+03	2.51E-03	3.08E-03	4.25E-03	4.81E-03
Am-243	1.83E-07	1.21E-04	8.65E-02	1.37E-07	1.68E-07	1.96E-07	2.07E-07
Cm-242	3.21E-06	2.12E-03	1.52	3.14E-06	3.16E-06	3.24E-06	3.26E-06
Cm-243	2.79E-07	1.84E-04	0.132	2.73E-07	2.75E-07	2.82E-07	2.84E-07
Cm-244	1.05E-05	6.92E-03	4.96	7.59E-06	9.79E-06	1.12E-05	1.18E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.07E-02 (g/L)	----	24.0	3.35E-02	4.64E-02	5.49E-02	5.90E-02
U	6.24E-03	982	703	6.04E-03	6.14E-03	6.36E-03	6.41E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.59E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	4.98 (kW)	(1.70E+04 BTU/hr)	----	4.25	4.72	5.09	5.16
Bulk Density	1.34 (g/cc)	----	----	1.22	1.30	1.37	1.38
Void Fraction	0.819	----	----	0.795	0.805	0.848	0.902
Water wt%	61.3	----	----	58.2	59.6	63.9	68.9
TOC wt% C (wet)	0.907	----	----	0.259	0.605	1.20	1.38

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.59	7.88E+04	5.19E+03	1.82	3.67	5.17	5.59
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.57	1.07E+05	7.07E+03	2.34	2.53	2.59	2.60
Cr^{3+}	5.01E-03	194	12.8	1.89E-03	3.45E-03	6.57E-03	8.09E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	4.48E-02	1.96E+03	129	9.47E-04	2.66E-02	5.38E-02	5.89E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.219	6.54E+03	431	3.58E-02	0.128	0.264	0.289
K^+	6.22E-03	182	12.0	4.03E-03	5.13E-03	7.32E-03	8.39E-03
OH^-	7.95	1.01E+05	6.65E+03	7.24	7.80	8.03	8.10
$NO3^-$	8.95E-08	4.14E-03	2.73E-04	4.03E-09	1.26E-08	7.80E-06	2.34E-02
$NO2^-$	0.581	1.99E+04	1.31E+03	0.300	0.440	0.722	0.858
$CO3^{2-}$	0.266	1.19E+04	785	8.30E-02	0.175	0.311	0.403
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.120	8.58E+03	565	5.78E-02	8.88E-02	0.151	0.181
Si (as SiO_x^{2-})	1.59	3.33E+04	2.19E+03	0.438	1.24	1.76	1.91
F^-	0	0	0	0	0	0	0
Cl^-	2.86E-02	757	49.9	1.85E-02	2.36E-02	3.37E-02	3.86E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	2.98E-02	6.41E+03	422	8.09E-03	1.95E-02	3.99E-02	4.64E-02
$HEDTA^{3-}$	5.96E-02	1.22E+04	803	1.62E-02	3.89E-02	7.98E-02	9.27E-02
$glycolate^-$	5.96E-02	3.34E+03	220	1.62E-02	3.89E-02	7.98E-02	9.27E-02
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	6.03E-06	0.946	6.23E-02	1.64E-06	3.94E-06	8.08E-06	9.38E-06
butanol	6.03E-06	0.334	2.20E-02	1.64E-06	3.94E-06	8.08E-06	9.38E-06
NH_3	0.239	3.03E+03	200	0.112	0.177	0.301	0.363
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.28E+06 (kg)	(735 kgal)	----	----	----	----	----
Heat Load	5.41 (kW)	(1.85E+04 BTU/hr)	----	4.85	5.16	5.63	5.96
Bulk Density*	1.54 (g/cc)	----	----	1.48	1.51	1.56	1.57
Water wt%	38.5	----	----	36.1	36.9	40.1	42.1
TOC wt% C (wet)	1.30	----	----	0.728	1.01	1.59	1.88

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.3	1.84E+05	7.86E+05	11.1	11.7	12.8	13.1
Al^{3+}	1.55	2.72E+04	1.16E+05	1.27	1.49	1.59	1.63
Fe^{3+} (total Fe)	8.39E-03	305	1.30E+03	7.23E-03	7.80E-03	8.99E-03	9.55E-03
Cr^{3+}	0.106	3.59E+03	1.54E+04	9.46E-02	0.100	0.112	0.120
Bi^{3+}	1.13E-03	153	654	1.05E-03	1.09E-03	1.16E-03	1.22E-03
La^{3+}	2.03E-05	1.84	7.86	1.50E-05	1.76E-05	2.31E-05	2.57E-05
Hg^{2+}	9.10E-06	1.19	5.08	8.69E-06	8.90E-06	9.31E-06	9.52E-06
Zr (as $ZrO(OH)_2$)	1.35E-04	7.98	34.2	1.25E-04	1.28E-04	1.39E-04	1.45E-04
Pb^{2+}	1.25E-03	168	718	9.46E-04	1.09E-03	1.40E-03	1.54E-03
Ni^{2+}	4.61E-03	176	753	4.42E-03	4.51E-03	4.66E-03	4.70E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.22E-03	151	645	3.66E-03	3.94E-03	4.51E-03	4.78E-03
Ca^{2+}	2.52E-02	656	2.81E+03	2.35E-02	2.43E-02	2.60E-02	2.69E-02
K^+	5.94E-02	1.51E+03	6.46E+03	5.02E-02	5.40E-02	6.56E-02	7.40E-02
OH^-	8.65	9.56E+04	4.09E+05	7.33	8.28	8.85	9.01
$NO3^-$	3.89	1.57E+05	6.71E+05	3.67	3.78	4.00	4.11
$NO2^-$	2.26	6.76E+04	2.89E+05	1.77	1.98	2.56	2.65
$CO3^{2-}$	0.469	1.83E+04	7.84E+04	0.433	0.451	0.487	0.499
$PO4^{3-}$	8.53E-02	5.27E+03	2.25E+04	7.30E-02	7.83E-02	9.08E-02	9.81E-02
$SO4^{2-}$	0.262	1.64E+04	7.00E+04	0.206	0.229	0.301	0.304
Si (as SiO_x^{2-})	6.82E-02	1.25E+03	5.33E+03	6.03E-02	6.42E-02	7.23E-02	7.62E-02
F^-	6.16E-02	761	3.26E+03	5.18E-02	5.59E-02	6.80E-02	7.75E-02
Cl^-	0.213	4.91E+03	2.10E+04	0.180	0.195	0.219	0.225
$C_6H_5O_7^{3-}$	3.04E-02	3.74E+03	1.60E+04	2.76E-02	2.88E-02	3.22E-02	3.49E-02
$EDTA^{4-}$	3.27E-02	6.12E+03	2.62E+04	1.07E-02	2.14E-02	4.40E-02	5.51E-02
$HEDTA^{3-}$	5.84E-02	1.04E+04	4.46E+04	1.44E-02	3.59E-02	8.11E-02	0.103
$glycolate^-$	0.118	5.77E+03	2.47E+04	7.42E-02	9.57E-02	0.141	0.163
$acetate^-$	2.21E-02	849	3.64E+03	1.75E-02	1.95E-02	2.50E-02	2.94E-02
$oxalate^{2-}$	2.66E-05	1.52	6.52	2.38E-05	2.52E-05	2.81E-05	2.95E-05
DBP	2.47E-02	3.38E+03	1.45E+04	2.03E-02	2.22E-02	2.74E-02	3.14E-02
butanol	2.47E-02	1.19E+03	5.10E+03	2.03E-02	2.22E-02	2.74E-02	3.14E-02
NH_3	5.32E-02	587	2.51E+03	4.42E-02	4.77E-02	6.01E-02	6.82E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.35E+06 (kg)	(748 kgal)	----	----	----	----	----
Heat Load	10.4 (kW)	(3.55E+04 BTU/hr)	----	9.10	9.93	10.7	11.0
Bulk Density†	1.54 (g/cc)	----	----	1.47	1.51	1.55	1.56
Water wt%†	38.9	----	----	36.5	37.3	40.4	42.4
TOC wt% C (wet)†	1.30	----	----	0.721	1.00	1.59	1.87

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.2	1.82E+05	7.92E+05	11.0	11.6	12.7	13.0
Al^{3+}	1.52	2.68E+04	1.16E+05	1.25	1.46	1.56	1.60
Fe^{3+} (total Fe)	5.29E-02	1.93E+03	8.37E+03	4.89E-02	5.22E-02	5.35E-02	5.41E-02
Cr^{3+}	0.104	3.54E+03	1.54E+04	9.31E-02	9.87E-02	0.110	0.118
Bi^{3+}	1.11E-03	151	654	1.03E-03	1.07E-03	1.14E-03	1.20E-03
La^{3+}	2.00E-05	1.81	7.86	1.48E-05	1.73E-05	2.27E-05	2.52E-05
Hg^{2+}	8.95E-06	1.17	5.08	8.54E-06	8.74E-06	9.15E-06	9.35E-06
Zr (as $ZrO(OH)_2$)	1.32E-04	7.86	34.2	1.22E-04	1.26E-04	1.36E-04	1.42E-04
Pb^{2+}	1.22E-03	165	718	9.30E-04	1.07E-03	1.37E-03	1.52E-03
Ni^{2+}	5.31E-03	203	882	4.53E-03	4.99E-03	5.46E-03	5.55E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.15E-03	148	645	3.60E-03	3.87E-03	4.43E-03	4.70E-03
Ca^{2+}	2.86E-02	745	3.24E+03	2.53E-02	2.70E-02	2.94E-02	3.02E-02
K^+	5.84E-02	1.49E+03	6.47E+03	4.94E-02	5.32E-02	6.45E-02	7.28E-02
OH^-	8.64	9.57E+04	4.16E+05	7.34	8.28	8.83	8.99
$NO3^-$	3.82	1.54E+05	6.71E+05	3.61	3.72	3.93	4.04
$NO2^-$	2.23	6.68E+04	2.91E+05	1.75	1.96	2.53	2.61
$CO3^{2-}$	0.466	1.82E+04	7.91E+04	0.429	0.447	0.484	0.495
$PO4^{3-}$	8.38E-02	5.19E+03	2.25E+04	7.17E-02	7.70E-02	8.92E-02	9.64E-02
$SO4^{2-}$	0.260	1.62E+04	7.06E+04	0.204	0.227	0.298	0.300
Si (as SiO_x^{2-})	9.47E-02	1.73E+03	7.53E+03	7.46E-02	8.87E-02	9.87E-02	0.103
F^-	6.05E-02	749	3.26E+03	5.09E-02	5.49E-02	6.68E-02	7.61E-02
Cl^-	0.210	4.84E+03	2.11E+04	0.178	0.192	0.216	0.221
$C_6H_5O_7^{3-}$	2.99E-02	3.68E+03	1.60E+04	2.71E-02	2.83E-02	3.16E-02	3.43E-02
$EDTA^{4-}$	3.26E-02	6.12E+03	2.66E+04	1.06E-02	2.14E-02	4.39E-02	5.49E-02
$HEDTA^{3-}$	5.85E-02	1.04E+04	4.54E+04	1.44E-02	3.60E-02	8.11E-02	0.103
$glycolate^-$	0.117	5.73E+03	2.49E+04	7.32E-02	9.47E-02	0.140	0.162
$acetate^-$	2.18E-02	836	3.64E+03	1.72E-02	1.91E-02	2.46E-02	2.89E-02
$oxalate^{2-}$	2.62E-05	1.50	6.52	2.33E-05	2.47E-05	2.76E-05	2.90E-05
DBP	2.43E-02	3.32E+03	1.45E+04	2.00E-02	2.19E-02	2.69E-02	3.08E-02
butanol	2.43E-02	1.17E+03	5.10E+03	2.00E-02	2.19E-02	2.69E-02	3.08E-02
NH_3	5.64E-02	624	2.71E+03	4.75E-02	5.10E-02	6.32E-02	7.12E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.59E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	4.98 (kW)	(1.70E+04 BTU/hr)	----	4.25	4.72	5.09	5.16
Bulk Density	1.34 (g/cc)	----	----	1.22	1.30	1.37	1.38
Void Fraction	0.819	----	----	0.795	0.805	0.848	0.902
Water wt%	61.3	----	----	58.2	59.6	63.9	68.9
TOC wt% C (wet)	0.907	----	----	0.259	0.605	1.20	1.38
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.17E-04	8.76E-02	5.77	3.27E-05	6.50E-05	1.90E-04	2.79E-04
C-14	1.99E-05	1.48E-02	0.978	8.48E-06	1.42E-05	2.56E-05	3.11E-05
Ni-59	2.31E-04	0.173	11.4	1.43E-04	1.95E-04	2.50E-04	2.60E-04
Ni-63	2.30E-02	17.1	1.13E+03	1.40E-02	1.93E-02	2.48E-02	2.58E-02
Co-60	2.84E-05	2.12E-02	1.40	1.27E-05	2.06E-05	3.63E-05	2.47E-04
Se-79	1.64E-04	0.123	8.08	8.62E-05	1.25E-04	2.03E-04	2.41E-04
Sr-90	14.7	1.09E+04	7.21E+05	12.5	13.9	15.0	15.2
Y-90	14.7	1.09E+04	7.22E+05	12.5	13.9	15.0	15.2
Zr-93	7.33E-04	0.547	36.1	3.46E-04	5.38E-04	9.28E-04	1.11E-03
Nb-93m	5.87E-04	0.438	28.9	3.14E-04	4.50E-04	7.23E-04	8.54E-04
Tc-99	1.40E-04	0.105	6.91	5.96E-05	1.00E-04	1.81E-04	2.20E-04
Ru-106	9.00E-07	6.72E-04	4.43E-02	7.05E-07	8.50E-07	9.35E-07	9.68E-07
Cd-113m	2.41E-03	1.80	119	7.56E-04	1.81E-03	3.41E-03	4.53E-03
Sb-125	1.32E-04	9.86E-02	6.50	6.15E-05	9.69E-05	1.67E-04	2.02E-04
Sn-126	2.60E-04	0.194	12.8	1.43E-04	2.02E-04	3.18E-04	3.75E-04
I-129	2.72E-07	2.03E-04	1.34E-02	1.15E-07	1.94E-07	3.50E-07	4.26E-07
Cs-134	8.27E-06	6.17E-03	0.407	4.53E-06	6.40E-06	1.01E-05	1.20E-05
Cs-137	0.519	388	2.56E+04	0.222	0.371	0.669	0.813
Ba-137m	0.491	367	2.42E+04	0.210	0.351	0.633	0.770
Sm-151	0.613	458	3.02E+04	0.340	0.477	0.750	0.881
Eu-152	1.71E-04	0.128	8.41	1.69E-04	1.70E-04	1.72E-04	1.73E-04
Eu-154	7.36E-03	5.49	362	1.91E-03	2.30E-03	1.08E-02	1.68E-02
Eu-155	1.18E-02	8.79	579	1.16E-02	1.17E-02	1.18E-02	1.19E-02
Ra-226	1.51E-08	1.13E-05	7.45E-04	1.27E-08	1.39E-08	1.64E-08	1.75E-08
Ra-228	9.43E-14	7.04E-11	4.64E-09	9.34E-14	9.38E-14	9.48E-14	9.53E-14
Ac-227	7.96E-08	5.95E-05	3.92E-03	6.56E-08	7.26E-08	8.66E-08	9.34E-08
Pa-231	1.42E-07	1.06E-04	7.00E-03	7.13E-08	1.03E-07	1.81E-07	2.19E-07
Th-229	1.52E-11	1.13E-08	7.47E-07	1.50E-11	1.51E-11	1.53E-11	1.53E-11
Th-232	5.23E-15	3.90E-12	2.57E-10	2.34E-15	3.78E-15	6.68E-15	8.08E-15
U-232	8.35E-12	6.23E-09	4.11E-07	4.33E-12	6.35E-12	1.04E-11	1.23E-11
U-233	1.79E-13	1.34E-10	8.80E-09	8.41E-14	1.32E-13	2.26E-13	2.72E-13
U-234	8.76E-08	6.54E-05	4.31E-03	3.80E-08	6.29E-08	1.12E-07	1.37E-07
U-235	3.63E-09	2.71E-06	1.79E-04	1.57E-09	2.60E-09	4.67E-09	5.67E-09
U-236	2.70E-09	2.01E-06	1.33E-04	1.34E-09	2.02E-09	3.37E-09	4.03E-09
U-238	8.39E-08	6.26E-05	4.13E-03	3.57E-08	5.98E-08	1.08E-07	1.32E-07
Np-237	3.11E-07	2.32E-04	1.53E-02	1.38E-07	2.25E-07	3.97E-07	4.81E-07
Pu-238	1.83E-04	0.136	8.98	1.45E-04	1.75E-04	1.90E-04	1.96E-04
Pu-239	4.83E-03	3.61	238	3.83E-03	4.58E-03	5.09E-03	5.33E-03
Pu-240	9.07E-04	0.677	44.6	7.20E-04	8.64E-04	9.51E-04	9.92E-04
Pu-241	1.30E-02	9.68	638	1.03E-02	1.24E-02	1.35E-02	1.40E-02
Pu-242	7.58E-08	5.66E-05	3.73E-03	6.02E-08	7.27E-08	7.86E-08	8.12E-08
Am-241	6.28E-03	4.69	309	5.11E-03	5.70E-03	6.87E-03	7.43E-03
Am-243	2.65E-07	1.98E-04	1.30E-02	2.20E-07	2.51E-07	2.78E-07	2.89E-07
Cm-242	5.49E-06	4.09E-03	0.270	5.43E-06	5.46E-06	5.51E-06	5.54E-06
Cm-243	4.58E-07	3.42E-04	2.25E-02	4.54E-07	4.56E-07	4.60E-07	4.62E-07
Cm-244	1.66E-05	1.24E-02	0.816	1.27E-05	1.56E-05	1.73E-05	1.79E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.19E-02 (g/L)	----	4.03	6.48E-02	7.76E-02	8.61E-02	9.02E-02
U	1.06E-03	188	12.4	4.49E-04	7.53E-04	1.36E-03	1.66E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.28E+06 (kg)	(735 kgal)	----	----	----	----	----
Heat Load	5.41 (kW)	(1.85E+04 BTU/hr)	----	4.85	5.16	5.63	5.96
Bulk Density*	1.54 (g/cc)	----	----	1.48	1.51	1.56	1.57
Water wt%†	38.5	----	----	36.1	36.9	40.1	42.1
TOC wt% C (wet)	1.30	----	----	0.728	1.01	1.59	1.88
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.23E-04	0.145	619	1.52E-04	1.52E-04	2.40E-04	2.61E-04
C-14	3.51E-05	2.28E-02	97.8	2.03E-05	2.03E-05	3.58E-05	3.65E-05
Ni-59	1.78E-06	1.15E-03	4.94	1.08E-06	1.08E-06	1.81E-06	1.84E-06
Ni-63	1.75E-04	0.114	486	1.06E-04	1.06E-04	1.78E-04	1.82E-04
Co-60	4.49E-05	2.92E-02	125	2.79E-05	2.79E-05	4.61E-05	4.74E-05
Se-79	3.45E-06	2.24E-03	9.60	2.50E-06	2.50E-06	3.79E-06	4.12E-06
Sr-90	0.107	69.3	2.97E+05	9.79E-02	0.104	0.109	0.111
Y-90	0.107	69.3	2.97E+05	7.39E-02	7.39E-02	0.109	0.111
Zr-93	1.70E-05	1.11E-02	47.4	1.23E-05	1.23E-05	1.87E-05	2.04E-05
Nb-93m	1.22E-05	7.92E-03	33.9	8.87E-06	8.87E-06	1.34E-05	1.46E-05
Tc-99	2.68E-04	0.174	746	2.08E-04	2.35E-04	3.05E-04	3.55E-04
Ru-106	7.88E-09	5.12E-06	2.19E-02	5.67E-09	5.67E-09	8.62E-09	9.33E-09
Cd-113m	9.42E-05	6.12E-02	262	6.57E-05	6.57E-05	1.05E-04	1.14E-04
Sb-125	2.02E-04	0.131	561	1.26E-04	1.26E-04	2.09E-04	2.16E-04
Sn-126	5.20E-06	3.38E-03	14.5	3.78E-06	3.78E-06	5.72E-06	6.21E-06
I-129	5.18E-07	3.37E-04	1.44	4.02E-07	4.54E-07	5.90E-07	6.87E-07
Cs-134	3.92E-06	2.55E-03	10.9	2.25E-06	3.07E-06	4.78E-06	5.61E-06
Cs-137	0.262	170	7.28E+05	0.229	0.243	0.279	0.304
Ba-137m	0.248	161	6.89E+05	0.200	0.200	0.262	0.277
Sm-151	1.21E-02	7.88	3.37E+04	8.80E-03	8.80E-03	1.33E-02	1.45E-02
Eu-152	4.67E-06	3.04E-03	13.0	3.49E-06	3.50E-06	5.29E-06	5.88E-06
Eu-154	6.98E-04	0.453	1.94E+03	4.60E-04	4.60E-04	7.84E-04	8.43E-04
Eu-155	2.81E-04	0.182	781	2.08E-04	2.11E-04	3.18E-04	3.55E-04
Ra-226	1.30E-10	8.46E-08	3.62E-04	1.01E-10	1.01E-10	1.41E-10	1.51E-10
Ra-228	3.65E-07	2.37E-04	1.02	9.56E-08	9.56E-08	3.99E-07	4.35E-07
Ac-227	8.10E-10	5.26E-07	2.25E-03	6.39E-10	6.39E-10	8.72E-10	9.31E-10
Pa-231	3.94E-09	2.56E-06	1.10E-02	2.99E-09	2.99E-09	4.28E-09	4.61E-09
Th-229	8.46E-09	5.50E-06	2.35E-02	2.24E-09	2.24E-09	9.21E-09	1.00E-08
Th-232	3.95E-08	2.57E-05	0.110	6.17E-09	6.17E-09	4.86E-08	5.73E-08
U-232	1.08E-06	7.01E-04	3.00	8.26E-07	9.27E-07	1.25E-06	1.44E-06
U-233	4.13E-06	2.69E-03	11.5	3.17E-06	3.55E-06	4.80E-06	5.50E-06
U-234	6.60E-07	4.29E-04	1.84	6.39E-07	6.52E-07	6.69E-07	6.76E-07
U-235	2.61E-08	1.70E-05	7.27E-02	2.53E-08	2.58E-08	2.65E-08	2.68E-08
U-236	2.13E-08	1.38E-05	5.92E-02	2.07E-08	2.10E-08	2.16E-08	2.18E-08
U-238	9.25E-07	6.01E-04	2.57	9.05E-07	9.17E-07	9.33E-07	9.67E-07
Np-237	9.31E-07	6.05E-04	2.59	7.37E-07	8.23E-07	1.05E-06	1.21E-06
Pu-238	1.41E-06	9.15E-04	3.92	1.20E-06	1.30E-06	1.52E-06	1.62E-06
Pu-239	4.68E-05	3.04E-02	130	4.13E-05	4.40E-05	4.96E-05	5.22E-05
Pu-240	8.09E-06	5.26E-03	22.5	7.07E-06	7.57E-06	8.61E-06	9.10E-06
Pu-241	9.79E-05	6.36E-02	272	8.34E-05	9.05E-05	1.05E-04	1.12E-04
Pu-242	5.34E-10	3.47E-07	1.49E-03	4.48E-10	4.90E-10	5.79E-10	6.21E-10
Am-241	5.65E-05	3.67E-02	157	4.64E-05	5.14E-05	6.17E-05	6.66E-05
Am-243	2.17E-09	1.41E-06	6.05E-03	1.76E-09	1.95E-09	2.43E-09	2.65E-09
Cm-242	1.56E-07	1.01E-04	0.433	1.07E-07	1.07E-07	1.79E-07	2.02E-07
Cm-243	1.45E-08	9.42E-06	4.03E-02	9.88E-09	9.88E-09	1.66E-08	1.86E-08
Cm-244	1.18E-07	7.69E-05	0.329	7.08E-08	7.08E-08	1.34E-07	1.45E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.20E-04 (g/L)	----	1.45	4.17E-04	4.68E-04	5.73E-04	6.23E-04
U	7.39E-03	1.14E+03	4.89E+03	7.14E-03	7.29E-03	7.50E-03	7.58E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.35E+06 (kg)	(748 kgal)	----	----	----	----	----
Heat Load	10.4 (kW)	(3.55E+04 BTU/hr)	----	9.10	9.93	10.7	11.0
Bulk Density†	1.54 (g/cc)	----	----	1.47	1.51	1.55	1.56
Water wt%†	38.9	----	----	36.5	37.3	40.4	42.4
TOC wt% C (wet)†	1.30	----	----	0.721	1.00	1.59	1.87
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.21E-04	0.144	625	1.51E-04	1.51E-04	2.38E-04	2.59E-04
C-14	3.49E-05	2.27E-02	98.7	2.02E-05	2.02E-05	3.55E-05	3.62E-05
Ni-59	5.77E-06	3.75E-03	16.3	4.19E-06	5.08E-06	6.08E-06	6.26E-06
Ni-63	5.71E-04	0.372	1.62E+03	4.13E-04	5.03E-04	6.03E-04	6.21E-04
Co-60	4.46E-05	2.91E-02	126	2.79E-05	2.79E-05	4.58E-05	4.80E-05
Se-79	6.24E-06	4.07E-03	17.7	4.89E-06	5.31E-06	6.78E-06	7.30E-06
Sr-90	0.360	234	1.02E+06	0.313	0.346	0.365	0.369
Y-90	0.360	234	1.02E+06	0.313	0.327	0.366	0.369
Zr-93	2.95E-05	1.92E-02	83.4	2.27E-05	2.48E-05	3.22E-05	3.48E-05
Nb-93m	2.22E-05	1.44E-02	62.8	1.74E-05	1.89E-05	2.41E-05	2.59E-05
Tc-99	2.66E-04	0.173	753	2.07E-04	2.33E-04	3.02E-04	3.51E-04
Ru-106	2.34E-08	1.52E-05	6.62E-02	2.00E-08	2.12E-08	2.41E-08	2.48E-08
Cd-113m	1.34E-04	8.76E-02	381	1.05E-04	1.06E-04	1.48E-04	1.63E-04
Sb-125	2.01E-04	0.131	568	1.26E-04	1.26E-04	2.08E-04	2.15E-04
Sn-126	9.63E-06	6.27E-03	27.3	7.60E-06	8.23E-06	1.04E-05	1.12E-05
I-129	5.14E-07	3.35E-04	1.45	4.00E-07	4.51E-07	5.84E-07	6.80E-07
Cs-134	3.99E-06	2.60E-03	11.3	2.33E-06	3.14E-06	4.85E-06	5.68E-06
Cs-137	0.266	173	7.54E+05	0.234	0.248	0.283	0.308
Ba-137m	0.252	164	7.13E+05	0.205	0.205	0.267	0.281
Sm-151	2.26E-02	14.7	6.39E+04	1.78E-02	1.93E-02	2.45E-02	2.63E-02
Eu-152	7.56E-06	4.93E-03	21.4	6.38E-06	6.41E-06	8.17E-06	8.77E-06
Eu-154	8.14E-04	0.530	2.30E+03	5.80E-04	5.80E-04	8.98E-04	9.57E-04
Eu-155	4.80E-04	0.313	1.36E+03	4.08E-04	4.12E-04	5.18E-04	5.54E-04
Ra-226	3.91E-10	2.55E-07	1.11E-03	3.49E-10	3.62E-10	4.08E-10	4.24E-10
Ra-228	3.59E-07	2.34E-04	1.02	9.39E-08	9.39E-08	3.92E-07	4.28E-07
Ac-227	2.18E-09	1.42E-06	6.17E-03	1.94E-09	2.01E-09	2.28E-09	2.37E-09
Pa-231	6.34E-09	4.13E-06	1.80E-02	5.16E-09	5.41E-09	6.88E-09	7.40E-09
Th-229	8.32E-09	5.42E-06	2.35E-02	2.20E-09	2.20E-09	9.05E-09	9.83E-09
Th-232	3.88E-08	2.53E-05	0.110	6.06E-09	6.06E-09	4.77E-08	5.63E-08
U-232	1.06E-06	6.90E-04	3.00	8.12E-07	9.11E-07	1.23E-06	1.41E-06
U-233	4.06E-06	2.65E-03	11.5	3.11E-06	3.49E-06	4.71E-06	5.41E-06
U-234	6.50E-07	4.24E-04	1.84	6.30E-07	6.42E-07	6.59E-07	6.66E-07
U-235	2.57E-08	1.68E-05	7.29E-02	2.49E-08	2.54E-08	2.61E-08	2.64E-08
U-236	2.10E-08	1.37E-05	5.94E-02	2.04E-08	2.07E-08	2.12E-08	2.15E-08
U-238	9.10E-07	5.93E-04	2.58	8.91E-07	9.02E-07	9.18E-07	9.51E-07
Np-237	9.20E-07	5.99E-04	2.60	7.29E-07	8.14E-07	1.04E-06	1.20E-06
Pu-238	4.56E-06	2.97E-03	12.9	3.90E-06	4.43E-06	4.66E-06	4.77E-06
Pu-239	1.30E-04	8.46E-02	368	1.12E-04	1.27E-04	1.33E-04	1.35E-04
Pu-240	2.37E-05	1.54E-02	67.1	2.05E-05	2.31E-05	2.42E-05	2.47E-05
Pu-241	3.21E-04	0.209	910	2.75E-04	3.12E-04	3.29E-04	3.36E-04
Pu-242	1.84E-09	1.20E-06	5.22E-03	1.57E-09	1.79E-09	1.89E-09	1.93E-09
Am-241	1.65E-04	0.107	466	1.44E-04	1.57E-04	1.73E-04	1.81E-04
Am-243	6.74E-09	4.39E-06	1.91E-02	5.95E-09	6.52E-09	6.99E-09	7.20E-09
Cm-242	2.48E-07	1.62E-04	0.703	2.01E-07	2.01E-07	2.71E-07	2.94E-07
Cm-243	2.22E-08	1.45E-05	6.28E-02	1.77E-08	1.77E-08	2.43E-08	2.63E-08
Cm-244	4.04E-07	2.63E-04	1.15	3.37E-07	3.58E-07	4.20E-07	4.30E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.93E-03 (g/L)	----	5.47	1.64E-03	1.88E-03	1.99E-03	2.03E-03
U	7.28E-03	1.13E+03	4.91E+03	7.04E-03	7.18E-03	7.39E-03	7.47E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.91E+04 (kg)	(5.98 kgal)	----	----	----	----	----
Heat Load	1.06 (kW)	(3.61E+03 BTU/hr)	----	1.65E-03	0.386	1.32	1.46
Bulk Density	1.29 (g/cc)	----	----	1.13	1.17	1.47	1.56
Void Fraction	0.823	----	----	0.600	0.676	0.904	0.920
Water wt%	66.1	----	----	53.9	55.7	73.8	79.6
TOC wt% C (wet)	3.95E-02	----	----	7.33E-03	2.71E-02	4.47E-02	4.47E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	3.53	6.32E+04	1.84E+03	1.14	1.36	7.05	9.02
Al^{3+}	1.02	2.14E+04	625	0.977	1.00	1.03	1.04
Fe^{3+} (total Fe)	1.32	5.73E+04	1.67E+03	0.487	1.06	1.42	1.47
Cr^{3+}	2.37E-03	95.6	2.79	1.19E-03	1.66E-03	2.56E-03	2.75E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	7.87E-06	1.27	3.69E-02	7.28E-06	2.61E-06	9.36E-06	9.36E-06
Ni^{2+}	5.18E-02	2.37E+03	68.9	1.72E-02	1.79E-02	0.143	0.190
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.257	8.02E+03	234	7.36E-02	7.69E-02	0.714	0.949
K^{+}	3.70E-03	113	3.28	2.07E-03	2.41E-03	4.07E-03	4.24E-03
OH^{-}	7.32	9.67E+04	2.82E+03	4.46	6.35	7.85	8.15
$NO3^{-}$	1.00	4.83E+04	1.41E+03	0.329	0.371	3.13	1.03
$NO2^{-}$	0.200	7.15E+03	208	3.80E-03	0.125	0.227	0.254
$CO3^{2-}$	0.257	1.20E+04	350	7.36E-02	7.69E-02	0.714	0.949
$PO4^{3-}$	1.15E-02	846	24.7	1.10E-02	3.04E-03	1.39E-02	1.39E-02
$SO4^{2-}$	1.80E-02	1.34E+03	39.1	8.54E-03	1.31E-02	1.95E-02	2.11E-02
Si (as SiO_x^{2-})	1.03	2.24E+04	653	4.60E-03	1.77E-02	2.75	3.81
F^{-}	0	0	0	0	0	0	0
Cl^{-}	1.70E-02	469	13.7	9.54E-03	1.11E-02	1.87E-02	1.95E-02
$C_6H_5O_7^{3-}$	7.05E-03	1.04E+03	30.2	1.15E-03	4.42E-03	8.03E-03	8.98E-03
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	4.75E-02	628	18.3	1.78E-06	1.34E-02	5.47E-02	5.47E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.00E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	0.273 (kW)	(932 BTU/hr)	----	0.252	0.265	0.281	0.290
Bulk Density*	1.60 (g/cc)	----	----	1.56	1.58	1.62	1.63
Water wt%	34.0	----	----	31.9	32.8	35.1	36.5
TOC wt% C (wet)	1.12	----	----	0.663	0.888	1.35	1.58

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.8	1.98E+05	3.97E+04	12.9	13.4	14.2	14.6
Al^{3+}	1.71	2.89E+04	5.77E+03	1.51	1.66	1.76	1.80
Fe^{3+} (total Fe)	9.83E-03	343	68.6	8.32E-03	9.06E-03	1.06E-02	1.13E-02
Cr^{3+}	0.131	4.25E+03	849	0.113	0.122	0.135	0.140
Bi^{3+}	1.25E-03	163	32.6	1.17E-03	1.21E-03	1.29E-03	1.33E-03
La^{3+}	2.60E-05	2.26	0.452	1.91E-05	2.25E-05	2.96E-05	3.30E-05
Hg^{2+}	9.55E-06	1.20	0.239	9.12E-06	9.37E-06	9.70E-06	9.84E-06
Zr (as $ZrO(OH)_2$)	1.83E-04	10.4	2.08	1.68E-04	1.73E-04	1.89E-04	1.97E-04
Pb^{2+}	1.22E-03	158	31.6	1.01E-03	1.11E-03	1.33E-03	1.43E-03
Ni^{2+}	5.68E-03	208	41.7	5.46E-03	5.56E-03	5.74E-03	5.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.35E-03	149	29.8	3.62E-03	3.98E-03	4.72E-03	5.07E-03
Ca^{2+}	3.04E-02	761	152	2.82E-02	2.93E-02	3.15E-02	3.25E-02
K^{+}	6.54E-02	1.60E+03	320	5.89E-02	6.16E-02	6.98E-02	7.58E-02
OH^{-}	9.83	1.04E+05	2.09E+04	8.90	9.54	10.1	10.3
$NO3^{-}$	4.54	1.76E+05	3.52E+04	4.28	4.43	4.62	4.69
$NO2^{-}$	2.49	7.17E+04	1.43E+04	2.15	2.29	2.71	2.81
$CO3^{2-}$	0.482	1.81E+04	3.61E+03	0.442	0.462	0.502	0.515
$PO4^{3-}$	9.06E-02	5.38E+03	1.07E+03	8.17E-02	8.48E-02	9.45E-02	9.96E-02
$SO4^{2-}$	0.271	1.62E+04	3.25E+03	0.230	0.247	0.298	0.311
Si (as SiO_x^{2-})	7.77E-02	1.36E+03	273	6.73E-02	7.24E-02	8.30E-02	8.80E-02
F^{-}	6.57E-02	780	156	5.86E-02	6.16E-02	7.02E-02	7.70E-02
Cl^{-}	0.239	5.29E+03	1.06E+03	0.216	0.226	0.247	0.254
$C_6H_5O_7^{3-}$	3.15E-02	3.73E+03	745	2.93E-02	3.04E-02	3.28E-02	3.47E-02
$EDTA^{4-}$	2.70E-02	4.86E+03	971	8.80E-03	1.77E-02	3.63E-02	4.55E-02
$HEDTA^{3-}$	4.84E-02	8.29E+03	1.66E+03	1.20E-02	2.98E-02	6.71E-02	8.54E-02
$glycolate^{-}$	0.111	5.22E+03	1.04E+03	7.51E-02	9.28E-02	0.130	0.148
$acetate^{-}$	1.77E-02	655	131	1.44E-02	1.58E-02	1.98E-02	2.29E-02
$oxalate^{2-}$	3.41E-05	1.88	0.375	3.03E-05	3.22E-05	3.60E-05	3.79E-05
DBP	2.44E-02	3.20E+03	640	2.13E-02	2.26E-02	2.63E-02	2.91E-02
butanol	2.44E-02	1.13E+03	226	2.13E-02	2.26E-02	2.63E-02	2.91E-02
NH_3	6.81E-02	724	145	5.65E-02	6.11E-02	7.71E-02	8.76E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.29E+05 (kg)	(39.0 kgal)	----	----	----	----	----
Heat Load	1.33 (kW)	(4.54E+03 BTU/hr)	----	0.272	0.659	1.59	1.73
Bulk Density†	1.55 (g/cc)	----	----	1.51	1.53	1.58	1.59
Water wt%†	38.1	----	----	36.2	36.8	39.1	40.3
TOC wt% C (wet)†	0.983	----	----	0.583	0.779	1.19	1.38

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.2	1.81E+05	4.15E+04	11.5	11.8	12.8	13.1
Al^{3+}	1.61	2.79E+04	6.39E+03	1.44	1.57	1.65	1.68
Fe^{3+} (total Fe)	0.211	7.59E+03	1.74E+03	8.30E-02	0.171	0.227	0.235
Cr^{3+}	0.111	3.72E+03	852	9.57E-02	0.104	0.114	0.119
Bi^{3+}	1.06E-03	142	32.6	9.88E-04	1.02E-03	1.09E-03	1.13E-03
La^{3+}	2.20E-05	1.97	0.452	1.61E-05	1.90E-05	2.51E-05	2.80E-05
Hg^{2+}	8.09E-06	1.05	0.239	7.72E-06	7.93E-06	8.21E-06	8.33E-06
Zr (as $ZrO(OH)_2$)	1.55E-04	9.08	2.08	1.42E-04	1.46E-04	1.60E-04	1.67E-04
Pb^{2+}	1.04E-03	138	31.7	8.56E-04	9.44E-04	1.13E-03	1.22E-03
Ni^{2+}	1.28E-02	483	111	7.35E-03	7.51E-03	2.68E-02	3.40E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.68E-03	130	29.8	3.07E-03	3.37E-03	3.99E-03	4.29E-03
Ca^{2+}	6.52E-02	1.68E+03	386	3.65E-02	3.73E-02	0.135	0.171
K^{+}	5.59E-02	1.41E+03	323	5.04E-02	5.27E-02	5.97E-02	6.47E-02
OH^{-}	9.45	1.04E+05	2.37E+04	8.65	9.20	9.71	9.84
$NO3^{-}$	4.00	1.60E+05	3.66E+04	3.78	3.90	4.32	4.13
$NO2^{-}$	2.14	6.35E+04	1.45E+04	1.85	1.97	2.32	2.41
$CO3^{2-}$	0.447	1.73E+04	3.96E+03	0.414	0.419	0.517	0.553
$PO4^{3-}$	7.84E-02	4.80E+03	1.10E+03	7.09E-02	7.35E-02	8.17E-02	8.61E-02
$SO4^{2-}$	0.232	1.44E+04	3.29E+03	0.198	0.212	0.255	0.266
Si (as SiO_x^{2-})	0.223	4.04E+03	925	6.47E-02	6.77E-02	0.488	0.650
F^{-}	5.56E-02	681	156	4.96E-02	5.21E-02	5.94E-02	6.51E-02
Cl^{-}	0.205	4.68E+03	1.07E+03	0.185	0.194	0.212	0.218
$C_6H_5O_7^{3-}$	2.78E-02	3.38E+03	775	2.59E-02	2.68E-02	2.88E-02	3.05E-02
$EDTA^{4-}$	2.28E-02	4.24E+03	971	7.45E-03	1.50E-02	3.08E-02	3.85E-02
$HEDTA^{3-}$	4.10E-02	7.24E+03	1.66E+03	1.02E-02	2.52E-02	5.68E-02	7.23E-02
$glycolate^{-}$	9.43E-02	4.56E+03	1.04E+03	6.35E-02	7.86E-02	0.110	0.126
$acetate^{-}$	1.50E-02	571	131	1.22E-02	1.34E-02	1.67E-02	1.94E-02
$oxalate^{2-}$	2.89E-05	1.64	0.375	2.57E-05	2.72E-05	3.05E-05	3.21E-05
DBP	2.06E-02	2.80E+03	640	1.80E-02	1.92E-02	2.22E-02	2.46E-02
butanol	2.06E-02	986	226	1.80E-02	1.92E-02	2.22E-02	2.46E-02
NH_3	6.50E-02	712	163	5.51E-02	5.90E-02	7.26E-02	8.15E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.91E+04 (kg)	(5.98 kgal)	----	----	----	----	----
Heat Load	1.06 (kW)	(3.61E+03 BTU/hr)	----	1.65E-03	0.386	1.32	1.46
Bulk Density	1.29 (g/cc)	----	----	1.13	1.17	1.47	1.56
Void Fraction	0.823	----	----	0.600	0.676	0.904	0.920
Water wt%	66.1	----	----	53.9	55.7	73.8	79.6
TOC wt% C (wet)	3.95E-02	----	----	7.33E-03	2.71E-02	4.47E-02	4.47E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.78E-05	2.94E-02	0.856	9.00E-07	1.36E-05	6.00E-05	8.54E-05
C-14	1.16E-05	9.06E-03	0.264	1.90E-06	7.30E-06	1.33E-05	1.48E-05
Ni-59	5.67E-05	4.41E-02	1.28	3.75E-07	1.44E-06	2.05E-04	2.82E-04
Ni-63	5.88E-03	4.57	133	3.89E-05	1.49E-04	2.13E-02	2.92E-02
Co-60	2.80E-05	2.18E-02	0.634	4.57E-06	1.76E-05	3.19E-05	1.80E-03
Se-79	2.12E-04	0.165	4.81	3.76E-07	1.44E-06	3.32E-04	4.48E-04
Sr-90	6.92	5.38E+03	1.57E+05	8.67E-03	2.53	8.65	9.53
Y-90	6.92	5.38E+03	1.57E+05	8.67E-03	2.53	8.65	9.54
Zr-93	9.27E-04	0.720	21.0	1.78E-06	6.86E-06	1.53E-03	2.10E-03
Nb-93m	6.15E-04	0.478	13.9	1.23E-06	4.71E-06	1.04E-03	1.44E-03
Tc-99	7.74E-05	6.02E-02	1.75	1.26E-05	4.85E-05	8.81E-05	9.85E-05
Ru-106	2.58E-05	2.00E-02	0.584	2.08E-05	2.51E-05	2.61E-05	2.64E-05
Cd-113m	4.62E-03	3.59	105	1.01E-05	3.86E-05	8.22E-03	1.17E-02
Sb-125	1.75E-04	0.136	3.96	2.86E-05	1.10E-04	1.99E-04	2.23E-04
Sn-126	3.37E-04	0.262	7.62	5.76E-07	2.21E-06	5.17E-04	6.89E-04
I-129	1.51E-07	1.17E-04	3.41E-03	2.46E-08	9.45E-08	1.72E-07	1.92E-07
Cs-134	1.35E-06	1.05E-03	3.05E-02	2.20E-07	8.44E-07	1.53E-06	1.71E-06
Cs-137	1.87E-02	14.5	422	3.04E-03	1.17E-02	2.12E-02	2.37E-02
Ba-137m	1.76E-02	13.7	400	2.88E-03	1.11E-02	2.01E-02	2.25E-02
Sm-151	0.612	476	1.39E+04	1.22E-03	4.70E-03	1.03	1.43
Eu-152	9.02E-04	0.701	20.4	8.99E-04	9.01E-04	9.03E-04	9.03E-04
Eu-154	6.90E-02	53.6	1.56E+03	1.05E-04	4.32E-03	9.90E-02	0.128
Eu-155	4.37E-02	34.0	989	4.35E-02	4.36E-02	4.37E-02	4.37E-02
Ra-226	9.49E-09	7.38E-06	2.15E-04	1.37E-11	1.47E-09	1.32E-08	1.68E-08
Ra-228	3.77E-13	2.93E-10	8.53E-09	3.75E-13	3.76E-13	3.77E-13	3.77E-13
Ac-227	4.50E-08	3.50E-05	1.02E-03	7.23E-11	2.78E-10	6.66E-08	8.74E-08
Pa-231	1.41E-09	1.10E-06	3.19E-05	2.30E-10	8.84E-10	1.21E-07	2.37E-07
Th-229	3.54E-11	2.75E-08	8.01E-07	3.52E-11	3.53E-11	3.54E-11	3.54E-11
Th-232	4.92E-15	3.82E-12	1.11E-10	8.02E-16	3.08E-15	5.60E-15	6.26E-15
U-232	1.84E-11	1.43E-08	4.17E-07	3.00E-12	1.15E-11	2.10E-11	2.34E-11
U-233	2.43E-13	1.89E-10	5.51E-09	3.97E-14	1.53E-13	2.77E-13	3.10E-13
U-234	6.52E-08	5.07E-05	1.48E-03	1.06E-08	4.09E-08	7.43E-08	8.31E-08
U-235	2.51E-09	1.95E-06	5.67E-05	4.09E-10	1.57E-09	2.85E-09	3.19E-09
U-236	5.02E-09	3.90E-06	1.14E-04	8.19E-10	3.15E-09	5.72E-09	6.39E-09
U-238	4.90E-08	3.81E-05	1.11E-03	8.00E-09	3.07E-08	5.58E-08	6.24E-08
Np-237	2.49E-07	1.94E-04	5.64E-03	4.06E-08	1.56E-07	2.84E-07	3.17E-07
Pu-238	2.67E-03	2.08	60.5	1.45E-03	2.51E-03	2.75E-03	2.82E-03
Pu-239	1.81E-02	14.0	409	9.78E-03	1.70E-02	1.86E-02	1.90E-02
Pu-240	6.49E-03	5.05	147	3.52E-03	6.11E-03	6.67E-03	6.85E-03
Pu-241	0.185	144	4.18E+03	0.100	0.174	0.190	0.195
Pu-242	1.34E-06	1.04E-03	3.03E-02	7.24E-07	1.26E-06	1.37E-06	1.41E-06
Am-241	5.84E-02	45.4	1.32E+03	2.86E-02	5.46E-02	6.02E-02	6.20E-02
Am-243	6.54E-06	5.08E-03	0.148	3.20E-06	6.10E-06	6.74E-06	6.93E-06
Cm-242	7.78E-05	6.05E-02	1.76	7.76E-05	7.77E-05	7.79E-05	7.79E-05
Cm-243	9.53E-06	7.41E-03	0.216	9.50E-06	9.51E-06	9.53E-06	9.54E-06
Cm-244	3.95E-04	0.307	8.94	2.95E-04	3.82E-04	4.01E-04	4.07E-04
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0.321 (g/L)	----	7.27	0.174	0.302	0.330	0.339
U	6.18E-04	114	3.33	1.01E-04	3.87E-04	7.04E-04	7.87E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.00E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	0.273 (kW)	(932 BTU/hr)	----	0.252	0.265	0.281	0.290
Bulk Density*	1.60 (g/cc)	----	----	1.56	1.58	1.62	1.63
Water wt%†	34.0	----	----	31.9	32.8	35.1	36.5
TOC wt% C (wet)	1.12	----	----	0.663	0.888	1.35	1.58
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.52E-04	0.158	31.5	1.60E-04	1.60E-04	2.66E-04	2.84E-04
C-14	3.87E-05	2.42E-02	4.83	1.94E-05	1.94E-05	3.92E-05	3.97E-05
Ni-59	2.27E-06	1.42E-03	0.284	1.37E-06	1.37E-06	2.32E-06	2.36E-06
Ni-63	2.24E-04	0.140	28.0	1.34E-04	1.34E-04	2.29E-04	2.33E-04
Co-60	4.78E-05	2.99E-02	5.98	2.57E-05	2.57E-05	4.91E-05	5.04E-05
Se-79	3.83E-06	2.39E-03	0.479	2.60E-06	2.60E-06	4.28E-06	4.70E-06
Sr-90	0.119	74.4	1.49E+04	0.112	0.116	0.122	0.125
Y-90	0.119	74.4	1.49E+04	7.65E-02	7.65E-02	0.122	0.125
Zr-93	1.89E-05	1.18E-02	2.36	1.27E-05	1.27E-05	2.11E-05	2.32E-05
Nb-93m	1.36E-05	8.49E-03	1.70	9.27E-06	9.27E-06	1.51E-05	1.66E-05
Tc-99	2.88E-04	0.180	35.9	2.16E-04	2.51E-04	3.25E-04	3.60E-04
Ru-106	8.22E-09	5.14E-06	1.03E-03	5.37E-09	5.37E-09	8.86E-09	9.44E-09
Cd-113m	1.03E-04	6.41E-02	12.8	6.56E-05	6.56E-05	1.16E-04	1.29E-04
Sb-125	2.15E-04	0.134	26.8	1.19E-04	1.19E-04	2.23E-04	2.31E-04
Sn-126	5.78E-06	3.61E-03	0.723	3.94E-06	3.94E-06	6.45E-06	7.09E-06
I-129	5.55E-07	3.47E-04	6.94E-02	4.16E-07	4.84E-07	6.27E-07	6.96E-07
Cs-134	3.79E-06	2.37E-03	0.473	2.41E-06	3.08E-06	4.49E-06	5.19E-06
Cs-137	0.295	184	3.68E+04	0.268	0.281	0.308	0.325
Ba-137m	0.279	174	3.48E+04	0.237	0.237	0.292	0.304
Sm-151	1.35E-02	8.42	1.68E+03	9.16E-03	9.16E-03	1.50E-02	1.65E-02
Eu-152	4.98E-06	3.12E-03	0.623	3.46E-06	3.46E-06	5.49E-06	5.98E-06
Eu-154	7.46E-04	0.466	93.2	4.38E-04	4.38E-04	8.57E-04	9.02E-04
Eu-155	2.95E-04	0.184	36.9	2.04E-04	2.04E-04	3.26E-04	3.56E-04
Ra-226	1.51E-10	9.41E-08	1.88E-05	1.12E-10	1.12E-10	1.64E-10	1.78E-10
Ra-228	3.04E-07	1.90E-04	3.79E-02	1.12E-07	1.12E-07	3.44E-07	3.86E-07
Ac-227	9.38E-10	5.86E-07	1.17E-04	7.16E-10	7.16E-10	1.02E-09	1.10E-09
Pa-231	4.47E-09	2.80E-06	5.59E-04	3.24E-09	3.24E-09	4.92E-09	5.35E-09
Th-229	7.05E-09	4.41E-06	8.81E-04	2.64E-09	2.64E-09	7.93E-09	8.87E-09
Th-232	3.09E-08	1.93E-05	3.86E-03	7.27E-09	7.27E-09	3.74E-08	4.36E-08
U-232	1.01E-06	6.28E-04	0.126	7.34E-07	8.67E-07	1.17E-06	1.34E-06
U-233	3.85E-06	2.41E-03	0.482	2.82E-06	3.32E-06	4.47E-06	5.12E-06
U-234	7.80E-07	4.88E-04	9.75E-02	7.55E-07	7.68E-07	7.94E-07	8.01E-07
U-235	3.12E-08	1.95E-05	3.90E-03	3.02E-08	3.07E-08	3.18E-08	3.21E-08
U-236	2.50E-08	1.56E-05	3.12E-03	2.42E-08	2.46E-08	2.53E-08	2.56E-08
U-238	1.01E-06	6.31E-04	0.126	9.85E-07	9.97E-07	1.02E-06	1.04E-06
Np-237	1.02E-06	6.35E-04	0.127	7.81E-07	8.96E-07	1.14E-06	1.25E-06
Pu-238	1.53E-06	9.59E-04	0.192	1.26E-06	1.39E-06	1.67E-06	1.81E-06
Pu-239	5.00E-05	3.12E-02	6.24	4.29E-05	4.64E-05	5.36E-05	5.70E-05
Pu-240	8.64E-06	5.40E-03	1.08	7.33E-06	7.97E-06	9.31E-06	9.96E-06
Pu-241	1.05E-04	6.59E-02	13.2	8.66E-05	9.59E-05	1.15E-04	1.24E-04
Pu-242	5.84E-10	3.65E-07	7.30E-05	4.72E-10	5.27E-10	6.42E-10	6.97E-10
Am-241	6.33E-05	3.96E-02	7.91	5.02E-05	5.66E-05	7.00E-05	7.64E-05
Am-243	2.43E-09	1.52E-06	3.04E-04	1.98E-09	2.19E-09	2.71E-09	2.95E-09
Cm-242	1.85E-07	1.16E-04	2.31E-02	1.22E-07	1.22E-07	2.04E-07	2.23E-07
Cm-243	1.78E-08	1.11E-05	2.22E-03	1.18E-08	1.18E-08	1.97E-08	2.15E-08
Cm-244	1.37E-07	8.59E-05	1.72E-02	7.59E-08	7.59E-08	1.58E-07	1.72E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.95E-04 (g/L)	----	7.44E-02	4.61E-04	5.27E-04	6.63E-04	7.28E-04
U	8.82E-03	1.31E+03	262	8.53E-03	8.67E-03	8.99E-03	9.07E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.29E+05 (kg)	(39.0 kgal)	----	----	----	----	----
Heat Load	1.33 (kW)	(4.54E+03 BTU/hr)	----	0.272	0.659	1.59	1.73
Bulk Density†	1.55 (g/cc)	----	----	1.51	1.53	1.58	1.59
Water wt%†	38.1	----	----	36.2	36.8	39.1	40.3
TOC wt% C (wet)†	0.983	----	----	0.583	0.779	1.19	1.38
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.19E-04	0.141	32.4	1.41E-04	1.41E-04	2.31E-04	2.46E-04
C-14	3.45E-05	2.23E-02	5.10	1.82E-05	1.82E-05	3.52E-05	3.59E-05
Ni-59	1.06E-05	6.84E-03	1.57	1.83E-06	2.07E-06	3.34E-05	4.51E-05
Ni-63	1.09E-03	0.704	161	1.79E-04	2.05E-04	3.46E-03	4.67E-03
Co-60	4.48E-05	2.89E-02	6.61	2.61E-05	2.61E-05	4.65E-05	3.16E-04
Se-79	3.58E-05	2.31E-02	5.29	3.20E-06	3.45E-06	5.42E-05	7.18E-05
Sr-90	1.16	749	1.72E+05	0.101	0.488	1.43	1.56
Y-90	1.16	750	1.72E+05	0.101	0.488	1.43	1.56
Zr-93	1.58E-04	0.102	23.3	1.58E-05	1.69E-05	2.50E-04	3.38E-04
Nb-93m	1.06E-04	6.83E-02	15.6	1.13E-05	1.22E-05	1.70E-04	2.32E-04
Tc-99	2.55E-04	0.165	37.7	1.94E-04	2.24E-04	2.87E-04	3.17E-04
Ru-106	3.96E-06	2.55E-03	0.585	3.20E-06	3.86E-06	4.01E-06	4.05E-06
Cd-113m	7.95E-04	0.513	117	8.54E-05	9.21E-05	1.35E-03	1.87E-03
Sb-125	2.09E-04	0.134	30.8	1.28E-04	1.28E-04	2.19E-04	2.29E-04
Sn-126	5.65E-05	3.64E-02	8.35	4.84E-06	5.22E-06	8.41E-05	1.11E-04
I-129	4.93E-07	3.18E-04	7.28E-02	3.75E-07	4.33E-07	5.54E-07	6.13E-07
Cs-134	3.41E-06	2.20E-03	0.504	2.25E-06	2.82E-06	4.01E-06	4.60E-06
Cs-137	0.252	163	3.73E+04	0.230	0.241	0.264	0.278
Ba-137m	0.239	154	3.52E+04	0.203	0.203	0.250	0.260
Sm-151	0.105	67.9	1.55E+04	1.12E-02	1.21E-02	0.170	0.231
Eu-152	1.43E-04	9.19E-02	21.1	1.41E-04	1.41E-04	1.43E-04	1.43E-04
Eu-154	1.12E-02	7.23	1.66E+03	6.24E-04	1.29E-03	1.58E-02	2.02E-02
Eu-155	6.95E-03	4.48	1.03E+03	6.87E-03	6.87E-03	6.98E-03	7.00E-03
Ra-226	1.58E-09	1.02E-06	2.34E-04	1.27E-10	3.53E-10	2.15E-09	2.70E-09
Ra-228	2.57E-07	1.66E-04	3.79E-02	9.51E-08	9.51E-08	2.91E-07	3.27E-07
Ac-227	7.70E-09	4.96E-06	1.14E-03	7.88E-10	8.36E-10	1.10E-08	1.42E-08
Pa-231	4.00E-09	2.58E-06	5.91E-04	2.96E-09	2.96E-09	2.24E-08	4.00E-08
Th-229	5.98E-09	3.85E-06	8.82E-04	2.24E-09	2.24E-09	6.72E-09	7.51E-09
Th-232	2.62E-08	1.69E-05	3.86E-03	6.15E-09	6.15E-09	3.16E-08	3.69E-08
U-232	8.51E-07	5.48E-04	0.126	6.22E-07	7.34E-07	9.87E-07	1.13E-06
U-233	3.26E-06	2.10E-03	0.482	2.38E-06	2.81E-06	3.78E-06	4.34E-06
U-234	6.71E-07	4.32E-04	9.90E-02	6.49E-07	6.60E-07	6.82E-07	6.88E-07
U-235	2.68E-08	1.73E-05	3.96E-03	2.59E-08	2.64E-08	2.73E-08	2.75E-08
U-236	2.19E-08	1.41E-05	3.23E-03	2.09E-08	2.14E-08	2.22E-08	2.25E-08
U-238	8.62E-07	5.55E-04	0.127	8.42E-07	8.51E-07	8.73E-07	8.87E-07
Np-237	8.99E-07	5.79E-04	0.133	7.00E-07	7.97E-07	1.00E-06	1.10E-06
Pu-238	4.11E-04	0.265	60.7	2.23E-04	3.87E-04	4.22E-04	4.33E-04
Pu-239	2.81E-03	1.81	415	1.54E-03	2.65E-03	2.89E-03	2.96E-03
Pu-240	1.00E-03	0.647	148	5.47E-04	9.44E-04	1.03E-03	1.06E-03
Pu-241	2.84E-02	18.3	4.20E+03	1.54E-02	2.67E-02	2.92E-02	3.00E-02
Pu-242	2.06E-07	1.32E-04	3.03E-02	1.12E-07	1.93E-07	2.11E-07	2.17E-07
Am-241	9.02E-03	5.81	1.33E+03	4.44E-03	8.42E-03	9.30E-03	9.56E-03
Am-243	1.00E-06	6.48E-04	0.148	4.93E-07	9.38E-07	1.04E-06	1.07E-06
Cm-242	1.21E-05	7.80E-03	1.79	1.20E-05	1.20E-05	1.21E-05	1.21E-05
Cm-243	1.48E-06	9.52E-04	0.218	1.47E-06	1.47E-06	1.48E-06	1.48E-06
Cm-244	6.07E-05	3.91E-02	8.96	4.54E-05	5.87E-05	6.16E-05	6.25E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.98E-02 (g/L)	----	7.35	2.72E-02	4.68E-02	5.11E-02	5.24E-02
U	7.57E-03	1.16E+03	266	7.31E-03	7.43E-03	7.71E-03	7.77E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.12E+04 (kg)	(14.0 kgal)	----	----	----	----	----
Heat Load	5.93 (kW)	(2.02E+04 BTU/hr)	----	5.22	5.72	6.06	6.15
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.03	6.89E+04	4.91E+03	0.428	2.83	4.78	5.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.96	1.23E+05	8.76E+03	2.86	2.93	2.97	2.98
Cr^{3+}	6.51E-03	252	17.9	2.46E-03	4.49E-03	8.54E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.82E-02	2.54E+03	181	1.23E-03	3.45E-02	6.99E-02	7.66E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.243	7.25E+03	516	5.58E-03	0.125	0.302	0.335
K^+	4.59E-03	133	9.50	1.74E-03	3.17E-03	6.02E-03	7.41E-03
OH^-	9.15	1.16E+05	8.24E+03	8.64	8.97	9.26	9.34
$NO3^-$	6.17E-17	2.85E-12	2.03E-13	7.32E-18	1.96E-17	2.81E-16	5.59E-15
$NO2^-$	0.587	2.01E+04	1.43E+03	0.222	0.405	0.771	0.948
$CO3^{2-}$	0.243	1.09E+04	773	5.58E-03	0.125	0.302	0.335
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.129	9.23E+03	657	4.89E-02	8.91E-02	0.170	0.209
Si (as SiO_x^{2-})	1.52	3.18E+04	2.27E+03	2.83E-02	1.08	1.75	1.94
F^-	0	0	0	0	0	0	0
Cl^-	2.11E-02	556	39.6	7.98E-03	1.46E-02	2.77E-02	3.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.270	3.41E+03	243	0.106	0.190	0.352	0.431
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.49E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	0.627 (kW)	(2.14E+03 BTU/hr)	----	0.568	0.599	0.651	0.688
Bulk Density*	1.48 (g/cc)	----	----	1.43	1.46	1.50	1.50
Water wt%	43.1	----	----	40.9	41.6	44.5	46.4
TOC wt% C (wet)	1.14	----	----	0.666	0.898	1.38	1.61

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.0	1.71E+05	9.38E+04	10.00	10.5	11.4	11.7
Al^{3+}	1.38	2.51E+04	1.38E+04	1.15	1.33	1.41	1.45
Fe^{3+} (total Fe)	7.44E-03	281	154	6.39E-03	6.91E-03	7.98E-03	8.50E-03
Cr^{3+}	9.48E-02	3.33E+03	1.83E+03	8.39E-02	8.98E-02	9.96E-02	0.106
Bi^{3+}	9.86E-04	139	76.4	9.24E-04	9.54E-04	1.02E-03	1.06E-03
La^{3+}	1.75E-05	1.65	0.904	1.30E-05	1.52E-05	1.99E-05	2.22E-05
Hg^{2+}	7.92E-06	1.07	0.589	7.58E-06	7.74E-06	8.09E-06	8.26E-06
Zr (as $ZrO(OH)_2$)	1.22E-04	7.55	4.14	1.13E-04	1.16E-04	1.26E-04	1.32E-04
Pb^{2+}	1.07E-03	150	82.5	8.25E-04	9.47E-04	1.20E-03	1.32E-03
Ni^{2+}	4.19E-03	166	91.4	4.03E-03	4.11E-03	4.23E-03	4.27E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.65E-03	136	74.5	3.15E-03	3.40E-03	3.91E-03	4.16E-03
Ca^{2+}	2.27E-02	615	338	2.12E-02	2.19E-02	2.35E-02	2.42E-02
K^+	5.27E-02	1.39E+03	765	4.51E-02	4.83E-02	5.79E-02	6.49E-02
OH^-	7.78	8.94E+04	4.91E+04	6.69	7.48	7.97	8.14
$NO3^-$	3.49	1.46E+05	8.02E+04	3.31	3.40	3.58	3.67
$NO2^-$	1.98	6.16E+04	3.38E+04	1.58	1.75	2.23	2.30
$CO3^{2-}$	0.421	1.71E+04	9.38E+03	0.381	0.401	0.442	0.456
$PO4^{3-}$	7.43E-02	4.76E+03	2.62E+03	6.40E-02	6.84E-02	7.88E-02	8.49E-02
$SO4^{2-}$	0.229	1.48E+04	8.15E+03	0.182	0.201	0.261	0.263
Si (as SiO_x^{2-})	6.15E-02	1.17E+03	640	5.42E-02	5.78E-02	6.52E-02	6.87E-02
F^-	5.36E-02	689	378	4.55E-02	4.89E-02	5.89E-02	6.68E-02
Cl^-	0.191	4.56E+03	2.51E+03	0.163	0.176	0.196	0.201
$C_6H_5O_7^{3-}$	2.74E-02	3.50E+03	1.92E+03	2.51E-02	2.61E-02	2.89E-02	3.12E-02
$EDTA^{4-}$	2.60E-02	5.07E+03	2.78E+03	8.64E-03	1.71E-02	3.50E-02	4.37E-02
$HEDTA^{3-}$	4.62E-02	8.55E+03	4.70E+03	1.14E-02	2.84E-02	6.41E-02	8.15E-02
$glycolate^-$	0.111	5.65E+03	3.10E+03	7.67E-02	9.37E-02	0.129	0.147
$acetate^-$	1.87E-02	747	410	1.49E-02	1.65E-02	2.11E-02	2.48E-02
$oxalate^{2-}$	2.30E-05	1.37	0.750	2.05E-05	2.17E-05	2.43E-05	2.55E-05
DBP	2.15E-02	3.05E+03	1.67E+03	1.78E-02	1.94E-02	2.37E-02	2.70E-02
butanol	2.15E-02	1.07E+03	590	1.78E-02	1.94E-02	2.37E-02	2.70E-02
NH_3	4.76E-02	547	300	3.94E-02	4.27E-02	5.39E-02	6.12E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.20E+05 (kg)	(112 kgal)	----	----	----	----	----
Heat Load	6.56 (kW)	(2.24E+04 BTU/hr)	----	5.82	6.33	6.70	6.81
Bulk Density†	1.46 (g/cc)	----	----	1.42	1.45	1.48	1.48
Water wt%†	45.2	----	----	43.2	43.9	46.5	48.1
TOC wt% C (wet)†	1.01	----	----	0.589	0.794	1.22	1.43

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.1	1.59E+05	9.87E+04	9.25	9.71	10.5	10.7
Al^{3+}	1.21	2.22E+04	1.38E+04	1.00	1.16	1.24	1.27
Fe^{3+} (total Fe)	0.376	1.44E+04	8.91E+03	0.364	0.373	0.378	0.379
Cr^{3+}	8.38E-02	2.98E+03	1.85E+03	7.43E-02	7.94E-02	8.79E-02	9.38E-02
Bi^{3+}	8.63E-04	123	76.4	8.09E-04	8.35E-04	8.90E-04	9.32E-04
La^{3+}	1.54E-05	1.46	0.904	1.13E-05	1.33E-05	1.74E-05	1.94E-05
Hg^{2+}	6.93E-06	0.950	0.589	6.63E-06	6.78E-06	7.08E-06	7.23E-06
Zr (as $ZrO(OH)_2$)	1.07E-04	6.68	4.14	9.90E-05	1.02E-04	1.11E-04	1.15E-04
Pb^{2+}	9.39E-04	133	82.5	7.22E-04	8.28E-04	1.05E-03	1.16E-03
Ni^{2+}	1.09E-02	439	272	3.81E-03	7.99E-03	1.24E-02	1.32E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.20E-03	120	74.5	2.75E-03	2.97E-03	3.42E-03	3.64E-03
Ca^{2+}	5.03E-02	1.38E+03	854	2.05E-02	3.55E-02	5.76E-02	6.18E-02
K^+	4.67E-02	1.25E+03	775	4.01E-02	4.29E-02	5.12E-02	5.73E-02
OH^-	7.95	9.24E+04	5.73E+04	6.99	7.68	8.11	8.26
$NO3^-$	3.05	1.29E+05	8.02E+04	2.89	2.97	3.13	3.21
$NO2^-$	1.81	5.68E+04	3.53E+04	1.46	1.60	2.03	2.09
$CO3^{2-}$	0.399	1.64E+04	1.02E+04	0.363	0.381	0.417	0.429
$PO4^{3-}$	6.50E-02	4.22E+03	2.62E+03	5.60E-02	5.99E-02	6.90E-02	7.43E-02
$SO4^{2-}$	0.216	1.42E+04	8.81E+03	0.175	0.192	0.244	0.246
Si (as SiO_x^{2-})	0.244	4.69E+03	2.91E+03	5.72E-02	0.188	0.272	0.295
F^-	4.69E-02	610	378	3.98E-02	4.28E-02	5.16E-02	5.85E-02
Cl^-	0.169	4.10E+03	2.55E+03	0.146	0.156	0.174	0.179
$C_6H_5O_7^{3-}$	2.40E-02	3.10E+03	1.92E+03	2.19E-02	2.28E-02	2.53E-02	2.73E-02
$EDTA^{4-}$	2.28E-02	4.48E+03	2.78E+03	7.56E-03	1.50E-02	3.06E-02	3.82E-02
$HEDTA^{3-}$	4.04E-02	7.57E+03	4.70E+03	9.99E-03	2.49E-02	5.61E-02	7.13E-02
$glycolate^-$	9.75E-02	5.00E+03	3.10E+03	6.71E-02	8.20E-02	0.113	0.128
$acetate^-$	1.64E-02	661	410	1.30E-02	1.44E-02	1.85E-02	2.17E-02
$oxalate^{2-}$	2.01E-05	1.21	0.750	1.79E-05	1.90E-05	2.12E-05	2.23E-05
DBP	1.88E-02	2.70E+03	1.67E+03	1.56E-02	1.70E-02	2.07E-02	2.36E-02
butanol	1.88E-02	951	590	1.56E-02	1.70E-02	2.07E-02	2.36E-02
NH_3	7.54E-02	876	543	5.42E-02	6.49E-02	8.63E-02	9.71E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.12E+04 (kg)	(14.0 kgal)	----	----	----	----	----
Heat Load	5.93 (kW)	(2.02E+04 BTU/hr)	----	5.22	5.72	6.06	6.15
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.50E-02	6.76	1.76E-05	5.96E-05	2.22E-04	3.38E-04
C-14	2.38E-05	1.77E-02	1.26	9.00E-06	1.64E-05	3.12E-05	3.84E-05
Ni-59	1.18E-04	8.77E-02	6.25	2.49E-06	7.00E-05	1.42E-04	1.55E-04
Ni-63	1.18E-02	8.81	627	2.50E-04	7.03E-03	1.42E-02	1.56E-02
Co-60	3.28E-05	2.44E-02	1.74	1.24E-05	2.26E-05	4.30E-05	3.17E-04
Se-79	1.12E-04	8.30E-02	5.91	1.02E-05	8.53E-05	1.29E-04	1.47E-04
Sr-90	16.2	1.20E+04	8.57E+05	14.5	15.7	16.4	16.5
Y-90	16.2	1.20E+04	8.58E+05	14.5	15.7	16.4	16.5
Zr-93	5.12E-04	0.381	27.1	9.11E-06	3.81E-04	6.02E-04	6.87E-04
Nb-93m	3.85E-04	0.286	20.4	3.00E-05	2.93E-04	4.47E-04	5.07E-04
Tc-99	1.69E-04	0.125	8.94	6.38E-05	1.16E-04	2.21E-04	2.72E-04
Ru-106	3.82E-07	2.84E-04	2.02E-02	1.29E-07	3.16E-07	4.27E-07	4.70E-07
Cd-113m	2.20E-03	1.63	116	4.41E-05	1.41E-03	2.73E-03	3.25E-03
Sb-125	1.47E-04	0.110	7.80	5.57E-05	1.02E-04	1.93E-04	2.38E-04
Sn-126	1.74E-04	0.129	9.22	2.20E-05	1.35E-04	2.01E-04	2.27E-04
I-129	3.26E-07	2.43E-04	1.73E-02	1.23E-07	2.25E-07	4.28E-07	5.27E-07
Cs-134	7.82E-06	5.81E-03	0.414	2.96E-06	5.39E-06	1.03E-05	1.26E-05
Cs-137	0.622	463	3.30E+04	0.235	0.429	0.816	1.00
Ba-137m	0.589	438	3.12E+04	0.223	0.406	0.772	0.950
Sm-151	0.416	309	2.20E+04	6.12E-02	0.324	0.478	0.538
Eu-152	1.27E-04	9.44E-02	6.73	1.25E-04	1.26E-04	1.28E-04	1.29E-04
Eu-154	7.32E-03	5.44	388	2.36E-04	7.46E-04	1.18E-02	1.61E-02
Eu-155	9.46E-03	7.03	501	9.28E-03	9.37E-03	9.55E-03	9.64E-03
Ra-226	7.40E-09	5.51E-06	3.92E-04	4.26E-09	6.59E-09	7.96E-09	8.49E-09
Ra-228	6.70E-14	4.98E-11	3.55E-09	6.57E-14	6.63E-14	6.76E-14	6.82E-14
Ac-227	3.99E-08	2.97E-05	2.11E-03	2.17E-08	3.52E-08	4.31E-08	4.62E-08
Pa-231	8.99E-08	6.68E-05	4.76E-03	1.67E-09	6.36E-08	1.08E-07	1.25E-07
Th-229	1.05E-11	7.77E-09	5.54E-07	1.03E-11	1.04E-11	1.06E-11	1.06E-11
Th-232	6.04E-15	4.49E-12	3.20E-10	2.28E-15	4.17E-15	7.93E-15	9.75E-15
U-232	8.40E-12	6.24E-09	4.45E-07	3.18E-12	5.79E-12	1.10E-11	1.36E-11
U-233	1.98E-13	1.47E-10	1.05E-08	7.49E-14	1.37E-13	2.60E-13	3.20E-13
U-234	1.04E-07	7.70E-05	5.48E-03	3.91E-08	7.14E-08	1.36E-07	1.67E-07
U-235	4.32E-09	3.21E-06	2.29E-04	1.63E-09	2.98E-09	5.67E-09	6.97E-09
U-236	2.82E-09	2.10E-06	1.50E-04	1.07E-09	1.95E-09	3.71E-09	4.56E-09
U-238	1.01E-07	7.49E-05	5.34E-03	3.81E-08	6.95E-08	1.32E-07	1.63E-07
Np-237	3.61E-07	2.68E-04	1.91E-02	1.36E-07	2.49E-07	4.73E-07	5.82E-07
Pu-238	9.43E-05	7.01E-02	5.00	7.72E-05	8.99E-05	9.73E-05	1.00E-04
Pu-239	2.44E-03	1.82	129	2.00E-03	2.33E-03	2.52E-03	2.60E-03
Pu-240	4.66E-04	0.347	24.7	3.82E-04	4.44E-04	4.81E-04	4.95E-04
Pu-241	6.71E-03	4.99	356	5.50E-03	6.40E-03	6.93E-03	7.13E-03
Pu-242	3.88E-08	2.89E-05	2.06E-03	3.18E-08	3.70E-08	4.01E-08	4.12E-08
Am-241	3.84E-03	2.86	204	2.32E-03	3.45E-03	4.11E-03	4.37E-03
Am-243	1.18E-07	8.77E-05	6.24E-03	7.12E-08	1.06E-07	1.26E-07	1.34E-07
Cm-242	3.51E-06	2.61E-03	0.186	3.44E-06	3.48E-06	3.54E-06	3.58E-06
Cm-243	2.70E-07	2.01E-04	1.43E-02	2.64E-07	2.67E-07	2.72E-07	2.75E-07
Cm-244	8.29E-06	6.17E-03	0.439	3.22E-06	6.98E-06	9.18E-06	1.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.14E-02 (g/L)	----	2.19	3.39E-02	3.95E-02	4.28E-02	4.40E-02
U	1.27E-03	224	16.0	4.80E-04	8.75E-04	1.66E-03	2.05E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.49E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	0.627 (kW)	(2.14E+03 BTU/hr)	----	0.568	0.599	0.651	0.688
Bulk Density*	1.48 (g/cc)	----	----	1.43	1.46	1.50	1.50
Water wt%†	43.1	----	----	40.9	41.6	44.5	46.4
TOC wt% C (wet)	1.14	----	----	0.666	0.898	1.38	1.61
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.97E-04	0.133	73.0	1.32E-04	1.32E-04	2.10E-04	2.27E-04
C-14	3.07E-05	2.07E-02	11.4	1.72E-05	1.72E-05	3.12E-05	3.18E-05
Ni-59	1.58E-06	1.07E-03	0.586	9.46E-07	9.46E-07	1.61E-06	1.64E-06
Ni-63	1.55E-04	0.105	57.7	9.28E-05	9.28E-05	1.59E-04	1.62E-04
Co-60	3.89E-05	2.63E-02	14.4	2.34E-05	2.34E-05	3.98E-05	4.08E-05
Se-79	3.05E-06	2.06E-03	1.13	2.19E-06	2.19E-06	3.36E-06	3.66E-06
Sr-90	9.41E-02	63.6	3.49E+04	8.71E-02	9.19E-02	9.62E-02	9.83E-02
Y-90	9.41E-02	63.6	3.49E+04	6.44E-02	6.44E-02	9.63E-02	9.83E-02
Zr-93	1.50E-05	1.01E-02	5.57	1.07E-05	1.07E-05	1.66E-05	1.81E-05
Nb-93m	1.08E-05	7.29E-03	4.00	7.78E-06	7.78E-06	1.19E-05	1.29E-05
Tc-99	2.33E-04	0.157	86.5	1.83E-04	2.06E-04	2.64E-04	3.05E-04
Ru-106	7.02E-09	4.75E-06	2.61E-03	5.03E-09	5.03E-09	7.64E-09	8.23E-09
Cd-113m	8.19E-05	5.54E-02	30.4	5.61E-05	5.61E-05	9.13E-05	1.00E-04
Sb-125	1.74E-04	0.118	64.6	1.07E-04	1.07E-04	1.80E-04	1.85E-04
Sn-126	4.61E-06	3.11E-03	1.71	3.32E-06	3.32E-06	5.07E-06	5.52E-06
I-129	4.50E-07	3.04E-04	0.167	3.53E-07	3.97E-07	5.10E-07	5.91E-07
Cs-134	3.22E-06	2.17E-03	1.19	1.90E-06	2.54E-06	3.89E-06	4.55E-06
Cs-137	0.225	152	8.36E+04	0.198	0.210	0.239	0.260
Ba-137m	0.213	144	7.91E+04	0.174	0.174	0.225	0.236
Sm-151	1.07E-02	7.25	3.98E+03	7.72E-03	7.72E-03	1.18E-02	1.29E-02
Eu-152	4.00E-06	2.70E-03	1.48	2.93E-06	2.93E-06	4.48E-06	4.95E-06
Eu-154	6.05E-04	0.409	224	3.90E-04	3.90E-04	6.83E-04	7.26E-04
Eu-155	2.40E-04	0.162	88.9	1.76E-04	1.76E-04	2.69E-04	2.98E-04
Ra-226	1.18E-10	7.94E-08	4.36E-05	9.08E-11	9.08E-11	1.27E-10	1.36E-10
Ra-228	3.08E-07	2.08E-04	0.114	8.37E-08	8.37E-08	3.37E-07	3.69E-07
Ac-227	7.29E-10	4.93E-07	2.70E-04	5.74E-10	5.74E-10	7.85E-10	8.39E-10
Pa-231	3.48E-09	2.35E-06	1.29E-03	2.62E-09	2.62E-09	3.79E-09	4.09E-09
Th-229	7.13E-09	4.82E-06	2.65E-03	1.96E-09	1.96E-09	7.79E-09	8.48E-09
Th-232	3.31E-08	2.23E-05	1.23E-02	5.40E-09	5.40E-09	4.06E-08	4.79E-08
U-232	9.20E-07	6.22E-04	0.341	7.10E-07	7.94E-07	1.06E-06	1.22E-06
U-233	3.53E-06	2.38E-03	1.31	2.72E-06	3.04E-06	4.08E-06	4.66E-06
U-234	5.84E-07	3.94E-04	0.216	5.65E-07	5.76E-07	5.91E-07	5.98E-07
U-235	2.31E-08	1.56E-05	8.58E-03	2.24E-08	2.28E-08	2.35E-08	2.37E-08
U-236	1.88E-08	1.27E-05	6.96E-03	1.82E-08	1.85E-08	1.90E-08	1.92E-08
U-238	8.08E-07	5.46E-04	0.300	7.91E-07	8.01E-07	8.17E-07	8.43E-07
Np-237	8.12E-07	5.49E-04	0.301	6.48E-07	7.23E-07	9.12E-07	1.05E-06
Pu-238	1.22E-06	8.21E-04	0.451	1.02E-06	1.12E-06	1.31E-06	1.41E-06
Pu-239	3.99E-05	2.69E-02	14.8	3.49E-05	3.74E-05	4.24E-05	4.48E-05
Pu-240	6.91E-06	4.67E-03	2.56	5.99E-06	6.44E-06	7.38E-06	7.83E-06
Pu-241	8.43E-05	5.69E-02	31.3	7.11E-05	7.76E-05	9.10E-05	9.75E-05
Pu-242	4.63E-10	3.13E-07	1.72E-04	3.84E-10	4.23E-10	5.03E-10	5.41E-10
Am-241	5.08E-05	3.43E-02	18.9	4.17E-05	4.62E-05	5.55E-05	6.00E-05
Am-243	2.01E-09	1.36E-06	7.44E-04	1.54E-09	1.75E-09	2.30E-09	2.55E-09
Cm-242	1.34E-07	9.05E-05	4.97E-02	9.01E-08	9.01E-08	1.52E-07	1.70E-07
Cm-243	1.25E-08	8.43E-06	4.63E-03	8.31E-09	8.31E-09	1.41E-08	1.57E-08
Cm-244	1.08E-07	7.31E-05	4.01E-02	6.51E-08	6.51E-08	1.23E-07	1.32E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.61E-04 (g/L)	----	0.171	3.67E-04	4.13E-04	5.08E-04	5.54E-04
U	6.54E-03	1.05E+03	578	6.33E-03	6.45E-03	6.65E-03	6.72E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.20E+05 (kg)	(112 kgal)	----	----	----	----	----
Heat Load	6.56 (kW)	(2.24E+04 BTU/hr)	----	5.82	6.33	6.70	6.81
Bulk Density†	1.46 (g/cc)	----	----	1.42	1.45	1.48	1.48
Water wt%†	45.2	----	----	43.2	43.9	46.5	48.1
TOC wt% C (wet)†	1.01	----	----	0.589	0.794	1.22	1.43
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.88E-04	0.129	79.8	1.32E-04	1.32E-04	2.04E-04	2.23E-04
C-14	2.98E-05	2.04E-02	12.6	1.80E-05	1.80E-05	3.10E-05	3.22E-05
Ni-59	1.61E-05	1.10E-02	6.83	1.67E-06	1.01E-05	1.91E-05	2.08E-05
Ni-63	1.62E-03	1.10	685	1.65E-04	1.01E-03	1.91E-03	2.08E-03
Co-60	3.81E-05	2.60E-02	16.2	2.46E-05	2.46E-05	3.98E-05	7.32E-05
Se-79	1.66E-05	1.14E-02	7.04	3.94E-06	1.33E-05	1.88E-05	2.09E-05
Sr-90	2.10	1.44E+03	8.92E+05	1.89	2.05	2.13	2.15
Y-90	2.11	1.44E+03	8.93E+05	1.89	2.05	2.13	2.15
Zr-93	7.72E-05	5.27E-02	32.7	1.43E-05	6.07E-05	8.82E-05	9.88E-05
Nb-93m	5.75E-05	3.93E-02	24.4	1.32E-05	4.60E-05	6.53E-05	7.27E-05
Tc-99	2.25E-04	0.154	95.4	1.81E-04	2.01E-04	2.52E-04	2.88E-04
Ru-106	5.39E-08	3.68E-05	2.28E-02	2.22E-08	4.57E-08	5.94E-08	6.47E-08
Cd-113m	3.46E-04	0.237	147	7.69E-05	2.48E-04	4.12E-04	4.76E-04
Sb-125	1.71E-04	0.117	72.4	1.12E-04	1.12E-04	1.78E-04	1.86E-04
Sn-126	2.58E-05	1.76E-02	10.9	6.78E-06	2.09E-05	2.91E-05	3.23E-05
I-129	4.35E-07	2.97E-04	0.184	3.50E-07	3.88E-07	4.87E-07	5.58E-07
Cs-134	3.79E-06	2.59E-03	1.61	2.64E-06	3.20E-06	4.38E-06	4.96E-06
Cs-137	0.275	188	1.17E+05	0.212	0.243	0.307	0.338
Ba-137m	0.260	178	1.10E+05	0.200	0.226	0.290	0.320
Sm-151	6.14E-02	41.9	2.60E+04	1.70E-02	4.99E-02	6.91E-02	7.65E-02
Eu-152	1.94E-05	1.32E-02	8.21	1.84E-05	1.84E-05	1.98E-05	2.02E-05
Eu-154	1.44E-03	0.987	612	5.52E-04	6.23E-04	2.00E-03	2.53E-03
Eu-155	1.39E-03	0.951	590	1.34E-03	1.34E-03	1.42E-03	1.44E-03
Ra-226	1.03E-09	7.02E-07	4.36E-04	6.35E-10	9.26E-10	1.10E-09	1.16E-09
Ra-228	2.69E-07	1.84E-04	0.114	7.32E-08	7.32E-08	2.95E-07	3.23E-07
Ac-227	5.62E-09	3.84E-06	2.38E-03	3.34E-09	5.03E-09	6.02E-09	6.40E-09
Pa-231	1.43E-08	9.75E-06	6.05E-03	3.25E-09	1.10E-08	1.65E-08	1.86E-08
Th-229	6.24E-09	4.27E-06	2.65E-03	1.72E-09	1.72E-09	6.81E-09	7.42E-09
Th-232	2.89E-08	1.98E-05	1.23E-02	4.73E-09	4.73E-09	3.56E-08	4.19E-08
U-232	8.05E-07	5.50E-04	0.341	6.21E-07	6.95E-07	9.31E-07	1.06E-06
U-233	3.09E-06	2.11E-03	1.31	2.38E-06	2.66E-06	3.57E-06	4.08E-06
U-234	5.24E-07	3.58E-04	0.222	5.07E-07	5.17E-07	5.31E-07	5.36E-07
U-235	2.08E-08	1.42E-05	8.81E-03	2.01E-08	2.05E-08	2.11E-08	2.13E-08
U-236	1.68E-08	1.15E-05	7.11E-03	1.63E-08	1.66E-08	1.70E-08	1.72E-08
U-238	7.20E-07	4.92E-04	0.305	7.05E-07	7.14E-07	7.27E-07	7.51E-07
Np-237	7.56E-07	5.16E-04	0.320	6.12E-07	6.77E-07	8.43E-07	9.62E-07
Pu-238	1.28E-05	8.78E-03	5.45	1.07E-05	1.23E-05	1.32E-05	1.36E-05
Pu-239	3.40E-04	0.232	144	2.85E-04	3.26E-04	3.50E-04	3.59E-04
Pu-240	6.43E-05	4.39E-02	27.3	5.37E-05	6.16E-05	6.61E-05	6.79E-05
Pu-241	9.13E-04	0.624	387	7.61E-04	8.73E-04	9.39E-04	9.64E-04
Pu-242	5.26E-09	3.59E-06	2.23E-03	4.38E-09	5.03E-09	5.41E-09	5.56E-09
Am-241	5.25E-04	0.359	222	3.35E-04	4.75E-04	5.58E-04	5.89E-04
Am-243	1.65E-08	1.13E-05	6.99E-03	1.07E-08	1.50E-08	1.75E-08	1.85E-08
Cm-242	5.56E-07	3.80E-04	0.236	5.17E-07	5.17E-07	5.72E-07	5.87E-07
Cm-243	4.46E-08	3.05E-05	1.89E-02	4.10E-08	4.10E-08	4.61E-08	4.75E-08
Cm-244	1.13E-06	7.73E-04	0.479	4.97E-07	9.66E-07	1.24E-06	1.35E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.58E-03 (g/L)	----	2.37	4.64E-03	5.34E-03	5.74E-03	5.90E-03
U	5.88E-03	957	594	5.69E-03	5.80E-03	5.97E-03	6.04E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.56E+04 (kg)	(6.99 kgal)	----	----	----	----	----
Heat Load	2.96 (kW)	(1.01E+04 BTU/hr)	----	2.61	2.86	3.03	3.07
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.03	6.89E+04	2.45E+03	0.428	2.83	4.78	5.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.96	1.23E+05	4.38E+03	2.86	2.93	2.97	2.98
Cr^{3+}	6.51E-03	252	8.96	2.46E-03	4.49E-03	8.54E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.82E-02	2.54E+03	90.4	1.23E-03	3.45E-02	6.99E-02	7.66E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.243	7.25E+03	258	5.58E-03	0.125	0.302	0.335
K^{+}	4.59E-03	133	4.75	1.74E-03	3.17E-03	6.02E-03	7.41E-03
OH^{-}	9.15	1.16E+05	4.12E+03	8.64	8.97	9.26	9.34
$NO3^{-}$	6.17E-17	2.85E-12	1.01E-13	7.32E-18	1.96E-17	2.81E-16	5.59E-15
$NO2^{-}$	0.587	2.01E+04	715	0.222	0.405	0.771	0.948
$CO3^{2-}$	0.243	1.09E+04	386	5.58E-03	0.125	0.302	0.335
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.129	9.23E+03	328	4.89E-02	8.91E-02	0.170	0.209
Si (as SiO_x^{2-})	1.52	3.18E+04	1.13E+03	2.83E-02	1.08	1.75	1.94
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.11E-02	556	19.8	7.98E-03	1.46E-02	2.77E-02	3.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.270	3.41E+03	122	0.106	0.190	0.352	0.431
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(8.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.56E+04 (kg)	(7.00 kgal)	----	----	----	----	----
Heat Load	2.96 (kW)	(1.01E+04 BTU/hr)	----	2.61	2.86	3.03	3.07
Bulk Density†	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Water wt%†	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.03	6.89E+04	2.45E+03	0.428	2.83	4.78	5.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.96	1.23E+05	4.38E+03	2.86	2.93	2.97	2.98
Cr^{3+}	6.50E-03	252	8.96	2.46E-03	4.49E-03	8.54E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.81E-02	2.54E+03	90.4	1.23E-03	3.45E-02	6.99E-02	7.66E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.243	7.25E+03	258	5.58E-03	0.125	0.302	0.335
K^{+}	4.58E-03	133	4.75	1.74E-03	3.17E-03	6.02E-03	7.41E-03
OH^{-}	9.14	1.16E+05	4.12E+03	8.64	8.97	9.26	9.34
$NO3^{-}$	6.17E-17	2.85E-12	1.01E-13	7.32E-18	1.96E-17	2.81E-16	5.59E-15
$NO2^{-}$	0.587	2.01E+04	715	0.222	0.405	0.771	0.948
$CO3^{2-}$	0.243	1.09E+04	386	5.58E-03	0.125	0.302	0.335
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0.129	9.23E+03	328	4.89E-02	8.91E-02	0.170	0.209
Si (as SiO_x^{2-})	1.52	3.18E+04	1.13E+03	2.83E-02	1.08	1.75	1.94
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.11E-02	556	19.8	7.98E-03	1.46E-02	2.77E-02	3.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.270	3.41E+03	122	0.106	0.190	0.352	0.431
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.56E+04 (kg)	(6.99 kgal)	----	----	----	----	----
Heat Load	2.96 (kW)	(1.01E+04 BTU/hr)	----	2.61	2.86	3.03	3.07
Bulk Density	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Void Fraction	0.808	----	----	0.778	0.789	0.846	0.916
Water wt%	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.50E-02	3.38	1.76E-05	5.96E-05	2.22E-04	3.38E-04
C-14	2.38E-05	1.77E-02	0.630	9.00E-06	1.64E-05	3.12E-05	3.84E-05
Ni-59	1.18E-04	8.77E-02	3.12	2.49E-06	7.00E-05	1.42E-04	1.55E-04
Ni-63	1.18E-02	8.81	313	2.50E-04	7.03E-03	1.42E-02	1.56E-02
Co-60	3.28E-05	2.44E-02	0.868	1.24E-05	2.26E-05	4.30E-05	3.17E-04
Se-79	1.12E-04	8.30E-02	2.95	1.02E-05	8.53E-05	1.29E-04	1.47E-04
Sr-90	16.2	1.20E+04	4.28E+05	14.5	15.7	16.4	16.5
Y-90	16.2	1.20E+04	4.29E+05	14.5	15.7	16.4	16.5
Zr-93	5.12E-04	0.381	13.6	9.11E-06	3.81E-04	6.02E-04	6.87E-04
Nb-93m	3.85E-04	0.286	10.2	3.00E-05	2.93E-04	4.47E-04	5.07E-04
Tc-99	1.69E-04	0.125	4.47	6.38E-05	1.16E-04	2.21E-04	2.72E-04
Ru-106	3.82E-07	2.84E-04	1.01E-02	1.29E-07	3.16E-07	4.27E-07	4.70E-07
Cd-113m	2.20E-03	1.63	58.2	4.41E-05	1.41E-03	2.73E-03	3.25E-03
Sb-125	1.47E-04	0.110	3.90	5.57E-05	1.02E-04	1.93E-04	2.38E-04
Sn-126	1.74E-04	0.129	4.61	2.20E-05	1.35E-04	2.01E-04	2.27E-04
I-129	3.26E-07	2.43E-04	8.64E-03	1.23E-07	2.25E-07	4.28E-07	5.27E-07
Cs-134	7.82E-06	5.81E-03	0.207	2.96E-06	5.39E-06	1.03E-05	1.26E-05
Cs-137	0.622	463	1.65E+04	0.235	0.429	0.816	1.00
Ba-137m	0.589	438	1.56E+04	0.223	0.406	0.772	0.950
Sm-151	0.416	309	1.10E+04	6.12E-02	0.324	0.478	0.538
Eu-152	1.27E-04	9.44E-02	3.36	1.25E-04	1.26E-04	1.28E-04	1.29E-04
Eu-154	7.32E-03	5.44	194	2.36E-04	7.46E-04	1.18E-02	1.61E-02
Eu-155	9.46E-03	7.03	250	9.28E-03	9.37E-03	9.55E-03	9.64E-03
Ra-226	7.40E-09	5.51E-06	1.96E-04	4.26E-09	6.59E-09	7.96E-09	8.49E-09
Ra-228	6.70E-14	4.98E-11	1.77E-09	6.57E-14	6.63E-14	6.76E-14	6.82E-14
Ac-227	3.99E-08	2.97E-05	1.06E-03	2.17E-08	3.52E-08	4.31E-08	4.62E-08
Pa-231	8.99E-08	6.68E-05	2.38E-03	1.67E-09	6.36E-08	1.08E-07	1.25E-07
Th-229	1.05E-11	7.77E-09	2.77E-07	1.03E-11	1.04E-11	1.06E-11	1.06E-11
Th-232	6.04E-15	4.49E-12	1.60E-10	2.28E-15	4.17E-15	7.93E-15	9.75E-15
U-232	8.40E-12	6.24E-09	2.22E-07	3.18E-12	5.79E-12	1.10E-11	1.36E-11
U-233	1.98E-13	1.47E-10	5.24E-09	7.49E-14	1.37E-13	2.60E-13	3.20E-13
U-234	1.04E-07	7.70E-05	2.74E-03	3.91E-08	7.14E-08	1.36E-07	1.67E-07
U-235	4.32E-09	3.21E-06	1.14E-04	1.63E-09	2.98E-09	5.67E-09	6.97E-09
U-236	2.82E-09	2.10E-06	7.47E-05	1.07E-09	1.95E-09	3.71E-09	4.56E-09
U-238	1.01E-07	7.49E-05	2.67E-03	3.81E-08	6.95E-08	1.32E-07	1.63E-07
Np-237	3.61E-07	2.68E-04	9.54E-03	1.36E-07	2.49E-07	4.73E-07	5.82E-07
Pu-238	9.43E-05	7.01E-02	2.50	7.72E-05	8.99E-05	9.73E-05	1.00E-04
Pu-239	2.44E-03	1.82	64.7	2.00E-03	2.33E-03	2.52E-03	2.60E-03
Pu-240	4.66E-04	0.347	12.3	3.82E-04	4.44E-04	4.81E-04	4.95E-04
Pu-241	6.71E-03	4.99	178	5.50E-03	6.40E-03	6.93E-03	7.13E-03
Pu-242	3.88E-08	2.89E-05	1.03E-03	3.18E-08	3.70E-08	4.01E-08	4.12E-08
Am-241	3.84E-03	2.86	102	2.32E-03	3.45E-03	4.11E-03	4.37E-03
Am-243	1.18E-07	8.77E-05	3.12E-03	7.12E-08	1.06E-07	1.26E-07	1.34E-07
Cm-242	3.51E-06	2.61E-03	9.29E-02	3.44E-06	3.48E-06	3.54E-06	3.58E-06
Cm-243	2.70E-07	2.01E-04	7.14E-03	2.64E-07	2.67E-07	2.72E-07	2.75E-07
Cm-244	8.29E-06	6.17E-03	0.219	3.22E-06	6.98E-06	9.18E-06	1.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.14E-02 (g/L)	----	1.10	3.39E-02	3.95E-02	4.28E-02	4.40E-02
U	1.27E-03	224	7.99	4.80E-04	8.75E-04	1.66E-03	2.05E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(8.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-AX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.56E+04 (kg)	(7.00 kgal)	----	----	----	----	----
Heat Load	2.96 (kW)	(1.01E+04 BTU/hr)	----	2.61	2.86	3.03	3.07
Bulk Density†	1.34 (g/cc)	----	----	1.19	1.29	1.38	1.40
Water wt%†	61.5	----	----	57.6	59.3	65.0	71.7
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.50E-02	3.38	1.76E-05	5.96E-05	2.22E-04	3.38E-04
C-14	2.38E-05	1.77E-02	0.630	9.00E-06	1.64E-05	3.12E-05	3.84E-05
Ni-59	1.18E-04	8.77E-02	3.12	2.49E-06	7.00E-05	1.42E-04	1.55E-04
Ni-63	1.18E-02	8.81	313	2.50E-04	7.03E-03	1.42E-02	1.56E-02
Co-60	3.28E-05	2.44E-02	0.868	1.24E-05	2.26E-05	4.30E-05	3.17E-04
Se-79	1.11E-04	8.30E-02	2.95	1.02E-05	8.53E-05	1.29E-04	1.47E-04
Sr-90	16.2	1.20E+04	4.28E+05	14.5	15.7	16.4	16.5
Y-90	16.2	1.20E+04	4.29E+05	14.5	15.7	16.4	16.5
Zr-93	5.12E-04	0.381	13.6	9.11E-06	3.81E-04	6.02E-04	6.87E-04
Nb-93m	3.84E-04	0.286	10.2	3.00E-05	2.93E-04	4.47E-04	5.07E-04
Tc-99	1.69E-04	0.125	4.47	6.38E-05	1.16E-04	2.21E-04	2.72E-04
Ru-106	3.82E-07	2.84E-04	1.01E-02	1.29E-07	3.16E-07	4.27E-07	4.70E-07
Cd-113m	2.20E-03	1.63	58.2	4.41E-05	1.41E-03	2.73E-03	3.25E-03
Sb-125	1.47E-04	0.110	3.90	5.57E-05	1.02E-04	1.93E-04	2.38E-04
Sn-126	1.74E-04	0.129	4.61	2.20E-05	1.35E-04	2.01E-04	2.27E-04
I-129	3.26E-07	2.43E-04	8.64E-03	1.23E-07	2.25E-07	4.28E-07	5.27E-07
Cs-134	7.81E-06	5.81E-03	0.207	2.96E-06	5.39E-06	1.03E-05	1.26E-05
Cs-137	0.621	463	1.65E+04	0.235	0.429	0.816	1.00
Ba-137m	0.588	438	1.56E+04	0.223	0.406	0.772	0.950
Sm-151	0.416	309	1.10E+04	6.12E-02	0.324	0.478	0.538
Eu-152	1.27E-04	9.44E-02	3.36	1.25E-04	1.26E-04	1.28E-04	1.29E-04
Eu-154	7.31E-03	5.44	194	2.36E-04	7.46E-04	1.18E-02	1.61E-02
Eu-155	9.45E-03	7.03	250	9.28E-03	9.37E-03	9.55E-03	9.64E-03
Ra-226	7.39E-09	5.51E-06	1.96E-04	4.26E-09	6.59E-09	7.96E-09	8.49E-09
Ra-228	6.69E-14	4.98E-11	1.77E-09	6.57E-14	6.63E-14	6.76E-14	6.82E-14
Ac-227	3.99E-08	2.97E-05	1.06E-03	2.17E-08	3.52E-08	4.31E-08	4.62E-08
Pa-231	8.98E-08	6.68E-05	2.38E-03	1.67E-09	6.36E-08	1.08E-07	1.25E-07
Th-229	1.04E-11	7.77E-09	2.77E-07	1.03E-11	1.04E-11	1.06E-11	1.06E-11
Th-232	6.04E-15	4.49E-12	1.60E-10	2.28E-15	4.17E-15	7.93E-15	9.75E-15
U-232	8.39E-12	6.24E-09	2.22E-07	3.18E-12	5.79E-12	1.10E-11	1.36E-11
U-233	1.98E-13	1.47E-10	5.24E-09	7.49E-14	1.37E-13	2.60E-13	3.20E-13
U-234	1.03E-07	7.70E-05	2.74E-03	3.91E-08	7.14E-08	1.36E-07	1.67E-07
U-235	4.31E-09	3.21E-06	1.14E-04	1.63E-09	2.98E-09	5.67E-09	6.97E-09
U-236	2.82E-09	2.10E-06	7.47E-05	1.07E-09	1.95E-09	3.71E-09	4.56E-09
U-238	1.01E-07	7.49E-05	2.67E-03	3.81E-08	6.95E-08	1.32E-07	1.63E-07
Np-237	3.60E-07	2.68E-04	9.54E-03	1.36E-07	2.49E-07	4.73E-07	5.82E-07
Pu-238	9.42E-05	7.01E-02	2.50	7.72E-05	8.99E-05	9.73E-05	1.00E-04
Pu-239	2.44E-03	1.82	64.7	2.00E-03	2.33E-03	2.52E-03	2.60E-03
Pu-240	4.66E-04	0.347	12.3	3.82E-04	4.44E-04	4.81E-04	4.95E-04
Pu-241	6.71E-03	4.99	178	5.50E-03	6.40E-03	6.93E-03	7.13E-03
Pu-242	3.88E-08	2.89E-05	1.03E-03	3.18E-08	3.70E-08	4.01E-08	4.12E-08
Am-241	3.84E-03	2.86	102	2.32E-03	3.45E-03	4.11E-03	4.37E-03
Am-243	1.18E-07	8.77E-05	3.12E-03	7.12E-08	1.06E-07	1.26E-07	1.34E-07
Cm-242	3.51E-06	2.61E-03	9.29E-02	3.44E-06	3.48E-06	3.54E-06	3.58E-06
Cm-243	2.69E-07	2.01E-04	7.14E-03	2.64E-07	2.67E-07	2.72E-07	2.75E-07
Cm-244	8.28E-06	6.17E-03	0.219	3.22E-06	6.98E-06	9.18E-06	1.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.14E-02 (g/L)	----	1.10	3.39E-02	3.95E-02	4.28E-02	4.40E-02
U	1.27E-03	224	7.99	4.80E-04	8.75E-04	1.66E-03	2.05E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.95E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	4.95 (kW)	(1.69E+04 BTU/hr)	----	1.87	3.96	5.51	5.85
Bulk Density	1.62 (g/cc)	----	----	1.20	1.29	1.67	1.74
Void Fraction	0.621	----	----	0.457	0.589	0.884	0.916
Water wt%	42.4	----	----	38.1	40.5	66.3	74.6
TOC wt% C (wet)	4.47E-02	----	----	2.67E-02	3.94E-02	5.64E-02	6.85E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.0	1.56E+05	1.08E+05	2.86	4.62	12.0	13.1
Al^{3+}	0.607	1.01E+04	7.00E+03	0.594	0.603	0.613	0.625
Fe^{3+} (total Fe)	0.526	1.81E+04	1.26E+04	0.464	0.506	0.538	0.550
Cr^{3+}	4.24E-03	136	94.4	2.87E-03	4.14E-03	5.58E-03	4.82E-03
Bi^{3+}	1.35E-02	1.74E+03	1.21E+03	6.59E-03	1.12E-02	1.49E-02	1.58E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.50E-05	1.85	1.28	5.77E-06	9.12E-06	1.84E-05	2.06E-05
Zr (as $ZrO(OH)_2$)	1.13E-04	6.33	4.40	1.01E-04	1.12E-04	1.39E-04	1.21E-04
Pb^{2+}	3.74E-08	4.77E-03	3.32E-03	6.11E-09	2.35E-08	4.26E-08	4.77E-08
Ni^{2+}	0.222	8.02E+03	5.57E+03	0.165	0.204	0.232	0.238
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.101	2.50E+03	1.74E+03	5.39E-02	6.65E-02	0.153	0.192
K^{+}	1.30E-02	314	218	5.84E-03	1.04E-02	1.87E-02	1.69E-02
OH^{-}	4.66	4.87E+04	3.39E+04	4.24	4.52	4.74	4.90
$NO3^{-}$	6.53	2.49E+05	1.73E+05	0.751	1.59	6.67	6.89
$NO2^{-}$	0.295	8.35E+03	5.80E+03	0.178	0.223	0.379	0.356
$CO3^{2-}$	0.268	9.91E+03	6.89E+03	0.134	0.212	0.333	0.356
$PO4^{3-}$	0.757	4.43E+04	3.08E+04	0.108	0.335	0.879	0.910
$SO4^{2-}$	0.107	6.30E+03	4.38E+03	4.20E-02	8.20E-02	0.166	0.523
Si (as SiO_x^{2-})	0.507	8.77E+03	6.09E+03	8.87E-02	0.165	0.729	0.942
F^{-}	7.71E-02	901	626	6.71E-02	7.64E-02	9.61E-02	8.29E-02
Cl^{-}	7.11E-02	1.55E+03	1.08E+03	2.70E-02	5.36E-02	0.289	0.313
$C_6H_5O_7^{3-}$	2.15E-03	250	174	1.37E-03	1.90E-03	2.33E-03	3.18E-03
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	2.37E-02	1.09E+03	761	1.33E-02	2.03E-02	2.61E-02	3.75E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.47E-05	1.90	1.32	2.22E-07	7.73E-06	2.51E-05	2.30E-05
butanol	1.47E-05	0.670	0.466	2.22E-07	7.73E-06	2.51E-05	2.30E-05
NH_3	5.76E-02	603	419	4.36E-02	5.40E-02	6.61E-02	7.29E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.95E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	4.95 (kW)	(1.69E+04 BTU/hr)	----	1.87	3.96	5.51	5.85
Bulk Density†	1.62 (g/cc)	----	----	1.20	1.29	1.67	1.74
Water wt%†	42.4	----	----	38.1	40.5	66.3	74.6
TOC wt% C (wet)†	4.47E-02	----	----	2.67E-02	3.94E-02	5.64E-02	6.85E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.0	1.56E+05	1.08E+05	2.86	4.62	12.0	13.1
Al^{3+}	0.607	1.01E+04	7.00E+03	0.594	0.603	0.613	0.625
Fe^{3+} (total Fe)	0.526	1.81E+04	1.26E+04	0.464	0.506	0.538	0.550
Cr^{3+}	4.24E-03	136	94.4	2.87E-03	4.14E-03	5.58E-03	4.82E-03
Bi^{3+}	1.35E-02	1.74E+03	1.21E+03	6.59E-03	1.12E-02	1.49E-02	1.58E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.50E-05	1.85	1.28	5.77E-06	9.12E-06	1.84E-05	2.06E-05
Zr (as $ZrO(OH)_2$)	1.13E-04	6.33	4.40	1.01E-04	1.12E-04	1.39E-04	1.21E-04
Pb^{2+}	3.74E-08	4.77E-03	3.32E-03	6.11E-09	2.35E-08	4.26E-08	4.77E-08
Ni^{2+}	0.222	8.02E+03	5.57E+03	0.165	0.204	0.232	0.238
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.101	2.50E+03	1.74E+03	5.39E-02	6.65E-02	0.153	0.192
K^{+}	1.30E-02	314	218	5.84E-03	1.04E-02	1.87E-02	1.69E-02
OH^{-}	4.66	4.87E+04	3.39E+04	4.24	4.52	4.74	4.90
$NO3^{-}$	6.53	2.49E+05	1.73E+05	0.751	1.59	6.67	6.89
$NO2^{-}$	0.295	8.35E+03	5.80E+03	0.178	0.223	0.379	0.356
$CO3^{2-}$	0.268	9.91E+03	6.89E+03	0.134	0.212	0.333	0.356
$PO4^{3-}$	0.757	4.43E+04	3.08E+04	0.108	0.335	0.879	0.910
$SO4^{2-}$	0.107	6.30E+03	4.38E+03	4.20E-02	8.20E-02	0.166	0.523
Si (as SiO_x^{2-})	0.507	8.77E+03	6.09E+03	8.87E-02	0.165	0.729	0.942
F^{-}	7.70E-02	901	626	6.71E-02	7.64E-02	9.61E-02	8.29E-02
Cl^{-}	7.11E-02	1.55E+03	1.08E+03	2.70E-02	5.36E-02	0.289	0.313
$C_6H_5O_7^{3-}$	2.15E-03	250	174	1.37E-03	1.90E-03	2.33E-03	3.18E-03
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	2.37E-02	1.09E+03	761	1.33E-02	2.03E-02	2.61E-02	3.75E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.47E-05	1.90	1.32	2.22E-07	7.73E-06	2.51E-05	2.30E-05
butanol	1.47E-05	0.670	0.466	2.22E-07	7.73E-06	2.51E-05	2.30E-05
NH_3	5.76E-02	603	419	4.36E-02	5.40E-02	6.61E-02	7.29E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.95E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	4.95 (kW)	(1.69E+04 BTU/hr)	----	1.87	3.96	5.51	5.85
Bulk Density	1.62 (g/cc)	----	----	1.20	1.29	1.67	1.74
Void Fraction	0.621	----	----	0.457	0.589	0.884	0.916
Water wt%	42.4	----	----	38.1	40.5	66.3	74.6
TOC wt% C (wet)	4.47E-02	----	----	2.67E-02	3.94E-02	5.64E-02	6.85E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.64E-06	4.70E-03	3.27	4.95E-06	4.95E-06	8.82E-06	1.18E-05
C-14	1.28E-06	7.87E-04	0.546	7.60E-07	8.88E-07	1.36E-06	3.34E-06
Ni-59	3.69E-05	2.27E-02	15.8	2.81E-05	3.40E-05	4.48E-05	4.89E-05
Ni-63	3.67E-03	2.26	1.57E+03	2.79E-03	3.36E-03	4.49E-03	4.91E-03
Co-60	2.02E-06	1.24E-03	0.863	7.73E-07	1.46E-06	2.22E-06	9.59E-05
Se-79	1.15E-05	7.08E-03	4.92	2.38E-07	2.94E-07	1.79E-05	4.19E-05
Sr-90	1.69	1.04E+03	7.24E+05	0.625	1.35	1.89	2.01
Y-90	1.69	1.04E+03	7.24E+05	0.625	1.35	1.89	2.01
Zr-93	5.02E-05	3.09E-02	21.5	1.10E-06	1.36E-06	8.20E-05	1.88E-04
Nb-93m	3.35E-05	2.06E-02	14.3	8.85E-07	1.07E-06	5.58E-05	1.43E-04
Tc-99	8.20E-06	5.05E-03	3.51	4.76E-06	6.66E-06	9.86E-06	9.45E-06
Ru-106	1.65E-06	1.02E-03	0.706	1.39E-06	1.60E-06	1.70E-06	1.75E-06
Cd-113m	2.48E-04	0.153	106	3.54E-06	5.06E-06	4.39E-04	6.88E-04
Sb-125	1.21E-05	7.43E-03	5.16	4.30E-06	8.61E-06	1.34E-05	1.46E-05
Sn-126	1.82E-05	1.12E-02	7.79	3.68E-07	4.55E-07	2.78E-05	6.61E-05
I-129	1.58E-08	9.71E-06	6.75E-03	9.08E-09	1.28E-08	1.89E-08	1.81E-08
Cs-134	7.36E-08	4.53E-05	3.15E-02	1.37E-08	4.69E-08	8.35E-08	9.31E-08
Cs-137	3.73E-02	23.0	1.59E+04	5.60E-03	9.57E-03	5.76E-02	7.34E-02
Ba-137m	3.53E-02	21.7	1.51E+04	9.93E-04	9.93E-04	3.72E-02	3.93E-02
Sm-151	3.33E-02	20.5	1.42E+04	8.63E-04	1.05E-03	5.56E-02	0.143
Eu-152	7.46E-05	4.59E-02	31.9	7.44E-05	7.45E-05	7.46E-05	7.46E-05
Eu-154	3.68E-03	2.26	1.57E+03	2.05E-05	2.44E-04	5.27E-03	6.80E-03
Eu-155	3.85E-03	2.37	1.65E+03	3.84E-03	3.85E-03	3.85E-03	3.85E-03
Ra-226	1.65E-09	1.01E-06	7.04E-04	5.38E-10	8.09E-10	2.48E-09	3.29E-09
Ra-228	3.44E-14	2.12E-11	1.47E-08	3.42E-14	3.42E-14	3.44E-14	3.45E-14
Ac-227	7.39E-09	4.55E-06	3.16E-03	2.56E-09	2.58E-09	1.23E-08	1.69E-08
Pa-231	4.63E-10	2.85E-07	1.98E-04	2.02E-10	2.02E-10	6.83E-09	2.76E-08
Th-229	4.03E-12	2.48E-09	1.73E-06	3.99E-12	3.99E-12	4.04E-12	4.04E-12
Th-232	4.55E-16	2.80E-13	1.95E-10	2.37E-16	3.43E-16	4.91E-16	5.26E-16
U-232	1.26E-10	7.79E-08	5.41E-05	1.04E-10	1.16E-10	1.37E-10	1.44E-10
U-233	6.51E-12	4.01E-09	2.78E-06	5.43E-12	5.99E-12	7.02E-12	7.35E-12
U-234	7.52E-06	4.63E-03	3.22	6.45E-06	7.00E-06	8.04E-06	8.38E-06
U-235	3.36E-07	2.07E-04	0.144	2.89E-07	3.13E-07	3.59E-07	3.74E-07
U-236	5.97E-08	3.68E-05	2.56E-02	4.98E-08	5.50E-08	6.45E-08	6.75E-08
U-238	7.62E-06	4.69E-03	3.26	6.54E-06	7.10E-06	8.15E-06	8.50E-06
Np-237	3.45E-08	2.12E-05	1.47E-02	2.07E-08	2.84E-08	4.47E-08	4.22E-08
Pu-238	1.87E-04	0.115	79.8	1.22E-04	1.78E-04	1.92E-04	1.97E-04
Pu-239	1.78E-03	1.09	760	1.34E-03	1.66E-03	1.89E-03	2.01E-03
Pu-240	5.17E-04	0.318	221	3.59E-04	4.93E-04	5.41E-04	5.63E-04
Pu-241	1.29E-02	7.97	5.54E+03	8.45E-03	1.24E-02	1.33E-02	1.37E-02
Pu-242	9.13E-08	5.62E-05	3.91E-02	5.88E-08	8.71E-08	9.38E-08	9.60E-08
Am-241	3.82E-03	2.35	1.64E+03	2.24E-03	3.42E-03	4.23E-03	4.62E-03
Am-243	4.02E-07	2.47E-04	0.172	2.25E-07	3.73E-07	4.27E-07	4.49E-07
Cm-242	5.55E-06	3.42E-03	2.37	5.53E-06	5.54E-06	5.55E-06	5.55E-06
Cm-243	6.57E-07	4.04E-04	0.281	6.55E-07	6.56E-07	6.57E-07	6.57E-07
Cm-244	2.50E-05	1.54E-02	10.7	1.97E-05	2.40E-05	2.60E-05	2.70E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.10E-02 (g/L)	----	13.3	2.32E-02	2.90E-02	3.30E-02	3.49E-02
U	9.59E-02	1.41E+04	9.77E+03	8.23E-02	8.93E-02	0.103	0.107

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.95E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	4.95 (kW)	(1.69E+04 BTU/hr)	----	1.87	3.96	5.51	5.85
Bulk Density†	1.62 (g/cc)	----	----	1.20	1.29	1.67	1.74
Water wt%†	42.4	----	----	38.1	40.5	66.3	74.6
TOC wt% C (wet)†	4.47E-02	----	----	2.67E-02	3.94E-02	5.64E-02	6.85E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.64E-06	4.70E-03	3.27	4.95E-06	4.95E-06	8.82E-06	1.18E-05
C-14	1.28E-06	7.87E-04	0.546	7.60E-07	8.88E-07	1.36E-06	3.34E-06
Ni-59	3.69E-05	2.27E-02	15.8	2.81E-05	3.40E-05	4.48E-05	4.89E-05
Ni-63	3.67E-03	2.26	1.57E+03	2.79E-03	3.36E-03	4.49E-03	4.91E-03
Co-60	2.02E-06	1.24E-03	0.863	7.73E-07	1.46E-06	2.22E-06	9.59E-05
Se-79	1.15E-05	7.08E-03	4.92	2.38E-07	2.94E-07	1.79E-05	4.19E-05
Sr-90	1.69	1.04E+03	7.24E+05	0.625	1.35	1.89	2.01
Y-90	1.69	1.04E+03	7.24E+05	0.625	1.35	1.89	2.01
Zr-93	5.02E-05	3.09E-02	21.5	1.10E-06	1.36E-06	8.20E-05	1.88E-04
Nb-93m	3.35E-05	2.06E-02	14.3	8.85E-07	1.07E-06	5.58E-05	1.43E-04
Tc-99	8.20E-06	5.05E-03	3.51	4.76E-06	6.66E-06	9.86E-06	9.45E-06
Ru-106	1.65E-06	1.02E-03	0.706	1.39E-06	1.60E-06	1.70E-06	1.75E-06
Cd-113m	2.48E-04	0.153	106	3.54E-06	5.06E-06	4.39E-04	6.88E-04
Sb-125	1.21E-05	7.43E-03	5.16	4.30E-06	8.61E-06	1.34E-05	1.46E-05
Sn-126	1.82E-05	1.12E-02	7.79	3.68E-07	4.55E-07	2.78E-05	6.61E-05
I-129	1.58E-08	9.71E-06	6.75E-03	9.08E-09	1.28E-08	1.89E-08	1.81E-08
Cs-134	7.36E-08	4.53E-05	3.15E-02	1.37E-08	4.69E-08	8.35E-08	9.31E-08
Cs-137	3.73E-02	23.0	1.59E+04	5.60E-03	9.57E-03	5.76E-02	7.34E-02
Ba-137m	3.53E-02	21.7	1.51E+04	9.93E-04	9.93E-04	3.72E-02	3.93E-02
Sm-151	3.33E-02	20.5	1.42E+04	8.63E-04	1.05E-03	5.56E-02	0.143
Eu-152	7.46E-05	4.59E-02	31.9	7.44E-05	7.45E-05	7.46E-05	7.46E-05
Eu-154	3.68E-03	2.26	1.57E+03	2.05E-05	2.44E-04	5.27E-03	6.80E-03
Eu-155	3.85E-03	2.37	1.65E+03	3.84E-03	3.85E-03	3.85E-03	3.85E-03
Ra-226	1.65E-09	1.01E-06	7.04E-04	5.38E-10	8.09E-10	2.48E-09	3.29E-09
Ra-228	3.44E-14	2.12E-11	1.47E-08	3.42E-14	3.42E-14	3.44E-14	3.45E-14
Ac-227	7.39E-09	4.55E-06	3.16E-03	2.56E-09	2.58E-09	1.23E-08	1.69E-08
Pa-231	4.63E-10	2.85E-07	1.98E-04	2.02E-10	2.02E-10	6.83E-09	2.76E-08
Th-229	4.03E-12	2.48E-09	1.73E-06	3.99E-12	3.99E-12	4.04E-12	4.04E-12
Th-232	4.55E-16	2.80E-13	1.95E-10	2.37E-16	3.43E-16	4.91E-16	5.26E-16
U-232	1.26E-10	7.79E-08	5.41E-05	1.04E-10	1.16E-10	1.37E-10	1.44E-10
U-233	6.51E-12	4.01E-09	2.78E-06	5.43E-12	5.99E-12	7.02E-12	7.35E-12
U-234	7.52E-06	4.63E-03	3.22	6.45E-06	7.00E-06	8.04E-06	8.38E-06
U-235	3.36E-07	2.07E-04	0.144	2.89E-07	3.13E-07	3.59E-07	3.74E-07
U-236	5.97E-08	3.68E-05	2.56E-02	4.98E-08	5.50E-08	6.45E-08	6.75E-08
U-238	7.62E-06	4.69E-03	3.26	6.54E-06	7.10E-06	8.15E-06	8.50E-06
Np-237	3.45E-08	2.12E-05	1.47E-02	2.07E-08	2.84E-08	4.47E-08	4.22E-08
Pu-238	1.87E-04	0.115	79.8	1.22E-04	1.78E-04	1.92E-04	1.97E-04
Pu-239	1.78E-03	1.09	760	1.34E-03	1.66E-03	1.89E-03	2.01E-03
Pu-240	5.17E-04	0.318	221	3.59E-04	4.93E-04	5.41E-04	5.63E-04
Pu-241	1.29E-02	7.97	5.54E+03	8.45E-03	1.24E-02	1.33E-02	1.37E-02
Pu-242	9.13E-08	5.62E-05	3.91E-02	5.88E-08	8.71E-08	9.38E-08	9.60E-08
Am-241	3.82E-03	2.35	1.64E+03	2.24E-03	3.42E-03	4.23E-03	4.62E-03
Am-243	4.02E-07	2.47E-04	0.172	2.25E-07	3.73E-07	4.27E-07	4.49E-07
Cm-242	5.55E-06	3.42E-03	2.37	5.53E-06	5.54E-06	5.55E-06	5.55E-06
Cm-243	6.57E-07	4.04E-04	0.281	6.55E-07	6.56E-07	6.57E-07	6.57E-07
Cm-244	2.50E-05	1.54E-02	10.7	1.97E-05	2.40E-05	2.60E-05	2.70E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.10E-02 (g/L)	----	13.3	2.32E-02	2.90E-02	3.30E-02	3.49E-02
U	9.59E-02	1.41E+04	9.77E+03	8.23E-02	8.93E-02	0.103	0.107

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.74E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.84E-02 (kW)	(96.9 BTU/hr)	----	6.21E-03	1.13E-02	4.33E-02	7.12E-02
Bulk Density	1.65 (g/cc)	----	----	1.16	1.26	1.70	1.78
Void Fraction	0.587	----	----	0.400	0.551	0.887	0.924
Water wt%	41.4	----	----	36.6	39.3	68.9	78.8
TOC wt% C (wet)	1.46E-04	----	----	3.15E-06	1.01E-04	2.42E-04	2.13E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.4	1.59E+05	2.78E+04	2.13	4.13	12.5	13.8
Al^{3+}	0.223	3.65E+03	636	0.211	0.217	0.229	0.234
Fe^{3+} (total Fe)	0.130	4.40E+03	767	0.118	0.128	0.131	0.132
Cr^{3+}	4.94E-03	156	27.2	3.37E-03	4.82E-03	6.46E-03	5.60E-03
Bi^{3+}	1.54E-02	1.96E+03	341	7.51E-03	1.27E-02	1.70E-02	1.80E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.28E-04	27.8	4.85	1.97E-04	2.21E-04	2.32E-04	2.34E-04
Zr (as $ZrO(OH)_2$)	1.28E-04	7.12	1.24	1.15E-04	1.28E-04	1.58E-04	1.38E-04
Pb^{2+}	1.16E-02	1.46E+03	255	6.68E-03	1.05E-02	1.21E-02	1.25E-02
Ni^{2+}	7.30E-03	260	45.4	9.50E-04	1.54E-03	9.10E-03	9.57E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.14E-02	1.98E+03	346	2.71E-02	6.42E-02	8.65E-02	9.15E-02
K^{+}	1.30E-02	309	54.0	4.80E-03	9.99E-03	1.95E-02	1.74E-02
OH^{-}	2.67	2.75E+04	4.80E+03	2.55	2.62	2.71	2.73
$NO3^{-}$	7.47	2.81E+05	4.91E+04	0.880	1.84	7.62	7.88
$NO2^{-}$	0.213	5.95E+03	1.04E+03	7.96E-02	0.131	0.309	0.279
$CO3^{2-}$	0.375	1.37E+04	2.39E+03	0.222	0.311	0.449	0.475
$PO4^{3-}$	0.892	5.15E+04	8.98E+03	0.152	0.411	1.03	1.07
$SO4^{2-}$	0.122	7.12E+03	1.24E+03	4.85E-02	9.41E-02	0.190	0.597
Si (as SiO_x^{2-})	3.54E-02	603	105	2.29E-02	2.15E-02	5.28E-02	6.92E-02
F^{-}	8.78E-02	1.01E+03	177	7.65E-02	8.70E-02	0.110	9.45E-02
Cl^{-}	7.26E-02	1.56E+03	273	2.23E-02	5.26E-02	0.321	0.348
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	1.67E-05	2.14	0.373	2.53E-07	8.81E-06	2.86E-05	2.62E-05
butanol	1.67E-05	0.754	0.131	2.53E-07	8.81E-06	2.86E-05	2.62E-05
NH_3	4.41E-02	456	79.5	4.09E-02	4.38E-02	5.39E-02	4.76E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.62E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	2.38E-03 (kW)	(8.12 BTU/hr)	----	1.94E-03	2.15E-03	2.61E-03	2.83E-03
Bulk Density*	1.07 (g/cc)	----	----	1.06	1.07	1.08	1.08
Water wt%	88.2	----	----	86.9	87.5	89.1	90.3
TOC wt% C (wet)	8.55E-02	----	----	7.88E-02	8.21E-02	8.88E-02	9.37E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.60	3.43E+04	557	1.28	1.45	1.69	1.76
Al^{3+}	0.186	4.69E+03	76.0	0.125	0.155	0.218	0.248
Fe^{3+} (total Fe)	1.22E-03	63.7	1.03	1.04E-03	1.13E-03	1.31E-03	1.40E-03
Cr^{3+}	7.78E-03	378	6.13	6.63E-03	7.23E-03	8.17E-03	8.51E-03
Bi^{3+}	4.82E-04	94.0	1.53	4.18E-04	4.49E-04	5.15E-04	5.46E-04
La^{3+}	6.51E-07	8.44E-02	1.37E-03	4.86E-07	5.66E-07	7.35E-07	8.17E-07
Hg^{2+}	3.00E-06	0.562	9.11E-03	2.76E-06	2.93E-06	3.07E-06	3.14E-06
Zr (as $ZrO(OH)_2$)	2.82E-05	2.40	3.90E-02	1.87E-05	2.26E-05	3.29E-05	3.84E-05
Pb^{2+}	3.19E-04	61.7	1.00	2.20E-04	2.68E-04	3.70E-04	4.18E-04
Ni^{2+}	8.23E-04	45.1	0.732	6.74E-04	7.47E-04	8.60E-04	8.60E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.14E-04	21.2	0.344	3.25E-04	3.69E-04	4.59E-04	5.02E-04
Ca^{2+}	4.32E-03	162	2.62	3.80E-03	4.08E-03	4.57E-03	4.80E-03
K^{+}	7.25E-03	265	4.29	5.25E-03	5.93E-03	8.84E-03	1.01E-02
OH^{-}	0.912	1.45E+04	235	0.665	0.786	1.04	1.16
$NO3^{-}$	0.689	3.99E+04	647	0.503	0.629	0.723	0.755
$NO2^{-}$	0.243	1.04E+04	169	0.205	0.218	0.267	0.286
$CO3^{2-}$	6.49E-02	3.63E+03	58.9	4.50E-02	5.16E-02	8.15E-02	8.37E-02
$PO4^{3-}$	2.13E-02	1.89E+03	30.6	1.85E-02	2.01E-02	2.25E-02	2.36E-02
$SO4^{2-}$	4.51E-02	4.04E+03	65.5	2.74E-02	3.33E-02	5.89E-02	5.88E-02
Si (as SiO_x^{2-})	9.01E-03	236	3.83	7.28E-03	8.12E-03	9.73E-03	1.03E-02
F^{-}	2.21E-02	393	6.37	1.60E-02	1.85E-02	2.53E-02	2.85E-02
Cl^{-}	3.00E-02	992	16.1	1.83E-02	2.22E-02	3.32E-02	3.32E-02
$C_6H_5O_7^{3-}$	3.21E-03	567	9.20	3.03E-03	3.12E-03	3.31E-03	3.43E-03
$EDTA^{4-}$	5.96E-04	160	2.60	5.16E-04	5.55E-04	6.37E-04	6.77E-04
$HEDTA^{3-}$	9.48E-05	24.3	0.393	3.86E-05	6.61E-05	1.24E-04	1.52E-04
glycolate^{-}	3.32E-03	233	3.77	2.00E-03	2.65E-03	4.00E-03	4.64E-03
acetate^{-}	3.50E-03	193	3.13	2.99E-03	3.24E-03	3.76E-03	4.01E-03
oxalate^{2-}	8.52E-07	7.00E-02	1.14E-03	7.63E-07	8.07E-07	8.98E-07	9.42E-07
DBP	3.04E-03	596	9.67	2.73E-03	2.88E-03	3.19E-03	3.36E-03
butanol	3.04E-03	210	3.41	2.73E-03	2.88E-03	3.19E-03	3.36E-03
NH_3	1.21E-02	192	3.11	8.77E-03	1.01E-02	1.39E-02	1.60E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.91E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	3.08E-02 (kW)	(105 BTU/hr)	----	8.36E-03	1.36E-02	4.59E-02	7.38E-02
Bulk Density†	1.57 (g/cc)	----	----	1.14	1.24	1.62	1.69
Water wt%†	45.4	----	----	40.7	43.3	71.1	80.1
TOC wt% C (wet)†	7.41E-03	----	----	6.82E-03	7.11E-03	9.35E-03	1.00E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.2	1.49E+05	2.84E+04	2.03	3.80	11.2	12.3
Al^{3+}	0.218	3.74E+03	712	0.200	0.209	0.227	0.236
Fe^{3+} (total Fe)	0.114	4.03E+03	768	0.104	0.112	0.115	0.116
Cr^{3+}	5.29E-03	175	33.3	3.85E-03	5.15E-03	6.67E-03	5.96E-03
Bi^{3+}	1.35E-02	1.80E+03	343	6.64E-03	1.12E-02	1.49E-02	1.58E-02
La^{3+}	8.14E-08	7.18E-03	1.37E-03	6.07E-08	7.08E-08	9.19E-08	1.02E-07
Hg^{2+}	2.00E-04	25.5	4.86	1.73E-04	1.94E-04	2.03E-04	2.06E-04
Zr (as $ZrO(OH)_2$)	1.16E-04	6.72	1.28	1.05E-04	1.15E-04	1.41E-04	1.25E-04
Pb^{2+}	1.02E-02	1.34E+03	256	5.88E-03	9.22E-03	1.07E-02	1.10E-02
Ni^{2+}	6.49E-03	242	46.1	9.24E-04	1.45E-03	8.07E-03	8.48E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.17E-05	1.80	0.344	4.07E-05	4.61E-05	5.73E-05	6.28E-05
Ca^{2+}	7.17E-02	1.83E+03	348	2.42E-02	5.67E-02	7.63E-02	8.07E-02
K^{+}	1.23E-02	305	58.2	4.86E-03	9.48E-03	1.82E-02	1.65E-02
OH^{-}	2.45	2.64E+04	5.04E+03	2.32	2.39	2.49	2.53
$NO3^{-}$	6.62	2.61E+05	4.97E+04	0.833	1.69	6.76	6.98
$NO2^{-}$	0.217	6.33E+03	1.21E+03	9.60E-02	0.142	0.303	0.280
$CO3^{2-}$	0.336	1.28E+04	2.44E+03	0.200	0.278	0.403	0.426
$PO4^{3-}$	0.783	4.73E+04	9.01E+03	0.135	0.362	0.905	0.936
$SO4^{2-}$	0.112	6.86E+03	1.31E+03	4.59E-02	8.65E-02	0.174	0.530
Si (as SiO_x^{2-})	3.21E-02	572	109	2.12E-02	2.00E-02	4.72E-02	6.14E-02
F^{-}	7.96E-02	961	183	7.05E-02	7.89E-02	9.82E-02	8.54E-02
Cl^{-}	6.73E-02	1.51E+03	289	2.18E-02	4.88E-02	0.285	0.309
$C_6H_5O_7^{3-}$	4.02E-04	48.3	9.20	3.79E-04	3.91E-04	4.13E-04	4.29E-04
$EDTA^{4-}$	7.45E-05	13.6	2.60	6.45E-05	6.94E-05	7.97E-05	8.46E-05
$HEDTA^{3-}$	1.19E-05	2.06	0.393	4.83E-06	8.26E-06	1.55E-05	1.90E-05
glycolate^{-}	4.15E-04	19.8	3.77	2.50E-04	3.31E-04	5.00E-04	5.80E-04
acetate^{-}	4.38E-04	16.4	3.13	3.74E-04	4.05E-04	4.71E-04	5.02E-04
oxalate^{2-}	1.07E-07	5.96E-03	1.14E-03	9.54E-08	1.01E-07	1.12E-07	1.18E-07
DBP	3.95E-04	52.7	10.0	3.56E-04	3.75E-04	4.14E-04	4.35E-04
butanol	3.95E-04	18.6	3.54	3.56E-04	3.75E-04	4.14E-04	4.35E-04
NH_3	4.01E-02	433	82.6	3.77E-02	3.99E-02	4.84E-02	4.31E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.74E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.84E-02 (kW)	(96.9 BTU/hr)	----	6.21E-03	1.13E-02	4.33E-02	7.12E-02
Bulk Density	1.65 (g/cc)	----	----	1.16	1.26	1.70	1.78
Void Fraction	0.587	----	----	0.400	0.551	0.887	0.924
Water wt%	41.4	----	----	36.6	39.3	68.9	78.8
TOC wt% C (wet)	1.46E-04	----	----	3.15E-06	1.01E-04	2.42E-04	2.13E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.18E-06	1.93E-03	0.337	1.21E-07	1.21E-07	3.34E-06	3.60E-06
C-14	7.39E-07	4.49E-04	7.84E-02	2.95E-07	2.95E-07	7.74E-07	8.03E-07
Ni-59	5.50E-07	3.34E-04	5.83E-02	1.11E-08	1.11E-08	5.77E-07	5.97E-07
Ni-63	4.95E-05	3.01E-02	5.24	9.83E-07	9.83E-07	5.18E-05	5.37E-05
Co-60	1.07E-07	6.50E-05	1.13E-02	9.08E-09	9.08E-09	1.08E-07	1.13E-07
Se-79	1.02E-07	6.20E-05	1.08E-02	8.23E-09	8.23E-09	1.03E-07	1.08E-07
Sr-90	1.08E-02	6.57	1.15E+03	4.87E-03	8.90E-03	1.56E-02	4.21E-02
Y-90	1.08E-02	6.57	1.15E+03	2.80E-04	2.80E-04	1.09E-02	1.15E-02
Zr-93	4.85E-07	2.95E-04	5.14E-02	3.92E-08	3.92E-08	4.89E-07	5.14E-07
Nb-93m	4.10E-07	2.49E-04	4.35E-02	3.34E-08	3.34E-08	4.14E-07	4.35E-07
Tc-99	3.36E-06	2.04E-03	0.356	8.22E-07	2.24E-06	5.25E-06	4.79E-06
Ru-106	6.71E-12	4.08E-09	7.11E-07	2.04E-12	4.39E-12	9.04E-12	1.13E-11
Cd-113m	1.16E-06	7.05E-04	0.123	8.78E-08	8.78E-08	1.17E-06	1.23E-06
Sb-125	1.13E-07	6.87E-05	1.20E-02	2.47E-08	2.47E-08	1.21E-07	1.28E-07
Sn-126	1.53E-07	9.31E-05	1.62E-02	1.22E-08	1.22E-08	1.55E-07	1.62E-07
I-129	6.32E-09	3.84E-06	6.69E-04	1.54E-09	4.20E-09	9.89E-09	9.01E-09
Cs-134	3.82E-09	2.32E-06	4.05E-04	1.46E-09	1.46E-09	4.33E-09	4.82E-09
Cs-137	4.16E-02	25.3	4.41E+03	5.50E-03	1.00E-02	6.48E-02	8.27E-02
Ba-137m	3.94E-02	23.9	4.17E+03	3.00E-04	3.00E-04	4.15E-02	4.39E-02
Sm-151	3.81E-04	0.231	40.4	3.10E-05	3.10E-05	3.84E-04	4.03E-04
Eu-152	9.60E-08	5.83E-05	1.02E-02	3.01E-08	3.01E-08	9.67E-08	9.73E-08
Eu-154	1.89E-06	1.15E-03	0.200	1.48E-07	1.48E-07	1.91E-06	2.00E-06
Eu-155	7.74E-06	4.70E-03	0.820	2.69E-06	2.69E-06	7.78E-06	7.83E-06
Ra-226	4.17E-11	2.53E-08	4.42E-06	1.48E-11	1.48E-11	8.76E-11	7.63E-11
Ra-228	1.92E-09	1.17E-06	2.04E-04	1.89E-09	1.91E-09	1.94E-09	1.95E-09
Ac-227	6.06E-09	3.68E-06	6.42E-04	4.94E-09	5.80E-09	6.21E-09	6.36E-09
Pa-231	9.04E-09	5.49E-06	9.58E-04	2.86E-09	7.63E-09	9.91E-09	1.07E-08
Th-229	8.70E-10	5.28E-07	9.22E-05	8.56E-10	8.63E-10	8.76E-10	8.83E-10
Th-232	8.95E-11	5.44E-08	9.49E-06	2.69E-11	5.84E-11	1.21E-10	1.51E-10
U-232	9.93E-08	6.03E-05	1.05E-02	1.45E-09	5.37E-08	1.21E-07	1.32E-07
U-233	3.85E-07	2.34E-04	4.08E-02	4.60E-09	2.08E-07	4.67E-07	5.13E-07
U-234	1.96E-05	1.19E-02	2.08	1.84E-05	1.91E-05	2.02E-05	2.06E-05
U-235	8.79E-07	5.34E-04	9.31E-02	8.25E-07	8.53E-07	9.05E-07	9.23E-07
U-236	1.51E-07	9.16E-05	1.60E-02	1.35E-07	1.44E-07	1.56E-07	1.60E-07
U-238	1.99E-05	1.21E-02	2.11	1.86E-05	1.93E-05	2.05E-05	2.09E-05
Np-237	2.07E-08	1.26E-05	2.19E-03	5.01E-09	1.37E-08	3.24E-08	2.95E-08
Pu-238	2.45E-06	1.49E-03	0.259	1.80E-06	2.30E-06	2.56E-06	2.62E-06
Pu-239	1.34E-04	8.15E-02	14.2	9.79E-05	1.09E-04	1.51E-04	1.54E-04
Pu-240	1.97E-05	1.19E-02	2.08	1.48E-05	1.76E-05	2.11E-05	2.13E-05
Pu-241	1.85E-04	0.113	19.6	1.33E-04	1.73E-04	1.93E-04	2.00E-04
Pu-242	5.34E-10	3.25E-07	5.66E-05	3.88E-10	5.01E-10	5.55E-10	5.75E-10
Am-241	8.18E-07	4.97E-04	8.67E-02	1.12E-07	4.91E-07	1.34E-06	1.22E-06
Am-243	5.66E-12	3.44E-09	5.99E-07	7.28E-13	3.36E-12	9.27E-12	8.48E-12
Cm-242	1.56E-09	9.45E-07	1.65E-04	3.65E-10	3.65E-10	1.57E-09	1.58E-09
Cm-243	3.41E-11	2.07E-08	3.61E-06	9.72E-12	9.72E-12	3.43E-11	3.45E-11
Cm-244	1.36E-10	8.25E-08	1.44E-05	7.49E-12	7.49E-12	1.38E-10	1.44E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.25E-03 (g/L)	----	0.238	1.65E-03	1.83E-03	2.53E-03	2.57E-03
U	0.250	3.62E+04	6.31E+03	0.235	0.243	0.258	0.263

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.62E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	2.38E-03 (kW)	(8.12 BTU/hr)	----	1.94E-03	2.15E-03	2.61E-03	2.83E-03
Bulk Density*	1.07 (g/cc)	----	----	1.06	1.07	1.08	1.08
Water wt%†	88.2	----	----	86.9	87.5	89.1	90.3
TOC wt% C (wet)	8.55E-02	----	----	7.88E-02	8.21E-02	8.88E-02	9.37E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.85E-05	1.73E-02	0.280	7.26E-06	7.26E-06	2.00E-05	2.19E-05
C-14	3.65E-06	3.40E-03	5.52E-02	1.29E-06	1.29E-06	3.77E-06	3.89E-06
Ni-59	2.35E-07	2.19E-04	3.55E-03	1.24E-07	1.24E-07	2.40E-07	2.46E-07
Ni-63	2.33E-05	2.17E-02	0.352	1.23E-05	1.23E-05	2.38E-05	2.44E-05
Co-60	4.57E-06	4.26E-03	6.92E-02	1.87E-06	1.87E-06	4.76E-06	4.94E-06
Se-79	2.95E-07	2.75E-04	4.46E-03	1.44E-07	1.44E-07	3.49E-07	4.01E-07
Sr-90	1.01E-02	9.47	154	8.60E-03	9.13E-03	1.13E-02	1.15E-02
Y-90	1.01E-02	9.47	154	4.95E-03	4.95E-03	1.05E-02	1.09E-02
Zr-93	1.45E-06	1.35E-03	2.19E-02	6.97E-07	6.97E-07	1.72E-06	1.98E-06
Nb-93m	1.04E-06	9.72E-04	1.58E-02	5.15E-07	5.15E-07	1.23E-06	1.41E-06
Tc-99	2.66E-05	2.48E-02	0.403	1.78E-05	2.21E-05	3.11E-05	3.55E-05
Ru-106	6.81E-10	6.36E-07	1.03E-05	3.33E-10	3.33E-10	7.59E-10	8.30E-10
Cd-113m	7.97E-06	7.44E-03	0.121	3.47E-06	3.47E-06	9.61E-06	1.12E-05
Sb-125	2.08E-05	1.94E-02	0.315	9.16E-06	9.16E-06	2.20E-05	2.31E-05
Sn-126	4.43E-07	4.13E-04	6.70E-03	2.17E-07	2.17E-07	5.24E-07	6.02E-07
I-129	5.15E-08	4.80E-05	7.80E-04	3.45E-08	4.28E-08	6.02E-08	6.87E-08
Cs-134	2.00E-07	1.87E-04	3.04E-03	1.22E-07	1.60E-07	2.41E-07	2.80E-07
Cs-137	1.90E-02	17.7	287	1.27E-02	1.57E-02	2.22E-02	2.53E-02
Ba-137m	1.79E-02	16.7	272	1.20E-02	1.49E-02	2.10E-02	2.39E-02
Sm-151	1.03E-03	0.965	15.7	5.08E-04	5.08E-04	1.22E-03	1.41E-03
Eu-152	3.68E-07	3.43E-04	5.57E-03	1.81E-07	1.81E-07	3.93E-07	4.18E-07
Eu-154	6.26E-05	5.84E-02	0.948	2.50E-05	2.50E-05	7.61E-05	8.16E-05
Eu-155	2.22E-05	2.07E-02	0.336	1.11E-05	1.11E-05	2.37E-05	2.52E-05
Ra-226	1.54E-11	1.44E-08	2.33E-07	1.00E-11	1.00E-11	1.71E-11	1.87E-11
Ra-228	7.85E-08	7.33E-05	1.19E-03	4.10E-08	5.93E-08	1.01E-07	1.25E-07
Ac-227	1.33E-10	1.24E-07	2.01E-06	9.81E-11	1.06E-10	1.51E-10	1.68E-10
Pa-231	6.19E-10	5.78E-07	9.38E-06	4.26E-10	4.69E-10	7.18E-10	8.13E-10
Th-229	1.85E-09	1.73E-06	2.80E-05	1.02E-09	1.43E-09	2.34E-09	2.86E-09
Th-232	5.94E-09	5.55E-06	9.00E-05	3.87E-09	4.35E-09	7.00E-09	8.02E-09
U-232	3.40E-07	3.18E-04	5.15E-03	1.90E-07	2.63E-07	4.29E-07	5.25E-07
U-233	1.30E-06	1.22E-03	1.97E-02	7.27E-07	1.01E-06	1.65E-06	2.01E-06
U-234	1.53E-07	1.43E-04	2.32E-03	1.36E-07	1.51E-07	1.55E-07	1.58E-07
U-235	6.00E-09	5.60E-06	9.09E-05	5.31E-09	5.91E-09	6.10E-09	6.19E-09
U-236	4.46E-09	4.17E-06	6.76E-05	3.96E-09	4.39E-09	4.53E-09	4.60E-09
U-238	2.22E-07	2.07E-04	3.36E-03	2.06E-07	2.20E-07	2.24E-07	2.26E-07
Np-237	8.94E-08	8.35E-05	1.35E-03	6.07E-08	7.47E-08	1.04E-07	1.18E-07
Pu-238	1.45E-07	1.36E-04	2.20E-03	1.12E-07	1.28E-07	1.62E-07	1.79E-07
Pu-239	5.51E-06	5.14E-03	8.34E-02	4.64E-06	5.07E-06	5.95E-06	6.37E-06
Pu-240	8.82E-07	8.24E-04	1.34E-02	7.22E-07	8.01E-07	9.64E-07	1.04E-06
Pu-241	1.02E-05	9.57E-03	0.155	7.95E-06	9.08E-06	1.14E-05	1.26E-05
Pu-242	5.14E-11	4.80E-08	7.79E-07	3.77E-11	4.44E-11	5.84E-11	6.52E-11
Am-241	4.48E-06	4.18E-03	6.78E-02	2.88E-06	3.66E-06	5.29E-06	6.07E-06
Am-243	1.73E-10	1.61E-07	2.61E-06	1.22E-10	1.46E-10	1.99E-10	2.25E-10
Cm-242	1.53E-08	1.43E-05	2.32E-04	7.68E-09	7.68E-09	1.75E-08	1.97E-08
Cm-243	1.55E-09	1.45E-06	2.35E-05	8.25E-10	8.25E-10	1.82E-09	2.09E-09
Cm-244	1.16E-08	1.08E-05	1.75E-04	4.06E-09	4.06E-09	1.41E-08	1.57E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.42E-05 (g/L)	----	1.12E-03	5.79E-05	6.59E-05	8.25E-05	9.05E-05
U	1.71E-03	379	6.15	1.51E-03	1.68E-03	1.73E-03	1.76E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.91E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	3.08E-02 (kW)	(105 BTU/hr)	----	8.36E-03	1.36E-02	4.59E-02	7.38E-02
Bulk Density†	1.57 (g/cc)	----	----	1.14	1.24	1.62	1.69
Water wt%†	45.4	----	----	40.7	43.3	71.1	80.1
TOC wt% C (wet)†	7.41E-03	----	----	6.82E-03	7.11E-03	9.35E-03	1.00E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.10E-06	3.24E-03	0.617	2.35E-06	2.35E-06	5.28E-06	5.52E-06
C-14	1.10E-06	7.01E-04	0.134	7.03E-07	7.03E-07	1.13E-06	1.16E-06
Ni-59	5.11E-07	3.24E-04	6.19E-02	3.73E-08	3.73E-08	5.34E-07	5.51E-07
Ni-63	4.62E-05	2.93E-02	5.59	3.61E-06	3.61E-06	4.83E-05	4.98E-05
Co-60	6.65E-07	4.22E-04	8.05E-02	3.28E-07	3.28E-07	6.89E-07	7.11E-07
Se-79	1.26E-07	8.01E-05	1.53E-02	4.17E-08	4.17E-08	1.33E-07	1.39E-07
Sr-90	1.07E-02	6.82	1.30E+03	5.34E-03	8.93E-03	1.51E-02	3.83E-02
Y-90	1.07E-02	6.82	1.30E+03	1.25E-03	1.25E-03	1.08E-02	1.14E-02
Zr-93	6.06E-07	3.85E-04	7.33E-02	2.04E-07	2.04E-07	6.39E-07	6.72E-07
Nb-93m	4.89E-07	3.11E-04	5.93E-02	1.50E-07	1.50E-07	5.13E-07	5.36E-07
Tc-99	6.27E-06	3.98E-03	0.759	3.98E-06	5.24E-06	7.98E-06	7.61E-06
Ru-106	9.10E-11	5.78E-08	1.10E-05	4.75E-11	4.75E-11	1.01E-10	1.10E-10
Cd-113m	2.01E-06	1.28E-03	0.244	1.05E-06	1.05E-06	2.22E-06	2.41E-06
Sb-125	2.70E-06	1.72E-03	0.327	1.24E-06	1.24E-06	2.85E-06	2.99E-06
Sn-126	1.89E-07	1.20E-04	2.29E-02	6.25E-08	6.25E-08	2.00E-07	2.09E-07
I-129	1.20E-08	7.60E-06	1.45E-03	7.65E-09	1.00E-08	1.52E-08	1.45E-08
Cs-134	2.84E-08	1.80E-05	3.44E-03	1.86E-08	2.34E-08	3.35E-08	3.84E-08
Cs-137	3.88E-02	24.6	4.70E+03	7.06E-03	1.11E-02	5.92E-02	7.50E-02
Ba-137m	3.67E-02	23.3	4.44E+03	2.31E-03	2.31E-03	3.86E-02	4.07E-02
Sm-151	4.62E-04	0.294	56.0	1.48E-04	1.48E-04	4.86E-04	5.09E-04
Eu-152	1.30E-07	8.26E-05	1.57E-02	7.22E-08	7.22E-08	1.33E-07	1.36E-07
Eu-154	9.47E-06	6.02E-03	1.15	4.78E-06	4.78E-06	1.12E-05	1.18E-05
Eu-155	9.54E-06	6.06E-03	1.16	5.11E-06	5.11E-06	9.73E-06	9.91E-06
Ra-226	3.84E-11	2.44E-08	4.65E-06	1.42E-11	1.42E-11	7.84E-11	6.86E-11
Ra-228	1.15E-08	7.30E-06	1.39E-03	6.80E-09	9.10E-09	1.43E-08	1.72E-08
Ac-227	5.32E-09	3.38E-06	6.44E-04	4.34E-09	5.09E-09	5.45E-09	5.58E-09
Pa-231	7.99E-09	5.07E-06	9.68E-04	2.58E-09	6.75E-09	8.73E-09	9.45E-09
Th-229	9.92E-10	6.30E-07	1.20E-04	8.89E-10	9.39E-10	1.05E-09	1.12E-09
Th-232	8.21E-10	5.22E-07	9.95E-05	5.62E-10	6.22E-10	9.54E-10	1.08E-09
U-232	1.29E-07	8.22E-05	1.57E-02	4.34E-08	8.95E-08	1.48E-07	1.58E-07
U-233	5.00E-07	3.17E-04	6.05E-02	1.65E-07	3.45E-07	5.72E-07	6.12E-07
U-234	1.72E-05	1.09E-02	2.08	1.61E-05	1.67E-05	1.77E-05	1.81E-05
U-235	7.70E-07	4.89E-04	9.32E-02	7.23E-07	7.47E-07	7.93E-07	8.08E-07
U-236	1.32E-07	8.41E-05	1.60E-02	1.19E-07	1.26E-07	1.37E-07	1.40E-07
U-238	1.74E-05	1.11E-02	2.11	1.63E-05	1.69E-05	1.79E-05	1.83E-05
Np-237	2.93E-08	1.86E-05	3.54E-03	1.51E-08	2.29E-08	3.98E-08	3.76E-08
Pu-238	2.16E-06	1.37E-03	0.261	1.59E-06	2.03E-06	2.26E-06	2.31E-06
Pu-239	1.18E-04	7.50E-02	14.3	8.64E-05	9.58E-05	1.33E-04	1.35E-04
Pu-240	1.73E-05	1.10E-02	2.10	1.31E-05	1.55E-05	1.86E-05	1.88E-05
Pu-241	1.64E-04	0.104	19.8	1.18E-04	1.53E-04	1.70E-04	1.76E-04
Pu-242	4.74E-10	3.01E-07	5.74E-05	3.46E-10	4.45E-10	4.92E-10	5.09E-10
Am-241	1.28E-06	8.10E-04	0.154	6.40E-07	9.77E-07	1.74E-06	1.65E-06
Am-243	2.65E-11	1.69E-08	3.21E-06	2.03E-11	2.33E-11	2.99E-11	3.31E-11
Cm-242	3.28E-09	2.08E-06	3.97E-04	2.23E-09	2.23E-09	3.55E-09	3.82E-09
Cm-243	2.24E-10	1.42E-07	2.71E-05	1.33E-10	1.33E-10	2.58E-10	2.91E-10
Cm-244	1.57E-09	9.95E-07	1.90E-04	6.27E-10	6.27E-10	1.88E-09	2.09E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.97E-03 (g/L)	----	0.239	1.45E-03	1.61E-03	2.22E-03	2.26E-03
U	0.219	3.31E+04	6.31E+03	0.205	0.212	0.226	0.230

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.68E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	6.57E-02 (kW)	(224 BTU/hr)	----	1.39E-02	2.59E-02	0.101	0.165
Bulk Density	1.65 (g/cc)	----	----	1.11	1.22	1.71	1.79
Void Fraction	0.594	----	----	0.386	0.553	0.926	0.966
Water wt%	40.6	----	----	35.5	38.4	71.8	83.6
TOC wt% C (wet)	1.62E-04	----	----	3.65E-06	1.15E-04	2.66E-04	2.33E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.2	1.71E+05	6.29E+04	1.97	4.19	13.5	14.9
Al^{3+}	1.50E-02	245	90.1	9.97E-03	1.40E-02	2.21E-02	2.30E-02
Fe^{3+} (total Fe)	0.117	3.98E+03	1.46E+03	0.105	0.116	0.119	0.120
Cr^{3+}	5.28E-03	167	61.4	3.55E-03	5.15E-03	6.96E-03	6.01E-03
Bi^{3+}	1.71E-02	2.16E+03	796	8.32E-03	1.41E-02	1.88E-02	1.99E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.89E-05	2.30	0.846	7.28E-06	1.15E-05	2.32E-05	2.60E-05
Zr (as $ZrO(OH)_2$)	1.42E-04	7.87	2.90	1.27E-04	1.41E-04	1.75E-04	1.53E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.99E-03	284	105	9.60E-04	1.61E-03	9.99E-03	1.05E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.17E-02	1.74E+03	642	1.16E-02	5.26E-02	7.74E-02	8.30E-02
K^+	1.43E-02	340	125	5.22E-03	1.10E-02	2.15E-02	1.92E-02
OH^-	1.38	1.42E+04	5.24E+03	1.29	1.37	1.43	1.43
$NO3^-$	8.24	3.10E+05	1.14E+05	0.949	2.01	8.42	8.70
$NO2^-$	0.227	6.32E+03	2.33E+03	7.89E-02	0.136	0.333	0.300
$CO3^{2-}$	0.275	9.99E+03	3.68E+03	0.105	0.203	0.357	0.385
$PO4^{3-}$	0.961	5.54E+04	2.04E+04	0.141	0.428	1.11	1.15
$SO4^{2-}$	0.129	7.50E+03	2.76E+03	4.72E-02	9.77E-02	0.204	0.655
Si (as SiO_x^{2-})	3.90E-02	665	245	2.53E-02	2.37E-02	5.84E-02	7.65E-02
F^-	9.72E-02	1.12E+03	412	8.47E-02	9.63E-02	0.121	0.105
Cl^-	7.99E-02	1.72E+03	632	2.42E-02	5.78E-02	0.355	0.385
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.85E-05	2.36	0.870	2.80E-07	9.76E-06	3.16E-05	2.91E-05
butanol	1.85E-05	0.833	0.307	2.80E-07	9.76E-06	3.16E-05	2.91E-05
NH_3	4.89E-02	504	186	4.52E-02	4.85E-02	5.97E-02	5.27E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.68E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	6.57E-02 (kW)	(224 BTU/hr)	----	1.39E-02	2.59E-02	0.101	0.165
Bulk Density†	1.65 (g/cc)	----	----	1.11	1.22	1.71	1.79
Water wt%†	40.6	----	----	35.5	38.4	71.8	83.6
TOC wt% C (wet)†	1.62E-04	----	----	3.65E-06	1.15E-04	2.66E-04	2.33E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.2	1.71E+05	6.29E+04	1.97	4.19	13.5	14.9
Al^{3+}	1.50E-02	245	90.1	9.97E-03	1.40E-02	2.21E-02	2.30E-02
Fe^{3+} (total Fe)	0.117	3.98E+03	1.46E+03	0.105	0.116	0.119	0.120
Cr^{3+}	5.28E-03	167	61.4	3.55E-03	5.15E-03	6.96E-03	6.01E-03
Bi^{3+}	1.71E-02	2.16E+03	796	8.32E-03	1.41E-02	1.88E-02	1.99E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.89E-05	2.30	0.846	7.28E-06	1.15E-05	2.32E-05	2.60E-05
Zr (as $ZrO(OH)_2$)	1.42E-04	7.87	2.90	1.27E-04	1.41E-04	1.75E-04	1.53E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.99E-03	284	105	9.60E-04	1.61E-03	9.99E-03	1.05E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.17E-02	1.74E+03	642	1.16E-02	5.26E-02	7.74E-02	8.30E-02
K^+	1.43E-02	340	125	5.22E-03	1.10E-02	2.15E-02	1.92E-02
OH^-	1.38	1.42E+04	5.24E+03	1.29	1.37	1.43	1.43
$NO3^-$	8.24	3.10E+05	1.14E+05	0.949	2.01	8.42	8.70
$NO2^-$	0.227	6.32E+03	2.33E+03	7.89E-02	0.136	0.333	0.300
$CO3^{2-}$	0.275	9.99E+03	3.68E+03	0.105	0.203	0.357	0.385
$PO4^{3-}$	0.961	5.54E+04	2.04E+04	0.141	0.428	1.11	1.15
$SO4^{2-}$	0.129	7.50E+03	2.76E+03	4.72E-02	9.77E-02	0.204	0.655
Si (as SiO_x^{2-})	3.90E-02	665	245	2.53E-02	2.37E-02	5.84E-02	7.65E-02
F^-	9.72E-02	1.12E+03	412	8.47E-02	9.63E-02	0.121	0.105
Cl^-	7.99E-02	1.72E+03	632	2.42E-02	5.78E-02	0.355	0.385
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.85E-05	2.36	0.870	2.80E-07	9.76E-06	3.16E-05	2.91E-05
butanol	1.85E-05	0.833	0.307	2.80E-07	9.76E-06	3.16E-05	2.91E-05
NH_3	4.89E-02	504	186	4.52E-02	4.85E-02	5.97E-02	5.27E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.68E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	6.57E-02 (kW)	(224 BTU/hr)	----	1.39E-02	2.59E-02	0.101	0.165
Bulk Density	1.65 (g/cc)	----	----	1.11	1.22	1.71	1.79
Void Fraction	0.594	----	----	0.386	0.553	0.926	0.966
Water wt%	40.6	----	----	35.5	38.4	71.8	83.6
TOC wt% C (wet)	1.62E-04	----	----	3.65E-06	1.15E-04	2.66E-04	2.33E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.43E-06	2.08E-03	0.767	4.82E-08	4.82E-08	3.61E-06	3.90E-06
C-14	6.31E-07	3.83E-04	0.141	1.38E-07	1.38E-07	6.47E-07	6.62E-07
Ni-59	6.02E-07	3.65E-04	0.134	4.88E-09	4.88E-09	6.31E-07	6.54E-07
Ni-63	5.41E-05	3.28E-02	12.1	4.29E-07	4.29E-07	5.68E-05	5.88E-05
Co-60	1.11E-07	6.73E-05	2.48E-02	2.39E-09	2.39E-09	1.12E-07	1.18E-07
Se-79	1.08E-07	6.52E-05	2.40E-02	3.61E-09	3.61E-09	1.09E-07	1.14E-07
Sr-90	1.18E-02	7.14	2.63E+03	5.18E-03	9.64E-03	1.71E-02	4.64E-02
Y-90	1.18E-02	7.14	2.63E+03	1.02E-04	1.02E-04	1.19E-02	1.26E-02
Zr-93	5.11E-07	3.10E-04	0.114	1.72E-08	1.72E-08	5.16E-07	5.43E-07
Nb-93m	4.32E-07	2.62E-04	9.65E-02	1.48E-08	1.48E-08	4.36E-07	4.59E-07
Tc-99	3.54E-06	2.15E-03	0.790	7.30E-07	2.29E-06	5.64E-06	5.12E-06
Ru-106	4.26E-14	2.58E-11	9.51E-09	5.63E-17	5.63E-17	4.31E-14	4.53E-14
Cd-113m	1.22E-06	7.41E-04	0.273	3.49E-08	3.49E-08	1.23E-06	1.30E-06
Sb-125	9.92E-08	6.02E-05	2.22E-02	1.29E-09	1.29E-09	1.00E-07	1.05E-07
Sn-126	1.61E-07	9.80E-05	3.61E-02	5.36E-09	5.36E-09	1.63E-07	1.72E-07
I-129	6.65E-09	4.04E-06	1.49E-03	1.36E-09	4.31E-09	1.06E-08	9.64E-09
Cs-134	2.61E-09	1.59E-06	5.84E-04	1.38E-12	1.38E-12	2.77E-09	2.94E-09
Cs-137	4.58E-02	27.8	1.02E+04	5.85E-03	1.09E-02	7.15E-02	9.14E-02
Ba-137m	4.34E-02	26.3	9.68E+03	1.08E-04	1.08E-04	4.58E-02	4.84E-02
Sm-151	4.01E-04	0.243	89.5	1.36E-05	1.36E-05	4.05E-04	4.26E-04
Eu-152	7.62E-08	4.62E-05	1.70E-02	3.19E-09	3.19E-09	7.69E-08	7.75E-08
Eu-154	1.96E-06	1.19E-03	0.437	3.21E-08	3.21E-08	1.98E-06	2.08E-06
Eu-155	6.07E-06	3.68E-03	1.36	4.82E-07	4.82E-07	6.13E-06	6.18E-06
Ra-226	3.68E-11	2.23E-08	8.22E-06	6.97E-12	6.97E-12	8.77E-11	6.56E-11
Ra-228	3.34E-16	2.03E-13	7.46E-11	4.34E-17	4.34E-17	3.37E-16	3.39E-16
Ac-227	1.70E-10	1.03E-07	3.79E-05	1.74E-11	1.74E-11	3.28E-10	3.27E-10
Pa-231	3.45E-10	2.09E-07	7.71E-05	1.61E-11	1.61E-11	3.48E-10	4.28E-10
Th-229	6.48E-14	3.93E-11	1.45E-08	8.38E-15	8.38E-15	6.53E-14	6.58E-14
Th-232	1.47E-16	8.92E-14	3.28E-11	5.33E-18	5.33E-18	1.48E-16	1.56E-16
U-232	1.86E-10	1.13E-07	4.16E-05	1.57E-10	1.73E-10	1.99E-10	2.08E-10
U-233	9.88E-12	5.99E-09	2.21E-06	8.51E-12	9.22E-12	1.05E-11	1.09E-11
U-234	1.19E-05	7.19E-03	2.65	1.05E-05	1.12E-05	1.25E-05	1.29E-05
U-235	5.30E-07	3.22E-04	0.118	4.71E-07	5.01E-07	5.59E-07	5.79E-07
U-236	9.01E-08	5.47E-05	2.01E-02	7.75E-08	8.41E-08	9.61E-08	9.99E-08
U-238	1.20E-05	7.29E-03	2.68	1.07E-05	1.14E-05	1.27E-05	1.31E-05
Np-237	2.18E-08	1.32E-05	4.86E-03	4.43E-09	1.41E-08	3.47E-08	3.15E-08
Pu-238	2.55E-07	1.55E-04	5.70E-02	2.37E-08	8.85E-08	3.78E-07	3.96E-07
Pu-239	4.60E-05	2.79E-02	10.3	6.00E-06	1.80E-05	6.53E-05	6.78E-05
Pu-240	3.57E-06	2.17E-03	0.798	3.89E-07	1.31E-06	5.19E-06	5.43E-06
Pu-241	8.79E-06	5.33E-03	1.96	5.19E-07	2.71E-06	1.35E-05	1.43E-05
Pu-242	3.88E-11	2.35E-08	8.66E-06	2.08E-12	1.17E-11	6.00E-11	6.34E-11
Am-241	8.79E-07	5.33E-04	0.196	9.73E-08	5.17E-07	1.45E-06	1.33E-06
Am-243	6.04E-12	3.66E-09	1.35E-06	5.82E-13	3.50E-12	1.00E-11	9.16E-12
Cm-242	1.33E-09	8.08E-07	2.97E-04	1.28E-11	1.28E-11	1.34E-09	1.36E-09
Cm-243	2.72E-11	1.65E-08	6.07E-06	1.90E-13	1.90E-13	2.74E-11	2.77E-11
Cm-244	1.42E-10	8.63E-08	3.18E-05	2.55E-13	2.55E-13	1.44E-10	1.51E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.56E-04 (g/L)	----	0.169	9.82E-05	2.95E-04	1.07E-03	1.12E-03
U	0.151	2.18E+04	8.04E+03	0.134	0.143	0.160	0.165

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.68E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	6.57E-02 (kW)	(224 BTU/hr)	----	1.39E-02	2.59E-02	0.101	0.165
Bulk Density†	1.65 (g/cc)	----	----	1.11	1.22	1.71	1.79
Water wt%†	40.6	----	----	35.5	38.4	71.8	83.6
TOC wt% C (wet)†	1.62E-04	----	----	3.65E-06	1.15E-04	2.66E-04	2.33E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.43E-06	2.08E-03	0.767	4.82E-08	4.82E-08	3.61E-06	3.90E-06
C-14	6.31E-07	3.83E-04	0.141	1.38E-07	1.38E-07	6.47E-07	6.62E-07
Ni-59	6.02E-07	3.65E-04	0.134	4.88E-09	4.88E-09	6.31E-07	6.54E-07
Ni-63	5.41E-05	3.28E-02	12.1	4.29E-07	4.29E-07	5.68E-05	5.88E-05
Co-60	1.11E-07	6.73E-05	2.48E-02	2.39E-09	2.39E-09	1.12E-07	1.18E-07
Se-79	1.08E-07	6.52E-05	2.40E-02	3.61E-09	3.61E-09	1.09E-07	1.14E-07
Sr-90	1.18E-02	7.14	2.63E+03	5.18E-03	9.64E-03	1.71E-02	4.64E-02
Y-90	1.18E-02	7.14	2.63E+03	1.02E-04	1.02E-04	1.19E-02	1.26E-02
Zr-93	5.11E-07	3.10E-04	0.114	1.72E-08	1.72E-08	5.16E-07	5.43E-07
Nb-93m	4.32E-07	2.62E-04	9.65E-02	1.48E-08	1.48E-08	4.36E-07	4.59E-07
Tc-99	3.54E-06	2.15E-03	0.790	7.30E-07	2.29E-06	5.64E-06	5.12E-06
Ru-106	4.26E-14	2.58E-11	9.51E-09	5.63E-17	5.63E-17	4.31E-14	4.53E-14
Cd-113m	1.22E-06	7.41E-04	0.273	3.49E-08	3.49E-08	1.23E-06	1.30E-06
Sb-125	9.92E-08	6.02E-05	2.22E-02	1.29E-09	1.29E-09	1.00E-07	1.05E-07
Sn-126	1.61E-07	9.80E-05	3.61E-02	5.36E-09	5.36E-09	1.63E-07	1.72E-07
I-129	6.65E-09	4.04E-06	1.49E-03	1.36E-09	4.31E-09	1.06E-08	9.64E-09
Cs-134	2.61E-09	1.59E-06	5.84E-04	1.38E-12	1.38E-12	2.77E-09	2.94E-09
Cs-137	4.58E-02	27.8	1.02E+04	5.85E-03	1.09E-02	7.15E-02	9.14E-02
Ba-137m	4.34E-02	26.3	9.68E+03	1.08E-04	1.08E-04	4.58E-02	4.84E-02
Sm-151	4.01E-04	0.243	89.5	1.36E-05	1.36E-05	4.05E-04	4.26E-04
Eu-152	7.62E-08	4.62E-05	1.70E-02	3.19E-09	3.19E-09	7.69E-08	7.75E-08
Eu-154	1.96E-06	1.19E-03	0.437	3.21E-08	3.21E-08	1.98E-06	2.08E-06
Eu-155	6.07E-06	3.68E-03	1.36	4.82E-07	4.82E-07	6.13E-06	6.18E-06
Ra-226	3.68E-11	2.23E-08	8.22E-06	6.97E-12	6.97E-12	8.77E-11	6.56E-11
Ra-228	3.34E-16	2.03E-13	7.46E-11	4.34E-17	4.34E-17	3.37E-16	3.39E-16
Ac-227	1.70E-10	1.03E-07	3.79E-05	1.74E-11	1.74E-11	3.28E-10	3.27E-10
Pa-231	3.45E-10	2.09E-07	7.71E-05	1.61E-11	1.61E-11	3.48E-10	4.28E-10
Th-229	6.48E-14	3.93E-11	1.45E-08	8.38E-15	8.38E-15	6.53E-14	6.58E-14
Th-232	1.47E-16	8.92E-14	3.28E-11	5.33E-18	5.33E-18	1.48E-16	1.56E-16
U-232	1.86E-10	1.13E-07	4.16E-05	1.57E-10	1.73E-10	1.99E-10	2.08E-10
U-233	9.87E-12	5.99E-09	2.21E-06	8.51E-12	9.22E-12	1.05E-11	1.09E-11
U-234	1.19E-05	7.19E-03	2.65	1.05E-05	1.12E-05	1.25E-05	1.29E-05
U-235	5.30E-07	3.22E-04	0.118	4.71E-07	5.01E-07	5.59E-07	5.79E-07
U-236	9.01E-08	5.47E-05	2.01E-02	7.75E-08	8.41E-08	9.61E-08	9.99E-08
U-238	1.20E-05	7.29E-03	2.68	1.07E-05	1.14E-05	1.27E-05	1.31E-05
Np-237	2.18E-08	1.32E-05	4.86E-03	4.43E-09	1.41E-08	3.47E-08	3.15E-08
Pu-238	2.55E-07	1.55E-04	5.70E-02	2.37E-08	8.85E-08	3.78E-07	3.96E-07
Pu-239	4.60E-05	2.79E-02	10.3	6.00E-06	1.80E-05	6.53E-05	6.78E-05
Pu-240	3.57E-06	2.17E-03	0.798	3.89E-07	1.31E-06	5.19E-06	5.43E-06
Pu-241	8.79E-06	5.33E-03	1.96	5.19E-07	2.71E-06	1.35E-05	1.43E-05
Pu-242	3.88E-11	2.35E-08	8.66E-06	2.08E-12	1.17E-11	6.00E-11	6.34E-11
Am-241	8.79E-07	5.33E-04	0.196	9.73E-08	5.17E-07	1.45E-06	1.33E-06
Am-243	6.04E-12	3.66E-09	1.35E-06	5.82E-13	3.50E-12	1.00E-11	9.16E-12
Cm-242	1.33E-09	8.08E-07	2.97E-04	1.28E-11	1.28E-11	1.34E-09	1.36E-09
Cm-243	2.72E-11	1.65E-08	6.07E-06	1.90E-13	1.90E-13	2.74E-11	2.77E-11
Cm-244	1.42E-10	8.63E-08	3.18E-05	2.55E-13	2.55E-13	1.44E-10	1.51E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.56E-04 (g/L)	----	0.169	9.82E-05	2.95E-04	1.07E-03	1.12E-03
U	0.151	2.18E+04	8.04E+03	0.134	0.143	0.160	0.165

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.87E+06 (kg)	(366 kgal)	----	----	----	----	----
Heat Load	0.156 (kW)	(531 BTU/hr)	----	9.93E-02	0.112	0.194	0.264
Bulk Density	1.35 (g/cc)	----	----	1.25	1.27	1.38	1.40
Void Fraction	0.737	----	----	0.670	0.699	0.795	0.832
Water wt%	63.3	----	----	60.2	61.6	69.9	71.7
TOC wt% C (wet)	3.48E-05	----	----	5.65E-07	1.94E-05	5.88E-05	5.35E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.77	9.84E+04	1.84E+05	3.97	4.36	6.38	6.90
Al^{3+}	0.146	2.92E+03	5.46E+03	0.145	0.146	0.147	0.147
Fe^{3+} (total Fe)	0.420	1.74E+04	3.25E+04	0.414	0.417	0.423	0.426
Cr^{3+}	4.27E-03	165	307	3.65E-03	3.97E-03	4.58E-03	4.88E-03
Bi^{3+}	6.77E-02	1.05E+04	1.96E+04	5.56E-02	6.26E-02	7.14E-02	7.41E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.42E-05	5.09	9.52	1.02E-05	2.61E-05	3.90E-05	4.21E-05
Zr (as $ZrO(OH)_2$)	1.06E-04	7.17	13.4	7.57E-05	9.13E-05	1.21E-04	1.36E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.44E-03	106	198	1.20E-03	1.32E-03	3.03E-03	4.21E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.112	3.34E+03	6.23E+03	8.53E-02	0.101	0.124	0.135
K^{+}	7.32E-03	212	397	5.73E-03	6.73E-03	8.59E-03	8.18E-03
OH^{-}	2.17	2.74E+04	5.12E+04	2.10	2.15	2.20	2.23
$NO3^{-}$	2.24	1.03E+05	1.92E+05	0.960	1.15	2.28	2.32
$NO2^{-}$	0.149	5.10E+03	9.53E+03	8.87E-02	0.116	0.190	0.235
$CO3^{2-}$	0.132	5.87E+03	1.10E+04	0.102	0.119	0.146	0.155
$PO4^{3-}$	1.02	7.16E+04	1.34E+05	0.632	0.830	1.15	1.26
$SO4^{2-}$	5.85E-02	4.17E+03	7.79E+03	4.42E-02	5.31E-02	7.18E-02	0.151
Si (as SiO_x^{2-})	9.94E-02	2.07E+03	3.87E+03	5.27E-02	7.18E-02	0.155	0.208
F^{-}	0.149	2.10E+03	3.92E+03	0.131	0.140	0.292	0.532
Cl^{-}	3.62E-02	950	1.77E+03	2.64E-02	3.23E-02	8.44E-02	8.98E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.25E-06	0.507	0.948	4.92E-08	1.71E-06	5.56E-06	5.10E-06
butanol	3.25E-06	0.179	0.334	4.92E-08	1.71E-06	5.56E-06	5.10E-06
NH_3	2.83E-02	357	667	2.13E-02	2.50E-02	3.16E-02	3.47E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.27E+04 (kg)	(5.02 kgal)	----	----	----	----	----
Heat Load	4.15E-03 (kW)	(14.2 BTU/hr)	----	1.28E-03	2.50E-03	6.46E-03	7.24E-03
Bulk Density*	1.19 (g/cc)	----	----	1.07	1.14	1.23	1.24
Water wt%	68.0	----	----	63.0	64.1	75.7	86.9
TOC wt% C (wet)	4.05E-04	----	----	4.18E-06	1.42E-04	7.24E-04	9.60E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.07	9.77E+04	2.22E+03	1.88	3.61	5.95	6.20
Al^{3+}	2.71E-02	613	13.9	2.52E-02	2.54E-02	2.73E-02	2.83E-02
Fe^{3+} (total Fe)	2.08E-03	97.3	2.21	1.15E-03	1.60E-03	2.55E-03	3.01E-03
Cr^{3+}	9.45E-03	412	9.34	3.82E-03	5.84E-03	1.34E-02	1.69E-02
Bi^{3+}	4.16E-03	728	16.5	3.51E-03	3.83E-03	4.49E-03	4.80E-03
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.04E-05	1.75	3.96E-02	7.99E-06	9.86E-06	1.09E-05	1.14E-05
Zr (as $ZrO(OH)_2$)	2.58E-04	19.7	0.447	1.62E-04	2.01E-04	3.05E-04	3.61E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.87E-03	92.1	2.09	1.02E-03	1.78E-03	1.97E-03	2.06E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.35E-03	314	7.13	5.71E-03	7.49E-03	1.12E-02	1.30E-02
K^{+}	2.59E-02	850	19.3	5.72E-03	1.26E-02	4.19E-02	5.44E-02
OH^{-}	0.223	3.18E+03	72.1	0.217	0.217	0.224	0.226
$NO3^{-}$	2.91	1.51E+05	3.43E+03	1.04	2.31	3.19	3.47
$NO2^{-}$	0.410	1.58E+04	359	8.65E-02	0.156	0.648	0.849
$CO3^{2-}$	0.211	1.06E+04	241	1.05E-02	7.69E-02	0.379	0.401
$PO4^{3-}$	0.156	1.24E+04	282	0.128	0.144	0.168	0.180
$SO4^{2-}$	0.225	1.81E+04	411	4.68E-02	0.107	0.364	0.363
Si (as SiO_x^{2-})	3.53E-02	832	18.9	1.79E-02	2.64E-02	4.26E-02	4.55E-02
F^{-}	0.176	2.81E+03	63.6	0.114	0.139	0.208	0.240
Cl^{-}	0.145	4.30E+03	97.5	2.66E-02	6.63E-02	0.177	0.177
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.36E-05	5.92	0.134	3.11E-07	1.12E-05	6.16E-05	8.24E-05
butanol	3.36E-05	2.09	4.73E-02	3.11E-07	1.12E-05	6.16E-05	8.24E-05
NH_3	8.86E-02	1.26E+03	28.6	5.50E-02	6.85E-02	0.107	0.128
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.89E+06 (kg)	(371 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(546 BTU/hr)	----	0.101	0.115	0.200	0.272
Bulk Density†	1.35 (g/cc)	----	----	1.25	1.27	1.38	1.40
Water wt%†	63.4	----	----	60.3	61.7	70.0	71.9
TOC wt% C (wet)†	3.92E-05	----	----	6.07E-07	2.09E-05	6.70E-05	6.45E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.76	9.84E+04	1.86E+05	3.94	4.35	6.36	6.88
Al^{3+}	0.144	2.89E+03	5.47E+03	0.144	0.144	0.146	0.146
Fe^{3+} (total Fe)	0.414	1.72E+04	3.25E+04	0.408	0.411	0.417	0.420
Cr^{3+}	4.34E-03	168	317	3.73E-03	4.04E-03	4.68E-03	4.94E-03
Bi^{3+}	6.68E-02	1.04E+04	1.96E+04	5.49E-02	6.18E-02	7.05E-02	7.31E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.39E-05	5.05	9.56	1.02E-05	2.59E-05	3.86E-05	4.16E-05
Zr (as $ZrO(OH)_2$)	1.08E-04	7.32	13.8	7.81E-05	9.36E-05	1.23E-04	1.38E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.43E-03	106	200	1.20E-03	1.33E-03	3.01E-03	4.18E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.111	3.30E+03	6.24E+03	8.43E-02	9.95E-02	0.122	0.133
K^{+}	7.58E-03	220	416	5.73E-03	6.81E-03	9.04E-03	8.80E-03
OH^{-}	2.15	2.71E+04	5.12E+04	2.08	2.12	2.18	2.20
$NO3^{-}$	2.25	1.04E+05	1.96E+05	0.961	1.16	2.29	2.33
$NO2^{-}$	0.153	5.23E+03	9.88E+03	9.30E-02	0.120	0.193	0.237
$CO3^{2-}$	0.133	5.92E+03	1.12E+04	0.101	0.119	0.149	0.155
$PO4^{3-}$	1.01	7.09E+04	1.34E+05	0.626	0.820	1.14	1.24
$SO4^{2-}$	6.08E-02	4.34E+03	8.20E+03	4.43E-02	5.38E-02	7.57E-02	0.154
Si (as SiO_x^{2-})	9.85E-02	2.06E+03	3.89E+03	5.24E-02	7.13E-02	0.153	0.206
F^{-}	0.149	2.11E+03	3.98E+03	0.132	0.141	0.291	0.528
Cl^{-}	3.76E-02	990	1.87E+03	2.64E-02	3.27E-02	8.56E-02	9.10E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.67E-06	0.572	1.08	5.28E-08	1.84E-06	6.32E-06	6.15E-06
butanol	3.67E-06	0.202	0.382	5.28E-08	1.84E-06	6.32E-06	6.15E-06
NH_3	2.91E-02	368	696	2.22E-02	2.59E-02	3.24E-02	3.54E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.87E+06 (kg)	(366 kgal)	----	----	----	----	----
Heat Load	0.156 (kW)	(531 BTU/hr)	----	9.93E-02	0.112	0.194	0.264
Bulk Density	1.35 (g/cc)	----	----	1.25	1.27	1.38	1.40
Void Fraction	0.737	----	----	0.670	0.699	0.795	0.832
Water wt%	63.3	----	----	60.2	61.6	69.9	71.7
TOC wt% C (wet)	3.48E-05	----	----	5.65E-07	1.94E-05	5.88E-05	5.35E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.51E-07	6.31E-04	1.18	2.57E-07	2.57E-07	9.60E-07	1.08E-06
C-14	1.38E-07	1.03E-04	0.192	5.19E-08	5.19E-08	1.47E-07	1.55E-07
Ni-59	1.20E-07	8.87E-05	0.166	1.47E-08	1.47E-08	1.38E-07	1.56E-07
Ni-63	1.08E-05	7.98E-03	14.9	1.34E-06	1.34E-06	1.25E-05	1.41E-05
Co-60	3.23E-08	2.40E-05	4.47E-02	1.33E-08	1.33E-08	3.46E-08	3.69E-08
Se-79	2.92E-08	2.16E-05	4.04E-02	1.09E-08	1.09E-08	3.10E-08	3.28E-08
Sr-90	7.10E-03	5.26	9.83E+03	5.41E-03	6.28E-03	8.03E-03	1.32E-02
Y-90	7.10E-03	5.26	9.83E+03	5.05E-03	5.05E-03	7.94E-03	8.76E-03
Zr-93	1.39E-07	1.03E-04	0.192	5.20E-08	5.20E-08	1.47E-07	1.56E-07
Nb-93m	1.17E-07	8.67E-05	0.162	4.36E-08	4.36E-08	1.24E-07	1.31E-07
Tc-99	9.61E-07	7.12E-04	1.33	4.68E-07	7.43E-07	1.33E-06	1.24E-06
Ru-106	1.38E-14	1.03E-11	1.92E-08	6.36E-15	6.36E-15	1.50E-14	1.61E-14
Cd-113m	3.42E-07	2.53E-04	0.473	1.33E-07	1.33E-07	3.64E-07	3.86E-07
Sb-125	3.03E-08	2.25E-05	4.20E-02	1.31E-08	1.31E-08	3.27E-08	3.49E-08
Sn-126	4.40E-08	3.26E-05	6.09E-02	1.65E-08	1.65E-08	4.67E-08	4.94E-08
I-129	1.81E-09	1.34E-06	2.51E-03	8.82E-10	1.40E-09	2.51E-09	2.33E-09
Cs-134	1.03E-09	7.66E-07	1.43E-03	5.74E-10	5.74E-10	1.14E-09	1.24E-09
Cs-137	1.38E-02	10.2	1.91E+04	6.75E-03	7.63E-03	1.83E-02	2.18E-02
Ba-137m	1.30E-02	9.66	1.80E+04	5.43E-03	5.43E-03	1.39E-02	1.48E-02
Sm-151	1.09E-04	8.05E-02	150	4.06E-05	4.06E-05	1.15E-04	1.22E-04
Eu-152	3.20E-08	2.37E-05	4.44E-02	1.92E-08	1.92E-08	3.24E-08	3.27E-08
Eu-154	5.86E-07	4.35E-04	0.812	2.49E-07	2.49E-07	6.31E-07	6.73E-07
Eu-155	2.36E-06	1.75E-03	3.26	1.37E-06	1.37E-06	2.38E-06	2.40E-06
Ra-226	7.73E-12	5.73E-09	1.07E-05	2.49E-12	2.49E-12	1.67E-11	1.28E-11
Ra-228	1.15E-16	8.53E-14	1.59E-10	6.40E-17	6.40E-17	1.16E-16	1.17E-16
Ac-227	3.95E-11	2.93E-08	5.48E-05	1.28E-11	1.28E-11	6.72E-11	6.72E-11
Pa-231	8.62E-11	6.39E-08	1.19E-04	2.84E-11	2.84E-11	9.05E-11	9.46E-11
Th-229	2.23E-14	1.66E-11	3.10E-08	1.24E-14	1.24E-14	2.25E-14	2.27E-14
Th-232	3.93E-17	2.91E-14	5.44E-11	1.44E-17	1.44E-17	4.16E-17	4.39E-17
U-232	1.37E-10	1.01E-07	1.90E-04	1.19E-10	1.31E-10	1.40E-10	1.43E-10
U-233	6.33E-12	4.70E-09	8.77E-06	5.51E-12	6.05E-12	6.54E-12	6.69E-12
U-234	5.89E-06	4.37E-03	8.17	5.14E-06	5.64E-06	6.19E-06	6.40E-06
U-235	2.61E-07	1.93E-04	0.361	2.27E-07	2.49E-07	2.74E-07	2.83E-07
U-236	5.88E-08	4.36E-05	8.15E-02	5.11E-08	5.62E-08	6.07E-08	6.20E-08
U-238	5.99E-06	4.44E-03	8.30	5.23E-06	5.73E-06	6.29E-06	6.50E-06
Np-237	5.94E-09	4.40E-06	8.23E-03	2.89E-09	4.59E-09	8.21E-09	7.65E-09
Pu-238	3.19E-07	2.37E-04	0.443	1.91E-07	2.52E-07	3.87E-07	4.52E-07
Pu-239	6.25E-05	4.63E-02	86.5	3.37E-05	4.13E-05	8.37E-05	1.04E-04
Pu-240	4.64E-06	3.44E-03	6.42	2.94E-06	3.39E-06	5.89E-06	7.09E-06
Pu-241	1.02E-05	7.53E-03	14.1	4.53E-06	7.58E-06	1.24E-05	1.46E-05
Pu-242	4.42E-11	3.28E-08	6.13E-05	1.86E-11	3.25E-11	5.46E-11	6.46E-11
Am-241	2.77E-07	2.06E-04	0.384	1.40E-07	2.14E-07	3.78E-07	3.56E-07
Am-243	1.95E-12	1.44E-09	2.70E-06	9.88E-13	1.50E-12	2.65E-12	2.49E-12
Cm-242	5.97E-10	4.43E-07	8.27E-04	3.65E-10	3.65E-10	6.04E-10	6.10E-10
Cm-243	1.22E-11	9.08E-09	1.70E-05	7.51E-12	7.51E-12	1.24E-11	1.25E-11
Cm-244	4.61E-11	3.42E-08	6.38E-05	2.11E-11	2.11E-11	5.00E-11	5.38E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.03E-03 (g/L)	----	1.42	5.56E-04	6.79E-04	1.37E-03	1.71E-03
U	7.54E-02	1.33E+04	2.49E+04	6.58E-02	7.21E-02	7.91E-02	8.18E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.27E+04 (kg)	(5.02 kgal)	----	----	----	----	----
Heat Load	4.15E-03 (kW)	(14.2 BTU/hr)	----	1.28E-03	2.50E-03	6.46E-03	7.24E-03
Bulk Density*	1.19 (g/cc)	----	----	1.07	1.14	1.23	1.24
Water wt%†	68.0	----	----	63.0	64.1	75.7	86.9
TOC wt% C (wet)	4.05E-04	----	----	4.18E-06	1.42E-04	7.24E-04	9.60E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.13E-06	5.14E-03	0.117	7.55E-10	7.55E-10	6.44E-06	6.42E-06
C-14	8.92E-07	7.48E-04	1.70E-02	1.20E-10	1.20E-10	9.01E-07	9.10E-07
Ni-59	1.40E-07	1.18E-04	2.67E-03	3.42E-11	3.42E-11	1.47E-07	1.54E-07
Ni-63	1.26E-05	1.06E-02	0.240	3.07E-09	3.07E-09	1.33E-05	1.39E-05
Co-60	1.97E-07	1.65E-04	3.74E-03	2.63E-11	2.63E-11	1.99E-07	2.01E-07
Se-79	1.88E-07	1.58E-04	3.58E-03	2.53E-11	2.53E-11	1.90E-07	1.92E-07
Sr-90	2.11E-02	17.7	402	5.59E-03	1.10E-02	3.31E-02	3.53E-02
Y-90	2.11E-02	17.7	402	5.11E-06	5.11E-06	2.13E-02	2.14E-02
Zr-93	8.95E-07	7.50E-04	1.70E-02	1.20E-10	1.20E-10	9.04E-07	9.12E-07
Nb-93m	7.56E-07	6.34E-04	1.44E-02	1.02E-10	1.02E-10	7.64E-07	7.71E-07
Tc-99	6.19E-06	5.19E-03	0.118	6.72E-07	2.50E-06	1.07E-05	1.42E-05
Ru-106	7.71E-14	6.46E-11	1.47E-09	1.02E-17	1.02E-17	7.80E-14	7.88E-14
Cd-113m	2.15E-06	1.80E-03	4.09E-02	2.89E-10	2.89E-10	2.17E-06	2.19E-06
Sb-125	1.77E-07	1.49E-04	3.37E-03	2.36E-11	2.36E-11	1.79E-07	1.81E-07
Sn-126	2.83E-07	2.37E-04	5.38E-03	3.81E-11	3.81E-11	2.86E-07	2.89E-07
I-129	1.17E-08	9.77E-06	2.22E-04	1.26E-09	4.70E-09	2.02E-08	2.67E-08
Cs-134	9.23E-10	7.74E-07	1.75E-05	3.78E-13	3.78E-13	9.40E-10	1.01E-09
Cs-137	1.61E-02	13.5	307	6.31E-03	1.23E-02	2.50E-02	3.05E-02
Ba-137m	1.53E-02	12.8	290	5.47E-06	5.47E-06	1.56E-02	1.68E-02
Sm-151	7.02E-04	0.588	13.3	9.45E-08	9.45E-08	7.09E-04	7.16E-04
Eu-152	1.36E-08	1.14E-05	2.59E-04	3.22E-12	3.22E-12	1.38E-08	1.39E-08
Eu-154	3.49E-06	2.92E-03	6.63E-02	4.65E-10	4.65E-10	3.52E-06	3.56E-06
Eu-155	1.04E-06	8.75E-04	1.98E-02	2.52E-10	2.52E-10	1.05E-06	1.06E-06
Ra-226	5.41E-11	4.54E-08	1.03E-06	7.35E-15	7.35E-15	5.46E-11	5.51E-11
Ra-228	5.43E-17	4.55E-14	1.03E-12	1.35E-20	1.35E-20	5.48E-17	5.53E-17
Ac-227	2.76E-10	2.31E-07	5.25E-06	3.75E-14	3.75E-14	2.79E-10	2.81E-10
Pa-231	5.96E-10	5.00E-07	1.13E-05	8.08E-14	8.08E-14	6.02E-10	6.07E-10
Th-229	1.05E-14	8.83E-12	2.00E-10	2.62E-18	2.62E-18	1.06E-14	1.07E-14
Th-232	2.57E-16	2.15E-13	4.88E-12	3.46E-20	3.46E-20	2.59E-16	2.62E-16
U-232	6.90E-12	5.78E-09	1.31E-07	6.27E-12	6.58E-12	7.21E-12	7.52E-12
U-233	3.28E-13	2.75E-10	6.24E-09	2.97E-13	3.13E-13	3.44E-13	3.59E-13
U-234	3.25E-07	2.73E-04	6.18E-03	2.93E-07	3.09E-07	3.42E-07	3.58E-07
U-235	1.44E-08	1.21E-05	2.74E-04	1.30E-08	1.37E-08	1.52E-08	1.59E-08
U-236	3.04E-09	2.55E-06	5.78E-05	2.75E-09	2.89E-09	3.18E-09	3.32E-09
U-238	3.30E-07	2.77E-04	6.28E-03	2.97E-07	3.13E-07	3.47E-07	3.63E-07
Np-237	3.81E-08	3.20E-05	7.25E-04	4.08E-09	1.53E-08	6.62E-08	8.74E-08
Pu-238	5.20E-08	4.36E-05	9.88E-04	1.83E-08	3.63E-08	6.68E-08	8.06E-08
Pu-239	9.36E-06	7.85E-03	0.178	2.72E-06	5.97E-06	1.28E-05	1.60E-05
Pu-240	7.27E-07	6.10E-04	1.38E-02	2.37E-07	4.89E-07	9.59E-07	1.18E-06
Pu-241	1.79E-06	1.50E-03	3.41E-02	5.64E-07	1.35E-06	2.18E-06	2.53E-06
Pu-242	7.92E-12	6.64E-09	1.50E-07	2.27E-12	6.01E-12	9.54E-12	1.10E-11
Am-241	1.58E-06	1.33E-03	3.01E-02	1.01E-07	5.86E-07	2.82E-06	3.74E-06
Am-243	1.09E-11	9.15E-09	2.07E-07	6.22E-13	3.99E-12	1.95E-11	2.59E-11
Cm-242	2.46E-10	2.06E-07	4.68E-06	5.72E-14	5.72E-14	2.49E-10	2.51E-10
Cm-243	5.04E-12	4.22E-09	9.58E-08	1.17E-15	1.17E-15	5.09E-12	5.13E-12
Cm-244	2.57E-10	2.16E-07	4.89E-06	3.40E-14	3.40E-14	2.60E-10	2.63E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.54E-04 (g/L)	----	2.92E-03	4.48E-05	9.82E-05	2.09E-04	2.63E-04
U	4.16E-03	829	18.8	3.74E-03	3.94E-03	4.37E-03	4.57E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.89E+06 (kg)	(371 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(546 BTU/hr)	----	0.101	0.115	0.200	0.272
Bulk Density†	1.35 (g/cc)	----	----	1.25	1.27	1.38	1.40
Water wt%†	63.4	----	----	60.3	61.7	70.0	71.9
TOC wt% C (wet)†	3.92E-05	----	----	6.07E-07	2.09E-05	6.70E-05	6.45E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.23E-07	6.85E-04	1.30	2.53E-07	2.53E-07	1.03E-06	1.15E-06
C-14	1.49E-07	1.10E-04	0.209	5.12E-08	5.12E-08	1.57E-07	1.65E-07
Ni-59	1.20E-07	8.90E-05	0.168	1.45E-08	1.45E-08	1.39E-07	1.56E-07
Ni-63	1.08E-05	8.02E-03	15.2	1.32E-06	1.32E-06	1.25E-05	1.41E-05
Co-60	3.45E-08	2.56E-05	4.85E-02	1.31E-08	1.31E-08	3.68E-08	3.90E-08
Se-79	3.13E-08	2.33E-05	4.40E-02	1.08E-08	1.08E-08	3.31E-08	3.49E-08
Sr-90	7.29E-03	5.41	1.02E+04	5.62E-03	6.48E-03	8.37E-03	1.35E-02
Y-90	7.29E-03	5.41	1.02E+04	4.98E-03	4.98E-03	8.12E-03	8.93E-03
Zr-93	1.49E-07	1.11E-04	0.209	5.13E-08	5.13E-08	1.57E-07	1.66E-07
Nb-93m	1.26E-07	9.32E-05	0.176	4.30E-08	4.30E-08	1.33E-07	1.39E-07
Tc-99	1.03E-06	7.66E-04	1.45	4.70E-07	7.66E-07	1.46E-06	1.41E-06
Ru-106	1.47E-14	1.09E-11	2.06E-08	6.27E-15	6.27E-15	1.58E-14	1.70E-14
Cd-113m	3.66E-07	2.72E-04	0.514	1.32E-07	1.32E-07	3.89E-07	4.10E-07
Sb-125	3.23E-08	2.40E-05	4.53E-02	1.29E-08	1.29E-08	3.46E-08	3.69E-08
Sn-126	4.72E-08	3.50E-05	6.63E-02	1.63E-08	1.63E-08	4.99E-08	5.25E-08
I-129	1.94E-09	1.44E-06	2.73E-03	8.87E-10	1.44E-09	2.75E-09	2.66E-09
Cs-134	1.03E-09	7.66E-07	1.45E-03	5.66E-10	5.66E-10	1.14E-09	1.24E-09
Cs-137	1.38E-02	10.3	1.94E+04	6.74E-03	7.70E-03	1.84E-02	2.19E-02
Ba-137m	1.31E-02	9.70	1.83E+04	5.36E-03	5.36E-03	1.40E-02	1.48E-02
Sm-151	1.17E-04	8.66E-02	164	4.00E-05	4.00E-05	1.23E-04	1.30E-04
Eu-152	3.18E-08	2.36E-05	4.46E-02	1.90E-08	1.90E-08	3.21E-08	3.24E-08
Eu-154	6.26E-07	4.65E-04	0.879	2.45E-07	2.45E-07	6.69E-07	7.12E-07
Eu-155	2.34E-06	1.74E-03	3.28	1.36E-06	1.36E-06	2.36E-06	2.38E-06
Ra-226	8.36E-12	6.21E-09	1.17E-05	2.45E-12	2.45E-12	1.70E-11	1.29E-11
Ra-228	1.14E-16	8.48E-14	1.60E-10	6.31E-17	6.31E-17	1.15E-16	1.16E-16
Ac-227	4.27E-11	3.17E-08	6.00E-05	1.26E-11	1.26E-11	6.96E-11	6.78E-11
Pa-231	9.31E-11	6.91E-08	1.31E-04	2.80E-11	2.80E-11	9.73E-11	1.01E-10
Th-229	2.22E-14	1.65E-11	3.12E-08	1.23E-14	1.23E-14	2.24E-14	2.25E-14
Th-232	4.22E-17	3.14E-14	5.93E-11	1.42E-17	1.42E-17	4.45E-17	4.68E-17
U-232	1.35E-10	1.00E-07	1.90E-04	1.17E-10	1.29E-10	1.39E-10	1.41E-10
U-233	6.25E-12	4.64E-09	8.78E-06	5.44E-12	5.98E-12	6.46E-12	6.61E-12
U-234	5.82E-06	4.32E-03	8.17	5.08E-06	5.57E-06	6.11E-06	6.32E-06
U-235	2.57E-07	1.91E-04	0.361	2.25E-07	2.46E-07	2.70E-07	2.80E-07
U-236	5.81E-08	4.31E-05	8.15E-02	5.05E-08	5.55E-08	5.99E-08	6.12E-08
U-238	5.91E-06	4.39E-03	8.31	5.16E-06	5.66E-06	6.21E-06	6.42E-06
Np-237	6.37E-09	4.73E-06	8.95E-03	2.91E-09	4.73E-09	9.00E-09	8.73E-09
Pu-238	3.16E-07	2.35E-04	0.443	1.89E-07	2.49E-07	3.83E-07	4.47E-07
Pu-239	6.17E-05	4.59E-02	86.7	3.34E-05	4.08E-05	8.27E-05	1.03E-04
Pu-240	4.58E-06	3.40E-03	6.44	2.91E-06	3.35E-06	5.82E-06	7.00E-06
Pu-241	1.00E-05	7.46E-03	14.1	4.50E-06	7.50E-06	1.23E-05	1.44E-05
Pu-242	4.38E-11	3.25E-08	6.14E-05	1.84E-11	3.21E-11	5.40E-11	6.38E-11
Am-241	2.95E-07	2.19E-04	0.414	1.40E-07	2.19E-07	4.11E-07	4.02E-07
Am-243	2.07E-12	1.54E-09	2.90E-06	9.83E-13	1.53E-12	2.88E-12	2.81E-12
Cm-242	5.92E-10	4.40E-07	8.32E-04	3.61E-10	3.61E-10	5.99E-10	6.05E-10
Cm-243	1.21E-11	9.02E-09	1.71E-05	7.40E-12	7.40E-12	1.23E-11	1.24E-11
Cm-244	4.89E-11	3.63E-08	6.87E-05	2.08E-11	2.08E-11	5.28E-11	5.65E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.01E-03 (g/L)	----	1.42	5.50E-04	6.72E-04	1.36E-03	1.68E-03
U	7.44E-02	1.32E+04	2.49E+04	6.49E-02	7.12E-02	7.81E-02	8.08E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.48E+05 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(547 BTU/hr)	----	3.99E-02	6.77E-02	0.241	0.392
Bulk Density	1.58 (g/cc)	----	----	1.12	1.21	1.64	1.71
Void Fraction	0.631	----	----	0.452	0.596	0.919	0.954
Water wt%	44.4	----	----	39.4	42.2	72.7	83.0
TOC wt% C (wet)	1.46E-04	----	----	3.14E-06	1.00E-04	2.41E-04	2.12E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.2	1.62E+05	1.54E+05	2.29	4.21	12.3	13.5
Al^{3+}	4.59E-02	782	741	4.16E-02	4.51E-02	5.21E-02	5.28E-02
Fe^{3+} (total Fe)	0.179	6.31E+03	5.98E+03	0.168	0.178	0.180	0.182
Cr^{3+}	5.23E-03	172	163	3.73E-03	5.12E-03	6.69E-03	5.86E-03
Bi^{3+}	2.87E-02	3.78E+03	3.58E+03	2.11E-02	2.61E-02	3.02E-02	3.11E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.35E-05	2.97	2.82	1.34E-05	1.71E-05	2.72E-05	2.96E-05
Zr (as $ZrO(OH)_2$)	1.42E-04	8.17	7.74	1.29E-04	1.39E-04	1.71E-04	1.51E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.11E-03	264	250	1.02E-03	1.59E-03	8.85E-03	9.30E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.86E-02	1.99E+03	1.88E+03	2.65E-02	6.20E-02	8.35E-02	8.83E-02
K^{+}	1.34E-02	332	314	5.56E-03	1.05E-02	1.97E-02	1.77E-02
OH^{-}	1.15	1.24E+04	1.17E+04	1.08	1.14	1.19	1.20
$NO3^{-}$	7.31	2.86E+05	2.71E+05	0.990	1.91	7.46	7.71
$NO2^{-}$	0.221	6.42E+03	6.08E+03	9.32E-02	0.142	0.313	0.284
$CO3^{2-}$	0.175	6.63E+03	6.28E+03	2.84E-02	0.113	0.246	0.271
$PO4^{3-}$	1.00	6.01E+04	5.69E+04	0.292	0.540	1.14	1.17
$SO4^{2-}$	0.116	7.01E+03	6.64E+03	4.49E-02	8.87E-02	0.181	0.571
Si (as SiO_x^{2-})	5.43E-02	963	913	4.24E-02	4.10E-02	7.11E-02	8.68E-02
F^{-}	0.113	1.35E+03	1.28E+03	0.102	0.111	0.143	0.195
Cl^{-}	7.40E-02	1.66E+03	1.57E+03	2.58E-02	5.49E-02	0.312	0.339
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.61E-05	2.13	2.02	2.43E-07	8.46E-06	2.74E-05	2.52E-05
butanol	1.61E-05	0.752	0.712	2.43E-07	8.46E-06	2.74E-05	2.52E-05
NH_3	4.69E-02	503	477	4.37E-02	4.61E-02	5.63E-02	5.02E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.70E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.48E+05 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(547 BTU/hr)	----	3.99E-02	6.77E-02	0.241	0.392
Bulk Density†	1.58 (g/cc)	----	----	1.12	1.21	1.64	1.71
Water wt%†	44.4	----	----	39.4	42.2	72.7	83.0
TOC wt% C (wet)†	1.46E-04	----	----	3.14E-06	1.00E-04	2.41E-04	2.12E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.2	1.62E+05	1.54E+05	2.29	4.21	12.3	13.5
Al^{3+}	4.59E-02	782	741	4.16E-02	4.51E-02	5.21E-02	5.28E-02
Fe^{3+} (total Fe)	0.179	6.31E+03	5.98E+03	0.168	0.178	0.180	0.182
Cr^{3+}	5.23E-03	172	163	3.73E-03	5.12E-03	6.69E-03	5.86E-03
Bi^{3+}	2.87E-02	3.78E+03	3.58E+03	2.11E-02	2.61E-02	3.02E-02	3.11E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.35E-05	2.97	2.82	1.34E-05	1.71E-05	2.72E-05	2.96E-05
Zr (as $ZrO(OH)_2$)	1.42E-04	8.17	7.74	1.29E-04	1.39E-04	1.71E-04	1.51E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.11E-03	264	250	1.02E-03	1.59E-03	8.85E-03	9.30E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.85E-02	1.99E+03	1.88E+03	2.65E-02	6.20E-02	8.35E-02	8.83E-02
K^{+}	1.34E-02	332	314	5.56E-03	1.05E-02	1.97E-02	1.77E-02
OH^{-}	1.15	1.24E+04	1.17E+04	1.08	1.14	1.19	1.20
$NO3^{-}$	7.31	2.86E+05	2.71E+05	0.990	1.91	7.46	7.71
$NO2^{-}$	0.221	6.42E+03	6.08E+03	9.32E-02	0.142	0.313	0.284
$CO3^{2-}$	0.175	6.63E+03	6.28E+03	2.84E-02	0.113	0.246	0.271
$PO4^{3-}$	1.00	6.01E+04	5.69E+04	0.292	0.540	1.14	1.17
$SO4^{2-}$	0.116	7.01E+03	6.64E+03	4.49E-02	8.87E-02	0.181	0.571
Si (as SiO_x^{2-})	5.43E-02	963	913	4.24E-02	4.10E-02	7.11E-02	8.68E-02
F^{-}	0.113	1.35E+03	1.28E+03	0.102	0.111	0.143	0.195
Cl^{-}	7.40E-02	1.66E+03	1.57E+03	2.58E-02	5.49E-02	0.312	0.339
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.61E-05	2.13	2.02	2.43E-07	8.46E-06	2.74E-05	2.52E-05
butanol	1.61E-05	0.752	0.712	2.43E-07	8.46E-06	2.74E-05	2.52E-05
NH_3	4.69E-02	503	477	4.37E-02	4.61E-02	5.63E-02	5.02E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.48E+05 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(547 BTU/hr)	----	3.99E-02	6.77E-02	0.241	0.392
Bulk Density	1.58 (g/cc)	----	----	1.12	1.21	1.64	1.71
Void Fraction	0.631	----	----	0.452	0.596	0.919	0.954
Water wt%	44.4	----	----	39.4	42.2	72.7	83.0
TOC wt% C (wet)	1.46E-04	----	----	3.14E-06	1.00E-04	2.41E-04	2.12E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.99E-06	1.89E-03	1.79	5.85E-08	5.85E-08	3.14E-06	3.40E-06
C-14	4.39E-07	2.77E-04	0.262	1.17E-08	1.17E-08	4.43E-07	4.66E-07
Ni-59	5.21E-07	3.29E-04	0.312	3.34E-09	3.34E-09	5.46E-07	5.66E-07
Ni-63	4.68E-05	2.96E-02	28.0	3.03E-07	3.03E-07	4.91E-05	5.09E-05
Co-60	9.71E-08	6.13E-05	5.80E-02	3.01E-09	3.01E-09	9.80E-08	1.03E-07
Se-79	9.26E-08	5.84E-05	5.53E-02	2.48E-09	2.48E-09	9.34E-08	9.83E-08
Sr-90	1.13E-02	7.10	6.73E+03	5.55E-03	9.42E-03	1.59E-02	4.13E-02
Y-90	1.13E-02	7.11	6.73E+03	1.14E-03	1.14E-03	1.15E-02	1.20E-02
Zr-93	4.40E-07	2.78E-04	0.263	1.18E-08	1.18E-08	4.44E-07	4.67E-07
Nb-93m	3.72E-07	2.35E-04	0.222	9.86E-09	9.86E-09	3.75E-07	3.95E-07
Tc-99	3.05E-06	1.92E-03	1.82	6.11E-07	1.97E-06	4.87E-06	4.42E-06
Ru-106	3.83E-14	2.42E-11	2.29E-08	1.45E-15	1.45E-15	3.87E-14	4.07E-14
Cd-113m	1.06E-06	6.68E-04	0.633	3.02E-08	3.02E-08	1.07E-06	1.13E-06
Sb-125	8.79E-08	5.54E-05	5.25E-02	2.98E-09	2.98E-09	8.87E-08	9.32E-08
Sn-126	1.39E-07	8.78E-05	8.32E-02	3.74E-09	3.74E-09	1.40E-07	1.48E-07
I-129	5.73E-09	3.62E-06	3.43E-03	1.15E-09	3.70E-09	9.16E-09	8.32E-09
Cs-134	2.40E-09	1.51E-06	1.43E-03	1.31E-10	1.31E-10	2.53E-09	2.67E-09
Cs-137	4.09E-02	25.8	2.45E+04	6.28E-03	1.06E-02	6.32E-02	8.04E-02
Ba-137m	3.87E-02	24.4	2.32E+04	1.23E-03	1.23E-03	4.08E-02	4.31E-02
Sm-151	3.45E-04	0.218	206	9.18E-06	9.18E-06	3.48E-04	3.67E-04
Eu-152	6.76E-08	4.26E-05	4.04E-02	4.29E-09	4.29E-09	6.82E-08	6.88E-08
Eu-154	1.72E-06	1.09E-03	1.03	5.65E-08	5.65E-08	1.74E-06	1.83E-06
Eu-155	5.15E-06	3.25E-03	3.08	3.06E-07	3.06E-07	5.20E-06	5.24E-06
Ra-226	2.64E-11	1.67E-08	1.58E-05	5.60E-13	5.60E-13	7.05E-11	5.14E-11
Ra-228	2.66E-16	1.68E-13	1.59E-10	1.42E-17	1.42E-17	2.69E-16	2.71E-16
Ac-227	1.35E-10	8.51E-08	8.07E-05	2.88E-12	2.88E-12	2.72E-10	2.72E-10
Pa-231	2.92E-10	1.84E-07	1.74E-04	6.40E-12	6.40E-12	2.94E-10	3.10E-10
Th-229	5.17E-14	3.26E-11	3.09E-08	2.76E-15	2.76E-15	5.21E-14	5.25E-14
Th-232	1.26E-16	7.96E-14	7.54E-11	3.26E-18	3.26E-18	1.27E-16	1.34E-16
U-232	1.17E-10	7.37E-08	6.99E-05	9.20E-11	1.05E-10	1.28E-10	1.36E-10
U-233	5.52E-12	3.48E-09	3.30E-06	4.34E-12	4.96E-12	6.08E-12	6.45E-12
U-234	5.38E-06	3.40E-03	3.22	4.22E-06	4.81E-06	5.95E-06	6.32E-06
U-235	2.38E-07	1.50E-04	0.143	1.87E-07	2.13E-07	2.64E-07	2.80E-07
U-236	5.11E-08	3.23E-05	3.06E-02	4.02E-08	4.59E-08	5.63E-08	5.97E-08
U-238	5.47E-06	3.45E-03	3.27	4.28E-06	4.89E-06	6.05E-06	6.42E-06
Np-237	1.88E-08	1.18E-05	1.12E-02	3.73E-09	1.21E-08	3.00E-08	2.72E-08
Pu-238	2.78E-07	1.75E-04	0.166	7.70E-08	1.33E-07	3.84E-07	4.00E-07
Pu-239	5.12E-05	3.23E-02	30.6	1.65E-05	2.68E-05	6.79E-05	7.01E-05
Pu-240	3.93E-06	2.48E-03	2.35	1.17E-06	1.96E-06	5.33E-06	5.53E-06
Pu-241	9.37E-06	5.92E-03	5.61	2.21E-06	4.10E-06	1.35E-05	1.41E-05
Pu-242	4.13E-11	2.60E-08	2.47E-05	9.44E-12	1.78E-11	5.96E-11	6.26E-11
Am-241	7.85E-07	4.95E-04	0.469	1.07E-07	4.71E-07	1.28E-06	1.17E-06
Am-243	5.42E-12	3.42E-09	3.24E-06	6.93E-13	3.22E-12	8.89E-12	8.13E-12
Cm-242	1.23E-09	7.73E-07	7.33E-04	8.18E-11	8.18E-11	1.24E-09	1.25E-09
Cm-243	2.51E-11	1.58E-08	1.50E-05	1.68E-12	1.68E-12	2.53E-11	2.55E-11
Cm-244	1.28E-10	8.07E-08	7.65E-05	4.81E-12	4.81E-12	1.29E-10	1.36E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.41E-04 (g/L)	----	0.503	2.70E-04	4.40E-04	1.12E-03	1.15E-03
U	6.88E-02	1.03E+04	9.79E+03	5.39E-02	6.15E-02	7.61E-02	8.09E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.70E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.48E+05 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	0.160 (kW)	(547 BTU/hr)	----	3.99E-02	6.77E-02	0.241	0.392
Bulk Density†	1.58 (g/cc)	----	----	1.12	1.21	1.64	1.71
Water wt%†	44.4	----	----	39.4	42.2	72.7	83.0
TOC wt% C (wet)†	1.46E-04	----	----	3.14E-06	1.00E-04	2.41E-04	2.12E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.99E-06	1.89E-03	1.79	5.85E-08	5.85E-08	3.14E-06	3.40E-06
C-14	4.39E-07	2.77E-04	0.262	1.17E-08	1.17E-08	4.43E-07	4.66E-07
Ni-59	5.21E-07	3.29E-04	0.312	3.34E-09	3.34E-09	5.46E-07	5.66E-07
Ni-63	4.68E-05	2.96E-02	28.0	3.03E-07	3.03E-07	4.91E-05	5.09E-05
Co-60	9.71E-08	6.13E-05	5.80E-02	3.01E-09	3.01E-09	9.80E-08	1.03E-07
Se-79	9.25E-08	5.84E-05	5.53E-02	2.48E-09	2.48E-09	9.34E-08	9.83E-08
Sr-90	1.13E-02	7.10	6.73E+03	5.55E-03	9.42E-03	1.59E-02	4.13E-02
Y-90	1.13E-02	7.11	6.73E+03	1.14E-03	1.14E-03	1.15E-02	1.20E-02
Zr-93	4.40E-07	2.78E-04	0.263	1.18E-08	1.18E-08	4.44E-07	4.67E-07
Nb-93m	3.72E-07	2.35E-04	0.222	9.86E-09	9.86E-09	3.75E-07	3.95E-07
Tc-99	3.04E-06	1.92E-03	1.82	6.11E-07	1.97E-06	4.87E-06	4.42E-06
Ru-106	3.83E-14	2.42E-11	2.29E-08	1.45E-15	1.45E-15	3.87E-14	4.07E-14
Cd-113m	1.06E-06	6.68E-04	0.633	3.02E-08	3.02E-08	1.07E-06	1.13E-06
Sb-125	8.79E-08	5.54E-05	5.25E-02	2.98E-09	2.98E-09	8.87E-08	9.32E-08
Sn-126	1.39E-07	8.78E-05	8.32E-02	3.74E-09	3.74E-09	1.40E-07	1.48E-07
I-129	5.73E-09	3.62E-06	3.43E-03	1.15E-09	3.70E-09	9.16E-09	8.32E-09
Cs-134	2.40E-09	1.51E-06	1.43E-03	1.31E-10	1.31E-10	2.53E-09	2.67E-09
Cs-137	4.09E-02	25.8	2.45E+04	6.28E-03	1.06E-02	6.32E-02	8.04E-02
Ba-137m	3.87E-02	24.4	2.32E+04	1.23E-03	1.23E-03	4.08E-02	4.31E-02
Sm-151	3.45E-04	0.218	206	9.18E-06	9.18E-06	3.48E-04	3.67E-04
Eu-152	6.76E-08	4.26E-05	4.04E-02	4.29E-09	4.29E-09	6.82E-08	6.88E-08
Eu-154	1.72E-06	1.09E-03	1.03	5.65E-08	5.65E-08	1.74E-06	1.83E-06
Eu-155	5.15E-06	3.25E-03	3.08	3.06E-07	3.06E-07	5.20E-06	5.24E-06
Ra-226	2.64E-11	1.67E-08	1.58E-05	5.60E-13	5.60E-13	7.05E-11	5.14E-11
Ra-228	2.66E-16	1.68E-13	1.59E-10	1.42E-17	1.42E-17	2.69E-16	2.71E-16
Ac-227	1.35E-10	8.51E-08	8.07E-05	2.88E-12	2.88E-12	2.72E-10	2.72E-10
Pa-231	2.92E-10	1.84E-07	1.74E-04	6.40E-12	6.40E-12	2.94E-10	3.10E-10
Th-229	5.16E-14	3.26E-11	3.09E-08	2.76E-15	2.76E-15	5.21E-14	5.25E-14
Th-232	1.26E-16	7.96E-14	7.54E-11	3.26E-18	3.26E-18	1.27E-16	1.34E-16
U-232	1.17E-10	7.37E-08	6.99E-05	9.20E-11	1.05E-10	1.28E-10	1.36E-10
U-233	5.52E-12	3.48E-09	3.30E-06	4.34E-12	4.96E-12	6.08E-12	6.45E-12
U-234	5.38E-06	3.40E-03	3.22	4.22E-06	4.81E-06	5.95E-06	6.32E-06
U-235	2.38E-07	1.50E-04	0.143	1.87E-07	2.13E-07	2.64E-07	2.80E-07
U-236	5.11E-08	3.23E-05	3.06E-02	4.02E-08	4.59E-08	5.63E-08	5.97E-08
U-238	5.46E-06	3.45E-03	3.27	4.28E-06	4.89E-06	6.05E-06	6.42E-06
Np-237	1.88E-08	1.18E-05	1.12E-02	3.73E-09	1.21E-08	3.00E-08	2.72E-08
Pu-238	2.78E-07	1.75E-04	0.166	7.70E-08	1.33E-07	3.84E-07	4.00E-07
Pu-239	5.12E-05	3.23E-02	30.6	1.65E-05	2.68E-05	6.79E-05	7.01E-05
Pu-240	3.93E-06	2.48E-03	2.35	1.17E-06	1.96E-06	5.33E-06	5.53E-06
Pu-241	9.37E-06	5.92E-03	5.61	2.21E-06	4.10E-06	1.35E-05	1.41E-05
Pu-242	4.13E-11	2.60E-08	2.47E-05	9.44E-12	1.78E-11	5.96E-11	6.26E-11
Am-241	7.85E-07	4.95E-04	0.469	1.07E-07	4.71E-07	1.28E-06	1.17E-06
Am-243	5.42E-12	3.42E-09	3.24E-06	6.93E-13	3.22E-12	8.89E-12	8.13E-12
Cm-242	1.23E-09	7.73E-07	7.33E-04	8.18E-11	8.18E-11	1.24E-09	1.25E-09
Cm-243	2.51E-11	1.58E-08	1.50E-05	1.68E-12	1.68E-12	2.53E-11	2.55E-11
Cm-244	1.28E-10	8.07E-08	7.65E-05	4.81E-12	4.81E-12	1.29E-10	1.36E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.41E-04 (g/L)	----	0.503	2.70E-04	4.40E-04	1.12E-03	1.15E-03
U	6.88E-02	1.03E+04	9.79E+03	5.39E-02	6.15E-02	7.61E-02	8.09E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.23E+05 (kg)	(116 kgal)	----	----	----	----	----
Heat Load	0.135 (kW)	(463 BTU/hr)	----	2.83E-02	5.30E-02	0.208	0.342
Bulk Density	1.65 (g/cc)	----	----	1.08	1.20	1.71	1.80
Void Fraction	0.604	----	----	0.386	0.562	0.954	0.997
Water wt%	40.3	----	----	34.9	37.9	73.7	86.7
TOC wt% C (wet)	1.71E-04	----	----	3.95E-06	1.24E-04	2.80E-04	2.45E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.6	1.76E+05	1.28E+05	1.80	4.14	13.9	15.4
Al^{3+}	1.58E-02	258	187	1.05E-02	1.48E-02	2.33E-02	2.42E-02
Fe^{3+} (total Fe)	0.117	3.98E+03	2.88E+03	0.104	0.116	0.119	0.120
Cr^{3+}	5.49E-03	173	125	3.66E-03	5.36E-03	7.26E-03	6.26E-03
Bi^{3+}	1.80E-02	2.28E+03	1.65E+03	8.77E-03	1.49E-02	1.98E-02	2.10E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.99E-05	2.42	1.75	7.66E-06	1.21E-05	2.44E-05	2.74E-05
Zr (as $ZrO(OH)_2$)	1.50E-04	8.30	6.00	1.34E-04	1.49E-04	1.85E-04	1.61E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	8.38E-03	299	216	9.75E-04	1.66E-03	1.05E-02	1.10E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.10E-02	1.73E+03	1.25E+03	7.72E-03	5.10E-02	7.71E-02	8.29E-02
K^+	1.51E-02	358	259	5.49E-03	1.15E-02	2.27E-02	2.02E-02
OH^-	0.872	9.01E+03	6.51E+03	0.778	0.859	0.921	0.928
$NO3^-$	8.68	3.27E+05	2.36E+05	0.996	2.12	8.86	9.16
$NO2^-$	0.238	6.66E+03	4.82E+03	8.29E-02	0.143	0.350	0.315
$CO3^{2-}$	0.188	6.86E+03	4.96E+03	1.00E-02	0.113	0.275	0.304
$PO4^{3-}$	0.991	5.72E+04	4.13E+04	0.128	0.429	1.15	1.19
$SO4^{2-}$	0.131	7.63E+03	5.51E+03	4.49E-02	9.81E-02	0.210	0.685
Si (as SiO_x^{2-})	4.10E-02	700	506	2.65E-02	2.48E-02	6.14E-02	8.05E-02
F^-	0.102	1.18E+03	854	8.92E-02	0.101	0.128	0.110
Cl^-	8.41E-02	1.81E+03	1.31E+03	2.55E-02	6.08E-02	0.374	0.406
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.95E-05	2.49	1.80	2.95E-07	1.03E-05	3.33E-05	3.06E-05
butanol	1.95E-05	0.879	0.636	2.95E-07	1.03E-05	3.33E-05	3.06E-05
NH_3	5.15E-02	532	384	4.77E-02	5.11E-02	6.28E-02	5.55E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.28E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	9.64E-04 (kW)	(3.29 BTU/hr)	----	7.80E-04	8.70E-04	1.08E-03	1.15E-03
Bulk Density*	1.13 (g/cc)	----	----	1.10	1.12	1.14	1.15
Water wt%	78.4	----	----	76.4	77.2	80.3	83.0
TOC wt% C (wet)	0.114	----	----	0.103	0.108	0.119	0.124

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.06	6.22E+04	266	2.29	2.71	3.27	3.33
Al^{3+}	0.261	6.22E+03	26.6	0.159	0.209	0.313	0.364
Fe^{3+} (total Fe)	2.55E-03	126	0.539	2.23E-03	2.39E-03	2.71E-03	2.87E-03
Cr^{3+}	1.30E-02	596	2.55	1.10E-02	1.20E-02	1.39E-02	1.48E-02
Bi^{3+}	1.87E-03	345	1.48	1.71E-03	1.79E-03	1.95E-03	2.02E-03
La^{3+}	7.49E-04	92.0	0.394	5.42E-04	6.43E-04	8.55E-04	9.57E-04
Hg^{2+}	5.45E-06	0.967	4.14E-03	4.87E-06	5.32E-06	5.58E-06	5.70E-06
Zr (as $ZrO(OH)_2$)	6.53E-05	5.27	2.26E-02	4.22E-05	5.17E-05	7.66E-05	9.01E-05
Pb^{2+}	4.78E-04	87.6	0.375	3.13E-04	3.94E-04	5.62E-04	6.43E-04
Ni^{2+}	1.79E-03	92.7	0.397	1.54E-03	1.66E-03	1.85E-03	1.85E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.58E-03	76.6	0.328	1.30E-03	1.43E-03	1.72E-03	1.86E-03
Ca^{2+}	9.46E-03	335	1.43	8.58E-03	9.01E-03	9.91E-03	1.03E-02
K^+	5.80E-02	2.01E+03	8.58	4.54E-02	5.16E-02	6.44E-02	7.06E-02
OH^-	1.30	1.95E+04	83.4	0.887	1.09	1.51	1.71
$NO3^-$	1.56	8.56E+04	366	1.11	1.42	1.63	1.70
$NO2^-$	0.370	1.50E+04	64.4	0.292	0.308	0.427	0.476
$CO3^{2-}$	0.116	6.16E+03	26.3	6.76E-02	8.36E-02	0.157	0.162
$PO4^{3-}$	5.17E-02	4.34E+03	18.6	4.50E-02	4.88E-02	5.46E-02	5.74E-02
$SO4^{2-}$	8.53E-02	7.25E+03	31.0	4.23E-02	5.68E-02	0.119	0.119
Si (as SiO_x^{2-})	1.67E-02	416	1.78	1.25E-02	1.46E-02	1.85E-02	1.92E-02
F^-	9.51E-02	1.60E+03	6.84	8.01E-02	8.62E-02	0.103	0.111
Cl^-	6.12E-02	1.92E+03	8.21	3.27E-02	4.23E-02	6.90E-02	6.89E-02
$C_6H_5O_7^{3-}$	4.49E-03	751	3.21	4.18E-03	4.33E-03	4.65E-03	4.80E-03
$EDTA^{4-}$	8.04E-04	205	0.877	6.63E-04	7.32E-04	8.76E-04	9.45E-04
$HEDTA^{3-}$	1.32E-04	31.9	0.137	3.48E-05	8.21E-05	1.81E-04	2.30E-04
$glycolate^-$	4.93E-03	327	1.40	2.68E-03	3.78E-03	6.07E-03	7.17E-03
$acetate^-$	4.71E-03	246	1.05	3.81E-03	4.25E-03	5.17E-03	5.61E-03
$oxalate^{2-}$	9.81E-04	76.4	0.327	8.69E-04	9.24E-04	1.04E-03	1.09E-03
DBP	4.14E-03	770	3.29	3.60E-03	3.87E-03	4.41E-03	4.66E-03
butanol	4.14E-03	271	1.16	3.60E-03	3.87E-03	4.41E-03	4.66E-03
NH_3	2.65E-02	398	1.70	1.84E-02	2.16E-02	3.09E-02	3.61E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.27E+05 (kg)	(117 kgal)	----	----	----	----	----
Heat Load	0.136 (kW)	(466 BTU/hr)	----	2.91E-02	5.39E-02	0.209	0.343
Bulk Density†	1.64 (g/cc)	----	----	1.08	1.20	1.71	1.79
Water wt%†	40.5	----	----	35.1	38.1	73.7	86.6
TOC wt% C (wet)†	8.39E-04	----	----	7.73E-04	8.05E-04	1.04E-03	1.02E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.5	1.76E+05	1.28E+05	1.81	4.13	13.9	15.3
Al^{3+}	1.78E-02	293	213	1.26E-02	1.69E-02	2.53E-02	2.62E-02
Fe^{3+} (total Fe)	0.116	3.96E+03	2.88E+03	0.103	0.115	0.118	0.119
Cr^{3+}	5.56E-03	176	128	3.73E-03	5.41E-03	7.32E-03	6.33E-03
Bi^{3+}	1.78E-02	2.27E+03	1.65E+03	8.71E-03	1.48E-02	1.96E-02	2.08E-02
La^{3+}	6.40E-06	0.541	0.394	4.63E-06	5.50E-06	7.31E-06	8.18E-06
Hg^{2+}	1.98E-05	2.42	1.76	7.64E-06	1.21E-05	2.43E-05	2.72E-05
Zr (as $ZrO(OH)_2$)	1.49E-04	8.28	6.02	1.34E-04	1.48E-04	1.84E-04	1.61E-04
Pb^{2+}	4.09E-06	0.516	0.375	2.68E-06	3.37E-06	4.81E-06	5.50E-06
Ni^{2+}	8.32E-03	298	216	9.80E-04	1.66E-03	1.04E-02	1.10E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.35E-05	0.451	0.328	1.11E-05	1.23E-05	1.47E-05	1.59E-05
Ca^{2+}	7.05E-02	1.72E+03	1.25E+03	7.73E-03	5.06E-02	7.65E-02	8.23E-02
K^+	1.54E-02	368	267	5.90E-03	1.19E-02	2.30E-02	2.06E-02
OH^-	0.876	9.07E+03	6.59E+03	0.782	0.863	0.925	0.932
$NO3^-$	8.62	3.25E+05	2.37E+05	0.997	2.11	8.80	9.09
$NO2^-$	0.240	6.71E+03	4.88E+03	8.47E-02	0.144	0.351	0.317
$CO3^{2-}$	0.188	6.86E+03	4.99E+03	1.05E-02	0.113	0.274	0.303
$PO4^{3-}$	0.983	5.68E+04	4.13E+04	0.127	0.426	1.14	1.18
$SO4^{2-}$	0.130	7.63E+03	5.55E+03	4.49E-02	9.77E-02	0.209	0.680
Si (as SiO_x^{2-})	4.08E-02	699	508	2.65E-02	2.48E-02	6.10E-02	7.99E-02
F^-	0.102	1.18E+03	861	8.94E-02	0.101	0.127	0.110
Cl^-	8.39E-02	1.81E+03	1.32E+03	2.55E-02	6.07E-02	0.371	0.403
$C_6H_5O_7^{3-}$	3.84E-05	4.42	3.21	3.57E-05	3.70E-05	3.97E-05	4.10E-05
$EDTA^{4-}$	6.87E-06	1.21	0.877	5.67E-06	6.26E-06	7.49E-06	8.08E-06
$HEDTA^{3-}$	1.13E-06	0.188	0.137	2.98E-07	7.02E-07	1.55E-06	1.97E-06
$glycolate^-$	4.21E-05	1.92	1.40	2.29E-05	3.23E-05	5.19E-05	6.13E-05
$acetate^-$	4.03E-05	1.45	1.05	3.26E-05	3.64E-05	4.42E-05	4.79E-05
$oxalate^{2-}$	8.38E-06	0.449	0.327	7.43E-06	7.90E-06	8.87E-06	9.34E-06
DBP	5.47E-05	7.01	5.10	3.56E-05	4.55E-05	6.85E-05	6.58E-05
butanol	5.47E-05	2.47	1.80	3.56E-05	4.55E-05	6.85E-05	6.58E-05
NH_3	5.13E-02	531	386	4.76E-02	5.09E-02	6.25E-02	5.52E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.23E+05 (kg)	(116 kgal)	----	----	----	----	----
Heat Load	0.135 (kW)	(463 BTU/hr)	----	2.83E-02	5.30E-02	0.208	0.342
Bulk Density	1.65 (g/cc)	----	----	1.08	1.20	1.71	1.80
Void Fraction	0.604	----	----	0.386	0.562	0.954	0.997
Water wt%	40.3	----	----	34.9	37.9	73.7	86.7
TOC wt% C (wet)	1.71E-04	----	----	3.95E-06	1.24E-04	2.80E-04	2.45E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.57E-06	2.17E-03	1.57	0	0	3.75E-06	4.06E-06
C-14	5.19E-07	3.15E-04	0.228	0	0	5.24E-07	5.52E-07
Ni-59	6.29E-07	3.82E-04	0.276	0	0	6.60E-07	6.83E-07
Ni-63	5.66E-05	3.44E-02	24.8	0	0	5.93E-05	6.15E-05
Co-60	1.14E-07	6.94E-05	5.02E-02	0	0	1.15E-07	1.22E-07
Se-79	1.09E-07	6.65E-05	4.81E-02	0	0	1.11E-07	1.17E-07
Sr-90	1.23E-02	7.46	5.40E+03	5.35E-03	1.01E-02	1.79E-02	4.88E-02
Y-90	1.23E-02	7.47	5.40E+03	0	0	1.24E-02	1.31E-02
Zr-93	5.20E-07	3.16E-04	0.228	0	0	5.25E-07	5.54E-07
Nb-93m	4.40E-07	2.67E-04	0.193	0	0	4.44E-07	4.68E-07
Tc-99	3.60E-06	2.19E-03	1.58	6.44E-07	2.29E-06	5.81E-06	5.27E-06
Ru-106	4.48E-14	2.72E-11	1.97E-08	0	0	4.53E-14	4.77E-14
Cd-113m	1.25E-06	7.59E-04	0.549	0	0	1.26E-06	1.33E-06
Sb-125	1.03E-07	6.26E-05	4.53E-02	0	0	1.04E-07	1.10E-07
Sn-126	1.64E-07	9.99E-05	7.22E-02	0	0	1.66E-07	1.75E-07
I-129	6.78E-09	4.12E-06	2.98E-03	1.20E-09	4.31E-09	1.09E-08	9.92E-09
Cs-134	2.75E-09	1.67E-06	1.21E-03	0	0	2.91E-09	3.09E-09
Cs-137	4.82E-02	29.3	2.12E+04	6.05E-03	1.13E-02	7.52E-02	9.62E-02
Ba-137m	4.56E-02	27.7	2.00E+04	0	0	4.81E-02	5.09E-02
Sm-151	4.08E-04	0.248	179	0	0	4.12E-04	4.34E-04
Eu-152	7.69E-08	4.67E-05	3.38E-02	0	0	7.76E-08	7.83E-08
Eu-154	2.03E-06	1.23E-03	0.890	0	0	2.05E-06	2.16E-06
Eu-155	5.89E-06	3.58E-03	2.59	0	0	5.95E-06	6.00E-06
Ra-226	3.15E-11	1.91E-08	1.38E-05	0	0	8.50E-11	6.18E-11
Ra-228	3.06E-16	1.86E-13	1.34E-10	0	0	3.09E-16	3.12E-16
Ac-227	1.60E-10	9.74E-08	7.04E-05	0	0	3.27E-10	3.27E-10
Pa-231	3.47E-10	2.10E-07	1.52E-04	0	0	3.50E-10	3.69E-10
Th-229	5.94E-14	3.61E-11	2.61E-08	0	0	6.00E-14	6.05E-14
Th-232	1.49E-16	9.07E-14	6.55E-11	0	0	1.51E-16	1.59E-16
U-232	1.09E-10	6.62E-08	4.78E-05	7.87E-11	9.46E-11	1.23E-10	1.32E-10
U-233	5.19E-12	3.15E-09	2.28E-06	3.75E-12	4.50E-12	5.87E-12	6.31E-12
U-234	5.14E-06	3.12E-03	2.26	3.72E-06	4.45E-06	5.83E-06	6.29E-06
U-235	2.28E-07	1.38E-04	0.100	1.65E-07	1.97E-07	2.59E-07	2.79E-07
U-236	4.80E-08	2.91E-05	2.11E-02	3.47E-08	4.16E-08	5.43E-08	5.84E-08
U-238	5.22E-06	3.17E-03	2.29	3.78E-06	4.52E-06	5.92E-06	6.38E-06
Np-237	2.22E-08	1.35E-05	9.73E-03	3.91E-09	1.41E-08	3.58E-08	3.25E-08
Pu-238	2.68E-07	1.63E-04	0.118	2.44E-08	9.27E-08	3.97E-07	4.17E-07
Pu-239	4.83E-05	2.93E-02	21.2	6.14E-06	1.87E-05	6.86E-05	7.13E-05
Pu-240	3.75E-06	2.28E-03	1.65	4.00E-07	1.37E-06	5.46E-06	5.71E-06
Pu-241	9.25E-06	5.62E-03	4.06	5.40E-07	2.84E-06	1.42E-05	1.50E-05
Pu-242	4.09E-11	2.48E-08	1.79E-05	2.17E-12	1.23E-11	6.32E-11	6.68E-11
Am-241	9.20E-07	5.58E-04	0.404	9.63E-08	5.38E-07	1.52E-06	1.39E-06
Am-243	6.34E-12	3.85E-09	2.79E-06	5.96E-13	3.67E-12	1.06E-11	9.64E-12
Cm-242	1.39E-09	8.44E-07	6.10E-04	0	0	1.40E-09	1.42E-09
Cm-243	2.84E-11	1.73E-08	1.25E-05	0	0	2.87E-11	2.90E-11
Cm-244	1.50E-10	9.09E-08	6.57E-05	0	0	1.51E-10	1.59E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.94E-04 (g/L)	----	0.349	1.01E-04	3.07E-04	1.13E-03	1.17E-03
U	6.57E-02	9.49E+03	6.86E+03	4.76E-02	5.69E-02	7.45E-02	8.03E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.28E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	9.64E-04 (kW)	(3.29 BTU/hr)	----	7.80E-04	8.70E-04	1.08E-03	1.15E-03
Bulk Density*	1.13 (g/cc)	----	----	1.10	1.12	1.14	1.15
Water wt%†	78.4	----	----	76.4	77.2	80.3	83.0
TOC wt% C (wet)	0.114	----	----	0.103	0.108	0.119	0.124
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.65E-05	2.34E-02	0.100	7.06E-06	7.06E-06	2.89E-05	3.20E-05
C-14	5.36E-06	4.74E-03	2.03E-02	1.31E-06	1.31E-06	5.57E-06	5.77E-06
Ni-59	3.93E-07	3.47E-04	1.49E-03	2.02E-07	2.02E-07	4.02E-07	4.11E-07
Ni-63	3.88E-05	3.43E-02	0.147	2.00E-05	2.00E-05	3.98E-05	4.07E-05
Co-60	6.44E-06	5.70E-03	2.44E-02	1.79E-06	1.79E-06	6.76E-06	7.07E-06
Se-79	4.49E-07	3.97E-04	1.70E-03	1.90E-07	1.90E-07	5.43E-07	6.33E-07
Sr-90	1.78E-02	15.7	67.2	1.40E-02	1.53E-02	2.06E-02	2.12E-02
Y-90	1.78E-02	15.7	67.3	8.82E-03	8.82E-03	1.84E-02	1.90E-02
Zr-93	2.20E-06	1.95E-03	8.33E-03	9.06E-07	9.06E-07	2.67E-06	3.12E-06
Nb-93m	1.60E-06	1.41E-03	6.04E-03	6.89E-07	6.89E-07	1.92E-06	2.24E-06
Tc-99	3.77E-05	3.34E-02	0.143	2.26E-05	3.00E-05	4.55E-05	5.30E-05
Ru-106	9.95E-10	8.80E-07	3.77E-06	3.95E-10	3.95E-10	1.13E-09	1.25E-09
Cd-113m	1.17E-05	1.04E-02	4.45E-02	3.97E-06	3.97E-06	1.46E-05	1.73E-05
Sb-125	2.94E-05	2.60E-02	0.111	9.29E-06	9.29E-06	3.14E-05	3.33E-05
Sn-126	6.75E-07	5.97E-04	2.55E-03	2.86E-07	2.86E-07	8.15E-07	9.50E-07
I-129	7.29E-08	6.45E-05	2.76E-04	4.37E-08	5.80E-08	8.80E-08	1.03E-07
Cs-134	2.94E-07	2.60E-04	1.11E-03	1.63E-07	2.27E-07	3.61E-07	4.26E-07
Cs-137	2.88E-02	25.5	109	1.84E-02	2.35E-02	3.42E-02	3.93E-02
Ba-137m	2.73E-02	24.1	103	1.74E-02	2.22E-02	3.23E-02	3.72E-02
Sm-151	1.58E-03	1.40	5.98	6.73E-04	6.73E-04	1.91E-03	2.22E-03
Eu-152	5.69E-07	5.03E-04	2.15E-03	2.48E-07	2.48E-07	6.13E-07	6.54E-07
Eu-154	9.04E-05	7.99E-02	0.342	2.56E-05	2.56E-05	1.14E-04	1.23E-04
Eu-155	3.43E-05	3.04E-02	0.130	1.52E-05	1.52E-05	3.68E-05	3.93E-05
Ra-226	2.81E-11	2.48E-08	1.06E-07	1.50E-11	1.50E-11	3.10E-11	3.38E-11
Ra-228	1.15E-07	1.01E-04	4.34E-04	4.88E-08	8.10E-08	1.54E-07	1.95E-07
Ac-227	2.32E-10	2.06E-07	8.80E-07	1.66E-10	1.66E-10	2.62E-10	2.90E-10
Pa-231	1.02E-09	9.02E-07	3.86E-06	7.00E-10	7.61E-10	1.18E-09	1.34E-09
Th-229	2.70E-09	2.39E-06	1.02E-05	1.26E-09	1.96E-09	3.56E-09	4.47E-09
Th-232	7.54E-09	6.67E-06	2.85E-05	3.89E-09	5.68E-09	9.40E-09	1.12E-08
U-232	5.47E-07	4.83E-04	2.07E-03	2.83E-07	4.12E-07	7.03E-07	8.70E-07
U-233	2.09E-06	1.85E-03	7.93E-03	1.08E-06	1.58E-06	2.69E-06	3.33E-06
U-234	2.76E-07	2.44E-04	1.04E-03	2.48E-07	2.72E-07	2.80E-07	2.85E-07
U-235	1.10E-08	9.72E-06	4.16E-05	9.85E-09	1.08E-08	1.12E-08	1.13E-08
U-236	7.45E-09	6.59E-06	2.82E-05	6.62E-09	7.33E-09	7.58E-09	7.70E-09
U-238	3.82E-07	3.38E-04	1.45E-03	3.56E-07	3.78E-07	3.86E-07	3.90E-07
Np-237	1.28E-07	1.13E-04	4.85E-04	7.87E-08	1.03E-07	1.54E-07	1.78E-07
Pu-238	2.41E-07	2.13E-04	9.12E-04	1.83E-07	2.11E-07	2.70E-07	2.99E-07
Pu-239	9.75E-06	8.62E-03	3.69E-02	8.14E-06	8.93E-06	1.06E-05	1.14E-05
Pu-240	1.49E-06	1.32E-03	5.66E-03	1.22E-06	1.35E-06	1.64E-06	1.77E-06
Pu-241	1.68E-05	1.49E-02	6.36E-02	1.29E-05	1.48E-05	1.88E-05	2.08E-05
Pu-242	8.47E-11	7.49E-08	3.21E-07	6.11E-11	7.26E-11	9.68E-11	1.08E-10
Am-241	6.74E-06	5.96E-03	2.55E-02	3.99E-06	5.34E-06	8.15E-06	9.50E-06
Am-243	2.60E-10	2.30E-07	9.85E-07	1.74E-10	2.15E-10	3.06E-10	3.51E-10
Cm-242	2.61E-08	2.31E-05	9.89E-05	1.29E-08	1.29E-08	2.99E-08	3.35E-08
Cm-243	2.65E-09	2.34E-06	1.00E-05	1.39E-09	1.39E-09	3.11E-09	3.55E-09
Cm-244	1.98E-08	1.75E-05	7.50E-05	6.85E-09	6.85E-09	2.42E-08	2.70E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.33E-04 (g/L)	----	5.05E-04	1.05E-04	1.19E-04	1.48E-04	1.61E-04
U	3.13E-03	658	2.82	2.79E-03	3.08E-03	3.18E-03	3.23E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.27E+05 (kg)	(117 kgal)	----	----	----	----	----
Heat Load	0.136 (kW)	(466 BTU/hr)	----	2.91E-02	5.39E-02	0.209	0.343
Bulk Density†	1.64 (g/cc)	----	----	1.08	1.20	1.71	1.79
Water wt%†	40.5	----	----	35.1	38.1	73.7	86.6
TOC wt% C (wet)†	8.39E-04	----	----	7.73E-04	8.05E-04	1.04E-03	1.02E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.76E-06	2.29E-03	1.67	2.13E-07	2.13E-07	3.94E-06	4.25E-06
C-14	5.60E-07	3.41E-04	0.248	4.40E-08	4.40E-08	5.65E-07	5.93E-07
Ni-59	6.27E-07	3.82E-04	0.278	3.07E-09	3.07E-09	6.58E-07	6.81E-07
Ni-63	5.64E-05	3.44E-02	25.0	3.06E-07	3.06E-07	5.92E-05	6.13E-05
Co-60	1.68E-07	1.03E-04	7.46E-02	5.46E-08	5.46E-08	1.71E-07	1.76E-07
Se-79	1.12E-07	6.84E-05	4.98E-02	3.45E-09	3.45E-09	1.13E-07	1.19E-07
Sr-90	1.23E-02	7.51	5.46E+03	5.43E-03	1.01E-02	1.79E-02	4.86E-02
Y-90	1.23E-02	7.52	5.47E+03	1.08E-04	1.08E-04	1.24E-02	1.32E-02
Zr-93	5.34E-07	3.25E-04	0.237	1.70E-08	1.70E-08	5.40E-07	5.68E-07
Nb-93m	4.50E-07	2.74E-04	0.199	1.21E-08	1.21E-08	4.54E-07	4.78E-07
Tc-99	3.89E-06	2.37E-03	1.72	9.49E-07	2.59E-06	6.10E-06	5.56E-06
Ru-106	8.55E-12	5.21E-09	3.79E-06	3.42E-12	3.42E-12	9.70E-12	1.07E-11
Cd-113m	1.34E-06	8.16E-04	0.593	9.60E-08	9.60E-08	1.36E-06	1.42E-06
Sb-125	3.54E-07	2.15E-04	0.157	1.82E-07	1.82E-07	3.71E-07	3.87E-07
Sn-126	1.69E-07	1.03E-04	7.48E-02	5.18E-09	5.18E-09	1.70E-07	1.79E-07
I-129	7.34E-09	4.47E-06	3.25E-03	1.80E-09	4.88E-09	1.15E-08	1.05E-08
Cs-134	5.24E-09	3.19E-06	2.32E-03	2.51E-09	2.51E-09	5.81E-09	6.37E-09
Cs-137	4.80E-02	29.2	2.13E+04	6.22E-03	1.15E-02	7.48E-02	9.56E-02
Ba-137m	4.54E-02	27.7	2.01E+04	2.01E-04	2.01E-04	4.79E-02	5.07E-02
Sm-151	4.18E-04	0.255	185	1.21E-05	1.21E-05	4.22E-04	4.44E-04
Eu-152	8.11E-08	4.94E-05	3.59E-02	4.84E-09	4.84E-09	8.18E-08	8.25E-08
Eu-154	2.78E-06	1.69E-03	1.23	7.65E-07	7.65E-07	2.98E-06	3.06E-06
Eu-155	6.13E-06	3.74E-03	2.72	2.91E-07	2.91E-07	6.19E-06	6.24E-06
Ra-226	3.14E-11	1.91E-08	1.39E-05	1.28E-13	1.28E-13	8.45E-11	6.14E-11
Ra-228	9.80E-10	5.97E-07	4.34E-04	4.17E-10	6.92E-10	1.31E-09	1.67E-09
Ac-227	1.61E-10	9.81E-08	7.13E-05	1.42E-12	1.42E-12	3.26E-10	3.25E-10
Pa-231	3.52E-10	2.15E-07	1.56E-04	7.49E-12	7.49E-12	3.56E-10	3.75E-10
Th-229	2.31E-11	1.41E-08	1.02E-05	1.08E-11	1.68E-11	3.05E-11	3.83E-11
Th-232	6.44E-11	3.92E-08	2.85E-05	3.33E-11	4.85E-11	8.03E-11	9.56E-11
U-232	4.78E-09	2.91E-06	2.12E-03	2.52E-09	3.63E-09	6.12E-09	7.54E-09
U-233	1.79E-08	1.09E-05	7.93E-03	9.28E-09	1.35E-08	2.30E-08	2.85E-08
U-234	5.10E-06	3.10E-03	2.26	3.69E-06	4.41E-06	5.78E-06	6.23E-06
U-235	2.26E-07	1.38E-04	0.100	1.64E-07	1.96E-07	2.57E-07	2.77E-07
U-236	4.76E-08	2.90E-05	2.11E-02	3.45E-08	4.14E-08	5.39E-08	5.79E-08
U-238	5.18E-06	3.15E-03	2.29	3.75E-06	4.48E-06	5.88E-06	6.33E-06
Np-237	2.31E-08	1.41E-05	1.02E-02	4.90E-09	1.50E-08	3.67E-08	3.34E-08
Pu-238	2.68E-07	1.63E-04	0.119	2.61E-08	9.39E-08	3.96E-07	4.15E-07
Pu-239	4.80E-05	2.92E-02	21.3	6.16E-06	1.87E-05	6.81E-05	7.08E-05
Pu-240	3.73E-06	2.27E-03	1.65	4.08E-07	1.37E-06	5.43E-06	5.67E-06
Pu-241	9.31E-06	5.67E-03	4.12	6.77E-07	2.96E-06	1.42E-05	1.50E-05
Pu-242	4.12E-11	2.51E-08	1.83E-05	2.87E-12	1.29E-11	6.34E-11	6.70E-11
Am-241	9.69E-07	5.90E-04	0.429	1.50E-07	5.89E-07	1.57E-06	1.44E-06
Am-243	8.52E-12	5.19E-09	3.77E-06	2.79E-12	5.85E-12	1.27E-11	1.18E-11
Cm-242	1.60E-09	9.75E-07	7.09E-04	2.23E-10	2.23E-10	1.63E-09	1.66E-09
Cm-243	5.08E-11	3.09E-08	2.25E-05	2.26E-11	2.26E-11	5.47E-11	5.85E-11
Cm-244	3.18E-10	1.93E-07	1.41E-04	1.69E-10	1.69E-10	3.55E-10	3.79E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.88E-04 (g/L)	----	0.349	1.01E-04	3.06E-04	1.12E-03	1.16E-03
U	6.51E-02	9.44E+03	6.86E+03	4.72E-02	5.64E-02	7.39E-02	7.97E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.57E+05 (kg)	(164 kgal)	----	----	----	----	----
Heat Load	5.67E-02 (kW)	(194 BTU/hr)	----	4.51E-02	5.08E-02	6.29E-02	6.88E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.23	8.70E+04	7.46E+04	3.30	4.38	5.89	6.50
Al^{3+}	0.599	1.17E+04	1.00E+04	0.599	0.599	0.599	0.599
Fe^{3+} (total Fe)	0.352	1.43E+04	1.22E+04	0.346	0.349	0.355	0.358
Cr^{3+}	4.86E-03	183	157	3.86E-03	4.34E-03	5.38E-03	5.89E-03
Bi^{3+}	6.24E-02	9.44E+03	8.09E+03	4.95E-02	5.70E-02	6.63E-02	6.92E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.06E-04	15.4	13.2	7.36E-05	9.22E-05	1.16E-04	1.23E-04
Zr (as $ZrO(OH)_2$)	2.39E-04	15.8	13.5	1.90E-04	2.14E-04	2.65E-04	2.90E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.20E-03	50.8	43.6	9.50E-04	1.07E-03	2.11E-03	3.41E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.62E-02	2.21E+03	1.90E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
K^+	6.72E-03	190	163	5.34E-03	6.01E-03	7.45E-03	8.15E-03
OH^-	4.06	5.00E+04	4.29E+04	3.97	4.03	4.10	4.12
NO_3^-	1.04	4.65E+04	3.99E+04	0.862	0.948	1.12	1.20
NO_2^-	0.236	7.86E+03	6.73E+03	0.148	0.188	0.289	0.346
CO_3^{2-}	7.62E-02	3.31E+03	2.84E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
PO_4^{3-}	1.15	7.92E+04	6.79E+04	0.672	0.949	1.30	1.41
SO_4^{2-}	5.20E-02	3.62E+03	3.10E+03	4.13E-02	4.65E-02	5.76E-02	6.30E-02
Si (as SiO_x^{2-})	0.224	4.55E+03	3.90E+03	0.115	0.170	0.278	0.330
F^-	0.139	1.91E+03	1.64E+03	0.110	0.124	0.154	0.323
Cl^-	3.09E-02	794	680	2.46E-02	2.77E-02	3.43E-02	3.75E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.94E-02	978	838	6.45E-02	7.18E-02	8.70E-02	9.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.91E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	1.47E-04 (kW)	(0.504 BTU/hr)	----	1.08E-04	1.27E-04	1.68E-04	1.88E-04
Bulk Density*	1.03 (g/cc)	----	----	1.01	1.02	1.03	1.04
Water wt%	96.0	----	----	94.4	95.2	96.9	97.7
TOC wt% C (wet)	2.78E-03	----	----	1.87E-03	2.32E-03	3.25E-03	3.70E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.447	1.00E+04	39.1	0.264	0.353	0.541	0.632
Al^{3+}	0.134	3.54E+03	13.8	6.35E-02	9.82E-02	0.171	0.206
Fe^{3+} (total Fe)	4.67E-04	25.4	9.94E-02	3.26E-04	3.95E-04	5.39E-04	6.08E-04
Cr^{3+}	8.84E-04	44.8	0.175	5.39E-04	7.07E-04	1.06E-03	1.23E-03
Bi^{3+}	6.59E-05	13.4	5.25E-02	5.80E-05	6.19E-05	7.00E-05	7.39E-05
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.12E-06	0.414	1.62E-03	1.96E-06	2.04E-06	2.20E-06	2.28E-06
Zr (as $ZrO(OH)_2$)	3.22E-06	0.286	1.12E-03	2.03E-06	2.52E-06	3.79E-06	4.49E-06
Pb^{2+}	3.18E-04	64.2	0.251	2.03E-04	2.60E-04	3.77E-04	4.33E-04
Ni^{2+}	3.67E-04	21.0	8.21E-02	1.95E-04	2.79E-04	4.10E-04	4.10E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	2.10E-03	82.2	0.321	1.50E-03	1.82E-03	2.38E-03	2.66E-03
K^+	8.99E-04	34.2	0.134	6.15E-04	7.33E-04	1.10E-03	1.25E-03
OH^-	0.549	9.09E+03	35.5	0.264	0.404	0.695	0.836
NO_3^-	0.186	1.12E+04	43.8	0.109	0.146	0.225	0.262
NO_2^-	8.87E-02	3.98E+03	15.5	5.59E-02	7.18E-02	0.106	0.123
CO_3^{2-}	5.31E-03	311	1.21	2.83E-03	3.65E-03	7.39E-03	7.67E-03
PO_4^{3-}	2.47E-03	228	0.893	2.12E-03	2.32E-03	2.62E-03	2.76E-03
SO_4^{2-}	6.87E-03	643	2.51	4.67E-03	5.41E-03	8.59E-03	8.59E-03
Si (as SiO_x^{2-})	1.90E-03	52.0	0.203	1.68E-03	1.79E-03	2.01E-03	2.07E-03
F^-	2.95E-03	54.7	0.214	2.18E-03	2.49E-03	3.34E-03	3.74E-03
Cl^-	4.46E-03	154	0.601	2.99E-03	3.49E-03	5.13E-03	5.78E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.98E-04	40.6	0.159	1.33E-04	1.65E-04	2.32E-04	2.64E-04
butanol	1.98E-04	14.3	5.60E-02	1.33E-04	1.65E-04	2.32E-04	2.64E-04
NH_3	1.30E-03	21.5	8.41E-02	8.84E-04	1.05E-03	1.52E-03	1.79E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.61E+05 (kg)	(165 kgal)	----	----	----	----	----
Heat Load	5.69E-02 (kW)	(194 BTU/hr)	----	4.52E-02	5.09E-02	6.31E-02	6.90E-02
Bulk Density†	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Water wt%†	64.2	----	----	60.2	62.0	67.0	70.7
TOC wt% C (wet)†	1.26E-05	----	----	8.47E-06	1.05E-05	1.48E-05	1.68E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.20	8.67E+04	7.46E+04	3.28	4.36	5.86	6.46
Al^{3+}	0.596	1.17E+04	1.00E+04	0.595	0.595	0.596	0.596
Fe^{3+} (total Fe)	0.350	1.42E+04	1.22E+04	0.344	0.347	0.353	0.356
Cr^{3+}	4.83E-03	182	157	3.84E-03	4.32E-03	5.36E-03	5.86E-03
Bi^{3+}	6.20E-02	9.40E+03	8.09E+03	4.92E-02	5.66E-02	6.59E-02	6.88E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.05E-04	15.3	13.2	7.31E-05	9.16E-05	1.15E-04	1.22E-04
Zr (as $ZrO(OH)_2$)	2.38E-04	15.7	13.5	1.89E-04	2.13E-04	2.63E-04	2.88E-04
Pb^{2+}	1.94E-06	0.291	0.251	1.24E-06	1.58E-06	2.30E-06	2.64E-06
Ni^{2+}	1.19E-03	50.7	43.6	9.46E-04	1.06E-03	2.10E-03	3.40E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.58E-02	2.20E+03	1.90E+03	4.71E-02	6.37E-02	8.70E-02	9.78E-02
K^+	6.69E-03	190	163	5.31E-03	5.98E-03	7.41E-03	8.11E-03
OH^-	4.04	4.99E+04	4.29E+04	3.95	4.00	4.07	4.10
NO_3^-	1.03	4.63E+04	3.99E+04	0.858	0.944	1.11	1.19
NO_2^-	0.235	7.84E+03	6.75E+03	0.148	0.188	0.288	0.344
CO_3^{2-}	7.58E-02	3.30E+03	2.84E+03	4.71E-02	6.37E-02	8.70E-02	9.78E-02
PO_4^{3-}	1.14	7.88E+04	6.79E+04	0.668	0.943	1.29	1.40
SO_4^{2-}	5.17E-02	3.60E+03	3.10E+03	4.11E-02	4.63E-02	5.73E-02	6.27E-02
Si (as SiO_x^{2-})	0.222	4.53E+03	3.90E+03	0.114	0.169	0.276	0.328
F^-	0.138	1.90E+03	1.64E+03	0.110	0.124	0.153	0.321
Cl^-	3.08E-02	791	681	2.44E-02	2.75E-02	3.41E-02	3.73E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.21E-06	0.184	0.159	8.11E-07	1.01E-06	1.41E-06	1.61E-06
butanol	1.21E-06	6.50E-02	5.60E-02	8.11E-07	1.01E-06	1.41E-06	1.61E-06
NH_3	7.89E-02	973	838	6.41E-02	7.14E-02	8.64E-02	9.34E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.57E+05 (kg)	(164 kgal)	----	----	----	----	----
Heat Load	5.67E-02 (kW)	(194 BTU/hr)	----	4.51E-02	5.08E-02	6.29E-02	6.88E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.39E-07	2.45E-04	0.210	1.99E-07	2.62E-07	4.27E-07	5.20E-07
C-14	8.66E-08	6.27E-05	5.38E-02	6.88E-08	7.75E-08	9.60E-08	1.05E-07
Ni-59	2.47E-08	1.79E-05	1.53E-02	1.96E-08	2.21E-08	4.37E-08	7.05E-08
Ni-63	2.17E-06	1.57E-03	1.34	1.72E-06	1.94E-06	3.83E-06	6.19E-06
Co-60	1.21E-08	8.75E-06	7.50E-03	9.59E-09	1.08E-08	1.34E-08	1.46E-08
Se-79	1.82E-08	1.32E-05	1.13E-02	1.45E-08	1.63E-08	2.02E-08	2.21E-08
Sr-90	7.61E-03	5.51	4.72E+03	6.04E-03	6.80E-03	8.43E-03	9.22E-03
Y-90	7.61E-03	5.51	4.72E+03	6.04E-03	6.81E-03	8.44E-03	9.23E-03
Zr-93	8.69E-08	6.29E-05	5.39E-02	6.90E-08	7.77E-08	9.63E-08	1.05E-07
Nb-93m	7.49E-08	5.42E-05	4.65E-02	5.95E-08	6.69E-08	8.30E-08	9.07E-08
Tc-99	5.99E-07	4.34E-04	0.372	4.76E-07	5.36E-07	6.64E-07	7.26E-07
Ru-106	2.85E-16	2.06E-13	1.77E-10	2.26E-16	2.55E-16	3.15E-16	3.45E-16
Cd-113m	1.77E-07	1.28E-04	0.110	1.40E-07	1.58E-07	1.96E-07	2.14E-07
Sb-125	6.52E-09	4.72E-06	4.05E-03	5.18E-09	5.83E-09	7.22E-09	7.90E-09
Sn-126	2.71E-08	1.96E-05	1.68E-02	2.15E-08	2.42E-08	3.00E-08	3.28E-08
I-129	1.12E-09	8.08E-07	6.93E-04	8.86E-10	9.98E-10	1.24E-09	1.35E-09
Cs-134	1.03E-10	7.49E-08	6.42E-05	8.22E-11	9.25E-11	1.15E-10	1.25E-10
Cs-137	8.58E-03	6.21	5.32E+03	6.81E-03	7.67E-03	9.51E-03	1.04E-02
Ba-137m	8.11E-03	5.88	5.04E+03	6.44E-03	7.26E-03	8.99E-03	9.84E-03
Sm-151	6.89E-05	4.99E-02	42.8	5.47E-05	6.16E-05	7.64E-05	8.35E-05
Eu-152	8.46E-09	6.13E-06	5.25E-03	8.30E-09	8.37E-09	8.54E-09	8.62E-09
Eu-154	1.62E-07	1.18E-04	0.101	1.29E-07	1.45E-07	1.80E-07	1.97E-07
Eu-155	1.28E-06	9.26E-04	0.794	1.25E-06	1.27E-06	1.29E-06	1.30E-06
Ra-226	7.78E-12	5.63E-09	4.83E-06	6.18E-12	6.95E-12	8.62E-12	9.43E-12
Ra-228	1.15E-16	8.34E-14	7.15E-11	1.13E-16	1.14E-16	1.16E-16	1.17E-16
Ac-227	3.92E-11	2.84E-08	2.43E-05	3.11E-11	3.50E-11	4.34E-11	4.75E-11
Pa-231	8.16E-11	5.91E-08	5.07E-05	6.48E-11	7.30E-11	9.05E-11	9.89E-11
Th-229	2.22E-14	1.61E-11	1.38E-08	2.18E-14	2.20E-14	2.24E-14	2.26E-14
Th-232	2.69E-17	1.95E-14	1.67E-11	2.14E-17	2.41E-17	2.98E-17	3.26E-17
U-232	1.89E-10	1.37E-07	1.17E-04	1.77E-10	1.84E-10	1.93E-10	1.95E-10
U-233	1.13E-11	8.20E-09	7.03E-06	1.06E-11	1.10E-11	1.15E-11	1.17E-11
U-234	1.60E-05	1.16E-02	9.90	1.49E-05	1.55E-05	1.63E-05	1.65E-05
U-235	7.18E-07	5.20E-04	0.445	6.72E-07	6.98E-07	7.31E-07	7.42E-07
U-236	1.02E-07	7.38E-05	6.32E-02	9.54E-08	9.92E-08	1.04E-07	1.05E-07
U-238	1.62E-05	1.17E-02	10.0	1.51E-05	1.57E-05	1.65E-05	1.67E-05
Np-237	3.60E-09	2.61E-06	2.23E-03	2.86E-09	3.22E-09	3.99E-09	4.36E-09
Pu-238	5.36E-08	3.88E-05	3.33E-02	1.92E-08	2.16E-08	1.20E-07	1.83E-07
Pu-239	1.68E-05	1.22E-02	10.4	6.00E-06	6.76E-06	3.74E-05	5.72E-05
Pu-240	9.89E-07	7.16E-04	0.614	3.54E-07	3.98E-07	2.21E-06	3.37E-06
Pu-241	6.33E-07	4.59E-04	0.393	2.26E-07	2.55E-07	1.41E-06	2.16E-06
Pu-242	1.93E-12	1.40E-09	1.20E-06	6.92E-13	7.79E-13	4.31E-12	6.60E-12
Am-241	3.01E-08	2.18E-05	1.87E-02	2.39E-08	2.69E-08	3.34E-08	3.65E-08
Am-243	8.42E-14	6.09E-11	5.22E-08	6.68E-14	7.52E-14	9.33E-14	1.02E-13
Cm-242	3.39E-11	2.46E-08	2.11E-05	3.33E-11	3.36E-11	3.43E-11	3.46E-11
Cm-243	5.04E-13	3.65E-10	3.13E-07	4.94E-13	4.99E-13	5.09E-13	5.14E-13
Cm-244	1.29E-12	9.33E-10	8.00E-07	1.02E-12	1.15E-12	1.43E-12	1.56E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.74E-04 (g/L)	----	0.170	9.81E-05	1.10E-04	6.12E-04	9.36E-04
U	0.203	3.50E+04	3.00E+04	0.190	0.198	0.207	0.210

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.91E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	1.47E-04 (kW)	(0.504 BTU/hr)	----	1.08E-04	1.27E-04	1.68E-04	1.88E-04
Bulk Density*	1.03 (g/cc)	----	----	1.01	1.02	1.03	1.04
Water wt%†	96.0	----	----	94.4	95.2	96.9	97.7
TOC wt% C (wet)	2.78E-03	----	----	1.87E-03	2.32E-03	3.25E-03	3.70E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.82E-07	9.57E-04	3.74E-03	6.45E-07	7.85E-07	1.24E-06	1.54E-06
C-14	2.76E-07	2.69E-04	1.05E-03	1.78E-07	2.26E-07	3.26E-07	3.74E-07
Ni-59	3.87E-08	3.77E-05	1.47E-04	3.54E-08	3.69E-08	3.99E-08	4.10E-08
Ni-63	3.76E-06	3.67E-03	1.43E-02	3.44E-06	3.59E-06	3.88E-06	3.99E-06
Co-60	2.35E-07	2.29E-04	8.93E-04	1.66E-07	2.00E-07	2.70E-07	3.03E-07
Se-79	3.74E-08	3.64E-05	1.42E-04	1.90E-08	2.80E-08	4.67E-08	5.08E-08
Sr-90	1.27E-03	1.24	4.85	1.00E-03	1.13E-03	1.42E-03	1.55E-03
Y-90	1.27E-03	1.24	4.85	1.00E-03	1.01E-03	1.41E-03	1.55E-03
Zr-93	1.85E-07	1.80E-04	7.03E-04	9.30E-08	1.38E-07	2.32E-07	2.41E-07
Nb-93m	1.32E-07	1.29E-04	5.04E-04	6.82E-08	9.97E-08	1.65E-07	1.87E-07
Tc-99	1.94E-06	1.89E-03	7.38E-03	1.26E-06	1.59E-06	2.29E-06	2.63E-06
Ru-106	5.19E-11	5.05E-08	1.98E-07	2.42E-11	3.77E-11	6.61E-11	7.99E-11
Cd-113m	9.59E-07	9.34E-04	3.65E-03	4.74E-07	7.43E-07	1.02E-06	1.04E-06
Sb-125	7.94E-07	7.74E-04	3.02E-03	5.72E-07	6.80E-07	9.09E-07	1.02E-06
Sn-126	5.62E-08	5.48E-05	2.14E-04	2.87E-08	4.22E-08	7.03E-08	7.84E-08
I-129	3.74E-09	3.65E-06	1.43E-05	2.42E-09	3.07E-09	4.42E-09	5.08E-09
Cs-134	3.61E-08	3.51E-05	1.37E-04	2.43E-08	3.00E-08	4.22E-08	4.80E-08
Cs-137	6.44E-03	6.27	24.5	4.20E-03	5.29E-03	7.58E-03	8.69E-03
Ba-137m	6.09E-03	5.93	23.2	3.98E-03	5.01E-03	7.17E-03	8.22E-03
Sm-151	1.32E-04	0.129	0.503	6.77E-05	9.92E-05	1.65E-04	1.83E-04
Eu-152	3.29E-08	3.21E-05	1.25E-04	2.23E-08	2.75E-08	3.84E-08	4.37E-08
Eu-154	4.39E-06	4.28E-03	1.67E-02	2.88E-06	3.62E-06	5.17E-06	5.92E-06
Eu-155	2.06E-06	2.01E-03	7.85E-03	1.46E-06	1.75E-06	2.37E-06	2.67E-06
Ra-226	2.10E-12	2.04E-09	7.98E-09	1.43E-12	1.43E-12	2.39E-12	2.66E-12
Ra-228	2.42E-10	2.36E-07	9.22E-07	6.85E-11	1.53E-10	3.31E-10	4.18E-10
Ac-227	6.69E-11	6.52E-08	2.55E-07	2.67E-11	4.64E-11	8.74E-11	1.07E-10
Pa-231	3.55E-10	3.46E-07	1.35E-06	1.32E-10	2.41E-10	4.69E-10	5.79E-10
Th-229	1.10E-10	1.07E-07	4.17E-07	3.10E-11	6.94E-11	1.50E-10	1.89E-10
Th-232	5.18E-10	5.04E-07	1.97E-06	1.47E-10	3.28E-10	7.09E-10	8.93E-10
U-232	1.01E-08	9.89E-06	3.86E-05	6.42E-09	9.63E-09	1.07E-08	1.12E-08
U-233	3.94E-08	3.84E-05	1.50E-04	2.49E-08	3.74E-08	4.14E-08	4.34E-08
U-234	7.22E-08	7.03E-05	2.75E-04	5.27E-08	6.95E-08	7.49E-08	7.75E-08
U-235	3.00E-09	2.92E-06	1.14E-05	2.20E-09	2.89E-09	3.11E-09	3.22E-09
U-236	1.89E-09	1.84E-06	7.20E-06	1.31E-09	1.81E-09	1.97E-09	2.05E-09
U-238	7.08E-08	6.90E-05	2.70E-04	5.25E-08	6.83E-08	7.34E-08	7.58E-08
Np-237	7.77E-09	7.58E-06	2.96E-05	5.04E-09	6.37E-09	9.18E-09	1.05E-08
Pu-238	4.20E-08	4.09E-05	1.60E-04	1.85E-08	3.00E-08	5.40E-08	6.55E-08
Pu-239	2.02E-06	1.96E-03	7.67E-03	1.04E-06	1.52E-06	2.51E-06	2.99E-06
Pu-240	3.32E-07	3.24E-04	1.27E-03	1.58E-07	2.44E-07	4.21E-07	5.06E-07
Pu-241	3.27E-06	3.19E-03	1.24E-02	1.39E-06	2.31E-06	4.23E-06	5.15E-06
Pu-242	9.91E-12	9.66E-09	3.77E-08	4.62E-12	7.21E-12	1.26E-11	1.52E-11
Am-241	5.90E-07	5.74E-04	2.24E-03	3.14E-07	4.49E-07	7.30E-07	8.65E-07
Am-243	7.00E-12	6.82E-09	2.66E-08	4.25E-12	5.60E-12	8.40E-12	9.75E-12
Cm-242	7.08E-10	6.90E-07	2.69E-06	4.96E-10	5.99E-10	8.16E-10	9.21E-10
Cm-243	3.06E-11	2.98E-08	1.16E-07	1.81E-11	2.42E-11	3.70E-11	4.33E-11
Cm-244	5.71E-10	5.56E-07	2.17E-06	3.95E-10	4.81E-10	6.61E-10	7.47E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.39E-05 (g/L)	----	1.29E-04	1.74E-05	2.55E-05	4.23E-05	5.04E-05
U	8.76E-04	203	0.794	6.45E-04	8.44E-04	9.08E-04	9.39E-04

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.61E+05 (kg)	(165 kgal)	----	----	----	----	----
Heat Load	5.69E-02 (kW)	(194 BTU/hr)	----	4.52E-02	5.09E-02	6.31E-02	6.90E-02
Bulk Density†	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Water wt%†	64.2	----	----	60.2	62.0	67.0	70.7
TOC wt% C (wet)†	1.26E-05	----	----	8.47E-06	1.05E-05	1.48E-05	1.68E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.43E-07	2.49E-04	0.214	2.04E-07	2.67E-07	4.30E-07	5.23E-07
C-14	8.78E-08	6.37E-05	5.48E-02	7.01E-08	7.87E-08	9.71E-08	1.06E-07
Ni-59	2.48E-08	1.80E-05	1.55E-02	1.97E-08	2.22E-08	4.36E-08	7.03E-08
Ni-63	2.18E-06	1.58E-03	1.36	1.73E-06	1.95E-06	3.83E-06	6.17E-06
Co-60	1.34E-08	9.74E-06	8.39E-03	1.10E-08	1.22E-08	1.47E-08	1.60E-08
Se-79	1.83E-08	1.33E-05	1.15E-02	1.46E-08	1.64E-08	2.03E-08	2.22E-08
Sr-90	7.57E-03	5.49	4.73E+03	6.01E-03	6.77E-03	8.39E-03	9.17E-03
Y-90	7.57E-03	5.49	4.73E+03	6.02E-03	6.77E-03	8.39E-03	9.18E-03
Zr-93	8.75E-08	6.35E-05	5.46E-02	6.97E-08	7.84E-08	9.69E-08	1.06E-07
Nb-93m	7.52E-08	5.46E-05	4.70E-02	5.99E-08	6.73E-08	8.33E-08	9.10E-08
Tc-99	6.07E-07	4.41E-04	0.379	4.85E-07	5.44E-07	6.72E-07	7.34E-07
Ru-106	3.17E-13	2.30E-10	1.98E-07	1.48E-13	2.30E-13	4.03E-13	4.87E-13
Cd-113m	1.81E-07	1.32E-04	0.113	1.45E-07	1.63E-07	2.00E-07	2.19E-07
Sb-125	1.13E-08	8.21E-06	7.07E-03	9.96E-09	1.06E-08	1.20E-08	1.27E-08
Sn-126	2.73E-08	1.98E-05	1.70E-02	2.17E-08	2.44E-08	3.02E-08	3.30E-08
I-129	1.13E-09	8.21E-07	7.07E-04	9.04E-10	1.01E-09	1.25E-09	1.37E-09
Cs-134	3.23E-10	2.34E-07	2.02E-04	2.51E-10	2.86E-10	3.60E-10	3.96E-10
Cs-137	8.56E-03	6.21	5.35E+03	6.81E-03	7.66E-03	9.49E-03	1.04E-02
Ba-137m	8.10E-03	5.88	5.06E+03	6.44E-03	7.25E-03	8.98E-03	9.81E-03
Sm-151	6.93E-05	5.03E-02	43.3	5.52E-05	6.20E-05	7.67E-05	8.38E-05
Eu-152	8.61E-09	6.24E-06	5.38E-03	8.45E-09	8.52E-09	8.69E-09	8.77E-09
Eu-154	1.88E-07	1.36E-04	0.118	1.55E-07	1.71E-07	2.06E-07	2.22E-07
Eu-155	1.28E-06	9.31E-04	0.802	1.26E-06	1.27E-06	1.30E-06	1.31E-06
Ra-226	7.74E-12	5.61E-09	4.83E-06	6.15E-12	6.92E-12	8.58E-12	9.38E-12
Ra-228	1.48E-12	1.07E-09	9.22E-07	4.18E-13	9.35E-13	2.02E-12	2.55E-12
Ac-227	3.93E-11	2.85E-08	2.46E-05	3.13E-11	3.52E-11	4.36E-11	4.76E-11
Pa-231	8.33E-11	6.04E-08	5.20E-05	6.66E-11	7.47E-11	9.21E-11	1.01E-10
Th-229	6.90E-13	5.01E-10	4.31E-07	2.11E-13	4.45E-13	9.37E-13	1.18E-12
Th-232	3.16E-12	2.29E-09	1.97E-06	8.94E-13	2.00E-12	4.32E-12	5.45E-12
U-232	2.50E-10	1.81E-07	1.56E-04	2.27E-10	2.45E-10	2.53E-10	2.56E-10
U-233	2.52E-10	1.82E-07	1.57E-04	1.63E-10	2.39E-10	2.64E-10	2.76E-10
U-234	1.59E-05	1.15E-02	9.90	1.49E-05	1.54E-05	1.62E-05	1.64E-05
U-235	7.13E-07	5.17E-04	0.445	6.68E-07	6.94E-07	7.27E-07	7.37E-07
U-236	1.01E-07	7.34E-05	6.32E-02	9.49E-08	9.86E-08	1.03E-07	1.05E-07
U-238	1.61E-05	1.16E-02	10.0	1.50E-05	1.56E-05	1.64E-05	1.66E-05
Np-237	3.62E-09	2.63E-06	2.26E-03	2.89E-09	3.25E-09	4.01E-09	4.38E-09
Pu-238	5.35E-08	3.88E-05	3.34E-02	1.93E-08	2.17E-08	1.19E-07	1.82E-07
Pu-239	1.67E-05	1.21E-02	10.4	5.98E-06	6.73E-06	3.72E-05	5.69E-05
Pu-240	9.85E-07	7.14E-04	0.615	3.54E-07	3.98E-07	2.19E-06	3.35E-06
Pu-241	6.49E-07	4.71E-04	0.405	2.45E-07	2.73E-07	1.42E-06	2.17E-06
Pu-242	1.98E-12	1.44E-09	1.24E-06	7.48E-13	8.35E-13	4.35E-12	6.62E-12
Am-241	3.35E-08	2.43E-05	2.09E-02	2.74E-08	3.03E-08	3.67E-08	3.99E-08
Am-243	1.26E-13	9.16E-11	7.89E-08	1.09E-13	1.17E-13	1.35E-13	1.44E-13
Cm-242	3.80E-11	2.76E-08	2.38E-05	3.68E-11	3.74E-11	3.87E-11	3.93E-11
Cm-243	6.87E-13	4.98E-10	4.29E-07	6.11E-13	6.48E-13	7.26E-13	7.64E-13
Cm-244	4.76E-12	3.45E-09	2.97E-06	3.69E-12	4.21E-12	5.31E-12	5.84E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.73E-04 (g/L)	----	0.170	9.77E-05	1.10E-04	6.08E-04	9.30E-04
U	0.202	3.49E+04	3.00E+04	0.189	0.197	0.206	0.209

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.52E+05 (kg)	(94.0 kgal)	----	----	----	----	----
Heat Load	8.18E-02 (kW)	(279 BTU/hr)	----	2.64E-02	3.92E-02	0.119	0.189
Bulk Density	1.55 (g/cc)	----	----	1.19	1.26	1.59	1.65
Void Fraction	0.645	----	----	0.506	0.618	0.869	0.896
Water wt%	47.9	----	----	43.7	46.1	69.9	77.1
TOC wt% C (wet)	1.16E-04	----	----	2.29E-06	7.48E-05	1.92E-04	1.71E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.95	1.48E+05	8.14E+04	3.04	4.53	10.8	11.7
Al^{3+}	0.227	3.94E+03	2.17E+03	0.223	0.226	0.231	0.232
Fe^{3+} (total Fe)	0.202	7.29E+03	4.02E+03	0.194	0.201	0.203	0.204
Cr^{3+}	5.26E-03	177	97.4	4.10E-03	5.08E-03	6.39E-03	5.75E-03
Bi^{3+}	3.40E-02	4.59E+03	2.53E+03	2.82E-02	3.21E-02	3.55E-02	3.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.09E-05	6.59	3.63	3.93E-05	4.60E-05	5.45E-05	5.71E-05
Zr (as $ZrO(OH)_2$)	1.82E-04	10.7	5.91	1.64E-04	1.73E-04	2.04E-04	2.00E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.78E-03	219	121	1.05E-03	1.49E-03	7.13E-03	7.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.29E-02	1.88E+03	1.04E+03	3.25E-02	6.01E-02	7.70E-02	8.09E-02
K^{+}	1.21E-02	304	168	5.94E-03	9.79E-03	1.69E-02	1.53E-02
OH^{-}	2.03	2.22E+04	1.23E+04	1.97	2.01	2.06	2.06
$NO3^{-}$	5.91	2.37E+05	1.30E+05	1.01	1.73	6.03	6.22
$NO2^{-}$	0.238	7.05E+03	3.89E+03	0.138	0.176	0.309	0.287
$CO3^{2-}$	0.148	5.72E+03	3.15E+03	3.40E-02	9.97E-02	0.203	0.222
$PO4^{3-}$	1.05	6.42E+04	3.54E+04	0.498	0.690	1.15	1.18
$SO4^{2-}$	0.102	6.34E+03	3.50E+03	4.75E-02	8.14E-02	0.153	0.456
Si (as SiO_x^{2-})	0.107	1.94E+03	1.07E+03	6.76E-02	8.76E-02	0.127	0.145
F^{-}	0.116	1.42E+03	782	0.105	0.110	0.132	0.182
Cl^{-}	6.49E-02	1.48E+03	818	2.74E-02	5.00E-02	0.250	0.270
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.25E-05	1.69	0.932	1.88E-07	6.56E-06	2.13E-05	1.95E-05
butanol	1.25E-05	0.596	0.329	1.88E-07	6.56E-06	2.13E-05	1.95E-05
NH_3	6.16E-02	675	372	5.62E-02	5.88E-02	6.88E-02	6.69E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.52E+05 (kg)	(94.0 kgal)	----	----	----	----	----
Heat Load	8.18E-02 (kW)	(279 BTU/hr)	----	2.64E-02	3.92E-02	0.119	0.189
Bulk Density†	1.55 (g/cc)	----	----	1.19	1.26	1.59	1.65
Water wt%†	47.9	----	----	43.7	46.1	69.9	77.1
TOC wt% C (wet)†	1.16E-04	----	----	2.29E-06	7.48E-05	1.92E-04	1.71E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.95	1.48E+05	8.14E+04	3.04	4.53	10.8	11.7
Al^{3+}	0.227	3.94E+03	2.17E+03	0.223	0.226	0.231	0.232
Fe^{3+} (total Fe)	0.202	7.29E+03	4.02E+03	0.194	0.201	0.203	0.204
Cr^{3+}	5.26E-03	177	97.4	4.10E-03	5.08E-03	6.39E-03	5.75E-03
Bi^{3+}	3.40E-02	4.59E+03	2.53E+03	2.82E-02	3.21E-02	3.55E-02	3.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.09E-05	6.59	3.63	3.93E-05	4.60E-05	5.45E-05	5.71E-05
Zr (as $ZrO(OH)_2$)	1.82E-04	10.7	5.91	1.64E-04	1.73E-04	2.04E-04	2.00E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.78E-03	219	121	1.05E-03	1.49E-03	7.13E-03	7.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.29E-02	1.88E+03	1.04E+03	3.25E-02	6.01E-02	7.70E-02	8.09E-02
K^{+}	1.21E-02	304	168	5.94E-03	9.79E-03	1.69E-02	1.53E-02
OH^{-}	2.03	2.22E+04	1.23E+04	1.97	2.01	2.06	2.06
$NO3^{-}$	5.91	2.37E+05	1.30E+05	1.01	1.73	6.03	6.22
$NO2^{-}$	0.238	7.05E+03	3.89E+03	0.138	0.176	0.309	0.287
$CO3^{2-}$	0.148	5.72E+03	3.15E+03	3.40E-02	9.97E-02	0.203	0.222
$PO4^{3-}$	1.05	6.42E+04	3.54E+04	0.498	0.690	1.15	1.18
$SO4^{2-}$	0.102	6.34E+03	3.50E+03	4.75E-02	8.14E-02	0.153	0.456
Si (as SiO_x^{2-})	0.107	1.94E+03	1.07E+03	6.76E-02	8.76E-02	0.127	0.145
F^{-}	0.116	1.42E+03	782	0.105	0.110	0.132	0.182
Cl^{-}	6.49E-02	1.48E+03	818	2.74E-02	5.00E-02	0.250	0.270
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.25E-05	1.69	0.932	1.88E-07	6.56E-06	2.13E-05	1.95E-05
butanol	1.25E-05	0.596	0.329	1.88E-07	6.56E-06	2.13E-05	1.95E-05
NH_3	6.16E-02	675	372	5.62E-02	5.88E-02	6.88E-02	6.69E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.52E+05 (kg)	(94.0 kgal)	----	----	----	----	----
Heat Load	8.18E-02 (kW)	(279 BTU/hr)	----	2.64E-02	3.92E-02	0.119	0.189
Bulk Density	1.55 (g/cc)	----	----	1.19	1.26	1.59	1.65
Void Fraction	0.645	----	----	0.506	0.618	0.869	0.896
Water wt%	47.9	----	----	43.7	46.1	69.9	77.1
TOC wt% C (wet)	1.16E-04	----	----	2.29E-06	7.48E-05	1.92E-04	1.71E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.40E-06	1.55E-03	0.854	1.22E-07	1.22E-07	2.52E-06	2.71E-06
C-14	3.62E-07	2.34E-04	0.129	3.13E-08	3.13E-08	3.66E-07	3.84E-07
Ni-59	4.10E-07	2.65E-04	0.146	8.93E-09	8.93E-09	4.30E-07	4.45E-07
Ni-63	3.69E-05	2.38E-02	13.1	7.84E-07	7.84E-07	3.87E-05	4.00E-05
Co-60	7.73E-08	4.99E-05	2.75E-02	4.37E-09	4.37E-09	7.81E-08	8.20E-08
Se-79	7.65E-08	4.93E-05	2.72E-02	6.59E-09	6.59E-09	7.72E-08	8.10E-08
Sr-90	1.06E-02	6.84	3.77E+03	6.17E-03	9.17E-03	1.42E-02	3.39E-02
Y-90	1.06E-02	6.84	3.77E+03	2.75E-03	2.75E-03	1.09E-02	1.12E-02
Zr-93	3.63E-07	2.34E-04	0.129	3.14E-08	3.14E-08	3.67E-07	3.85E-07
Nb-93m	3.08E-07	1.99E-04	0.110	2.71E-08	2.71E-08	3.11E-07	3.26E-07
Tc-99	2.52E-06	1.62E-03	0.895	6.28E-07	1.68E-06	3.93E-06	3.58E-06
Ru-106	2.87E-14	1.85E-11	1.02E-08	1.03E-16	1.03E-16	2.90E-14	3.05E-14
Cd-113m	8.62E-07	5.56E-04	0.307	6.39E-08	6.39E-08	8.70E-07	9.13E-07
Sb-125	6.82E-08	4.40E-05	2.43E-02	2.36E-09	2.36E-09	6.89E-08	7.24E-08
Sn-126	1.15E-07	7.40E-05	4.08E-02	9.79E-09	9.79E-09	1.16E-07	1.22E-07
I-129	4.73E-09	3.05E-06	1.68E-03	1.17E-09	3.15E-09	7.39E-09	6.74E-09
Cs-134	1.79E-09	1.16E-06	6.38E-04	3.74E-11	3.74E-11	1.90E-09	2.01E-09
Cs-137	3.39E-02	21.8	1.20E+04	6.96E-03	1.03E-02	5.11E-02	6.45E-02
Ba-137m	3.20E-02	20.7	1.14E+04	2.93E-03	2.93E-03	3.36E-02	3.54E-02
Sm-151	2.85E-04	0.184	102	2.49E-05	2.49E-05	2.88E-04	3.02E-04
Eu-152	5.21E-08	3.36E-05	1.85E-02	3.06E-09	3.06E-09	5.26E-08	5.31E-08
Eu-154	1.35E-06	8.73E-04	0.481	5.87E-08	5.87E-08	1.37E-06	1.44E-06
Eu-155	4.22E-06	2.72E-03	1.50	4.63E-07	4.63E-07	4.26E-06	4.29E-06
Ra-226	2.29E-11	1.48E-08	8.14E-06	2.81E-12	2.81E-12	5.71E-11	4.22E-11
Ra-228	2.37E-16	1.53E-13	8.44E-11	4.16E-17	4.16E-17	2.39E-16	2.41E-16
Ac-227	1.17E-10	7.52E-08	4.15E-05	1.42E-11	1.42E-11	2.23E-10	2.23E-10
Pa-231	2.51E-10	1.62E-07	8.92E-05	2.95E-11	2.95E-11	2.54E-10	2.65E-10
Th-229	4.60E-14	2.96E-11	1.64E-08	8.03E-15	8.03E-15	4.63E-14	4.66E-14
Th-232	1.05E-16	6.77E-14	3.74E-11	9.74E-18	9.74E-18	1.06E-16	1.11E-16
U-232	1.38E-10	8.90E-08	4.91E-05	1.19E-10	1.29E-10	1.47E-10	1.53E-10
U-233	7.41E-12	4.78E-09	2.63E-06	6.49E-12	6.97E-12	7.84E-12	8.12E-12
U-234	9.05E-06	5.84E-03	3.22	8.15E-06	8.61E-06	9.49E-06	9.78E-06
U-235	4.05E-07	2.61E-04	0.144	3.65E-07	3.85E-07	4.25E-07	4.38E-07
U-236	6.75E-08	4.35E-05	2.40E-02	5.90E-08	6.34E-08	7.15E-08	7.41E-08
U-238	9.17E-06	5.92E-03	3.26	8.26E-06	8.73E-06	9.62E-06	9.92E-06
Np-237	1.55E-08	9.97E-06	5.50E-03	3.80E-09	1.03E-08	2.42E-08	2.20E-08
Pu-238	1.91E-07	1.23E-04	6.78E-02	3.49E-08	7.85E-08	2.73E-07	2.85E-07
Pu-239	3.69E-05	2.38E-02	13.1	9.99E-06	1.80E-05	4.98E-05	5.16E-05
Pu-240	2.75E-06	1.78E-03	0.980	6.13E-07	1.23E-06	3.84E-06	4.00E-06
Pu-241	6.13E-06	3.96E-03	2.18	5.74E-07	2.04E-06	9.30E-06	9.82E-06
Pu-242	2.68E-11	1.73E-08	9.53E-06	2.09E-12	8.56E-12	4.10E-11	4.33E-11
Am-241	5.98E-07	3.86E-04	0.213	7.23E-08	3.54E-07	9.84E-07	8.98E-07
Am-243	4.08E-12	2.63E-09	1.45E-06	4.11E-13	2.37E-12	6.77E-12	6.18E-12
Cm-242	8.99E-10	5.80E-07	3.20E-04	1.23E-11	1.23E-11	9.08E-10	9.16E-10
Cm-243	1.83E-11	1.18E-08	6.52E-06	1.82E-13	1.82E-13	1.85E-11	1.87E-11
Cm-244	9.60E-11	6.19E-08	3.41E-05	4.66E-13	4.66E-13	9.70E-11	1.02E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.06E-04 (g/L)	----	0.216	1.63E-04	2.95E-04	8.19E-04	8.47E-04
U	0.115	1.77E+04	9.78E+03	0.104	0.110	0.121	0.125

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.52E+05 (kg)	(94.0 kgal)	----	----	----	----	----
Heat Load	8.18E-02 (kW)	(279 BTU/hr)	----	2.64E-02	3.92E-02	0.119	0.189
Bulk Density†	1.55 (g/cc)	----	----	1.19	1.26	1.59	1.65
Water wt%†	47.9	----	----	43.7	46.1	69.9	77.1
TOC wt% C (wet)†	1.16E-04	----	----	2.29E-06	7.48E-05	1.92E-04	1.71E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.40E-06	1.55E-03	0.854	1.22E-07	1.22E-07	2.52E-06	2.71E-06
C-14	3.62E-07	2.34E-04	0.129	3.13E-08	3.13E-08	3.66E-07	3.84E-07
Ni-59	4.10E-07	2.65E-04	0.146	8.93E-09	8.93E-09	4.30E-07	4.45E-07
Ni-63	3.69E-05	2.38E-02	13.1	7.84E-07	7.84E-07	3.87E-05	4.00E-05
Co-60	7.73E-08	4.99E-05	2.75E-02	4.37E-09	4.37E-09	7.81E-08	8.20E-08
Se-79	7.65E-08	4.93E-05	2.72E-02	6.59E-09	6.59E-09	7.72E-08	8.10E-08
Sr-90	1.06E-02	6.84	3.77E+03	6.17E-03	9.17E-03	1.42E-02	3.39E-02
Y-90	1.06E-02	6.84	3.77E+03	2.75E-03	2.75E-03	1.09E-02	1.12E-02
Zr-93	3.63E-07	2.34E-04	0.129	3.14E-08	3.14E-08	3.67E-07	3.85E-07
Nb-93m	3.08E-07	1.99E-04	0.110	2.71E-08	2.71E-08	3.11E-07	3.26E-07
Tc-99	2.52E-06	1.62E-03	0.895	6.28E-07	1.68E-06	3.93E-06	3.58E-06
Ru-106	2.87E-14	1.85E-11	1.02E-08	1.03E-16	1.03E-16	2.90E-14	3.05E-14
Cd-113m	8.62E-07	5.56E-04	0.307	6.39E-08	6.39E-08	8.70E-07	9.13E-07
Sb-125	6.82E-08	4.40E-05	2.43E-02	2.36E-09	2.36E-09	6.89E-08	7.24E-08
Sn-126	1.15E-07	7.40E-05	4.08E-02	9.79E-09	9.79E-09	1.16E-07	1.22E-07
I-129	4.73E-09	3.05E-06	1.68E-03	1.17E-09	3.15E-09	7.39E-09	6.74E-09
Cs-134	1.79E-09	1.16E-06	6.38E-04	3.74E-11	3.74E-11	1.90E-09	2.01E-09
Cs-137	3.39E-02	21.8	1.20E+04	6.96E-03	1.03E-02	5.11E-02	6.45E-02
Ba-137m	3.20E-02	20.7	1.14E+04	2.93E-03	2.93E-03	3.36E-02	3.54E-02
Sm-151	2.85E-04	0.184	102	2.49E-05	2.49E-05	2.88E-04	3.02E-04
Eu-152	5.21E-08	3.36E-05	1.85E-02	3.06E-09	3.06E-09	5.26E-08	5.31E-08
Eu-154	1.35E-06	8.73E-04	0.481	5.87E-08	5.87E-08	1.37E-06	1.44E-06
Eu-155	4.22E-06	2.72E-03	1.50	4.63E-07	4.63E-07	4.26E-06	4.29E-06
Ra-226	2.29E-11	1.48E-08	8.14E-06	2.81E-12	2.81E-12	5.71E-11	4.22E-11
Ra-228	2.37E-16	1.53E-13	8.44E-11	4.16E-17	4.16E-17	2.39E-16	2.41E-16
Ac-227	1.17E-10	7.52E-08	4.15E-05	1.42E-11	1.42E-11	2.23E-10	2.23E-10
Pa-231	2.51E-10	1.62E-07	8.92E-05	2.95E-11	2.95E-11	2.54E-10	2.65E-10
Th-229	4.60E-14	2.96E-11	1.64E-08	8.03E-15	8.03E-15	4.63E-14	4.66E-14
Th-232	1.05E-16	6.77E-14	3.74E-11	9.74E-18	9.74E-18	1.06E-16	1.11E-16
U-232	1.38E-10	8.90E-08	4.91E-05	1.19E-10	1.29E-10	1.47E-10	1.53E-10
U-233	7.41E-12	4.78E-09	2.63E-06	6.49E-12	6.97E-12	7.84E-12	8.12E-12
U-234	9.05E-06	5.84E-03	3.22	8.15E-06	8.61E-06	9.49E-06	9.78E-06
U-235	4.05E-07	2.61E-04	0.144	3.65E-07	3.85E-07	4.25E-07	4.38E-07
U-236	6.75E-08	4.35E-05	2.40E-02	5.90E-08	6.34E-08	7.15E-08	7.41E-08
U-238	9.17E-06	5.92E-03	3.26	8.26E-06	8.73E-06	9.62E-06	9.92E-06
Np-237	1.55E-08	9.97E-06	5.50E-03	3.80E-09	1.03E-08	2.42E-08	2.20E-08
Pu-238	1.91E-07	1.23E-04	6.78E-02	3.49E-08	7.85E-08	2.73E-07	2.85E-07
Pu-239	3.69E-05	2.38E-02	13.1	9.99E-06	1.80E-05	4.98E-05	5.16E-05
Pu-240	2.75E-06	1.78E-03	0.980	6.13E-07	1.23E-06	3.84E-06	4.00E-06
Pu-241	6.13E-06	3.96E-03	2.18	5.74E-07	2.04E-06	9.30E-06	9.82E-06
Pu-242	2.68E-11	1.73E-08	9.53E-06	2.09E-12	8.56E-12	4.10E-11	4.33E-11
Am-241	5.98E-07	3.86E-04	0.213	7.23E-08	3.54E-07	9.84E-07	8.98E-07
Am-243	4.08E-12	2.63E-09	1.45E-06	4.11E-13	2.37E-12	6.77E-12	6.18E-12
Cm-242	8.99E-10	5.80E-07	3.20E-04	1.23E-11	1.23E-11	9.08E-10	9.16E-10
Cm-243	1.83E-11	1.18E-08	6.52E-06	1.82E-13	1.82E-13	1.85E-11	1.87E-11
Cm-244	9.60E-11	6.19E-08	3.41E-05	4.66E-13	4.66E-13	9.70E-11	1.02E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.06E-04 (g/L)	----	0.216	1.63E-04	2.95E-04	8.19E-04	8.47E-04
U	0.115	1.77E+04	9.78E+03	0.104	0.110	0.121	0.125

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.98E+05 (kg)	(97.0 kgal)	----	----	----	----	----
Heat Load	9.92E-02 (kW)	(339 BTU/hr)	----	2.16E-02	3.95E-02	0.151	0.249
Bulk Density	1.63 (g/cc)	----	----	1.14	1.24	1.69	1.76
Void Fraction	0.625	----	----	0.437	0.589	0.928	0.965
Water wt%	41.6	----	----	36.8	39.5	70.0	80.3
TOC wt% C (wet)	1.49E-04	----	----	3.24E-06	1.03E-04	2.46E-04	2.17E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.1	1.57E+05	9.37E+04	1.73	3.75	12.2	13.5
Al^{3+}	0.799	1.32E+04	7.91E+03	0.754	0.777	0.821	0.843
Fe^{3+} (total Fe)	0.163	5.58E+03	3.34E+03	0.140	0.158	0.165	0.167
Cr^{3+}	5.07E-03	162	96.8	3.49E-03	4.95E-03	6.60E-03	5.74E-03
Bi^{3+}	1.56E-02	2.00E+03	1.19E+03	7.59E-03	1.29E-02	1.71E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	8.10E-04	99.7	59.6	6.94E-04	7.83E-04	8.22E-04	8.29E-04
Zr (as $ZrO(OH)_2$)	1.30E-04	7.27	4.35	1.16E-04	1.29E-04	1.60E-04	1.40E-04
Pb^{2+}	4.37E-02	5.55E+03	3.32E+03	2.51E-02	3.94E-02	4.56E-02	4.69E-02
Ni^{2+}	7.41E-03	267	160	1.00E-03	1.60E-03	9.24E-03	9.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.105	2.57E+03	1.54E+03	4.97E-02	8.06E-02	0.116	0.122
K^{+}	1.33E-02	319	191	5.01E-03	1.02E-02	1.99E-02	1.77E-02
OH^{-}	3.59	3.74E+04	2.24E+04	3.16	3.41	3.72	3.83
$NO3^{-}$	7.59	2.89E+05	1.73E+05	0.931	1.90	7.75	8.00
$NO2^{-}$	0.237	6.68E+03	4.00E+03	0.102	0.154	0.333	0.303
$CO3^{2-}$	0.206	7.59E+03	4.54E+03	5.18E-02	0.141	0.281	0.307
$PO4^{3-}$	0.858	5.00E+04	2.99E+04	0.110	0.371	0.998	1.03
$SO4^{2-}$	0.115	6.75E+03	4.04E+03	4.02E-02	8.62E-02	0.183	0.594
Si (as SiO_x^{2-})	3.55E-02	613	367	2.30E-02	2.15E-02	5.32E-02	6.97E-02
F^{-}	8.87E-02	1.03E+03	619	7.73E-02	8.79E-02	0.111	9.54E-02
Cl^{-}	7.40E-02	1.61E+03	963	2.32E-02	5.39E-02	0.325	0.353
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.69E-05	2.18	1.31	2.56E-07	8.90E-06	2.89E-05	2.65E-05
butanol	1.69E-05	0.769	0.460	2.56E-07	8.90E-06	2.89E-05	2.65E-05
NH_3	4.46E-02	465	278	4.13E-02	4.43E-02	5.44E-02	4.80E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.74E+05 (kg)	(30.0 kgal)	----	----	----	----	----
Heat Load	0.107 (kW)	(365 BTU/hr)	----	5.70E-02	7.81E-02	0.133	0.171
Bulk Density*	1.54 (g/cc)	----	----	1.36	1.47	1.59	1.61
Water wt%	42.0	----	----	35.3	37.6	47.1	53.9
TOC wt% C (wet)	0.719	----	----	0.557	0.618	0.830	1.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.3	1.69E+05	2.95E+04	7.85	9.67	12.8	13.6
Al^{3+}	1.88	3.30E+04	5.75E+03	1.08	1.70	1.95	2.02
Fe^{3+} (total Fe)	2.35E-03	85.4	14.9	1.30E-03	1.81E-03	2.88E-03	3.40E-03
Cr^{3+}	8.34E-02	2.82E+03	492	5.39E-02	6.66E-02	9.98E-02	0.123
Bi^{3+}	1.36E-03	185	32.3	1.15E-03	1.25E-03	1.47E-03	1.63E-03
La^{3+}	3.10E-06	0.281	4.89E-02	2.01E-06	2.49E-06	3.78E-06	4.76E-06
Hg^{2+}	1.17E-05	1.53	0.267	1.06E-05	1.12E-05	1.23E-05	1.29E-05
Zr (as $ZrO(OH)_2$)	5.15E-05	3.06	0.534	3.32E-05	4.02E-05	6.23E-05	8.00E-05
Pb^{2+}	1.88E-03	253	44.2	1.02E-03	1.44E-03	2.32E-03	2.73E-03
Ni^{2+}	2.11E-03	80.8	14.1	1.90E-03	2.00E-03	2.22E-03	2.33E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.92E-03	176	30.7	3.63E-03	4.26E-03	5.57E-03	6.21E-03
Ca^{2+}	1.06E-02	276	48.1	6.44E-03	8.46E-03	1.27E-02	1.47E-02
K^{+}	6.04E-02	1.54E+03	268	3.42E-02	4.52E-02	7.81E-02	0.102
OH^{-}	9.15	1.01E+05	1.77E+04	5.36	8.09	9.51	10.1
$NO3^{-}$	3.29	1.33E+05	2.31E+04	2.66	2.97	3.60	3.91
$NO2^{-}$	2.53	7.59E+04	1.32E+04	1.15	1.73	3.40	3.64
$CO3^{2-}$	0.435	1.70E+04	2.97E+03	0.358	0.408	0.462	0.487
$PO4^{3-}$	0.104	6.44E+03	1.12E+03	6.87E-02	8.41E-02	0.120	0.141
$SO4^{2-}$	0.293	1.83E+04	3.19E+03	0.131	0.198	0.404	0.411
Si (as SiO_x^{2-})	3.99E-02	730	127	2.02E-02	2.99E-02	5.00E-02	5.97E-02
F^{-}	8.44E-02	1.04E+03	182	5.64E-02	6.80E-02	0.103	0.130
Cl^{-}	0.200	4.60E+03	803	0.106	0.148	0.209	0.209
$C_6H_5O_7^{3-}$	3.63E-02	4.46E+03	778	2.82E-02	3.16E-02	4.12E-02	4.91E-02
$EDTA^{4-}$	8.14E-03	1.53E+03	266	5.62E-03	6.71E-03	9.68E-03	1.20E-02
$HEDTA^{3-}$	1.10E-03	196	34.2	2.60E-04	6.39E-04	1.61E-03	2.30E-03
$glycolate^{-}$	2.55E-02	1.25E+03	217	1.01E-02	1.70E-02	3.50E-02	4.77E-02
$acetate^{-}$	4.84E-02	1.86E+03	324	3.51E-02	4.08E-02	5.66E-02	6.92E-02
$oxalate^{2-}$	4.06E-06	0.233	4.06E-02	3.60E-06	3.79E-06	4.33E-06	4.88E-06
DBP	3.85E-02	5.27E+03	919	2.60E-02	3.14E-02	4.62E-02	5.76E-02
butanol	3.85E-02	1.86E+03	324	2.60E-02	3.14E-02	4.62E-02	5.76E-02
NH_3	2.04E-02	226	39.4	7.92E-03	1.25E-02	3.10E-02	4.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.73E+05 (kg)	(127 kgal)	----	----	----	----	----
Heat Load	0.206 (kW)	(704 BTU/hr)	----	0.129	0.147	0.258	0.356
Bulk Density†	1.61 (g/cc)	----	----	1.23	1.31	1.65	1.71
Water wt%†	41.7	----	----	37.9	40.1	62.2	69.0
TOC wt% C (wet)†	0.162	----	----	0.114	0.135	0.199	0.238

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.1	1.59E+05	1.23E+05	3.99	5.53	12.0	13.0
Al^{3+}	1.05	1.77E+04	1.37E+04	0.866	1.01	1.07	1.09
Fe^{3+} (total Fe)	0.125	4.34E+03	3.36E+03	0.107	0.121	0.127	0.128
Cr^{3+}	2.36E-02	763	589	1.66E-02	1.96E-02	2.75E-02	3.29E-02
Bi^{3+}	1.22E-02	1.59E+03	1.23E+03	6.12E-03	1.02E-02	1.34E-02	1.42E-02
La^{3+}	7.33E-07	6.33E-02	4.89E-02	4.75E-07	5.87E-07	8.92E-07	1.12E-06
Hg^{2+}	6.21E-04	77.5	59.9	5.32E-04	6.01E-04	6.31E-04	6.36E-04
Zr (as $ZrO(OH)_2$)	1.11E-04	6.32	4.88	1.01E-04	1.09E-04	1.34E-04	1.19E-04
Pb^{2+}	3.38E-02	4.36E+03	3.37E+03	1.96E-02	3.05E-02	3.53E-02	3.63E-02
Ni^{2+}	6.16E-03	225	174	1.26E-03	1.72E-03	7.55E-03	7.91E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.16E-03	39.7	30.7	8.57E-04	1.01E-03	1.32E-03	1.47E-03
Ca^{2+}	8.24E-02	2.05E+03	1.59E+03	4.05E-02	6.41E-02	9.09E-02	9.56E-02
K^{+}	2.44E-02	594	459	1.81E-02	2.08E-02	2.95E-02	3.43E-02
OH^{-}	4.90	5.18E+04	4.00E+04	4.01	4.65	5.00	5.11
$NO3^{-}$	6.57	2.53E+05	1.96E+05	1.49	2.23	6.69	6.89
$NO2^{-}$	0.779	2.23E+04	1.72E+04	0.452	0.590	0.984	1.04
$CO3^{2-}$	0.260	9.72E+03	7.51E+03	0.142	0.210	0.318	0.337
$PO4^{3-}$	0.680	4.02E+04	3.10E+04	0.109	0.308	0.787	0.814
$SO4^{2-}$	0.157	9.36E+03	7.23E+03	9.98E-02	0.134	0.209	0.523
Si (as SiO_x^{2-})	3.66E-02	639	494	2.70E-02	2.59E-02	5.00E-02	6.26E-02
F^{-}	8.77E-02	1.04E+03	801	7.90E-02	8.38E-02	0.104	9.84E-02
Cl^{-}	0.104	2.29E+03	1.77E+03	6.49E-02	8.83E-02	0.295	0.316
$C_6H_5O_7^{3-}$	8.56E-03	1.01E+03	778	6.66E-03	7.46E-03	9.73E-03	1.16E-02
$EDTA^{4-}$	1.92E-03	345	266	1.33E-03	1.58E-03	2.29E-03	2.83E-03
$HEDTA^{3-}$	2.59E-04	44.2	34.2	6.14E-05	1.51E-04	3.81E-04	5.44E-04
$glycolate^{-}$	6.03E-03	281	217	2.39E-03	4.02E-03	8.26E-03	1.13E-02
$acetate^{-}$	1.14E-02	420	324	8.28E-03	9.63E-03	1.34E-02	1.63E-02
$oxalate^{2-}$	9.60E-07	5.26E-02	4.06E-02	8.50E-07	8.96E-07	1.02E-06	1.15E-06
DBP	9.11E-03	1.19E+03	920	6.16E-03	7.44E-03	1.09E-02	1.36E-02
butanol	9.11E-03	420	325	6.16E-03	7.44E-03	1.09E-02	1.36E-02
NH_3	3.89E-02	411	318	3.59E-02	3.70E-02	4.64E-02	4.52E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.98E+05 (kg)	(97.0 kgal)	----	----	----	----	----
Heat Load	9.92E-02 (kW)	(339 BTU/hr)	----	2.16E-02	3.95E-02	0.151	0.249
Bulk Density	1.63 (g/cc)	----	----	1.14	1.24	1.69	1.76
Void Fraction	0.625	----	----	0.437	0.589	0.928	0.965
Water wt%	41.6	----	----	36.8	39.5	70.0	80.3
TOC wt% C (wet)	1.49E-04	----	----	3.24E-06	1.03E-04	2.46E-04	2.17E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.16E-06	1.94E-03	1.16	7.42E-08	7.42E-08	3.32E-06	3.59E-06
C-14	4.60E-07	2.82E-04	0.169	1.04E-08	1.04E-08	4.64E-07	4.88E-07
Ni-59	5.48E-07	3.36E-04	0.201	2.94E-09	2.94E-09	5.74E-07	5.95E-07
Ni-63	4.93E-05	3.02E-02	18.1	2.95E-07	2.95E-07	5.17E-05	5.35E-05
Co-60	1.14E-07	7.01E-05	4.19E-02	1.52E-08	1.52E-08	1.19E-07	1.25E-07
Se-79	9.71E-08	5.96E-05	3.57E-02	2.31E-09	2.31E-09	9.80E-08	1.03E-07
Sr-90	1.09E-02	6.68	4.00E+03	4.88E-03	8.95E-03	1.57E-02	4.25E-02
Y-90	1.09E-02	6.69	4.00E+03	2.46E-04	2.46E-04	1.10E-02	1.16E-02
Zr-93	4.61E-07	2.83E-04	0.169	1.09E-08	1.09E-08	4.66E-07	4.90E-07
Nb-93m	3.89E-07	2.39E-04	0.143	7.95E-09	7.95E-09	3.92E-07	4.13E-07
Tc-99	3.20E-06	1.96E-03	1.17	6.34E-07	2.06E-06	5.11E-06	4.64E-06
Ru-106	2.51E-11	1.54E-08	9.21E-06	7.58E-12	1.64E-11	3.38E-11	4.23E-11
Cd-113m	1.14E-06	6.97E-04	0.417	5.28E-08	5.28E-08	1.15E-06	1.21E-06
Sb-125	1.72E-07	1.05E-04	6.31E-02	8.26E-08	8.26E-08	2.01E-07	2.29E-07
Sn-126	1.46E-07	8.96E-05	5.36E-02	3.53E-09	3.53E-09	1.47E-07	1.55E-07
I-129	6.02E-09	3.69E-06	2.21E-03	1.19E-09	3.88E-09	9.62E-09	8.74E-09
Cs-134	7.86E-09	4.82E-06	2.89E-03	4.03E-09	5.48E-09	9.77E-09	1.16E-08
Cs-137	4.20E-02	25.8	1.54E+04	5.52E-03	1.01E-02	6.54E-02	8.36E-02
Ba-137m	3.97E-02	24.4	1.46E+04	2.68E-04	2.68E-04	4.19E-02	4.43E-02
Sm-151	3.62E-04	0.222	133	8.34E-06	8.34E-06	3.65E-04	3.84E-04
Eu-152	1.54E-07	9.48E-05	5.67E-02	8.78E-08	8.78E-08	1.55E-07	1.56E-07
Eu-154	2.06E-06	1.26E-03	0.755	3.00E-07	3.00E-07	2.16E-06	2.26E-06
Eu-155	1.14E-05	6.98E-03	4.17	6.26E-06	6.26E-06	1.14E-05	1.15E-05
Ra-226	2.74E-11	1.68E-08	1.01E-05	1.51E-13	1.51E-13	7.38E-11	5.37E-11
Ra-228	7.21E-09	4.43E-06	2.65E-03	7.10E-09	7.16E-09	7.27E-09	7.32E-09
Ac-227	2.22E-08	1.36E-05	8.16E-03	1.81E-08	2.13E-08	2.28E-08	2.34E-08
Pa-231	3.30E-08	2.03E-05	1.21E-02	9.79E-09	2.77E-08	3.63E-08	3.94E-08
Th-229	3.27E-09	2.00E-06	1.20E-03	3.22E-09	3.24E-09	3.29E-09	3.32E-09
Th-232	3.36E-10	2.06E-07	1.23E-04	1.01E-10	2.19E-10	4.54E-10	5.67E-10
U-232	3.72E-07	2.28E-04	0.137	4.52E-09	2.01E-07	4.52E-07	4.96E-07
U-233	1.45E-06	8.87E-04	0.531	1.72E-08	7.80E-07	1.75E-06	1.93E-06
U-234	6.39E-06	3.92E-03	2.35	4.47E-06	5.50E-06	6.99E-06	7.39E-06
U-235	2.77E-07	1.70E-04	0.102	1.98E-07	2.40E-07	3.04E-07	3.21E-07
U-236	9.99E-08	6.13E-05	3.67E-02	4.23E-08	7.31E-08	1.12E-07	1.19E-07
U-238	6.35E-06	3.90E-03	2.33	4.54E-06	5.51E-06	6.96E-06	7.36E-06
Np-237	1.98E-08	1.21E-05	7.26E-03	3.96E-09	1.28E-08	3.16E-08	2.87E-08
Pu-238	8.55E-06	5.25E-03	3.14	6.11E-06	8.00E-06	8.90E-06	9.22E-06
Pu-239	3.89E-04	0.239	143	2.87E-04	3.63E-04	4.06E-04	4.17E-04
Pu-240	6.49E-05	3.98E-02	23.8	4.68E-05	6.08E-05	6.74E-05	6.99E-05
Pu-241	6.75E-04	0.414	248	4.79E-04	6.30E-04	7.02E-04	7.28E-04
Pu-242	1.91E-09	1.17E-06	7.02E-04	1.36E-09	1.79E-09	1.99E-09	2.06E-09
Am-241	8.61E-07	5.29E-04	0.316	1.48E-07	5.31E-07	1.39E-06	1.27E-06
Am-243	6.18E-12	3.79E-09	2.27E-06	1.20E-12	3.86E-12	9.83E-12	9.03E-12
Cm-242	2.47E-09	1.52E-06	9.08E-04	1.27E-09	1.27E-09	2.48E-09	2.50E-09
Cm-243	5.96E-11	3.66E-08	2.19E-05	3.50E-11	3.50E-11	5.99E-11	6.01E-11
Cm-244	1.56E-10	9.55E-08	5.72E-05	2.61E-11	2.61E-11	1.65E-10	1.74E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.54E-03 (g/L)	----	2.40	4.83E-03	6.12E-03	6.83E-03	7.02E-03
U	8.00E-02	1.17E+04	6.99E+03	5.71E-02	6.93E-02	8.77E-02	9.27E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.74E+05 (kg)	(30.0 kgal)	----	----	----	----	----
Heat Load	0.107 (kW)	(365 BTU/hr)	----	5.70E-02	7.81E-02	0.133	0.171
Bulk Density*	1.54 (g/cc)	----	----	1.36	1.47	1.59	1.61
Water wt%†	42.0	----	----	35.3	37.6	47.1	53.9
TOC wt% C (wet)	0.719	----	----	0.557	0.618	0.830	1.01

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.98E-04	0.129	22.5	0	0	2.00E-04	2.01E-04
C-14	3.27E-05	2.13E-02	3.71	0	0	3.46E-05	3.65E-05
Ni-59	5.67E-07	3.69E-04	6.43E-02	0	0	6.07E-07	6.45E-07
Ni-63	5.62E-05	3.66E-02	6.39	0	0	6.02E-05	6.40E-05
Co-60	4.82E-05	3.14E-02	5.48	0	0	4.85E-05	4.86E-05
Se-79	2.35E-06	1.53E-03	0.267	0	0	3.20E-06	4.01E-06
Sr-90	3.99E-02	26.0	4.53E+03	3.42E-02	3.70E-02	4.29E-02	4.57E-02
Y-90	3.99E-02	26.0	4.53E+03	0	0	4.29E-02	4.57E-02
Zr-93	1.17E-05	7.64E-03	1.33	0	0	1.60E-05	2.01E-05
Nb-93m	8.22E-06	5.35E-03	0.933	0	0	1.12E-05	1.40E-05
Tc-99	2.87E-04	0.187	32.6	1.16E-04	1.92E-04	3.93E-04	5.36E-04
Ru-106	5.87E-09	3.82E-06	6.66E-04	0	0	7.99E-09	1.00E-08
Cd-113m	7.04E-05	4.59E-02	8.00	0	0	9.59E-05	1.20E-04
Sb-125	2.16E-04	0.141	24.5	0	0	2.17E-04	2.18E-04
Sn-126	3.52E-06	2.29E-03	0.400	0	0	4.80E-06	6.02E-06
I-129	5.56E-07	3.62E-04	6.31E-02	2.24E-07	3.72E-07	7.61E-07	1.04E-06
Cs-134	1.48E-06	9.64E-04	0.168	0	0	1.48E-06	1.49E-06
Cs-137	0.144	93.6	1.63E+04	4.98E-02	8.94E-02	0.192	0.264
Ba-137m	0.136	88.5	1.54E+04	0	0	0.136	0.137
Sm-151	8.22E-03	5.35	933	0	0	1.12E-02	1.40E-02
Eu-152	2.03E-06	1.32E-03	0.230	0	0	2.04E-06	2.04E-06
Eu-154	5.87E-04	0.382	66.6	0	0	7.99E-04	1.00E-03
Eu-155	1.23E-04	8.00E-02	13.9	0	0	1.23E-04	1.24E-04
Ra-226	7.28E-11	4.74E-08	8.26E-06	0	0	9.91E-11	1.24E-10
Ra-228	7.70E-07	5.02E-04	8.75E-02	0	0	7.81E-07	7.92E-07
Ac-227	4.23E-10	2.75E-07	4.80E-05	0	0	5.76E-10	7.22E-10
Pa-231	2.35E-09	1.53E-06	2.67E-04	0	0	3.20E-09	4.01E-09
Th-229	1.78E-08	1.16E-05	2.02E-03	0	0	1.80E-08	1.83E-08
Th-232	9.52E-08	6.20E-05	1.08E-02	0	0	1.21E-07	1.46E-07
U-232	1.65E-06	1.08E-03	0.188	9.31E-07	1.22E-06	2.15E-06	2.67E-06
U-233	6.33E-06	4.12E-03	0.719	3.57E-06	4.67E-06	8.23E-06	1.02E-05
U-234	4.48E-07	2.92E-04	5.09E-02	4.07E-07	4.27E-07	4.70E-07	4.90E-07
U-235	1.66E-08	1.08E-05	1.88E-03	1.49E-08	1.58E-08	1.75E-08	1.83E-08
U-236	1.49E-08	9.72E-06	1.69E-03	1.34E-08	1.42E-08	1.57E-08	1.64E-08
U-238	9.39E-07	6.11E-04	0.107	8.99E-07	9.19E-07	9.60E-07	1.06E-06
Np-237	9.63E-07	6.27E-04	0.109	4.09E-07	6.55E-07	1.31E-06	1.77E-06
Pu-238	3.73E-07	2.43E-04	4.23E-02	1.63E-07	2.63E-07	4.84E-07	5.90E-07
Pu-239	1.33E-05	8.69E-03	1.52	6.27E-06	9.71E-06	1.70E-05	2.04E-05
Pu-240	2.29E-06	1.49E-03	0.260	1.05E-06	1.65E-06	2.93E-06	3.55E-06
Pu-241	2.69E-05	1.75E-02	3.05	1.17E-05	1.89E-05	3.49E-05	4.26E-05
Pu-242	1.29E-10	8.42E-08	1.47E-05	5.67E-11	9.12E-11	1.68E-10	2.05E-10
Am-241	3.52E-05	2.29E-02	4.00	1.02E-05	2.25E-05	4.80E-05	6.02E-05
Am-243	1.22E-09	7.94E-07	1.38E-04	3.14E-10	7.44E-10	1.72E-09	2.21E-09
Cm-242	2.60E-10	1.69E-07	2.95E-05	0	0	2.64E-10	2.67E-10
Cm-243	5.31E-12	3.45E-09	6.02E-07	0	0	5.39E-12	5.46E-12
Cm-244	3.09E-10	2.01E-07	3.51E-05	0	0	3.14E-10	3.18E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.74E-04 (g/L)	----	1.97E-02	5.06E-05	1.11E-04	2.37E-04	2.97E-04
U	4.70E-03	728	127	4.23E-03	4.46E-03	4.94E-03	5.17E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.73E+05 (kg)	(127 kgal)	----	----	----	----	----
Heat Load	0.206 (kW)	(704 BTU/hr)	----	0.129	0.147	0.258	0.356
Bulk Density†	1.61 (g/cc)	----	----	1.23	1.31	1.65	1.71
Water wt%†	41.7	----	----	37.9	40.1	62.2	69.0
TOC wt% C (wet)†	0.162	----	----	0.114	0.135	0.199	0.238

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.91E-05	3.06E-02	23.6	2.42E-06	2.42E-06	4.97E-05	5.00E-05
C-14	8.07E-06	5.02E-03	3.88	3.51E-07	3.51E-07	8.53E-06	8.98E-06
Ni-59	5.52E-07	3.44E-04	0.265	1.36E-07	1.36E-07	5.73E-07	5.88E-07
Ni-63	5.09E-05	3.17E-02	24.5	1.35E-05	1.35E-05	5.28E-05	5.42E-05
Co-60	1.15E-05	7.14E-03	5.52	8.72E-08	8.72E-08	1.15E-05	1.16E-05
Se-79	6.29E-07	3.91E-04	0.302	7.42E-08	7.42E-08	8.30E-07	1.02E-06
Sr-90	1.77E-02	11.0	8.53E+03	1.32E-02	1.63E-02	2.15E-02	4.19E-02
Y-90	1.78E-02	11.0	8.53E+03	8.32E-03	8.32E-03	1.84E-02	1.91E-02
Zr-93	3.13E-06	1.94E-03	1.50	3.52E-07	3.52E-07	4.13E-06	5.09E-06
Nb-93m	2.24E-06	1.39E-03	1.08	2.97E-07	2.97E-07	2.94E-06	3.62E-06
Tc-99	7.03E-05	4.37E-02	33.8	2.99E-05	4.79E-05	9.52E-05	1.29E-04
Ru-106	1.41E-09	8.75E-07	6.76E-04	1.92E-11	1.92E-11	1.91E-09	2.39E-09
Cd-113m	1.75E-05	1.09E-02	8.41	8.67E-07	8.67E-07	2.35E-05	2.93E-05
Sb-125	5.12E-05	3.19E-02	24.6	1.31E-07	1.31E-07	5.14E-05	5.16E-05
Sn-126	9.43E-07	5.87E-04	0.453	1.11E-07	1.11E-07	1.24E-06	1.53E-06
I-129	1.36E-07	8.45E-05	6.53E-02	5.75E-08	9.26E-08	1.84E-07	2.50E-07
Cs-134	3.56E-07	2.21E-04	0.171	6.00E-09	6.00E-09	3.57E-07	3.59E-07
Cs-137	6.60E-02	41.1	3.17E+04	3.82E-02	4.17E-02	8.39E-02	9.78E-02
Ba-137m	6.25E-02	38.9	3.00E+04	3.03E-02	3.03E-02	6.41E-02	6.60E-02
Sm-151	2.22E-03	1.38	1.07E+03	2.76E-04	2.76E-04	2.92E-03	3.59E-03
Eu-152	5.97E-07	3.71E-04	0.287	1.18E-07	1.18E-07	5.99E-07	6.00E-07
Eu-154	1.40E-04	8.72E-02	67.4	1.57E-06	1.57E-06	1.90E-04	2.39E-04
Eu-155	3.77E-05	2.34E-02	18.1	8.68E-06	8.68E-06	3.78E-05	3.79E-05
Ra-226	3.81E-11	2.37E-08	1.83E-05	1.73E-11	1.73E-11	7.36E-11	5.82E-11
Ra-228	1.87E-07	1.17E-04	9.01E-02	5.51E-09	5.51E-09	1.90E-07	1.93E-07
Ac-227	1.71E-08	1.06E-05	8.21E-03	1.39E-08	1.63E-08	1.75E-08	1.80E-08
Pa-231	2.58E-08	1.60E-05	1.24E-02	8.03E-09	2.17E-08	2.83E-08	3.06E-08
Th-229	6.70E-09	4.17E-06	3.22E-03	2.49E-09	2.49E-09	6.75E-09	6.81E-09
Th-232	2.27E-08	1.42E-05	1.09E-02	2.57E-10	2.57E-10	2.89E-08	3.48E-08
U-232	6.75E-07	4.20E-04	0.324	3.94E-07	5.44E-07	7.91E-07	9.16E-07
U-233	2.60E-06	1.62E-03	1.25	1.51E-06	2.09E-06	3.05E-06	3.52E-06
U-234	4.99E-06	3.10E-03	2.40	3.52E-06	4.30E-06	5.45E-06	5.75E-06
U-235	2.16E-07	1.34E-04	0.104	1.55E-07	1.87E-07	2.36E-07	2.49E-07
U-236	7.99E-08	4.97E-05	3.84E-02	3.58E-08	5.93E-08	8.94E-08	9.47E-08
U-238	5.07E-06	3.16E-03	2.44	3.69E-06	4.43E-06	5.54E-06	5.85E-06
Np-237	2.43E-07	1.51E-04	0.117	1.12E-07	1.70E-07	3.24E-07	4.34E-07
Pu-238	6.62E-06	4.12E-03	3.18	4.76E-06	6.19E-06	6.88E-06	7.13E-06
Pu-239	3.00E-04	0.187	144	2.22E-04	2.80E-04	3.13E-04	3.21E-04
Pu-240	5.01E-05	3.12E-02	24.1	3.63E-05	4.70E-05	5.21E-05	5.39E-05
Pu-241	5.22E-04	0.325	251	3.72E-04	4.87E-04	5.42E-04	5.63E-04
Pu-242	1.49E-09	9.27E-07	7.16E-04	1.07E-09	1.39E-09	1.55E-09	1.61E-09
Am-241	8.98E-06	5.59E-03	4.32	3.08E-06	5.97E-06	1.20E-05	1.49E-05
Am-243	2.93E-10	1.82E-07	1.41E-04	7.89E-11	1.81E-10	4.10E-10	5.27E-10
Cm-242	1.95E-09	1.21E-06	9.37E-04	1.03E-09	1.03E-09	1.96E-09	1.97E-09
Cm-243	4.68E-11	2.91E-08	2.25E-05	2.80E-11	2.80E-11	4.70E-11	4.72E-11
Cm-244	1.92E-10	1.19E-07	9.22E-05	9.29E-11	9.29E-11	1.99E-10	2.06E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.04E-03 (g/L)	----	2.42	3.73E-03	4.72E-03	5.26E-03	5.40E-03
U	6.22E-02	9.21E+03	7.11E+03	4.48E-02	5.41E-02	6.81E-02	7.19E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.12E+06 (kg)	(246 kgal)	----	----	----	----	----
Heat Load	1.28 (kW)	(4.38E+03 BTU/hr)	----	1.13	1.24	1.31	1.33
Bulk Density	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.841	----	----	0.759	0.795	0.899	0.958
Water wt%	75.0	----	----	70.2	72.3	78.1	81.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.96	5.67E+04	6.35E+04	1.43	2.20	3.71	4.36
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.681	3.17E+04	3.54E+04	0.671	0.676	0.686	0.692
Cr^{3+}	4.07E-03	176	197	3.57E-03	3.82E-03	4.32E-03	4.56E-03
Bi^{3+}	7.03E-02	1.22E+04	1.37E+04	5.52E-02	6.34E-02	7.57E-02	7.98E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.05E-03	100	112	1.36E-03	1.76E-03	2.72E-03	4.23E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.199	6.63E+03	7.41E+03	0.158	0.178	0.219	0.239
K^{+}	4.44E-03	145	162	4.05E-03	4.27E-03	4.62E-03	4.78E-03
OH^{-}	2.11	2.98E+04	3.33E+04	2.07	2.09	2.14	2.17
$NO3^{-}$	0.813	4.19E+04	4.69E+04	0.743	0.781	0.844	0.873
$NO2^{-}$	2.51E-02	962	1.08E+03	2.07E-02	2.29E-02	2.74E-02	2.95E-02
$CO3^{2-}$	0.199	9.92E+03	1.11E+04	0.158	0.178	0.219	0.239
$PO4^{3-}$	0.648	5.12E+04	5.73E+04	0.175	0.418	0.818	0.943
$SO4^{2-}$	3.44E-02	2.75E+03	3.08E+03	3.15E-02	3.32E-02	3.57E-02	3.69E-02
Si (as SiO_x^{2-})	7.14E-02	1.67E+03	1.87E+03	4.06E-02	4.20E-02	0.140	0.205
F^{-}	0.145	2.28E+03	2.56E+03	0.131	0.139	0.321	0.616
Cl^{-}	2.04E-02	603	674	1.86E-02	1.97E-02	2.12E-02	2.20E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.29E-03	46.6	52.1	1.30E-03	2.32E-03	4.29E-03	5.26E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.20E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.12E+06 (kg)	(246 kgal)	----	----	----	----	----
Heat Load	1.28 (kW)	(4.38E+03 BTU/hr)	----	1.13	1.24	1.31	1.33
Bulk Density†	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Water wt%†	75.0	----	----	70.2	72.3	78.1	81.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.96	5.67E+04	6.35E+04	1.43	2.20	3.71	4.36
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.681	3.17E+04	3.54E+04	0.671	0.676	0.686	0.692
Cr^{3+}	4.07E-03	176	197	3.57E-03	3.82E-03	4.32E-03	4.56E-03
Bi^{3+}	7.03E-02	1.22E+04	1.37E+04	5.52E-02	6.34E-02	7.57E-02	7.98E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.05E-03	100	112	1.36E-03	1.76E-03	2.72E-03	4.23E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.199	6.63E+03	7.41E+03	0.158	0.178	0.219	0.239
K^{+}	4.44E-03	145	162	4.05E-03	4.27E-03	4.62E-03	4.78E-03
OH^{-}	2.11	2.98E+04	3.33E+04	2.07	2.09	2.14	2.17
$NO3^{-}$	0.812	4.19E+04	4.69E+04	0.743	0.781	0.844	0.873
$NO2^{-}$	2.51E-02	962	1.08E+03	2.07E-02	2.29E-02	2.74E-02	2.95E-02
$CO3^{2-}$	0.199	9.92E+03	1.11E+04	0.158	0.178	0.219	0.239
$PO4^{3-}$	0.648	5.12E+04	5.73E+04	0.175	0.418	0.818	0.943
$SO4^{2-}$	3.44E-02	2.75E+03	3.08E+03	3.15E-02	3.32E-02	3.57E-02	3.69E-02
Si (as SiO_x^{2-})	7.14E-02	1.67E+03	1.87E+03	4.06E-02	4.20E-02	0.140	0.205
F^{-}	0.145	2.28E+03	2.56E+03	0.131	0.139	0.321	0.616
Cl^{-}	2.04E-02	603	674	1.86E-02	1.97E-02	2.12E-02	2.20E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.29E-03	46.6	52.1	1.30E-03	2.32E-03	4.29E-03	5.26E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.12E+06 (kg)	(246 kgal)	----	----	----	----	----
Heat Load	1.28 (kW)	(4.38E+03 BTU/hr)	----	1.13	1.24	1.31	1.33
Bulk Density	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.841	----	----	0.759	0.795	0.899	0.958
Water wt%	75.0	----	----	70.2	72.3	78.1	81.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.59E-06	1.32E-03	1.48	2.49E-07	7.61E-07	2.74E-06	4.15E-06
C-14	3.02E-07	2.51E-04	0.281	1.22E-07	2.12E-07	3.92E-07	4.80E-07
Ni-59	1.44E-06	1.20E-03	1.34	3.38E-08	8.56E-07	1.73E-06	1.89E-06
Ni-63	1.45E-04	0.120	135	3.35E-06	8.59E-05	1.74E-04	1.90E-04
Co-60	4.02E-07	3.34E-04	0.374	1.53E-07	2.78E-07	5.27E-07	3.86E-06
Se-79	1.36E-06	1.13E-03	1.27	1.27E-07	1.04E-06	1.58E-06	1.79E-06
Sr-90	0.198	165	1.85E+05	0.177	0.193	0.201	0.202
Y-90	0.198	165	1.85E+05	0.177	0.193	0.201	0.203
Zr-93	6.25E-06	5.20E-03	5.82	1.23E-07	4.65E-06	7.34E-06	8.38E-06
Nb-93m	4.70E-06	3.91E-03	4.37	3.75E-07	3.58E-06	5.46E-06	6.19E-06
Tc-99	2.14E-06	1.78E-03	1.99	8.60E-07	1.50E-06	2.78E-06	3.40E-06
Ru-106	4.65E-09	3.87E-06	4.33E-03	1.57E-09	3.85E-09	5.20E-09	5.72E-09
Cd-113m	2.68E-05	2.23E-02	24.9	5.65E-07	1.72E-05	3.33E-05	3.96E-05
Sb-125	1.80E-06	1.49E-03	1.67	6.80E-07	1.24E-06	2.36E-06	2.90E-06
Sn-126	2.12E-06	1.77E-03	1.98	2.72E-07	1.64E-06	2.45E-06	2.76E-06
I-129	4.13E-09	3.44E-06	3.85E-03	1.66E-09	2.90E-09	5.37E-09	6.57E-09
Cs-134	9.53E-08	7.93E-05	8.87E-02	3.61E-08	6.57E-08	1.25E-07	1.54E-07
Cs-137	8.86E-03	7.37	8.25E+03	4.15E-03	6.51E-03	1.12E-02	1.35E-02
Ba-137m	8.38E-03	6.97	7.80E+03	3.93E-03	6.16E-03	1.06E-02	1.28E-02
Sm-151	5.08E-03	4.22	4.73E+03	7.54E-04	3.95E-03	5.84E-03	6.57E-03
Eu-152	1.55E-06	1.29E-03	1.45	1.52E-06	1.54E-06	1.57E-06	1.58E-06
Eu-154	8.92E-05	7.42E-02	83.0	2.91E-06	9.12E-06	1.43E-04	1.96E-04
Eu-155	1.16E-04	9.63E-02	108	1.14E-04	1.15E-04	1.17E-04	1.18E-04
Ra-226	9.10E-11	7.57E-08	8.47E-05	5.27E-11	8.11E-11	9.77E-11	1.04E-10
Ra-228	8.49E-16	7.07E-13	7.91E-10	8.34E-16	8.42E-16	8.57E-16	8.65E-16
Ac-227	4.90E-10	4.08E-07	4.56E-04	2.68E-10	4.33E-10	5.29E-10	5.67E-10
Pa-231	1.10E-09	9.18E-07	1.03E-03	2.94E-11	7.83E-10	1.32E-09	1.53E-09
Th-229	1.34E-13	1.11E-10	1.25E-07	1.31E-13	1.33E-13	1.35E-13	1.36E-13
Th-232	7.71E-17	6.42E-14	7.18E-11	3.14E-17	5.43E-17	1.00E-16	1.22E-16
U-232	4.73E-12	3.93E-09	4.40E-06	3.20E-12	3.33E-12	8.98E-12	1.21E-11
U-233	2.57E-13	2.14E-10	2.39E-07	1.65E-13	1.74E-13	5.11E-13	6.98E-13
U-234	3.24E-07	2.69E-04	0.301	1.94E-07	2.06E-07	6.82E-07	9.45E-07
U-235	1.45E-08	1.21E-05	1.35E-02	8.69E-09	9.21E-09	3.06E-08	4.25E-08
U-236	2.35E-09	1.95E-06	2.19E-03	1.52E-09	1.60E-09	4.64E-09	6.32E-09
U-238	3.28E-07	2.73E-04	0.305	1.97E-07	2.09E-07	6.91E-07	9.58E-07
Np-237	4.90E-09	4.07E-06	4.56E-03	2.17E-09	3.54E-09	6.27E-09	7.60E-09
Pu-238	1.54E-06	1.28E-03	1.44	1.31E-06	1.32E-06	1.84E-06	2.13E-06
Pu-239	1.04E-04	8.61E-02	96.4	6.82E-05	7.55E-05	1.41E-04	1.77E-04
Pu-240	1.13E-05	9.39E-03	10.5	8.44E-06	8.54E-06	1.49E-05	1.84E-05
Pu-241	9.48E-05	7.89E-02	88.2	8.00E-05	8.49E-05	1.08E-04	1.21E-04
Pu-242	5.30E-10	4.41E-07	4.93E-04	4.44E-10	4.85E-10	5.90E-10	6.48E-10
Am-241	4.68E-05	3.89E-02	43.6	2.83E-05	4.20E-05	5.01E-05	5.32E-05
Am-243	1.44E-09	1.19E-06	1.34E-03	8.67E-10	1.29E-09	1.54E-09	1.63E-09
Cm-242	4.29E-08	3.57E-05	3.99E-02	4.20E-08	4.25E-08	4.33E-08	4.37E-08
Cm-243	3.29E-09	2.73E-06	3.06E-03	3.22E-09	3.25E-09	3.32E-09	3.35E-09
Cm-244	1.01E-07	8.40E-05	9.40E-02	3.92E-08	8.50E-08	1.12E-07	1.22E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.72E-03 (g/L)	----	1.60	1.14E-03	1.25E-03	2.33E-03	2.93E-03
U	4.13E-03	818	915	2.48E-03	2.63E-03	8.70E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.20E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.12E+06 (kg)	(246 kgal)	----	----	----	----	----
Heat Load	1.28 (kW)	(4.38E+03 BTU/hr)	----	1.13	1.24	1.31	1.33
Bulk Density†	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Water wt%†	75.0	----	----	70.2	72.3	78.1	81.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.59E-06	1.32E-03	1.48	2.49E-07	7.61E-07	2.74E-06	4.15E-06
C-14	3.02E-07	2.51E-04	0.281	1.22E-07	2.12E-07	3.92E-07	4.80E-07
Ni-59	1.44E-06	1.20E-03	1.34	3.38E-08	8.56E-07	1.73E-06	1.89E-06
Ni-63	1.45E-04	0.120	135	3.35E-06	8.59E-05	1.74E-04	1.90E-04
Co-60	4.02E-07	3.34E-04	0.374	1.53E-07	2.78E-07	5.27E-07	3.86E-06
Se-79	1.36E-06	1.13E-03	1.27	1.27E-07	1.04E-06	1.58E-06	1.79E-06
Sr-90	0.198	165	1.85E+05	0.177	0.193	0.201	0.202
Y-90	0.198	165	1.85E+05	0.177	0.193	0.201	0.203
Zr-93	6.25E-06	5.20E-03	5.82	1.23E-07	4.65E-06	7.34E-06	8.38E-06
Nb-93m	4.70E-06	3.91E-03	4.37	3.75E-07	3.58E-06	5.46E-06	6.19E-06
Tc-99	2.14E-06	1.78E-03	1.99	8.60E-07	1.50E-06	2.78E-06	3.40E-06
Ru-106	4.65E-09	3.87E-06	4.33E-03	1.57E-09	3.85E-09	5.20E-09	5.72E-09
Cd-113m	2.68E-05	2.23E-02	24.9	5.65E-07	1.72E-05	3.33E-05	3.96E-05
Sb-125	1.80E-06	1.49E-03	1.67	6.80E-07	1.24E-06	2.36E-06	2.90E-06
Sn-126	2.12E-06	1.77E-03	1.98	2.72E-07	1.64E-06	2.45E-06	2.76E-06
I-129	4.13E-09	3.44E-06	3.85E-03	1.66E-09	2.90E-09	5.37E-09	6.57E-09
Cs-134	9.53E-08	7.93E-05	8.87E-02	3.61E-08	6.57E-08	1.25E-07	1.54E-07
Cs-137	8.86E-03	7.37	8.25E+03	4.15E-03	6.51E-03	1.12E-02	1.35E-02
Ba-137m	8.38E-03	6.97	7.80E+03	3.93E-03	6.16E-03	1.06E-02	1.28E-02
Sm-151	5.07E-03	4.22	4.73E+03	7.54E-04	3.95E-03	5.84E-03	6.57E-03
Eu-152	1.55E-06	1.29E-03	1.45	1.52E-06	1.54E-06	1.57E-06	1.58E-06
Eu-154	8.92E-05	7.42E-02	83.0	2.91E-06	9.12E-06	1.43E-04	1.96E-04
Eu-155	1.16E-04	9.63E-02	108	1.14E-04	1.15E-04	1.17E-04	1.18E-04
Ra-226	9.10E-11	7.57E-08	8.47E-05	5.27E-11	8.11E-11	9.77E-11	1.04E-10
Ra-228	8.49E-16	7.07E-13	7.91E-10	8.34E-16	8.42E-16	8.57E-16	8.65E-16
Ac-227	4.90E-10	4.08E-07	4.56E-04	2.68E-10	4.33E-10	5.29E-10	5.67E-10
Pa-231	1.10E-09	9.18E-07	1.03E-03	2.94E-11	7.83E-10	1.32E-09	1.53E-09
Th-229	1.34E-13	1.11E-10	1.25E-07	1.31E-13	1.33E-13	1.35E-13	1.36E-13
Th-232	7.71E-17	6.42E-14	7.18E-11	3.14E-17	5.43E-17	1.00E-16	1.22E-16
U-232	4.73E-12	3.93E-09	4.40E-06	3.20E-12	3.33E-12	8.98E-12	1.21E-11
U-233	2.57E-13	2.14E-10	2.39E-07	1.65E-13	1.74E-13	5.11E-13	6.98E-13
U-234	3.24E-07	2.69E-04	0.301	1.94E-07	2.06E-07	6.82E-07	9.45E-07
U-235	1.45E-08	1.21E-05	1.35E-02	8.69E-09	9.21E-09	3.06E-08	4.25E-08
U-236	2.35E-09	1.95E-06	2.19E-03	1.52E-09	1.60E-09	4.64E-09	6.32E-09
U-238	3.28E-07	2.73E-04	0.305	1.97E-07	2.09E-07	6.91E-07	9.58E-07
Np-237	4.90E-09	4.07E-06	4.56E-03	2.17E-09	3.54E-09	6.27E-09	7.60E-09
Pu-238	1.54E-06	1.28E-03	1.44	1.31E-06	1.32E-06	1.84E-06	2.13E-06
Pu-239	1.04E-04	8.61E-02	96.4	6.82E-05	7.55E-05	1.41E-04	1.77E-04
Pu-240	1.13E-05	9.39E-03	10.5	8.44E-06	8.54E-06	1.49E-05	1.84E-05
Pu-241	9.48E-05	7.89E-02	88.2	8.00E-05	8.49E-05	1.08E-04	1.21E-04
Pu-242	5.30E-10	4.41E-07	4.93E-04	4.44E-10	4.85E-10	5.90E-10	6.48E-10
Am-241	4.68E-05	3.89E-02	43.6	2.83E-05	4.20E-05	5.01E-05	5.32E-05
Am-243	1.44E-09	1.19E-06	1.34E-03	8.67E-10	1.29E-09	1.54E-09	1.63E-09
Cm-242	4.29E-08	3.57E-05	3.99E-02	4.20E-08	4.25E-08	4.33E-08	4.37E-08
Cm-243	3.29E-09	2.73E-06	3.06E-03	3.22E-09	3.25E-09	3.32E-09	3.35E-09
Cm-244	1.01E-07	8.40E-05	9.40E-02	3.92E-08	8.50E-08	1.12E-07	1.22E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.72E-03 (g/L)	----	1.60	1.14E-03	1.25E-03	2.33E-03	2.93E-03
U	4.13E-03	818	915	2.48E-03	2.63E-03	8.70E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.03E+06 (kg)	(236 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.77E+04 BTU/hr)	----	9.71	10.6	11.3	11.4
Bulk Density	1.15 (g/cc)	----	----	1.12	1.14	1.16	1.17
Void Fraction	0.928	----	----	0.917	0.922	0.933	0.940
Water wt%	78.7	----	----	76.4	77.5	80.0	81.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.51	3.02E+04	3.10E+04	1.11	1.38	1.64	1.76
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.04	5.04E+04	5.18E+04	1.02	1.03	1.05	1.06
Cr^{3+}	8.66E-03	391	402	7.58E-03	8.11E-03	9.21E-03	9.73E-03
Bi^{3+}	3.64E-02	6.61E+03	6.79E+03	3.36E-03	2.13E-02	4.80E-02	5.70E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	9.45E-03	482	496	3.17E-03	6.84E-03	1.07E-02	1.38E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.275	9.59E+03	9.85E+03	0.187	0.230	0.320	0.364
K^{+}	3.60E-03	122	126	2.86E-03	3.22E-03	3.97E-03	4.33E-03
OH^{-}	3.22	4.75E+04	4.88E+04	3.15	3.18	3.25	3.28
$NO3^{-}$	0.570	3.07E+04	3.15E+04	0.436	0.502	0.637	0.702
$NO2^{-}$	7.58E-02	3.03E+03	3.12E+03	3.56E-02	5.57E-02	9.60E-02	0.116
$CO3^{2-}$	0.275	1.44E+04	1.48E+04	0.187	0.230	0.320	0.364
$PO4^{3-}$	0.124	1.03E+04	1.06E+04	7.05E-02	9.88E-02	0.147	0.166
$SO4^{2-}$	3.85E-02	3.22E+03	3.31E+03	2.97E-02	3.41E-02	4.30E-02	4.73E-02
Si (as SiO_x^{2-})	0.184	4.50E+03	4.62E+03	1.94E-02	0.135	0.209	0.242
F^{-}	9.69E-02	1.60E+03	1.64E+03	7.39E-02	8.52E-02	0.109	0.120
Cl^{-}	1.66E-02	510	524	1.32E-02	1.48E-02	1.83E-02	1.99E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.98E-02	440	452	1.17E-02	2.10E-02	3.87E-02	4.75E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.59E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	3.08E-03 (kW)	(10.5 BTU/hr)	----	1.64E-03	2.25E-03	3.81E-03	4.92E-03
Bulk Density*	1.46 (g/cc)	----	----	1.31	1.40	1.50	1.52
Water wt%	47.9	----	----	41.6	43.8	52.7	59.2
TOC wt% C (wet)	0.645	----	----	0.493	0.552	0.747	0.915

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.60	1.52E+05	847	6.68	8.23	10.9	11.6
Al^{3+}	1.60	2.96E+04	165	0.921	1.44	1.66	1.72
Fe^{3+} (total Fe)	2.00E-03	76.7	0.429	1.11E-03	1.54E-03	2.46E-03	2.89E-03
Cr^{3+}	7.10E-02	2.53E+03	14.2	4.59E-02	5.67E-02	8.49E-02	0.104
Bi^{3+}	1.16E-03	166	0.928	9.77E-04	1.06E-03	1.25E-03	1.39E-03
La^{3+}	2.64E-06	0.252	1.41E-03	1.71E-06	2.11E-06	3.21E-06	4.05E-06
Hg^{2+}	9.99E-06	1.38	7.69E-03	8.99E-06	9.49E-06	1.05E-05	1.10E-05
Zr (as $ZrO(OH)_2$)	4.38E-05	2.75	1.53E-02	2.82E-05	3.42E-05	5.30E-05	6.81E-05
Pb^{2+}	1.60E-03	227	1.27	8.71E-04	1.23E-03	1.97E-03	2.33E-03
Ni^{2+}	1.80E-03	72.5	0.405	1.62E-03	1.71E-03	1.89E-03	1.98E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.18E-03	158	0.882	3.09E-03	3.62E-03	4.74E-03	5.28E-03
Ca^{2+}	9.00E-03	248	1.38	5.49E-03	7.21E-03	1.08E-02	1.25E-02
K^{+}	5.14E-02	1.38E+03	7.71	2.91E-02	3.85E-02	6.65E-02	8.69E-02
OH^{-}	7.78	9.09E+04	508	4.57	6.88	8.09	8.55
$NO3^{-}$	2.80	1.19E+05	666	2.27	2.53	3.07	3.33
$NO2^{-}$	2.16	6.81E+04	381	0.976	1.47	2.89	3.10
$CO3^{2-}$	0.371	1.53E+04	85.4	0.304	0.348	0.393	0.415
$PO4^{3-}$	8.85E-02	5.78E+03	32.3	5.85E-02	7.15E-02	0.102	0.120
$SO4^{2-}$	0.249	1.64E+04	91.8	0.111	0.169	0.343	0.350
Si (as SiO_x^{2-})	3.40E-02	655	3.66	1.72E-02	2.54E-02	4.25E-02	5.08E-02
F^{-}	7.19E-02	938	5.24	4.80E-02	5.79E-02	8.73E-02	0.110
Cl^{-}	0.170	4.13E+03	23.1	9.03E-02	0.126	0.177	0.177
$C_6H_5O_7^{3-}$	3.09E-02	4.01E+03	22.4	2.40E-02	2.69E-02	3.51E-02	4.18E-02
$EDTA^{4-}$	6.92E-03	1.37E+03	7.66	4.78E-03	5.71E-03	8.24E-03	1.02E-02
$HEDTA^{3-}$	9.35E-04	176	0.983	2.22E-04	5.44E-04	1.37E-03	1.96E-03
glycolate^{-}	2.17E-02	1.12E+03	6.25	8.61E-03	1.45E-02	2.98E-02	4.06E-02
acetate^{-}	4.12E-02	1.67E+03	9.33	2.98E-02	3.47E-02	4.82E-02	5.88E-02
oxalate^{2-}	3.46E-06	0.209	1.17E-03	3.06E-06	3.23E-06	3.68E-06	4.15E-06
DBP	3.28E-02	4.73E+03	26.4	2.21E-02	2.67E-02	3.93E-02	4.90E-02
butanol	3.28E-02	1.67E+03	9.32	2.21E-02	2.67E-02	3.93E-02	4.90E-02
NH_3	1.74E-02	203	1.13	6.75E-03	1.06E-02	2.64E-02	4.01E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.03E+06 (kg)	(237 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.77E+04 BTU/hr)	----	9.71	10.6	11.3	11.4
Bulk Density†	1.15 (g/cc)	----	----	1.13	1.14	1.16	1.17
Water wt%†	78.5	----	----	76.3	77.3	79.8	81.3
TOC wt% C (wet)†	3.49E-03	----	----	2.39E-03	2.87E-03	4.16E-03	5.16E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.54	3.08E+04	3.18E+04	1.15	1.41	1.67	1.80
Al^{3+}	6.84E-03	160	165	3.94E-03	6.18E-03	7.10E-03	7.34E-03
Fe^{3+} (total Fe)	1.03	5.01E+04	5.18E+04	1.01	1.02	1.05	1.06
Cr^{3+}	8.92E-03	403	416	7.85E-03	8.38E-03	9.47E-03	1.00E-02
Bi^{3+}	3.62E-02	6.57E+03	6.79E+03	3.35E-03	2.12E-02	4.78E-02	5.68E-02
La^{3+}	1.13E-08	1.36E-03	1.41E-03	7.32E-09	9.05E-09	1.37E-08	1.73E-08
Hg^{2+}	4.27E-08	7.44E-03	7.69E-03	3.85E-08	4.06E-08	4.49E-08	4.70E-08
Zr (as $ZrO(OH)_2$)	1.88E-07	1.49E-02	1.53E-02	1.21E-07	1.46E-07	2.27E-07	2.91E-07
Pb^{2+}	6.84E-06	1.23	1.27	3.72E-06	5.25E-06	8.43E-06	9.96E-06
Ni^{2+}	9.42E-03	480	496	3.17E-03	6.82E-03	1.07E-02	1.37E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.79E-05	0.854	0.882	1.32E-05	1.55E-05	2.03E-05	2.26E-05
Ca^{2+}	0.274	9.54E+03	9.86E+03	0.186	0.229	0.319	0.362
K^{+}	3.80E-03	129	133	3.07E-03	3.43E-03	4.18E-03	4.54E-03
OH^{-}	3.24	4.78E+04	4.93E+04	3.17	3.20	3.27	3.30
$NO3^{-}$	0.579	3.12E+04	3.22E+04	0.447	0.512	0.646	0.711
$NO2^{-}$	8.47E-02	3.38E+03	3.50E+03	4.47E-02	6.47E-02	0.105	0.124
$CO3^{2-}$	0.276	1.44E+04	1.48E+04	0.188	0.231	0.321	0.364
$PO4^{3-}$	0.124	1.03E+04	1.06E+04	7.06E-02	9.87E-02	0.147	0.166
$SO4^{2-}$	3.94E-02	3.29E+03	3.40E+03	3.06E-02	3.50E-02	4.39E-02	4.82E-02
Si (as SiO_x^{2-})	0.184	4.48E+03	4.62E+03	1.95E-02	0.135	0.208	0.241
F^{-}	9.68E-02	1.60E+03	1.65E+03	7.39E-02	8.51E-02	0.109	0.120
Cl^{-}	1.72E-02	529	547	1.38E-02	1.55E-02	1.89E-02	2.06E-02
$C_6H_5O_7^{3-}$	1.32E-04	21.7	22.4	1.03E-04	1.15E-04	1.50E-04	1.79E-04
$EDTA^{4-}$	2.96E-05	7.41	7.66	2.05E-05	2.44E-05	3.52E-05	4.37E-05
$HEDTA^{3-}$	4.00E-06	0.952	0.983	9.48E-07	2.33E-06	5.87E-06	8.38E-06
glycolate^{-}	9.29E-05	6.05	6.25	3.68E-05	6.20E-05	1.27E-04	1.74E-04
acetate^{-}	1.76E-04	9.03	9.33	1.28E-04	1.48E-04	2.06E-04	2.52E-04
oxalate^{2-}	1.48E-08	1.13E-03	1.17E-03	1.31E-08	1.38E-08	1.58E-08	1.78E-08
DBP	1.40E-04	25.6	26.4	9.47E-05	1.14E-04	1.68E-04	2.10E-04
butanol	1.40E-04	9.02	9.32	9.47E-05	1.14E-04	1.68E-04	2.10E-04
NH_3	2.97E-02	438	453	1.17E-02	2.09E-02	3.86E-02	4.74E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.03E+06 (kg)	(236 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.77E+04 BTU/hr)	----	9.71	10.6	11.3	11.4
Bulk Density	1.15 (g/cc)	----	----	1.12	1.14	1.16	1.17
Void Fraction	0.928	----	----	0.917	0.922	0.933	0.940
Water wt%	78.7	----	----	76.4	77.5	80.0	81.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.41E-05	1.22E-02	12.6	1.96E-06	6.59E-06	2.45E-05	3.73E-05
C-14	2.63E-06	2.29E-03	2.35	1.00E-06	1.82E-06	3.45E-06	4.24E-06
Ni-59	1.30E-05	1.13E-02	11.6	2.78E-07	7.71E-06	1.56E-05	1.71E-05
Ni-63	1.31E-03	1.13	1.17E+03	2.79E-05	7.75E-04	1.57E-03	1.72E-03
Co-60	3.62E-06	3.14E-03	3.23	1.37E-06	2.50E-06	4.74E-06	3.49E-05
Se-79	1.23E-05	1.07E-02	11.0	1.13E-06	9.40E-06	1.43E-05	1.61E-05
Sr-90	1.78	1.55E+03	1.59E+06	1.59	1.74	1.81	1.82
Y-90	1.78	1.55E+03	1.59E+06	1.59	1.74	1.81	1.82
Zr-93	5.65E-05	4.91E-02	50.4	1.01E-06	4.20E-05	6.63E-05	7.57E-05
Nb-93m	4.24E-05	3.69E-02	37.9	3.31E-06	3.23E-05	4.93E-05	5.59E-05
Tc-99	1.87E-05	1.62E-02	16.7	7.11E-06	1.29E-05	2.45E-05	3.01E-05
Ru-106	4.21E-08	3.66E-05	3.76E-02	1.42E-08	3.49E-08	4.70E-08	5.17E-08
Cd-113m	2.42E-04	0.210	216	4.89E-06	1.55E-04	3.01E-04	3.58E-04
Sb-125	1.62E-05	1.41E-02	14.5	6.14E-06	1.12E-05	2.13E-05	2.62E-05
Sn-126	1.92E-05	1.67E-02	17.1	2.43E-06	1.48E-05	2.21E-05	2.50E-05
I-129	3.61E-08	3.14E-05	3.22E-02	1.37E-08	2.49E-08	4.73E-08	5.82E-08
Cs-134	8.61E-07	7.49E-04	0.769	3.26E-07	5.94E-07	1.13E-06	1.39E-06
Cs-137	6.98E-02	60.7	6.23E+04	2.72E-02	4.85E-02	9.12E-02	0.112
Ba-137m	6.60E-02	57.4	5.90E+04	2.57E-02	4.59E-02	8.63E-02	0.106
Sm-151	4.58E-02	39.8	4.09E+04	6.74E-03	3.57E-02	5.27E-02	5.93E-02
Eu-152	1.40E-05	1.22E-02	12.5	1.37E-05	1.39E-05	1.41E-05	1.43E-05
Eu-154	8.06E-04	0.701	720	2.60E-05	8.22E-05	1.30E-03	1.77E-03
Eu-155	1.04E-03	0.906	931	1.02E-03	1.03E-03	1.05E-03	1.06E-03
Ra-226	8.16E-10	7.09E-07	7.29E-04	4.70E-10	7.26E-10	8.77E-10	9.35E-10
Ra-228	7.41E-15	6.44E-12	6.62E-09	7.27E-15	7.34E-15	7.48E-15	7.55E-15
Ac-227	4.40E-09	3.82E-06	3.93E-03	2.39E-09	3.88E-09	4.75E-09	5.09E-09
Pa-231	9.90E-09	8.61E-06	8.85E-03	1.89E-10	7.01E-09	1.19E-08	1.38E-08
Th-229	1.16E-12	1.01E-09	1.03E-06	1.14E-12	1.15E-12	1.17E-12	1.18E-12
Th-232	6.69E-16	5.81E-13	5.97E-10	2.55E-16	4.62E-16	8.76E-16	1.08E-15
U-232	4.37E-12	3.80E-09	3.91E-06	3.56E-12	3.96E-12	4.79E-12	5.19E-12
U-233	1.80E-13	1.56E-10	1.61E-07	1.42E-13	1.61E-13	1.99E-13	2.17E-13
U-234	1.55E-07	1.35E-04	0.138	1.21E-07	1.37E-07	1.72E-07	1.89E-07
U-235	6.81E-09	5.92E-06	6.08E-03	5.30E-09	6.04E-09	7.58E-09	8.31E-09
U-236	1.78E-09	1.55E-06	1.59E-03	1.43E-09	1.60E-09	1.96E-09	2.13E-09
U-238	1.57E-07	1.36E-04	0.140	1.22E-07	1.39E-07	1.75E-07	1.92E-07
Np-237	4.02E-08	3.49E-05	3.59E-02	1.55E-08	2.79E-08	5.26E-08	6.46E-08
Pu-238	1.10E-05	9.52E-03	9.79	9.08E-06	1.05E-05	1.16E-05	1.22E-05
Pu-239	3.40E-04	0.295	303	2.76E-04	2.79E-04	4.21E-04	5.00E-04
Pu-240	5.83E-05	5.06E-02	52.0	4.90E-05	5.23E-05	6.62E-05	7.39E-05
Pu-241	7.65E-04	0.664	683	6.31E-04	7.30E-04	7.93E-04	8.21E-04
Pu-242	4.39E-09	3.82E-06	3.92E-03	3.62E-09	4.19E-09	4.53E-09	4.66E-09
Am-241	4.23E-04	0.368	378	2.56E-04	3.80E-04	4.53E-04	4.81E-04
Am-243	1.30E-08	1.13E-05	1.16E-02	7.85E-09	1.17E-08	1.39E-08	1.48E-08
Cm-242	3.87E-07	3.36E-04	0.345	3.79E-07	3.83E-07	3.91E-07	3.94E-07
Cm-243	2.97E-08	2.58E-05	2.65E-02	2.91E-08	2.94E-08	3.00E-08	3.03E-08
Cm-244	9.13E-07	7.94E-04	0.816	3.55E-07	7.69E-07	1.01E-06	1.11E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.73E-03 (g/L)	----	5.12	4.68E-03	4.72E-03	7.08E-03	8.37E-03
U	1.97E-03	408	420	1.54E-03	1.75E-03	2.20E-03	2.41E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.59E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	3.08E-03 (kW)	(10.5 BTU/hr)	----	1.64E-03	2.25E-03	3.81E-03	4.92E-03
Bulk Density*	1.46 (g/cc)	----	----	1.31	1.40	1.50	1.52
Water wt%†	47.9	----	----	41.6	43.8	52.7	59.2
TOC wt% C (wet)	0.645	----	----	0.493	0.552	0.747	0.915

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.68E-04	0.116	0.646	4.95E-08	4.95E-08	1.70E-04	1.71E-04
C-14	2.78E-05	1.91E-02	0.107	1.03E-08	1.03E-08	2.95E-05	3.11E-05
Ni-59	4.83E-07	3.31E-04	1.85E-03	5.77E-10	5.77E-10	5.17E-07	5.49E-07
Ni-63	4.79E-05	3.29E-02	0.184	5.71E-08	5.71E-08	5.13E-05	5.45E-05
Co-60	4.11E-05	2.82E-02	0.158	1.20E-08	1.20E-08	4.12E-05	4.14E-05
Se-79	2.00E-06	1.37E-03	7.67E-03	7.11E-10	7.11E-10	2.72E-06	3.42E-06
Sr-90	3.40E-02	23.3	130	2.91E-02	3.15E-02	3.65E-02	3.89E-02
Y-90	3.40E-02	23.3	130	2.39E-05	2.39E-05	3.65E-02	3.89E-02
Zr-93	9.99E-06	6.86E-03	3.83E-02	3.53E-09	3.53E-09	1.36E-05	1.71E-05
Nb-93m	6.99E-06	4.80E-03	2.68E-02	2.50E-09	2.50E-09	9.52E-06	1.20E-05
Tc-99	2.44E-04	0.168	0.938	9.88E-05	1.64E-04	3.34E-04	4.56E-04
Ru-106	5.00E-09	3.43E-06	1.92E-05	1.64E-12	1.64E-12	6.80E-09	8.54E-09
Cd-113m	5.99E-05	4.12E-02	0.230	2.06E-08	2.06E-08	8.16E-05	1.02E-04
Sb-125	1.84E-04	0.126	0.706	5.22E-08	5.22E-08	1.85E-04	1.85E-04
Sn-126	3.00E-06	2.06E-03	1.15E-02	1.07E-09	1.07E-09	4.08E-06	5.12E-06
I-129	4.73E-07	3.25E-04	1.82E-03	1.91E-07	3.17E-07	6.47E-07	8.84E-07
Cs-134	1.26E-06	8.65E-04	4.84E-03	3.02E-10	3.02E-10	1.26E-06	1.27E-06
Cs-137	0.122	84.0	469	4.24E-02	7.61E-02	0.163	0.224
Ba-137m	0.116	79.5	444	2.93E-05	2.93E-05	0.116	0.116
Sm-151	6.99E-03	4.80	26.8	2.49E-06	2.49E-06	9.52E-03	1.20E-02
Eu-152	1.73E-06	1.19E-03	6.62E-03	9.04E-10	9.04E-10	1.73E-06	1.74E-06
Eu-154	5.00E-04	0.343	1.92	1.67E-07	1.67E-07	6.80E-04	8.54E-04
Eu-155	1.05E-04	7.18E-02	0.401	5.50E-08	5.50E-08	1.05E-04	1.05E-04
Ra-226	6.19E-11	4.25E-08	2.38E-07	2.52E-14	2.52E-14	8.44E-11	1.06E-10
Ra-228	6.55E-07	4.50E-04	2.52E-03	2.80E-11	2.80E-11	6.64E-07	6.74E-07
Ac-227	3.60E-10	2.47E-07	1.38E-06	2.40E-13	2.40E-13	4.90E-10	6.15E-10
Pa-231	2.00E-09	1.37E-06	7.67E-06	1.28E-12	1.28E-12	2.72E-09	3.42E-09
Th-229	1.51E-08	1.04E-05	5.81E-05	8.59E-13	8.59E-13	1.53E-08	1.55E-08
Th-232	8.10E-08	5.56E-05	3.11E-04	3.90E-12	3.90E-12	1.03E-07	1.24E-07
U-232	1.41E-06	9.66E-04	5.40E-03	7.92E-07	1.04E-06	1.83E-06	2.27E-06
U-233	5.39E-06	3.70E-03	2.07E-02	3.03E-06	3.98E-06	7.00E-06	8.71E-06
U-234	3.82E-07	2.62E-04	1.47E-03	3.46E-07	3.64E-07	4.00E-07	4.17E-07
U-235	1.41E-08	9.71E-06	5.42E-05	1.27E-08	1.34E-08	1.49E-08	1.56E-08
U-236	1.27E-08	8.73E-06	4.88E-05	1.14E-08	1.21E-08	1.34E-08	1.40E-08
U-238	7.99E-07	5.49E-04	3.07E-03	7.65E-07	7.82E-07	8.17E-07	9.01E-07
Np-237	8.19E-07	5.63E-04	3.14E-03	3.48E-07	5.58E-07	1.11E-06	1.51E-06
Pu-238	3.18E-07	2.18E-04	1.22E-03	1.39E-07	2.24E-07	4.12E-07	5.02E-07
Pu-239	1.14E-05	7.81E-03	4.36E-02	5.35E-06	8.28E-06	1.44E-05	1.74E-05
Pu-240	1.95E-06	1.34E-03	7.48E-03	8.98E-07	1.40E-06	2.50E-06	3.02E-06
Pu-241	2.29E-05	1.57E-02	8.79E-02	1.00E-05	1.61E-05	2.97E-05	3.62E-05
Pu-242	1.10E-10	7.57E-08	4.23E-07	4.84E-11	7.77E-11	1.43E-10	1.74E-10
Am-241	3.00E-05	2.06E-02	0.115	8.73E-06	1.91E-05	4.08E-05	5.12E-05
Am-243	1.04E-09	7.13E-07	3.98E-06	2.68E-10	6.34E-10	1.46E-09	1.88E-09
Cm-242	2.57E-10	1.77E-07	9.87E-07	3.64E-11	3.64E-11	2.61E-10	2.64E-10
Cm-243	7.96E-12	5.47E-09	3.06E-08	3.45E-12	3.45E-12	8.08E-12	8.20E-12
Cm-244	2.97E-10	2.04E-07	1.14E-06	3.40E-11	3.40E-11	3.07E-10	3.14E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.48E-04 (g/L)	----	5.68E-04	4.32E-05	9.45E-05	2.01E-04	2.53E-04
U	4.00E-03	653	3.65	3.60E-03	3.79E-03	4.20E-03	4.40E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.03E+06 (kg)	(237 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.77E+04 BTU/hr)	----	9.71	10.6	11.3	11.4
Bulk Density†	1.15 (g/cc)	----	----	1.13	1.14	1.16	1.17
Water wt%†	78.5	----	----	76.3	77.3	79.8	81.3
TOC wt% C (wet)†	3.49E-03	----	----	2.39E-03	2.87E-03	4.16E-03	5.16E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.48E-05	1.28E-02	13.2	2.68E-06	7.28E-06	2.51E-05	3.78E-05
C-14	2.74E-06	2.38E-03	2.46	1.12E-06	1.93E-06	3.56E-06	4.34E-06
Ni-59	1.29E-05	1.12E-02	11.6	2.79E-07	7.68E-06	1.55E-05	1.70E-05
Ni-63	1.30E-03	1.13	1.17E+03	2.80E-05	7.71E-04	1.56E-03	1.71E-03
Co-60	3.78E-06	3.28E-03	3.39	1.54E-06	2.66E-06	4.90E-06	3.49E-05
Se-79	1.23E-05	1.06E-02	11.0	1.13E-06	9.37E-06	1.42E-05	1.61E-05
Sr-90	1.78	1.54E+03	1.59E+06	1.59	1.73	1.80	1.81
Y-90	1.78	1.54E+03	1.59E+06	1.59	1.73	1.80	1.82
Zr-93	5.63E-05	4.88E-02	50.5	1.05E-06	4.18E-05	6.60E-05	7.54E-05
Nb-93m	4.23E-05	3.67E-02	37.9	3.33E-06	3.22E-05	4.91E-05	5.57E-05
Tc-99	1.96E-05	1.70E-02	17.6	8.12E-06	1.39E-05	2.54E-05	3.10E-05
Ru-106	4.19E-08	3.64E-05	3.76E-02	1.41E-08	3.47E-08	4.68E-08	5.15E-08
Cd-113m	2.41E-04	0.210	216	5.12E-06	1.55E-04	3.00E-04	3.56E-04
Sb-125	1.70E-05	1.47E-02	15.2	6.90E-06	1.19E-05	2.20E-05	2.69E-05
Sn-126	1.91E-05	1.66E-02	17.1	2.43E-06	1.48E-05	2.20E-05	2.49E-05
I-129	3.80E-08	3.30E-05	3.41E-02	1.57E-08	2.69E-08	4.92E-08	6.00E-08
Cs-134	8.63E-07	7.49E-04	0.774	3.30E-07	5.97E-07	1.13E-06	1.39E-06
Cs-137	7.00E-02	60.8	6.28E+04	2.76E-02	4.88E-02	9.13E-02	0.112
Ba-137m	6.62E-02	57.5	5.94E+04	2.61E-02	4.62E-02	8.64E-02	0.106
Sm-151	4.57E-02	39.7	4.10E+04	6.75E-03	3.56E-02	5.25E-02	5.91E-02
Eu-152	1.39E-05	1.21E-02	12.5	1.37E-05	1.38E-05	1.41E-05	1.42E-05
Eu-154	8.05E-04	0.699	722	2.80E-05	8.40E-05	1.29E-03	1.76E-03
Eu-155	1.04E-03	0.902	932	1.02E-03	1.03E-03	1.05E-03	1.06E-03
Ra-226	8.13E-10	7.06E-07	7.29E-04	4.68E-10	7.23E-10	8.73E-10	9.31E-10
Ra-228	2.80E-09	2.43E-06	2.52E-03	1.27E-13	1.27E-13	2.84E-09	2.88E-09
Ac-227	4.38E-09	3.80E-06	3.93E-03	2.38E-09	3.86E-09	4.73E-09	5.07E-09
Pa-231	9.87E-09	8.57E-06	8.85E-03	1.97E-10	6.99E-09	1.18E-08	1.37E-08
Th-229	6.59E-11	5.72E-08	5.91E-05	1.16E-12	1.16E-12	6.68E-11	6.77E-11
Th-232	3.47E-10	3.01E-07	3.11E-04	1.73E-14	1.73E-14	4.41E-10	5.32E-10
U-232	6.02E-09	5.23E-06	5.40E-03	3.39E-09	4.44E-09	7.82E-09	9.74E-09
U-233	2.31E-08	2.00E-05	2.07E-02	1.30E-08	1.70E-08	2.99E-08	3.73E-08
U-234	1.56E-07	1.35E-04	0.140	1.22E-07	1.38E-07	1.73E-07	1.90E-07
U-235	6.84E-09	5.94E-06	6.13E-03	5.34E-09	6.07E-09	7.60E-09	8.34E-09
U-236	1.83E-09	1.59E-06	1.64E-03	1.48E-09	1.65E-09	2.00E-09	2.17E-09
U-238	1.60E-07	1.39E-04	0.143	1.25E-07	1.42E-07	1.77E-07	1.94E-07
Np-237	4.35E-08	3.78E-05	3.90E-02	1.89E-08	3.13E-08	5.59E-08	6.78E-08
Pu-238	1.09E-05	9.47E-03	9.79	9.04E-06	1.04E-05	1.16E-05	1.22E-05
Pu-239	3.38E-04	0.294	304	2.75E-04	2.78E-04	4.20E-04	4.98E-04
Pu-240	5.80E-05	5.04E-02	52.0	4.88E-05	5.21E-05	6.59E-05	7.36E-05
Pu-241	7.61E-04	0.661	683	6.28E-04	7.27E-04	7.90E-04	8.18E-04
Pu-242	4.37E-09	3.80E-06	3.92E-03	3.60E-09	4.17E-09	4.51E-09	4.64E-09
Am-241	4.22E-04	0.366	378	2.55E-04	3.78E-04	4.51E-04	4.79E-04
Am-243	1.29E-08	1.12E-05	1.16E-02	7.82E-09	1.16E-08	1.38E-08	1.47E-08
Cm-242	3.85E-07	3.34E-04	0.345	3.78E-07	3.81E-07	3.89E-07	3.92E-07
Cm-243	2.96E-08	2.57E-05	2.65E-02	2.90E-08	2.93E-08	2.99E-08	3.01E-08
Cm-244	9.10E-07	7.90E-04	0.816	3.53E-07	7.65E-07	1.01E-06	1.10E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.71E-03 (g/L)	----	5.12	4.66E-03	4.70E-03	7.05E-03	8.34E-03
U	1.98E-03	410	423	1.55E-03	1.76E-03	2.20E-03	2.42E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.58E+05 (kg)	(30.0 kgal)	----	----	----	----	----
Heat Load	9.53E-02 (kW)	(326 BTU/hr)	----	5.93E-02	7.95E-02	0.106	0.112
Bulk Density	1.39 (g/cc)	----	----	1.23	1.31	1.46	1.52
Void Fraction	0.853	----	----	0.692	0.793	0.923	0.967
Water wt%	53.3	----	----	38.8	46.1	62.3	70.0
TOC wt% C (wet)	0.278	----	----	0.230	0.272	0.284	0.285

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.54	1.24E+05	1.97E+04	4.17	5.77	8.97	10.5
Al^{3+}	1.13	2.18E+04	3.45E+03	0.486	0.699	1.65	2.15
Fe^{3+} (total Fe)	0.378	1.51E+04	2.40E+03	0.366	0.372	0.384	0.390
Cr^{3+}	3.17E-02	1.18E+03	187	2.58E-02	2.89E-02	3.29E-02	3.40E-02
Bi^{3+}	1.96E-02	2.94E+03	466	2.25E-03	1.17E-02	2.58E-02	3.05E-02
La^{3+}	1.09E-06	0.109	1.72E-02	9.02E-07	1.02E-06	1.14E-06	1.11E-06
Hg^{2+}	1.93E-05	2.78	0.440	1.74E-05	1.83E-05	2.03E-05	2.13E-05
Zr (as $ZrO(OH)_2$)	1.81E-05	1.19	0.188	1.49E-05	1.65E-05	1.87E-05	1.88E-05
Pb^{2+}	3.03E-03	450	71.2	1.65E-03	2.32E-03	3.73E-03	4.40E-03
Ni^{2+}	7.92E-03	333	52.8	5.44E-03	6.73E-03	8.48E-03	1.02E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.73E-03	68.1	10.8	1.27E-03	1.50E-03	1.96E-03	2.19E-03
Ca^{2+}	0.168	4.82E+03	763	0.121	0.144	0.192	0.214
K^+	2.29E-02	642	102	1.70E-02	2.02E-02	2.51E-02	2.35E-02
OH^-	6.34	7.73E+04	1.22E+04	3.64	4.58	8.46	10.4
$NO3^-$	3.79	1.68E+05	2.67E+04	1.83	2.84	4.39	4.96
$NO2^-$	0.897	2.96E+04	4.68E+03	0.521	0.718	1.03	1.43
$CO3^{2-}$	0.398	1.71E+04	2.71E+03	0.314	0.341	0.455	0.485
$PO4^{3-}$	0.102	6.96E+03	1.10E+03	7.38E-02	8.86E-02	0.114	0.124
$SO4^{2-}$	0.115	7.91E+03	1.25E+03	7.06E-02	9.34E-02	0.133	0.182
Si (as SiO_x^{2-})	4.94E-02	996	158	3.28E-02	4.17E-02	5.58E-02	8.01E-02
F^-	8.08E-02	1.10E+03	174	6.86E-02	7.46E-02	8.69E-02	9.29E-02
Cl^-	7.77E-02	1.97E+03	312	4.52E-02	6.11E-02	8.09E-02	8.09E-02
$C_6H_5O_7^{3-}$	1.28E-02	1.73E+03	274	1.05E-02	1.24E-02	1.30E-02	1.30E-02
$EDTA^{4-}$	2.86E-03	591	93.6	2.52E-03	2.76E-03	2.91E-03	2.92E-03
$HEDTA^{3-}$	3.86E-04	75.9	12.0	1.17E-04	2.63E-04	4.85E-04	4.94E-04
$glycolate^-$	8.98E-03	483	76.5	4.54E-03	7.01E-03	1.05E-02	1.02E-02
$acetate^-$	1.70E-02	721	114	1.48E-02	1.68E-02	1.72E-02	1.74E-02
$oxalate^{2-}$	1.43E-06	9.02E-02	1.43E-02	1.05E-06	1.30E-06	1.56E-06	1.63E-06
DBP	1.35E-02	2.04E+03	323	1.17E-02	1.29E-02	1.39E-02	1.38E-02
butanol	1.35E-02	720	114	1.17E-02	1.29E-02	1.39E-02	1.38E-02
NH_3	7.18E-03	87.6	13.9	3.56E-03	5.14E-03	9.33E-03	1.01E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.53E+04 (kg)	(3.01 kgal)	----	----	----	----	----
Heat Load	6.96E-03 (kW)	(23.8 BTU/hr)	----	3.71E-03	5.08E-03	8.62E-03	1.11E-02
Bulk Density*	1.35 (g/cc)	----	----	1.23	1.30	1.38	1.40
Water wt%	57.1	----	----	51.6	53.5	61.4	67.1
TOC wt% C (wet)	0.531	----	----	0.398	0.451	0.619	0.759

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.32	1.25E+05	1.92E+03	5.09	6.27	8.29	8.84
Al^{3+}	1.22	2.44E+04	374	0.702	1.10	1.26	1.31
Fe^{3+} (total Fe)	1.52E-03	63.1	0.968	8.42E-04	1.18E-03	1.87E-03	2.21E-03
Cr^{3+}	5.41E-02	2.09E+03	32.0	3.50E-02	4.32E-02	6.48E-02	7.97E-02
Bi^{3+}	8.82E-04	137	2.10	7.45E-04	8.12E-04	9.52E-04	1.06E-03
La^{3+}	2.01E-06	0.207	3.18E-03	1.30E-06	1.61E-06	2.45E-06	3.09E-06
Hg^{2+}	7.62E-06	1.13	1.74E-02	6.86E-06	7.23E-06	8.00E-06	8.38E-06
Zr (as $ZrO(OH)_2$)	3.34E-05	2.26	3.47E-02	2.15E-05	2.60E-05	4.04E-05	5.19E-05
Pb^{2+}	1.22E-03	187	2.87	6.63E-04	9.36E-04	1.50E-03	1.77E-03
Ni^{2+}	1.37E-03	59.7	0.916	1.23E-03	1.30E-03	1.44E-03	1.51E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.19E-03	130	1.99	2.35E-03	2.76E-03	3.62E-03	4.03E-03
Ca^{2+}	6.86E-03	204	3.13	4.18E-03	5.49E-03	8.22E-03	9.53E-03
K^+	3.92E-02	1.14E+03	17.4	2.22E-02	2.93E-02	5.07E-02	6.62E-02
OH^-	5.93	7.49E+04	1.15E+03	3.48	5.25	6.17	6.52
$NO3^-$	2.13	9.81E+04	1.50E+03	1.73	1.93	2.34	2.54
$NO2^-$	1.64	5.61E+04	861	0.744	1.12	2.21	2.36
$CO3^{2-}$	0.283	1.26E+04	193	0.232	0.265	0.300	0.316
$PO4^{3-}$	6.75E-02	4.76E+03	73.0	4.46E-02	5.45E-02	7.77E-02	9.12E-02
$SO4^{2-}$	0.190	1.35E+04	208	8.50E-02	0.129	0.262	0.267
Si (as SiO_x^{2-})	2.59E-02	540	8.28	1.31E-02	1.94E-02	3.24E-02	3.87E-02
F^-	5.48E-02	772	11.8	3.66E-02	4.41E-02	6.66E-02	8.42E-02
Cl^-	0.129	3.40E+03	52.2	6.88E-02	9.62E-02	0.135	0.135
$C_6H_5O_7^{3-}$	2.35E-02	3.30E+03	50.6	1.83E-02	2.05E-02	2.67E-02	3.19E-02
$EDTA^{4-}$	5.28E-03	1.13E+03	17.3	3.65E-03	4.35E-03	6.28E-03	7.78E-03
$HEDTA^{3-}$	7.13E-04	145	2.22	1.69E-04	4.15E-04	1.05E-03	1.49E-03
$glycolate^-$	1.66E-02	922	14.1	6.56E-03	1.10E-02	2.27E-02	3.09E-02
$acetate^-$	3.14E-02	1.38E+03	21.1	2.27E-02	2.64E-02	3.67E-02	4.49E-02
$oxalate^{2-}$	2.64E-06	0.172	2.64E-03	2.34E-06	2.46E-06	2.81E-06	3.16E-06
DBP	2.50E-02	3.90E+03	59.8	1.69E-02	2.04E-02	3.00E-02	3.73E-02
butanol	2.50E-02	1.37E+03	21.1	1.69E-02	2.04E-02	3.00E-02	3.73E-02
NH_3	1.32E-02	167	2.56	5.14E-03	8.10E-03	2.01E-02	3.06E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.74E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	0.102 (kW)	(349 BTU/hr)	----	6.30E-02	8.46E-02	0.115	0.123
Bulk Density†	1.39 (g/cc)	----	----	1.23	1.31	1.45	1.51
Water wt%†	53.6	----	----	39.9	46.7	62.2	69.8
TOC wt% C (wet)†	0.301	----	----	0.274	0.299	0.303	0.306

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.52	1.24E+05	2.16E+04	4.25	5.82	8.91	10.4
Al^{3+}	1.14	2.20E+04	3.83E+03	0.506	0.735	1.61	2.07
Fe^{3+} (total Fe)	0.344	1.38E+04	2.40E+03	0.333	0.338	0.349	0.354
Cr^{3+}	3.38E-02	1.26E+03	219	2.74E-02	3.07E-02	3.54E-02	3.62E-02
Bi^{3+}	1.79E-02	2.70E+03	468	2.12E-03	1.07E-02	2.35E-02	2.78E-02
La^{3+}	1.18E-06	0.117	2.04E-02	9.39E-07	1.08E-06	1.26E-06	1.21E-06
Hg^{2+}	1.83E-05	2.64	0.458	1.64E-05	1.73E-05	1.92E-05	2.01E-05
Zr (as $ZrO(OH)_2$)	1.95E-05	1.28	0.222	1.55E-05	1.74E-05	2.07E-05	2.03E-05
Pb^{2+}	2.86E-03	426	74.0	1.56E-03	2.20E-03	3.53E-03	4.16E-03
Ni^{2+}	7.32E-03	309	53.7	5.07E-03	6.24E-03	7.84E-03	9.39E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.86E-03	73.6	12.8	1.37E-03	1.61E-03	2.11E-03	2.35E-03
Ca^{2+}	0.153	4.41E+03	766	0.111	0.132	0.175	0.195
K^+	2.44E-02	685	119	1.74E-02	2.10E-02	2.74E-02	2.74E-02
OH^-	6.30	7.71E+04	1.34E+04	3.62	4.64	8.25	10.1
$NO3^-$	3.64	1.62E+05	2.82E+04	1.86	2.77	4.19	4.70
$NO2^-$	0.965	3.19E+04	5.55E+03	0.541	0.755	1.14	1.52
$CO3^{2-}$	0.388	1.67E+04	2.91E+03	0.307	0.336	0.439	0.467
$PO4^{3-}$	9.90E-02	6.76E+03	1.17E+03	7.32E-02	8.67E-02	0.110	0.119
$SO4^{2-}$	0.122	8.41E+03	1.46E+03	7.19E-02	9.66E-02	0.145	0.190
Si (as SiO_x^{2-})	4.73E-02	956	166	3.10E-02	3.97E-02	5.37E-02	7.51E-02
F^-	7.84E-02	1.07E+03	186	6.74E-02	7.28E-02	8.40E-02	8.94E-02
Cl^-	8.24E-02	2.10E+03	365	4.74E-02	6.46E-02	8.58E-02	8.58E-02
$C_6H_5O_7^{3-}$	1.37E-02	1.87E+03	324	1.25E-02	1.37E-02	1.38E-02	1.39E-02
$EDTA^{4-}$	3.08E-03	639	111	2.63E-03	2.90E-03	3.22E-03	3.13E-03
$HEDTA^{3-}$	4.16E-04	82.0	14.2	1.21E-04	2.77E-04	5.36E-04	5.85E-04
$glycolate^-$	9.67E-03	522	90.6	4.73E-03	7.37E-03	1.16E-02	1.21E-02
$acetate^-$	1.83E-02	779	135	1.64E-02	1.77E-02	1.88E-02	1.86E-02
$oxalate^{2-}$	1.54E-06	9.75E-02	1.69E-02	1.24E-06	1.44E-06	1.64E-06	1.72E-06
DBP	1.46E-02	2.21E+03	383	1.22E-02	1.36E-02	1.54E-02	1.48E-02
butanol	1.46E-02	778	135	1.22E-02	1.36E-02	1.54E-02	1.48E-02
NH_3	7.73E-03	94.6	16.4	3.70E-03	5.41E-03	1.03E-02	1.20E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.58E+05 (kg)	(30.0 kgal)	----	----	----	----	----
Heat Load	9.53E-02 (kW)	(326 BTU/hr)	----	5.93E-02	7.95E-02	0.106	0.112
Bulk Density	1.39 (g/cc)	----	----	1.23	1.31	1.46	1.52
Void Fraction	0.853	----	----	0.692	0.793	0.923	0.967
Water wt%	53.3	----	----	38.8	46.1	62.3	70.0
TOC wt% C (wet)	0.278	----	----	0.230	0.272	0.284	0.285
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.96E-05	4.99E-02	7.90	1.48E-08	1.48E-08	7.03E-05	7.10E-05
C-14	1.81E-05	1.30E-02	2.06	5.81E-09	5.81E-09	1.88E-05	1.94E-05
Ni-59	1.94E-06	1.39E-03	0.220	1.65E-09	1.65E-09	2.02E-06	2.10E-06
Ni-63	1.92E-04	0.138	21.8	1.51E-07	1.51E-07	2.00E-04	2.08E-04
Co-60	1.70E-05	1.22E-02	1.93	1.57E-09	1.57E-09	1.71E-05	1.73E-05
Se-79	1.52E-06	1.09E-03	0.173	1.23E-09	1.23E-09	1.86E-06	2.18E-06
Sr-90	6.84E-02	49.1	7.77E+03	5.36E-02	6.42E-02	7.27E-02	7.68E-02
Y-90	6.85E-02	49.1	7.77E+03	5.86E-04	5.86E-04	7.27E-02	7.68E-02
Zr-93	7.34E-06	5.27E-03	0.834	5.82E-09	5.82E-09	9.05E-06	1.06E-05
Nb-93m	5.31E-06	3.81E-03	0.603	4.86E-09	4.86E-09	6.51E-06	7.58E-06
Tc-99	1.01E-04	7.24E-02	11.5	5.21E-05	7.92E-05	1.18E-04	1.15E-04
Ru-106	3.39E-09	2.43E-06	3.84E-04	7.97E-16	7.97E-16	3.70E-09	3.95E-09
Cd-113m	3.89E-05	2.79E-02	4.42	1.53E-08	1.53E-08	4.91E-05	5.79E-05
Sb-125	7.60E-05	5.45E-02	8.63	1.59E-09	1.59E-09	7.67E-05	7.76E-05
Sn-126	2.28E-06	1.63E-03	0.258	1.86E-09	1.86E-09	2.79E-06	3.27E-06
I-129	1.96E-07	1.40E-04	2.22E-02	1.01E-07	1.53E-07	2.29E-07	2.23E-07
Cs-134	8.26E-07	5.93E-04	9.38E-02	7.32E-11	7.32E-11	8.31E-07	8.37E-07
Cs-137	8.09E-02	58.0	9.18E+03	3.45E-02	5.72E-02	9.55E-02	0.103
Ba-137m	7.65E-02	54.9	8.69E+03	6.31E-04	6.31E-04	7.69E-02	7.75E-02
Sm-151	5.27E-03	3.78	598	4.54E-06	4.54E-06	6.46E-03	7.53E-03
Eu-152	2.39E-06	1.72E-03	0.272	7.12E-09	7.12E-09	2.40E-06	2.41E-06
Eu-154	2.86E-04	0.205	32.5	2.99E-08	2.99E-08	3.71E-04	3.56E-04
Eu-155	1.45E-04	0.104	16.5	4.78E-07	4.78E-07	1.45E-04	1.46E-04
Ra-226	7.33E-11	5.26E-08	8.32E-06	2.49E-13	2.49E-13	9.25E-11	1.09E-10
Ra-228	9.07E-07	6.50E-04	0.103	1.97E-17	1.97E-17	9.14E-07	9.23E-07
Ac-227	1.04E-09	7.43E-07	1.18E-04	1.29E-12	1.29E-12	1.38E-09	1.69E-09
Pa-231	5.34E-09	3.83E-06	6.06E-04	2.91E-12	2.91E-12	7.01E-09	8.61E-09
Th-229	2.09E-08	1.50E-05	2.38E-03	3.83E-15	3.83E-15	2.11E-08	2.13E-08
Th-232	3.35E-08	2.40E-05	3.80E-03	1.59E-18	1.59E-18	4.27E-08	5.15E-08
U-232	5.06E-06	3.63E-03	0.574	2.27E-06	3.69E-06	6.65E-06	8.35E-06
U-233	1.94E-05	1.39E-02	2.20	8.71E-06	1.41E-05	2.55E-05	3.20E-05
U-234	1.45E-06	1.04E-03	0.164	1.13E-06	1.39E-06	1.51E-06	1.57E-06
U-235	5.41E-08	3.88E-05	6.14E-03	4.41E-08	5.16E-08	5.65E-08	5.89E-08
U-236	4.64E-08	3.33E-05	5.27E-03	3.85E-08	4.42E-08	4.86E-08	5.08E-08
U-238	2.95E-06	2.11E-03	0.335	2.66E-06	2.89E-06	3.00E-06	3.06E-06
Np-237	3.39E-07	2.43E-04	3.85E-02	1.84E-07	2.70E-07	3.93E-07	3.80E-07
Pu-238	1.65E-06	1.18E-03	0.187	9.04E-07	1.27E-06	2.03E-06	2.39E-06
Pu-239	8.56E-05	6.14E-02	9.71	5.22E-05	5.34E-05	1.29E-04	1.70E-04
Pu-240	1.19E-05	8.56E-03	1.35	7.54E-06	8.79E-06	1.61E-05	2.02E-05
Pu-241	1.11E-04	7.93E-02	12.6	5.67E-05	8.33E-05	1.38E-04	1.64E-04
Pu-242	5.29E-10	3.79E-07	6.01E-05	2.71E-10	3.98E-10	6.60E-10	7.87E-10
Am-241	2.38E-05	1.70E-02	2.70	8.28E-06	1.59E-05	3.13E-05	3.71E-05
Am-243	8.22E-10	5.89E-07	9.33E-05	2.53E-10	5.25E-10	1.12E-09	1.36E-09
Cm-242	4.47E-10	3.21E-07	5.07E-05	1.41E-10	1.41E-10	4.50E-10	4.53E-10
Cm-243	9.16E-12	6.57E-09	1.04E-06	2.91E-12	2.91E-12	9.22E-12	9.28E-12
Cm-244	1.11E-10	7.98E-08	1.26E-05	2.65E-12	2.65E-12	1.12E-10	1.13E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.24E-03 (g/L)	----	0.141	6.93E-04	7.13E-04	1.95E-03	2.64E-03
U	1.53E-02	2.62E+03	414	1.24E-02	1.46E-02	1.60E-02	1.67E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.53E+04 (kg)	(3.01 kgal)	----	----	----	----	----
Heat Load	6.96E-03 (kW)	(23.8 BTU/hr)	----	3.71E-03	5.08E-03	8.62E-03	1.11E-02
Bulk Density*	1.35 (g/cc)	----	----	1.23	1.30	1.38	1.40
Water wt%†	57.1	----	----	51.6	53.5	61.4	67.1
TOC wt% C (wet)	0.531	----	----	0.398	0.451	0.619	0.759
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	9.52E-02	1.46	3.85E-09	3.85E-09	1.30E-04	1.31E-04
C-14	2.12E-05	1.57E-02	0.241	7.84E-10	7.84E-10	2.25E-05	2.37E-05
Ni-59	3.68E-07	2.73E-04	4.18E-03	5.13E-11	5.13E-11	3.94E-07	4.18E-07
Ni-63	3.65E-05	2.71E-02	0.415	5.10E-09	5.10E-09	3.91E-05	4.15E-05
Co-60	3.13E-05	2.32E-02	0.356	9.31E-10	9.31E-10	3.14E-05	3.15E-05
Se-79	1.52E-06	1.13E-03	1.73E-02	6.04E-11	6.04E-11	2.07E-06	2.60E-06
Sr-90	2.59E-02	19.2	295	2.22E-02	2.40E-02	2.78E-02	2.96E-02
Y-90	2.59E-02	19.2	295	1.99E-06	1.99E-06	2.78E-02	2.96E-02
Zr-93	7.62E-06	5.65E-03	8.67E-02	2.97E-10	2.97E-10	1.04E-05	1.30E-05
Nb-93m	5.33E-06	3.96E-03	6.07E-02	2.11E-10	2.11E-10	7.26E-06	9.11E-06
Tc-99	1.86E-04	0.138	2.12	7.53E-05	1.25E-04	2.55E-04	3.48E-04
Ru-106	3.81E-09	2.83E-06	4.33E-05	1.42E-13	1.42E-13	5.19E-09	6.51E-09
Cd-113m	4.57E-05	3.39E-02	0.520	1.67E-09	1.67E-09	6.22E-05	7.81E-05
Sb-125	1.40E-04	0.104	1.60	4.16E-09	4.16E-09	1.41E-04	1.41E-04
Sn-126	2.28E-06	1.70E-03	2.60E-02	9.05E-11	9.05E-11	3.11E-06	3.91E-06
I-129	3.61E-07	2.68E-04	4.10E-03	1.45E-07	2.42E-07	4.93E-07	6.74E-07
Cs-134	9.60E-07	7.13E-04	1.09E-02	3.83E-11	3.83E-11	9.63E-07	9.65E-07
Cs-137	9.32E-02	69.2	1.06E+03	3.23E-02	5.80E-02	0.124	0.171
Ba-137m	8.82E-02	65.4	1.00E+03	3.41E-06	3.41E-06	8.84E-02	8.86E-02
Sm-151	5.33E-03	3.96	60.7	2.10E-07	2.10E-07	7.26E-03	9.11E-03
Eu-152	1.31E-06	9.76E-04	1.50E-02	7.80E-11	7.80E-11	1.32E-06	1.33E-06
Eu-154	3.81E-04	0.283	4.33	1.31E-08	1.31E-08	5.19E-04	6.51E-04
Eu-155	7.97E-05	5.91E-02	0.907	4.75E-09	4.75E-09	8.00E-05	8.03E-05
Ra-226	4.72E-11	3.50E-08	5.37E-07	2.37E-15	2.37E-15	6.43E-11	8.07E-11
Ra-228	5.00E-07	3.71E-04	5.69E-03	2.50E-11	2.50E-11	5.07E-07	5.14E-07
Ac-227	2.74E-10	2.03E-07	3.12E-06	2.74E-14	2.74E-14	3.73E-10	4.69E-10
Pa-231	1.52E-09	1.13E-06	1.73E-05	1.44E-13	1.44E-13	2.08E-09	2.60E-09
Th-229	1.15E-08	8.56E-06	1.31E-04	5.81E-13	5.81E-13	1.17E-08	1.19E-08
Th-232	6.18E-08	4.58E-05	7.03E-04	1.57E-12	1.57E-12	7.87E-08	9.49E-08
U-232	1.07E-06	7.96E-04	1.22E-02	6.04E-07	7.91E-07	1.39E-06	1.73E-06
U-233	4.11E-06	3.05E-03	4.68E-02	2.31E-06	3.03E-06	5.34E-06	6.64E-06
U-234	2.91E-07	2.16E-04	3.31E-03	2.64E-07	2.77E-07	3.05E-07	3.18E-07
U-235	1.08E-08	7.99E-06	1.23E-04	9.69E-09	1.02E-08	1.13E-08	1.19E-08
U-236	9.68E-09	7.19E-06	1.10E-04	8.70E-09	9.19E-09	1.02E-08	1.07E-08
U-238	6.09E-07	4.52E-04	6.93E-03	5.83E-07	5.96E-07	6.23E-07	6.87E-07
Np-237	6.25E-07	4.63E-04	7.11E-03	2.65E-07	4.25E-07	8.47E-07	1.15E-06
Pu-238	2.42E-07	1.80E-04	2.75E-03	1.06E-07	1.70E-07	3.14E-07	3.83E-07
Pu-239	8.66E-06	6.42E-03	9.85E-02	4.07E-06	6.30E-06	1.10E-05	1.32E-05
Pu-240	1.49E-06	1.10E-03	1.69E-02	6.83E-07	1.07E-06	1.90E-06	2.30E-06
Pu-241	1.74E-05	1.29E-02	0.198	7.61E-06	1.23E-05	2.26E-05	2.76E-05
Pu-242	8.39E-11	6.23E-08	9.55E-07	3.68E-11	5.91E-11	1.09E-10	1.33E-10
Am-241	2.29E-05	1.70E-02	0.260	6.65E-06	1.46E-05	3.11E-05	3.91E-05
Am-243	7.91E-10	5.87E-07	9.00E-06	2.04E-10	4.83E-10	1.11E-09	1.43E-09
Cm-242	1.72E-10	1.27E-07	1.95E-06	3.27E-12	3.27E-12	1.74E-10	1.77E-10
Cm-243	3.76E-12	2.79E-09	4.28E-08	3.17E-13	3.17E-13	3.81E-12	3.86E-12
Cm-244	2.03E-10	1.51E-07	2.31E-06	2.79E-12	2.79E-12	2.06E-10	2.09E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.13E-04 (g/L)	----	1.28E-03	3.28E-05	7.20E-05	1.54E-04	1.93E-04
U	3.05E-03	538	8.25	2.74E-03	2.89E-03	3.20E-03	3.35E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.74E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	0.102 (kW)	(349 BTU/hr)	----	6.30E-02	8.46E-02	0.115	0.123
Bulk Density†	1.39 (g/cc)	----	----	1.23	1.31	1.45	1.51
Water wt%†	53.6	----	----	39.9	46.7	62.2	69.8
TOC wt% C (wet)†	0.301	----	----	0.274	0.299	0.303	0.306
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.49E-05	5.39E-02	9.36	1.38E-08	1.38E-08	7.58E-05	7.62E-05
C-14	1.84E-05	1.32E-02	2.30	5.35E-09	5.35E-09	1.89E-05	1.94E-05
Ni-59	1.79E-06	1.29E-03	0.224	1.51E-09	1.51E-09	1.87E-06	1.95E-06
Ni-63	1.78E-04	0.128	22.2	1.37E-07	1.37E-07	1.86E-04	1.93E-04
Co-60	1.83E-05	1.31E-02	2.28	1.51E-09	1.51E-09	1.84E-05	1.85E-05
Se-79	1.52E-06	1.09E-03	0.190	1.12E-09	1.12E-09	1.88E-06	2.22E-06
Sr-90	6.46E-02	46.4	8.06E+03	5.11E-02	6.05E-02	6.86E-02	7.25E-02
Y-90	6.46E-02	46.5	8.07E+03	5.33E-04	5.33E-04	6.86E-02	7.25E-02
Zr-93	7.37E-06	5.30E-03	0.920	5.32E-09	5.32E-09	9.17E-06	1.08E-05
Nb-93m	5.31E-06	3.82E-03	0.664	4.44E-09	4.44E-09	6.58E-06	7.72E-06
Tc-99	1.09E-04	7.83E-02	13.6	5.42E-05	8.34E-05	1.31E-04	1.36E-04
Ru-106	3.42E-09	2.46E-06	4.28E-04	1.37E-14	1.37E-14	3.83E-09	4.19E-09
Cd-113m	3.95E-05	2.84E-02	4.94	1.41E-08	1.41E-08	5.03E-05	5.98E-05
Sb-125	8.19E-05	5.89E-02	10.2	1.83E-09	1.83E-09	8.24E-05	8.31E-05
Sn-126	2.28E-06	1.64E-03	0.284	1.70E-09	1.70E-09	2.82E-06	3.33E-06
I-129	2.11E-07	1.51E-04	2.63E-02	1.05E-07	1.61E-07	2.53E-07	2.64E-07
Cs-134	8.39E-07	6.03E-04	0.105	7.00E-11	7.00E-11	8.42E-07	8.47E-07
Cs-137	8.20E-02	59.0	1.02E+04	3.43E-02	5.73E-02	9.81E-02	0.109
Ba-137m	7.76E-02	55.8	9.69E+03	5.74E-04	5.74E-04	7.79E-02	7.84E-02
Sm-151	5.27E-03	3.79	658	4.14E-06	4.14E-06	6.54E-03	7.67E-03
Eu-152	2.29E-06	1.65E-03	0.287	6.48E-09	6.48E-09	2.30E-06	2.31E-06
Eu-154	2.95E-04	0.212	36.9	2.84E-08	2.84E-08	3.85E-04	3.83E-04
Eu-155	1.39E-04	0.100	17.4	4.35E-07	4.35E-07	1.39E-04	1.40E-04
Ra-226	7.09E-11	5.10E-08	8.86E-06	2.27E-13	2.27E-13	8.99E-11	1.07E-10
Ra-228	8.70E-07	6.26E-04	0.109	2.28E-12	2.28E-12	8.77E-07	8.86E-07
Ac-227	9.66E-10	6.95E-07	1.21E-04	1.17E-12	1.17E-12	1.29E-09	1.58E-09
Pa-231	4.99E-09	3.59E-06	6.23E-04	2.65E-12	2.65E-12	6.56E-09	8.06E-09
Th-229	2.01E-08	1.44E-05	2.51E-03	5.64E-14	5.64E-14	2.02E-08	2.04E-08
Th-232	3.61E-08	2.59E-05	4.51E-03	1.43E-13	1.43E-13	4.60E-08	5.55E-08
U-232	4.69E-06	3.38E-03	0.586	2.12E-06	3.42E-06	6.17E-06	7.75E-06
U-233	1.80E-05	1.29E-02	2.25	8.13E-06	1.31E-05	2.36E-05	2.97E-05
U-234	1.34E-06	9.65E-04	0.168	1.05E-06	1.28E-06	1.40E-06	1.45E-06
U-235	5.01E-08	3.61E-05	6.26E-03	4.10E-08	4.79E-08	5.24E-08	5.46E-08
U-236	4.31E-08	3.10E-05	5.38E-03	3.59E-08	4.10E-08	4.51E-08	4.72E-08
U-238	2.74E-06	1.97E-03	0.342	2.48E-06	2.68E-06	2.79E-06	2.84E-06
Np-237	3.65E-07	2.63E-04	4.56E-02	1.91E-07	2.84E-07	4.34E-07	4.51E-07
Pu-238	1.52E-06	1.10E-03	0.190	8.31E-07	1.17E-06	1.87E-06	2.21E-06
Pu-239	7.86E-05	5.65E-02	9.81	4.82E-05	4.93E-05	1.18E-04	1.55E-04
Pu-240	1.10E-05	7.90E-03	1.37	6.91E-06	8.12E-06	1.48E-05	1.85E-05
Pu-241	1.02E-04	7.34E-02	12.7	5.22E-05	7.68E-05	1.27E-04	1.52E-04
Pu-242	4.88E-10	3.51E-07	6.10E-05	2.49E-10	3.67E-10	6.10E-10	7.27E-10
Am-241	2.37E-05	1.70E-02	2.96	8.13E-06	1.58E-05	3.13E-05	3.73E-05
Am-243	8.19E-10	5.89E-07	1.02E-04	2.49E-10	5.21E-10	1.12E-09	1.37E-09
Cm-242	4.22E-10	3.04E-07	5.27E-05	1.29E-10	1.29E-10	4.25E-10	4.28E-10
Cm-243	8.67E-12	6.23E-09	1.08E-06	2.68E-12	2.68E-12	8.73E-12	8.79E-12
Cm-244	1.20E-10	8.61E-08	1.49E-05	2.66E-12	2.66E-12	1.21E-10	1.21E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.14E-03 (g/L)	----	0.143	6.40E-04	6.58E-04	1.79E-03	2.41E-03
U	1.42E-02	2.43E+03	422	1.16E-02	1.36E-02	1.48E-02	1.55E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	1.03E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.15E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	33.3	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.23E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	49.8	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	8.85	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	26.4	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.04E+03	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	851	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.99E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	8.05E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	15.6	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.55E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	846	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	27.2	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	2.03E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	89.1	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	9.91E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.21E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.32E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.5	----	----	63.2	65.9	73.6	75.9
TOC wt% C (wet)†	2.05	----	----	1.98	2.01	2.08	2.08

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.09	7.83E+04	1.03E+04	2.92	3.15	4.99	5.87
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.350	1.63E+04	2.15E+03	0.329	0.339	0.361	0.372
Cr^{3+}	5.84E-03	253	33.3	4.37E-03	5.13E-03	6.53E-03	7.20E-03
Bi^{3+}	5.36E-02	9.34E+03	1.23E+03	1.60E-02	3.74E-02	6.59E-02	7.50E-02
La^{3+}	3.26E-03	378	49.8	2.44E-03	2.87E-03	3.65E-03	4.02E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.37E-03	67.2	8.85	1.03E-03	1.21E-03	2.28E-03	6.38E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.38E-03	200	26.4	3.27E-03	3.85E-03	4.90E-03	5.40E-03
Ca^{2+}	0.236	7.88E+03	1.04E+03	0.152	0.193	0.279	0.320
K^+	0.198	6.46E+03	851	0.148	0.174	0.222	0.245
OH^-	1.06	1.51E+04	1.99E+03	1.000	1.03	1.10	1.13
$NO3^-$	1.18	6.11E+04	8.05E+03	0.885	1.04	1.32	1.46
$NO2^-$	3.09E-03	119	15.6	1.70E-03	2.36E-03	3.91E-03	4.79E-03
$CO3^{2-}$	0.236	1.18E+04	1.55E+03	0.152	0.193	0.279	0.320
$PO4^{3-}$	8.11E-02	6.42E+03	846	3.66E-02	6.15E-02	9.67E-02	0.109
$SO4^{2-}$	2.58E-03	206	27.2	1.93E-03	2.26E-03	2.88E-03	3.18E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0.975	1.54E+04	2.03E+03	0.173	0.204	1.90	2.79
Cl^-	2.29E-02	676	89.1	1.71E-02	2.01E-02	2.56E-02	2.83E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.03	7.52E+04	9.91E+03	0.978	1.00	1.04	1.05
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.18E-07	1.68E-03	2.21E-04	5.05E-08	8.13E-08	1.64E-07	2.17E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	5.63E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.75E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	4.96E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	4.57E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	5.60E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	3.68E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	18.2	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	18.2	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.75E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.45E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.21E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	4.20E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	4.89E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	6.46E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	5.55E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.29E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.78E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	20.7	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	19.6	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.139	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.82E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	8.99E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.64E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	8.22E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	5.29E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	4.34E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.00E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.02E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	4.62E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	5.36E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	2.45E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.67E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.19E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.33E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.71E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	7.51E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	3.21E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	4.64E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	4.07E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.35E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	6.23E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	3.80E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	3.08E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	3.70E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	7.98E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	7.84E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	7.65E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	8.13	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.32E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.5	----	----	63.2	65.9	73.6	75.9
TOC wt% C (wet)†	2.05	----	----	1.98	2.01	2.08	2.08
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.13E-09	4.27E-06	5.63E-04	2.84E-09	3.96E-09	6.42E-09	7.79E-09
C-14	1.59E-09	1.32E-06	1.75E-04	1.19E-09	1.40E-09	1.78E-09	1.96E-09
Ni-59	4.52E-10	3.76E-07	4.96E-05	3.38E-10	3.97E-10	7.51E-10	2.10E-09
Ni-63	4.17E-08	3.47E-05	4.57E-03	3.12E-08	3.66E-08	6.93E-08	1.94E-07
Co-60	5.10E-10	4.25E-07	5.60E-05	3.82E-10	4.48E-10	5.71E-10	6.29E-10
Se-79	3.35E-10	2.79E-07	3.68E-05	2.51E-10	2.95E-10	3.75E-10	4.14E-10
Sr-90	1.66E-04	0.138	18.2	1.24E-04	1.46E-04	1.86E-04	2.05E-04
Y-90	1.66E-04	0.138	18.2	1.24E-04	1.46E-04	1.86E-04	2.05E-04
Zr-93	1.59E-09	1.33E-06	1.75E-04	1.19E-09	1.40E-09	1.78E-09	1.96E-09
Nb-93m	1.32E-09	1.10E-06	1.45E-04	9.85E-10	1.16E-09	1.47E-09	1.62E-09
Tc-99	1.10E-08	9.20E-06	1.21E-03	8.25E-09	9.69E-09	1.23E-08	1.36E-08
Ru-106	3.83E-16	3.19E-13	4.20E-11	2.86E-16	3.36E-16	4.28E-16	4.72E-16
Cd-113m	4.46E-09	3.71E-06	4.89E-04	3.33E-09	3.91E-09	4.99E-09	5.50E-09
Sb-125	5.89E-10	4.90E-07	6.46E-05	4.40E-10	5.17E-10	6.58E-10	7.26E-10
Sn-126	5.06E-10	4.21E-07	5.55E-05	3.78E-10	4.44E-10	5.66E-10	6.24E-10
I-129	2.08E-11	1.74E-08	2.29E-06	1.56E-11	1.83E-11	2.33E-11	2.57E-11
Cs-134	2.54E-11	2.11E-08	2.78E-06	1.90E-11	2.23E-11	2.84E-11	3.13E-11
Cs-137	1.88E-04	0.157	20.7	1.41E-04	1.65E-04	2.11E-04	2.32E-04
Ba-137m	1.78E-04	0.148	19.6	1.33E-04	1.56E-04	1.99E-04	2.20E-04
Sm-151	1.27E-06	1.06E-03	0.139	9.49E-07	1.11E-06	1.42E-06	1.56E-06
Eu-152	1.66E-09	1.38E-06	1.82E-04	1.65E-09	1.65E-09	1.67E-09	1.67E-09
Eu-154	8.19E-09	6.82E-06	8.99E-04	6.12E-09	7.19E-09	9.16E-09	1.01E-08
Eu-155	1.50E-07	1.25E-04	1.64E-02	1.49E-07	1.49E-07	1.50E-07	1.51E-07
Ra-226	7.49E-14	6.24E-11	8.22E-09	5.60E-14	6.58E-14	8.38E-14	9.23E-14
Ra-228	4.81E-18	4.01E-15	5.29E-13	4.77E-18	4.80E-18	4.83E-18	4.85E-18
Ac-227	3.95E-13	3.29E-10	4.34E-08	2.95E-13	3.47E-13	4.42E-13	4.87E-13
Pa-231	9.12E-13	7.60E-10	1.00E-07	6.82E-13	8.01E-13	1.02E-12	1.12E-12
Th-229	9.31E-16	7.76E-13	1.02E-10	9.24E-16	9.28E-16	9.35E-16	9.39E-16
Th-232	4.21E-19	3.51E-16	4.62E-14	3.15E-19	3.70E-19	4.71E-19	5.19E-19
U-232	4.88E-13	4.07E-10	5.36E-08	3.65E-13	4.29E-13	5.46E-13	6.02E-13
U-233	2.23E-14	1.86E-11	2.45E-09	1.67E-14	1.96E-14	2.49E-14	2.75E-14
U-234	2.43E-08	2.03E-05	2.67E-03	1.82E-08	2.14E-08	2.72E-08	3.00E-08
U-235	1.08E-09	9.02E-07	1.19E-04	8.10E-10	9.51E-10	1.21E-09	1.34E-09
U-236	2.12E-10	1.77E-07	2.33E-05	1.59E-10	1.86E-10	2.37E-10	2.62E-10
U-238	2.47E-08	2.06E-05	2.71E-03	1.85E-08	2.17E-08	2.77E-08	3.05E-08
Np-237	6.84E-11	5.70E-08	7.51E-06	5.12E-11	6.01E-11	7.65E-11	8.44E-11
Pu-238	2.92E-09	2.43E-06	3.21E-04	2.18E-09	2.56E-09	3.27E-09	3.60E-09
Pu-239	4.23E-07	3.52E-04	4.64E-02	3.16E-07	3.71E-07	4.73E-07	5.21E-07
Pu-240	3.71E-08	3.09E-05	4.07E-03	2.77E-08	3.26E-08	4.15E-08	4.58E-08
Pu-241	1.23E-07	1.02E-04	1.35E-02	9.17E-08	1.08E-07	1.37E-07	1.51E-07
Pu-242	5.67E-13	4.73E-10	6.23E-08	4.24E-13	4.98E-13	6.35E-13	7.00E-13
Am-241	3.46E-09	2.88E-06	3.80E-04	2.59E-09	3.04E-09	3.87E-09	4.26E-09
Am-243	2.81E-14	2.34E-11	3.08E-09	2.10E-14	2.47E-14	3.14E-14	3.47E-14
Cm-242	3.38E-11	2.81E-08	3.70E-06	3.35E-11	3.36E-11	3.39E-11	3.40E-11
Cm-243	7.27E-13	6.06E-10	7.98E-08	7.21E-13	7.24E-13	7.30E-13	7.33E-13
Cm-244	7.14E-13	5.95E-10	7.84E-08	5.34E-13	6.27E-13	7.99E-13	8.81E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.97E-06 (g/L)	----	7.65E-04	5.21E-06	6.12E-06	7.79E-06	8.59E-06
U	3.11E-04	61.7	8.13	2.33E-04	2.73E-04	3.48E-04	3.84E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.23E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	2.12E-04 (kW)	(0.723 BTU/hr)	----	1.58E-04	1.86E-04	2.37E-04	2.61E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	9.95E+03	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.07E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	32.1	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.19E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	48.0	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	8.54	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	25.5	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.00E+03	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	821	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.91E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	7.76E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	15.1	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.50E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	815	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	26.2	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	1.96E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	85.9	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	9.55E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.13E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.23E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	2.12E-04 (kW)	(0.723 BTU/hr)	----	1.58E-04	1.86E-04	2.37E-04	2.61E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	9.95E+03	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.07E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	32.1	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.19E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	48.0	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	8.54	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	25.5	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.00E+03	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	821	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.91E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	7.76E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	15.1	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.50E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	815	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	26.2	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	1.96E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	85.9	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	9.55E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.13E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.23E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	2.12E-04 (kW)	(0.723 BTU/hr)	----	1.58E-04	1.86E-04	2.37E-04	2.61E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	5.43E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.68E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	4.78E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	4.41E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	5.40E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	3.55E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	17.6	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	17.6	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.69E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.39E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.17E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	4.05E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	4.72E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	6.23E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	5.35E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.21E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.68E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	19.9	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	18.9	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.134	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.76E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	8.67E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.59E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	7.93E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	5.10E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	4.18E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	9.65E-08	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	9.86E-11	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	4.45E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	5.17E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	2.36E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.58E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.15E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.25E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.62E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	7.24E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	3.09E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	4.48E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	3.93E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.30E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	6.01E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	3.66E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	2.97E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	3.57E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	7.70E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	7.56E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	7.37E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	7.84	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.23E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	2.12E-04 (kW)	(0.723 BTU/hr)	----	1.58E-04	1.86E-04	2.37E-04	2.61E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	5.43E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.68E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	4.78E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	4.41E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	5.40E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	3.55E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	17.6	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	17.6	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.69E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.39E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.17E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	4.05E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	4.72E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	6.23E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	5.35E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.21E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.68E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	19.9	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	18.9	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.134	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.76E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	8.67E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.59E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	7.93E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	5.10E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	4.18E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	9.65E-08	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	9.86E-11	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	4.45E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	5.17E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	2.36E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.58E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.15E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.25E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.62E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	7.24E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	3.09E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	4.48E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	3.93E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.30E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	6.01E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	3.66E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	2.97E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	3.57E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	7.70E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	7.56E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	7.37E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	7.84	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.29E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	3.92E-04 (kW)	(1.34 BTU/hr)	----	2.93E-04	3.44E-04	4.39E-04	4.84E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.23	8.06E+04	1.84E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	3.84E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	59.5	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	2.20E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	88.8	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	15.8	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	47.2	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.85E+03	0.157	0.200	0.289	0.332
K^{+}	0.205	6.65E+03	1.52E+03	0.154	0.180	0.230	0.253
OH^{-}	1.10	1.55E+04	3.54E+03	1.04	1.07	1.14	1.17
$NO3^{-}$	1.23	6.29E+04	1.44E+04	0.917	1.08	1.37	1.51
$NO2^{-}$	3.20E-03	122	27.9	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	2.78E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.51E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	48.5	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	1.01	1.59E+04	3.63E+03	0.180	0.211	1.97	2.89
Cl^{-}	2.37E-02	696	159	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	1.77E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	3.95E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.32E+05 (kg)	(51.0 kgal)	----	----	----	----	----
Heat Load	3.92E-04 (kW)	(1.34 BTU/hr)	----	2.93E-04	3.44E-04	4.39E-04	4.84E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.1	----	----	62.7	65.5	73.2	75.6
TOC wt% C (wet)†	2.08	----	----	2.00	2.04	2.11	2.11

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.15	7.93E+04	1.84E+04	2.97	3.19	5.07	5.96
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.356	1.65E+04	3.84E+03	0.334	0.345	0.367	0.377
Cr^{3+}	5.93E-03	256	59.5	4.43E-03	5.21E-03	6.63E-03	7.31E-03
Bi^{3+}	5.45E-02	9.46E+03	2.20E+03	1.63E-02	3.80E-02	6.69E-02	7.62E-02
La^{3+}	3.31E-03	382	88.8	2.48E-03	2.91E-03	3.71E-03	4.09E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.40E-03	68.1	15.8	1.04E-03	1.23E-03	2.32E-03	6.48E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.45E-03	203	47.2	3.32E-03	3.90E-03	4.97E-03	5.48E-03
Ca^{2+}	0.240	7.98E+03	1.85E+03	0.154	0.196	0.283	0.325
K^{+}	0.201	6.54E+03	1.52E+03	0.151	0.177	0.225	0.248
OH^{-}	1.08	1.53E+04	3.54E+03	1.02	1.05	1.11	1.15
$NO3^{-}$	1.20	6.19E+04	1.44E+04	0.899	1.06	1.34	1.48
$NO2^{-}$	3.14E-03	120	27.9	1.73E-03	2.39E-03	3.97E-03	4.87E-03
$CO3^{2-}$	0.240	1.20E+04	2.78E+03	0.154	0.196	0.283	0.325
$PO4^{3-}$	8.24E-02	6.50E+03	1.51E+03	3.71E-02	6.25E-02	9.81E-02	0.111
$SO4^{2-}$	2.62E-03	209	48.5	1.96E-03	2.30E-03	2.93E-03	3.23E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0.990	1.56E+04	3.63E+03	0.176	0.207	1.93	2.84
Cl^{-}	2.33E-02	685	159	1.74E-02	2.04E-02	2.60E-02	2.87E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.04	7.61E+04	1.77E+04	0.993	1.02	1.06	1.07
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.20E-07	1.70E-03	3.95E-04	5.13E-08	8.26E-08	1.66E-07	2.20E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.29E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	3.92E-04 (kW)	(1.34 BTU/hr)	----	2.93E-04	3.44E-04	4.39E-04	4.84E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	1.01E-03	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	3.12E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	8.86E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	8.17E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	1.00E-04	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	6.57E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	32.5	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	32.6	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	3.12E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	2.58E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	2.16E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	7.50E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	8.74E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	1.15E-04	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	9.91E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	4.08E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	4.97E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	36.9	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	34.9	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.249	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	3.25E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.61E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.94E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.47E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	9.44E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	7.75E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.79E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.83E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	8.25E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	9.57E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	4.37E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	4.77E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	2.12E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	4.16E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	4.84E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	1.34E-05	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	5.73E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	8.29E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	7.27E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	2.40E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	1.11E-07	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	6.78E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	5.51E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	6.62E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	1.43E-07	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	1.40E-07	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	1.37E-03	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	14.5	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.32E+05 (kg)	(51.0 kgal)	----	----	----	----	----
Heat Load	3.92E-04 (kW)	(1.34 BTU/hr)	----	2.93E-04	3.44E-04	4.39E-04	4.84E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.1	----	----	62.7	65.5	73.2	75.6
TOC wt% C (wet)†	2.08	----	----	2.00	2.04	2.11	2.11
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.21E-09	4.33E-06	1.01E-03	2.89E-09	4.02E-09	6.52E-09	7.91E-09
C-14	1.61E-09	1.34E-06	3.12E-04	1.21E-09	1.42E-09	1.81E-09	1.99E-09
Ni-59	4.59E-10	3.81E-07	8.86E-05	3.43E-10	4.03E-10	7.63E-10	2.13E-09
Ni-63	4.23E-08	3.52E-05	8.17E-03	3.16E-08	3.72E-08	7.03E-08	1.97E-07
Co-60	5.18E-10	4.31E-07	1.00E-04	3.87E-10	4.55E-10	5.80E-10	6.39E-10
Se-79	3.41E-10	2.83E-07	6.57E-05	2.55E-10	2.99E-10	3.81E-10	4.20E-10
Sr-90	1.69E-04	0.140	32.5	1.26E-04	1.48E-04	1.89E-04	2.08E-04
Y-90	1.69E-04	0.140	32.6	1.26E-04	1.48E-04	1.89E-04	2.08E-04
Zr-93	1.62E-09	1.34E-06	3.12E-04	1.21E-09	1.42E-09	1.81E-09	1.99E-09
Nb-93m	1.34E-09	1.11E-06	2.58E-04	1.00E-09	1.17E-09	1.50E-09	1.65E-09
Tc-99	1.12E-08	9.31E-06	2.16E-03	8.38E-09	9.84E-09	1.25E-08	1.38E-08
Ru-106	3.89E-16	3.23E-13	7.50E-11	2.91E-16	3.41E-16	4.35E-16	4.79E-16
Cd-113m	4.53E-09	3.76E-06	8.74E-04	3.38E-09	3.97E-09	5.06E-09	5.58E-09
Sb-125	5.98E-10	4.97E-07	1.15E-04	4.47E-10	5.25E-10	6.69E-10	7.37E-10
Sn-126	5.14E-10	4.27E-07	9.91E-05	3.84E-10	4.51E-10	5.75E-10	6.33E-10
I-129	2.12E-11	1.76E-08	4.08E-06	1.58E-11	1.86E-11	2.37E-11	2.61E-11
Cs-134	2.57E-11	2.14E-08	4.97E-06	1.92E-11	2.26E-11	2.88E-11	3.17E-11
Cs-137	1.91E-04	0.159	36.9	1.43E-04	1.68E-04	2.14E-04	2.36E-04
Ba-137m	1.81E-04	0.150	34.9	1.35E-04	1.59E-04	2.02E-04	2.23E-04
Sm-151	1.29E-06	1.07E-03	0.249	9.63E-07	1.13E-06	1.44E-06	1.59E-06
Eu-152	1.69E-09	1.40E-06	3.25E-04	1.67E-09	1.68E-09	1.69E-09	1.70E-09
Eu-154	8.32E-09	6.91E-06	1.61E-03	6.22E-09	7.30E-09	9.30E-09	1.03E-08
Eu-155	1.52E-07	1.26E-04	2.94E-02	1.51E-07	1.52E-07	1.53E-07	1.53E-07
Ra-226	7.60E-14	6.32E-11	1.47E-08	5.68E-14	6.68E-14	8.51E-14	9.38E-14
Ra-228	4.89E-18	4.06E-15	9.44E-13	4.85E-18	4.87E-18	4.91E-18	4.93E-18
Ac-227	4.01E-13	3.33E-10	7.75E-08	3.00E-13	3.52E-13	4.49E-13	4.95E-13
Pa-231	9.26E-13	7.69E-10	1.79E-07	6.92E-13	8.13E-13	1.04E-12	1.14E-12
Th-229	9.46E-16	7.86E-13	1.83E-10	9.38E-16	9.42E-16	9.49E-16	9.53E-16
Th-232	4.27E-19	3.55E-16	8.25E-14	3.19E-19	3.75E-19	4.78E-19	5.27E-19
U-232	4.96E-13	4.12E-10	9.57E-08	3.71E-13	4.35E-13	5.55E-13	6.11E-13
U-233	2.26E-14	1.88E-11	4.37E-09	1.69E-14	1.99E-14	2.53E-14	2.79E-14
U-234	2.47E-08	2.05E-05	4.77E-03	1.85E-08	2.17E-08	2.77E-08	3.05E-08
U-235	1.10E-09	9.14E-07	2.12E-04	8.22E-10	9.66E-10	1.23E-09	1.36E-09
U-236	2.16E-10	1.79E-07	4.16E-05	1.61E-10	1.89E-10	2.41E-10	2.66E-10
U-238	2.51E-08	2.09E-05	4.84E-03	1.88E-08	2.20E-08	2.81E-08	3.09E-08
Np-237	6.95E-11	5.77E-08	1.34E-05	5.19E-11	6.10E-11	7.77E-11	8.57E-11
Pu-238	2.97E-09	2.46E-06	5.73E-04	2.22E-09	2.60E-09	3.32E-09	3.66E-09
Pu-239	4.29E-07	3.57E-04	8.29E-02	3.21E-07	3.77E-07	4.80E-07	5.30E-07
Pu-240	3.77E-08	3.13E-05	7.27E-03	2.82E-08	3.31E-08	4.22E-08	4.65E-08
Pu-241	1.25E-07	1.03E-04	2.40E-02	9.31E-08	1.09E-07	1.39E-07	1.54E-07
Pu-242	5.76E-13	4.79E-10	1.11E-07	4.31E-13	5.06E-13	6.45E-13	7.11E-13
Am-241	3.51E-09	2.92E-06	6.78E-04	2.62E-09	3.08E-09	3.93E-09	4.33E-09
Am-243	2.85E-14	2.37E-11	5.51E-09	2.13E-14	2.51E-14	3.19E-14	3.52E-14
Cm-242	3.43E-11	2.85E-08	6.62E-06	3.40E-11	3.41E-11	3.44E-11	3.45E-11
Cm-243	7.38E-13	6.13E-10	1.43E-07	7.32E-13	7.35E-13	7.41E-13	7.44E-13
Cm-244	7.25E-13	6.03E-10	1.40E-07	5.42E-13	6.37E-13	8.11E-13	8.94E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.07E-06 (g/L)	----	1.37E-03	5.29E-06	6.21E-06	7.91E-06	8.72E-06
U	3.16E-04	62.5	14.5	2.36E-04	2.77E-04	3.53E-04	3.90E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-B-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.24E+05 (kg)	(49.0 kgal)	----	----	----	----	----
Heat Load	3.84E-04 (kW)	(1.31 BTU/hr)	----	2.87E-04	3.38E-04	4.30E-04	4.74E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	1.81E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	3.76E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	58.3	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	2.15E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	87.1	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	15.5	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	46.2	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.82E+03	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	1.49E+03	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	3.47E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	1.41E+04	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	27.3	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	2.72E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.48E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	47.5	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	3.56E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	156	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	1.73E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	3.87E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.82E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	6.46E-08 (kW)	(2.21E-04 BTU/hr)	----	4.68E-08	5.55E-08	7.37E-08	8.25E-08
Bulk Density*	1.01 (g/cc)	----	----	1.01	1.01	1.01	1.01
Water wt%	98.4	----	----	98.4	98.4	98.4	98.4
TOC wt% C (wet)	8.67E-05	----	----	7.68E-05	8.16E-05	9.17E-05	9.66E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.177	4.05E+03	15.5	0.174	0.176	0.178	0.180
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.71E-03	95.2	0.363	9.54E-04	1.33E-03	2.10E-03	2.48E-03
Cr^{3+}	6.87E-03	355	1.36	6.85E-03	6.86E-03	6.88E-03	6.88E-03
Bi^{3+}	2.91E-05	6.04	2.31E-02	2.46E-05	2.68E-05	3.14E-05	3.36E-05
La^{3+}	2.77E-05	3.83	1.46E-02	2.01E-05	2.38E-05	3.17E-05	3.55E-05
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.54E-03	90.0	0.344	1.39E-03	1.46E-03	1.62E-03	1.69E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.72E-05	2.03	7.77E-03	2.70E-05	3.20E-05	4.25E-05	4.76E-05
Ca^{2+}	7.72E-03	307	1.17	4.73E-03	6.19E-03	9.24E-03	1.07E-02
K^+	2.27E-03	88.4	0.338	1.81E-03	2.04E-03	2.51E-03	2.74E-03
OH^-	4.41E-02	745	2.85	4.18E-02	4.29E-02	4.53E-02	4.64E-02
$NO3^-$	0.144	8.85E+03	33.8	0.141	0.142	0.145	0.146
$NO2^-$	2.05E-02	936	3.57	2.05E-02	2.05E-02	2.05E-02	2.05E-02
$CO3^{2-}$	1.74E-03	104	0.396	-1.25E-03	2.12E-04	3.26E-03	4.72E-03
$PO4^{3-}$	2.63E-04	24.8	9.47E-02	1.98E-04	2.30E-04	2.96E-04	3.28E-04
$SO4^{2-}$	3.43E-03	328	1.25	3.43E-03	3.43E-03	3.43E-03	3.44E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.75E-03	33.0	0.126	1.19E-03	1.46E-03	1.97E-03	1.97E-03
Cl^-	2.90E-03	102	0.390	2.85E-03	2.87E-03	2.93E-03	2.95E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	3.63E-05	3.18	1.21E-02	3.22E-05	3.42E-05	3.85E-05	4.05E-05
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	9.31E-10	1.57E-05	6.01E-08	3.53E-10	5.90E-10	1.39E-09	1.95E-09
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.28E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	3.84E-04 (kW)	(1.31 BTU/hr)	----	2.87E-04	3.38E-04	4.30E-04	4.74E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.1	----	----	62.7	65.5	73.2	75.6
TOC wt% C (wet)†	2.07	----	----	2.00	2.04	2.11	2.11

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.15	7.93E+04	1.81E+04	2.97	3.20	5.07	5.96
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.356	1.65E+04	3.76E+03	0.334	0.345	0.367	0.377
Cr^{3+}	6.06E-03	262	59.7	4.57E-03	5.34E-03	6.77E-03	7.45E-03
Bi^{3+}	5.44E-02	9.45E+03	2.15E+03	1.63E-02	3.80E-02	6.69E-02	7.61E-02
La^{3+}	3.31E-03	382	87.1	2.48E-03	2.91E-03	3.71E-03	4.08E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.43E-03	69.5	15.8	1.07E-03	1.26E-03	2.35E-03	6.51E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.45E-03	203	46.2	3.32E-03	3.90E-03	4.97E-03	5.48E-03
Ca^{2+}	0.240	7.98E+03	1.82E+03	0.154	0.196	0.283	0.325
K^+	0.201	6.54E+03	1.49E+03	0.150	0.177	0.225	0.248
OH^-	1.08	1.53E+04	3.48E+03	1.02	1.05	1.11	1.15
$NO3^-$	1.20	6.20E+04	1.41E+04	0.901	1.06	1.35	1.48
$NO2^-$	3.55E-03	136	30.9	2.14E-03	2.80E-03	4.38E-03	5.28E-03
$CO3^{2-}$	0.240	1.19E+04	2.72E+03	0.154	0.196	0.283	0.325
$PO4^{3-}$	8.23E-02	6.50E+03	1.48E+03	3.71E-02	6.25E-02	9.81E-02	0.111
$SO4^{2-}$	2.68E-03	214	48.8	2.02E-03	2.36E-03	2.99E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0.990	1.56E+04	3.56E+03	0.176	0.207	1.93	2.84
Cl^-	2.33E-02	686	156	1.74E-02	2.05E-02	2.61E-02	2.87E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.04	7.61E+04	1.73E+04	0.993	1.02	1.06	1.07
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.20E-07	1.70E-03	3.87E-04	5.13E-08	8.26E-08	1.66E-07	2.20E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.24E+05 (kg)	(49.0 kgal)	----	----	----	----	----
Heat Load	3.84E-04 (kW)	(1.31 BTU/hr)	----	2.87E-04	3.38E-04	4.30E-04	4.74E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	9.86E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	3.05E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	8.68E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	8.00E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	9.80E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	6.44E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	31.9	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	31.9	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	3.06E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	2.53E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	2.12E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	7.35E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	8.56E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	1.13E-04	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	9.71E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	4.00E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	4.87E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	36.2	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	34.2	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.244	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	3.19E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.57E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.88E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.44E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	9.25E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	7.59E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.75E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.79E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	8.08E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	9.38E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	4.28E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	4.68E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	2.08E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	4.08E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	4.75E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	1.31E-05	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	5.61E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	8.12E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	7.13E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	2.36E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	1.09E-07	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	6.64E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	5.40E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	6.48E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	1.40E-07	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	1.37E-07	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	1.34E-03	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	14.2	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-B-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.82E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	6.46E-08 (kW)	(2.21E-04 BTU/hr)	----	4.68E-08	5.55E-08	7.37E-08	8.25E-08
Bulk Density*	1.01 (g/cc)	----	----	1.01	1.01	1.01	1.01
Water wt%†	98.4	----	----	98.4	98.4	98.4	98.4
TOC wt% C (wet)	8.67E-05	----	----	7.68E-05	8.16E-05	9.17E-05	9.66E-05
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.36E-11	4.34E-08	1.66E-07	2.34E-11	3.29E-11	5.57E-11	6.86E-11
C-14	1.35E-11	1.34E-08	5.13E-08	9.79E-12	1.16E-11	1.54E-11	1.73E-11
Ni-59	3.84E-12	3.82E-09	1.46E-08	2.78E-12	3.30E-12	4.30E-12	4.31E-12
Ni-63	3.54E-10	3.52E-07	1.34E-06	2.57E-10	3.04E-10	3.97E-10	3.97E-10
Co-60	4.34E-12	4.31E-09	1.65E-08	3.14E-12	3.73E-12	4.95E-12	5.54E-12
Se-79	2.85E-12	2.83E-09	1.08E-08	2.06E-12	2.45E-12	3.26E-12	3.64E-12
Sr-90	1.41E-06	1.40E-03	5.36E-03	1.02E-06	1.21E-06	1.61E-06	1.80E-06
Y-90	1.41E-06	1.40E-03	5.36E-03	1.02E-06	1.21E-06	1.61E-06	1.80E-06
Zr-93	1.35E-11	1.35E-08	5.14E-08	9.80E-12	1.16E-11	1.55E-11	1.73E-11
Nb-93m	1.12E-11	1.11E-08	4.25E-08	8.11E-12	9.62E-12	1.28E-11	1.43E-11
Tc-99	9.38E-11	9.33E-08	3.56E-07	6.80E-11	8.06E-11	1.07E-10	1.20E-10
Ru-106	3.25E-18	3.23E-15	1.24E-14	2.36E-18	2.79E-18	3.71E-18	4.16E-18
Cd-113m	3.79E-11	3.77E-08	1.44E-07	2.74E-11	3.25E-11	4.33E-11	4.84E-11
Sb-125	5.00E-12	4.97E-09	1.90E-08	3.62E-12	4.30E-12	5.71E-12	6.39E-12
Sn-126	4.30E-12	4.27E-09	1.63E-08	3.11E-12	3.69E-12	4.91E-12	5.49E-12
I-129	1.77E-13	1.76E-10	6.73E-10	1.28E-13	1.52E-13	2.02E-13	2.26E-13
Cs-134	2.16E-13	2.14E-10	8.18E-10	1.56E-13	1.85E-13	2.46E-13	2.75E-13
Cs-137	1.60E-06	1.59E-03	6.08E-03	1.16E-06	1.38E-06	1.83E-06	2.05E-06
Ba-137m	1.51E-06	1.51E-03	5.75E-03	1.10E-06	1.30E-06	1.73E-06	1.94E-06
Sm-151	1.08E-08	1.07E-05	4.10E-05	7.81E-09	9.27E-09	1.23E-08	1.38E-08
Eu-152	4.71E-13	4.68E-10	1.79E-09	3.41E-13	4.04E-13	5.38E-13	6.02E-13
Eu-154	6.96E-11	6.92E-08	2.64E-07	5.04E-11	5.98E-11	7.95E-11	8.90E-11
Eu-155	4.25E-11	4.22E-08	1.61E-07	3.08E-11	3.65E-11	4.85E-11	5.43E-11
Ra-226	6.37E-16	6.33E-13	2.42E-12	4.61E-16	5.47E-16	7.27E-16	8.14E-16
Ra-228	1.37E-21	1.36E-18	5.18E-18	9.89E-22	1.17E-21	1.56E-21	1.74E-21
Ac-227	3.36E-15	3.34E-12	1.28E-11	2.43E-15	2.89E-15	3.83E-15	4.29E-15
Pa-231	7.75E-15	7.71E-12	2.94E-11	5.61E-15	6.66E-15	8.85E-15	9.91E-15
Th-229	2.64E-19	2.62E-16	1.00E-15	1.91E-19	2.27E-19	3.01E-19	3.37E-19
Th-232	3.58E-21	3.56E-18	1.36E-17	2.59E-21	3.07E-21	4.08E-21	4.57E-21
U-232	4.15E-15	4.13E-12	1.58E-11	3.01E-15	3.57E-15	4.74E-15	5.30E-15
U-233	1.89E-16	1.88E-13	7.19E-13	1.37E-16	1.63E-16	2.16E-16	2.42E-16
U-234	2.07E-10	2.06E-07	7.86E-07	1.50E-10	1.78E-10	2.36E-10	2.65E-10
U-235	9.21E-12	9.15E-09	3.50E-08	6.67E-12	7.91E-12	1.05E-11	1.18E-11
U-236	1.80E-12	1.79E-09	6.85E-09	1.31E-12	1.55E-12	2.06E-12	2.31E-12
U-238	2.10E-10	2.09E-07	7.98E-07	1.52E-10	1.80E-10	2.40E-10	2.69E-10
Np-237	5.82E-13	5.78E-10	2.21E-09	4.21E-13	5.00E-13	6.64E-13	7.43E-13
Pu-238	2.48E-11	2.47E-08	9.43E-08	1.80E-11	2.13E-11	2.83E-11	3.17E-11
Pu-239	3.59E-09	3.57E-06	1.36E-05	2.60E-09	3.09E-09	4.10E-09	4.59E-09
Pu-240	3.16E-10	3.14E-07	1.20E-06	2.28E-10	2.71E-10	3.60E-10	4.03E-10
Pu-241	1.04E-09	1.04E-06	3.96E-06	7.55E-10	8.95E-10	1.19E-09	1.33E-09
Pu-242	4.82E-15	4.80E-12	1.83E-11	3.49E-15	4.14E-15	5.51E-15	6.17E-15
Am-241	2.94E-11	2.92E-08	1.12E-07	2.13E-11	2.52E-11	3.36E-11	3.76E-11
Am-243	2.39E-16	2.37E-13	9.07E-13	1.73E-16	2.05E-16	2.73E-16	3.05E-16
Cm-242	9.57E-15	9.51E-12	3.63E-11	6.93E-15	8.22E-15	1.09E-14	1.22E-14
Cm-243	2.06E-16	2.05E-13	7.83E-13	1.49E-16	1.77E-16	2.35E-16	2.63E-16
Cm-244	6.07E-15	6.03E-12	2.30E-11	4.40E-15	5.21E-15	6.93E-15	7.76E-15
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.92E-08 (g/L)	----	2.25E-07	4.29E-08	5.09E-08	6.76E-08	7.57E-08
U	2.64E-06	0.626	2.39E-03	1.91E-06	2.27E-06	3.02E-06	3.38E-06

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-B-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.28E+05 (kg)	(50.0 kgal)	----	----	----	----	----
Heat Load	3.84E-04 (kW)	(1.31 BTU/hr)	----	2.87E-04	3.38E-04	4.30E-04	4.74E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.1	----	----	62.7	65.5	73.2	75.6
TOC wt% C (wet)†	2.07	----	----	2.00	2.04	2.11	2.11
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.21E-09	4.33E-06	9.86E-04	2.89E-09	4.01E-09	6.51E-09	7.91E-09
C-14	1.61E-09	1.34E-06	3.05E-04	1.21E-09	1.42E-09	1.81E-09	1.99E-09
Ni-59	4.59E-10	3.81E-07	8.68E-05	3.43E-10	4.03E-10	7.63E-10	2.13E-09
Ni-63	4.23E-08	3.51E-05	8.01E-03	3.16E-08	3.71E-08	7.03E-08	1.97E-07
Co-60	5.18E-10	4.30E-07	9.81E-05	3.87E-10	4.55E-10	5.80E-10	6.39E-10
Se-79	3.40E-10	2.83E-07	6.44E-05	2.55E-10	2.99E-10	3.81E-10	4.20E-10
Sr-90	1.69E-04	0.140	31.9	1.26E-04	1.48E-04	1.89E-04	2.08E-04
Y-90	1.69E-04	0.140	31.9	1.26E-04	1.48E-04	1.89E-04	2.08E-04
Zr-93	1.62E-09	1.34E-06	3.06E-04	1.21E-09	1.42E-09	1.81E-09	1.99E-09
Nb-93m	1.34E-09	1.11E-06	2.53E-04	1.00E-09	1.17E-09	1.50E-09	1.65E-09
Tc-99	1.12E-08	9.31E-06	2.12E-03	8.38E-09	9.84E-09	1.25E-08	1.38E-08
Ru-106	3.89E-16	3.23E-13	7.35E-11	2.90E-16	3.41E-16	4.35E-16	4.79E-16
Cd-113m	4.52E-09	3.76E-06	8.56E-04	3.38E-09	3.97E-09	5.06E-09	5.58E-09
Sb-125	5.97E-10	4.96E-07	1.13E-04	4.47E-10	5.25E-10	6.68E-10	7.37E-10
Sn-126	5.13E-10	4.27E-07	9.72E-05	3.84E-10	4.51E-10	5.74E-10	6.33E-10
I-129	2.12E-11	1.76E-08	4.00E-06	1.58E-11	1.86E-11	2.37E-11	2.61E-11
Cs-134	2.57E-11	2.14E-08	4.87E-06	1.92E-11	2.26E-11	2.88E-11	3.17E-11
Cs-137	1.91E-04	0.159	36.2	1.43E-04	1.68E-04	2.14E-04	2.36E-04
Ba-137m	1.81E-04	0.150	34.2	1.35E-04	1.59E-04	2.02E-04	2.23E-04
Sm-151	1.29E-06	1.07E-03	0.244	9.63E-07	1.13E-06	1.44E-06	1.59E-06
Eu-152	1.69E-09	1.40E-06	3.19E-04	1.67E-09	1.68E-09	1.69E-09	1.70E-09
Eu-154	8.31E-09	6.91E-06	1.57E-03	6.21E-09	7.30E-09	9.30E-09	1.03E-08
Eu-155	1.52E-07	1.26E-04	2.88E-02	1.51E-07	1.51E-07	1.53E-07	1.53E-07
Ra-226	7.60E-14	6.32E-11	1.44E-08	5.68E-14	6.68E-14	8.50E-14	9.37E-14
Ra-228	4.89E-18	4.06E-15	9.25E-13	4.85E-18	4.87E-18	4.91E-18	4.92E-18
Ac-227	4.01E-13	3.33E-10	7.59E-08	3.00E-13	3.52E-13	4.49E-13	4.95E-13
Pa-231	9.26E-13	7.69E-10	1.75E-07	6.92E-13	8.13E-13	1.04E-12	1.14E-12
Th-229	9.45E-16	7.85E-13	1.79E-10	9.37E-16	9.41E-16	9.49E-16	9.53E-16
Th-232	4.27E-19	3.55E-16	8.08E-14	3.19E-19	3.75E-19	4.78E-19	5.27E-19
U-232	4.96E-13	4.12E-10	9.38E-08	3.71E-13	4.35E-13	5.54E-13	6.11E-13
U-233	2.26E-14	1.88E-11	4.28E-09	1.69E-14	1.99E-14	2.53E-14	2.79E-14
U-234	2.47E-08	2.05E-05	4.68E-03	1.85E-08	2.17E-08	2.77E-08	3.05E-08
U-235	1.10E-09	9.14E-07	2.08E-04	8.22E-10	9.66E-10	1.23E-09	1.36E-09
U-236	2.16E-10	1.79E-07	4.08E-05	1.61E-10	1.89E-10	2.41E-10	2.66E-10
U-238	2.51E-08	2.08E-05	4.75E-03	1.88E-08	2.20E-08	2.81E-08	3.09E-08
Np-237	6.95E-11	5.77E-08	1.31E-05	5.19E-11	6.10E-11	7.77E-11	8.57E-11
Pu-238	2.97E-09	2.46E-06	5.61E-04	2.22E-09	2.60E-09	3.32E-09	3.66E-09
Pu-239	4.29E-07	3.57E-04	8.12E-02	3.21E-07	3.77E-07	4.80E-07	5.29E-07
Pu-240	3.77E-08	3.13E-05	7.13E-03	2.82E-08	3.31E-08	4.21E-08	4.65E-08
Pu-241	1.24E-07	1.03E-04	2.36E-02	9.31E-08	1.09E-07	1.39E-07	1.54E-07
Pu-242	5.76E-13	4.79E-10	1.09E-07	4.31E-13	5.06E-13	6.44E-13	7.10E-13
Am-241	3.51E-09	2.92E-06	6.64E-04	2.62E-09	3.08E-09	3.93E-09	4.33E-09
Am-243	2.85E-14	2.37E-11	5.40E-09	2.13E-14	2.50E-14	3.19E-14	3.52E-14
Cm-242	3.43E-11	2.85E-08	6.48E-06	3.40E-11	3.41E-11	3.44E-11	3.45E-11
Cm-243	7.38E-13	6.13E-10	1.40E-07	7.32E-13	7.35E-13	7.41E-13	7.44E-13
Cm-244	7.25E-13	6.02E-10	1.37E-07	5.42E-13	6.37E-13	8.11E-13	8.94E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.07E-06 (g/L)	----	1.34E-03	5.29E-06	6.21E-06	7.91E-06	8.72E-06
U	3.16E-04	62.4	14.2	2.36E-04	2.77E-04	3.53E-04	3.89E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.64E+05 (kg)	(42.0 kgal)	----	----	----	----	----
Heat Load	2.47 (kW)	(8.42E+03 BTU/hr)	----	0.467	1.82	2.83	3.05
Bulk Density	1.66 (g/cc)	----	----	1.58	1.61	1.70	1.71
Void Fraction	0.480	----	----	0.403	0.438	0.529	0.584
Water wt%	46.4	----	----	44.9	45.2	48.2	49.6
TOC wt% C (wet)	7.33E-02	----	----	4.33E-02	6.50E-02	8.14E-02	0.113
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	5.67	7.83E+04	2.07E+04	3.90	4.37	6.42	7.06
Al^{3+}	0.946	1.53E+04	4.06E+03	0.922	0.938	0.952	0.977
Fe^{3+} (total Fe)	0.765	2.57E+04	6.79E+03	0.655	0.730	0.786	0.806
Cr^{3+}	9.43E-04	29.5	7.79	8.05E-04	8.74E-04	1.01E-03	1.07E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.374	1.32E+04	3.49E+03	0.275	0.343	0.392	0.403
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.92E+03	771	5.93E-02	5.99E-02	0.210	0.280
K^+	3.00E-03	70.5	18.7	1.78E-03	2.60E-03	3.29E-03	4.62E-03
OH^-	13.5	1.37E+05	3.64E+04	12.7	13.2	13.6	13.9
$NO3^-$	5.09E-02	1.90E+03	502	4.33E-02	4.71E-02	5.47E-02	6.30E-02
$NO2^-$	0.187	5.16E+03	1.37E+03	9.44E-02	0.161	0.205	0.293
$CO3^{2-}$	1.42	5.12E+04	1.36E+04	1.05	1.25	1.57	1.70
$PO4^{3-}$	0.278	1.59E+04	4.20E+03	0.121	0.204	0.342	0.394
$SO4^{2-}$	7.15E-02	4.13E+03	1.09E+03	6.24E-02	6.69E-02	7.58E-02	7.98E-02
Si (as SiO_x^{2-})	0.739	1.25E+04	3.30E+03	7.00E-03	0.141	1.13	1.50
F^-	0	0	0	0	0	0	0
Cl^-	1.38E-02	294	77.7	8.18E-03	1.20E-02	1.51E-02	2.13E-02
$C_6H_5O_7^{3-}$	3.11E-03	353	93.5	1.75E-03	2.67E-03	3.43E-03	4.92E-03
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	4.15E-02	1.87E+03	494	2.33E-02	3.56E-02	4.57E-02	6.55E-02
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.86E-02	292	77.2	4.11E-03	2.23E-02	3.43E-02	5.54E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.09E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	2.28E-03 (kW)	(7.79 BTU/hr)	----	1.22E-03	1.67E-03	2.83E-03	3.65E-03
Bulk Density*	1.34 (g/cc)	----	----	1.23	1.30	1.37	1.39
Water wt%	57.6	----	----	52.1	54.0	61.8	67.5
TOC wt% C (wet)	0.525	----	----	0.393	0.446	0.612	0.751
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	7.21	1.23E+05	628	5.01	6.18	8.16	8.71
Al^{3+}	1.20	2.41E+04	123	0.691	1.08	1.24	1.29
Fe^{3+} (total Fe)	1.50E-03	62.4	0.318	8.28E-04	1.16E-03	1.84E-03	2.17E-03
Cr^{3+}	5.32E-02	2.06E+03	10.5	3.44E-02	4.25E-02	6.37E-02	7.84E-02
Bi^{3+}	8.68E-04	135	0.688	7.33E-04	7.99E-04	9.37E-04	1.04E-03
La^{3+}	1.98E-06	0.205	1.04E-03	1.28E-06	1.59E-06	2.41E-06	3.04E-06
Hg^{2+}	7.50E-06	1.12	5.70E-03	6.75E-06	7.12E-06	7.88E-06	8.25E-06
Zr (as $ZrO(OH)_2$)	3.29E-05	2.24	1.14E-02	2.12E-05	2.56E-05	3.98E-05	5.11E-05
Pb^{2+}	1.20E-03	185	0.942	6.53E-04	9.21E-04	1.48E-03	1.75E-03
Ni^{2+}	1.35E-03	59.0	0.300	1.21E-03	1.28E-03	1.42E-03	1.48E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.14E-03	129	0.654	2.32E-03	2.72E-03	3.56E-03	3.96E-03
Ca^{2+}	6.75E-03	201	1.03	4.12E-03	5.40E-03	8.09E-03	9.38E-03
K^+	3.86E-02	1.12E+03	5.72	2.18E-02	2.89E-02	4.99E-02	6.52E-02
OH^-	5.84	7.40E+04	377	3.43	5.16	6.07	6.42
$NO3^-$	2.10	9.70E+04	494	1.70	1.90	2.30	2.50
$NO2^-$	1.62	5.55E+04	282	0.732	1.11	2.17	2.33
$CO3^{2-}$	0.278	1.24E+04	63.3	0.228	0.261	0.295	0.311
$PO4^{3-}$	6.64E-02	4.70E+03	23.9	4.39E-02	5.37E-02	7.65E-02	8.97E-02
$SO4^{2-}$	0.187	1.34E+04	68.1	8.36E-02	0.127	0.258	0.263
Si (as SiO_x^{2-})	2.55E-02	533	2.72	1.29E-02	1.91E-02	3.19E-02	3.81E-02
F^-	5.39E-02	763	3.89	3.60E-02	4.34E-02	6.55E-02	8.29E-02
Cl^-	0.127	3.36E+03	17.1	6.78E-02	9.47E-02	0.133	0.133
$C_6H_5O_7^{3-}$	2.31E-02	3.26E+03	16.6	1.80E-02	2.02E-02	2.63E-02	3.14E-02
$EDTA^{4-}$	5.20E-03	1.12E+03	5.68	3.59E-03	4.28E-03	6.18E-03	7.66E-03
$HEDTA^{3-}$	7.01E-04	143	0.729	1.66E-04	4.08E-04	1.03E-03	1.47E-03
$glycolate^-$	1.63E-02	911	4.64	6.46E-03	1.09E-02	2.23E-02	3.05E-02
$acetate^-$	3.09E-02	1.36E+03	6.92	2.24E-02	2.60E-02	3.62E-02	4.42E-02
$oxalate^{2-}$	2.60E-06	0.170	8.66E-04	2.30E-06	2.42E-06	2.76E-06	3.12E-06
DBP	2.46E-02	3.85E+03	19.6	1.66E-02	2.01E-02	2.95E-02	3.68E-02
butanol	2.46E-02	1.36E+03	6.91	1.66E-02	2.01E-02	2.95E-02	3.68E-02
NH_3	1.30E-02	165	0.840	5.05E-03	7.97E-03	1.98E-02	3.01E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.70E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	2.47 (kW)	(8.43E+03 BTU/hr)	----	0.469	1.83	2.83	3.05
Bulk Density†	1.66 (g/cc)	----	----	1.58	1.60	1.69	1.70
Water wt%†	46.6	----	----	45.1	45.5	48.4	49.8
TOC wt% C (wet)†	8.18E-02	----	----	5.29E-02	7.38E-02	8.99E-02	0.120
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	5.70	7.92E+04	2.13E+04	3.98	4.44	6.43	7.06
Al^{3+}	0.952	1.55E+04	4.18E+03	0.929	0.944	0.957	0.983
Fe^{3+} (total Fe)	0.747	2.52E+04	6.79E+03	0.640	0.713	0.768	0.787
Cr^{3+}	2.16E-03	67.9	18.3	1.72E-03	1.91E-03	2.41E-03	2.75E-03
Bi^{3+}	2.02E-05	2.55	0.688	1.71E-05	1.86E-05	2.18E-05	2.43E-05
La^{3+}	4.62E-08	3.87E-03	1.04E-03	2.99E-08	3.70E-08	5.62E-08	7.08E-08
Hg^{2+}	1.75E-07	2.12E-02	5.70E-03	1.57E-07	1.66E-07	1.84E-07	1.92E-07
Zr (as $ZrO(OH)_2$)	7.67E-07	4.22E-02	1.14E-02	4.94E-07	5.97E-07	9.27E-07	1.19E-06
Pb^{2+}	2.79E-05	3.50	0.942	1.52E-05	2.15E-05	3.45E-05	4.07E-05
Ni^{2+}	0.366	1.30E+04	3.49E+03	0.269	0.335	0.383	0.394
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.32E-05	2.43	0.654	5.40E-05	6.34E-05	8.29E-05	9.23E-05
Ca^{2+}	0.118	2.87E+03	772	5.81E-02	5.87E-02	0.206	0.273
K^+	3.83E-03	90.4	24.4	2.63E-03	3.44E-03	4.11E-03	5.41E-03
OH^-	13.3	1.36E+05	3.67E+04	12.6	13.0	13.4	13.7
$NO3^-$	9.87E-02	3.69E+03	996	8.94E-02	9.39E-02	0.103	0.110
$NO2^-$	0.220	6.11E+03	1.65E+03	0.130	0.195	0.238	0.324
$CO3^{2-}$	1.39	5.05E+04	1.36E+04	1.04	1.23	1.54	1.66
$PO4^{3-}$	0.273	1.57E+04	4.23E+03	0.120	0.200	0.335	0.386
$SO4^{2-}$	7.41E-02	4.30E+03	1.16E+03	6.53E-02	6.97E-02	7.84E-02	8.22E-02
Si (as SiO_x^{2-})	0.722	1.22E+04	3.30E+03	7.43E-03	0.138	1.10	1.46
F^-	1.26E-03	14.4	3.89	8.40E-04	1.01E-03	1.53E-03	1.93E-03
Cl^-	1.65E-02	352	94.9	1.10E-02	1.47E-02	1.77E-02	2.37E-02
$C_6H_5O_7^{3-}$	3.58E-03	408	110	2.25E-03	3.14E-03	3.89E-03	5.34E-03
$EDTA^{4-}$	1.21E-04	21.1	5.68	8.37E-05	9.98E-05	1.44E-04	1.78E-04
$HEDTA^{3-}$	1.63E-05	2.70	0.729	3.87E-06	9.51E-06	2.40E-05	3.43E-05
$glycolate^-$	4.09E-02	1.85E+03	499	2.31E-02	3.51E-02	4.50E-02	6.44E-02
$acetate^-$	7.20E-04	25.7	6.92	5.22E-04	6.07E-04	8.42E-04	1.03E-03
$oxalate^{2-}$	6.05E-08	3.21E-03	8.66E-04	5.36E-08	5.64E-08	6.44E-08	7.26E-08
DBP	5.73E-04	72.7	19.6	3.87E-04	4.68E-04	6.87E-04	8.56E-04
butanol	5.73E-04	25.6	6.91	3.87E-04	4.68E-04	6.87E-04	8.56E-04
NH_3	2.82E-02	289	78.0	4.32E-03	2.21E-02	3.38E-02	5.44E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.64E+05 (kg)	(42.0 kgal)	----	----	----	----	----
Heat Load	2.47 (kW)	(8.42E+03 BTU/hr)	----	0.467	1.82	2.83	3.05
Bulk Density	1.66 (g/cc)	----	----	1.58	1.61	1.70	1.71
Void Fraction	0.480	----	----	0.403	0.438	0.529	0.584
Water wt%	46.4	----	----	44.9	45.2	48.2	49.6
TOC wt% C (wet)	7.33E-02	----	----	4.33E-02	6.50E-02	8.14E-02	0.113
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.77E-06	3.47E-03	0.917	1.97E-06	3.84E-06	7.84E-06	1.30E-05
C-14	2.23E-06	1.34E-03	0.354	1.67E-06	1.97E-06	2.45E-06	5.84E-06
Ni-59	5.86E-05	3.52E-02	9.31	4.31E-05	5.36E-05	6.13E-05	6.36E-05
Ni-63	5.80E-03	3.49	922	4.27E-03	5.31E-03	6.08E-03	6.30E-03
Co-60	8.07E-07	4.85E-04	0.128	4.68E-07	6.97E-07	8.86E-07	1.26E-06
Se-79	2.83E-07	1.70E-04	4.49E-02	1.80E-07	2.17E-07	8.14E-06	5.35E-05
Sr-90	2.30	1.38E+03	3.66E+05	0.435	1.70	2.64	2.85
Y-90	2.30	1.38E+03	3.66E+05	0.435	1.70	2.64	2.85
Zr-93	1.28E-06	7.72E-04	0.204	8.24E-07	9.54E-07	1.50E-05	2.42E-04
Nb-93m	1.04E-06	6.27E-04	0.166	6.40E-07	8.11E-07	3.37E-05	1.92E-04
Tc-99	3.92E-06	2.35E-03	0.623	2.91E-06	3.59E-06	4.15E-06	5.25E-06
Ru-106	4.93E-07	2.97E-04	7.84E-02	2.19E-07	4.03E-07	5.84E-07	6.70E-07
Cd-113m	4.06E-06	2.44E-03	0.645	2.49E-06	3.55E-06	5.68E-06	7.73E-04
Sb-125	4.76E-06	2.86E-03	0.756	2.68E-06	4.08E-06	5.24E-06	7.51E-06
Sn-126	4.42E-07	2.65E-04	7.02E-02	2.77E-07	3.43E-07	1.63E-05	8.43E-05
I-129	7.49E-09	4.50E-06	1.19E-03	5.52E-09	6.85E-09	7.94E-09	1.01E-08
Cs-134	1.88E-11	1.13E-08	2.98E-06	1.60E-11	1.74E-11	2.01E-11	2.13E-11
Cs-137	1.56E-03	0.935	247	1.33E-03	1.44E-03	1.67E-03	1.76E-03
Ba-137m	1.47E-03	0.885	234	1.26E-03	1.36E-03	1.58E-03	1.67E-03
Sm-151	1.03E-03	0.620	164	6.50E-04	8.00E-04	3.48E-02	0.193
Eu-152	4.66E-05	2.80E-02	7.41	4.65E-05	4.66E-05	4.67E-05	4.67E-05
Eu-154	2.39E-05	1.43E-02	3.79	1.36E-05	2.00E-05	2.77E-05	1.40E-03
Eu-155	2.68E-03	1.61	425	2.67E-03	2.67E-03	2.68E-03	2.68E-03
Ra-226	2.04E-09	1.23E-06	3.25E-04	1.07E-10	5.81E-10	3.51E-09	4.91E-09
Ra-228	2.54E-14	1.53E-11	4.03E-09	2.53E-14	2.54E-14	2.54E-14	2.54E-14
Ac-227	8.76E-09	5.27E-06	1.39E-03	3.00E-10	3.38E-10	1.73E-08	2.54E-08
Pa-231	4.27E-10	2.57E-07	6.79E-05	3.08E-10	3.61E-10	2.57E-09	4.79E-08
Th-229	3.80E-12	2.28E-09	6.04E-07	3.79E-12	3.80E-12	3.80E-12	3.81E-12
Th-232	2.11E-16	1.27E-13	3.35E-11	1.50E-16	1.91E-16	2.25E-16	2.91E-16
U-232	1.13E-09	6.76E-07	1.79E-04	1.12E-09	1.12E-09	1.13E-09	1.13E-09
U-233	6.73E-11	4.05E-08	1.07E-05	6.71E-11	6.72E-11	6.74E-11	6.75E-11
U-234	9.49E-05	5.70E-02	15.1	9.46E-05	9.47E-05	9.50E-05	9.51E-05
U-235	4.27E-06	2.57E-03	0.679	4.25E-06	4.26E-06	4.27E-06	4.28E-06
U-236	6.06E-07	3.64E-04	9.63E-02	6.04E-07	6.05E-07	6.07E-07	6.08E-07
U-238	9.61E-05	5.78E-02	15.3	9.58E-05	9.59E-05	9.62E-05	9.63E-05
Np-237	1.70E-08	1.02E-05	2.71E-03	1.38E-08	1.60E-08	1.78E-08	2.13E-08
Pu-238	7.81E-05	4.69E-02	12.4	5.09E-05	6.80E-05	8.78E-05	9.68E-05
Pu-239	1.37E-03	0.824	218	8.95E-04	1.16E-03	1.58E-03	1.77E-03
Pu-240	2.97E-04	0.178	47.2	1.94E-04	2.55E-04	3.38E-04	3.77E-04
Pu-241	5.47E-03	3.29	870	3.57E-03	4.76E-03	6.16E-03	6.79E-03
Pu-242	3.56E-08	2.14E-05	5.66E-03	2.32E-08	3.11E-08	3.99E-08	4.38E-08
Am-241	1.26E-03	0.759	201	6.78E-06	5.54E-04	1.97E-03	2.65E-03
Am-243	9.56E-08	5.75E-05	1.52E-02	5.08E-10	4.50E-08	1.40E-07	1.78E-07
Cm-242	2.48E-06	1.49E-03	0.394	2.47E-06	2.48E-06	2.48E-06	2.48E-06
Cm-243	2.64E-07	1.59E-04	4.19E-02	2.63E-07	2.64E-07	2.64E-07	2.64E-07
Cm-244	7.06E-06	4.25E-03	1.12	1.57E-06	5.26E-06	8.87E-06	1.06E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.34E-02 (g/L)	----	3.72	1.53E-02	1.99E-02	2.69E-02	3.03E-02
U	1.21	1.73E+05	4.58E+04	1.21	1.21	1.21	1.21

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.09E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	2.28E-03 (kW)	(7.79 BTU/hr)	----	1.22E-03	1.67E-03	2.83E-03	3.65E-03
Bulk Density*	1.34 (g/cc)	----	----	1.23	1.30	1.37	1.39
Water wt%†	57.6	----	----	52.1	54.0	61.8	67.5
TOC wt% C (wet)	0.525	----	----	0.393	0.446	0.612	0.751
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.26E-04	9.41E-02	0.479	0	0	1.28E-04	1.28E-04
C-14	2.09E-05	1.55E-02	7.91E-02	0	0	2.21E-05	2.33E-05
Ni-59	3.62E-07	2.70E-04	1.37E-03	0	0	3.87E-07	4.12E-07
Ni-63	3.59E-05	2.68E-02	0.136	0	0	3.85E-05	4.09E-05
Co-60	3.08E-05	2.30E-02	0.117	0	0	3.09E-05	3.11E-05
Se-79	1.50E-06	1.12E-03	5.69E-03	0	0	2.04E-06	2.56E-06
Sr-90	2.55E-02	19.0	96.7	2.18E-02	2.36E-02	2.74E-02	2.92E-02
Y-90	2.55E-02	19.0	96.7	0	0	2.74E-02	2.92E-02
Zr-93	7.50E-06	5.58E-03	2.84E-02	0	0	1.02E-05	1.28E-05
Nb-93m	5.25E-06	3.91E-03	1.99E-02	0	0	7.15E-06	8.97E-06
Tc-99	1.83E-04	0.137	0.695	7.41E-05	1.23E-04	2.51E-04	3.42E-04
Ru-106	3.75E-09	2.79E-06	1.42E-05	0	0	5.10E-09	6.41E-09
Cd-113m	4.50E-05	3.35E-02	0.171	0	0	6.13E-05	7.69E-05
Sb-125	1.38E-04	0.103	0.523	0	0	1.39E-04	1.39E-04
Sn-126	2.25E-06	1.68E-03	8.53E-03	0	0	3.06E-06	3.84E-06
I-129	3.55E-07	2.64E-04	1.35E-03	1.43E-07	2.38E-07	4.86E-07	6.63E-07
Cs-134	9.45E-07	7.04E-04	3.59E-03	0	0	9.48E-07	9.50E-07
Cs-137	9.18E-02	68.4	348	3.18E-02	5.71E-02	0.122	0.168
Ba-137m	8.68E-02	64.7	329	0	0	8.70E-02	8.72E-02
Sm-151	5.25E-03	3.91	19.9	0	0	7.15E-03	8.97E-03
Eu-152	1.29E-06	9.64E-04	4.91E-03	0	0	1.30E-06	1.30E-06
Eu-154	3.75E-04	0.279	1.42	0	0	5.10E-04	6.41E-04
Eu-155	7.84E-05	5.84E-02	0.297	0	0	7.87E-05	7.90E-05
Ra-226	4.65E-11	3.46E-08	1.76E-07	0	0	6.33E-11	7.94E-11
Ra-228	4.92E-07	3.66E-04	1.87E-03	0	0	4.99E-07	5.06E-07
Ac-227	2.70E-10	2.01E-07	1.02E-06	0	0	3.68E-10	4.61E-10
Pa-231	1.50E-09	1.12E-06	5.69E-06	0	0	2.04E-09	2.56E-09
Th-229	1.14E-08	8.46E-06	4.31E-05	0	0	1.15E-08	1.17E-08
Th-232	6.08E-08	4.53E-05	2.31E-04	0	0	7.74E-08	9.34E-08
U-232	1.06E-06	7.87E-04	4.00E-03	5.94E-07	7.79E-07	1.37E-06	1.71E-06
U-233	4.04E-06	3.01E-03	1.53E-02	2.28E-06	2.98E-06	5.25E-06	6.54E-06
U-234	2.86E-07	2.13E-04	1.09E-03	2.60E-07	2.73E-07	3.00E-07	3.13E-07
U-235	1.06E-08	7.90E-06	4.02E-05	9.54E-09	1.01E-08	1.11E-08	1.17E-08
U-236	9.53E-09	7.10E-06	3.61E-05	8.56E-09	9.04E-09	1.00E-08	1.05E-08
U-238	6.00E-07	4.47E-04	2.27E-03	5.74E-07	5.87E-07	6.13E-07	6.76E-07
Np-237	6.15E-07	4.58E-04	2.33E-03	2.61E-07	4.18E-07	8.34E-07	1.13E-06
Pu-238	2.38E-07	1.77E-04	9.03E-04	1.04E-07	1.68E-07	3.09E-07	3.77E-07
Pu-239	8.52E-06	6.35E-03	3.23E-02	4.01E-06	6.20E-06	1.08E-05	1.30E-05
Pu-240	1.46E-06	1.09E-03	5.54E-03	6.72E-07	1.05E-06	1.87E-06	2.27E-06
Pu-241	1.72E-05	1.28E-02	6.51E-02	7.49E-06	1.21E-05	2.23E-05	2.72E-05
Pu-242	8.26E-11	6.16E-08	3.13E-07	3.62E-11	5.82E-11	1.07E-10	1.31E-10
Am-241	2.25E-05	1.68E-02	8.53E-02	6.54E-06	1.44E-05	3.06E-05	3.85E-05
Am-243	7.78E-10	5.80E-07	2.95E-06	2.01E-10	4.75E-10	1.10E-09	1.41E-09
Cm-242	1.66E-10	1.24E-07	6.29E-07	0	0	1.68E-10	1.71E-10
Cm-243	3.39E-12	2.52E-09	1.28E-08	0	0	3.44E-12	3.49E-12
Cm-244	1.97E-10	1.47E-07	7.48E-07	0	0	2.00E-10	2.03E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.11E-04 (g/L)	----	4.21E-04	3.23E-05	7.08E-05	1.51E-04	1.90E-04
U	3.00E-03	532	2.71	2.70E-03	2.85E-03	3.15E-03	3.30E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.70E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	2.47 (kW)	(8.43E+03 BTU/hr)	----	0.469	1.83	2.83	3.05
Bulk Density†	1.66 (g/cc)	----	----	1.58	1.60	1.69	1.70
Water wt%†	46.6	----	----	45.1	45.5	48.4	49.8
TOC wt% C (wet)†	8.18E-02	----	----	5.29E-02	7.38E-02	8.99E-02	0.120
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.58E-06	5.18E-03	1.40	4.86E-06	5.63E-06	1.06E-05	1.56E-05
C-14	2.66E-06	1.61E-03	0.433	2.12E-06	2.17E-06	2.88E-06	6.19E-06
Ni-59	5.72E-05	3.45E-02	9.31	4.21E-05	5.23E-05	5.99E-05	6.21E-05
Ni-63	5.67E-03	3.42	922	4.17E-03	5.19E-03	5.94E-03	6.15E-03
Co-60	1.51E-06	9.09E-04	0.245	7.88E-07	7.88E-07	1.58E-06	1.95E-06
Se-79	3.11E-07	1.88E-04	5.06E-02	2.10E-07	2.46E-07	7.99E-06	5.23E-05
Sr-90	2.25	1.36E+03	3.66E+05	0.426	1.66	2.58	2.78
Y-90	2.25	1.36E+03	3.66E+05	0.426	1.66	2.58	2.78
Zr-93	1.43E-06	8.63E-04	0.233	9.80E-07	1.11E-06	1.48E-05	2.36E-04
Nb-93m	1.14E-06	6.89E-04	0.186	7.47E-07	9.14E-07	3.30E-05	1.88E-04
Tc-99	8.10E-06	4.89E-03	1.32	5.55E-06	6.69E-06	9.67E-06	1.18E-05
Ru-106	4.82E-07	2.91E-04	7.85E-02	2.14E-07	3.94E-07	5.70E-07	6.55E-07
Cd-113m	5.01E-06	3.03E-03	0.816	3.48E-06	3.96E-06	6.60E-06	7.56E-04
Sb-125	7.86E-06	4.75E-03	1.28	4.65E-06	4.65E-06	8.33E-06	1.06E-05
Sn-126	4.84E-07	2.92E-04	7.87E-02	3.23E-07	3.87E-07	1.59E-05	8.24E-05
I-129	1.56E-08	9.41E-06	2.54E-03	1.06E-08	1.29E-08	1.86E-08	2.28E-08
Cs-134	2.20E-08	1.33E-05	3.59E-03	1.83E-11	1.83E-11	2.21E-08	2.21E-08
Cs-137	3.66E-03	2.21	595	2.26E-03	2.85E-03	4.37E-03	5.45E-03
Ba-137m	3.46E-03	2.09	563	1.44E-03	1.44E-03	3.56E-03	3.65E-03
Sm-151	1.13E-03	0.682	184	7.57E-04	9.04E-04	3.41E-02	0.189
Eu-152	4.56E-05	2.75E-02	7.42	4.55E-05	4.55E-05	4.56E-05	4.57E-05
Eu-154	3.20E-05	1.94E-02	5.22	2.20E-05	2.33E-05	3.58E-05	1.38E-03
Eu-155	2.62E-03	1.58	426	2.61E-03	2.61E-03	2.62E-03	2.62E-03
Ra-226	2.00E-09	1.21E-06	3.25E-04	1.06E-10	5.68E-10	3.43E-09	4.80E-09
Ra-228	1.15E-08	6.92E-06	1.87E-03	2.48E-14	2.48E-14	1.16E-08	1.18E-08
Ac-227	8.56E-09	5.17E-06	1.39E-03	3.00E-10	3.36E-10	1.69E-08	2.48E-08
Pa-231	4.52E-10	2.73E-07	7.36E-05	3.36E-10	3.87E-10	2.55E-09	4.68E-08
Th-229	2.68E-10	1.62E-07	4.37E-05	3.71E-12	3.71E-12	2.72E-10	2.76E-10
Th-232	1.42E-09	8.55E-07	2.31E-04	2.06E-16	2.06E-16	1.80E-09	2.18E-09
U-232	2.57E-08	1.55E-05	4.18E-03	1.49E-08	1.92E-08	3.30E-08	4.09E-08
U-233	9.43E-08	5.69E-05	1.54E-02	5.31E-08	6.96E-08	1.22E-07	1.52E-07
U-234	9.27E-05	5.60E-02	15.1	9.24E-05	9.25E-05	9.28E-05	9.29E-05
U-235	4.17E-06	2.52E-03	0.679	4.15E-06	4.16E-06	4.18E-06	4.18E-06
U-236	5.92E-07	3.58E-04	9.64E-02	5.90E-07	5.91E-07	5.93E-07	5.94E-07
U-238	9.39E-05	5.67E-02	15.3	9.35E-05	9.37E-05	9.40E-05	9.41E-05
Np-237	3.10E-08	1.87E-05	5.04E-03	2.27E-08	2.64E-08	3.61E-08	4.30E-08
Pu-238	7.63E-05	4.60E-02	12.4	4.97E-05	6.64E-05	8.57E-05	9.45E-05
Pu-239	1.34E-03	0.808	218	8.74E-04	1.14E-03	1.54E-03	1.73E-03
Pu-240	2.90E-04	0.175	47.2	1.89E-04	2.49E-04	3.30E-04	3.69E-04
Pu-241	5.35E-03	3.23	870	3.49E-03	4.65E-03	6.01E-03	6.63E-03
Pu-242	3.48E-08	2.10E-05	5.66E-03	2.27E-08	3.04E-08	3.90E-08	4.28E-08
Am-241	1.23E-03	0.745	201	7.15E-06	5.42E-04	1.93E-03	2.59E-03
Am-243	9.34E-08	5.64E-05	1.52E-02	5.14E-10	4.40E-08	1.37E-07	1.74E-07
Cm-242	2.42E-06	1.46E-03	0.394	2.41E-06	2.42E-06	2.42E-06	2.43E-06
Cm-243	2.58E-07	1.56E-04	4.19E-02	2.57E-07	2.57E-07	2.58E-07	2.58E-07
Cm-244	6.90E-06	4.17E-03	1.12	1.54E-06	5.14E-06	8.66E-06	1.04E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.29E-02 (g/L)	----	3.72	1.49E-02	1.95E-02	2.63E-02	2.96E-02
U	1.18	1.70E+05	4.58E+04	1.18	1.18	1.18	1.18

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.76E+05 (kg)	(96.0 kgal)	----	----	----	----	----
Heat Load	2.51E-03 (kW)	(8.58 BTU/hr)	----	2.21E-03	2.36E-03	2.66E-03	2.80E-03
Bulk Density	0.759 (g/cc)	----	----	0.741	0.750	0.766	0.773
Void Fraction	0.135	----	----	0.108	0.120	0.151	0.170
Water wt%	28.1	----	----	27.3	27.7	28.7	29.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.84	2.68E+05	7.38E+04	8.43	8.65	9.00	9.13
Al^{3+}	0.362	1.29E+04	3.55E+03	0.344	0.353	0.370	0.379
Fe^{3+} (total Fe)	0.116	8.53E+03	2.35E+03	0.107	0.114	0.117	0.118
Cr^{3+}	4.49E-04	30.7	8.48	3.64E-04	4.06E-04	4.91E-04	5.32E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.08E-04	81.4	22.4	2.63E-04	2.98E-04	3.13E-04	3.15E-04
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	1.70E-02	4.63E+03	1.28E+03	9.74E-03	1.53E-02	1.77E-02	1.82E-02
Ni^{2+}	2.24E-04	17.4	4.79	1.82E-04	2.03E-04	6.19E-04	1.10E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.36E-02	4.94E+03	1.36E+03	7.70E-02	8.43E-02	9.79E-02	0.100
K^+	1.72E-04	8.86	2.44	1.02E-04	1.37E-04	2.07E-04	2.40E-04
OH^-	3.70	8.30E+04	2.29E+04	3.54	3.63	3.76	3.80
$NO3^-$	4.46E-02	3.64E+03	1.00E+03	2.59E-02	3.53E-02	5.37E-02	6.25E-02
$NO2^-$	1.29E-02	781	215	4.62E-03	8.72E-03	1.72E-02	2.15E-02
$CO3^{2-}$	0.469	3.71E+04	1.02E+04	0.342	0.410	0.521	0.564
$PO4^{3-}$	9.59E-02	1.20E+04	3.31E+03	4.12E-02	6.99E-02	0.118	0.136
$SO4^{2-}$	2.21E-02	2.80E+03	772	1.90E-02	2.05E-02	2.36E-02	2.50E-02
Si (as SiO_x^{2-})	4.02	1.49E+05	4.10E+04	4.02	4.02	4.02	4.02
F^-	0	0	0	0	0	0	0
Cl^-	7.91E-04	36.9	10.2	4.70E-04	6.31E-04	9.51E-04	1.11E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.94E-06	4.35E-02	1.20E-02	4.27E-07	9.90E-07	3.33E-06	5.09E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.76E+05 (kg)	(96.0 kgal)	----	----	----	----	----
Heat Load	2.51E-03 (kW)	(8.58 BTU/hr)	----	2.21E-03	2.36E-03	2.66E-03	2.80E-03
Bulk Density†	0.759 (g/cc)	----	----	0.741	0.750	0.766	0.773
Water wt%†	28.1	----	----	27.3	27.7	28.7	29.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.84	2.68E+05	7.38E+04	8.43	8.65	9.00	9.13
Al^{3+}	0.362	1.29E+04	3.55E+03	0.344	0.353	0.370	0.379
Fe^{3+} (total Fe)	0.116	8.53E+03	2.35E+03	0.107	0.114	0.117	0.118
Cr^{3+}	4.49E-04	30.7	8.48	3.64E-04	4.06E-04	4.91E-04	5.32E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.08E-04	81.4	22.4	2.63E-04	2.98E-04	3.13E-04	3.15E-04
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	1.70E-02	4.63E+03	1.28E+03	9.74E-03	1.53E-02	1.77E-02	1.82E-02
Ni^{2+}	2.24E-04	17.4	4.79	1.82E-04	2.03E-04	6.19E-04	1.10E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.36E-02	4.94E+03	1.36E+03	7.70E-02	8.43E-02	9.79E-02	0.100
K^+	1.72E-04	8.86	2.44	1.02E-04	1.37E-04	2.07E-04	2.40E-04
OH^-	3.70	8.30E+04	2.29E+04	3.54	3.63	3.76	3.80
$NO3^-$	4.46E-02	3.64E+03	1.00E+03	2.59E-02	3.53E-02	5.37E-02	6.25E-02
$NO2^-$	1.29E-02	781	215	4.62E-03	8.72E-03	1.72E-02	2.15E-02
$CO3^{2-}$	0.469	3.71E+04	1.02E+04	0.342	0.410	0.521	0.564
$PO4^{3-}$	9.59E-02	1.20E+04	3.31E+03	4.12E-02	6.99E-02	0.118	0.136
$SO4^{2-}$	2.21E-02	2.80E+03	772	1.90E-02	2.05E-02	2.36E-02	2.50E-02
Si (as SiO_x^{2-})	4.02	1.49E+05	4.10E+04	4.02	4.02	4.02	4.02
F^-	0	0	0	0	0	0	0
Cl^-	7.91E-04	36.9	10.2	4.70E-04	6.31E-04	9.51E-04	1.11E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.94E-06	4.35E-02	1.20E-02	4.27E-07	9.90E-07	3.33E-06	5.09E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.76E+05 (kg)	(96.0 kgal)	----	----	----	----	----
Heat Load	2.51E-03 (kW)	(8.58 BTU/hr)	----	2.21E-03	2.36E-03	2.66E-03	2.80E-03
Bulk Density	0.759 (g/cc)	----	----	0.741	0.750	0.766	0.773
Void Fraction	0.135	----	----	0.108	0.120	0.151	0.170
Water wt%	28.1	----	----	27.3	27.7	28.7	29.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.56E-07	3.38E-04	9.31E-02	2.18E-07	2.36E-07	2.81E-07	3.11E-07
C-14	6.57E-07	8.66E-04	0.239	4.64E-07	5.67E-07	7.34E-07	7.98E-07
Ni-59	2.42E-08	3.19E-05	8.79E-03	2.12E-08	2.27E-08	4.29E-08	7.33E-08
Ni-63	2.14E-06	2.82E-03	0.777	1.88E-06	2.01E-06	3.78E-06	6.45E-06
Co-60	1.72E-08	2.26E-05	6.24E-03	1.30E-08	1.51E-08	1.92E-08	2.12E-08
Se-79	1.79E-08	2.36E-05	6.51E-03	1.54E-08	1.67E-08	1.91E-08	2.02E-08
Sr-90	5.75E-04	0.757	209	5.05E-04	5.40E-04	6.08E-04	6.40E-04
Y-90	5.75E-04	0.757	209	5.05E-04	5.40E-04	6.08E-04	6.40E-04
Zr-93	8.54E-08	1.12E-04	3.10E-02	7.36E-08	7.94E-08	9.11E-08	9.62E-08
Nb-93m	7.30E-08	9.62E-05	2.65E-02	6.28E-08	6.79E-08	7.79E-08	8.23E-08
Tc-99	5.89E-07	7.76E-04	0.214	5.08E-07	5.48E-07	6.28E-07	6.64E-07
Ru-106	9.73E-12	1.28E-08	3.54E-06	2.93E-12	6.35E-12	1.31E-11	1.64E-11
Cd-113m	1.85E-07	2.44E-04	6.74E-02	1.61E-07	1.73E-07	1.97E-07	2.07E-07
Sb-125	3.82E-08	5.03E-05	1.39E-02	1.57E-08	2.70E-08	4.94E-08	6.02E-08
Sn-126	2.67E-08	3.51E-05	9.68E-03	2.30E-08	2.48E-08	2.84E-08	3.00E-08
I-129	1.10E-09	1.45E-06	3.99E-04	9.47E-10	1.02E-09	1.17E-09	1.24E-09
Cs-134	2.13E-09	2.81E-06	7.75E-04	6.46E-10	1.39E-09	2.88E-09	3.59E-09
Cs-137	6.50E-04	0.856	236	5.71E-04	6.10E-04	6.88E-04	7.25E-04
Ba-137m	6.15E-04	0.810	223	5.40E-04	5.77E-04	6.51E-04	6.86E-04
Sm-151	6.76E-05	8.90E-02	24.6	5.82E-05	6.29E-05	7.21E-05	7.61E-05
Eu-152	4.92E-08	6.48E-05	1.79E-02	4.87E-08	4.89E-08	4.94E-08	4.97E-08
Eu-154	2.68E-07	3.53E-04	9.74E-02	1.87E-07	2.28E-07	3.09E-07	3.48E-07
Eu-155	4.71E-06	6.21E-03	1.71	4.67E-06	4.69E-06	4.73E-06	4.75E-06
Ra-226	3.30E-11	4.34E-08	1.20E-05	7.32E-12	7.32E-12	7.24E-11	1.10E-10
Ra-228	2.80E-09	3.69E-06	1.02E-03	2.76E-09	2.78E-09	2.82E-09	2.84E-09
Ac-227	8.66E-09	1.14E-05	3.15E-03	7.04E-09	8.29E-09	8.89E-09	9.11E-09
Pa-231	1.28E-08	1.68E-05	4.65E-03	3.76E-09	1.07E-08	1.40E-08	1.53E-08
Th-229	1.27E-09	1.67E-06	4.61E-04	1.25E-09	1.26E-09	1.28E-09	1.29E-09
Th-232	1.31E-10	1.72E-07	4.75E-05	3.93E-11	8.52E-11	1.76E-10	2.20E-10
U-232	1.45E-07	1.91E-04	5.26E-02	2.11E-09	7.83E-08	1.76E-07	1.93E-07
U-233	5.61E-07	7.40E-04	0.204	6.71E-09	3.03E-07	6.82E-07	7.49E-07
U-234	3.37E-05	4.44E-02	12.2	3.29E-05	3.33E-05	3.38E-05	3.39E-05
U-235	1.51E-06	1.99E-03	0.549	1.48E-06	1.50E-06	1.52E-06	1.52E-06
U-236	2.33E-07	3.07E-04	8.46E-02	2.11E-07	2.22E-07	2.38E-07	2.40E-07
U-238	3.41E-05	4.49E-02	12.4	3.34E-05	3.37E-05	3.42E-05	3.43E-05
Np-237	3.58E-09	4.72E-06	1.30E-03	3.09E-09	3.34E-09	3.82E-09	4.03E-09
Pu-238	3.24E-06	4.26E-03	1.18	2.29E-06	3.02E-06	3.37E-06	3.50E-06
Pu-239	1.36E-04	0.179	49.2	9.60E-05	1.26E-04	1.41E-04	1.46E-04
Pu-240	2.40E-05	3.16E-02	8.72	1.70E-05	2.24E-05	2.50E-05	2.59E-05
Pu-241	2.59E-04	0.341	94.1	1.83E-04	2.42E-04	2.70E-04	2.80E-04
Pu-242	7.29E-10	9.60E-07	2.65E-04	5.15E-10	6.80E-10	7.59E-10	7.87E-10
Am-241	5.33E-08	7.03E-05	1.94E-02	3.57E-08	4.46E-08	6.22E-08	7.07E-08
Am-243	3.45E-13	4.55E-10	1.25E-07	1.59E-13	2.53E-13	4.38E-13	5.28E-13
Cm-242	5.53E-10	7.29E-07	2.01E-04	5.46E-10	5.50E-10	5.57E-10	5.61E-10
Cm-243	1.45E-11	1.91E-08	5.26E-06	1.43E-11	1.44E-11	1.46E-11	1.47E-11
Cm-244	1.13E-11	1.49E-08	4.12E-06	4.25E-12	7.82E-12	1.49E-11	1.83E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.29E-03 (g/L)	----	0.832	1.62E-03	2.14E-03	2.38E-03	2.47E-03
U	0.429	1.34E+05	3.71E+04	0.420	0.425	0.431	0.432

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.76E+05 (kg)	(96.0 kgal)	----	----	----	----	----
Heat Load	2.51E-03 (kW)	(8.58 BTU/hr)	----	2.21E-03	2.36E-03	2.66E-03	2.80E-03
Bulk Density†	0.759 (g/cc)	----	----	0.741	0.750	0.766	0.773
Water wt%†	28.1	----	----	27.3	27.7	28.7	29.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.56E-07	3.38E-04	9.31E-02	2.18E-07	2.36E-07	2.81E-07	3.11E-07
C-14	6.57E-07	8.66E-04	0.239	4.64E-07	5.67E-07	7.34E-07	7.98E-07
Ni-59	2.42E-08	3.19E-05	8.79E-03	2.12E-08	2.27E-08	4.29E-08	7.33E-08
Ni-63	2.14E-06	2.82E-03	0.777	1.88E-06	2.01E-06	3.78E-06	6.45E-06
Co-60	1.72E-08	2.26E-05	6.24E-03	1.30E-08	1.51E-08	1.92E-08	2.12E-08
Se-79	1.79E-08	2.36E-05	6.51E-03	1.54E-08	1.67E-08	1.91E-08	2.02E-08
Sr-90	5.75E-04	0.757	209	5.05E-04	5.40E-04	6.08E-04	6.40E-04
Y-90	5.75E-04	0.757	209	5.05E-04	5.40E-04	6.08E-04	6.40E-04
Zr-93	8.54E-08	1.12E-04	3.10E-02	7.36E-08	7.94E-08	9.11E-08	9.62E-08
Nb-93m	7.30E-08	9.62E-05	2.65E-02	6.28E-08	6.79E-08	7.79E-08	8.23E-08
Tc-99	5.89E-07	7.76E-04	0.214	5.08E-07	5.48E-07	6.28E-07	6.64E-07
Ru-106	9.73E-12	1.28E-08	3.54E-06	2.93E-12	6.35E-12	1.31E-11	1.64E-11
Cd-113m	1.85E-07	2.44E-04	6.74E-02	1.61E-07	1.73E-07	1.97E-07	2.07E-07
Sb-125	3.82E-08	5.03E-05	1.39E-02	1.57E-08	2.70E-08	4.94E-08	6.02E-08
Sn-126	2.67E-08	3.51E-05	9.68E-03	2.30E-08	2.48E-08	2.84E-08	3.00E-08
I-129	1.10E-09	1.45E-06	3.99E-04	9.47E-10	1.02E-09	1.17E-09	1.24E-09
Cs-134	2.13E-09	2.81E-06	7.75E-04	6.46E-10	1.39E-09	2.88E-09	3.59E-09
Cs-137	6.50E-04	0.856	236	5.71E-04	6.10E-04	6.88E-04	7.25E-04
Ba-137m	6.15E-04	0.810	223	5.40E-04	5.77E-04	6.51E-04	6.86E-04
Sm-151	6.76E-05	8.90E-02	24.6	5.82E-05	6.29E-05	7.21E-05	7.61E-05
Eu-152	4.92E-08	6.48E-05	1.79E-02	4.87E-08	4.89E-08	4.94E-08	4.97E-08
Eu-154	2.68E-07	3.53E-04	9.74E-02	1.87E-07	2.28E-07	3.09E-07	3.48E-07
Eu-155	4.71E-06	6.21E-03	1.71	4.67E-06	4.69E-06	4.73E-06	4.75E-06
Ra-226	3.30E-11	4.34E-08	1.20E-05	7.32E-12	7.32E-12	7.24E-11	1.10E-10
Ra-228	2.80E-09	3.69E-06	1.02E-03	2.76E-09	2.78E-09	2.82E-09	2.84E-09
Ac-227	8.66E-09	1.14E-05	3.15E-03	7.04E-09	8.29E-09	8.89E-09	9.11E-09
Pa-231	1.28E-08	1.68E-05	4.65E-03	3.76E-09	1.07E-08	1.40E-08	1.53E-08
Th-229	1.27E-09	1.67E-06	4.61E-04	1.25E-09	1.26E-09	1.28E-09	1.29E-09
Th-232	1.31E-10	1.72E-07	4.75E-05	3.93E-11	8.52E-11	1.76E-10	2.20E-10
U-232	1.45E-07	1.91E-04	5.26E-02	2.11E-09	7.83E-08	1.76E-07	1.93E-07
U-233	5.61E-07	7.40E-04	0.204	6.71E-09	3.03E-07	6.82E-07	7.49E-07
U-234	3.37E-05	4.44E-02	12.2	3.29E-05	3.33E-05	3.38E-05	3.39E-05
U-235	1.51E-06	1.99E-03	0.549	1.48E-06	1.50E-06	1.52E-06	1.52E-06
U-236	2.33E-07	3.07E-04	8.46E-02	2.11E-07	2.22E-07	2.38E-07	2.40E-07
U-238	3.41E-05	4.49E-02	12.4	3.34E-05	3.37E-05	3.42E-05	3.43E-05
Np-237	3.58E-09	4.72E-06	1.30E-03	3.09E-09	3.34E-09	3.82E-09	4.03E-09
Pu-238	3.24E-06	4.26E-03	1.18	2.29E-06	3.02E-06	3.37E-06	3.50E-06
Pu-239	1.36E-04	0.179	49.2	9.60E-05	1.26E-04	1.41E-04	1.46E-04
Pu-240	2.40E-05	3.16E-02	8.72	1.70E-05	2.24E-05	2.50E-05	2.59E-05
Pu-241	2.59E-04	0.341	94.1	1.83E-04	2.42E-04	2.70E-04	2.80E-04
Pu-242	7.29E-10	9.60E-07	2.65E-04	5.15E-10	6.80E-10	7.59E-10	7.87E-10
Am-241	5.33E-08	7.03E-05	1.94E-02	3.57E-08	4.46E-08	6.22E-08	7.07E-08
Am-243	3.45E-13	4.55E-10	1.25E-07	1.59E-13	2.53E-13	4.38E-13	5.28E-13
Cm-242	5.53E-10	7.29E-07	2.01E-04	5.46E-10	5.50E-10	5.57E-10	5.61E-10
Cm-243	1.45E-11	1.91E-08	5.26E-06	1.43E-11	1.44E-11	1.46E-11	1.47E-11
Cm-244	1.13E-11	1.49E-08	4.12E-06	4.25E-12	7.82E-12	1.49E-11	1.83E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.29E-03 (g/L)	----	0.832	1.62E-03	2.14E-03	2.38E-03	2.47E-03
U	0.429	1.34E+05	3.71E+04	0.420	0.425	0.431	0.432

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.90E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	5.58E-03 (kW)	(19.1 BTU/hr)	----	4.87E-03	5.23E-03	5.93E-03	6.24E-03
Bulk Density	1.66 (g/cc)	----	----	1.60	1.63	1.69	1.71
Void Fraction	0.443	----	----	0.346	0.390	0.505	0.574
Water wt%	47.5	----	----	45.5	46.4	48.8	50.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.58	6.32E+04	2.47E+04	3.11	3.89	5.16	5.65
Al^{3+}	0.756	1.23E+04	4.79E+03	0.713	0.734	0.777	0.798
Fe^{3+} (total Fe)	0.162	5.45E+03	2.13E+03	0.140	0.157	0.165	0.168
Cr^{3+}	1.49E-03	46.6	18.2	1.28E-03	1.39E-03	1.60E-03	1.70E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	7.63E-04	92.0	35.9	6.51E-04	7.37E-04	7.75E-04	7.81E-04
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	4.20E-02	5.23E+03	2.04E+03	2.41E-02	3.79E-02	4.39E-02	4.52E-02
Ni^{2+}	7.45E-04	26.3	10.3	6.40E-04	6.93E-04	1.72E-03	2.92E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.115	2.76E+03	1.08E+03	7.38E-02	9.17E-02	0.126	0.137
K^+	5.09E-04	12.0	4.67	3.37E-04	4.24E-04	5.96E-04	6.79E-04
OH^-	12.2	1.25E+05	4.86E+04	11.8	12.0	12.3	12.4
$NO3^-$	0.131	4.88E+03	1.90E+03	8.46E-02	0.108	0.154	0.175
$NO2^-$	3.33E-02	922	360	1.28E-02	2.30E-02	4.40E-02	5.46E-02
$CO3^{2-}$	1.69	6.08E+04	2.37E+04	1.22	1.47	1.87	2.03
$PO4^{3-}$	0.349	1.99E+04	7.77E+03	0.150	0.254	0.429	0.494
$SO4^{2-}$	7.99E-02	4.61E+03	1.80E+03	6.84E-02	7.41E-02	8.54E-02	9.03E-02
Si (as SiO_x^{2-})	1.49E-03	25.1	9.80	1.27E-03	1.38E-03	1.59E-03	1.68E-03
F^-	0	0	0	0	0	0	0
Cl^-	2.34E-03	49.9	19.5	1.55E-03	1.95E-03	2.74E-03	3.12E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.13E-06	5.24E-02	2.04E-02	1.37E-06	2.77E-06	8.56E-06	1.29E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.91E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	1.06E-02 (kW)	(36.4 BTU/hr)	----	8.33E-03	9.31E-03	1.18E-02	1.36E-02
Bulk Density*	1.26 (g/cc)	----	----	1.20	1.24	1.28	1.29
Water wt%	64.6	----	----	61.2	62.3	67.1	70.4
TOC wt% C (wet)	0.578	----	----	0.473	0.524	0.632	0.709

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.77	1.05E+05	2.01E+03	4.58	5.21	6.29	6.59
Al^{3+}	0.822	1.76E+04	336	0.546	0.760	0.847	0.870
Fe^{3+} (total Fe)	2.92E-03	129	2.47	2.27E-03	2.59E-03	3.25E-03	3.57E-03
Cr^{3+}	4.54E-02	1.87E+03	35.7	3.51E-02	3.95E-02	5.11E-02	5.90E-02
Bi^{3+}	5.26E-04	87.1	1.67	4.53E-04	4.89E-04	5.63E-04	6.20E-04
La^{3+}	1.23E-06	0.135	2.58E-03	8.46E-07	1.01E-06	1.46E-06	1.80E-06
Hg^{2+}	4.98E-06	0.792	1.51E-02	4.57E-06	4.78E-06	5.19E-06	5.39E-06
Zr (as $ZrO(OH)_2$)	2.30E-05	1.66	3.18E-02	1.67E-05	1.91E-05	2.68E-05	3.29E-05
Pb^{2+}	7.87E-04	129	2.47	4.90E-04	6.36E-04	9.39E-04	1.08E-03
Ni^{2+}	1.58E-03	73.5	1.40	1.51E-03	1.54E-03	1.62E-03	1.65E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.93E-03	128	2.44	2.48E-03	2.70E-03	3.16E-03	3.38E-03
Ca^{2+}	8.22E-03	261	4.99	6.78E-03	7.49E-03	8.95E-03	9.65E-03
K^+	2.95E-02	914	17.5	2.04E-02	2.42E-02	3.57E-02	4.40E-02
OH^-	4.28	5.76E+04	1.10E+03	2.96	3.91	4.40	4.59
$NO3^-$	1.68	8.23E+04	1.57E+03	1.46	1.57	1.79	1.89
$NO2^-$	1.24	4.51E+04	862	0.755	0.958	1.54	1.62
$CO3^{2-}$	0.247	1.17E+04	224	0.220	0.237	0.256	0.265
$PO4^{3-}$	4.31E-02	3.24E+03	62.0	3.08E-02	3.61E-02	4.86E-02	5.58E-02
$SO4^{2-}$	0.149	1.14E+04	217	9.30E-02	0.116	0.188	0.190
Si (as SiO_x^{2-})	2.84E-02	632	12.1	2.16E-02	2.49E-02	3.19E-02	3.53E-02
F^-	3.21E-02	484	9.25	2.24E-02	2.64E-02	3.84E-02	4.79E-02
Cl^-	9.96E-02	2.80E+03	53.5	6.72E-02	8.18E-02	0.103	0.106
$C_6H_5O_7^{3-}$	2.09E-02	3.13E+03	59.8	1.81E-02	1.93E-02	2.26E-02	2.54E-02
$EDTA^{4-}$	7.43E-03	1.70E+03	32.4	4.14E-03	5.75E-03	9.12E-03	1.08E-02
$HEDTA^{3-}$	9.24E-03	2.01E+03	38.4	2.67E-03	5.88E-03	1.26E-02	1.59E-02
$glycolate^-$	2.80E-02	1.67E+03	31.9	2.15E-02	2.47E-02	3.14E-02	3.57E-02
$acetate^-$	1.79E-02	838	16.0	1.33E-02	1.53E-02	2.08E-02	2.51E-02
$oxalate^{2-}$	1.61E-06	0.112	2.14E-03	1.44E-06	1.51E-06	1.70E-06	1.89E-06
DBP	1.86E-02	3.11E+03	59.4	1.43E-02	1.62E-02	2.13E-02	2.53E-02
butanol	1.86E-02	1.09E+03	20.9	1.43E-02	1.62E-02	2.13E-02	2.53E-02
NH_3	1.72E-02	232	4.44	1.22E-02	1.42E-02	2.11E-02	2.65E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.09E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	1.62E-02 (kW)	(55.4 BTU/hr)	----	1.39E-02	1.49E-02	1.74E-02	1.92E-02
Bulk Density†	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.69
Water wt%†	48.3	----	----	46.4	47.2	49.6	51.1
TOC wt% C (wet)†	2.70E-02	----	----	2.20E-02	2.44E-02	2.97E-02	3.38E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.65	6.52E+04	2.67E+04	3.27	4.00	5.20	5.66
Al^{3+}	0.760	1.25E+04	5.12E+03	0.718	0.739	0.781	0.801
Fe^{3+} (total Fe)	0.153	5.20E+03	2.13E+03	0.132	0.148	0.155	0.158
Cr^{3+}	4.15E-03	132	53.9	3.53E-03	3.80E-03	4.50E-03	4.98E-03
Bi^{3+}	3.19E-05	4.07	1.67	2.74E-05	2.96E-05	3.42E-05	3.76E-05
La^{3+}	7.43E-08	6.30E-03	2.58E-03	5.13E-08	6.13E-08	8.85E-08	1.09E-07
Hg^{2+}	7.17E-04	87.7	35.9	6.12E-04	6.93E-04	7.28E-04	7.34E-04
Zr (as $ZrO(OH)_2$)	1.40E-06	7.77E-02	3.18E-02	1.01E-06	1.16E-06	1.62E-06	2.00E-06
Pb^{2+}	3.95E-02	5.00E+03	2.05E+03	2.27E-02	3.57E-02	4.13E-02	4.25E-02
Ni^{2+}	7.96E-04	28.5	11.7	6.94E-04	7.45E-04	1.72E-03	2.84E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.78E-04	5.96	2.44	1.51E-04	1.64E-04	1.92E-04	2.05E-04
Ca^{2+}	0.108	2.65E+03	1.08E+03	6.98E-02	8.67E-02	0.119	0.129
K^+	2.27E-03	54.1	22.2	1.72E-03	1.95E-03	2.64E-03	3.15E-03
OH^-	11.7	1.21E+05	4.97E+04	11.3	11.5	11.8	11.9
$NO3^-$	0.225	8.50E+03	3.48E+03	0.180	0.203	0.247	0.267
$NO2^-$	0.106	2.98E+03	1.22E+03	7.71E-02	8.94E-02	0.125	0.130
$CO3^{2-}$	1.60	5.85E+04	2.40E+04	1.17	1.40	1.78	1.92
$PO4^{3-}$	0.330	1.91E+04	7.83E+03	0.143	0.241	0.405	0.467
$SO4^{2-}$	8.41E-02	4.93E+03	2.02E+03	7.33E-02	7.87E-02	8.92E-02	9.39E-02
Si (as SiO_x^{2-})	3.12E-03	53.5	21.9	2.70E-03	2.91E-03	3.33E-03	3.54E-03
F^-	1.95E-03	22.6	9.25	1.36E-03	1.60E-03	2.33E-03	2.90E-03
Cl^-	8.24E-03	178	73.0	6.27E-03	7.16E-03	8.63E-03	9.00E-03
$C_6H_5O_7^{3-}$	1.27E-03	146	59.8	1.10E-03	1.17E-03	1.37E-03	1.54E-03
$EDTA^{4-}$	4.50E-04	79.1	32.4	2.51E-04	3.48E-04	5.53E-04	6.53E-04
$HEDTA^{3-}$	5.60E-04	93.7	38.4	1.62E-04	3.56E-04	7.65E-04	9.65E-04
$glycolate^-$	1.70E-03	77.8	31.9	1.30E-03	1.50E-03	1.91E-03	2.17E-03
$acetate^-$	1.09E-03	39.1	16.0	8.06E-04	9.26E-04	1.26E-03	1.52E-03
$oxalate^{2-}$	9.74E-08	5.23E-03	2.14E-03	8.76E-08	9.16E-08	1.03E-07	1.15E-07
DBP	1.13E-03	145	59.4	8.67E-04	9.81E-04	1.29E-03	1.53E-03
butanol	1.13E-03	51.1	20.9	8.67E-04	9.81E-04	1.29E-03	1.53E-03
NH_3	1.05E-03	10.9	4.46	7.44E-04	8.65E-04	1.29E-03	1.61E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.90E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	5.58E-03 (kW)	(19.1 BTU/hr)	----	4.87E-03	5.23E-03	5.93E-03	6.24E-03
Bulk Density	1.66 (g/cc)	----	----	1.60	1.63	1.69	1.71
Void Fraction	0.443	----	----	0.346	0.390	0.505	0.574
Water wt%	47.5	----	----	45.5	46.4	48.8	50.4
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.98E-07	5.40E-04	0.211	7.59E-07	8.26E-07	9.74E-07	1.05E-06
C-14	2.38E-06	1.43E-03	0.559	1.68E-06	2.06E-06	2.66E-06	2.90E-06
Ni-59	8.66E-08	5.21E-05	2.03E-02	7.59E-08	8.11E-08	1.55E-07	2.65E-07
Ni-63	7.64E-06	4.59E-03	1.79	6.70E-06	7.16E-06	1.36E-05	2.33E-05
Co-60	5.56E-08	3.34E-05	1.30E-02	4.54E-08	5.05E-08	6.07E-08	6.56E-08
Se-79	6.41E-08	3.85E-05	1.50E-02	5.51E-08	5.96E-08	6.84E-08	7.23E-08
Sr-90	1.98E-03	1.19	464	1.72E-03	1.85E-03	2.10E-03	2.21E-03
Y-90	1.98E-03	1.19	464	1.72E-03	1.85E-03	2.10E-03	2.21E-03
Zr-93	3.05E-07	1.84E-04	7.17E-02	2.62E-07	2.84E-07	3.26E-07	3.45E-07
Nb-93m	2.62E-07	1.57E-04	6.14E-02	2.25E-07	2.43E-07	2.80E-07	2.96E-07
Tc-99	2.11E-06	1.27E-03	0.495	1.81E-06	1.96E-06	2.25E-06	2.38E-06
Ru-106	2.41E-11	1.45E-08	5.66E-06	7.26E-12	1.57E-11	3.25E-11	4.07E-11
Cd-113m	6.50E-07	3.91E-04	0.153	5.63E-07	6.07E-07	6.92E-07	7.30E-07
Sb-125	1.02E-07	6.11E-05	2.38E-02	4.60E-08	7.40E-08	1.29E-07	1.56E-07
Sn-126	9.53E-08	5.73E-05	2.24E-02	8.19E-08	8.86E-08	1.02E-07	1.08E-07
I-129	3.93E-09	2.36E-06	9.22E-04	3.38E-09	3.65E-09	4.20E-09	4.43E-09
Cs-134	5.29E-09	3.18E-06	1.24E-03	1.61E-09	3.46E-09	7.13E-09	8.91E-09
Cs-137	2.24E-03	1.34	525	1.95E-03	2.09E-03	2.37E-03	2.50E-03
Ba-137m	2.11E-03	1.27	496	1.84E-03	1.98E-03	2.24E-03	2.36E-03
Sm-151	2.42E-04	0.145	56.8	2.08E-04	2.25E-04	2.58E-04	2.73E-04
Eu-152	1.39E-07	8.37E-05	3.27E-02	1.38E-07	1.39E-07	1.40E-07	1.41E-07
Eu-154	8.40E-07	5.05E-04	0.197	6.38E-07	7.39E-07	9.40E-07	1.04E-06
Eu-155	1.43E-05	8.60E-03	3.36	1.42E-05	1.43E-05	1.44E-05	1.44E-05
Ra-226	1.20E-10	7.20E-08	2.81E-05	2.65E-11	2.65E-11	2.63E-10	4.00E-10
Ra-228	6.94E-09	4.17E-06	1.63E-03	6.84E-09	6.89E-09	7.00E-09	7.05E-09
Ac-227	2.16E-08	1.30E-05	5.06E-03	1.75E-08	2.06E-08	2.24E-08	2.32E-08
Pa-231	3.18E-08	1.91E-05	7.46E-03	9.41E-09	2.67E-08	3.49E-08	3.79E-08
Th-229	3.14E-09	1.89E-06	7.38E-04	3.10E-09	3.12E-09	3.17E-09	3.19E-09
Th-232	3.24E-10	1.95E-07	7.59E-05	9.73E-11	2.11E-10	4.37E-10	5.46E-10
U-232	3.59E-07	2.16E-04	8.44E-02	5.68E-09	1.95E-07	4.36E-07	4.79E-07
U-233	1.39E-06	8.36E-04	0.326	1.67E-08	7.50E-07	1.69E-06	1.86E-06
U-234	1.22E-04	7.31E-02	28.5	1.20E-04	1.21E-04	1.22E-04	1.22E-04
U-235	5.46E-06	3.28E-03	1.28	5.38E-06	5.43E-06	5.48E-06	5.49E-06
U-236	8.21E-07	4.93E-04	0.193	7.65E-07	7.95E-07	8.33E-07	8.39E-07
U-238	1.23E-04	7.39E-02	28.9	1.21E-04	1.22E-04	1.23E-04	1.24E-04
Np-237	1.28E-08	7.67E-06	3.00E-03	1.10E-08	1.19E-08	1.36E-08	1.44E-08
Pu-238	8.02E-06	4.82E-03	1.88	5.67E-06	7.48E-06	8.35E-06	8.66E-06
Pu-239	3.37E-04	0.202	79.0	2.39E-04	3.14E-04	3.53E-04	3.73E-04
Pu-240	5.95E-05	3.58E-02	14.0	4.21E-05	5.55E-05	6.20E-05	6.43E-05
Pu-241	6.42E-04	0.386	151	4.53E-04	5.99E-04	6.68E-04	6.93E-04
Pu-242	1.81E-09	1.09E-06	4.24E-04	1.28E-09	1.68E-09	1.88E-09	1.95E-09
Am-241	1.65E-07	9.90E-05	3.87E-02	1.21E-07	1.43E-07	1.87E-07	2.08E-07
Am-243	9.46E-13	5.69E-10	2.22E-07	4.84E-13	7.17E-13	1.18E-12	1.40E-12
Cm-242	1.44E-09	8.66E-07	3.38E-04	1.42E-09	1.43E-09	1.45E-09	1.46E-09
Cm-243	3.69E-11	2.22E-08	8.67E-06	3.64E-11	3.67E-11	3.72E-11	3.74E-11
Cm-244	2.95E-11	1.77E-08	6.92E-06	1.19E-11	2.08E-11	3.83E-11	4.67E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.69E-03 (g/L)	----	1.33	4.03E-03	5.31E-03	5.96E-03	6.28E-03
U	1.55	2.21E+05	8.64E+04	1.53	1.54	1.55	1.56

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.91E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	1.06E-02 (kW)	(36.4 BTU/hr)	----	8.33E-03	9.31E-03	1.18E-02	1.36E-02
Bulk Density*	1.26 (g/cc)	----	----	1.20	1.24	1.28	1.29
Water wt%†	64.6	----	----	61.2	62.3	67.1	70.4
TOC wt% C (wet)	0.578	----	----	0.473	0.524	0.632	0.709
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.15E-04	9.08E-02	1.74	4.58E-05	4.58E-05	1.17E-04	1.20E-04
C-14	2.12E-05	1.68E-02	0.321	9.81E-06	9.81E-06	2.18E-05	2.25E-05
Ni-59	7.44E-07	5.90E-04	1.13E-02	3.52E-07	3.52E-07	7.64E-07	7.83E-07
Ni-63	7.37E-05	5.84E-02	1.12	3.49E-05	3.49E-05	7.57E-05	7.76E-05
Co-60	2.83E-05	2.24E-02	0.429	1.15E-05	1.15E-05	2.85E-05	2.87E-05
Se-79	1.62E-06	1.28E-03	2.45E-02	8.01E-07	8.01E-07	1.91E-06	2.20E-06
Sr-90	4.06E-02	32.2	615	3.80E-02	3.93E-02	4.20E-02	4.32E-02
Y-90	4.06E-02	32.2	616	2.22E-02	2.22E-02	4.20E-02	4.33E-02
Zr-93	8.05E-06	6.38E-03	0.122	3.98E-06	3.98E-06	9.53E-06	1.09E-05
Nb-93m	5.66E-06	4.49E-03	8.58E-02	2.81E-06	2.81E-06	6.70E-06	7.69E-06
Tc-99	1.69E-04	0.134	2.56	1.09E-04	1.36E-04	2.05E-04	2.55E-04
Ru-106	4.00E-09	3.17E-06	6.06E-05	1.96E-09	1.96E-09	4.74E-09	5.45E-09
Cd-113m	4.76E-05	3.77E-02	0.721	2.31E-05	2.31E-05	5.65E-05	6.50E-05
Sb-125	1.26E-04	9.99E-02	1.91	5.09E-05	5.09E-05	1.27E-04	1.28E-04
Sn-126	2.43E-06	1.92E-03	3.68E-02	1.21E-06	1.21E-06	2.87E-06	3.30E-06
I-129	3.26E-07	2.59E-04	4.95E-03	2.11E-07	2.63E-07	3.98E-07	4.94E-07
Cs-134	1.12E-06	8.91E-04	1.70E-02	6.10E-07	6.10E-07	1.25E-06	1.38E-06
Cs-137	9.16E-02	72.6	1.39E+03	5.90E-02	7.27E-02	0.108	0.133
Ba-137m	8.67E-02	68.7	1.31E+03	3.94E-02	3.94E-02	8.89E-02	9.10E-02
Sm-151	5.66E-03	4.49	85.8	2.81E-03	2.81E-03	6.70E-03	7.69E-03
Eu-152	1.85E-06	1.46E-03	2.80E-02	1.14E-06	1.14E-06	1.94E-06	2.03E-06
Eu-154	3.81E-04	0.302	5.77	1.77E-04	1.77E-04	4.55E-04	5.26E-04
Eu-155	1.12E-04	8.86E-02	1.69	6.92E-05	6.92E-05	1.17E-04	1.23E-04
Ra-226	5.18E-11	4.11E-08	7.85E-07	2.65E-11	2.65E-11	6.10E-11	6.98E-11
Ra-228	2.96E-07	2.35E-04	4.49E-03	2.88E-08	2.88E-08	3.07E-07	3.17E-07
Ac-227	3.15E-10	2.50E-07	4.77E-06	1.68E-10	1.68E-10	3.68E-10	4.19E-10
Pa-231	1.70E-09	1.35E-06	2.57E-05	8.84E-10	8.84E-10	2.00E-09	2.28E-09
Th-229	6.85E-09	5.43E-06	1.04E-04	6.74E-10	6.74E-10	7.08E-09	7.31E-09
Th-232	3.50E-08	2.77E-05	5.30E-04	1.89E-09	1.89E-09	4.40E-08	5.27E-08
U-232	7.25E-07	5.75E-04	1.10E-02	4.74E-07	5.75E-07	8.97E-07	1.08E-06
U-233	2.78E-06	2.20E-03	4.21E-02	1.82E-06	2.20E-06	3.44E-06	4.14E-06
U-234	2.90E-07	2.30E-04	4.40E-03	2.76E-07	2.83E-07	2.98E-07	3.05E-07
U-235	1.12E-08	8.85E-06	1.69E-04	1.06E-08	1.09E-08	1.15E-08	1.17E-08
U-236	9.49E-09	7.52E-06	1.44E-04	8.96E-09	9.22E-09	9.76E-09	1.00E-08
U-238	4.80E-07	3.80E-04	7.27E-03	4.66E-07	4.73E-07	4.87E-07	5.22E-07
Np-237	5.66E-07	4.49E-04	8.58E-03	3.74E-07	4.60E-07	6.86E-07	8.48E-07
Pu-238	5.80E-07	4.60E-04	8.79E-03	4.61E-07	5.20E-07	6.41E-07	7.00E-07
Pu-239	1.96E-05	1.56E-02	0.297	1.66E-05	1.81E-05	2.12E-05	2.27E-05
Pu-240	3.40E-06	2.70E-03	5.15E-02	2.83E-06	3.11E-06	3.69E-06	3.97E-06
Pu-241	4.12E-05	3.26E-02	0.624	3.30E-05	3.70E-05	4.53E-05	4.93E-05
Pu-242	2.18E-10	1.73E-07	3.30E-06	1.69E-10	1.93E-10	2.43E-10	2.67E-10
Am-241	2.48E-05	1.97E-02	0.376	1.62E-05	2.04E-05	2.93E-05	3.35E-05
Am-243	8.85E-10	7.02E-07	1.34E-05	5.71E-10	7.21E-10	1.06E-09	1.23E-09
Cm-242	4.57E-08	3.62E-05	6.92E-04	1.86E-08	1.86E-08	4.92E-08	5.25E-08
Cm-243	4.27E-09	3.38E-06	6.46E-05	1.68E-09	1.68E-09	4.58E-09	4.88E-09
Cm-244	4.12E-08	3.27E-05	6.24E-04	1.46E-08	1.46E-08	5.02E-08	5.60E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.84E-04 (g/L)	----	2.78E-03	1.26E-04	1.54E-04	2.13E-04	2.41E-04
U	3.18E-03	599	11.4	3.01E-03	3.09E-03	3.26E-03	3.34E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.09E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	1.62E-02 (kW)	(55.4 BTU/hr)	----	1.39E-02	1.49E-02	1.74E-02	1.92E-02
Bulk Density†	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.69
Water wt%†	48.3	----	----	46.4	47.2	49.6	51.1
TOC wt% C (wet)†	2.70E-02	----	----	2.20E-02	2.44E-02	2.97E-02	3.38E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.79E-06	4.75E-03	1.95	3.62E-06	3.62E-06	7.94E-06	8.14E-06
C-14	3.52E-06	2.15E-03	0.880	2.83E-06	2.83E-06	3.79E-06	4.00E-06
Ni-59	1.26E-07	7.72E-05	3.16E-02	1.03E-07	1.03E-07	1.91E-07	2.94E-07
Ni-63	1.16E-05	7.10E-03	2.91	9.29E-06	9.29E-06	1.73E-05	2.64E-05
Co-60	1.77E-06	1.08E-03	0.442	7.52E-07	7.52E-07	1.78E-06	1.79E-06
Se-79	1.58E-07	9.65E-05	3.95E-02	1.09E-07	1.09E-07	1.76E-07	1.93E-07
Sr-90	4.32E-03	2.64	1.08E+03	4.08E-03	4.20E-03	4.44E-03	4.54E-03
Y-90	4.32E-03	2.64	1.08E+03	3.21E-03	3.21E-03	4.44E-03	4.54E-03
Zr-93	7.75E-07	4.73E-04	0.194	5.28E-07	5.28E-07	8.65E-07	9.51E-07
Nb-93m	5.89E-07	3.60E-04	0.147	4.16E-07	4.16E-07	6.52E-07	7.12E-07
Tc-99	1.22E-05	7.45E-03	3.05	8.61E-06	1.02E-05	1.44E-05	1.75E-05
Ru-106	2.65E-10	1.62E-07	6.63E-05	1.42E-10	1.42E-10	3.10E-10	3.53E-10
Cd-113m	3.50E-06	2.13E-03	0.874	2.01E-06	2.01E-06	4.03E-06	4.55E-06
Sb-125	7.74E-06	4.72E-03	1.93	3.18E-06	3.18E-06	7.80E-06	7.86E-06
Sn-126	2.37E-07	1.44E-04	5.92E-02	1.63E-07	1.63E-07	2.64E-07	2.89E-07
I-129	2.35E-08	1.43E-05	5.87E-03	1.65E-08	1.96E-08	2.78E-08	3.37E-08
Cs-134	7.31E-08	4.46E-05	1.83E-02	4.19E-08	4.19E-08	8.09E-08	8.84E-08
Cs-137	7.65E-03	4.67	1.91E+03	5.68E-03	6.51E-03	8.67E-03	1.02E-02
Ba-137m	7.24E-03	4.42	1.81E+03	4.38E-03	4.38E-03	7.37E-03	7.50E-03
Sm-151	5.71E-04	0.348	143	3.98E-04	3.98E-04	6.33E-04	6.93E-04
Eu-152	2.43E-07	1.48E-04	6.07E-02	2.00E-07	2.00E-07	2.48E-07	2.54E-07
Eu-154	2.39E-05	1.46E-02	5.97	1.15E-05	1.15E-05	2.84E-05	3.27E-05
Eu-155	2.02E-05	1.23E-02	5.05	1.76E-05	1.76E-05	2.06E-05	2.09E-05
Ra-226	1.16E-10	7.05E-08	2.89E-05	2.81E-11	2.81E-11	2.50E-10	3.79E-10
Ra-228	2.45E-08	1.49E-05	6.12E-03	8.27E-09	8.27E-09	2.51E-08	2.58E-08
Ac-227	2.03E-08	1.24E-05	5.07E-03	1.65E-08	1.94E-08	2.11E-08	2.18E-08
Pa-231	2.99E-08	1.83E-05	7.48E-03	8.95E-09	2.51E-08	3.29E-08	3.57E-08
Th-229	3.37E-09	2.06E-06	8.42E-04	2.99E-09	2.99E-09	3.39E-09	3.41E-09
Th-232	2.42E-09	1.48E-06	6.06E-04	4.19E-10	4.19E-10	2.97E-09	3.50E-09
U-232	3.82E-07	2.33E-04	9.53E-02	4.93E-08	2.27E-07	4.54E-07	4.94E-07
U-233	1.48E-06	9.00E-04	0.369	1.84E-07	8.73E-07	1.76E-06	1.91E-06
U-234	1.14E-04	6.97E-02	28.5	1.12E-04	1.13E-04	1.15E-04	1.15E-04
U-235	5.13E-06	3.13E-03	1.28	5.06E-06	5.10E-06	5.15E-06	5.15E-06
U-236	7.71E-07	4.71E-04	0.193	7.19E-07	7.47E-07	7.83E-07	7.89E-07
U-238	1.16E-04	7.05E-02	28.9	1.14E-04	1.15E-04	1.16E-04	1.16E-04
Np-237	4.63E-08	2.83E-05	1.16E-02	3.47E-08	3.99E-08	5.36E-08	6.34E-08
Pu-238	7.57E-06	4.62E-03	1.89	5.36E-06	7.06E-06	7.88E-06	8.17E-06
Pu-239	3.17E-04	0.194	79.3	2.25E-04	2.96E-04	3.33E-04	3.52E-04
Pu-240	5.61E-05	3.42E-02	14.0	3.98E-05	5.24E-05	5.84E-05	6.06E-05
Pu-241	6.05E-04	0.369	151	4.28E-04	5.65E-04	6.30E-04	6.54E-04
Pu-242	1.71E-09	1.04E-06	4.27E-04	1.21E-09	1.60E-09	1.78E-09	1.85E-09
Am-241	1.66E-06	1.01E-03	0.415	1.13E-06	1.39E-06	1.93E-06	2.19E-06
Am-243	5.46E-11	3.33E-08	1.36E-05	3.55E-11	4.46E-11	6.50E-11	7.55E-11
Cm-242	4.13E-09	2.52E-06	1.03E-03	2.48E-09	2.48E-09	4.34E-09	4.54E-09
Cm-243	2.93E-10	1.79E-07	7.33E-05	1.37E-10	1.37E-10	3.12E-10	3.31E-10
Cm-244	2.53E-09	1.54E-06	6.31E-04	9.12E-10	9.12E-10	3.07E-09	3.42E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.35E-03 (g/L)	----	1.34	3.80E-03	5.00E-03	5.61E-03	5.91E-03
U	1.45	2.11E+05	8.65E+04	1.43	1.44	1.46	1.46

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.62E+05 (kg)	(41.0 kgal)	----	----	----	----	----
Heat Load	3.73E-03 (kW)	(12.7 BTU/hr)	----	3.19E-03	3.46E-03	3.99E-03	4.23E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	1.81E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	1.03E+03	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	11.0	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	6.22	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	523	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	1.83	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	2.87E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	710	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	36.0	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.76E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	5.90E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	1.35E+03	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	7.44	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	7.62	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	3.00E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.26E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	0.414 (kW)	(1.41E+03 BTU/hr)	----	0.381	0.402	0.426	0.438
Bulk Density*	1.48 (g/cc)	----	----	1.45	1.46	1.50	1.51
Water wt%	41.8	----	----	39.3	40.4	43.2	44.8
TOC wt% C (wet)	0.960	----	----	0.515	0.734	1.19	1.40

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.4	1.77E+05	5.75E+04	10.4	10.9	11.8	12.2
Al^{3+}	1.29	2.35E+04	7.66E+03	1.20	1.25	1.35	1.39
Fe^{3+} (total Fe)	9.29E-03	350	114	7.72E-03	8.49E-03	1.01E-02	1.09E-02
Cr^{3+}	0.115	4.02E+03	1.31E+03	9.62E-02	0.106	0.118	0.121
Bi^{3+}	1.01E-03	143	46.5	9.24E-04	9.68E-04	1.06E-03	1.10E-03
La^{3+}	3.16E-05	2.96	0.965	2.29E-05	2.72E-05	3.61E-05	4.04E-05
Hg^{2+}	7.02E-06	0.949	0.309	6.54E-06	6.81E-06	7.12E-06	7.22E-06
Zr (as $ZrO(OH)_2$)	1.87E-04	11.5	3.75	1.71E-04	1.77E-04	1.94E-04	2.03E-04
Pb^{2+}	7.80E-04	109	35.5	6.32E-04	7.04E-04	8.56E-04	9.28E-04
Ni^{2+}	5.22E-03	207	67.3	5.00E-03	5.11E-03	5.28E-03	5.34E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.16E-03	117	38.1	2.41E-03	2.78E-03	3.55E-03	3.92E-03
Ca^{2+}	2.80E-02	755	246	2.57E-02	2.68E-02	2.91E-02	3.02E-02
K^+	5.26E-02	1.39E+03	452	4.80E-02	5.02E-02	5.51E-02	5.75E-02
OH^-	7.83	8.98E+04	2.92E+04	7.27	7.53	8.14	8.31
$NO3^-$	3.90	1.63E+05	5.31E+04	3.61	3.78	3.96	4.02
$NO2^-$	1.94	6.01E+04	1.96E+04	1.61	1.76	2.10	2.26
$CO3^{2-}$	0.378	1.53E+04	4.98E+03	0.339	0.358	0.400	0.410
$PO4^{3-}$	7.22E-02	4.62E+03	1.50E+03	6.26E-02	6.60E-02	7.38E-02	7.55E-02
$SO4^{2-}$	0.204	1.32E+04	4.31E+03	0.163	0.182	0.227	0.246
Si (as SiO_x^{2-})	6.66E-02	1.26E+03	411	5.58E-02	6.11E-02	7.21E-02	7.74E-02
F^-	4.98E-02	638	208	4.20E-02	4.52E-02	5.36E-02	5.67E-02
Cl^-	0.197	4.70E+03	1.53E+03	0.178	0.187	0.205	0.213
$C_6H_5O_7^{3-}$	2.28E-02	2.91E+03	948	2.07E-02	2.17E-02	2.40E-02	2.50E-02
$EDTA^{4-}$	2.25E-02	4.37E+03	1.42E+03	6.18E-03	1.42E-02	3.09E-02	3.91E-02
$HEDTA^{3-}$	4.34E-02	8.01E+03	2.61E+03	1.07E-02	2.66E-02	6.02E-02	7.66E-02
glycolate$^-$	9.98E-02	5.05E+03	1.64E+03	6.72E-02	8.31E-02	0.117	0.133
acetate$^-$	5.38E-03	214	69.7	4.43E-03	4.89E-03	5.87E-03	6.34E-03
oxalate^{2-}	4.15E-05	2.46	0.801	3.67E-05	3.90E-05	4.39E-05	4.62E-05
DBP	1.50E-02	2.13E+03	693	1.24E-02	1.37E-02	1.64E-02	1.76E-02
butanol	1.50E-02	751	245	1.24E-02	1.37E-02	1.64E-02	1.76E-02
NH_3	6.69E-02	767	250	5.47E-02	5.95E-02	7.63E-02	8.73E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.87E+05 (kg)	(99.0 kgal)	----	----	----	----	----
Heat Load	0.418 (kW)	(1.43E+03 BTU/hr)	----	0.385	0.406	0.430	0.441
Bulk Density†	1.57 (g/cc)	----	----	1.54	1.55	1.58	1.59
Water wt%†	44.1	----	----	42.7	43.3	44.9	45.8
TOC wt% C (wet)†	0.532	----	----	0.285	0.406	0.659	0.782

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.77	1.29E+05	7.56E+04	8.08	8.45	9.05	9.29
Al^{3+}	0.758	1.30E+04	7.66E+03	0.704	0.730	0.788	0.812
Fe^{3+} (total Fe)	5.46E-02	1.95E+03	1.14E+03	5.19E-02	5.32E-02	5.60E-02	5.73E-02
Cr^{3+}	6.77E-02	2.25E+03	1.32E+03	5.69E-02	6.27E-02	6.97E-02	7.16E-02
Bi^{3+}	5.94E-04	79.2	46.5	5.41E-04	5.67E-04	6.21E-04	6.47E-04
La^{3+}	1.85E-05	1.64	0.965	1.34E-05	1.59E-05	2.12E-05	2.37E-05
Hg^{2+}	4.11E-06	0.526	0.309	3.83E-06	3.99E-06	4.17E-06	4.23E-06
Zr (as $ZrO(OH)_2$)	1.10E-04	6.39	3.75	1.00E-04	1.04E-04	1.14E-04	1.19E-04
Pb^{2+}	4.57E-04	60.4	35.5	3.70E-04	4.13E-04	5.01E-04	5.44E-04
Ni^{2+}	3.34E-03	125	73.5	3.21E-03	3.27E-03	3.57E-03	3.94E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.85E-03	65.0	38.1	1.41E-03	1.63E-03	2.08E-03	2.30E-03
Ca^{2+}	5.12E-02	1.31E+03	769	4.06E-02	4.58E-02	5.67E-02	6.19E-02
K^+	3.10E-02	772	454	2.82E-02	2.95E-02	3.24E-02	3.38E-02
OH^-	9.09	9.86E+04	5.79E+04	8.76	8.91	9.27	9.37
$NO3^-$	2.32	9.16E+04	5.38E+04	2.15	2.25	2.35	2.39
$NO2^-$	1.14	3.34E+04	1.96E+04	0.948	1.04	1.24	1.33
$CO3^{2-}$	1.00	3.84E+04	2.26E+04	0.784	0.900	1.09	1.17
$PO4^{3-}$	0.208	1.26E+04	7.40E+03	0.113	0.163	0.246	0.277
$SO4^{2-}$	0.157	9.63E+03	5.65E+03	0.133	0.144	0.170	0.182
Si (as SiO_x^{2-})	3.97E-02	712	418	3.34E-02	3.65E-02	4.29E-02	4.60E-02
F^-	2.92E-02	354	208	2.46E-02	2.65E-02	3.14E-02	3.32E-02
Cl^-	0.116	2.62E+03	1.54E+03	0.105	0.110	0.121	0.125
$C_6H_5O_7^{3-}$	1.34E-02	1.61E+03	948	1.21E-02	1.27E-02	1.40E-02	1.47E-02
$EDTA^{4-}$	1.32E-02	2.43E+03	1.42E+03	3.62E-03	8.30E-03	1.81E-02	2.29E-02
$HEDTA^{3-}$	2.54E-02	4.44E+03	2.61E+03	6.26E-03	1.56E-02	3.52E-02	4.49E-02
glycolate$^-$	5.85E-02	2.80E+03	1.64E+03	3.94E-02	4.87E-02	6.83E-02	7.80E-02
acetate$^-$	3.15E-03	119	69.7	2.59E-03	2.87E-03	3.44E-03	3.71E-03
oxalate^{2-}	2.43E-05	1.36	0.801	2.15E-05	2.29E-05	2.57E-05	2.71E-05
DBP	8.80E-03	1.18E+03	693	7.25E-03	8.01E-03	9.58E-03	1.03E-02
butanol	8.80E-03	416	245	7.25E-03	8.01E-03	9.58E-03	1.03E-02
NH_3	3.92E-02	425	250	3.21E-02	3.49E-02	4.47E-02	5.11E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.62E+05 (kg)	(41.0 kgal)	----	----	----	----	----
Heat Load	3.73E-03 (kW)	(12.7 BTU/hr)	----	3.19E-03	3.46E-03	3.99E-03	4.23E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	0.147	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.423	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	1.49E-02	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	1.31	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	7.30E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	1.10E-02	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	310	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	310	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	5.26E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	4.53E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.362	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.72E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	0.107	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	3.94E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.64E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	6.75E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	4.22E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	350	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	331	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	41.7	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	9.75E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	9.82E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	1.47	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	2.13E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	1.33E-10	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	5.32E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	4.94E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	2.56E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.63E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	2.53E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	1.51E-05	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	21.3	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.959	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	0.136	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	21.6	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	2.18E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.64E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.514	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	3.03E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	1.94E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	5.93E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	1.82E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	5.09E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	3.91E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	5.81E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	7.79E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	8.40E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	6.47E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.26E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	0.414 (kW)	(1.41E+03 BTU/hr)	----	0.381	0.402	0.426	0.438
Bulk Density*	1.48 (g/cc)	----	----	1.45	1.46	1.50	1.51
Water wt%†	41.8	----	----	39.3	40.4	43.2	44.8
TOC wt% C (wet)	0.960	----	----	0.515	0.734	1.19	1.40

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.05E-04	0.138	45.0	1.09E-04	1.09E-04	2.18E-04	2.34E-04
C-14	3.02E-05	2.04E-02	6.63	1.01E-05	1.01E-05	3.06E-05	3.11E-05
Ni-59	1.95E-06	1.32E-03	0.429	1.01E-06	1.01E-06	2.00E-06	2.05E-06
Ni-63	1.91E-04	0.129	42.0	9.78E-05	9.78E-05	1.96E-04	2.01E-04
Co-60	3.42E-05	2.30E-02	7.50	1.11E-05	1.11E-05	3.51E-05	3.60E-05
Se-79	3.14E-06	2.12E-03	0.690	1.86E-06	1.86E-06	3.61E-06	4.05E-06
Sr-90	0.107	72.2	2.35E+04	0.101	0.104	0.110	0.113
Y-90	0.107	72.3	2.35E+04	6.28E-02	6.28E-02	0.110	0.114
Zr-93	1.54E-05	1.04E-02	3.39	9.01E-06	9.01E-06	1.78E-05	2.00E-05
Nb-93m	1.12E-05	7.53E-03	2.45	6.68E-06	6.68E-06	1.28E-05	1.44E-05
Tc-99	2.15E-04	0.145	47.2	1.40E-04	1.76E-04	2.53E-04	2.91E-04
Ru-106	6.55E-09	4.41E-06	1.44E-03	3.57E-09	3.57E-09	7.21E-09	7.82E-09
Cd-113m	8.19E-05	5.52E-02	18.0	4.33E-05	4.33E-05	9.58E-05	1.09E-04
Sb-125	1.49E-04	0.101	32.7	4.93E-05	4.93E-05	1.54E-04	1.60E-04
Sn-126	4.75E-06	3.20E-03	1.04	2.82E-06	2.82E-06	5.45E-06	6.12E-06
I-129	4.14E-07	2.79E-04	9.10E-02	2.69E-07	3.40E-07	4.89E-07	5.61E-07
Cs-134	3.09E-06	2.08E-03	0.677	1.85E-06	2.45E-06	3.72E-06	4.34E-06
Cs-137	0.249	168	5.46E+04	0.226	0.237	0.260	0.271
Ba-137m	0.235	158	5.16E+04	0.191	0.191	0.246	0.257
Sm-151	1.11E-02	7.46	2.43E+03	6.57E-03	6.57E-03	1.27E-02	1.43E-02
Eu-152	4.06E-06	2.74E-03	0.892	2.47E-06	2.47E-06	4.51E-06	4.96E-06
Eu-154	5.76E-04	0.388	126	2.54E-04	2.54E-04	6.92E-04	7.38E-04
Eu-155	2.42E-04	0.163	53.2	1.47E-04	1.47E-04	2.70E-04	2.97E-04
Ra-226	1.30E-10	8.79E-08	2.86E-05	9.06E-11	9.06E-11	1.45E-10	1.59E-10
Ra-228	1.16E-07	7.82E-05	2.55E-02	4.96E-08	8.21E-08	1.55E-07	1.97E-07
Ac-227	8.20E-10	5.53E-07	1.80E-04	5.89E-10	5.89E-10	9.04E-10	9.84E-10
Pa-231	3.80E-09	2.56E-06	8.34E-04	2.51E-09	2.51E-09	4.26E-09	4.71E-09
Th-229	2.72E-09	1.84E-06	5.98E-04	1.27E-09	1.98E-09	3.59E-09	4.51E-09
Th-232	7.86E-09	5.30E-06	1.73E-03	4.19E-09	5.99E-09	9.73E-09	1.15E-08
U-232	5.97E-07	4.03E-04	0.131	3.32E-07	4.62E-07	7.55E-07	9.23E-07
U-233	2.29E-06	1.54E-03	0.503	1.27E-06	1.77E-06	2.89E-06	3.54E-06
U-234	6.82E-07	4.60E-04	0.150	6.57E-07	6.70E-07	6.96E-07	7.04E-07
U-235	2.77E-08	1.87E-05	6.08E-03	2.67E-08	2.72E-08	2.83E-08	2.86E-08
U-236	2.14E-08	1.45E-05	4.71E-03	2.07E-08	2.11E-08	2.18E-08	2.21E-08
U-238	7.90E-07	5.33E-04	0.173	7.66E-07	7.77E-07	8.04E-07	8.11E-07
Np-237	7.76E-07	5.23E-04	0.170	5.31E-07	6.51E-07	9.03E-07	1.02E-06
Pu-238	1.39E-06	9.35E-04	0.305	1.10E-06	1.24E-06	1.53E-06	1.68E-06
Pu-239	4.71E-05	3.17E-02	10.3	3.97E-05	4.33E-05	5.08E-05	5.44E-05
Pu-240	8.04E-06	5.42E-03	1.77	6.67E-06	7.34E-06	8.74E-06	9.41E-06
Pu-241	9.49E-05	6.39E-02	20.8	7.52E-05	8.48E-05	1.05E-04	1.15E-04
Pu-242	5.21E-10	3.51E-07	1.14E-04	4.04E-10	4.61E-10	5.81E-10	6.39E-10
Am-241	5.32E-05	3.59E-02	11.7	3.95E-05	4.62E-05	6.02E-05	6.69E-05
Am-243	1.94E-09	1.31E-06	4.25E-04	1.49E-09	1.70E-09	2.21E-09	2.45E-09
Cm-242	1.54E-07	1.04E-04	3.38E-02	8.85E-08	8.85E-08	1.71E-07	1.88E-07
Cm-243	1.42E-08	9.55E-06	3.11E-03	7.94E-09	7.94E-09	1.57E-08	1.72E-08
Cm-244	1.32E-07	8.89E-05	2.89E-02	6.76E-08	6.76E-08	1.54E-07	1.68E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.47E-04 (g/L)	----	0.120	4.08E-04	4.76E-04	6.18E-04	6.86E-04
U	7.82E-03	1.25E+03	409	7.52E-03	7.66E-03	8.00E-03	8.08E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.87E+05 (kg)	(99.0 kgal)	----	----	----	----	----
Heat Load	0.418 (kW)	(1.43E+03 BTU/hr)	----	0.385	0.406	0.430	0.441
Bulk Density†	1.57 (g/cc)	----	----	1.54	1.55	1.58	1.59
Water wt%†	44.1	----	----	42.7	43.3	44.9	45.8
TOC wt% C (wet)†	0.532	----	----	0.285	0.406	0.659	0.782

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.21E-04	7.70E-02	45.2	6.42E-05	6.42E-05	1.28E-04	1.37E-04
C-14	1.88E-05	1.20E-02	7.05	7.03E-06	7.03E-06	1.91E-05	1.93E-05
Ni-59	1.18E-06	7.55E-04	0.443	6.29E-07	6.29E-07	1.22E-06	1.27E-06
Ni-63	1.16E-04	7.38E-02	43.3	6.08E-05	6.08E-05	1.18E-04	1.23E-04
Co-60	2.00E-05	1.28E-02	7.51	6.54E-06	6.54E-06	2.06E-05	2.11E-05
Se-79	1.87E-06	1.19E-03	0.701	1.12E-06	1.12E-06	2.14E-06	2.40E-06
Sr-90	6.36E-02	40.6	2.38E+04	5.98E-02	6.17E-02	6.55E-02	6.73E-02
Y-90	6.36E-02	40.6	2.38E+04	3.76E-02	3.76E-02	6.55E-02	6.73E-02
Zr-93	9.18E-06	5.86E-03	3.44	5.42E-06	5.42E-06	1.05E-05	1.19E-05
Nb-93m	6.67E-06	4.26E-03	2.50	4.03E-06	4.03E-06	7.62E-06	8.54E-06
Tc-99	1.27E-04	8.09E-02	47.5	8.29E-05	1.04E-04	1.49E-04	1.71E-04
Ru-106	3.84E-09	2.45E-06	1.44E-03	2.09E-09	2.09E-09	4.23E-09	4.58E-09
Cd-113m	4.83E-05	3.08E-02	18.1	2.57E-05	2.57E-05	5.64E-05	6.43E-05
Sb-125	8.74E-05	5.58E-02	32.7	2.89E-05	2.89E-05	9.05E-05	9.35E-05
Sn-126	2.83E-06	1.80E-03	1.06	1.70E-06	1.70E-06	3.24E-06	3.63E-06
I-129	2.45E-07	1.56E-04	9.16E-02	1.59E-07	2.01E-07	2.88E-07	3.31E-07
Cs-134	1.81E-06	1.15E-03	0.677	1.08E-06	1.44E-06	2.18E-06	2.54E-06
Cs-137	0.147	93.5	5.49E+04	0.133	0.140	0.153	0.160
Ba-137m	0.139	88.5	5.19E+04	0.113	0.113	0.145	0.151
Sm-151	6.59E-03	4.21	2.47E+03	3.96E-03	3.96E-03	7.55E-03	8.46E-03
Eu-152	2.41E-06	1.54E-03	0.901	1.47E-06	1.47E-06	2.67E-06	2.93E-06
Eu-154	3.37E-04	0.215	126	1.49E-04	1.49E-04	4.06E-04	4.33E-04
Eu-155	1.46E-04	9.31E-02	54.6	9.03E-05	9.03E-05	1.62E-04	1.78E-04
Ra-226	1.33E-10	8.51E-08	4.99E-05	8.90E-11	8.90E-11	2.01E-10	2.67E-10
Ra-228	6.79E-08	4.34E-05	2.55E-02	2.91E-08	4.81E-08	9.10E-08	1.15E-07
Ac-227	6.22E-10	3.97E-07	2.33E-04	4.87E-10	4.87E-10	1.02E-09	1.40E-09
Pa-231	2.36E-09	1.50E-06	8.83E-04	1.60E-09	1.60E-09	2.63E-09	3.03E-09
Th-229	1.60E-09	1.02E-06	5.98E-04	7.43E-10	1.16E-09	2.10E-09	2.64E-09
Th-232	4.61E-09	2.94E-06	1.73E-03	2.46E-09	3.51E-09	5.70E-09	6.76E-09
U-232	3.51E-07	2.24E-04	0.131	1.95E-07	2.71E-07	4.43E-07	5.41E-07
U-233	1.34E-06	8.57E-04	0.503	7.46E-07	1.04E-06	1.70E-06	2.07E-06
U-234	5.73E-05	3.66E-02	21.5	5.71E-05	5.72E-05	5.74E-05	5.75E-05
U-235	2.58E-06	1.64E-03	0.965	2.57E-06	2.57E-06	2.58E-06	2.58E-06
U-236	3.76E-07	2.40E-04	0.141	3.75E-07	3.75E-07	3.76E-07	3.77E-07
U-238	5.81E-05	3.71E-02	21.8	5.79E-05	5.80E-05	5.82E-05	5.82E-05
Np-237	4.61E-07	2.94E-04	0.173	3.17E-07	3.87E-07	5.35E-07	6.06E-07
Pu-238	8.17E-07	5.21E-04	0.306	6.48E-07	7.31E-07	9.03E-07	9.86E-07
Pu-239	2.90E-05	1.85E-02	10.9	2.46E-05	2.68E-05	3.68E-05	4.64E-05
Pu-240	4.79E-06	3.06E-03	1.80	3.99E-06	4.38E-06	5.26E-06	5.82E-06
Pu-241	5.56E-05	3.55E-02	20.8	4.41E-05	4.97E-05	6.15E-05	6.71E-05
Pu-242	3.06E-10	1.95E-07	1.14E-04	2.37E-10	2.70E-10	3.41E-10	3.74E-10
Am-241	3.12E-05	1.99E-02	11.7	2.32E-05	2.71E-05	3.53E-05	3.92E-05
Am-243	1.13E-09	7.24E-07	4.25E-04	8.75E-10	9.94E-10	1.30E-09	1.44E-09
Cm-242	9.03E-08	5.76E-05	3.38E-02	5.20E-08	5.20E-08	1.00E-07	1.10E-07
Cm-243	8.30E-09	5.30E-06	3.11E-03	4.65E-09	4.65E-09	9.21E-09	1.01E-08
Cm-244	7.72E-08	4.93E-05	2.89E-02	3.96E-08	3.96E-08	9.00E-08	9.81E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.43E-04 (g/L)	----	0.129	2.61E-04	3.01E-04	4.72E-04	6.28E-04
U	0.730	1.11E+05	6.51E+04	0.727	0.729	0.731	0.732

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.93E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	4.18E-03 (kW)	(14.3 BTU/hr)	----	3.57E-03	3.88E-03	4.48E-03	4.74E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	2.03E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	1.15E+03	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	12.4	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	6.98	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	587	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	2.05	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	3.22E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	796	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	40.3	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.97E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	6.62E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	1.51E+03	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	8.35	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	8.55	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	3.37E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.79E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.33E-02 (kW)	(114 BTU/hr)	----	3.05E-02	3.23E-02	3.43E-02	3.53E-02
Bulk Density*	1.47 (g/cc)	----	----	1.44	1.46	1.49	1.50
Water wt%	43.1	----	----	41.0	42.0	44.4	45.8
TOC wt% C (wet)	0.996	----	----	0.554	0.771	1.22	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.0	1.71E+05	4.77E+03	10.2	10.6	11.3	11.6
Al^{3+}	1.31	2.40E+04	667	1.21	1.27	1.35	1.39
Fe^{3+} (total Fe)	8.31E-03	315	8.78	6.97E-03	7.63E-03	8.99E-03	9.64E-03
Cr^{3+}	0.106	3.73E+03	104	9.03E-02	9.86E-02	0.108	0.111
Bi^{3+}	9.87E-04	140	3.90	9.14E-04	9.50E-04	1.02E-03	1.06E-03
La^{3+}	2.53E-05	2.39	6.65E-02	1.84E-05	2.18E-05	2.88E-05	3.22E-05
Hg^{2+}	7.28E-06	0.991	2.76E-02	6.89E-06	7.11E-06	7.37E-06	7.45E-06
Zr (as $ZrO(OH)_2$)	1.58E-04	9.81	0.273	1.45E-04	1.50E-04	1.64E-04	1.72E-04
Pb^{2+}	8.87E-04	125	3.48	7.57E-04	8.20E-04	9.53E-04	1.02E-03
Ni^{2+}	4.67E-03	186	5.19	4.47E-03	4.57E-03	4.72E-03	4.77E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.29E-03	123	3.42	2.65E-03	2.96E-03	3.62E-03	3.93E-03
Ca^{2+}	2.51E-02	683	19.0	2.32E-02	2.41E-02	2.61E-02	2.70E-02
K^+	5.15E-02	1.37E+03	38.1	4.76E-02	4.94E-02	5.36E-02	5.65E-02
OH^-	7.67	8.85E+04	2.47E+03	7.19	7.42	7.93	8.07
$NO3^-$	3.66	1.54E+05	4.30E+03	3.43	3.56	3.71	3.77
$NO2^-$	1.93	6.03E+04	1.68E+03	1.66	1.78	2.07	2.21
$CO3^{2-}$	0.379	1.54E+04	430	0.345	0.361	0.397	0.408
$PO4^{3-}$	7.16E-02	4.62E+03	129	6.37E-02	6.65E-02	7.35E-02	7.60E-02
$SO4^{2-}$	0.209	1.36E+04	380	0.173	0.190	0.228	0.245
Si (as SiO_x^{2-})	6.22E-02	1.19E+03	33.1	5.31E-02	5.76E-02	6.69E-02	7.14E-02
F^-	5.06E-02	653	18.2	4.42E-02	4.69E-02	5.37E-02	5.62E-02
Cl^-	0.190	4.57E+03	127	0.174	0.181	0.197	0.203
$C_6H_5O_7^{3-}$	2.38E-02	3.06E+03	85.2	2.19E-02	2.28E-02	2.48E-02	2.57E-02
$EDTA^{4-}$	2.31E-02	4.52E+03	126	6.95E-03	1.48E-02	3.14E-02	3.95E-02
$HEDTA^{3-}$	4.28E-02	7.98E+03	222	1.06E-02	2.63E-02	5.94E-02	7.57E-02
$glycolate^-$	9.54E-02	4.86E+03	135	6.31E-02	7.89E-02	0.112	0.128
$acetate^-$	1.06E-02	424	11.8	8.97E-03	9.66E-03	1.16E-02	1.31E-02
$oxalate^{2-}$	3.31E-05	1.98	5.52E-02	2.94E-05	3.12E-05	3.50E-05	3.69E-05
DBP	1.73E-02	2.47E+03	68.7	1.50E-02	1.61E-02	1.84E-02	1.96E-02
butanol	1.73E-02	870	24.2	1.50E-02	1.61E-02	1.84E-02	1.96E-02
NH_3	5.82E-02	672	18.7	4.78E-02	5.19E-02	6.61E-02	7.55E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.21E+05 (kg)	(51.0 kgal)	----	----	----	----	----
Heat Load	3.75E-02 (kW)	(128 BTU/hr)	----	3.47E-02	3.65E-02	3.85E-02	3.95E-02
Bulk Density†	1.66 (g/cc)	----	----	1.59	1.63	1.69	1.71
Water wt%†	46.6	----	----	44.6	45.5	48.0	49.6
TOC wt% C (wet)†	8.64E-02	----	----	4.76E-02	6.65E-02	0.106	0.126

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.65	7.80E+04	2.51E+04	4.13	4.94	6.26	6.76
Al^{3+}	0.128	2.08E+03	667	0.119	0.124	0.132	0.136
Fe^{3+} (total Fe)	0.108	3.62E+03	1.16E+03	0.102	0.105	0.111	0.114
Cr^{3+}	1.16E-02	362	116	1.01E-02	1.09E-02	1.19E-02	1.21E-02
Bi^{3+}	9.68E-05	12.2	3.90	8.96E-05	9.31E-05	1.00E-04	1.04E-04
La^{3+}	2.48E-06	0.207	6.65E-02	1.81E-06	2.14E-06	2.83E-06	3.16E-06
Hg^{2+}	7.13E-07	8.60E-02	2.76E-02	6.76E-07	6.97E-07	7.22E-07	7.31E-07
Zr (as $ZrO(OH)_2$)	1.55E-05	0.851	0.273	1.42E-05	1.47E-05	1.61E-05	1.68E-05
Pb^{2+}	8.69E-05	10.8	3.48	7.42E-05	8.04E-05	9.34E-05	9.96E-05
Ni^{2+}	1.07E-03	37.9	12.2	9.95E-04	1.03E-03	1.57E-03	2.39E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.22E-04	10.6	3.42	2.60E-04	2.90E-04	3.55E-04	3.85E-04
Ca^{2+}	7.84E-02	1.89E+03	606	5.51E-02	6.65E-02	9.02E-02	0.102
K^+	5.32E-03	125	40.1	4.93E-03	5.12E-03	5.53E-03	5.81E-03
OH^-	10.6	1.08E+05	3.46E+04	10.5	10.5	10.6	10.6
$NO3^-$	0.425	1.59E+04	5.09E+03	0.402	0.416	0.431	0.436
$NO2^-$	0.194	5.36E+03	1.72E+03	0.167	0.179	0.208	0.221
$CO3^{2-}$	1.74	6.28E+04	2.02E+04	1.26	1.52	1.93	2.10
$PO4^{3-}$	0.368	2.10E+04	6.74E+03	0.162	0.270	0.451	0.518
$SO4^{2-}$	0.102	5.88E+03	1.89E+03	9.00E-02	9.59E-02	0.108	0.113
Si (as SiO_x^{2-})	7.64E-03	129	41.4	6.74E-03	7.18E-03	8.10E-03	8.54E-03
F^-	4.96E-03	56.6	18.2	4.34E-03	4.60E-03	5.26E-03	5.51E-03
Cl^-	1.99E-02	423	136	1.83E-02	1.90E-02	2.06E-02	2.12E-02
$C_6H_5O_7^{3-}$	2.33E-03	265	85.2	2.15E-03	2.24E-03	2.43E-03	2.52E-03
$EDTA^{4-}$	2.26E-03	392	126	6.81E-04	1.45E-03	3.08E-03	3.87E-03
$HEDTA^{3-}$	4.20E-03	692	222	1.04E-03	2.58E-03	5.83E-03	7.42E-03
$glycolate^-$	9.35E-03	422	135	6.19E-03	7.74E-03	1.10E-02	1.26E-02
$acetate^-$	1.04E-03	36.8	11.8	8.79E-04	9.47E-04	1.14E-03	1.28E-03
$oxalate^{2-}$	3.25E-06	0.172	5.52E-02	2.88E-06	3.06E-06	3.44E-06	3.61E-06
DBP	1.69E-03	214	68.7	1.47E-03	1.58E-03	1.80E-03	1.92E-03
butanol	1.69E-03	75.5	24.2	1.47E-03	1.58E-03	1.80E-03	1.92E-03
NH_3	5.70E-03	58.3	18.7	4.69E-03	5.09E-03	6.48E-03	7.40E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.93E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	4.18E-03 (kW)	(14.3 BTU/hr)	----	3.57E-03	3.88E-03	4.48E-03	4.74E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	0.165	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.475	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	1.67E-02	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	1.47	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	8.19E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	1.24E-02	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	348	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	348	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	5.90E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	5.08E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.407	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.93E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	0.120	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	4.42E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.84E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	7.57E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	4.73E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	392	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	371	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	46.8	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	1.09E-02	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	0.110	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	1.65	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	2.39E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	1.49E-10	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	5.97E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	5.54E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	2.87E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.83E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	2.84E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	1.70E-05	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	23.9	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	1.08	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	0.153	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	24.2	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	2.44E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.84E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.577	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	3.40E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	2.18E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	6.65E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	2.04E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	5.71E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	4.39E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	6.52E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	8.74E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	9.43E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	7.26E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.79E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.33E-02 (kW)	(114 BTU/hr)	----	3.05E-02	3.23E-02	3.43E-02	3.53E-02
Bulk Density*	1.47 (g/cc)	----	----	1.44	1.46	1.49	1.50
Water wt%†	43.1	----	----	41.0	42.0	44.4	45.8
TOC wt% C (wet)	0.996	----	----	0.554	0.771	1.22	1.44

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.98E-04	0.134	3.75	1.16E-04	1.16E-04	2.11E-04	2.26E-04
C-14	2.98E-05	2.02E-02	0.563	1.27E-05	1.27E-05	3.02E-05	3.05E-05
Ni-59	1.76E-06	1.19E-03	3.32E-02	9.51E-07	9.51E-07	1.80E-06	1.84E-06
Ni-63	1.72E-04	0.117	3.26	9.28E-05	9.28E-05	1.76E-04	1.80E-04
Co-60	3.53E-05	2.40E-02	0.668	1.57E-05	1.57E-05	3.62E-05	3.71E-05
Se-79	3.01E-06	2.05E-03	5.70E-02	1.92E-06	1.92E-06	3.41E-06	3.78E-06
Sr-90	9.87E-02	67.1	1.87E+03	9.23E-02	9.60E-02	0.101	0.104
Y-90	9.88E-02	67.1	1.87E+03	6.10E-02	6.10E-02	0.101	0.104
Zr-93	1.48E-05	1.01E-02	0.280	9.35E-06	9.35E-06	1.68E-05	1.87E-05
Nb-93m	1.07E-05	7.26E-03	0.202	6.86E-06	6.86E-06	1.21E-05	1.34E-05
Tc-99	2.18E-04	0.148	4.12	1.54E-04	1.85E-04	2.51E-04	2.82E-04
Ru-106	6.45E-09	4.38E-06	1.22E-04	3.92E-09	3.92E-09	7.02E-09	7.53E-09
Cd-113m	7.97E-05	5.42E-02	1.51	4.70E-05	4.70E-05	9.16E-05	1.03E-04
Sb-125	1.56E-04	0.106	2.94	7.08E-05	7.08E-05	1.61E-04	1.66E-04
Sn-126	4.55E-06	3.09E-03	8.60E-02	2.91E-06	2.91E-06	5.14E-06	5.71E-06
I-129	4.20E-07	2.86E-04	7.96E-03	2.97E-07	3.57E-07	4.84E-07	5.45E-07
Cs-134	3.04E-06	2.07E-03	5.76E-02	1.82E-06	2.42E-06	3.67E-06	4.28E-06
Cs-137	0.234	159	4.42E+03	0.212	0.222	0.245	0.256
Ba-137m	0.221	150	4.18E+03	0.185	0.185	0.232	0.242
Sm-151	1.06E-02	7.20	200	6.77E-03	6.77E-03	1.20E-02	1.33E-02
Eu-152	3.90E-06	2.65E-03	7.39E-02	2.55E-06	2.55E-06	4.35E-06	4.79E-06
Eu-154	5.72E-04	0.389	10.8	2.99E-04	2.99E-04	6.71E-04	7.10E-04
Eu-155	2.33E-04	0.158	4.41	1.53E-04	1.53E-04	2.61E-04	2.87E-04
Ra-226	1.21E-10	8.23E-08	2.29E-06	8.73E-11	8.73E-11	1.33E-10	1.45E-10
Ra-228	1.91E-07	1.30E-04	3.62E-03	9.80E-08	9.80E-08	2.26E-07	2.63E-07
Ac-227	7.58E-10	5.15E-07	1.44E-05	5.62E-10	5.62E-10	8.30E-10	8.98E-10
Pa-231	3.57E-09	2.43E-06	6.76E-05	2.48E-09	2.48E-09	3.97E-09	4.35E-09
Th-229	4.46E-09	3.03E-06	8.44E-05	2.30E-09	2.30E-09	5.22E-09	6.04E-09
Th-232	1.79E-08	1.22E-05	3.39E-04	6.35E-09	6.35E-09	2.10E-08	2.41E-08
U-232	7.18E-07	4.88E-04	1.36E-02	4.82E-07	5.97E-07	8.58E-07	1.01E-06
U-233	2.75E-06	1.87E-03	5.21E-02	1.85E-06	2.29E-06	3.29E-06	3.86E-06
U-234	6.32E-07	4.30E-04	1.20E-02	6.10E-07	6.22E-07	6.44E-07	6.51E-07
U-235	2.54E-08	1.73E-05	4.81E-04	2.45E-08	2.50E-08	2.59E-08	2.62E-08
U-236	2.00E-08	1.36E-05	3.79E-04	1.94E-08	1.97E-08	2.03E-08	2.06E-08
U-238	7.85E-07	5.33E-04	1.49E-02	7.64E-07	7.74E-07	7.96E-07	8.02E-07
Np-237	7.76E-07	5.27E-04	1.47E-02	5.68E-07	6.70E-07	8.84E-07	9.87E-07
Pu-238	1.28E-06	8.66E-04	2.41E-02	1.03E-06	1.15E-06	1.40E-06	1.52E-06
Pu-239	4.30E-05	2.92E-02	0.815	3.68E-05	3.98E-05	4.62E-05	4.93E-05
Pu-240	7.37E-06	5.01E-03	0.140	6.20E-06	6.78E-06	7.97E-06	8.54E-06
Pu-241	8.76E-05	5.95E-02	1.66	7.09E-05	7.91E-05	9.61E-05	1.04E-04
Pu-242	4.80E-10	3.26E-07	9.09E-06	3.81E-10	4.29E-10	5.31E-10	5.80E-10
Am-241	5.03E-05	3.42E-02	0.952	3.87E-05	4.44E-05	5.62E-05	6.19E-05
Am-243	1.86E-09	1.26E-06	3.51E-05	1.46E-09	1.64E-09	2.10E-09	2.31E-09
Cm-242	1.41E-07	9.55E-05	2.66E-03	8.50E-08	8.50E-08	1.57E-07	1.74E-07
Cm-243	1.30E-08	8.83E-06	2.46E-04	7.70E-09	7.70E-09	1.45E-08	1.60E-08
Cm-244	1.16E-07	7.91E-05	2.20E-03	6.18E-08	6.18E-08	1.35E-07	1.47E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.97E-04 (g/L)	----	9.41E-03	3.79E-04	4.37E-04	5.58E-04	6.15E-04
U	7.19E-03	1.16E+03	32.4	6.93E-03	7.06E-03	7.34E-03	7.41E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.21E+05 (kg)	(51.0 kgal)	----	----	----	----	----
Heat Load	3.75E-02 (kW)	(128 BTU/hr)	----	3.47E-02	3.65E-02	3.85E-02	3.95E-02
Bulk Density†	1.66 (g/cc)	----	----	1.59	1.63	1.69	1.71
Water wt%†	46.6	----	----	44.6	45.5	48.0	49.6
TOC wt% C (wet)†	8.64E-02	----	----	4.76E-02	6.65E-02	0.106	0.126

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.03E-05	1.22E-02	3.91	1.22E-05	1.22E-05	2.15E-05	2.30E-05
C-14	5.38E-06	3.23E-03	1.04	3.70E-06	3.70E-06	5.67E-06	5.91E-06
Ni-59	2.59E-07	1.56E-04	5.00E-02	1.80E-07	1.80E-07	3.29E-07	4.44E-07
Ni-63	2.45E-05	1.47E-02	4.73	1.67E-05	1.67E-05	3.07E-05	4.07E-05
Co-60	3.50E-06	2.10E-03	0.676	1.58E-06	1.58E-06	3.59E-06	3.68E-06
Se-79	3.59E-07	2.16E-04	6.93E-02	2.52E-07	2.52E-07	3.98E-07	4.35E-07
Sr-90	1.15E-02	6.90	2.22E+03	1.08E-02	1.12E-02	1.18E-02	1.20E-02
Y-90	1.15E-02	6.90	2.22E+03	7.79E-03	7.79E-03	1.18E-02	1.20E-02
Zr-93	1.76E-06	1.06E-03	0.339	1.22E-06	1.22E-06	1.95E-06	2.14E-06
Nb-93m	1.31E-06	7.88E-04	0.253	9.36E-07	9.36E-07	1.45E-06	1.58E-06
Tc-99	2.35E-05	1.41E-02	4.53	1.72E-05	2.03E-05	2.67E-05	2.98E-05
Ru-106	6.32E-10	3.80E-07	1.22E-04	3.84E-10	3.84E-10	6.88E-10	7.38E-10
Cd-113m	8.44E-06	5.07E-03	1.63	5.23E-06	5.23E-06	9.60E-06	1.07E-05
Sb-125	1.53E-05	9.18E-03	2.95	6.96E-06	6.96E-06	1.58E-05	1.63E-05
Sn-126	5.41E-07	3.25E-04	0.104	3.80E-07	3.80E-07	5.99E-07	6.55E-07
I-129	4.51E-08	2.71E-05	8.71E-03	3.30E-08	3.90E-08	5.14E-08	5.74E-08
Cs-134	2.98E-07	1.79E-04	5.76E-02	1.79E-07	2.37E-07	3.60E-07	4.20E-07
Cs-137	2.49E-02	15.0	4.81E+03	2.28E-02	2.38E-02	2.61E-02	2.71E-02
Ba-137m	2.36E-02	14.2	4.55E+03	2.01E-02	2.01E-02	2.46E-02	2.57E-02
Sm-151	1.28E-03	0.770	247	9.06E-04	9.06E-04	1.42E-03	1.55E-03
Eu-152	4.39E-07	2.64E-04	8.48E-02	3.07E-07	3.07E-07	4.83E-07	5.26E-07
Eu-154	5.67E-05	3.40E-02	10.9	2.99E-05	2.99E-05	6.63E-05	7.02E-05
Eu-155	3.14E-05	1.89E-02	6.07	2.35E-05	2.35E-05	3.41E-05	3.67E-05
Ra-226	1.36E-10	8.16E-08	2.62E-05	3.92E-11	3.92E-11	2.84E-10	4.26E-10
Ra-228	1.88E-08	1.13E-05	3.62E-03	9.60E-09	9.60E-09	2.22E-08	2.58E-08
Ac-227	3.84E-10	2.31E-07	7.41E-05	2.12E-10	2.12E-10	1.24E-09	2.07E-09
Pa-231	6.37E-10	3.83E-07	1.23E-04	5.30E-10	5.30E-10	6.76E-10	2.11E-09
Th-229	4.37E-10	2.63E-07	8.44E-05	2.26E-10	2.26E-10	5.12E-10	5.92E-10
Th-232	1.75E-09	1.05E-06	3.39E-04	6.22E-10	6.22E-10	2.06E-09	2.36E-09
U-232	7.19E-08	4.32E-05	1.39E-02	4.87E-08	6.00E-08	8.56E-08	1.00E-07
U-233	2.70E-07	1.62E-04	5.21E-02	1.81E-07	2.25E-07	3.22E-07	3.78E-07
U-234	1.24E-04	7.45E-02	23.9	1.24E-04	1.24E-04	1.24E-04	1.24E-04
U-235	5.58E-06	3.35E-03	1.08	5.56E-06	5.57E-06	5.59E-06	5.59E-06
U-236	7.93E-07	4.77E-04	0.153	7.91E-07	7.92E-07	7.95E-07	7.95E-07
U-238	1.26E-04	7.55E-02	24.2	1.25E-04	1.25E-04	1.26E-04	1.26E-04
Np-237	8.87E-08	5.33E-05	1.71E-02	6.83E-08	7.83E-08	9.93E-08	1.09E-07
Pu-238	1.35E-07	8.09E-05	2.60E-02	1.11E-07	1.22E-07	1.89E-07	2.56E-07
Pu-239	7.21E-06	4.33E-03	1.39	6.59E-06	6.89E-06	2.44E-05	4.52E-05
Pu-240	8.99E-07	5.40E-04	0.174	7.84E-07	8.41E-07	1.91E-06	3.14E-06
Pu-241	8.70E-06	5.23E-03	1.68	7.07E-06	7.87E-06	9.54E-06	1.03E-05
Pu-242	4.74E-11	2.85E-08	9.15E-06	3.77E-11	4.24E-11	5.24E-11	5.72E-11
Am-241	5.04E-06	3.03E-03	0.973	3.90E-06	4.46E-06	5.62E-06	6.18E-06
Am-243	1.82E-10	1.09E-07	3.52E-05	1.44E-10	1.61E-10	2.06E-10	2.27E-10
Cm-242	1.40E-08	8.42E-06	2.70E-03	8.56E-09	8.56E-09	1.57E-08	1.73E-08
Cm-243	1.28E-09	7.67E-07	2.47E-04	7.58E-10	7.58E-10	1.43E-09	1.57E-09
Cm-244	1.14E-08	6.86E-06	2.20E-03	6.06E-09	6.06E-09	1.32E-08	1.44E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.76E-05 (g/L)	----	1.88E-02	8.60E-05	9.17E-05	3.78E-04	7.18E-04
U	1.58	2.26E+05	7.26E+04	1.58	1.58	1.58	1.58

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.92E+05 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	0.166 (kW)	(566 BTU/hr)	----	0.103	0.138	0.185	0.195
Bulk Density	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Void Fraction	0.738	----	----	0.465	0.636	0.856	0.931
Water wt%	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)	0.402	----	----	0.320	0.385	0.422	0.426

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.3	1.73E+05	3.32E+04	6.61	9.31	14.7	17.3
Al^{3+}	1.91	3.15E+04	6.04E+03	0.823	1.18	2.79	3.64
Fe^{3+} (total Fe)	3.12E-02	1.07E+03	205	2.24E-02	2.67E-02	3.58E-02	4.01E-02
Cr^{3+}	4.98E-02	1.58E+03	304	3.98E-02	4.50E-02	5.17E-02	5.36E-02
Bi^{3+}	8.10E-04	103	19.9	5.92E-04	7.38E-04	8.83E-04	9.36E-04
La^{3+}	1.85E-06	0.157	3.01E-02	1.53E-06	1.73E-06	1.92E-06	1.89E-06
Hg^{2+}	3.27E-05	4.02	0.770	2.95E-05	3.11E-05	3.44E-05	3.60E-05
Zr (as $ZrO(OH)_2$)	3.07E-05	1.71	0.328	2.52E-05	2.80E-05	3.17E-05	3.18E-05
Pb^{2+}	5.12E-03	649	125	2.79E-03	3.93E-03	6.31E-03	7.46E-03
Ni^{2+}	1.23E-02	441	84.6	8.09E-03	1.03E-02	1.32E-02	1.33E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.93E-03	98.4	18.9	2.16E-03	2.53E-03	3.32E-03	3.70E-03
Ca^{2+}	7.39E-02	1.81E+03	348	4.85E-02	6.10E-02	8.67E-02	9.88E-02
K^+	3.60E-02	861	165	2.60E-02	3.15E-02	3.98E-02	3.71E-02
OH^-	9.87	1.03E+05	1.97E+04	5.30	6.89	13.5	16.8
$NO3^-$	5.92	2.24E+05	4.30E+04	2.60	4.30	6.94	7.90
$NO2^-$	1.51	4.25E+04	8.15E+03	0.872	1.21	1.73	2.41
$CO3^{2-}$	0.639	2.34E+04	4.50E+03	0.497	0.542	0.734	0.786
$PO4^{3-}$	0.101	5.85E+03	1.12E+03	7.86E-02	9.02E-02	0.110	0.117
$SO4^{2-}$	0.183	1.08E+04	2.06E+03	0.108	0.147	0.214	0.297
Si (as SiO_x^{2-})	6.94E-02	1.19E+03	229	4.11E-02	5.63E-02	8.01E-02	8.83E-02
F^-	5.03E-02	584	112	4.29E-02	4.74E-02	5.23E-02	5.09E-02
Cl^-	0.119	2.58E+03	495	6.40E-02	9.10E-02	0.124	0.124
$C_6H_5O_7^{3-}$	2.16E-02	2.50E+03	479	1.78E-02	2.10E-02	2.20E-02	2.20E-02
$EDTA^{4-}$	4.85E-03	854	164	4.27E-03	4.67E-03	4.93E-03	4.95E-03
$HEDTA^{3-}$	6.54E-04	110	21.0	1.98E-04	4.45E-04	8.22E-04	8.36E-04
$glycolate^-$	1.52E-02	697	134	7.69E-03	1.19E-02	1.78E-02	1.73E-02
$acetate^-$	2.88E-02	1.04E+03	200	2.51E-02	2.84E-02	2.91E-02	2.94E-02
$oxalate^{2-}$	2.42E-06	0.130	2.50E-02	1.77E-06	2.20E-06	2.64E-06	2.76E-06
DBP	2.29E-02	2.95E+03	566	1.98E-02	2.19E-02	2.35E-02	2.34E-02
butanol	2.29E-02	1.04E+03	199	1.98E-02	2.19E-02	2.35E-02	2.34E-02
NH_3	1.22E-02	126	24.3	6.02E-03	8.70E-03	1.58E-02	1.71E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.09E+04 (kg)	(15.0 kgal)	----	----	----	----	----
Heat Load	3.45E-02 (kW)	(118 BTU/hr)	----	2.46E-02	2.88E-02	3.96E-02	4.73E-02
Bulk Density*	1.25 (g/cc)	----	----	1.18	1.22	1.27	1.28
Water wt%	66.5	----	----	62.5	63.9	69.5	73.4
TOC wt% C (wet)	0.532	----	----	0.435	0.480	0.591	0.685

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.31	9.78E+04	6.93E+03	3.94	4.67	5.91	6.25
Al^{3+}	0.838	1.81E+04	1.28E+03	0.521	0.766	0.866	0.893
Fe^{3+} (total Fe)	1.90E-03	84.8	6.01	1.48E-03	1.68E-03	2.11E-03	2.32E-03
Cr^{3+}	3.74E-02	1.56E+03	111	2.57E-02	3.07E-02	4.40E-02	5.31E-02
Bi^{3+}	5.84E-04	97.7	6.92	4.99E-04	5.41E-04	6.26E-04	6.92E-04
La^{3+}	1.48E-06	0.164	1.16E-02	1.04E-06	1.23E-06	1.74E-06	2.14E-06
Hg^{2+}	5.63E-06	0.905	6.42E-02	5.17E-06	5.40E-06	5.87E-06	6.10E-06
Zr (as $ZrO(OH)_2$)	2.29E-05	1.67	0.119	1.56E-05	1.84E-05	2.72E-05	3.43E-05
Pb^{2+}	8.98E-04	149	10.6	5.57E-04	7.24E-04	1.07E-03	1.24E-03
Ni^{2+}	1.37E-03	64.2	4.55	1.28E-03	1.32E-03	1.41E-03	1.45E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.33E-03	102	7.27	1.82E-03	2.07E-03	2.59E-03	2.84E-03
Ca^{2+}	7.16E-03	230	16.3	5.52E-03	6.33E-03	8.00E-03	8.81E-03
K^+	2.76E-02	864	61.3	1.71E-02	2.15E-02	3.47E-02	4.42E-02
OH^-	4.13	5.63E+04	3.99E+03	2.63	3.71	4.28	4.49
$NO3^-$	1.57	7.80E+04	5.53E+03	1.32	1.44	1.70	1.82
$NO2^-$	1.14	4.19E+04	2.97E+03	0.584	0.817	1.48	1.58
$CO3^{2-}$	0.220	1.06E+04	750	0.189	0.209	0.231	0.241
$PO4^{3-}$	4.63E-02	3.52E+03	250	3.23E-02	3.84E-02	5.26E-02	6.09E-02
$SO4^{2-}$	0.137	1.05E+04	745	7.21E-02	9.89E-02	0.181	0.184
Si (as SiO_x^{2-})	2.30E-02	516	36.6	1.51E-02	1.89E-02	2.70E-02	3.08E-02
F^-	3.62E-02	550	39.0	2.50E-02	2.96E-02	4.34E-02	5.42E-02
Cl^-	9.20E-02	2.61E+03	185	5.47E-02	7.15E-02	9.56E-02	9.56E-02
$C_6H_5O_7^{3-}$	1.64E-02	2.49E+03	177	1.32E-02	1.46E-02	1.84E-02	2.16E-02
$EDTA^{4-}$	7.48E-03	1.73E+03	122	4.46E-03	5.94E-03	9.03E-03	1.05E-02
$HEDTA^{3-}$	8.37E-03	1.84E+03	130	2.33E-03	5.28E-03	1.15E-02	1.45E-02
$glycolate^-$	2.63E-02	1.58E+03	112	2.02E-02	2.29E-02	3.01E-02	3.51E-02
$acetate^-$	2.10E-02	994	70.5	1.57E-02	1.80E-02	2.43E-02	2.93E-02
$oxalate^{2-}$	1.93E-06	0.136	9.67E-03	1.75E-06	1.83E-06	2.04E-06	2.26E-06
DBP	1.68E-02	2.84E+03	201	1.19E-02	1.40E-02	1.99E-02	2.44E-02
butanol	1.68E-02	1.00E+03	70.9	1.19E-02	1.40E-02	1.99E-02	2.44E-02
NH_3	1.14E-02	155	11.0	6.39E-03	8.21E-03	1.56E-02	2.20E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.63E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	0.200 (kW)	(684 BTU/hr)	----	0.127	0.167	0.224	0.242
Bulk Density†	1.51 (g/cc)	----	----	1.29	1.41	1.59	1.67
Water wt%†	45.2	----	----	30.0	37.4	55.0	63.8
TOC wt% C (wet)†	0.437	----	----	0.411	0.424	0.451	0.464

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.0	1.53E+05	4.02E+04	5.74	7.80	11.9	13.7
Al^{3+}	1.56	2.79E+04	7.33E+03	0.724	1.05	2.15	2.73
Fe^{3+} (total Fe)	2.17E-02	802	211	1.56E-02	1.86E-02	2.48E-02	2.78E-02
Cr^{3+}	4.58E-02	1.58E+03	414	3.61E-02	4.14E-02	4.87E-02	4.92E-02
Bi^{3+}	7.36E-04	102	26.8	6.24E-04	6.79E-04	7.93E-04	8.48E-04
La^{3+}	1.73E-06	0.159	4.18E-02	1.37E-06	1.57E-06	1.86E-06	1.86E-06
Hg^{2+}	2.39E-05	3.18	0.835	2.15E-05	2.27E-05	2.51E-05	2.62E-05
Zr (as $ZrO(OH)_2$)	2.81E-05	1.70	0.447	2.21E-05	2.48E-05	3.03E-05	3.08E-05
Pb^{2+}	3.75E-03	514	135	2.06E-03	2.89E-03	4.60E-03	5.43E-03
Ni^{2+}	8.72E-03	339	89.1	5.90E-03	7.36E-03	9.36E-03	9.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.73E-03	99.5	26.1	2.05E-03	2.38E-03	3.08E-03	3.42E-03
Ca^{2+}	5.22E-02	1.39E+03	364	3.45E-02	4.32E-02	6.11E-02	6.94E-02
K^+	3.33E-02	862	227	2.31E-02	2.83E-02	3.81E-02	3.94E-02
OH^-	8.00	9.01E+04	2.37E+04	4.43	5.85	10.5	12.8
$NO3^-$	4.50	1.85E+05	4.86E+04	2.26	3.41	5.19	5.84
$NO2^-$	1.39	4.23E+04	1.11E+04	0.778	1.08	1.65	2.14
$CO3^{2-}$	0.502	2.00E+04	5.25E+03	0.397	0.437	0.567	0.602
$PO4^{3-}$	8.30E-02	5.22E+03	1.37E+03	6.81E-02	7.59E-02	8.90E-02	9.39E-02
$SO4^{2-}$	0.168	1.07E+04	2.81E+03	9.65E-02	0.131	0.203	0.260
Si (as SiO_x^{2-})	5.42E-02	1.01E+03	265	3.26E-02	4.41E-02	6.28E-02	6.96E-02
F^-	4.57E-02	575	151	3.71E-02	4.16E-02	4.94E-02	4.94E-02
Cl^-	0.110	2.59E+03	680	6.11E-02	8.52E-02	0.115	0.115
$C_6H_5O_7^{3-}$	1.99E-02	2.49E+03	655	1.88E-02	1.96E-02	2.01E-02	2.01E-02
$EDTA^{4-}$	5.71E-03	1.09E+03	286	4.72E-03	5.20E-03	6.21E-03	6.71E-03
$HEDTA^{3-}$	3.17E-03	576	151	1.20E-03	2.16E-03	4.18E-03	5.17E-03
$glycolate^-$	1.88E-02	935	246	1.18E-02	1.55E-02	2.18E-02	2.31E-02
$acetate^-$	2.63E-02	1.03E+03	270	2.31E-02	2.50E-02	2.74E-02	2.66E-02
$oxalate^{2-}$	2.26E-06	0.132	3.47E-02	1.93E-06	2.14E-06	2.39E-06	2.51E-06
DBP	2.09E-02	2.92E+03	767	1.72E-02	1.93E-02	2.23E-02	2.21E-02
butanol	2.09E-02	1.03E+03	270	1.72E-02	1.93E-02	2.23E-02	2.21E-02
NH_3	1.19E-02	134	35.2	6.14E-03	8.54E-03	1.57E-02	1.87E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.92E+05 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	0.166 (kW)	(566 BTU/hr)	----	0.103	0.138	0.185	0.195
Bulk Density	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Void Fraction	0.738	----	----	0.465	0.636	0.856	0.931
Water wt%	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)	0.402	----	----	0.320	0.385	0.422	0.426

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.18E-04	7.21E-02	13.8	9.19E-08	9.19E-08	1.19E-04	1.20E-04
C-14	3.09E-05	1.89E-02	3.63	2.64E-07	2.64E-07	3.21E-05	3.32E-05
Ni-59	3.28E-06	2.01E-03	0.385	9.31E-09	9.31E-09	3.43E-06	3.56E-06
Ni-63	3.26E-04	0.199	38.2	8.17E-07	8.17E-07	3.40E-04	3.54E-04
Co-60	2.87E-05	1.76E-02	3.37	4.55E-09	4.55E-09	2.90E-05	2.93E-05
Se-79	2.58E-06	1.58E-03	0.303	6.88E-09	6.88E-09	3.16E-06	3.70E-06
Sr-90	0.115	70.4	1.35E+04	8.99E-02	0.108	0.122	0.129
Y-90	0.115	70.4	1.35E+04	1.94E-04	1.94E-04	0.122	0.129
Zr-93	1.25E-05	7.62E-03	1.46	3.28E-08	3.28E-08	1.53E-05	1.80E-05
Nb-93m	9.01E-06	5.51E-03	1.06	2.82E-08	2.82E-08	1.10E-05	1.29E-05
Tc-99	1.71E-04	0.105	20.1	8.84E-05	1.34E-04	2.00E-04	1.95E-04
Ru-106	5.73E-09	3.51E-06	6.73E-04	1.07E-16	1.07E-16	6.26E-09	6.69E-09
Cd-113m	6.59E-05	4.03E-02	7.73	6.66E-08	6.66E-08	8.32E-05	9.81E-05
Sb-125	1.29E-04	7.87E-02	15.1	2.46E-09	2.46E-09	1.30E-04	1.31E-04
Sn-126	3.86E-06	2.36E-03	0.453	1.02E-08	1.02E-08	4.73E-06	5.55E-06
I-129	3.31E-07	2.03E-04	3.89E-02	1.71E-07	2.60E-07	3.88E-07	3.78E-07
Cs-134	1.40E-06	8.55E-04	0.164	2.63E-12	2.63E-12	1.41E-06	1.42E-06
Cs-137	0.136	83.2	1.60E+04	5.75E-02	9.59E-02	0.161	0.173
Ba-137m	0.129	78.7	1.51E+04	2.06E-04	2.06E-04	0.129	0.130
Sm-151	8.93E-03	5.46	1.05E+03	2.60E-05	2.60E-05	1.10E-02	1.28E-02
Eu-152	4.05E-06	2.47E-03	0.475	6.08E-09	6.08E-09	4.05E-06	4.07E-06
Eu-154	4.85E-04	0.297	56.9	6.12E-08	6.12E-08	6.29E-04	6.04E-04
Eu-155	2.46E-04	0.150	28.8	9.20E-07	9.20E-07	2.46E-04	2.47E-04
Ra-226	1.37E-10	8.38E-08	1.61E-05	1.33E-11	1.33E-11	1.70E-10	1.98E-10
Ra-228	1.54E-06	9.39E-04	0.180	8.28E-17	8.28E-17	1.55E-06	1.56E-06
Ac-227	1.78E-09	1.09E-06	2.09E-04	3.32E-11	3.32E-11	2.36E-09	2.90E-09
Pa-231	9.07E-09	5.54E-06	1.06E-03	3.08E-11	3.08E-11	1.19E-08	1.46E-08
Th-229	3.55E-08	2.17E-05	4.16E-03	1.60E-14	1.60E-14	3.57E-08	3.61E-08
Th-232	5.67E-08	3.47E-05	6.65E-03	1.02E-17	1.02E-17	7.23E-08	8.72E-08
U-232	8.56E-06	5.23E-03	1.00	3.85E-06	6.24E-06	1.13E-05	1.41E-05
U-233	3.28E-05	2.01E-02	3.85	1.48E-05	2.39E-05	4.31E-05	5.42E-05
U-234	1.56E-05	9.55E-03	1.83	1.51E-05	1.55E-05	1.57E-05	1.58E-05
U-235	6.84E-07	4.18E-04	8.03E-02	6.67E-07	6.80E-07	6.88E-07	6.92E-07
U-236	1.62E-07	9.92E-05	1.90E-02	1.49E-07	1.58E-07	1.66E-07	1.70E-07
U-238	1.83E-05	1.12E-02	2.15	1.78E-05	1.82E-05	1.84E-05	1.85E-05
Np-237	5.75E-07	3.51E-04	6.74E-02	3.12E-07	4.58E-07	6.67E-07	6.45E-07
Pu-238	2.29E-06	1.40E-03	0.269	1.02E-06	1.65E-06	2.93E-06	3.54E-06
Pu-239	8.22E-05	5.03E-02	9.65	3.97E-05	6.13E-05	1.03E-04	1.23E-04
Pu-240	1.41E-05	8.60E-03	1.65	6.63E-06	1.03E-05	1.78E-05	2.13E-05
Pu-241	1.65E-04	0.101	19.4	7.37E-05	1.19E-04	2.11E-04	2.56E-04
Pu-242	7.94E-10	4.86E-07	9.32E-05	3.56E-10	5.72E-10	1.02E-09	1.23E-09
Am-241	4.02E-05	2.46E-02	4.72	1.40E-05	2.69E-05	5.29E-05	6.28E-05
Am-243	1.39E-09	8.50E-07	1.63E-04	4.29E-10	8.89E-10	1.89E-09	2.31E-09
Cm-242	5.42E-10	3.31E-07	6.36E-05	2.44E-11	2.44E-11	5.47E-10	5.52E-10
Cm-243	1.09E-11	6.69E-09	1.28E-06	3.62E-13	3.62E-13	1.10E-11	1.11E-11
Cm-244	1.84E-10	1.13E-07	2.16E-05	4.86E-13	4.86E-13	1.86E-10	1.87E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.07E-03 (g/L)	----	0.126	3.23E-04	7.01E-04	1.44E-03	1.79E-03
U	0.194	2.82E+04	5.41E+03	0.189	0.193	0.195	0.196

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.09E+04 (kg)	(15.0 kgal)	----	----	----	----	----
Heat Load	3.45E-02 (kW)	(118 BTU/hr)	----	2.46E-02	2.88E-02	3.96E-02	4.73E-02
Bulk Density*	1.25 (g/cc)	----	----	1.18	1.22	1.27	1.28
Water wt%†	66.5	----	----	62.5	63.9	69.5	73.4
TOC wt% C (wet)	0.532	----	----	0.435	0.480	0.591	0.685

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.12E-05	7.30E-02	5.18	1.24E-05	1.24E-05	9.35E-05	9.65E-05
C-14	1.58E-05	1.27E-02	0.900	2.83E-06	2.83E-06	1.66E-05	1.74E-05
Ni-59	4.52E-07	3.62E-04	2.57E-02	2.27E-07	2.27E-07	4.68E-07	4.83E-07
Ni-63	4.48E-05	3.59E-02	2.55	2.24E-05	2.24E-05	4.64E-05	4.79E-05
Co-60	2.28E-05	1.82E-02	1.29	3.53E-06	3.53E-06	2.29E-05	2.31E-05
Se-79	1.29E-06	1.03E-03	7.31E-02	3.52E-07	3.52E-07	1.63E-06	1.95E-06
Sr-90	2.70E-02	21.6	1.53E+03	2.47E-02	2.59E-02	2.82E-02	2.93E-02
Y-90	2.70E-02	21.6	1.53E+03	1.11E-02	1.11E-02	2.82E-02	2.93E-02
Zr-93	6.41E-06	5.13E-03	0.364	1.73E-06	1.73E-06	8.10E-06	9.73E-06
Nb-93m	4.51E-06	3.61E-03	0.256	1.24E-06	1.24E-06	5.70E-06	6.83E-06
Tc-99	1.34E-04	0.107	7.62	6.61E-05	9.65E-05	1.76E-04	2.33E-04
Ru-106	3.25E-09	2.60E-06	1.84E-04	9.08E-10	9.08E-10	4.09E-09	4.91E-09
Cd-113m	3.77E-05	3.02E-02	2.14	9.66E-06	9.66E-06	4.79E-05	5.76E-05
Sb-125	1.02E-04	8.20E-02	5.81	1.63E-05	1.63E-05	1.03E-04	1.04E-04
Sn-126	1.93E-06	1.55E-03	0.110	5.32E-07	5.32E-07	2.44E-06	2.93E-06
I-129	2.60E-07	2.08E-04	1.48E-02	1.28E-07	1.87E-07	3.41E-07	4.52E-07
Cs-134	1.12E-06	9.00E-04	6.38E-02	5.34E-07	5.34E-07	1.24E-06	1.36E-06
Cs-137	9.10E-02	72.8	5.16E+03	5.35E-02	6.93E-02	0.110	0.139
Ba-137m	8.60E-02	68.9	4.89E+03	3.19E-02	3.19E-02	8.81E-02	9.00E-02
Sm-151	4.51E-03	3.61	256	1.24E-03	1.24E-03	5.70E-03	6.83E-03
Eu-152	1.38E-06	1.11E-03	7.86E-02	5.77E-07	5.77E-07	1.47E-06	1.55E-06
Eu-154	2.99E-04	0.239	17.0	6.48E-05	6.48E-05	3.83E-04	4.64E-04
Eu-155	8.44E-05	6.76E-02	4.79	3.55E-05	3.55E-05	8.95E-05	9.45E-05
Ra-226	4.18E-11	3.35E-08	2.38E-06	1.28E-11	1.28E-11	5.23E-11	6.24E-11
Ra-228	3.52E-07	2.82E-04	2.00E-02	4.47E-08	4.47E-08	3.67E-07	3.84E-07
Ac-227	2.66E-10	2.13E-07	1.51E-05	9.72E-11	9.72E-11	3.27E-10	3.85E-10
Pa-231	1.42E-09	1.14E-06	8.08E-05	4.88E-10	4.88E-10	1.76E-09	2.09E-09
Th-229	8.12E-09	6.51E-06	4.61E-04	1.04E-09	1.04E-09	8.47E-09	8.84E-09
Th-232	4.07E-08	3.26E-05	2.31E-03	2.80E-09	2.80E-09	5.11E-08	6.11E-08
U-232	8.70E-07	6.97E-04	4.94E-02	5.82E-07	6.97E-07	1.07E-06	1.28E-06
U-233	3.33E-06	2.67E-03	0.189	2.23E-06	2.67E-06	4.09E-06	4.89E-06
U-234	2.55E-07	2.04E-04	1.45E-02	2.39E-07	2.47E-07	2.64E-07	2.72E-07
U-235	9.53E-09	7.63E-06	5.41E-04	8.87E-09	9.20E-09	9.87E-09	1.02E-08
U-236	8.50E-09	6.80E-06	4.82E-04	7.89E-09	8.19E-09	8.80E-09	9.10E-09
U-238	4.86E-07	3.90E-04	2.76E-02	4.71E-07	4.78E-07	4.95E-07	5.34E-07
Np-237	4.48E-07	3.59E-04	2.54E-02	2.27E-07	3.26E-07	5.85E-07	7.71E-07
Pu-238	3.78E-07	3.02E-04	2.14E-02	2.94E-07	3.34E-07	4.22E-07	4.64E-07
Pu-239	1.33E-05	1.07E-02	0.757	1.05E-05	1.19E-05	1.48E-05	1.61E-05
Pu-240	2.29E-06	1.84E-03	0.130	1.80E-06	2.04E-06	2.55E-06	2.80E-06
Pu-241	2.71E-05	2.17E-02	1.54	2.11E-05	2.39E-05	3.03E-05	3.34E-05
Pu-242	1.37E-10	1.10E-07	7.81E-06	1.09E-10	1.22E-10	1.53E-10	1.68E-10
Am-241	1.98E-05	1.59E-02	1.13	9.89E-06	1.48E-05	2.49E-05	2.98E-05
Am-243	7.31E-10	5.85E-07	4.15E-05	3.70E-10	5.41E-10	9.29E-10	1.13E-09
Cm-242	2.24E-08	1.80E-05	1.27E-03	1.63E-08	1.81E-08	2.56E-08	2.87E-08
Cm-243	2.05E-09	1.64E-06	1.16E-04	1.49E-09	1.63E-09	2.33E-09	2.61E-09
Cm-244	1.84E-08	1.47E-05	1.05E-03	1.42E-08	1.42E-08	1.99E-08	2.12E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.28E-04 (g/L)	----	7.25E-03	7.86E-05	1.03E-04	1.53E-04	1.77E-04
U	2.70E-03	515	36.5	2.51E-03	2.61E-03	2.80E-03	2.89E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.63E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	0.200 (kW)	(684 BTU/hr)	----	0.127	0.167	0.224	0.242
Bulk Density†	1.51 (g/cc)	----	----	1.29	1.41	1.59	1.67
Water wt%†	45.2	----	----	30.0	37.4	55.0	63.8
TOC wt% C (wet)†	0.437	----	----	0.411	0.424	0.451	0.464

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.09E-04	7.23E-02	19.0	4.09E-06	4.09E-06	1.10E-04	1.11E-04
C-14	2.60E-05	1.72E-02	4.53	1.10E-06	1.10E-06	2.66E-05	2.72E-05
Ni-59	2.36E-06	1.56E-03	0.411	8.02E-08	8.02E-08	2.46E-06	2.56E-06
Ni-63	2.34E-04	0.155	40.8	7.87E-06	7.87E-06	2.44E-04	2.54E-04
Co-60	2.68E-05	1.77E-02	4.66	1.15E-06	1.15E-06	2.69E-05	2.71E-05
Se-79	2.16E-06	1.43E-03	0.376	1.20E-07	1.20E-07	2.66E-06	3.13E-06
Sr-90	8.64E-02	57.2	1.50E+04	6.94E-02	8.11E-02	9.16E-02	9.66E-02
Y-90	8.64E-02	57.2	1.50E+04	3.76E-03	3.76E-03	9.17E-02	9.66E-02
Zr-93	1.05E-05	6.95E-03	1.83	5.86E-07	5.86E-07	1.30E-05	1.53E-05
Nb-93m	7.55E-06	5.00E-03	1.31	4.22E-07	4.22E-07	9.30E-06	1.09E-05
Tc-99	1.59E-04	0.105	27.7	8.11E-05	1.22E-04	1.92E-04	2.07E-04
Ru-106	4.92E-09	3.26E-06	8.57E-04	2.96E-10	2.96E-10	5.55E-09	6.11E-09
Cd-113m	5.67E-05	3.76E-02	9.88	3.19E-06	3.19E-06	7.17E-05	8.49E-05
Sb-125	1.20E-04	7.96E-02	20.9	5.31E-06	5.31E-06	1.21E-04	1.21E-04
Sn-126	3.23E-06	2.14E-03	0.563	1.80E-07	1.80E-07	3.98E-06	4.69E-06
I-129	3.08E-07	2.04E-04	5.36E-02	1.57E-07	2.36E-07	3.73E-07	4.02E-07
Cs-134	1.31E-06	8.67E-04	0.228	1.74E-07	1.74E-07	1.35E-06	1.39E-06
Cs-137	0.121	80.4	2.11E+04	5.62E-02	8.73E-02	0.144	0.162
Ba-137m	0.115	76.0	2.00E+04	1.05E-02	1.05E-02	0.115	0.116
Sm-151	7.49E-03	4.96	1.30E+03	4.21E-04	4.21E-04	9.25E-03	1.08E-02
Eu-152	3.18E-06	2.11E-03	0.553	1.92E-07	1.92E-07	3.21E-06	3.23E-06
Eu-154	4.24E-04	0.281	73.9	2.12E-05	2.12E-05	5.49E-04	5.58E-04
Eu-155	1.93E-04	0.128	33.6	1.22E-05	1.22E-05	1.95E-04	1.96E-04
Ra-226	1.06E-10	7.02E-08	1.84E-05	1.31E-11	1.31E-11	1.31E-10	1.54E-10
Ra-228	1.15E-06	7.61E-04	0.200	1.46E-08	1.46E-08	1.16E-06	1.17E-06
Ac-227	1.29E-09	8.54E-07	2.25E-04	5.41E-11	5.41E-11	1.70E-09	2.08E-09
Pa-231	6.57E-09	4.36E-06	1.14E-03	1.80E-10	1.80E-10	8.59E-09	1.05E-08
Th-229	2.65E-08	1.76E-05	4.62E-03	3.38E-10	3.38E-10	2.68E-08	2.70E-08
Th-232	5.15E-08	3.41E-05	8.97E-03	9.12E-10	9.12E-10	6.54E-08	7.87E-08
U-232	6.05E-06	4.01E-03	1.05	2.78E-06	4.43E-06	7.94E-06	9.95E-06
U-233	2.32E-05	1.54E-02	4.04	1.07E-05	1.70E-05	3.04E-05	3.81E-05
U-234	1.06E-05	7.03E-03	1.85	1.02E-05	1.05E-05	1.07E-05	1.08E-05
U-235	4.64E-07	3.08E-04	8.08E-02	4.53E-07	4.61E-07	4.67E-07	4.70E-07
U-236	1.12E-07	7.43E-05	1.95E-02	1.03E-07	1.09E-07	1.15E-07	1.17E-07
U-238	1.25E-05	8.29E-03	2.18	1.22E-05	1.24E-05	1.26E-05	1.26E-05
Np-237	5.33E-07	3.53E-04	9.29E-02	2.84E-07	4.15E-07	6.40E-07	6.86E-07
Pu-238	1.67E-06	1.10E-03	0.290	7.86E-07	1.22E-06	2.11E-06	2.54E-06
Pu-239	5.97E-05	3.96E-02	10.4	3.02E-05	4.52E-05	7.42E-05	8.80E-05
Pu-240	1.02E-05	6.78E-03	1.78	5.06E-06	7.64E-06	1.28E-05	1.53E-05
Pu-241	1.20E-04	7.95E-02	20.9	5.65E-05	8.78E-05	1.52E-04	1.83E-04
Pu-242	5.80E-10	3.84E-07	1.01E-04	2.76E-10	4.25E-10	7.35E-10	8.84E-10
Am-241	3.36E-05	2.22E-02	5.84	1.27E-05	2.29E-05	4.38E-05	5.20E-05
Am-243	1.18E-09	7.79E-07	2.05E-04	4.10E-10	7.76E-10	1.58E-09	1.92E-09
Cm-242	7.68E-09	5.09E-06	1.34E-03	5.67E-09	6.27E-09	8.72E-09	9.73E-09
Cm-243	6.74E-10	4.47E-07	1.17E-04	4.93E-10	5.40E-10	7.68E-10	8.59E-10
Cm-244	6.13E-09	4.06E-06	1.07E-03	4.74E-09	4.74E-09	6.60E-09	7.05E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.64E-04 (g/L)	----	0.133	2.43E-04	5.06E-04	1.02E-03	1.26E-03
U	0.131	2.07E+04	5.45E+03	0.128	0.131	0.132	0.133

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.79E+06 (kg)	(344 kgal)	----	----	----	----	----
Heat Load	0.155 (kW)	(530 BTU/hr)	----	0.125	0.140	0.171	0.185
Bulk Density	1.37 (g/cc)	----	----	1.30	1.34	1.39	1.41
Void Fraction	0.726	----	----	0.683	0.702	0.762	0.816
Water wt%	64.6	----	----	62.1	63.3	66.5	69.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.15	8.63E+04	1.54E+05	3.77	4.57	5.56	5.93
Al^{3+}	0.536	1.05E+04	1.88E+04	0.536	0.536	0.536	0.536
Fe^{3+} (total Fe)	0.347	1.41E+04	2.52E+04	0.341	0.345	0.349	0.350
Cr^{3+}	4.90E-03	186	332	4.19E-03	4.56E-03	5.26E-03	5.60E-03
Bi^{3+}	6.15E-02	9.37E+03	1.67E+04	5.04E-02	5.77E-02	6.39E-02	6.57E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.01E-04	14.8	26.4	7.34E-05	9.17E-05	1.07E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	2.41E-04	16.1	28.7	2.06E-04	2.24E-04	2.59E-04	2.76E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	51.7	92.3	1.03E-03	1.12E-03	1.88E-03	2.58E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.52E-02	2.20E+03	3.92E+03	5.05E-02	6.68E-02	8.22E-02	8.89E-02
K^{+}	6.80E-03	194	346	5.82E-03	6.32E-03	7.30E-03	7.78E-03
OH^{-}	3.82	4.74E+04	8.46E+04	3.74	3.79	3.84	3.86
$NO3^{-}$	1.02	4.60E+04	8.21E+04	0.903	0.963	1.07	1.12
$NO2^{-}$	0.260	8.72E+03	1.56E+04	0.190	0.222	0.306	0.358
$CO3^{2-}$	7.52E-02	3.29E+03	5.87E+03	5.05E-02	6.68E-02	8.22E-02	8.89E-02
$PO4^{3-}$	1.14	7.86E+04	1.40E+05	0.775	0.995	1.23	1.29
$SO4^{2-}$	5.25E-02	3.68E+03	6.57E+03	4.49E-02	4.88E-02	5.63E-02	6.00E-02
Si (as SiO_x^{2-})	0.202	4.14E+03	7.39E+03	0.134	0.169	0.235	0.268
F^{-}	0.140	1.94E+03	3.47E+03	0.120	0.130	0.166	0.254
Cl^{-}	3.13E-02	809	1.44E+03	2.67E-02	2.91E-02	3.36E-02	3.58E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.19E-02	891	1.59E+03	6.27E-02	6.72E-02	7.66E-02	8.09E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.49E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	1.90E-03 (kW)	(6.49 BTU/hr)	----	1.49E-03	1.70E-03	1.99E-03	2.08E-03
Bulk Density*	1.18 (g/cc)	----	----	1.14	1.16	1.20	1.21
Water wt%	72.1	----	----	68.0	69.9	74.8	77.6
TOC wt% C (wet)	0.298	----	----	0.246	0.272	0.323	0.347

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.45	8.68E+04	390	3.39	3.92	4.90	5.32
Al^{3+}	0.323	7.39E+03	33.2	0.246	0.289	0.358	0.393
Fe^{3+} (total Fe)	4.37E-03	207	0.932	2.63E-03	3.48E-03	5.26E-03	6.12E-03
Cr^{3+}	4.06E-02	1.79E+03	8.05	2.97E-02	3.54E-02	4.39E-02	4.64E-02
Bi^{3+}	2.18E-04	38.6	0.173	2.04E-04	2.11E-04	2.24E-04	2.31E-04
La^{3+}	1.03E-09	1.22E-04	5.48E-07	7.48E-10	8.89E-10	1.18E-09	1.32E-09
Hg^{2+}	1.25E-06	0.213	9.56E-04	1.16E-06	1.20E-06	1.29E-06	1.33E-06
Zr (as $ZrO(OH)_2$)	2.22E-05	1.72	7.71E-03	1.90E-05	2.05E-05	2.39E-05	2.56E-05
Pb^{2+}	1.24E-04	21.7	9.77E-02	6.98E-05	9.61E-05	1.51E-04	1.77E-04
Ni^{2+}	1.67E-03	83.4	0.375	1.34E-03	1.46E-03	1.74E-03	1.80E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.74E-03	128	0.574	1.90E-03	2.31E-03	3.17E-03	3.58E-03
Ca^{2+}	8.57E-03	291	1.31	6.06E-03	7.29E-03	9.84E-03	1.11E-02
K^{+}	2.05E-02	681	3.06	1.54E-02	1.78E-02	2.33E-02	2.59E-02
OH^{-}	2.21	3.19E+04	143	1.65	1.95	2.48	2.74
$NO3^{-}$	1.60	8.41E+04	378	1.08	1.29	1.65	1.67
$NO2^{-}$	0.829	3.24E+04	145	0.471	0.637	1.01	1.19
$CO3^{2-}$	0.201	1.03E+04	46.1	0.162	0.177	0.211	0.216
$PO4^{3-}$	4.16E-02	3.35E+03	15.1	1.49E-02	2.42E-02	4.21E-02	4.24E-02
$SO4^{2-}$	0.124	1.01E+04	45.3	7.75E-02	9.94E-02	0.148	0.170
Si (as SiO_x^{2-})	2.53E-02	604	2.72	1.34E-02	1.92E-02	3.15E-02	3.73E-02
F^{-}	1.02E-02	164	0.736	8.33E-03	9.20E-03	1.10E-02	1.11E-02
Cl^{-}	8.09E-02	2.43E+03	10.9	6.05E-02	6.82E-02	9.04E-02	9.83E-02
$C_6H_5O_7^{3-}$	2.00E-02	3.21E+03	14.4	1.83E-02	1.91E-02	2.08E-02	2.17E-02
$EDTA^{4-}$	3.58E-04	87.6	0.394	8.99E-05	2.21E-04	4.96E-04	6.31E-04
$HEDTA^{3-}$	7.24E-04	169	0.757	1.92E-04	4.52E-04	9.98E-04	1.27E-03
$glycolate^{-}$	4.59E-03	292	1.31	1.92E-03	3.22E-03	5.95E-03	7.26E-03
$acetate^{-}$	3.03E-06	0.152	6.81E-04	2.45E-06	2.73E-06	3.32E-06	3.60E-06
$oxalate^{2-}$	1.36E-09	1.01E-04	4.55E-07	1.20E-09	1.28E-09	1.43E-09	1.51E-09
DBP	1.27E-02	2.27E+03	10.2	9.75E-03	1.12E-02	1.42E-02	1.56E-02
butanol	1.27E-02	799	3.59	9.75E-03	1.12E-02	1.42E-02	1.56E-02
NH_3	2.62E-02	378	1.70	1.27E-02	1.80E-02	3.66E-02	4.88E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.79E+06 (kg)	(345 kgal)	----	----	----	----	----
Heat Load	0.157 (kW)	(537 BTU/hr)	----	0.127	0.142	0.172	0.187
Bulk Density†	1.37 (g/cc)	----	----	1.30	1.34	1.39	1.41
Water wt%†	64.6	----	----	62.1	63.3	66.5	69.4
TOC wt% C (wet)†	7.47E-04	----	----	5.97E-04	6.71E-04	8.23E-04	8.96E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.14	8.63E+04	1.54E+05	3.77	4.57	5.55	5.93
Al^{3+}	0.535	1.05E+04	1.89E+04	0.535	0.535	0.535	0.535
Fe^{3+} (total Fe)	0.346	1.41E+04	2.52E+04	0.340	0.344	0.348	0.349
Cr^{3+}	5.01E-03	190	340	4.30E-03	4.66E-03	5.36E-03	5.71E-03
Bi^{3+}	6.13E-02	9.35E+03	1.67E+04	5.02E-02	5.76E-02	6.37E-02	6.55E-02
La^{3+}	3.02E-12	3.06E-07	5.48E-07	2.19E-12	2.60E-12	3.45E-12	3.86E-12
Hg^{2+}	1.01E-04	14.7	26.4	7.32E-05	9.14E-05	1.07E-04	1.11E-04
Zr (as $ZrO(OH)_2$)	2.41E-04	16.0	28.7	2.06E-04	2.24E-04	2.58E-04	2.75E-04
Pb^{2+}	3.61E-07	5.46E-02	9.77E-02	2.04E-07	2.81E-07	4.41E-07	5.18E-07
Ni^{2+}	1.21E-03	51.8	92.6	1.03E-03	1.12E-03	1.88E-03	2.58E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.01E-06	0.321	0.574	5.56E-06	6.76E-06	9.25E-06	1.05E-05
Ca^{2+}	7.50E-02	2.19E+03	3.92E+03	5.04E-02	6.66E-02	8.20E-02	8.87E-02
K^{+}	6.84E-03	195	349	5.86E-03	6.37E-03	7.34E-03	7.82E-03
OH^{-}	3.82	4.73E+04	8.47E+04	3.74	3.79	3.84	3.85
$NO3^{-}$	1.02	4.61E+04	8.24E+04	0.905	0.965	1.07	1.12
$NO2^{-}$	0.262	8.78E+03	1.57E+04	0.192	0.223	0.308	0.360
$CO3^{2-}$	7.56E-02	3.31E+03	5.92E+03	5.10E-02	6.71E-02	8.25E-02	8.92E-02
$PO4^{3-}$	1.13	7.84E+04	1.40E+05	0.773	0.992	1.22	1.29
$SO4^{2-}$	5.27E-02	3.69E+03	6.61E+03	4.51E-02	4.90E-02	5.65E-02	6.02E-02
Si (as SiO_x^{2-})	0.201	4.13E+03	7.39E+03	0.134	0.168	0.235	0.267
F^{-}	0.140	1.94E+03	3.47E+03	0.120	0.130	0.165	0.254
Cl^{-}	3.14E-02	813	1.45E+03	2.69E-02	2.92E-02	3.37E-02	3.59E-02
$C_6H_5O_7^{3-}$	5.84E-05	8.05	14.4	5.34E-05	5.59E-05	6.09E-05	6.33E-05
$EDTA^{4-}$	1.05E-06	0.220	0.394	2.63E-07	6.45E-07	1.45E-06	1.84E-06
$HEDTA^{3-}$	2.12E-06	0.423	0.757	5.60E-07	1.32E-06	2.92E-06	3.70E-06
$glycolate^{-}$	1.34E-05	0.733	1.31	5.61E-06	9.42E-06	1.74E-05	2.12E-05
$acetate^{-}$	8.84E-09	3.81E-04	6.81E-04	7.16E-09	7.98E-09	9.70E-09	1.05E-08
$oxalate^{2-}$	3.96E-12	2.54E-07	4.55E-07	3.51E-12	3.73E-12	4.19E-12	4.41E-12
DBP	3.71E-05	5.69	10.2	2.85E-05	3.27E-05	4.14E-05	4.55E-05
butanol	3.71E-05	2.01	3.59	2.85E-05	3.27E-05	4.14E-05	4.55E-05
NH_3	7.18E-02	890	1.59E+03	6.26E-02	6.71E-02	7.64E-02	8.08E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.79E+06 (kg)	(344 kgal)	----	----	----	----	----
Heat Load	0.155 (kW)	(530 BTU/hr)	----	0.125	0.140	0.171	0.185
Bulk Density	1.37 (g/cc)	----	----	1.30	1.34	1.39	1.41
Void Fraction	0.726	----	----	0.683	0.702	0.762	0.816
Water wt%	64.6	----	----	62.1	63.3	66.5	69.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.84E-07	3.53E-04	0.630	3.05E-07	3.84E-07	6.09E-07	7.49E-07
C-14	1.06E-07	7.77E-05	0.139	8.67E-08	9.69E-08	1.16E-07	1.26E-07
Ni-59	3.03E-08	2.21E-05	3.94E-02	2.47E-08	2.76E-08	5.21E-08	7.22E-08
Ni-63	2.71E-06	1.98E-03	3.53	2.20E-06	2.46E-06	4.70E-06	6.54E-06
Co-60	2.17E-08	1.58E-05	2.83E-02	1.64E-08	1.91E-08	2.44E-08	2.70E-08
Se-79	2.24E-08	1.64E-05	2.92E-02	1.83E-08	2.04E-08	2.45E-08	2.66E-08
Sr-90	9.90E-03	7.22	1.29E+04	7.96E-03	8.96E-03	1.09E-02	1.18E-02
Y-90	9.90E-03	7.22	1.29E+04	7.96E-03	8.96E-03	1.09E-02	1.18E-02
Zr-93	1.07E-07	7.78E-05	0.139	8.69E-08	9.71E-08	1.17E-07	1.26E-07
Nb-93m	9.06E-08	6.61E-05	0.118	7.40E-08	8.25E-08	9.89E-08	1.07E-07
Tc-99	7.38E-07	5.38E-04	0.961	6.01E-07	6.72E-07	8.07E-07	8.74E-07
Ru-106	7.42E-15	5.41E-12	9.66E-09	4.71E-15	6.10E-15	8.78E-15	1.01E-14
Cd-113m	2.49E-07	1.81E-04	0.324	1.96E-07	2.23E-07	2.75E-07	3.00E-07
Sb-125	1.85E-08	1.35E-05	2.41E-02	1.31E-08	1.59E-08	2.12E-08	2.39E-08
Sn-126	3.36E-08	2.45E-05	4.38E-02	2.73E-08	3.06E-08	3.68E-08	3.99E-08
I-129	1.39E-09	1.01E-06	1.81E-03	1.13E-09	1.26E-09	1.52E-09	1.64E-09
Cs-134	7.12E-10	5.19E-07	9.27E-04	4.69E-10	5.94E-10	8.33E-10	9.51E-10
Cs-137	1.12E-02	8.18	1.46E+04	9.00E-03	1.01E-02	1.23E-02	1.34E-02
Ba-137m	1.06E-02	7.74	1.38E+04	8.52E-03	9.60E-03	1.17E-02	1.27E-02
Sm-151	8.39E-05	6.12E-02	109	6.85E-05	7.64E-05	9.16E-05	9.91E-05
Eu-152	2.57E-08	1.87E-05	3.34E-02	2.49E-08	2.53E-08	2.61E-08	2.64E-08
Eu-154	3.72E-07	2.72E-04	0.485	2.71E-07	3.23E-07	4.23E-07	4.73E-07
Eu-155	2.16E-06	1.58E-03	2.82	2.11E-06	2.14E-06	2.19E-06	2.21E-06
Ra-226	7.08E-12	5.16E-09	9.22E-06	6.09E-12	6.57E-12	7.60E-12	8.10E-12
Ra-228	1.28E-16	9.31E-14	1.66E-10	1.26E-16	1.27E-16	1.29E-16	1.30E-16
Ac-227	3.60E-11	2.62E-08	4.68E-05	3.10E-11	3.34E-11	3.86E-11	4.11E-11
Pa-231	7.70E-11	5.61E-08	1.00E-04	6.66E-11	7.16E-11	8.24E-11	8.77E-11
Th-229	2.47E-14	1.80E-11	3.22E-08	2.43E-14	2.45E-14	2.49E-14	2.51E-14
Th-232	3.11E-17	2.27E-14	4.05E-11	2.57E-17	2.85E-17	3.38E-17	3.64E-17
U-232	2.51E-10	1.83E-07	3.27E-04	2.30E-10	2.44E-10	2.55E-10	2.58E-10
U-233	1.31E-11	9.58E-09	1.71E-05	1.22E-11	1.28E-11	1.33E-11	1.34E-11
U-234	1.54E-05	1.13E-02	20.1	1.46E-05	1.51E-05	1.56E-05	1.58E-05
U-235	6.90E-07	5.03E-04	0.898	6.52E-07	6.77E-07	6.98E-07	7.05E-07
U-236	1.20E-07	8.75E-05	0.156	1.11E-07	1.17E-07	1.22E-07	1.23E-07
U-238	1.57E-05	1.14E-02	20.4	1.48E-05	1.54E-05	1.58E-05	1.60E-05
Np-237	4.52E-09	3.30E-06	5.89E-03	3.66E-09	4.11E-09	4.95E-09	5.37E-09
Pu-238	2.04E-07	1.49E-04	0.265	5.61E-08	1.36E-07	2.63E-07	3.21E-07
Pu-239	3.16E-05	2.30E-02	41.1	1.32E-05	2.32E-05	4.43E-05	5.66E-05
Pu-240	2.68E-06	1.95E-03	3.49	8.91E-07	1.86E-06	3.43E-06	4.16E-06
Pu-241	7.87E-06	5.74E-03	10.3	1.40E-06	4.91E-06	1.05E-05	1.30E-05
Pu-242	3.54E-11	2.58E-08	4.61E-05	5.80E-12	2.18E-11	4.74E-11	5.88E-11
Am-241	1.58E-07	1.15E-04	0.206	1.06E-07	1.33E-07	1.84E-07	2.10E-07
Am-243	1.06E-12	7.74E-10	1.38E-06	6.83E-13	8.78E-13	1.25E-12	1.43E-12
Cm-242	4.27E-10	3.11E-07	5.56E-04	4.12E-10	4.20E-10	4.34E-10	4.42E-10
Cm-243	8.67E-12	6.32E-09	1.13E-05	8.36E-12	8.52E-12	8.83E-12	8.98E-12
Cm-244	2.48E-11	1.81E-08	3.24E-05	1.58E-11	2.05E-11	2.94E-11	3.37E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.20E-04 (g/L)	----	0.676	2.17E-04	3.81E-04	7.28E-04	9.29E-04
U	0.197	3.42E+04	6.10E+04	0.186	0.193	0.199	0.201

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.49E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	1.90E-03 (kW)	(6.49 BTU/hr)	----	1.49E-03	1.70E-03	1.99E-03	2.08E-03
Bulk Density*	1.18 (g/cc)	----	----	1.14	1.16	1.20	1.21
Water wt%†	72.1	----	----	68.0	69.9	74.8	77.6
TOC wt% C (wet)	0.298	----	----	0.246	0.272	0.323	0.347

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.08E-04	9.15E-02	0.411	1.07E-06	1.07E-06	1.09E-04	1.10E-04
C-14	2.25E-05	1.91E-02	8.58E-02	1.49E-07	1.49E-07	2.25E-05	2.25E-05
Ni-59	1.09E-06	9.27E-04	4.17E-03	4.23E-08	4.23E-08	1.15E-06	1.20E-06
Ni-63	1.08E-04	9.14E-02	0.411	3.82E-06	3.82E-06	1.13E-04	1.18E-04
Co-60	2.56E-05	2.17E-02	9.77E-02	3.53E-08	3.53E-08	2.56E-05	2.56E-05
Se-79	1.46E-06	1.24E-03	5.56E-03	3.14E-08	3.14E-08	1.97E-06	2.47E-06
Sr-90	5.20E-02	44.2	199	4.50E-02	4.85E-02	5.56E-02	5.91E-02
Y-90	5.21E-02	44.2	199	2.82E-03	2.82E-03	5.56E-02	5.91E-02
Zr-93	7.28E-06	6.18E-03	2.78E-02	1.49E-07	1.49E-07	9.85E-06	1.23E-05
Nb-93m	5.11E-06	4.34E-03	1.95E-02	1.26E-07	1.26E-07	6.92E-06	8.65E-06
Tc-99	1.58E-04	0.135	0.604	7.52E-05	1.16E-04	2.01E-04	2.43E-04
Ru-106	3.30E-09	2.81E-06	1.26E-05	6.79E-13	6.79E-13	4.04E-09	4.72E-09
Cd-113m	4.31E-05	3.66E-02	0.165	3.67E-07	3.67E-07	5.86E-05	7.35E-05
Sb-125	1.11E-04	9.40E-02	0.422	3.76E-08	3.76E-08	1.11E-04	1.11E-04
Sn-126	2.19E-06	1.86E-03	8.34E-03	4.73E-08	4.73E-08	2.96E-06	3.70E-06
I-129	3.06E-07	2.60E-04	1.17E-03	1.45E-07	2.24E-07	3.89E-07	4.69E-07
Cs-134	2.08E-07	1.77E-04	7.93E-04	5.88E-10	5.88E-10	2.08E-07	2.08E-07
Cs-137	3.15E-02	26.8	120	1.52E-02	2.09E-02	3.28E-02	3.86E-02
Ba-137m	2.98E-02	25.3	114	3.02E-03	3.02E-03	2.99E-02	3.00E-02
Sm-151	5.11E-03	4.33	19.5	1.17E-04	1.17E-04	6.91E-03	8.64E-03
Eu-152	1.77E-06	1.50E-03	6.76E-03	4.50E-09	4.50E-09	1.77E-06	1.77E-06
Eu-154	3.57E-04	0.303	1.36	6.35E-07	6.35E-07	4.86E-04	5.37E-04
Eu-155	1.05E-04	8.95E-02	0.402	3.38E-07	3.38E-07	1.06E-04	1.06E-04
Ra-226	5.27E-11	4.48E-08	2.01E-07	8.54E-12	8.54E-12	6.87E-11	8.41E-11
Ra-228	1.01E-09	8.57E-07	3.85E-06	2.40E-10	2.40E-10	1.10E-09	1.20E-09
Ac-227	3.01E-10	2.56E-07	1.15E-06	4.44E-11	4.44E-11	3.94E-10	4.83E-10
Pa-231	1.52E-09	1.29E-06	5.82E-06	9.93E-11	9.93E-11	2.04E-09	2.54E-09
Th-229	4.20E-11	3.56E-08	1.60E-07	7.23E-12	7.23E-12	4.42E-11	4.66E-11
Th-232	3.50E-10	2.97E-07	1.34E-06	3.22E-11	3.22E-11	3.60E-10	3.71E-10
U-232	4.66E-08	3.95E-05	1.78E-04	4.04E-08	4.32E-08	5.07E-08	5.54E-08
U-233	1.81E-07	1.53E-04	6.89E-04	1.57E-07	1.67E-07	1.96E-07	2.15E-07
U-234	2.76E-07	2.35E-04	1.05E-03	2.52E-07	2.61E-07	2.89E-07	3.01E-07
U-235	1.15E-08	9.78E-06	4.40E-05	1.04E-08	1.08E-08	1.20E-08	1.25E-08
U-236	7.84E-09	6.65E-06	2.99E-05	7.11E-09	7.47E-09	8.20E-09	8.56E-09
U-238	2.68E-07	2.28E-04	1.02E-03	2.44E-07	2.52E-07	2.80E-07	2.91E-07
Np-237	5.41E-07	4.60E-04	2.07E-03	2.69E-07	4.02E-07	6.82E-07	8.17E-07
Pu-238	7.22E-07	6.13E-04	2.75E-03	4.02E-07	5.59E-07	8.85E-07	1.04E-06
Pu-239	2.43E-05	2.06E-02	9.27E-02	1.61E-05	2.01E-05	2.85E-05	3.24E-05
Pu-240	4.12E-06	3.49E-03	1.57E-02	2.59E-06	3.34E-06	4.89E-06	5.64E-06
Pu-241	5.00E-05	4.24E-02	0.191	2.82E-05	3.89E-05	6.11E-05	7.18E-05
Pu-242	2.77E-10	2.35E-07	1.06E-06	1.47E-10	2.11E-10	3.44E-10	4.07E-10
Am-241	2.17E-05	1.84E-02	8.26E-02	6.50E-06	1.39E-05	2.94E-05	3.68E-05
Am-243	6.62E-10	5.62E-07	2.52E-06	1.86E-10	4.13E-10	9.15E-10	1.16E-09
Cm-242	7.26E-08	6.16E-05	2.77E-04	8.31E-11	8.31E-11	7.26E-08	7.26E-08
Cm-243	6.91E-09	5.87E-06	2.64E-05	1.86E-12	1.86E-12	6.92E-09	6.92E-09
Cm-244	7.13E-08	6.05E-05	2.72E-04	5.07E-11	5.07E-11	9.54E-08	1.11E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.44E-04 (g/L)	----	9.33E-04	8.95E-05	1.66E-04	3.23E-04	3.98E-04
U	3.31E-03	668	3.00	2.99E-03	3.10E-03	3.45E-03	3.59E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.79E+06 (kg)	(345 kgal)	----	----	----	----	----
Heat Load	0.157 (kW)	(537 BTU/hr)	----	0.127	0.142	0.172	0.187
Bulk Density†	1.37 (g/cc)	----	----	1.30	1.34	1.39	1.41
Water wt%†	64.6	----	----	62.1	63.3	66.5	69.4
TOC wt% C (wet)†	7.47E-04	----	----	5.97E-04	6.71E-04	8.23E-04	8.96E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.97E-07	5.82E-04	1.04	4.85E-07	4.85E-07	9.22E-07	1.06E-06
C-14	1.72E-07	1.25E-04	0.224	1.07E-07	1.07E-07	1.82E-07	1.91E-07
Ni-59	3.34E-08	2.44E-05	4.36E-02	2.78E-08	3.03E-08	5.51E-08	7.52E-08
Ni-63	3.02E-06	2.20E-03	3.94	2.51E-06	2.71E-06	5.00E-06	6.83E-06
Co-60	9.64E-08	7.04E-05	0.126	2.18E-08	2.18E-08	9.91E-08	1.02E-07
Se-79	2.66E-08	1.94E-05	3.48E-02	2.25E-08	2.25E-08	2.87E-08	3.07E-08
Sr-90	1.00E-02	7.31	1.31E+04	8.08E-03	9.08E-03	1.10E-02	1.19E-02
Y-90	1.00E-02	7.31	1.31E+04	8.09E-03	9.08E-03	1.10E-02	1.19E-02
Zr-93	1.28E-07	9.31E-05	0.167	1.07E-07	1.07E-07	1.38E-07	1.47E-07
Nb-93m	1.05E-07	7.68E-05	0.137	8.87E-08	9.07E-08	1.14E-07	1.22E-07
Tc-99	1.20E-06	8.75E-04	1.57	9.56E-07	1.07E-06	1.32E-06	1.45E-06
Ru-106	9.66E-12	7.05E-09	1.26E-05	9.38E-15	9.38E-15	1.18E-11	1.38E-11
Cd-113m	3.74E-07	2.73E-04	0.488	2.49E-07	2.49E-07	4.19E-07	4.62E-07
Sb-125	3.42E-07	2.49E-04	0.446	1.86E-08	1.86E-08	3.45E-07	3.47E-07
Sn-126	3.99E-08	2.91E-05	5.21E-02	3.36E-08	3.37E-08	4.31E-08	4.61E-08
I-129	2.28E-09	1.66E-06	2.97E-03	1.81E-09	2.04E-09	2.52E-09	2.75E-09
Cs-134	1.32E-09	9.61E-07	1.72E-03	7.11E-10	7.11E-10	1.44E-09	1.56E-09
Cs-137	1.13E-02	8.23	1.47E+04	9.07E-03	1.02E-02	1.24E-02	1.34E-02
Ba-137m	1.07E-02	7.78	1.39E+04	8.58E-03	9.66E-03	1.17E-02	1.27E-02
Sm-151	9.86E-05	7.19E-02	129	8.32E-05	8.40E-05	1.06E-04	1.14E-04
Eu-152	3.08E-08	2.25E-05	4.02E-02	2.56E-08	2.56E-08	3.12E-08	3.15E-08
Eu-154	1.41E-06	1.03E-03	1.85	3.73E-07	3.73E-07	1.79E-06	1.94E-06
Eu-155	2.47E-06	1.80E-03	3.22	2.16E-06	2.16E-06	2.49E-06	2.52E-06
Ra-226	7.21E-12	5.26E-09	9.42E-06	6.22E-12	6.70E-12	7.73E-12	8.23E-12
Ra-228	2.95E-12	2.15E-09	3.85E-06	7.01E-13	7.01E-13	3.22E-12	3.51E-12
Ac-227	3.67E-11	2.68E-08	4.80E-05	3.18E-11	3.42E-11	3.94E-11	4.19E-11
Pa-231	8.12E-11	5.92E-08	1.06E-04	7.08E-11	7.59E-11	8.66E-11	9.19E-11
Th-229	1.47E-13	1.07E-10	1.92E-07	4.58E-14	4.58E-14	1.54E-13	1.61E-13
Th-232	1.02E-12	7.47E-10	1.34E-06	9.40E-14	9.40E-14	1.05E-12	1.08E-12
U-232	3.86E-10	2.82E-07	5.04E-04	3.65E-10	3.76E-10	3.98E-10	4.12E-10
U-233	5.40E-10	3.94E-07	7.06E-04	4.70E-10	5.02E-10	5.87E-10	6.41E-10
U-234	1.54E-05	1.12E-02	20.1	1.45E-05	1.51E-05	1.56E-05	1.57E-05
U-235	6.88E-07	5.02E-04	0.898	6.50E-07	6.75E-07	6.96E-07	7.03E-07
U-236	1.20E-07	8.73E-05	0.156	1.11E-07	1.17E-07	1.21E-07	1.23E-07
U-238	1.56E-05	1.14E-02	20.4	1.47E-05	1.53E-05	1.58E-05	1.59E-05
Np-237	6.09E-09	4.44E-06	7.95E-03	5.23E-09	5.68E-09	6.52E-09	6.94E-09
Pu-238	2.05E-07	1.50E-04	0.268	5.81E-08	1.38E-07	2.65E-07	3.22E-07
Pu-239	3.15E-05	2.30E-02	41.2	1.33E-05	2.32E-05	4.43E-05	5.65E-05
Pu-240	2.68E-06	1.96E-03	3.50	9.00E-07	1.87E-06	3.43E-06	4.16E-06
Pu-241	8.00E-06	5.83E-03	10.4	1.54E-06	5.04E-06	1.06E-05	1.31E-05
Pu-242	3.61E-11	2.63E-08	4.71E-05	6.60E-12	2.26E-11	4.80E-11	5.95E-11
Am-241	2.21E-07	1.61E-04	0.289	1.69E-07	1.96E-07	2.47E-07	2.72E-07
Am-243	2.99E-12	2.18E-09	3.91E-06	1.60E-12	2.26E-12	3.73E-12	4.44E-12
Cm-242	6.38E-10	4.65E-07	8.33E-04	4.26E-10	4.26E-10	6.45E-10	6.52E-10
Cm-243	2.88E-11	2.10E-08	3.77E-05	8.65E-12	8.65E-12	2.90E-11	2.92E-11
Cm-244	2.33E-10	1.70E-07	3.04E-04	2.49E-11	2.49E-11	3.04E-10	3.49E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.19E-04 (g/L)	----	0.677	2.17E-04	3.80E-04	7.27E-04	9.27E-04
U	0.196	3.41E+04	6.10E+04	0.185	0.193	0.199	0.201

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.35E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	1.26E-02 (kW)	(43.0 BTU/hr)	----	9.56E-03	1.11E-02	1.41E-02	1.56E-02
Bulk Density	1.37 (g/cc)	----	----	1.27	1.33	1.39	1.41
Void Fraction	0.728	----	----	0.680	0.699	0.775	0.847
Water wt%	64.8	----	----	61.6	63.1	67.3	71.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.12	8.60E+04	1.16E+04	3.32	4.36	5.65	6.12
Al^{3+}	0.516	1.02E+04	1.37E+03	0.516	0.516	0.516	0.516
Fe^{3+} (total Fe)	0.345	1.41E+04	1.90E+03	0.338	0.343	0.347	0.348
Cr^{3+}	4.92E-03	187	25.2	3.99E-03	4.47E-03	5.38E-03	5.84E-03
Bi^{3+}	6.12E-02	9.35E+03	1.26E+03	4.66E-02	5.63E-02	6.41E-02	6.59E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.96E-05	14.6	1.97	6.33E-05	8.73E-05	1.07E-04	1.11E-04
Zr (as $ZrO(OH)_2$)	2.42E-04	16.1	2.17	1.96E-04	2.20E-04	2.65E-04	2.87E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	52.0	6.99	9.81E-04	1.10E-03	2.10E-03	2.92E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.49E-02	2.19E+03	295	4.25E-02	6.38E-02	8.14E-02	8.59E-02
K^+	6.83E-03	195	26.3	5.53E-03	6.20E-03	7.48E-03	8.11E-03
OH^-	3.75	4.65E+04	6.27E+03	3.64	3.71	3.77	3.78
$NO3^-$	1.01	4.58E+04	6.17E+03	0.862	0.945	1.07	1.12
$NO2^-$	0.267	8.99E+03	1.21E+03	0.175	0.217	0.329	0.397
$CO3^{2-}$	7.49E-02	3.28E+03	442	4.25E-02	6.38E-02	8.14E-02	8.59E-02
$PO4^{3-}$	1.13	7.85E+04	1.06E+04	0.657	0.947	1.24	1.31
$SO4^{2-}$	5.27E-02	3.70E+03	498	4.27E-02	4.78E-02	5.77E-02	6.25E-02
Si (as SiO_x^{2-})	0.195	4.01E+03	539	0.124	0.153	0.222	0.248
F^-	0.141	1.95E+03	263	0.114	0.128	0.174	0.284
Cl^-	3.14E-02	813	110	2.54E-02	2.85E-02	3.44E-02	3.73E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.95E-02	864	116	5.89E-02	6.46E-02	7.45E-02	7.91E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.35E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	1.26E-02 (kW)	(43.0 BTU/hr)	----	9.56E-03	1.11E-02	1.41E-02	1.56E-02
Bulk Density†	1.37 (g/cc)	----	----	1.27	1.33	1.39	1.41
Water wt%†	64.8	----	----	61.6	63.1	67.3	71.3
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.12	8.60E+04	1.16E+04	3.32	4.36	5.65	6.12
Al^{3+}	0.516	1.02E+04	1.37E+03	0.516	0.516	0.516	0.516
Fe^{3+} (total Fe)	0.345	1.41E+04	1.90E+03	0.338	0.343	0.347	0.348
Cr^{3+}	4.92E-03	187	25.2	3.99E-03	4.47E-03	5.38E-03	5.84E-03
Bi^{3+}	6.12E-02	9.35E+03	1.26E+03	4.66E-02	5.63E-02	6.41E-02	6.59E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.96E-05	14.6	1.97	6.33E-05	8.73E-05	1.07E-04	1.11E-04
Zr (as $ZrO(OH)_2$)	2.42E-04	16.1	2.17	1.96E-04	2.20E-04	2.65E-04	2.87E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	52.0	6.99	9.81E-04	1.10E-03	2.10E-03	2.92E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.48E-02	2.19E+03	295	4.25E-02	6.38E-02	8.14E-02	8.59E-02
K^+	6.83E-03	195	26.3	5.53E-03	6.20E-03	7.48E-03	8.11E-03
OH^-	3.75	4.65E+04	6.27E+03	3.64	3.71	3.77	3.78
$NO3^-$	1.01	4.58E+04	6.17E+03	0.862	0.945	1.07	1.12
$NO2^-$	0.267	8.99E+03	1.21E+03	0.175	0.217	0.329	0.397
$CO3^{2-}$	7.48E-02	3.28E+03	442	4.25E-02	6.38E-02	8.14E-02	8.59E-02
$PO4^{3-}$	1.13	7.85E+04	1.06E+04	0.657	0.947	1.24	1.31
$SO4^{2-}$	5.27E-02	3.70E+03	498	4.27E-02	4.78E-02	5.77E-02	6.25E-02
Si (as SiO_x^{2-})	0.195	4.01E+03	539	0.124	0.153	0.222	0.248
F^-	0.141	1.95E+03	263	0.114	0.128	0.174	0.284
Cl^-	3.14E-02	813	110	2.54E-02	2.85E-02	3.44E-02	3.73E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.95E-02	864	116	5.89E-02	6.46E-02	7.45E-02	7.91E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.35E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	1.26E-02 (kW)	(43.0 BTU/hr)	----	9.56E-03	1.11E-02	1.41E-02	1.56E-02
Bulk Density	1.37 (g/cc)	----	----	1.27	1.33	1.39	1.41
Void Fraction	0.728	----	----	0.680	0.699	0.775	0.847
Water wt%	64.8	----	----	61.6	63.1	67.3	71.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.29E-07	3.87E-04	5.21E-02	2.95E-07	3.99E-07	6.94E-07	8.77E-07
C-14	1.13E-07	8.24E-05	1.11E-02	8.67E-08	1.00E-07	1.26E-07	1.38E-07
Ni-59	3.21E-08	2.34E-05	3.15E-03	2.47E-08	2.85E-08	6.06E-08	8.71E-08
Ni-63	2.88E-06	2.11E-03	0.284	2.21E-06	2.56E-06	5.49E-06	7.91E-06
Co-60	2.47E-08	1.81E-05	2.43E-03	1.77E-08	2.13E-08	2.82E-08	3.16E-08
Se-79	2.38E-08	1.74E-05	2.34E-03	1.83E-08	2.11E-08	2.65E-08	2.92E-08
Sr-90	1.06E-02	7.76	1.04E+03	8.06E-03	9.38E-03	1.19E-02	1.31E-02
Y-90	1.06E-02	7.76	1.04E+03	8.07E-03	9.38E-03	1.19E-02	1.31E-02
Zr-93	1.13E-07	8.25E-05	1.11E-02	8.69E-08	1.00E-07	1.26E-07	1.39E-07
Nb-93m	9.55E-08	6.98E-05	9.40E-03	7.37E-08	8.50E-08	1.06E-07	1.17E-07
Tc-99	7.82E-07	5.72E-04	7.69E-02	6.01E-07	6.94E-07	8.72E-07	9.60E-07
Ru-106	9.65E-15	7.06E-12	9.50E-10	6.09E-15	7.93E-15	1.14E-14	1.32E-14
Cd-113m	2.71E-07	1.98E-04	2.67E-02	2.03E-07	2.38E-07	3.05E-07	3.39E-07
Sb-125	2.23E-08	1.63E-05	2.19E-03	1.52E-08	1.88E-08	2.58E-08	2.93E-08
Sn-126	3.57E-08	2.61E-05	3.51E-03	2.74E-08	3.17E-08	3.99E-08	4.39E-08
I-129	1.47E-09	1.08E-06	1.45E-04	1.13E-09	1.31E-09	1.64E-09	1.81E-09
Cs-134	9.02E-10	6.59E-07	8.88E-05	5.84E-10	7.48E-10	1.06E-09	1.22E-09
Cs-137	1.20E-02	8.80	1.19E+03	9.14E-03	1.06E-02	1.35E-02	1.49E-02
Ba-137m	1.14E-02	8.33	1.12E+03	8.64E-03	1.01E-02	1.28E-02	1.41E-02
Sm-151	8.86E-05	6.48E-02	8.72	6.83E-05	7.88E-05	9.88E-05	1.09E-04
Eu-152	3.11E-08	2.27E-05	3.06E-03	3.01E-08	3.06E-08	3.16E-08	3.20E-08
Eu-154	4.38E-07	3.20E-04	4.31E-02	3.04E-07	3.73E-07	5.05E-07	5.70E-07
Eu-155	2.44E-06	1.78E-03	0.240	2.37E-06	2.41E-06	2.47E-06	2.51E-06
Ra-226	6.86E-12	5.01E-09	6.75E-07	5.75E-12	6.32E-12	7.42E-12	7.96E-12
Ra-228	1.32E-16	9.62E-14	1.30E-11	1.29E-16	1.30E-16	1.33E-16	1.34E-16
Ac-227	3.50E-11	2.56E-08	3.44E-06	2.92E-11	3.22E-11	3.78E-11	4.06E-11
Pa-231	7.55E-11	5.52E-08	7.43E-06	6.25E-11	6.92E-11	8.20E-11	8.83E-11
Th-229	2.55E-14	1.87E-11	2.51E-09	2.50E-14	2.53E-14	2.58E-14	2.61E-14
Th-232	3.24E-17	2.37E-14	3.19E-12	2.53E-17	2.90E-17	3.60E-17	3.94E-17
U-232	2.70E-10	1.97E-07	2.66E-05	2.43E-10	2.61E-10	2.76E-10	2.79E-10
U-233	1.37E-11	1.00E-08	1.35E-06	1.24E-11	1.33E-11	1.39E-11	1.41E-11
U-234	1.53E-05	1.12E-02	1.50	1.41E-05	1.49E-05	1.55E-05	1.56E-05
U-235	6.81E-07	4.98E-04	6.70E-02	6.31E-07	6.64E-07	6.91E-07	6.97E-07
U-236	1.26E-07	9.19E-05	1.24E-02	1.14E-07	1.22E-07	1.28E-07	1.29E-07
U-238	1.55E-05	1.13E-02	1.52	1.43E-05	1.51E-05	1.57E-05	1.59E-05
Np-237	4.81E-09	3.52E-06	4.74E-04	3.68E-09	4.27E-09	5.38E-09	5.92E-09
Pu-238	2.51E-07	1.83E-04	2.47E-02	5.69E-08	1.62E-07	3.29E-07	4.04E-07
Pu-239	3.62E-05	2.64E-02	3.56	1.21E-05	2.52E-05	4.65E-05	5.64E-05
Pu-240	3.21E-06	2.35E-03	0.316	8.60E-07	2.13E-06	4.16E-06	5.07E-06
Pu-241	1.01E-05	7.41E-03	0.998	1.64E-06	6.24E-06	1.36E-05	1.69E-05
Pu-242	4.59E-11	3.35E-08	4.51E-06	7.01E-12	2.81E-11	6.16E-11	7.66E-11
Am-241	1.98E-07	1.45E-04	1.95E-02	1.30E-07	1.65E-07	2.33E-07	2.66E-07
Am-243	1.37E-12	9.99E-10	1.34E-07	8.71E-13	1.13E-12	1.62E-12	1.86E-12
Cm-242	5.50E-10	4.02E-07	5.41E-05	5.30E-10	5.40E-10	5.60E-10	5.69E-10
Cm-243	1.12E-11	8.21E-09	1.10E-06	1.08E-11	1.10E-11	1.14E-11	1.16E-11
Cm-244	3.22E-11	2.36E-08	3.17E-06	2.04E-11	2.65E-11	3.81E-11	4.39E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.96E-04 (g/L)	----	5.87E-02	1.99E-04	4.14E-04	7.65E-04	9.27E-04
U	0.195	3.39E+04	4.57E+03	0.180	0.190	0.198	0.200

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(5.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.35E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	1.26E-02 (kW)	(43.0 BTU/hr)	----	9.56E-03	1.11E-02	1.41E-02	1.56E-02
Bulk Density†	1.37 (g/cc)	----	----	1.27	1.33	1.39	1.41
Water wt%†	64.8	----	----	61.6	63.1	67.3	71.3
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.29E-07	3.87E-04	5.21E-02	2.95E-07	3.99E-07	6.94E-07	8.77E-07
C-14	1.13E-07	8.24E-05	1.11E-02	8.67E-08	1.00E-07	1.26E-07	1.38E-07
Ni-59	3.20E-08	2.34E-05	3.15E-03	2.47E-08	2.85E-08	6.06E-08	8.71E-08
Ni-63	2.88E-06	2.11E-03	0.284	2.21E-06	2.56E-06	5.49E-06	7.91E-06
Co-60	2.47E-08	1.81E-05	2.43E-03	1.77E-08	2.13E-08	2.82E-08	3.16E-08
Se-79	2.38E-08	1.74E-05	2.34E-03	1.83E-08	2.11E-08	2.65E-08	2.92E-08
Sr-90	1.06E-02	7.76	1.04E+03	8.06E-03	9.38E-03	1.19E-02	1.31E-02
Y-90	1.06E-02	7.76	1.04E+03	8.07E-03	9.38E-03	1.19E-02	1.31E-02
Zr-93	1.13E-07	8.25E-05	1.11E-02	8.69E-08	1.00E-07	1.26E-07	1.39E-07
Nb-93m	9.55E-08	6.98E-05	9.40E-03	7.37E-08	8.50E-08	1.06E-07	1.17E-07
Tc-99	7.82E-07	5.72E-04	7.69E-02	6.01E-07	6.94E-07	8.72E-07	9.60E-07
Ru-106	9.65E-15	7.06E-12	9.50E-10	6.09E-15	7.93E-15	1.14E-14	1.32E-14
Cd-113m	2.71E-07	1.98E-04	2.67E-02	2.03E-07	2.38E-07	3.05E-07	3.39E-07
Sb-125	2.23E-08	1.63E-05	2.19E-03	1.52E-08	1.88E-08	2.58E-08	2.93E-08
Sn-126	3.57E-08	2.61E-05	3.51E-03	2.74E-08	3.17E-08	3.99E-08	4.39E-08
I-129	1.47E-09	1.08E-06	1.45E-04	1.13E-09	1.31E-09	1.64E-09	1.81E-09
Cs-134	9.02E-10	6.59E-07	8.88E-05	5.84E-10	7.48E-10	1.06E-09	1.22E-09
Cs-137	1.20E-02	8.80	1.19E+03	9.14E-03	1.06E-02	1.35E-02	1.49E-02
Ba-137m	1.14E-02	8.33	1.12E+03	8.64E-03	1.01E-02	1.28E-02	1.41E-02
Sm-151	8.86E-05	6.48E-02	8.72	6.83E-05	7.88E-05	9.88E-05	1.09E-04
Eu-152	3.11E-08	2.27E-05	3.06E-03	3.01E-08	3.06E-08	3.16E-08	3.20E-08
Eu-154	4.38E-07	3.20E-04	4.31E-02	3.04E-07	3.73E-07	5.05E-07	5.70E-07
Eu-155	2.44E-06	1.78E-03	0.240	2.37E-06	2.41E-06	2.47E-06	2.51E-06
Ra-226	6.86E-12	5.01E-09	6.75E-07	5.75E-12	6.32E-12	7.42E-12	7.96E-12
Ra-228	1.32E-16	9.62E-14	1.30E-11	1.29E-16	1.30E-16	1.33E-16	1.34E-16
Ac-227	3.50E-11	2.56E-08	3.44E-06	2.92E-11	3.22E-11	3.78E-11	4.06E-11
Pa-231	7.55E-11	5.52E-08	7.43E-06	6.25E-11	6.92E-11	8.20E-11	8.83E-11
Th-229	2.55E-14	1.87E-11	2.51E-09	2.50E-14	2.53E-14	2.58E-14	2.61E-14
Th-232	3.24E-17	2.37E-14	3.19E-12	2.53E-17	2.90E-17	3.60E-17	3.94E-17
U-232	2.70E-10	1.97E-07	2.66E-05	2.43E-10	2.61E-10	2.76E-10	2.79E-10
U-233	1.37E-11	1.00E-08	1.35E-06	1.24E-11	1.33E-11	1.39E-11	1.41E-11
U-234	1.53E-05	1.12E-02	1.50	1.41E-05	1.49E-05	1.55E-05	1.56E-05
U-235	6.81E-07	4.98E-04	6.70E-02	6.31E-07	6.64E-07	6.91E-07	6.97E-07
U-236	1.26E-07	9.19E-05	1.24E-02	1.14E-07	1.22E-07	1.28E-07	1.29E-07
U-238	1.55E-05	1.13E-02	1.52	1.43E-05	1.51E-05	1.57E-05	1.59E-05
Np-237	4.81E-09	3.52E-06	4.74E-04	3.68E-09	4.27E-09	5.38E-09	5.92E-09
Pu-238	2.51E-07	1.83E-04	2.47E-02	5.69E-08	1.62E-07	3.29E-07	4.04E-07
Pu-239	3.62E-05	2.64E-02	3.56	1.21E-05	2.52E-05	4.65E-05	5.64E-05
Pu-240	3.21E-06	2.35E-03	0.316	8.60E-07	2.13E-06	4.16E-06	5.07E-06
Pu-241	1.01E-05	7.41E-03	0.998	1.64E-06	6.24E-06	1.36E-05	1.69E-05
Pu-242	4.59E-11	3.35E-08	4.51E-06	7.01E-12	2.81E-11	6.16E-11	7.66E-11
Am-241	1.98E-07	1.45E-04	1.95E-02	1.30E-07	1.65E-07	2.33E-07	2.66E-07
Am-243	1.37E-12	9.99E-10	1.34E-07	8.71E-13	1.13E-12	1.62E-12	1.86E-12
Cm-242	5.50E-10	4.02E-07	5.41E-05	5.30E-10	5.40E-10	5.60E-10	5.69E-10
Cm-243	1.12E-11	8.21E-09	1.10E-06	1.08E-11	1.10E-11	1.14E-11	1.16E-11
Cm-244	3.22E-11	2.36E-08	3.17E-06	2.04E-11	2.65E-11	3.81E-11	4.39E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.96E-04 (g/L)	----	5.87E-02	1.99E-04	4.14E-04	7.65E-04	9.27E-04
U	0.195	3.39E+04	4.57E+03	0.180	0.190	0.198	0.200

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.24E+06 (kg)	(193 kgal)	----	----	----	----	----
Heat Load	7.13E-02 (kW)	(243 BTU/hr)	----	3.48E-02	3.86E-02	0.104	0.108
Bulk Density	1.70 (g/cc)	----	----	1.06	1.18	2.06	1.73
Void Fraction	0.503	----	----	0.482	0.176	0.919	0.954
Water wt%	28.2	----	----	27.6	9.86	74.2	92.0
TOC wt% C (wet)	9.74E-05	----	----	3.38E-06	1.00E-05	2.33E-04	2.57E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.68E+05	2.09E+05	0.918	2.08	19.8	12.8
Al^{3+}	7.64E-02	1.21E+03	1.51E+03	7.64E-02	7.64E-02	7.64E-02	7.64E-02
Fe^{3+} (total Fe)	1.36	4.46E+04	5.53E+04	5.99E-02	1.25	1.37	1.38
Cr^{3+}	2.09E-03	63.9	79.4	9.04E-04	1.03E-03	3.15E-03	3.29E-03
Bi^{3+}	1.06E-02	1.30E+03	1.61E+03	5.44E-03	8.83E-03	1.16E-02	1.22E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.65E-05	1.95	2.41	3.68E-06	1.21E-05	1.90E-05	2.06E-05
Zr (as $ZrO(OH)_2$)	4.32E-05	2.32	2.88	2.70E-05	3.53E-05	5.13E-05	5.91E-05
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	8.22E-04	28.4	35.3	2.29E-04	2.92E-04	1.35E-03	1.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.296	6.98E+03	8.67E+03	1.31E-02	1.82E-02	0.347	0.397
K^{+}	7.19E-03	165	205	1.35E-03	1.97E-03	1.24E-02	1.31E-02
OH^{-}	4.49	4.50E+04	5.58E+04	0.605	4.18	4.53	4.57
$NO3^{-}$	11.2	4.09E+05	5.07E+05	0.199	0.998	19.1	11.2
$NO2^{-}$	0.178	4.81E+03	5.97E+03	5.31E-02	6.35E-02	0.369	0.402
$CO3^{2-}$	0.365	1.29E+04	1.60E+04	1.46E-02	6.99E-02	0.425	0.463
$PO4^{3-}$	0.245	1.37E+04	1.70E+04	7.81E-02	0.180	0.288	0.380
$SO4^{2-}$	6.30E-02	3.56E+03	4.42E+03	1.06E-02	1.61E-02	0.110	0.116
Si (as SiO_x^{2-})	2.94E-02	486	603	4.47E-03	1.47E-02	3.85E-02	4.71E-02
F^{-}	2.51E-02	281	348	1.57E-02	2.05E-02	3.68E-02	7.55E-02
Cl^{-}	4.18E-02	871	1.08E+03	6.40E-03	1.01E-02	7.34E-02	0.202
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.15E-05	1.42	1.77	2.50E-07	1.43E-06	2.16E-05	2.29E-05
butanol	1.15E-05	0.501	0.623	2.50E-07	1.43E-06	2.16E-05	2.29E-05
NH_3	1.09E-02	109	135	7.14E-03	9.11E-03	1.26E-02	1.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(8.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.24E+06 (kg)	(193 kgal)	----	----	----	----	----
Heat Load	7.13E-02 (kW)	(243 BTU/hr)	----	3.48E-02	3.86E-02	0.104	0.108
Bulk Density†	1.70 (g/cc)	----	----	1.06	1.18	2.06	1.73
Water wt%†	28.2	----	----	27.6	9.86	74.2	92.0
TOC wt% C (wet)†	9.74E-05	----	----	3.38E-06	1.00E-05	2.33E-04	2.57E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.68E+05	2.09E+05	0.918	2.08	19.8	12.8
Al^{3+}	7.64E-02	1.21E+03	1.51E+03	7.64E-02	7.64E-02	7.64E-02	7.64E-02
Fe^{3+} (total Fe)	1.36	4.46E+04	5.53E+04	5.99E-02	1.25	1.37	1.38
Cr^{3+}	2.09E-03	63.9	79.4	9.04E-04	1.03E-03	3.15E-03	3.29E-03
Bi^{3+}	1.06E-02	1.30E+03	1.61E+03	5.44E-03	8.83E-03	1.16E-02	1.22E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.65E-05	1.95	2.41	3.68E-06	1.21E-05	1.90E-05	2.06E-05
Zr (as $ZrO(OH)_2$)	4.32E-05	2.32	2.88	2.70E-05	3.53E-05	5.13E-05	5.91E-05
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	8.22E-04	28.4	35.3	2.29E-04	2.92E-04	1.35E-03	1.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.296	6.98E+03	8.67E+03	1.31E-02	1.82E-02	0.347	0.397
K^{+}	7.19E-03	165	205	1.35E-03	1.97E-03	1.24E-02	1.31E-02
OH^{-}	4.49	4.50E+04	5.58E+04	0.605	4.18	4.53	4.57
$NO3^{-}$	11.2	4.09E+05	5.07E+05	0.199	0.998	19.1	11.2
$NO2^{-}$	0.178	4.81E+03	5.97E+03	5.31E-02	6.35E-02	0.369	0.402
$CO3^{2-}$	0.365	1.29E+04	1.60E+04	1.46E-02	6.99E-02	0.425	0.463
$PO4^{3-}$	0.245	1.37E+04	1.70E+04	7.81E-02	0.180	0.288	0.380
$SO4^{2-}$	6.30E-02	3.56E+03	4.42E+03	1.06E-02	1.61E-02	0.110	0.116
Si (as SiO_x^{2-})	2.94E-02	486	603	4.47E-03	1.47E-02	3.85E-02	4.71E-02
F^{-}	2.51E-02	281	348	1.57E-02	2.05E-02	3.68E-02	7.55E-02
Cl^{-}	4.18E-02	871	1.08E+03	6.40E-03	1.01E-02	7.34E-02	0.202
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.15E-05	1.42	1.77	2.50E-07	1.43E-06	2.16E-05	2.29E-05
butanol	1.15E-05	0.501	0.623	2.50E-07	1.43E-06	2.16E-05	2.29E-05
NH_3	1.09E-02	109	135	7.14E-03	9.11E-03	1.26E-02	1.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.24E+06 (kg)	(193 kgal)	----	----	----	----	----
Heat Load	7.13E-02 (kW)	(243 BTU/hr)	----	3.48E-02	3.86E-02	0.104	0.108
Bulk Density	1.70 (g/cc)	----	----	1.06	1.18	2.06	1.73
Void Fraction	0.503	----	----	0.482	0.176	0.919	0.954
Water wt%	28.2	----	----	27.6	9.86	74.2	92.0
TOC wt% C (wet)	9.74E-05	----	----	3.38E-06	1.00E-05	2.33E-04	2.57E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.02E-06	1.19E-03	1.47	1.27E-07	3.47E-07	3.91E-06	4.18E-06
C-14	2.86E-07	1.68E-04	0.209	3.01E-08	5.71E-08	5.15E-07	5.46E-07
Ni-59	8.13E-08	4.79E-05	5.94E-02	8.56E-09	1.62E-08	1.46E-07	1.55E-07
Ni-63	7.34E-06	4.32E-03	5.36	7.80E-07	1.47E-06	1.32E-05	1.40E-05
Co-60	6.64E-08	3.91E-05	4.85E-02	7.89E-09	1.41E-08	1.19E-07	1.26E-07
Se-79	6.03E-08	3.55E-05	4.41E-02	6.36E-09	1.20E-08	1.09E-07	1.15E-07
Sr-90	6.65E-03	3.91	4.86E+03	2.49E-03	2.93E-03	1.04E-02	1.09E-02
Y-90	6.65E-03	3.91	4.86E+03	2.49E-03	2.93E-03	1.04E-02	1.09E-02
Zr-93	2.87E-07	1.69E-04	0.209	3.02E-08	5.72E-08	5.16E-07	5.47E-07
Nb-93m	2.42E-07	1.42E-04	0.176	2.53E-08	4.80E-08	4.35E-07	4.61E-07
Tc-99	1.99E-06	1.17E-03	1.45	2.09E-07	3.96E-07	3.57E-06	3.79E-06
Ru-106	2.82E-14	1.66E-11	2.06E-08	3.89E-15	6.46E-15	5.00E-14	5.30E-14
Cd-113m	7.05E-07	4.15E-04	0.515	7.83E-08	1.44E-07	1.27E-06	1.34E-06
Sb-125	6.21E-08	3.65E-05	4.54E-02	7.91E-09	1.36E-08	1.11E-07	1.17E-07
Sn-126	9.08E-08	5.34E-05	6.63E-02	9.62E-09	1.82E-08	1.63E-07	1.73E-07
I-129	3.74E-09	2.20E-06	2.73E-03	3.96E-10	7.48E-10	6.74E-09	7.14E-09
Cs-134	9.95E-10	5.86E-07	7.27E-04	6.14E-10	6.54E-10	1.34E-09	1.38E-09
Cs-137	1.13E-02	6.63	8.23E+03	6.59E-03	7.08E-03	1.54E-02	1.60E-02
Ba-137m	1.07E-02	6.27	7.78E+03	6.23E-03	6.70E-03	1.46E-02	1.51E-02
Sm-151	2.24E-04	0.132	164	2.35E-05	4.47E-05	4.04E-04	4.28E-04
Eu-152	6.07E-07	3.57E-04	0.444	6.00E-07	6.01E-07	6.14E-07	6.15E-07
Eu-154	1.20E-06	7.08E-04	0.879	1.49E-07	2.60E-07	2.15E-06	2.27E-06
Eu-155	4.57E-05	2.69E-02	33.4	4.51E-05	4.52E-05	4.62E-05	4.63E-05
Ra-226	1.61E-11	9.47E-09	1.18E-05	1.37E-12	2.92E-12	3.82E-11	6.54E-10
Ra-228	2.31E-15	1.36E-12	1.69E-09	2.28E-15	2.29E-15	2.34E-15	2.34E-15
Ac-227	8.23E-11	4.84E-08	6.01E-05	7.09E-12	1.50E-11	1.50E-10	2.98E-09
Pa-231	1.79E-10	1.05E-07	1.31E-04	1.59E-11	3.30E-11	3.25E-10	3.45E-10
Th-229	4.49E-13	2.64E-10	3.28E-07	4.43E-13	4.44E-13	4.54E-13	4.54E-13
Th-232	8.13E-17	4.78E-14	5.94E-11	8.31E-18	1.60E-17	1.47E-16	1.55E-16
U-232	6.27E-11	3.69E-08	4.58E-05	5.31E-11	5.95E-11	6.46E-11	6.58E-11
U-233	2.87E-12	1.69E-09	2.10E-06	2.43E-12	2.72E-12	2.96E-12	3.02E-12
U-234	2.62E-06	1.54E-03	1.91	2.22E-06	2.48E-06	2.70E-06	2.75E-06
U-235	1.16E-07	6.80E-05	8.44E-02	9.79E-08	1.10E-07	1.19E-07	1.21E-07
U-236	2.67E-08	1.57E-05	1.95E-02	2.26E-08	2.53E-08	2.75E-08	2.81E-08
U-238	2.66E-06	1.56E-03	1.94	2.25E-06	2.52E-06	2.74E-06	2.79E-06
Np-237	1.23E-08	7.22E-06	8.96E-03	1.31E-09	2.46E-09	2.21E-08	2.34E-08
Pu-238	9.37E-08	5.51E-05	6.84E-02	2.54E-08	6.24E-08	1.52E-07	7.39E-07
Pu-239	1.20E-05	7.09E-03	8.80	3.57E-06	8.16E-06	2.09E-05	1.10E-04
Pu-240	1.15E-06	6.77E-04	0.840	3.22E-07	7.70E-07	1.91E-06	9.57E-06
Pu-241	4.04E-06	2.38E-03	2.95	1.05E-06	2.67E-06	6.33E-06	2.94E-05
Pu-242	1.84E-11	1.09E-08	1.35E-05	4.76E-12	1.22E-11	2.88E-11	1.33E-10
Am-241	5.68E-07	3.34E-04	0.415	7.55E-08	1.27E-07	1.01E-06	1.07E-06
Am-243	3.98E-12	2.34E-09	2.90E-06	5.43E-13	9.04E-13	7.05E-12	7.46E-12
Cm-242	1.11E-08	6.55E-06	8.14E-03	1.10E-08	1.10E-08	1.13E-08	1.13E-08
Cm-243	2.28E-10	1.34E-07	1.67E-04	2.25E-10	2.26E-10	2.31E-10	2.31E-10
Cm-244	9.41E-11	5.54E-08	6.88E-05	1.29E-11	2.15E-11	1.67E-10	1.77E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.99E-04 (g/L)	----	0.145	5.89E-05	1.35E-04	3.45E-04	1.81E-03
U	3.35E-02	4.69E+03	5.82E+03	2.83E-02	3.17E-02	3.45E-02	3.51E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(8.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.24E+06 (kg)	(193 kgal)	----	----	----	----	----
Heat Load	7.13E-02 (kW)	(243 BTU/hr)	----	3.48E-02	3.86E-02	0.104	0.108
Bulk Density†	1.70 (g/cc)	----	----	1.06	1.18	2.06	1.73
Water wt%†	28.2	----	----	27.6	9.86	74.2	92.0
TOC wt% C (wet)†	9.74E-05	----	----	3.38E-06	1.00E-05	2.33E-04	2.57E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.02E-06	1.19E-03	1.47	1.27E-07	3.47E-07	3.91E-06	4.18E-06
C-14	2.86E-07	1.68E-04	0.209	3.01E-08	5.71E-08	5.15E-07	5.46E-07
Ni-59	8.13E-08	4.79E-05	5.94E-02	8.56E-09	1.62E-08	1.46E-07	1.55E-07
Ni-63	7.34E-06	4.32E-03	5.36	7.80E-07	1.47E-06	1.32E-05	1.40E-05
Co-60	6.64E-08	3.91E-05	4.85E-02	7.89E-09	1.41E-08	1.19E-07	1.26E-07
Se-79	6.03E-08	3.55E-05	4.41E-02	6.36E-09	1.20E-08	1.09E-07	1.15E-07
Sr-90	6.65E-03	3.91	4.86E+03	2.49E-03	2.93E-03	1.04E-02	1.09E-02
Y-90	6.65E-03	3.91	4.86E+03	2.49E-03	2.93E-03	1.04E-02	1.09E-02
Zr-93	2.86E-07	1.69E-04	0.209	3.02E-08	5.72E-08	5.16E-07	5.47E-07
Nb-93m	2.42E-07	1.42E-04	0.176	2.53E-08	4.80E-08	4.35E-07	4.61E-07
Tc-99	1.99E-06	1.17E-03	1.45	2.09E-07	3.96E-07	3.57E-06	3.79E-06
Ru-106	2.82E-14	1.66E-11	2.06E-08	3.89E-15	6.46E-15	5.00E-14	5.30E-14
Cd-113m	7.05E-07	4.15E-04	0.515	7.83E-08	1.44E-07	1.27E-06	1.34E-06
Sb-125	6.21E-08	3.65E-05	4.54E-02	7.91E-09	1.36E-08	1.11E-07	1.17E-07
Sn-126	9.08E-08	5.34E-05	6.63E-02	9.62E-09	1.82E-08	1.63E-07	1.73E-07
I-129	3.74E-09	2.20E-06	2.73E-03	3.96E-10	7.48E-10	6.74E-09	7.14E-09
Cs-134	9.95E-10	5.86E-07	7.27E-04	6.14E-10	6.54E-10	1.34E-09	1.38E-09
Cs-137	1.13E-02	6.63	8.23E+03	6.59E-03	7.08E-03	1.54E-02	1.60E-02
Ba-137m	1.07E-02	6.27	7.78E+03	6.23E-03	6.70E-03	1.46E-02	1.51E-02
Sm-151	2.24E-04	0.132	164	2.35E-05	4.47E-05	4.04E-04	4.28E-04
Eu-152	6.07E-07	3.57E-04	0.444	6.00E-07	6.01E-07	6.14E-07	6.15E-07
Eu-154	1.20E-06	7.08E-04	0.879	1.49E-07	2.60E-07	2.15E-06	2.27E-06
Eu-155	4.57E-05	2.69E-02	33.4	4.51E-05	4.52E-05	4.62E-05	4.63E-05
Ra-226	1.61E-11	9.47E-09	1.18E-05	1.37E-12	2.92E-12	3.82E-11	6.54E-10
Ra-228	2.31E-15	1.36E-12	1.69E-09	2.28E-15	2.29E-15	2.34E-15	2.34E-15
Ac-227	8.23E-11	4.84E-08	6.01E-05	7.09E-12	1.50E-11	1.50E-10	2.98E-09
Pa-231	1.79E-10	1.05E-07	1.31E-04	1.59E-11	3.30E-11	3.25E-10	3.45E-10
Th-229	4.49E-13	2.64E-10	3.28E-07	4.43E-13	4.44E-13	4.54E-13	4.54E-13
Th-232	8.13E-17	4.78E-14	5.94E-11	8.31E-18	1.60E-17	1.47E-16	1.55E-16
U-232	6.27E-11	3.69E-08	4.58E-05	5.31E-11	5.95E-11	6.46E-11	6.58E-11
U-233	2.87E-12	1.69E-09	2.10E-06	2.43E-12	2.72E-12	2.96E-12	3.02E-12
U-234	2.62E-06	1.54E-03	1.91	2.22E-06	2.48E-06	2.70E-06	2.75E-06
U-235	1.16E-07	6.80E-05	8.44E-02	9.79E-08	1.10E-07	1.19E-07	1.21E-07
U-236	2.67E-08	1.57E-05	1.95E-02	2.26E-08	2.53E-08	2.75E-08	2.81E-08
U-238	2.66E-06	1.56E-03	1.94	2.25E-06	2.52E-06	2.74E-06	2.79E-06
Np-237	1.23E-08	7.22E-06	8.96E-03	1.31E-09	2.46E-09	2.21E-08	2.34E-08
Pu-238	9.37E-08	5.51E-05	6.84E-02	2.54E-08	6.24E-08	1.52E-07	7.39E-07
Pu-239	1.20E-05	7.09E-03	8.80	3.57E-06	8.16E-06	2.09E-05	1.10E-04
Pu-240	1.15E-06	6.77E-04	0.840	3.22E-07	7.70E-07	1.91E-06	9.57E-06
Pu-241	4.04E-06	2.38E-03	2.95	1.05E-06	2.67E-06	6.33E-06	2.94E-05
Pu-242	1.84E-11	1.09E-08	1.35E-05	4.76E-12	1.22E-11	2.88E-11	1.33E-10
Am-241	5.67E-07	3.34E-04	0.415	7.55E-08	1.27E-07	1.01E-06	1.07E-06
Am-243	3.98E-12	2.34E-09	2.90E-06	5.43E-13	9.04E-13	7.05E-12	7.46E-12
Cm-242	1.11E-08	6.55E-06	8.14E-03	1.10E-08	1.10E-08	1.13E-08	1.13E-08
Cm-243	2.28E-10	1.34E-07	1.67E-04	2.25E-10	2.26E-10	2.31E-10	2.31E-10
Cm-244	9.41E-11	5.54E-08	6.88E-05	1.29E-11	2.15E-11	1.67E-10	1.77E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.99E-04 (g/L)	----	0.145	5.89E-05	1.35E-04	3.45E-04	1.81E-03
U	3.35E-02	4.69E+03	5.82E+03	2.83E-02	3.17E-02	3.45E-02	3.51E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.07E+06 (kg)	(198 kgal)	----	----	----	----	----
Heat Load	0.329 (kW)	(1.12E+03 BTU/hr)	----	0.235	0.288	0.357	0.373
Bulk Density	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Void Fraction	0.740	----	----	0.676	0.711	0.787	0.857
Water wt%	58.0	----	----	51.9	55.1	61.5	64.3
TOC wt% C (wet)	0.109	----	----	9.47E-02	0.107	0.112	0.116

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.79	1.10E+05	1.17E+05	5.01	6.04	7.36	7.97
Al^{3+}	0.838	1.59E+04	1.69E+04	0.583	0.668	1.05	1.25
Fe^{3+} (total Fe)	0.275	1.08E+04	1.15E+04	0.268	0.273	0.276	0.278
Cr^{3+}	1.56E-02	569	606	1.32E-02	1.44E-02	1.60E-02	1.65E-02
Bi^{3+}	4.81E-02	7.08E+03	7.54E+03	3.38E-02	4.33E-02	5.10E-02	5.28E-02
La^{3+}	4.34E-07	4.24E-02	4.52E-02	3.59E-07	4.07E-07	4.52E-07	4.43E-07
Hg^{2+}	8.49E-05	12.0	12.8	4.90E-05	7.28E-05	9.21E-05	9.66E-05
Zr (as $ZrO(OH)_2$)	1.99E-04	12.7	13.6	1.53E-04	1.77E-04	2.21E-04	2.43E-04
Pb^{2+}	1.20E-03	175	187	6.55E-04	9.24E-04	1.48E-03	1.75E-03
Ni^{2+}	3.82E-03	158	168	2.84E-03	3.35E-03	4.70E-03	5.52E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	6.88E-04	26.6	28.3	5.07E-04	5.95E-04	7.80E-04	8.69E-04
Ca^{2+}	7.41E-02	2.09E+03	2.23E+03	4.21E-02	6.32E-02	8.06E-02	8.47E-02
K^+	1.39E-02	381	406	1.15E-02	1.28E-02	1.47E-02	1.51E-02
OH^-	4.96	5.93E+04	6.32E+04	3.88	4.26	5.80	6.58
$NO3^-$	2.18	9.51E+04	1.01E+05	1.40	1.80	2.42	2.65
$NO2^-$	0.572	1.85E+04	1.97E+04	0.422	0.500	0.632	0.784
$CO3^{2-}$	0.166	7.00E+03	7.46E+03	0.133	0.143	0.188	0.200
$PO4^{3-}$	0.901	6.02E+04	6.41E+04	0.433	0.719	1.01	1.08
$SO4^{2-}$	8.26E-02	5.58E+03	5.94E+03	6.50E-02	7.41E-02	8.99E-02	0.109
Si (as SiO_x^{2-})	0.164	3.25E+03	3.46E+03	9.43E-02	0.123	0.190	0.214
F^-	0.123	1.65E+03	1.75E+03	9.66E-02	0.110	0.156	0.265
Cl^-	5.28E-02	1.32E+03	1.40E+03	3.98E-02	4.62E-02	5.57E-02	5.86E-02
$C_6H_5O_7^{3-}$	5.07E-03	675	718	4.19E-03	4.93E-03	5.16E-03	5.18E-03
$EDTA^{4-}$	1.14E-03	231	246	1.00E-03	1.10E-03	1.16E-03	1.16E-03
$HEDTA^{3-}$	1.54E-04	29.6	31.6	4.64E-05	1.05E-04	1.93E-04	1.96E-04
$glycolate^-$	3.57E-03	188	201	1.81E-03	2.79E-03	4.18E-03	4.07E-03
$acetate^-$	6.77E-03	281	300	5.90E-03	6.67E-03	6.83E-03	6.92E-03
$oxalate^{2-}$	5.69E-07	3.52E-02	3.75E-02	4.16E-07	5.18E-07	6.20E-07	6.49E-07
DBP	5.39E-03	797	848	4.64E-03	5.14E-03	5.52E-03	5.50E-03
butanol	5.39E-03	281	299	4.64E-03	5.14E-03	5.52E-03	5.50E-03
NH_3	5.57E-02	666	709	4.52E-02	5.07E-02	6.06E-02	6.52E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.07E+06 (kg)	(198 kgal)	----	----	----	----	----
Heat Load	0.329 (kW)	(1.12E+03 BTU/hr)	----	0.235	0.288	0.357	0.373
Bulk Density†	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Water wt%†	58.0	----	----	51.9	55.1	61.5	64.3
TOC wt% C (wet)†	0.109	----	----	9.47E-02	0.107	0.112	0.116

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.79	1.10E+05	1.17E+05	5.01	6.04	7.36	7.97
Al^{3+}	0.838	1.59E+04	1.69E+04	0.583	0.668	1.05	1.25
Fe^{3+} (total Fe)	0.275	1.08E+04	1.15E+04	0.268	0.273	0.276	0.278
Cr^{3+}	1.56E-02	569	606	1.32E-02	1.44E-02	1.60E-02	1.65E-02
Bi^{3+}	4.81E-02	7.08E+03	7.54E+03	3.38E-02	4.33E-02	5.10E-02	5.28E-02
La^{3+}	4.34E-07	4.24E-02	4.52E-02	3.59E-07	4.07E-07	4.52E-07	4.43E-07
Hg^{2+}	8.49E-05	12.0	12.8	4.90E-05	7.28E-05	9.21E-05	9.66E-05
Zr (as $ZrO(OH)_2$)	1.99E-04	12.7	13.6	1.53E-04	1.77E-04	2.21E-04	2.43E-04
Pb^{2+}	1.20E-03	175	187	6.55E-04	9.24E-04	1.48E-03	1.75E-03
Ni^{2+}	3.82E-03	158	168	2.84E-03	3.35E-03	4.70E-03	5.52E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	6.88E-04	26.6	28.3	5.07E-04	5.95E-04	7.80E-04	8.69E-04
Ca^{2+}	7.41E-02	2.09E+03	2.23E+03	4.21E-02	6.32E-02	8.06E-02	8.47E-02
K^+	1.39E-02	381	406	1.15E-02	1.28E-02	1.47E-02	1.51E-02
OH^-	4.96	5.93E+04	6.32E+04	3.88	4.26	5.80	6.58
$NO3^-$	2.18	9.51E+04	1.01E+05	1.40	1.80	2.42	2.65
$NO2^-$	0.571	1.85E+04	1.97E+04	0.422	0.500	0.632	0.784
$CO3^{2-}$	0.166	7.00E+03	7.46E+03	0.133	0.143	0.188	0.200
$PO4^{3-}$	0.901	6.02E+04	6.41E+04	0.433	0.719	1.01	1.08
$SO4^{2-}$	8.26E-02	5.58E+03	5.94E+03	6.50E-02	7.41E-02	8.99E-02	0.109
Si (as SiO_x^{2-})	0.164	3.25E+03	3.46E+03	9.43E-02	0.123	0.190	0.214
F^-	0.123	1.65E+03	1.75E+03	9.66E-02	0.110	0.156	0.265
Cl^-	5.28E-02	1.32E+03	1.40E+03	3.98E-02	4.62E-02	5.57E-02	5.86E-02
$C_6H_5O_7^{3-}$	5.07E-03	675	718	4.19E-03	4.93E-03	5.16E-03	5.18E-03
$EDTA^{4-}$	1.14E-03	231	246	1.00E-03	1.10E-03	1.16E-03	1.16E-03
$HEDTA^{3-}$	1.54E-04	29.6	31.6	4.64E-05	1.05E-04	1.93E-04	1.96E-04
$glycolate^-$	3.57E-03	188	201	1.81E-03	2.79E-03	4.18E-03	4.07E-03
$acetate^-$	6.77E-03	281	300	5.90E-03	6.67E-03	6.83E-03	6.92E-03
$oxalate^{2-}$	5.69E-07	3.52E-02	3.75E-02	4.16E-07	5.18E-07	6.20E-07	6.49E-07
DBP	5.39E-03	797	848	4.64E-03	5.14E-03	5.52E-03	5.50E-03
butanol	5.39E-03	281	299	4.64E-03	5.14E-03	5.52E-03	5.50E-03
NH_3	5.57E-02	666	709	4.52E-02	5.07E-02	6.06E-02	6.52E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.07E+06 (kg)	(198 kgal)	----	----	----	----	----
Heat Load	0.329 (kW)	(1.12E+03 BTU/hr)	----	0.235	0.288	0.357	0.373
Bulk Density	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Void Fraction	0.740	----	----	0.676	0.711	0.787	0.857
Water wt%	58.0	----	----	51.9	55.1	61.5	64.3
TOC wt% C (wet)	0.109	----	----	9.47E-02	0.107	0.112	0.116
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.81E-05	1.98E-02	21.1	4.55E-07	4.55E-07	2.84E-05	2.87E-05
C-14	7.30E-06	5.14E-03	5.47	9.41E-08	9.41E-08	7.56E-06	7.82E-06
Ni-59	7.96E-07	5.60E-04	0.596	2.67E-08	2.67E-08	8.29E-07	8.61E-07
Ni-63	7.87E-05	5.54E-02	59.0	2.42E-06	2.42E-06	8.21E-05	8.53E-05
Co-60	6.77E-06	4.76E-03	5.07	2.20E-08	2.20E-08	6.82E-06	6.91E-06
Se-79	6.25E-07	4.39E-04	0.468	1.98E-08	1.98E-08	7.61E-07	8.87E-07
Sr-90	3.60E-02	25.3	2.69E+04	3.00E-02	3.42E-02	3.77E-02	3.93E-02
Y-90	3.60E-02	25.3	2.70E+04	8.97E-03	8.97E-03	3.77E-02	3.93E-02
Zr-93	3.01E-06	2.12E-03	2.26	9.42E-08	9.42E-08	3.69E-06	4.31E-06
Nb-93m	2.19E-06	1.54E-03	1.64	7.94E-08	7.94E-08	2.67E-06	3.09E-06
Tc-99	4.08E-05	2.87E-02	30.6	2.14E-05	3.21E-05	4.76E-05	4.64E-05
Ru-106	1.35E-09	9.47E-07	1.01E-03	9.50E-15	9.50E-15	1.47E-09	1.57E-09
Cd-113m	1.57E-05	1.10E-02	11.8	2.33E-07	2.33E-07	1.98E-05	2.33E-05
Sb-125	3.03E-05	2.13E-02	22.7	2.07E-08	2.07E-08	3.05E-05	3.09E-05
Sn-126	9.34E-07	6.57E-04	0.700	2.99E-08	2.99E-08	1.14E-06	1.33E-06
I-129	7.90E-08	5.56E-05	5.92E-02	4.12E-08	6.22E-08	9.22E-08	8.98E-08
Cs-134	3.29E-07	2.32E-04	0.247	8.72E-10	8.72E-10	3.31E-07	3.34E-07
Cs-137	4.21E-02	29.6	3.15E+04	2.36E-02	3.27E-02	4.79E-02	5.07E-02
Ba-137m	3.98E-02	28.0	2.98E+04	9.64E-03	9.64E-03	4.12E-02	4.25E-02
Sm-151	2.17E-03	1.52	1.62E+03	7.38E-05	7.38E-05	2.64E-03	3.06E-03
Eu-152	9.78E-07	6.88E-04	0.733	2.90E-08	2.90E-08	9.80E-07	9.83E-07
Eu-154	1.14E-04	8.04E-02	85.7	4.01E-07	4.01E-07	1.48E-04	1.42E-04
Eu-155	5.96E-05	4.20E-02	44.7	2.16E-06	2.16E-06	5.98E-05	6.00E-05
Ra-226	3.43E-11	2.41E-08	2.57E-05	5.22E-12	5.22E-12	4.19E-11	4.86E-11
Ra-228	3.61E-07	2.54E-04	0.270	1.07E-16	1.07E-16	3.64E-07	3.67E-07
Ac-227	4.38E-10	3.08E-07	3.28E-04	2.67E-11	2.67E-11	5.74E-10	6.99E-10
Pa-231	2.18E-09	1.53E-06	1.63E-03	5.82E-11	5.82E-11	2.84E-09	3.48E-09
Th-229	8.33E-09	5.86E-06	6.24E-03	2.08E-14	2.08E-14	8.39E-09	8.47E-09
Th-232	1.33E-08	9.37E-06	9.98E-03	2.67E-17	2.67E-17	1.70E-08	2.05E-08
U-232	2.01E-06	1.41E-03	1.51	9.04E-07	1.47E-06	2.65E-06	3.32E-06
U-233	7.70E-06	5.42E-03	5.77	3.46E-06	5.62E-06	1.01E-05	1.27E-05
U-234	1.24E-05	8.75E-03	9.32	1.13E-05	1.21E-05	1.27E-05	1.28E-05
U-235	5.49E-07	3.87E-04	0.412	5.00E-07	5.33E-07	5.59E-07	5.66E-07
U-236	1.22E-07	8.58E-05	9.14E-02	1.10E-07	1.18E-07	1.24E-07	1.26E-07
U-238	1.32E-05	9.30E-03	9.91	1.21E-05	1.28E-05	1.34E-05	1.36E-05
Np-237	1.39E-07	9.76E-05	0.104	7.70E-08	1.11E-07	1.60E-07	1.55E-07
Pu-238	7.75E-07	5.45E-04	0.581	4.77E-07	6.25E-07	9.25E-07	1.07E-06
Pu-239	5.17E-05	3.63E-02	38.7	2.79E-05	4.07E-05	6.13E-05	7.05E-05
Pu-240	6.28E-06	4.42E-03	4.70	3.95E-06	5.21E-06	7.22E-06	8.12E-06
Pu-241	4.86E-05	3.42E-02	36.5	2.72E-05	3.78E-05	5.95E-05	7.00E-05
Pu-242	2.31E-10	1.63E-07	1.73E-04	1.29E-10	1.79E-10	2.84E-10	3.34E-10
Am-241	9.63E-06	6.78E-03	7.22	3.48E-06	6.49E-06	1.26E-05	1.49E-05
Am-243	3.28E-10	2.31E-07	2.46E-04	1.02E-10	2.10E-10	4.46E-10	5.43E-10
Cm-242	6.59E-10	4.64E-07	4.94E-04	5.37E-10	5.37E-10	6.69E-10	6.78E-10
Cm-243	1.35E-11	9.50E-09	1.01E-05	1.10E-11	1.10E-11	1.37E-11	1.39E-11
Cm-244	7.48E-11	5.27E-08	5.61E-05	3.16E-11	3.16E-11	8.07E-11	8.64E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.85E-04 (g/L)	----	0.588	3.92E-04	6.05E-04	9.44E-04	1.10E-03
U	0.158	2.64E+04	2.81E+04	0.143	0.153	0.161	0.162

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.07E+06 (kg)	(198 kgal)	----	----	----	----	----
Heat Load	0.329 (kW)	(1.12E+03 BTU/hr)	----	0.235	0.288	0.357	0.373
Bulk Density†	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Water wt%†	58.0	----	----	51.9	55.1	61.5	64.3
TOC wt% C (wet)†	0.109	----	----	9.47E-02	0.107	0.112	0.116
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.81E-05	1.98E-02	21.1	4.55E-07	4.55E-07	2.84E-05	2.87E-05
C-14	7.30E-06	5.14E-03	5.47	9.41E-08	9.41E-08	7.56E-06	7.82E-06
Ni-59	7.96E-07	5.60E-04	0.596	2.67E-08	2.67E-08	8.29E-07	8.61E-07
Ni-63	7.87E-05	5.54E-02	59.0	2.42E-06	2.42E-06	8.21E-05	8.53E-05
Co-60	6.77E-06	4.76E-03	5.07	2.20E-08	2.20E-08	6.82E-06	6.91E-06
Se-79	6.25E-07	4.39E-04	0.468	1.98E-08	1.98E-08	7.61E-07	8.87E-07
Sr-90	3.60E-02	25.3	2.69E+04	3.00E-02	3.42E-02	3.77E-02	3.93E-02
Y-90	3.60E-02	25.3	2.70E+04	8.97E-03	8.97E-03	3.77E-02	3.93E-02
Zr-93	3.01E-06	2.12E-03	2.26	9.42E-08	9.42E-08	3.69E-06	4.31E-06
Nb-93m	2.19E-06	1.54E-03	1.64	7.94E-08	7.94E-08	2.67E-06	3.09E-06
Tc-99	4.08E-05	2.87E-02	30.6	2.14E-05	3.21E-05	4.76E-05	4.64E-05
Ru-106	1.35E-09	9.47E-07	1.01E-03	9.50E-15	9.50E-15	1.47E-09	1.57E-09
Cd-113m	1.57E-05	1.10E-02	11.8	2.33E-07	2.33E-07	1.98E-05	2.33E-05
Sb-125	3.03E-05	2.13E-02	22.7	2.07E-08	2.07E-08	3.05E-05	3.09E-05
Sn-126	9.34E-07	6.57E-04	0.700	2.99E-08	2.99E-08	1.14E-06	1.33E-06
I-129	7.90E-08	5.56E-05	5.92E-02	4.12E-08	6.22E-08	9.22E-08	8.98E-08
Cs-134	3.29E-07	2.32E-04	0.247	8.72E-10	8.72E-10	3.31E-07	3.34E-07
Cs-137	4.21E-02	29.6	3.15E+04	2.36E-02	3.27E-02	4.79E-02	5.07E-02
Ba-137m	3.98E-02	28.0	2.98E+04	9.64E-03	9.64E-03	4.12E-02	4.25E-02
Sm-151	2.17E-03	1.52	1.62E+03	7.38E-05	7.38E-05	2.64E-03	3.06E-03
Eu-152	9.78E-07	6.88E-04	0.733	2.90E-08	2.90E-08	9.80E-07	9.83E-07
Eu-154	1.14E-04	8.04E-02	85.7	4.01E-07	4.01E-07	1.48E-04	1.42E-04
Eu-155	5.96E-05	4.20E-02	44.7	2.16E-06	2.16E-06	5.98E-05	6.00E-05
Ra-226	3.43E-11	2.41E-08	2.57E-05	5.22E-12	5.22E-12	4.19E-11	4.86E-11
Ra-228	3.61E-07	2.54E-04	0.270	1.07E-16	1.07E-16	3.64E-07	3.67E-07
Ac-227	4.38E-10	3.08E-07	3.28E-04	2.67E-11	2.67E-11	5.74E-10	6.99E-10
Pa-231	2.18E-09	1.53E-06	1.63E-03	5.82E-11	5.82E-11	2.84E-09	3.48E-09
Th-229	8.33E-09	5.86E-06	6.24E-03	2.08E-14	2.08E-14	8.39E-09	8.47E-09
Th-232	1.33E-08	9.37E-06	9.98E-03	2.67E-17	2.67E-17	1.70E-08	2.05E-08
U-232	2.01E-06	1.41E-03	1.51	9.04E-07	1.47E-06	2.65E-06	3.32E-06
U-233	7.70E-06	5.42E-03	5.77	3.46E-06	5.62E-06	1.01E-05	1.27E-05
U-234	1.24E-05	8.75E-03	9.32	1.13E-05	1.21E-05	1.27E-05	1.28E-05
U-235	5.49E-07	3.87E-04	0.412	5.00E-07	5.33E-07	5.59E-07	5.66E-07
U-236	1.22E-07	8.58E-05	9.14E-02	1.10E-07	1.18E-07	1.24E-07	1.26E-07
U-238	1.32E-05	9.30E-03	9.91	1.21E-05	1.28E-05	1.34E-05	1.36E-05
Np-237	1.39E-07	9.76E-05	0.104	7.70E-08	1.11E-07	1.60E-07	1.55E-07
Pu-238	7.75E-07	5.45E-04	0.581	4.77E-07	6.25E-07	9.25E-07	1.07E-06
Pu-239	5.17E-05	3.63E-02	38.7	2.79E-05	4.07E-05	6.13E-05	7.05E-05
Pu-240	6.28E-06	4.42E-03	4.70	3.95E-06	5.21E-06	7.22E-06	8.12E-06
Pu-241	4.86E-05	3.42E-02	36.5	2.72E-05	3.78E-05	5.95E-05	7.00E-05
Pu-242	2.31E-10	1.63E-07	1.73E-04	1.29E-10	1.79E-10	2.84E-10	3.34E-10
Am-241	9.63E-06	6.78E-03	7.22	3.48E-06	6.49E-06	1.26E-05	1.49E-05
Am-243	3.28E-10	2.31E-07	2.46E-04	1.02E-10	2.10E-10	4.46E-10	5.43E-10
Cm-242	6.59E-10	4.64E-07	4.94E-04	5.37E-10	5.37E-10	6.69E-10	6.78E-10
Cm-243	1.35E-11	9.50E-09	1.01E-05	1.10E-11	1.10E-11	1.37E-11	1.39E-11
Cm-244	7.48E-11	5.27E-08	5.61E-05	3.16E-11	3.16E-11	8.07E-11	8.64E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.85E-04 (g/L)	----	0.588	3.92E-04	6.05E-04	9.44E-04	1.10E-03
U	0.158	2.64E+04	2.81E+04	0.143	0.153	0.161	0.162

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.27E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	1.08 (kW)	(3.68E+03 BTU/hr)	----	0.675	0.900	1.20	1.26
Bulk Density	1.59 (g/cc)	----	----	1.32	1.46	1.69	1.80
Void Fraction	0.769	----	----	0.512	0.674	0.880	0.950
Water wt%	40.1	----	----	22.1	31.0	51.9	62.2
TOC wt% C (wet)	0.389	----	----	0.311	0.373	0.407	0.409

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.9	1.72E+05	2.18E+05	6.50	9.05	14.1	16.6
Al^{3+}	1.86	3.16E+04	4.00E+04	0.839	1.18	2.69	3.49
Fe^{3+} (total Fe)	6.98E-02	2.45E+03	3.11E+03	6.15E-02	6.55E-02	7.40E-02	7.81E-02
Cr^{3+}	4.74E-02	1.55E+03	1.97E+03	3.80E-02	4.29E-02	4.92E-02	5.10E-02
Bi^{3+}	9.85E-03	1.30E+03	1.64E+03	5.44E-03	8.36E-03	1.07E-02	1.13E-02
La^{3+}	1.74E-06	0.152	0.193	1.44E-06	1.63E-06	1.81E-06	1.77E-06
Hg^{2+}	4.49E-05	5.67	7.20	3.39E-05	4.12E-05	4.71E-05	4.85E-05
Zr (as $ZrO(OH)_2$)	6.60E-05	3.79	4.81	5.21E-05	5.92E-05	7.30E-05	7.97E-05
Pb^{2+}	4.81E-03	628	796	2.62E-03	3.69E-03	5.93E-03	7.00E-03
Ni^{2+}	1.17E-02	431	547	7.72E-03	9.76E-03	1.26E-02	1.26E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-03	95.1	121	2.03E-03	2.38E-03	3.12E-03	3.48E-03
Ca^{2+}	7.29E-02	1.84E+03	2.33E+03	4.91E-02	6.08E-02	8.50E-02	9.63E-02
K^+	3.48E-02	858	1.09E+03	2.54E-02	3.06E-02	3.84E-02	3.59E-02
OH^-	8.81	9.42E+04	1.20E+05	4.51	6.00	12.2	15.3
$NO3^-$	5.70	2.22E+05	2.82E+05	2.58	4.19	6.66	7.56
$NO2^-$	1.46	4.24E+04	5.37E+04	0.864	1.18	1.67	2.31
$CO3^{2-}$	0.440	1.66E+04	2.11E+04	0.306	0.349	0.529	0.577
$PO4^{3-}$	0.226	1.35E+04	1.72E+04	8.30E-02	0.171	0.259	0.280
$SO4^{2-}$	0.172	1.04E+04	1.32E+04	0.102	0.138	0.201	0.279
Si (as SiO_x^{2-})	9.03E-02	1.60E+03	2.03E+03	6.37E-02	7.76E-02	0.100	0.108
F^-	6.88E-02	823	1.04E+03	6.08E-02	6.49E-02	7.89E-02	0.112
Cl^-	0.116	2.60E+03	3.30E+03	6.48E-02	9.01E-02	0.122	0.122
$C_6H_5O_7^{3-}$	2.03E-02	2.41E+03	3.06E+03	1.68E-02	1.97E-02	2.07E-02	2.07E-02
$EDTA^{4-}$	4.55E-03	826	1.05E+03	4.01E-03	4.39E-03	4.63E-03	4.65E-03
$HEDTA^{3-}$	6.14E-04	106	135	1.86E-04	4.18E-04	7.72E-04	7.85E-04
$glycolate^-$	1.43E-02	674	855	7.22E-03	1.11E-02	1.67E-02	1.63E-02
$acetate^-$	2.71E-02	1.01E+03	1.28E+03	2.36E-02	2.67E-02	2.73E-02	2.77E-02
$oxalate^{2-}$	2.27E-06	0.126	0.160	1.66E-06	2.07E-06	2.48E-06	2.60E-06
DBP	2.15E-02	2.85E+03	3.62E+03	1.86E-02	2.06E-02	2.21E-02	2.20E-02
butanol	2.15E-02	1.00E+03	1.27E+03	1.86E-02	2.06E-02	2.21E-02	2.20E-02
NH_3	2.05E-02	219	278	1.47E-02	1.72E-02	2.39E-02	2.51E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.27E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	1.08 (kW)	(3.68E+03 BTU/hr)	----	0.675	0.900	1.20	1.26
Bulk Density†	1.59 (g/cc)	----	----	1.32	1.46	1.69	1.80
Water wt%†	40.1	----	----	22.1	31.0	51.9	62.2
TOC wt% C (wet)†	0.389	----	----	0.311	0.373	0.407	0.409

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.9	1.72E+05	2.18E+05	6.50	9.05	14.1	16.6
Al^{3+}	1.86	3.16E+04	4.00E+04	0.839	1.18	2.69	3.49
Fe^{3+} (total Fe)	6.98E-02	2.45E+03	3.11E+03	6.15E-02	6.55E-02	7.40E-02	7.81E-02
Cr^{3+}	4.74E-02	1.55E+03	1.97E+03	3.80E-02	4.29E-02	4.92E-02	5.10E-02
Bi^{3+}	9.85E-03	1.30E+03	1.64E+03	5.44E-03	8.36E-03	1.07E-02	1.13E-02
La^{3+}	1.74E-06	0.152	0.193	1.44E-06	1.63E-06	1.81E-06	1.77E-06
Hg^{2+}	4.49E-05	5.67	7.20	3.39E-05	4.12E-05	4.71E-05	4.85E-05
Zr (as $ZrO(OH)_2$)	6.60E-05	3.79	4.81	5.21E-05	5.92E-05	7.30E-05	7.97E-05
Pb^{2+}	4.81E-03	628	796	2.62E-03	3.69E-03	5.93E-03	7.00E-03
Ni^{2+}	1.17E-02	431	547	7.72E-03	9.76E-03	1.26E-02	1.26E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-03	95.1	121	2.03E-03	2.38E-03	3.12E-03	3.48E-03
Ca^{2+}	7.29E-02	1.84E+03	2.33E+03	4.91E-02	6.08E-02	8.50E-02	9.63E-02
K^+	3.48E-02	858	1.09E+03	2.54E-02	3.06E-02	3.84E-02	3.59E-02
OH^-	8.81	9.42E+04	1.20E+05	4.51	6.00	12.2	15.3
$NO3^-$	5.70	2.22E+05	2.82E+05	2.58	4.19	6.66	7.56
$NO2^-$	1.46	4.24E+04	5.37E+04	0.864	1.18	1.67	2.31
$CO3^{2-}$	0.440	1.66E+04	2.11E+04	0.306	0.349	0.529	0.577
$PO4^{3-}$	0.226	1.35E+04	1.72E+04	8.30E-02	0.171	0.259	0.280
$SO4^{2-}$	0.172	1.04E+04	1.32E+04	0.102	0.138	0.201	0.279
Si (as SiO_x^{2-})	9.03E-02	1.60E+03	2.03E+03	6.37E-02	7.76E-02	0.100	0.108
F^-	6.88E-02	823	1.04E+03	6.08E-02	6.49E-02	7.89E-02	0.112
Cl^-	0.116	2.60E+03	3.30E+03	6.48E-02	9.01E-02	0.122	0.122
$C_6H_5O_7^{3-}$	2.03E-02	2.41E+03	3.06E+03	1.68E-02	1.97E-02	2.07E-02	2.07E-02
$EDTA^{4-}$	4.55E-03	826	1.05E+03	4.01E-03	4.39E-03	4.63E-03	4.65E-03
$HEDTA^{3-}$	6.14E-04	106	135	1.86E-04	4.18E-04	7.72E-04	7.85E-04
$glycolate^-$	1.43E-02	674	855	7.22E-03	1.11E-02	1.67E-02	1.63E-02
$acetate^-$	2.71E-02	1.01E+03	1.28E+03	2.36E-02	2.67E-02	2.73E-02	2.77E-02
$oxalate^{2-}$	2.27E-06	0.126	0.160	1.66E-06	2.07E-06	2.48E-06	2.60E-06
DBP	2.15E-02	2.85E+03	3.62E+03	1.86E-02	2.06E-02	2.21E-02	2.20E-02
butanol	2.15E-02	1.00E+03	1.27E+03	1.86E-02	2.06E-02	2.21E-02	2.20E-02
NH_3	2.05E-02	219	278	1.47E-02	1.72E-02	2.39E-02	2.51E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.27E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	1.08 (kW)	(3.68E+03 BTU/hr)	----	0.675	0.900	1.20	1.26
Bulk Density	1.59 (g/cc)	----	----	1.32	1.46	1.69	1.80
Void Fraction	0.769	----	----	0.512	0.674	0.880	0.950
Water wt%	40.1	----	----	22.1	31.0	51.9	62.2
TOC wt% C (wet)	0.389	----	----	0.311	0.373	0.407	0.409
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.11E-04	6.97E-02	88.5	1.09E-07	1.09E-07	1.12E-04	1.13E-04
C-14	2.88E-05	1.81E-02	23.0	2.10E-08	2.10E-08	2.99E-05	3.09E-05
Ni-59	3.08E-06	1.94E-03	2.46	5.98E-09	5.98E-09	3.22E-06	3.34E-06
Ni-63	3.06E-04	0.192	244	5.46E-07	5.46E-07	3.19E-04	3.32E-04
Co-60	2.70E-05	1.70E-02	21.6	5.67E-09	5.67E-09	2.72E-05	2.75E-05
Se-79	2.42E-06	1.53E-03	1.94	4.44E-09	4.44E-09	2.97E-06	3.47E-06
Sr-90	0.110	69.2	8.78E+04	8.63E-02	0.103	0.117	0.123
Y-90	0.110	69.2	8.79E+04	2.07E-03	2.07E-03	0.117	0.123
Zr-93	1.17E-05	7.36E-03	9.34	2.11E-08	2.11E-08	1.44E-05	1.69E-05
Nb-93m	8.46E-06	5.32E-03	6.75	1.76E-08	1.76E-08	1.04E-05	1.21E-05
Tc-99	1.61E-04	0.101	128	8.30E-05	1.26E-04	1.88E-04	1.83E-04
Ru-106	5.38E-09	3.39E-06	4.30E-03	2.88E-15	2.88E-15	5.88E-09	6.29E-09
Cd-113m	6.19E-05	3.90E-02	49.4	5.54E-08	5.54E-08	7.81E-05	9.22E-05
Sb-125	1.21E-04	7.61E-02	96.6	5.77E-09	5.77E-09	1.22E-04	1.23E-04
Sn-126	3.62E-06	2.28E-03	2.89	6.72E-09	6.72E-09	4.44E-06	5.21E-06
I-129	3.11E-07	1.96E-04	0.249	1.60E-07	2.44E-07	3.64E-07	3.54E-07
Cs-134	1.31E-06	8.27E-04	1.05	2.58E-10	2.58E-10	1.32E-06	1.33E-06
Cs-137	0.130	81.8	1.04E+05	5.61E-02	9.23E-02	0.153	0.165
Ba-137m	0.123	77.4	9.81E+04	2.22E-03	2.22E-03	0.124	0.125
Sm-151	8.38E-03	5.28	6.69E+03	1.64E-05	1.64E-05	1.03E-02	1.20E-02
Eu-152	3.80E-06	2.39E-03	3.04	8.14E-09	8.14E-09	3.81E-06	3.82E-06
Eu-154	4.56E-04	0.287	364	1.08E-07	1.08E-07	5.90E-04	5.67E-04
Eu-155	2.30E-04	0.145	184	5.46E-07	5.46E-07	2.31E-04	2.32E-04
Ra-226	1.17E-10	7.37E-08	9.35E-05	9.02E-13	9.02E-13	1.48E-10	1.74E-10
Ra-228	1.44E-06	9.08E-04	1.15	2.25E-17	2.25E-17	1.45E-06	1.47E-06
Ac-227	1.65E-09	1.04E-06	1.32E-03	4.66E-12	4.66E-12	2.19E-09	2.69E-09
Pa-231	8.50E-09	5.35E-06	6.79E-03	1.05E-11	1.05E-11	1.11E-08	1.37E-08
Th-229	3.33E-08	2.10E-05	2.66E-02	4.38E-15	4.38E-15	3.36E-08	3.39E-08
Th-232	5.33E-08	3.35E-05	4.25E-02	5.75E-18	5.75E-18	6.79E-08	8.19E-08
U-232	8.04E-06	5.06E-03	6.42	3.62E-06	5.86E-06	1.06E-05	1.33E-05
U-233	3.08E-05	1.94E-02	24.6	1.39E-05	2.25E-05	4.05E-05	5.09E-05
U-234	4.39E-06	2.77E-03	3.51	3.89E-06	4.28E-06	4.49E-06	4.58E-06
U-235	1.78E-07	1.12E-04	0.143	1.63E-07	1.73E-07	1.82E-07	1.86E-07
U-236	9.53E-08	6.00E-05	7.61E-02	8.27E-08	9.17E-08	9.88E-08	1.02E-07
U-238	6.82E-06	4.29E-03	5.44	6.36E-06	6.70E-06	6.90E-06	6.99E-06
Np-237	5.39E-07	3.40E-04	0.431	2.93E-07	4.30E-07	6.26E-07	6.06E-07
Pu-238	2.22E-06	1.40E-03	1.77	1.03E-06	1.62E-06	2.82E-06	3.40E-06
Pu-239	8.53E-05	5.37E-02	68.2	4.54E-05	6.57E-05	1.05E-04	1.23E-04
Pu-240	1.40E-05	8.83E-03	11.2	7.04E-06	1.05E-05	1.75E-05	2.08E-05
Pu-241	1.58E-04	9.94E-02	126	7.22E-05	1.14E-04	2.01E-04	2.43E-04
Pu-242	7.59E-10	4.78E-07	6.06E-04	3.48E-10	5.51E-10	9.68E-10	1.17E-09
Am-241	3.78E-05	2.38E-02	30.2	1.32E-05	2.53E-05	4.98E-05	5.90E-05
Am-243	1.31E-09	8.23E-07	1.04E-03	4.03E-10	8.35E-10	1.78E-09	2.17E-09
Cm-242	6.48E-10	4.08E-07	5.17E-04	1.62E-10	1.62E-10	6.52E-10	6.57E-10
Cm-243	1.33E-11	8.35E-09	1.06E-05	3.33E-12	3.33E-12	1.34E-11	1.35E-11
Cm-244	1.82E-10	1.15E-07	1.46E-04	9.58E-12	9.58E-12	1.84E-10	1.86E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.14E-03 (g/L)	----	0.911	4.38E-04	7.93E-04	1.49E-03	1.81E-03
U	5.11E-02	7.66E+03	9.72E+03	4.66E-02	4.97E-02	5.22E-02	5.33E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.27E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	1.08 (kW)	(3.68E+03 BTU/hr)	----	0.675	0.900	1.20	1.26
Bulk Density†	1.59 (g/cc)	----	----	1.32	1.46	1.69	1.80
Water wt%†	40.1	----	----	22.1	31.0	51.9	62.2
TOC wt% C (wet)†	0.389	----	----	0.311	0.373	0.407	0.409
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.11E-04	6.97E-02	88.5	1.09E-07	1.09E-07	1.12E-04	1.13E-04
C-14	2.88E-05	1.81E-02	23.0	2.10E-08	2.10E-08	2.99E-05	3.09E-05
Ni-59	3.08E-06	1.94E-03	2.46	5.98E-09	5.98E-09	3.22E-06	3.34E-06
Ni-63	3.06E-04	0.192	244	5.46E-07	5.46E-07	3.19E-04	3.32E-04
Co-60	2.70E-05	1.70E-02	21.6	5.67E-09	5.67E-09	2.72E-05	2.75E-05
Se-79	2.42E-06	1.53E-03	1.94	4.44E-09	4.44E-09	2.97E-06	3.47E-06
Sr-90	0.110	69.2	8.78E+04	8.63E-02	0.103	0.117	0.123
Y-90	0.110	69.2	8.79E+04	2.07E-03	2.07E-03	0.117	0.123
Zr-93	1.17E-05	7.36E-03	9.34	2.11E-08	2.11E-08	1.44E-05	1.69E-05
Nb-93m	8.46E-06	5.32E-03	6.75	1.76E-08	1.76E-08	1.04E-05	1.21E-05
Tc-99	1.61E-04	0.101	128	8.30E-05	1.26E-04	1.88E-04	1.83E-04
Ru-106	5.38E-09	3.39E-06	4.30E-03	2.88E-15	2.88E-15	5.88E-09	6.29E-09
Cd-113m	6.19E-05	3.90E-02	49.4	5.54E-08	5.54E-08	7.81E-05	9.22E-05
Sb-125	1.21E-04	7.61E-02	96.6	5.77E-09	5.77E-09	1.22E-04	1.23E-04
Sn-126	3.62E-06	2.28E-03	2.89	6.72E-09	6.72E-09	4.44E-06	5.21E-06
I-129	3.11E-07	1.96E-04	0.249	1.60E-07	2.44E-07	3.64E-07	3.54E-07
Cs-134	1.31E-06	8.27E-04	1.05	2.58E-10	2.58E-10	1.32E-06	1.33E-06
Cs-137	0.130	81.8	1.04E+05	5.61E-02	9.23E-02	0.153	0.165
Ba-137m	0.123	77.4	9.81E+04	2.22E-03	2.22E-03	0.124	0.125
Sm-151	8.38E-03	5.28	6.69E+03	1.64E-05	1.64E-05	1.03E-02	1.20E-02
Eu-152	3.80E-06	2.39E-03	3.04	8.14E-09	8.14E-09	3.81E-06	3.82E-06
Eu-154	4.56E-04	0.287	364	1.08E-07	1.08E-07	5.90E-04	5.67E-04
Eu-155	2.30E-04	0.145	184	5.46E-07	5.46E-07	2.31E-04	2.32E-04
Ra-226	1.17E-10	7.37E-08	9.35E-05	9.02E-13	9.02E-13	1.48E-10	1.74E-10
Ra-228	1.44E-06	9.08E-04	1.15	2.25E-17	2.25E-17	1.45E-06	1.47E-06
Ac-227	1.65E-09	1.04E-06	1.32E-03	4.66E-12	4.66E-12	2.19E-09	2.69E-09
Pa-231	8.50E-09	5.35E-06	6.79E-03	1.05E-11	1.05E-11	1.11E-08	1.37E-08
Th-229	3.33E-08	2.10E-05	2.66E-02	4.38E-15	4.38E-15	3.36E-08	3.39E-08
Th-232	5.33E-08	3.35E-05	4.25E-02	5.75E-18	5.75E-18	6.79E-08	8.19E-08
U-232	8.04E-06	5.06E-03	6.42	3.62E-06	5.86E-06	1.06E-05	1.33E-05
U-233	3.08E-05	1.94E-02	24.6	1.39E-05	2.25E-05	4.05E-05	5.09E-05
U-234	4.39E-06	2.77E-03	3.51	3.89E-06	4.28E-06	4.49E-06	4.58E-06
U-235	1.78E-07	1.12E-04	0.143	1.63E-07	1.73E-07	1.82E-07	1.86E-07
U-236	9.52E-08	6.00E-05	7.61E-02	8.27E-08	9.17E-08	9.88E-08	1.02E-07
U-238	6.82E-06	4.29E-03	5.44	6.36E-06	6.70E-06	6.90E-06	6.99E-06
Np-237	5.39E-07	3.40E-04	0.431	2.93E-07	4.30E-07	6.26E-07	6.06E-07
Pu-238	2.22E-06	1.40E-03	1.77	1.03E-06	1.62E-06	2.82E-06	3.40E-06
Pu-239	8.53E-05	5.37E-02	68.2	4.54E-05	6.57E-05	1.05E-04	1.23E-04
Pu-240	1.40E-05	8.83E-03	11.2	7.04E-06	1.05E-05	1.75E-05	2.08E-05
Pu-241	1.58E-04	9.94E-02	126	7.22E-05	1.14E-04	2.01E-04	2.43E-04
Pu-242	7.59E-10	4.78E-07	6.06E-04	3.48E-10	5.51E-10	9.68E-10	1.17E-09
Am-241	3.78E-05	2.38E-02	30.2	1.32E-05	2.53E-05	4.98E-05	5.90E-05
Am-243	1.31E-09	8.23E-07	1.04E-03	4.03E-10	8.35E-10	1.78E-09	2.17E-09
Cm-242	6.48E-10	4.08E-07	5.17E-04	1.62E-10	1.62E-10	6.52E-10	6.57E-10
Cm-243	1.33E-11	8.35E-09	1.06E-05	3.33E-12	3.33E-12	1.34E-11	1.35E-11
Cm-244	1.82E-10	1.15E-07	1.46E-04	9.58E-12	9.58E-12	1.84E-10	1.86E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.14E-03 (g/L)	----	0.911	4.38E-04	7.93E-04	1.49E-03	1.81E-03
U	5.11E-02	7.66E+03	9.72E+03	4.66E-02	4.97E-02	5.22E-02	5.33E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.77E+05 (kg)	(164 kgal)	----	----	----	----	----
Heat Load	0.119 (kW)	(408 BTU/hr)	----	8.87E-02	9.68E-02	0.139	0.177
Bulk Density	1.41 (g/cc)	----	----	1.26	1.32	1.45	1.49
Void Fraction	0.711	----	----	0.634	0.666	0.788	0.903
Water wt%	59.8	----	----	55.1	57.3	67.0	69.7
TOC wt% C (wet)	3.89E-05	----	----	6.38E-07	2.18E-05	6.57E-05	5.96E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.50	1.06E+05	9.28E+04	3.60	4.84	7.35	8.11
Al^{3+}	0.352	6.73E+03	5.90E+03	0.351	0.352	0.354	0.354
Fe^{3+} (total Fe)	0.295	1.17E+04	1.02E+04	0.283	0.291	0.297	0.299
Cr^{3+}	5.08E-03	187	164	3.58E-03	4.35E-03	5.83E-03	6.56E-03
Bi^{3+}	5.18E-02	7.66E+03	6.72E+03	2.84E-02	4.38E-02	5.64E-02	5.94E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	7.92E-05	11.2	9.86	2.07E-05	5.94E-05	9.08E-05	9.82E-05
Zr (as $ZrO(OH)_2$)	2.27E-04	14.6	12.8	1.53E-04	1.91E-04	2.64E-04	2.99E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.62E-03	109	95.5	1.18E-03	1.31E-03	4.05E-03	5.38E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.30E-02	2.07E+03	1.82E+03	2.09E-02	5.52E-02	8.35E-02	9.01E-02
K^+	8.52E-03	236	207	6.43E-03	7.51E-03	1.00E-02	1.06E-02
OH^-	2.93	3.52E+04	3.09E+04	2.76	2.87	2.96	2.99
$NO3^-$	2.49	1.09E+05	9.57E+04	0.988	1.21	2.58	2.66
$NO2^-$	0.287	9.36E+03	8.20E+03	0.139	0.206	0.386	0.495
$CO3^{2-}$	9.59E-02	4.07E+03	3.57E+03	4.38E-02	7.80E-02	0.113	0.119
$PO4^{3-}$	1.09	7.30E+04	6.40E+04	0.325	0.791	1.26	1.37
$SO4^{2-}$	6.84E-02	4.65E+03	4.08E+03	5.17E-02	6.06E-02	8.39E-02	0.177
Si (as SiO_x^{2-})	0.142	2.83E+03	2.48E+03	2.84E-02	7.50E-02	0.184	0.223
F^-	0.135	1.81E+03	1.59E+03	9.17E-02	0.114	0.188	0.365
Cl^-	4.21E-02	1.06E+03	926	3.06E-02	3.74E-02	9.86E-02	0.105
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.81E-06	0.567	0.497	5.76E-08	2.01E-06	6.50E-06	5.97E-06
butanol	3.81E-06	0.200	0.175	5.76E-08	2.01E-06	6.50E-06	5.97E-06
NH_3	5.81E-02	699	613	4.10E-02	5.01E-02	6.61E-02	7.35E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.26E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	4.35E-03 (kW)	(14.9 BTU/hr)	----	3.41E-03	3.81E-03	4.83E-03	5.56E-03
Bulk Density*	1.39 (g/cc)	----	----	1.29	1.35	1.41	1.43
Water wt%	52.5	----	----	47.9	49.4	55.9	60.4
TOC wt% C (wet)	1.06	----	----	0.673	0.860	1.25	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.38	1.39E+05	731	6.44	7.47	9.23	9.71
Al^{3+}	1.23	2.39E+04	126	0.780	1.13	1.27	1.31
Fe^{3+} (total Fe)	3.90E-03	157	0.827	3.31E-03	3.60E-03	4.21E-03	4.50E-03
Cr^{3+}	5.83E-02	2.19E+03	11.5	4.16E-02	4.88E-02	6.75E-02	8.05E-02
Bi^{3+}	8.97E-04	135	0.711	7.78E-04	8.36E-04	9.58E-04	1.05E-03
La^{3+}	4.78E-06	0.479	2.52E-03	3.94E-06	4.35E-06	5.21E-06	5.71E-06
Hg^{2+}	8.28E-06	1.20	6.30E-03	7.62E-06	7.95E-06	8.61E-06	8.94E-06
Zr (as $ZrO(OH)_2$)	3.76E-05	2.47	1.30E-02	2.72E-05	3.12E-05	4.37E-05	5.37E-05
Pb^{2+}	1.29E-03	193	1.02	8.10E-04	1.05E-03	1.54E-03	1.78E-03
Ni^{2+}	2.23E-03	94.5	0.497	2.11E-03	2.17E-03	2.29E-03	2.35E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.72E-03	147	0.775	2.99E-03	3.35E-03	4.09E-03	4.45E-03
Ca^{2+}	1.23E-02	357	1.88	1.00E-02	1.12E-02	1.35E-02	1.47E-02
K^+	4.31E-02	1.22E+03	6.39	2.83E-02	3.45E-02	5.31E-02	6.67E-02
OH^-	6.16	7.56E+04	397	4.03	5.56	6.36	6.67
$NO3^-$	2.45	1.10E+05	576	2.10	2.27	2.63	2.80
$NO2^-$	1.74	5.79E+04	304	0.960	1.29	2.23	2.37
$CO3^{2-}$	0.362	1.57E+04	82.5	0.318	0.347	0.377	0.392
$PO4^{3-}$	7.08E-02	4.85E+03	25.5	5.08E-02	5.95E-02	7.96E-02	9.13E-02
$SO4^{2-}$	0.219	1.52E+04	79.9	0.128	0.166	0.282	0.286
Si (as SiO_x^{2-})	4.03E-02	817	4.30	2.92E-02	3.46E-02	4.60E-02	5.15E-02
F^-	5.43E-02	744	3.91	3.85E-02	4.50E-02	6.45E-02	7.99E-02
Cl^-	0.146	3.73E+03	19.6	9.31E-02	0.117	0.151	0.151
$C_6H_5O_7^{3-}$	2.56E-02	3.50E+03	18.4	2.11E-02	2.30E-02	2.84E-02	3.29E-02
$EDTA^{4-}$	2.23E-02	4.63E+03	24.3	9.08E-03	1.55E-02	2.91E-02	3.57E-02
$HEDTA^{3-}$	3.52E-02	6.97E+03	36.6	8.85E-03	2.17E-02	4.88E-02	6.21E-02
$glycolate^-$	6.35E-02	3.44E+03	18.1	3.72E-02	5.00E-02	7.71E-02	9.04E-02
$acetate^-$	2.97E-02	1.27E+03	6.65	2.22E-02	2.54E-02	3.43E-02	4.14E-02
$oxalate^{2-}$	6.26E-06	0.397	2.09E-03	5.81E-06	6.03E-06	6.49E-06	6.72E-06
DBP	2.53E-02	3.84E+03	20.2	1.83E-02	2.13E-02	2.96E-02	3.61E-02
butanol	2.53E-02	1.35E+03	7.11	1.83E-02	2.13E-02	2.96E-02	3.61E-02
NH_3	2.10E-02	257	1.35	1.39E-02	1.65E-02	2.70E-02	3.61E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.82E+05 (kg)	(165 kgal)	----	----	----	----	----
Heat Load	0.124 (kW)	(423 BTU/hr)	----	9.31E-02	0.101	0.144	0.181
Bulk Density†	1.41 (g/cc)	----	----	1.26	1.32	1.45	1.49
Water wt%†	59.8	----	----	55.1	57.3	66.9	69.6
TOC wt% C (wet)†	6.33E-03	----	----	4.02E-03	5.15E-03	7.52E-03	8.68E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.51	1.06E+05	9.35E+04	3.63	4.86	7.36	8.11
Al^{3+}	0.358	6.83E+03	6.02E+03	0.355	0.357	0.359	0.359
Fe^{3+} (total Fe)	0.293	1.16E+04	1.02E+04	0.281	0.289	0.295	0.297
Cr^{3+}	5.40E-03	199	175	3.91E-03	4.68E-03	6.15E-03	6.87E-03
Bi^{3+}	5.15E-02	7.62E+03	6.72E+03	2.82E-02	4.36E-02	5.61E-02	5.90E-02
La^{3+}	2.90E-08	2.85E-03	2.52E-03	2.39E-08	2.64E-08	3.16E-08	3.47E-08
Hg^{2+}	7.88E-05	11.2	9.87	2.06E-05	5.91E-05	9.03E-05	9.76E-05
Zr (as $ZrO(OH)_2$)	2.25E-04	14.6	12.8	1.52E-04	1.90E-04	2.62E-04	2.98E-04
Pb^{2+}	7.85E-06	1.15	1.02	4.92E-06	6.36E-06	9.35E-06	1.08E-05
Ni^{2+}	2.62E-03	109	96.0	1.18E-03	1.32E-03	4.04E-03	5.36E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.26E-05	0.879	0.775	1.82E-05	2.03E-05	2.48E-05	2.70E-05
Ca^{2+}	7.26E-02	2.06E+03	1.82E+03	2.08E-02	5.49E-02	8.30E-02	8.96E-02
K^+	8.73E-03	242	213	6.65E-03	7.72E-03	1.02E-02	1.08E-02
OH^-	2.95	3.55E+04	3.13E+04	2.78	2.89	2.98	3.01
$NO3^-$	2.49	1.09E+05	9.63E+04	0.997	1.21	2.58	2.66
$NO2^-$	0.296	9.64E+03	8.51E+03	0.149	0.215	0.394	0.503
$CO3^{2-}$	9.75E-02	4.14E+03	3.65E+03	4.57E-02	7.98E-02	0.114	0.120
$PO4^{3-}$	1.08	7.26E+04	6.41E+04	0.324	0.786	1.25	1.36
$SO4^{2-}$	6.93E-02	4.72E+03	4.16E+03	5.27E-02	6.16E-02	8.48E-02	0.177
Si (as SiO_x^{2-})	0.142	2.82E+03	2.48E+03	2.85E-02	7.48E-02	0.183	0.222
F^-	0.134	1.81E+03	1.59E+03	9.15E-02	0.113	0.187	0.363
Cl^-	4.27E-02	1.07E+03	945	3.13E-02	3.81E-02	9.88E-02	0.105
$C_6H_5O_7^{3-}$	1.56E-04	20.9	18.4	1.28E-04	1.40E-04	1.73E-04	2.00E-04
$EDTA^{4-}$	1.35E-04	27.6	24.3	5.52E-05	9.43E-05	1.77E-04	2.17E-04
$HEDTA^{3-}$	2.14E-04	41.5	36.6	5.38E-05	1.32E-04	2.96E-04	3.77E-04
$glycolate^-$	3.86E-04	20.5	18.1	2.26E-04	3.04E-04	4.68E-04	5.49E-04
$acetate^-$	1.80E-04	7.54	6.65	1.35E-04	1.54E-04	2.09E-04	2.52E-04
$oxalate^{2-}$	3.80E-08	2.37E-03	2.09E-03	3.53E-08	3.66E-08	3.94E-08	4.08E-08
DBP	1.57E-04	23.4	20.7	1.15E-04	1.33E-04	1.84E-04	2.23E-04
butanol	1.57E-04	8.27	7.29	1.15E-04	1.33E-04	1.84E-04	2.23E-04
NH_3	5.79E-02	697	614	4.09E-02	4.99E-02	6.58E-02	7.32E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.77E+05 (kg)	(164 kgal)	----	----	----	----	----
Heat Load	0.119 (kW)	(408 BTU/hr)	----	8.87E-02	9.68E-02	0.139	0.177
Bulk Density	1.41 (g/cc)	----	----	1.26	1.32	1.45	1.49
Void Fraction	0.711	----	----	0.634	0.666	0.788	0.903
Water wt%	59.8	----	----	55.1	57.3	67.0	69.7
TOC wt% C (wet)	3.89E-05	----	----	6.38E-07	2.18E-05	6.57E-05	5.96E-05
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-06	9.03E-04	0.792	5.79E-07	5.79E-07	1.54E-06	1.84E-06
C-14	2.13E-07	1.51E-04	0.132	1.12E-07	1.12E-07	2.34E-07	2.54E-07
Ni-59	1.54E-07	1.09E-04	9.59E-02	3.17E-08	3.17E-08	2.00E-07	2.43E-07
Ni-63	1.39E-05	9.87E-03	8.65	2.90E-06	2.90E-06	1.81E-05	2.20E-05
Co-60	5.24E-08	3.71E-05	3.25E-02	3.01E-08	3.01E-08	5.80E-08	6.35E-08
Se-79	4.49E-08	3.18E-05	2.79E-02	2.36E-08	2.36E-08	4.94E-08	5.36E-08
Sr-90	1.34E-02	9.46	8.29E+03	9.25E-03	1.14E-02	1.54E-02	2.05E-02
Y-90	1.34E-02	9.46	8.30E+03	9.26E-03	1.10E-02	1.54E-02	1.74E-02
Zr-93	2.13E-07	1.51E-04	0.132	1.12E-07	1.12E-07	2.34E-07	2.55E-07
Nb-93m	1.79E-07	1.27E-04	0.111	9.35E-08	9.35E-08	1.97E-07	2.14E-07
Tc-99	1.48E-06	1.05E-03	0.918	9.02E-07	1.22E-06	1.91E-06	1.80E-06
Ru-106	2.41E-14	1.70E-11	1.49E-08	1.53E-14	1.53E-14	2.69E-14	2.97E-14
Cd-113m	5.38E-07	3.81E-04	0.334	2.94E-07	2.94E-07	5.93E-07	6.47E-07
Sb-125	5.07E-08	3.59E-05	3.15E-02	3.06E-08	3.06E-08	5.65E-08	6.20E-08
Sn-126	6.78E-08	4.80E-05	4.21E-02	3.57E-08	3.57E-08	7.45E-08	8.09E-08
I-129	2.79E-09	1.98E-06	1.73E-03	1.71E-09	2.31E-09	3.61E-09	3.41E-09
Cs-134	1.91E-09	1.35E-06	1.18E-03	1.37E-09	1.37E-09	2.16E-09	2.41E-09
Cs-137	2.19E-02	15.5	1.36E+04	1.37E-02	1.47E-02	2.72E-02	3.12E-02
Ba-137m	2.07E-02	14.7	1.28E+04	1.18E-02	1.18E-02	2.29E-02	2.51E-02
Sm-151	1.67E-04	0.118	104	8.72E-05	8.72E-05	1.83E-04	1.99E-04
Eu-152	5.82E-08	4.12E-05	3.61E-02	4.32E-08	4.32E-08	5.90E-08	5.98E-08
Eu-154	9.70E-07	6.87E-04	0.602	5.75E-07	5.75E-07	1.08E-06	1.18E-06
Eu-155	4.05E-06	2.87E-03	2.51	2.90E-06	2.90E-06	4.10E-06	4.16E-06
Ra-226	1.09E-11	7.73E-09	6.78E-06	4.79E-12	4.79E-12	2.14E-11	1.68E-11
Ra-228	1.79E-16	1.27E-13	1.11E-10	1.19E-16	1.19E-16	1.81E-16	1.83E-16
Ac-227	5.61E-11	3.97E-08	3.48E-05	2.48E-11	2.48E-11	8.85E-11	8.85E-11
Pa-231	1.23E-10	8.74E-08	7.66E-05	5.58E-11	5.58E-11	1.34E-10	1.44E-10
Th-229	3.48E-14	2.47E-11	2.16E-08	2.32E-14	2.32E-14	3.53E-14	3.57E-14
Th-232	5.97E-17	4.22E-14	3.70E-11	3.05E-17	3.05E-17	6.54E-17	7.09E-17
U-232	3.04E-10	2.15E-07	1.89E-04	2.60E-10	2.89E-10	3.13E-10	3.18E-10
U-233	1.40E-11	9.88E-09	8.66E-06	1.19E-11	1.33E-11	1.44E-11	1.46E-11
U-234	1.27E-05	9.03E-03	7.91	1.09E-05	1.21E-05	1.31E-05	1.33E-05
U-235	5.63E-07	3.99E-04	0.350	4.82E-07	5.36E-07	5.79E-07	5.89E-07
U-236	1.30E-07	9.18E-05	8.05E-02	1.11E-07	1.23E-07	1.33E-07	1.36E-07
U-238	1.30E-05	9.18E-03	8.04	1.11E-05	1.23E-05	1.33E-05	1.36E-05
Np-237	9.18E-09	6.50E-06	5.70E-03	5.61E-09	7.60E-09	1.18E-08	1.12E-08
Pu-238	4.13E-07	2.92E-04	0.256	1.01E-07	2.70E-07	5.39E-07	6.60E-07
Pu-239	5.42E-05	3.84E-02	33.6	1.55E-05	3.64E-05	6.98E-05	8.48E-05
Pu-240	5.10E-06	3.61E-03	3.17	1.32E-06	3.37E-06	6.63E-06	8.10E-06
Pu-241	1.76E-05	1.25E-02	10.9	3.93E-06	1.13E-05	2.31E-05	2.85E-05
Pu-242	8.02E-11	5.68E-08	4.98E-05	1.77E-11	5.16E-11	1.06E-10	1.30E-10
Am-241	4.74E-07	3.36E-04	0.294	3.14E-07	4.00E-07	5.92E-07	5.83E-07
Am-243	3.37E-12	2.39E-09	2.09E-06	2.25E-12	2.85E-12	4.19E-12	4.16E-12
Cm-242	1.13E-09	7.99E-07	7.01E-04	8.58E-10	8.58E-10	1.14E-09	1.16E-09
Cm-243	2.32E-11	1.64E-08	1.44E-05	1.77E-11	1.77E-11	2.35E-11	2.39E-11
Cm-244	8.00E-11	5.67E-08	4.97E-05	5.08E-11	5.08E-11	8.96E-11	9.88E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.94E-04 (g/L)	----	0.555	2.54E-04	6.01E-04	1.15E-03	1.40E-03
U	0.163	2.75E+04	2.41E+04	0.140	0.155	0.168	0.171

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.26E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	4.35E-03 (kW)	(14.9 BTU/hr)	----	3.41E-03	3.81E-03	4.83E-03	5.56E-03
Bulk Density*	1.39 (g/cc)	----	----	1.29	1.35	1.41	1.43
Water wt%†	52.5	----	----	47.9	49.4	55.9	60.4
TOC wt% C (wet)	1.06	----	----	0.673	0.860	1.25	1.44
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.49E-04	0.108	0.567	3.78E-05	3.78E-05	1.60E-04	1.73E-04
C-14	2.62E-05	1.89E-02	9.93E-02	7.75E-06	7.75E-06	2.73E-05	2.84E-05
Ni-59	8.42E-07	6.08E-04	3.19E-03	5.22E-07	5.22E-07	8.65E-07	8.86E-07
Ni-63	8.34E-05	6.02E-02	0.316	5.17E-05	5.17E-05	8.57E-05	8.78E-05
Co-60	3.71E-05	2.67E-02	0.141	9.83E-06	9.83E-06	3.78E-05	3.86E-05
Se-79	2.25E-06	1.62E-03	8.52E-03	9.22E-07	9.22E-07	2.73E-06	3.19E-06
Sr-90	5.65E-02	40.8	214	5.13E-02	5.49E-02	5.82E-02	5.98E-02
Y-90	5.66E-02	40.8	214	3.40E-02	3.40E-02	5.82E-02	5.98E-02
Zr-93	1.12E-05	8.07E-03	4.24E-02	4.56E-06	4.56E-06	1.36E-05	1.59E-05
Nb-93m	7.87E-06	5.68E-03	2.99E-02	3.24E-06	3.24E-06	9.55E-06	1.12E-05
Tc-99	2.16E-04	0.156	0.820	1.20E-04	1.63E-04	2.76E-04	3.57E-04
Ru-106	5.63E-09	4.06E-06	2.13E-05	2.32E-09	2.32E-09	6.83E-09	7.98E-09
Cd-113m	6.58E-05	4.75E-02	0.250	2.61E-05	2.61E-05	8.02E-05	9.40E-05
Sb-125	1.68E-04	0.121	0.636	4.58E-05	4.58E-05	1.72E-04	1.76E-04
Sn-126	3.38E-06	2.44E-03	1.28E-02	1.39E-06	1.39E-06	4.10E-06	4.79E-06
I-129	4.19E-07	3.02E-04	1.59E-03	2.31E-07	3.15E-07	5.34E-07	6.91E-07
Cs-134	2.62E-06	1.89E-03	9.93E-03	1.62E-06	1.78E-06	3.13E-06	3.63E-06
Cs-137	0.164	118	620	0.111	0.133	0.191	0.231
Ba-137m	0.155	112	587	7.80E-02	7.80E-02	0.164	0.172
Sm-151	7.87E-03	5.68	29.9	3.23E-03	3.23E-03	9.55E-03	1.12E-02
Eu-152	2.91E-06	2.10E-03	1.11E-02	1.77E-06	1.77E-06	3.28E-06	3.64E-06
Eu-154	5.16E-04	0.373	1.96	1.85E-04	1.85E-04	6.36E-04	7.51E-04
Eu-155	1.78E-04	0.128	0.675	1.09E-04	1.09E-04	2.00E-04	2.22E-04
Ra-226	7.36E-11	5.31E-08	2.79E-07	3.25E-11	3.25E-11	8.84E-11	1.03E-10
Ra-228	4.97E-07	3.59E-04	1.89E-03	6.23E-08	6.23E-08	5.19E-07	5.43E-07
Ac-227	4.60E-10	3.32E-07	1.74E-06	2.22E-10	2.22E-10	5.46E-10	6.29E-10
Pa-231	2.45E-09	1.77E-06	9.31E-06	1.13E-09	1.13E-09	2.94E-09	3.39E-09
Th-229	1.15E-08	8.29E-06	4.36E-05	1.45E-09	1.45E-09	1.20E-08	1.25E-08
Th-232	5.77E-08	4.16E-05	2.19E-04	3.95E-09	3.95E-09	7.24E-08	8.65E-08
U-232	1.24E-06	8.91E-04	4.69E-03	8.28E-07	9.91E-07	1.51E-06	1.81E-06
U-233	4.73E-06	3.42E-03	1.80E-02	3.17E-06	3.80E-06	5.80E-06	6.94E-06
U-234	4.06E-07	2.93E-04	1.54E-03	3.83E-07	3.94E-07	4.18E-07	4.30E-07
U-235	1.54E-08	1.11E-05	5.83E-05	1.44E-08	1.49E-08	1.59E-08	1.63E-08
U-236	1.34E-08	9.67E-06	5.08E-05	1.25E-08	1.30E-08	1.38E-08	1.43E-08
U-238	7.31E-07	5.27E-04	2.77E-03	7.08E-07	7.19E-07	7.42E-07	7.98E-07
Np-237	7.22E-07	5.21E-04	2.74E-03	4.09E-07	5.48E-07	9.16E-07	1.18E-06
Pu-238	7.98E-07	5.76E-04	3.03E-03	6.80E-07	7.36E-07	8.61E-07	9.21E-07
Pu-239	2.75E-05	1.99E-02	0.104	2.35E-05	2.55E-05	2.96E-05	3.15E-05
Pu-240	4.75E-06	3.43E-03	1.80E-02	4.05E-06	4.39E-06	5.11E-06	5.46E-06
Pu-241	5.71E-05	4.12E-02	0.216	4.85E-05	5.26E-05	6.16E-05	6.59E-05
Pu-242	2.98E-10	2.15E-07	1.13E-06	2.53E-10	2.74E-10	3.23E-10	3.48E-10
Am-241	3.46E-05	2.50E-02	0.131	2.05E-05	2.74E-05	4.18E-05	4.87E-05
Am-243	1.30E-09	9.35E-07	4.92E-06	7.86E-10	1.03E-09	1.58E-09	1.86E-09
Cm-242	6.82E-08	4.92E-05	2.59E-04	4.12E-08	5.43E-08	8.21E-08	9.57E-08
Cm-243	6.20E-09	4.47E-06	2.35E-05	3.77E-09	4.87E-09	7.45E-09	8.67E-09
Cm-244	4.73E-08	3.41E-05	1.79E-04	3.36E-08	3.36E-08	5.19E-08	5.54E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.61E-04 (g/L)	----	9.90E-04	1.92E-04	2.26E-04	2.97E-04	3.31E-04
U	4.36E-03	749	3.93	4.09E-03	4.22E-03	4.50E-03	4.63E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.82E+05 (kg)	(165 kgal)	----	----	----	----	----
Heat Load	0.124 (kW)	(423 BTU/hr)	----	9.31E-02	0.101	0.144	0.181
Bulk Density†	1.41 (g/cc)	----	----	1.26	1.32	1.45	1.49
Water wt%†	59.8	----	----	55.1	57.3	66.9	69.6
TOC wt% C (wet)†	6.33E-03	----	----	4.02E-03	5.15E-03	7.52E-03	8.68E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.17E-06	1.54E-03	1.36	1.48E-06	1.48E-06	2.44E-06	2.73E-06
C-14	3.71E-07	2.62E-04	0.231	2.59E-07	2.59E-07	3.91E-07	4.12E-07
Ni-59	1.59E-07	1.12E-04	9.91E-02	3.66E-08	3.66E-08	2.04E-07	2.47E-07
Ni-63	1.44E-05	1.02E-02	8.96	3.38E-06	3.38E-06	1.85E-05	2.24E-05
Co-60	2.77E-07	1.96E-04	0.173	1.12E-07	1.12E-07	2.83E-07	2.88E-07
Se-79	5.83E-08	4.13E-05	3.64E-02	3.71E-08	3.71E-08	6.27E-08	6.70E-08
Sr-90	1.36E-02	9.65	8.51E+03	9.54E-03	1.16E-02	1.57E-02	2.07E-02
Y-90	1.36E-02	9.65	8.51E+03	9.54E-03	1.12E-02	1.57E-02	1.76E-02
Zr-93	2.80E-07	1.98E-04	0.175	1.79E-07	1.79E-07	3.01E-07	3.21E-07
Nb-93m	2.26E-07	1.60E-04	0.141	1.41E-07	1.41E-07	2.43E-07	2.60E-07
Tc-99	2.78E-06	1.97E-03	1.74	2.20E-06	2.46E-06	3.21E-06	3.64E-06
Ru-106	3.42E-11	2.42E-08	2.14E-05	1.41E-11	1.41E-11	4.15E-11	4.85E-11
Cd-113m	9.35E-07	6.62E-04	0.584	6.92E-07	6.92E-07	1.02E-06	1.11E-06
Sb-125	1.07E-06	7.57E-04	0.668	3.29E-07	3.29E-07	1.10E-06	1.12E-06
Sn-126	8.79E-08	6.22E-05	5.49E-02	5.59E-08	5.59E-08	9.45E-08	1.01E-07
I-129	5.32E-09	3.77E-06	3.32E-03	4.18E-09	4.69E-09	6.13E-09	6.97E-09
Cs-134	1.78E-08	1.26E-05	1.11E-02	1.17E-08	1.27E-08	2.09E-08	2.40E-08
Cs-137	2.27E-02	16.1	1.42E+04	1.46E-02	1.56E-02	2.80E-02	3.21E-02
Ba-137m	2.15E-02	15.2	1.34E+04	1.27E-02	1.27E-02	2.37E-02	2.58E-02
Sm-151	2.14E-04	0.151	133	1.34E-04	1.34E-04	2.30E-04	2.46E-04
Eu-152	7.55E-08	5.35E-05	4.72E-02	6.06E-08	6.06E-08	7.78E-08	7.99E-08
Eu-154	4.10E-06	2.90E-03	2.56	2.09E-06	2.09E-06	4.83E-06	5.53E-06
Eu-155	5.11E-06	3.62E-03	3.19	3.96E-06	3.96E-06	5.24E-06	5.37E-06
Ra-226	1.13E-11	8.00E-09	7.06E-06	5.20E-12	5.20E-12	2.17E-11	1.72E-11
Ra-228	3.02E-09	2.14E-06	1.89E-03	3.78E-10	3.78E-10	3.15E-09	3.29E-09
Ac-227	5.85E-11	4.14E-08	3.65E-05	2.74E-11	2.74E-11	9.07E-11	9.07E-11
Pa-231	1.38E-10	9.74E-08	8.59E-05	7.03E-11	7.03E-11	1.48E-10	1.58E-10
Th-229	6.98E-11	4.94E-08	4.36E-05	8.84E-12	8.84E-12	7.27E-11	7.59E-11
Th-232	3.50E-10	2.48E-07	2.19E-04	2.40E-11	2.40E-11	4.40E-10	5.25E-10
U-232	7.81E-09	5.53E-06	4.87E-03	5.33E-09	6.32E-09	9.50E-09	1.13E-08
U-233	2.88E-08	2.04E-05	1.80E-02	1.93E-08	2.31E-08	3.52E-08	4.22E-08
U-234	1.27E-05	8.97E-03	7.91	1.09E-05	1.21E-05	1.30E-05	1.33E-05
U-235	5.60E-07	3.96E-04	0.350	4.80E-07	5.33E-07	5.76E-07	5.86E-07
U-236	1.29E-07	9.13E-05	8.06E-02	1.10E-07	1.23E-07	1.33E-07	1.35E-07
U-238	1.29E-05	9.12E-03	8.05	1.10E-05	1.23E-05	1.33E-05	1.35E-05
Np-237	1.35E-08	9.56E-06	8.43E-03	9.96E-09	1.19E-08	1.62E-08	1.63E-08
Pu-238	4.15E-07	2.94E-04	0.259	1.05E-07	2.73E-07	5.40E-07	6.60E-07
Pu-239	5.40E-05	3.82E-02	33.7	1.55E-05	3.64E-05	6.96E-05	8.45E-05
Pu-240	5.10E-06	3.61E-03	3.18	1.34E-06	3.38E-06	6.62E-06	8.08E-06
Pu-241	1.79E-05	1.26E-02	11.2	4.26E-06	1.16E-05	2.34E-05	2.86E-05
Pu-242	8.16E-11	5.78E-08	5.09E-05	1.94E-11	5.31E-11	1.07E-10	1.31E-10
Am-241	6.82E-07	4.83E-04	0.426	5.22E-07	6.08E-07	7.99E-07	7.90E-07
Am-243	1.12E-11	7.95E-09	7.01E-06	8.12E-12	9.60E-12	1.29E-11	1.46E-11
Cm-242	1.54E-09	1.09E-06	9.59E-04	1.27E-09	1.27E-09	1.62E-09	1.70E-09
Cm-243	6.07E-11	4.30E-08	3.79E-05	4.60E-11	5.27E-11	6.83E-11	7.57E-11
Cm-244	3.67E-10	2.60E-07	2.29E-04	2.84E-10	2.84E-10	3.95E-10	4.16E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.90E-04 (g/L)	----	0.556	2.54E-04	5.99E-04	1.15E-03	1.39E-03
U	0.162	2.73E+04	2.41E+04	0.139	0.154	0.167	0.170

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.40E+06 (kg)	(387 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.07E+03 BTU/hr)	----	1.28	1.72	2.31	2.43
Bulk Density	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Void Fraction	0.738	----	----	0.465	0.637	0.857	0.931
Water wt%	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)	0.402	----	----	0.320	0.385	0.423	0.426

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.3	1.73E+05	4.15E+05	6.61	9.32	14.7	17.4
Al^{3+}	1.91	3.15E+04	7.55E+04	0.824	1.18	2.79	3.65
Fe^{3+} (total Fe)	3.11E-02	1.06E+03	2.55E+03	2.23E-02	2.66E-02	3.56E-02	4.00E-02
Cr^{3+}	4.99E-02	1.59E+03	3.80E+03	3.98E-02	4.51E-02	5.18E-02	5.37E-02
Bi^{3+}	8.11E-04	104	248	5.93E-04	7.39E-04	8.84E-04	9.37E-04
La^{3+}	1.85E-06	0.157	0.376	1.53E-06	1.73E-06	1.93E-06	1.89E-06
Hg^{2+}	3.28E-05	4.02	9.63	2.95E-05	3.11E-05	3.44E-05	3.60E-05
Zr (as $ZrO(OH)_2$)	3.07E-05	1.71	4.11	2.53E-05	2.80E-05	3.18E-05	3.18E-05
Pb^{2+}	5.13E-03	650	1.56E+03	2.79E-03	3.94E-03	6.32E-03	7.47E-03
Ni^{2+}	1.23E-02	441	1.06E+03	8.10E-03	1.03E-02	1.33E-02	1.34E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.93E-03	98.5	236	2.16E-03	2.54E-03	3.33E-03	3.71E-03
Ca^{2+}	7.39E-02	1.81E+03	4.34E+03	4.85E-02	6.09E-02	8.67E-02	9.88E-02
K^{+}	3.61E-02	862	2.07E+03	2.60E-02	3.15E-02	3.99E-02	3.72E-02
OH^{-}	9.87	1.03E+05	2.46E+05	5.29	6.88	13.5	16.8
$NO3^{-}$	5.92	2.25E+05	5.38E+05	2.60	4.31	6.95	7.91
$NO2^{-}$	1.51	4.25E+04	1.02E+05	0.873	1.21	1.73	2.42
$CO3^{2-}$	0.637	2.34E+04	5.60E+04	0.495	0.540	0.733	0.784
$PO4^{3-}$	0.100	5.83E+03	1.40E+04	7.85E-02	9.00E-02	0.109	0.116
$SO4^{2-}$	0.183	1.08E+04	2.58E+04	0.108	0.147	0.214	0.297
Si (as SiO_x^{2-})	6.94E-02	1.19E+03	2.86E+03	4.11E-02	5.63E-02	8.02E-02	8.85E-02
F^{-}	5.04E-02	585	1.40E+03	4.30E-02	4.74E-02	5.23E-02	5.10E-02
Cl^{-}	0.119	2.58E+03	6.18E+03	6.41E-02	9.11E-02	0.125	0.125
$C_6H_5O_7^{3-}$	2.16E-02	2.50E+03	5.99E+03	1.79E-02	2.10E-02	2.20E-02	2.21E-02
$EDTA^{4-}$	4.85E-03	855	2.05E+03	4.28E-03	4.68E-03	4.94E-03	4.96E-03
$HEDTA^{3-}$	6.55E-04	110	263	1.98E-04	4.46E-04	8.23E-04	8.37E-04
$glycolate^{-}$	1.52E-02	698	1.67E+03	7.70E-03	1.19E-02	1.78E-02	1.73E-02
$acetate^{-}$	2.89E-02	1.04E+03	2.50E+03	2.51E-02	2.84E-02	2.91E-02	2.95E-02
$oxalate^{2-}$	2.42E-06	0.130	0.313	1.77E-06	2.21E-06	2.64E-06	2.77E-06
DBP	2.30E-02	2.95E+03	7.07E+03	1.98E-02	2.19E-02	2.35E-02	2.34E-02
butanol	2.30E-02	1.04E+03	2.49E+03	1.98E-02	2.19E-02	2.35E-02	2.34E-02
NH_3	1.22E-02	127	303	6.02E-03	8.71E-03	1.58E-02	1.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.40E+06 (kg)	(387 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.07E+03 BTU/hr)	----	1.28	1.72	2.31	2.43
Bulk Density†	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Water wt%†	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)†	0.402	----	----	0.320	0.385	0.423	0.426

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.3	1.73E+05	4.15E+05	6.61	9.32	14.7	17.4
Al^{3+}	1.91	3.15E+04	7.55E+04	0.824	1.18	2.79	3.65
Fe^{3+} (total Fe)	3.11E-02	1.06E+03	2.55E+03	2.23E-02	2.66E-02	3.56E-02	4.00E-02
Cr^{3+}	4.99E-02	1.59E+03	3.80E+03	3.98E-02	4.51E-02	5.18E-02	5.37E-02
Bi^{3+}	8.11E-04	104	248	5.93E-04	7.39E-04	8.84E-04	9.37E-04
La^{3+}	1.85E-06	0.157	0.376	1.53E-06	1.73E-06	1.93E-06	1.89E-06
Hg^{2+}	3.28E-05	4.02	9.63	2.95E-05	3.11E-05	3.44E-05	3.60E-05
Zr (as $ZrO(OH)_2$)	3.07E-05	1.71	4.11	2.53E-05	2.80E-05	3.18E-05	3.18E-05
Pb^{2+}	5.13E-03	650	1.56E+03	2.79E-03	3.94E-03	6.32E-03	7.47E-03
Ni^{2+}	1.23E-02	441	1.06E+03	8.10E-03	1.03E-02	1.33E-02	1.34E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.93E-03	98.5	236	2.16E-03	2.54E-03	3.33E-03	3.71E-03
Ca^{2+}	7.39E-02	1.81E+03	4.34E+03	4.85E-02	6.09E-02	8.67E-02	9.88E-02
K^{+}	3.61E-02	862	2.07E+03	2.60E-02	3.15E-02	3.99E-02	3.72E-02
OH^{-}	9.87	1.03E+05	2.46E+05	5.29	6.88	13.5	16.8
$NO3^{-}$	5.92	2.25E+05	5.38E+05	2.60	4.31	6.95	7.91
$NO2^{-}$	1.51	4.25E+04	1.02E+05	0.873	1.21	1.73	2.42
$CO3^{2-}$	0.637	2.34E+04	5.60E+04	0.495	0.540	0.733	0.784
$PO4^{3-}$	0.100	5.83E+03	1.40E+04	7.85E-02	9.00E-02	0.109	0.116
$SO4^{2-}$	0.183	1.08E+04	2.58E+04	0.108	0.147	0.214	0.297
Si (as SiO_x^{2-})	6.94E-02	1.19E+03	2.86E+03	4.11E-02	5.63E-02	8.02E-02	8.85E-02
F^{-}	5.04E-02	585	1.40E+03	4.30E-02	4.74E-02	5.23E-02	5.10E-02
Cl^{-}	0.119	2.58E+03	6.18E+03	6.41E-02	9.11E-02	0.125	0.125
$C_6H_5O_7^{3-}$	2.16E-02	2.50E+03	5.99E+03	1.79E-02	2.10E-02	2.20E-02	2.21E-02
$EDTA^{4-}$	4.85E-03	855	2.05E+03	4.28E-03	4.68E-03	4.94E-03	4.96E-03
$HEDTA^{3-}$	6.55E-04	110	263	1.98E-04	4.46E-04	8.23E-04	8.37E-04
$glycolate^{-}$	1.52E-02	698	1.67E+03	7.70E-03	1.19E-02	1.78E-02	1.73E-02
$acetate^{-}$	2.89E-02	1.04E+03	2.50E+03	2.51E-02	2.84E-02	2.91E-02	2.95E-02
$oxalate^{2-}$	2.42E-06	0.130	0.313	1.77E-06	2.21E-06	2.64E-06	2.77E-06
DBP	2.30E-02	2.95E+03	7.07E+03	1.98E-02	2.19E-02	2.35E-02	2.34E-02
butanol	2.30E-02	1.04E+03	2.49E+03	1.98E-02	2.19E-02	2.35E-02	2.34E-02
NH_3	1.22E-02	127	303	6.02E-03	8.71E-03	1.58E-02	1.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.40E+06 (kg)	(387 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.07E+03 BTU/hr)	----	1.28	1.72	2.31	2.43
Bulk Density	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Void Fraction	0.738	----	----	0.465	0.637	0.857	0.931
Water wt%	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)	0.402	----	----	0.320	0.385	0.423	0.426
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.18E-04	7.22E-02	173	9.08E-08	9.08E-08	1.19E-04	1.20E-04
C-14	3.10E-05	1.89E-02	45.4	2.61E-07	2.61E-07	3.21E-05	3.32E-05
Ni-59	3.29E-06	2.01E-03	4.82	9.20E-09	9.20E-09	3.43E-06	3.57E-06
Ni-63	3.26E-04	0.199	478	8.07E-07	8.07E-07	3.40E-04	3.54E-04
Co-60	2.88E-05	1.76E-02	42.2	4.50E-09	4.50E-09	2.90E-05	2.94E-05
Se-79	2.59E-06	1.58E-03	3.79	6.79E-09	6.79E-09	3.17E-06	3.70E-06
Sr-90	0.115	70.5	1.69E+05	9.00E-02	0.108	0.122	0.129
Y-90	0.115	70.5	1.69E+05	1.91E-04	1.91E-04	0.123	0.129
Zr-93	1.25E-05	7.63E-03	18.3	3.24E-08	3.24E-08	1.54E-05	1.80E-05
Nb-93m	9.03E-06	5.52E-03	13.2	2.79E-08	2.79E-08	1.11E-05	1.29E-05
Tc-99	1.71E-04	0.105	251	8.85E-05	1.34E-04	2.00E-04	1.95E-04
Ru-106	5.74E-09	3.51E-06	8.41E-03	1.06E-16	1.06E-16	6.27E-09	6.70E-09
Cd-113m	6.60E-05	4.04E-02	96.7	6.58E-08	6.58E-08	8.33E-05	9.83E-05
Sb-125	1.29E-04	7.88E-02	189	2.43E-09	2.43E-09	1.30E-04	1.32E-04
Sn-126	3.87E-06	2.36E-03	5.66	1.01E-08	1.01E-08	4.74E-06	5.55E-06
I-129	3.32E-07	2.03E-04	0.486	1.71E-07	2.60E-07	3.88E-07	3.78E-07
Cs-134	1.40E-06	8.57E-04	2.05	2.60E-12	2.60E-12	1.41E-06	1.42E-06
Cs-137	0.136	83.3	1.99E+05	5.76E-02	9.61E-02	0.161	0.173
Ba-137m	0.129	78.8	1.89E+05	2.04E-04	2.04E-04	0.130	0.131
Sm-151	8.94E-03	5.47	1.31E+04	2.57E-05	2.57E-05	1.10E-02	1.28E-02
Eu-152	4.05E-06	2.48E-03	5.93	6.01E-09	6.01E-09	4.06E-06	4.07E-06
Eu-154	4.86E-04	0.297	711	6.05E-08	6.05E-08	6.29E-04	6.04E-04
Eu-155	2.46E-04	0.150	360	9.09E-07	9.09E-07	2.47E-04	2.47E-04
Ra-226	1.37E-10	8.38E-08	2.01E-04	1.31E-11	1.31E-11	1.70E-10	1.98E-10
Ra-228	1.54E-06	9.40E-04	2.25	8.18E-17	8.18E-17	1.55E-06	1.56E-06
Ac-227	1.79E-09	1.09E-06	2.62E-03	3.28E-11	3.28E-11	2.37E-09	2.90E-09
Pa-231	9.08E-09	5.55E-06	1.33E-02	3.04E-11	3.04E-11	1.19E-08	1.46E-08
Th-229	3.55E-08	2.17E-05	5.20E-02	1.58E-14	1.58E-14	3.58E-08	3.61E-08
Th-232	5.68E-08	3.47E-05	8.32E-02	1.00E-17	1.00E-17	7.24E-08	8.74E-08
U-232	8.57E-06	5.24E-03	12.6	3.85E-06	6.25E-06	1.13E-05	1.42E-05
U-233	3.28E-05	2.01E-02	48.1	1.48E-05	2.39E-05	4.32E-05	5.42E-05
U-234	1.55E-05	9.46E-03	22.7	1.49E-05	1.54E-05	1.56E-05	1.57E-05
U-235	6.77E-07	4.14E-04	0.992	6.60E-07	6.73E-07	6.81E-07	6.85E-07
U-236	1.61E-07	9.86E-05	0.236	1.48E-07	1.57E-07	1.65E-07	1.69E-07
U-238	1.82E-05	1.11E-02	26.6	1.77E-05	1.81E-05	1.83E-05	1.84E-05
Np-237	5.75E-07	3.52E-04	0.843	3.12E-07	4.58E-07	6.67E-07	6.46E-07
Pu-238	2.29E-06	1.40E-03	3.36	1.02E-06	1.65E-06	2.93E-06	3.55E-06
Pu-239	8.23E-05	5.03E-02	121	3.98E-05	6.14E-05	1.03E-04	1.23E-04
Pu-240	1.41E-05	8.61E-03	20.6	6.64E-06	1.04E-05	1.78E-05	2.14E-05
Pu-241	1.65E-04	0.101	242	7.38E-05	1.19E-04	2.11E-04	2.56E-04
Pu-242	7.95E-10	4.86E-07	1.16E-03	3.57E-10	5.73E-10	1.02E-09	1.23E-09
Am-241	4.03E-05	2.46E-02	59.0	1.40E-05	2.69E-05	5.30E-05	6.29E-05
Am-243	1.39E-09	8.52E-07	2.04E-03	4.29E-10	8.90E-10	1.90E-09	2.31E-09
Cm-242	5.42E-10	3.32E-07	7.94E-04	2.41E-11	2.41E-11	5.47E-10	5.52E-10
Cm-243	1.09E-11	6.69E-09	1.60E-05	3.58E-13	3.58E-13	1.10E-11	1.11E-11
Cm-244	1.85E-10	1.13E-07	2.71E-04	4.80E-13	4.80E-13	1.86E-10	1.87E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.07E-03 (g/L)	----	1.57	3.23E-04	7.02E-04	1.44E-03	1.79E-03
U	0.192	2.79E+04	6.69E+04	0.187	0.191	0.193	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.40E+06 (kg)	(387 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.07E+03 BTU/hr)	----	1.28	1.72	2.31	2.43
Bulk Density†	1.64 (g/cc)	----	----	1.35	1.50	1.74	1.86
Water wt%†	37.3	----	----	19.2	28.1	49.3	59.8
TOC wt% C (wet)†	0.402	----	----	0.320	0.385	0.423	0.426
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.18E-04	7.22E-02	173	9.08E-08	9.08E-08	1.19E-04	1.20E-04
C-14	3.10E-05	1.89E-02	45.4	2.61E-07	2.61E-07	3.21E-05	3.32E-05
Ni-59	3.29E-06	2.01E-03	4.82	9.20E-09	9.20E-09	3.43E-06	3.57E-06
Ni-63	3.26E-04	0.199	478	8.07E-07	8.07E-07	3.40E-04	3.54E-04
Co-60	2.88E-05	1.76E-02	42.2	4.50E-09	4.50E-09	2.90E-05	2.94E-05
Se-79	2.59E-06	1.58E-03	3.79	6.79E-09	6.79E-09	3.17E-06	3.70E-06
Sr-90	0.115	70.5	1.69E+05	9.00E-02	0.108	0.122	0.129
Y-90	0.115	70.5	1.69E+05	1.91E-04	1.91E-04	0.123	0.129
Zr-93	1.25E-05	7.63E-03	18.3	3.24E-08	3.24E-08	1.54E-05	1.80E-05
Nb-93m	9.03E-06	5.52E-03	13.2	2.79E-08	2.79E-08	1.11E-05	1.29E-05
Tc-99	1.71E-04	0.105	251	8.85E-05	1.34E-04	2.00E-04	1.95E-04
Ru-106	5.74E-09	3.51E-06	8.41E-03	1.06E-16	1.06E-16	6.27E-09	6.70E-09
Cd-113m	6.60E-05	4.04E-02	96.7	6.58E-08	6.58E-08	8.33E-05	9.83E-05
Sb-125	1.29E-04	7.88E-02	189	2.43E-09	2.43E-09	1.30E-04	1.32E-04
Sn-126	3.87E-06	2.36E-03	5.66	1.01E-08	1.01E-08	4.74E-06	5.55E-06
I-129	3.32E-07	2.03E-04	0.486	1.71E-07	2.60E-07	3.88E-07	3.78E-07
Cs-134	1.40E-06	8.57E-04	2.05	2.60E-12	2.60E-12	1.41E-06	1.42E-06
Cs-137	0.136	83.3	1.99E+05	5.76E-02	9.61E-02	0.161	0.173
Ba-137m	0.129	78.8	1.89E+05	2.04E-04	2.04E-04	0.130	0.131
Sm-151	8.94E-03	5.47	1.31E+04	2.57E-05	2.57E-05	1.10E-02	1.28E-02
Eu-152	4.05E-06	2.48E-03	5.93	6.01E-09	6.01E-09	4.06E-06	4.07E-06
Eu-154	4.86E-04	0.297	711	6.05E-08	6.05E-08	6.29E-04	6.04E-04
Eu-155	2.46E-04	0.150	360	9.09E-07	9.09E-07	2.47E-04	2.47E-04
Ra-226	1.37E-10	8.38E-08	2.01E-04	1.31E-11	1.31E-11	1.70E-10	1.98E-10
Ra-228	1.54E-06	9.40E-04	2.25	8.18E-17	8.18E-17	1.55E-06	1.56E-06
Ac-227	1.79E-09	1.09E-06	2.62E-03	3.28E-11	3.28E-11	2.37E-09	2.90E-09
Pa-231	9.08E-09	5.55E-06	1.33E-02	3.04E-11	3.04E-11	1.19E-08	1.46E-08
Th-229	3.55E-08	2.17E-05	5.20E-02	1.58E-14	1.58E-14	3.58E-08	3.61E-08
Th-232	5.68E-08	3.47E-05	8.32E-02	1.00E-17	1.00E-17	7.24E-08	8.74E-08
U-232	8.57E-06	5.24E-03	12.6	3.85E-06	6.25E-06	1.13E-05	1.42E-05
U-233	3.28E-05	2.01E-02	48.1	1.48E-05	2.39E-05	4.32E-05	5.42E-05
U-234	1.55E-05	9.46E-03	22.7	1.49E-05	1.54E-05	1.56E-05	1.57E-05
U-235	6.77E-07	4.14E-04	0.992	6.60E-07	6.73E-07	6.81E-07	6.85E-07
U-236	1.61E-07	9.86E-05	0.236	1.48E-07	1.57E-07	1.65E-07	1.69E-07
U-238	1.82E-05	1.11E-02	26.6	1.77E-05	1.81E-05	1.83E-05	1.84E-05
Np-237	5.75E-07	3.52E-04	0.843	3.12E-07	4.58E-07	6.67E-07	6.46E-07
Pu-238	2.29E-06	1.40E-03	3.36	1.02E-06	1.65E-06	2.93E-06	3.55E-06
Pu-239	8.23E-05	5.03E-02	121	3.98E-05	6.14E-05	1.03E-04	1.23E-04
Pu-240	1.41E-05	8.61E-03	20.6	6.64E-06	1.04E-05	1.78E-05	2.14E-05
Pu-241	1.65E-04	0.101	242	7.38E-05	1.19E-04	2.11E-04	2.56E-04
Pu-242	7.95E-10	4.86E-07	1.16E-03	3.57E-10	5.73E-10	1.02E-09	1.23E-09
Am-241	4.03E-05	2.46E-02	59.0	1.40E-05	2.69E-05	5.30E-05	6.29E-05
Am-243	1.39E-09	8.52E-07	2.04E-03	4.29E-10	8.90E-10	1.90E-09	2.31E-09
Cm-242	5.42E-10	3.32E-07	7.94E-04	2.41E-11	2.41E-11	5.47E-10	5.52E-10
Cm-243	1.09E-11	6.69E-09	1.60E-05	3.58E-13	3.58E-13	1.10E-11	1.11E-11
Cm-244	1.85E-10	1.13E-07	2.71E-04	4.80E-13	4.80E-13	1.86E-10	1.87E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.07E-03 (g/L)	----	1.57	3.23E-04	7.02E-04	1.44E-03	1.79E-03
U	0.192	2.79E+04	6.69E+04	0.187	0.191	0.193	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+06 (kg)	(330 kgal)	----	----	----	----	----
Heat Load	1.85 (kW)	(6.30E+03 BTU/hr)	----	1.14	1.54	2.05	2.17
Bulk Density	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Void Fraction	0.754	----	----	0.468	0.648	0.878	0.956
Water wt%	36.9	----	----	18.0	27.3	49.4	60.5
TOC wt% C (wet)	0.421	----	----	0.333	0.402	0.444	0.451

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.7	1.78E+05	3.63E+05	6.68	9.51	15.2	17.9
Al^{3+}	2.00	3.30E+04	6.73E+04	0.861	1.24	2.92	3.81
Fe^{3+} (total Fe)	2.72E-02	929	1.89E+03	1.79E-02	2.24E-02	3.19E-02	3.64E-02
Cr^{3+}	5.21E-02	1.66E+03	3.38E+03	4.16E-02	4.71E-02	5.41E-02	5.60E-02
Bi^{3+}	8.48E-04	108	221	6.20E-04	7.73E-04	9.24E-04	9.79E-04
La^{3+}	1.93E-06	0.165	0.336	1.60E-06	1.81E-06	2.01E-06	1.98E-06
Hg^{2+}	3.43E-05	4.21	8.59	3.08E-05	3.25E-05	3.60E-05	3.77E-05
Zr (as $ZrO(OH)_2$)	3.21E-05	1.79	3.66	2.64E-05	2.93E-05	3.32E-05	3.32E-05
Pb^{2+}	5.36E-03	680	1.39E+03	2.92E-03	4.12E-03	6.61E-03	7.80E-03
Ni^{2+}	1.28E-02	461	940	8.43E-03	1.07E-02	1.38E-02	1.39E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.07E-03	103	210	2.26E-03	2.65E-03	3.48E-03	3.87E-03
Ca^{2+}	7.35E-02	1.80E+03	3.68E+03	4.69E-02	5.99E-02	8.69E-02	9.94E-02
K^+	3.77E-02	902	1.84E+03	2.72E-02	3.30E-02	4.17E-02	3.88E-02
OH^-	9.83	1.02E+05	2.09E+05	5.04	6.70	13.6	17.1
$NO3^-$	6.19	2.35E+05	4.79E+05	2.72	4.50	7.26	8.27
$NO2^-$	1.58	4.45E+04	9.08E+04	0.913	1.26	1.81	2.53
$CO3^{2-}$	0.580	2.13E+04	4.35E+04	0.432	0.479	0.681	0.734
$PO4^{3-}$	8.67E-02	5.04E+03	1.03E+04	7.43E-02	8.08E-02	9.17E-02	9.58E-02
$SO4^{2-}$	0.187	1.10E+04	2.25E+04	0.109	0.150	0.220	0.306
Si (as SiO_x^{2-})	7.25E-02	1.25E+03	2.54E+03	4.29E-02	5.88E-02	8.38E-02	9.24E-02
F^-	5.26E-02	612	1.25E+03	4.49E-02	4.96E-02	5.47E-02	5.33E-02
Cl^-	0.124	2.70E+03	5.51E+03	6.69E-02	9.51E-02	0.130	0.130
$C_6H_5O_7^{3-}$	2.26E-02	2.62E+03	5.34E+03	1.87E-02	2.20E-02	2.30E-02	2.31E-02
$EDTA^{4-}$	5.07E-03	895	1.83E+03	4.47E-03	4.89E-03	5.16E-03	5.18E-03
$HEDTA^{3-}$	6.85E-04	115	234	2.07E-04	4.66E-04	8.60E-04	8.75E-04
$glycolate^-$	1.59E-02	731	1.49E+03	8.05E-03	1.24E-02	1.86E-02	1.81E-02
$acetate^-$	3.02E-02	1.09E+03	2.23E+03	2.63E-02	2.97E-02	3.04E-02	3.08E-02
$oxalate^{2-}$	2.53E-06	0.137	0.279	1.85E-06	2.31E-06	2.76E-06	2.89E-06
DBP	2.40E-02	3.09E+03	6.30E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
butanol	2.40E-02	1.09E+03	2.22E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
NH_3	1.27E-02	132	270	6.30E-03	9.10E-03	1.65E-02	1.79E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.56E+04 (kg)	(11.0 kgal)	----	----	----	----	----
Heat Load	3.93E-02 (kW)	(134 BTU/hr)	----	2.97E-02	3.38E-02	4.42E-02	5.16E-02
Bulk Density*	1.33 (g/cc)	----	----	1.24	1.30	1.36	1.37
Water wt%	57.4	----	----	52.8	54.3	60.8	65.3
TOC wt% C (wet)	0.966	----	----	0.616	0.787	1.14	1.32

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.23	1.25E+05	6.92E+03	5.43	6.39	8.02	8.46
Al^{3+}	1.08	2.19E+04	1.22E+03	0.666	0.988	1.12	1.15
Fe^{3+} (total Fe)	3.05E-03	127	7.08	2.50E-03	2.76E-03	3.33E-03	3.60E-03
Cr^{3+}	5.04E-02	1.96E+03	109	3.50E-02	4.16E-02	5.90E-02	7.10E-02
Bi^{3+}	7.59E-04	119	6.60	6.48E-04	7.03E-04	8.15E-04	9.01E-04
La^{3+}	2.99E-06	0.311	1.73E-02	2.42E-06	2.67E-06	3.34E-06	3.86E-06
Hg^{2+}	6.97E-06	1.05	5.82E-02	6.36E-06	6.66E-06	7.28E-06	7.59E-06
Zr (as $ZrO(OH)_2$)	3.03E-05	2.07	0.115	2.07E-05	2.43E-05	3.59E-05	4.52E-05
Pb^{2+}	1.11E-03	172	9.57	6.61E-04	8.81E-04	1.34E-03	1.56E-03
Ni^{2+}	1.75E-03	77.0	4.28	1.64E-03	1.69E-03	1.81E-03	1.86E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.17E-03	130	7.25	2.49E-03	2.82E-03	3.51E-03	3.84E-03
Ca^{2+}	9.73E-03	292	16.2	7.57E-03	8.63E-03	1.08E-02	1.19E-02
K^+	3.76E-02	1.10E+03	61.2	2.38E-02	2.96E-02	4.68E-02	5.94E-02
OH^-	5.40	6.88E+04	3.82E+03	3.42	4.85	5.59	5.88
$NO3^-$	2.07	9.63E+04	5.35E+03	1.75	1.91	2.24	2.40
$NO2^-$	1.52	5.24E+04	2.91E+03	0.795	1.10	1.97	2.10
$CO3^{2-}$	0.310	1.39E+04	774	0.269	0.296	0.324	0.337
$PO4^{3-}$	6.08E-02	4.33E+03	240	4.23E-02	5.03E-02	6.90E-02	7.99E-02
$SO4^{2-}$	0.189	1.36E+04	755	0.104	0.139	0.247	0.251
Si (as SiO_x^{2-})	3.34E-02	702	39.0	2.30E-02	2.81E-02	3.86E-02	4.37E-02
F^-	4.68E-02	666	37.0	3.21E-02	3.82E-02	5.63E-02	7.05E-02
Cl^-	0.126	3.35E+03	186	7.74E-02	9.95E-02	0.131	0.131
$C_6H_5O_7^{3-}$	2.24E-02	3.17E+03	176	1.81E-02	1.99E-02	2.49E-02	2.91E-02
$EDTA^{4-}$	1.97E-02	4.26E+03	237	8.14E-03	1.38E-02	2.57E-02	3.15E-02
$HEDTA^{3-}$	3.09E-02	6.35E+03	353	7.76E-03	1.91E-02	4.29E-02	5.45E-02
$glycolate^-$	5.60E-02	3.15E+03	175	3.28E-02	4.42E-02	6.79E-02	7.96E-02
$acetate^-$	2.72E-02	1.20E+03	66.7	2.02E-02	2.31E-02	3.14E-02	3.80E-02
$oxalate^{2-}$	3.92E-06	0.258	1.44E-02	3.67E-06	3.77E-06	4.06E-06	4.34E-06
DBP	2.23E-02	3.51E+03	195	1.57E-02	1.85E-02	2.63E-02	3.22E-02
butanol	2.23E-02	1.24E+03	68.7	1.57E-02	1.85E-02	2.63E-02	3.22E-02
NH_3	1.61E-02	205	11.4	9.51E-03	1.19E-02	2.16E-02	3.01E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.10E+06 (kg)	(341 kgal)	----	----	----	----	----
Heat Load	1.88 (kW)	(6.44E+03 BTU/hr)	----	1.17	1.57	2.10	2.22
Bulk Density†	1.62 (g/cc)	----	----	1.33	1.48	1.73	1.85
Water wt%†	37.4	----	----	18.8	28.0	49.8	60.7
TOC wt% C (wet)†	0.436	----	----	0.353	0.418	0.457	0.464

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.5	1.77E+05	3.70E+05	6.64	9.41	15.0	17.6
Al^{3+}	1.97	3.27E+04	6.85E+04	0.855	1.23	2.86	3.73
Fe^{3+} (total Fe)	2.64E-02	907	1.90E+03	1.74E-02	2.18E-02	3.10E-02	3.54E-02
Cr^{3+}	5.20E-02	1.67E+03	3.49E+03	4.16E-02	4.70E-02	5.40E-02	5.60E-02
Bi^{3+}	8.45E-04	109	228	6.29E-04	7.74E-04	9.18E-04	9.76E-04
La^{3+}	1.97E-06	0.168	0.353	1.63E-06	1.84E-06	2.06E-06	2.01E-06
Hg^{2+}	3.34E-05	4.12	8.64	3.00E-05	3.17E-05	3.51E-05	3.67E-05
Zr (as $ZrO(OH)_2$)	3.21E-05	1.80	3.77	2.62E-05	2.91E-05	3.33E-05	3.32E-05
Pb^{2+}	5.23E-03	667	1.40E+03	2.85E-03	4.01E-03	6.44E-03	7.60E-03
Ni^{2+}	1.25E-02	451	944	8.22E-03	1.04E-02	1.34E-02	1.35E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.07E-03	104	218	2.27E-03	2.66E-03	3.48E-03	3.87E-03
Ca^{2+}	7.14E-02	1.76E+03	3.69E+03	4.56E-02	5.82E-02	8.44E-02	9.66E-02
K^+	3.77E-02	907	1.90E+03	2.71E-02	3.29E-02	4.18E-02	3.95E-02
OH^-	9.68	1.01E+05	2.12E+05	4.98	6.64	13.3	16.7
$NO3^-$	6.06	2.31E+05	4.85E+05	2.70	4.42	7.09	8.07
$NO2^-$	1.58	4.47E+04	9.37E+04	0.909	1.26	1.82	2.51
$CO3^{2-}$	0.572	2.11E+04	4.43E+04	0.427	0.474	0.669	0.720
$PO4^{3-}$	8.59E-02	5.02E+03	1.05E+04	7.38E-02	8.02E-02	9.07E-02	9.47E-02
$SO4^{2-}$	0.187	1.11E+04	2.32E+04	0.109	0.149	0.221	0.305
Si (as SiO_x^{2-})	7.13E-02	1.23E+03	2.58E+03	4.23E-02	5.78E-02	8.23E-02	9.08E-02
F^-	5.25E-02	614	1.29E+03	4.45E-02	4.92E-02	5.48E-02	5.30E-02
Cl^-	0.125	2.72E+03	5.70E+03	6.73E-02	9.54E-02	0.130	0.130
$C_6H_5O_7^{3-}$	2.26E-02	2.63E+03	5.51E+03	1.90E-02	2.21E-02	2.29E-02	2.30E-02
$EDTA^{4-}$	5.55E-03	984	2.06E+03	4.92E-03	5.34E-03	5.74E-03	5.93E-03
$HEDTA^{3-}$	1.66E-03	280	587	9.13E-04	1.28E-03	2.05E-03	2.42E-03
$glycolate^-$	1.72E-02	795	1.67E+03	9.34E-03	1.37E-02	2.00E-02	1.97E-02
$acetate^-$	3.01E-02	1.09E+03	2.29E+03	2.67E-02	2.95E-02	3.03E-02	3.07E-02
$oxalate^{2-}$	2.58E-06	0.140	0.293	1.93E-06	2.36E-06	2.80E-06	2.92E-06
DBP	2.39E-02	3.10E+03	6.50E+03	2.05E-02	2.28E-02	2.47E-02	2.44E-02
butanol	2.39E-02	1.09E+03	2.29E+03	2.05E-02	2.28E-02	2.47E-02	2.44E-02
NH_3	1.28E-02	134	282	6.40E-03	9.19E-03	1.67E-02	1.83E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+06 (kg)	(330 kgal)	----	----	----	----	----
Heat Load	1.85 (kW)	(6.30E+03 BTU/hr)	----	1.14	1.54	2.05	2.17
Bulk Density	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Void Fraction	0.754	----	----	0.468	0.648	0.878	0.956
Water wt%	36.9	----	----	18.0	27.3	49.4	60.5
TOC wt% C (wet)	0.421	----	----	0.333	0.402	0.444	0.451
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.23E-04	7.55E-02	154	5.18E-08	5.18E-08	1.25E-04	1.26E-04
C-14	3.23E-05	1.98E-02	40.3	1.49E-07	1.49E-07	3.34E-05	3.46E-05
Ni-59	3.43E-06	2.10E-03	4.29	5.25E-09	5.25E-09	3.58E-06	3.73E-06
Ni-63	3.41E-04	0.209	425	4.61E-07	4.61E-07	3.55E-04	3.70E-04
Co-60	3.01E-05	1.84E-02	37.6	2.57E-09	2.57E-09	3.03E-05	3.07E-05
Se-79	2.70E-06	1.65E-03	3.37	3.88E-09	3.88E-09	3.31E-06	3.87E-06
Sr-90	0.120	73.7	1.50E+05	9.40E-02	0.113	0.128	0.135
Y-90	0.120	73.7	1.50E+05	1.09E-04	1.09E-04	0.128	0.135
Zr-93	1.30E-05	7.98E-03	16.3	1.85E-08	1.85E-08	1.60E-05	1.88E-05
Nb-93m	9.42E-06	5.77E-03	11.8	1.59E-08	1.59E-08	1.15E-05	1.34E-05
Tc-99	1.79E-04	0.110	224	9.24E-05	1.40E-04	2.09E-04	2.04E-04
Ru-106	6.00E-09	3.67E-06	7.49E-03	6.05E-17	6.05E-17	6.55E-09	7.00E-09
Cd-113m	6.90E-05	4.22E-02	86.1	3.75E-08	3.75E-08	8.70E-05	1.03E-04
Sb-125	1.35E-04	8.25E-02	168	1.39E-09	1.39E-09	1.36E-04	1.38E-04
Sn-126	4.04E-06	2.47E-03	5.04	5.76E-09	5.76E-09	4.95E-06	5.80E-06
I-129	3.47E-07	2.12E-04	0.433	1.79E-07	2.72E-07	4.06E-07	3.95E-07
Cs-134	1.46E-06	8.97E-04	1.83	1.48E-12	1.48E-12	1.47E-06	1.48E-06
Cs-137	0.142	87.1	1.78E+05	6.01E-02	0.100	0.168	0.181
Ba-137m	0.135	82.4	1.68E+05	1.16E-04	1.16E-04	0.135	0.136
Sm-151	9.34E-03	5.72	1.17E+04	1.46E-05	1.46E-05	1.15E-02	1.33E-02
Eu-152	4.23E-06	2.59E-03	5.29	3.43E-09	3.43E-09	4.24E-06	4.26E-06
Eu-154	5.08E-04	0.311	634	3.45E-08	3.45E-08	6.58E-04	6.32E-04
Eu-155	2.57E-04	0.157	321	5.18E-07	5.18E-07	2.57E-04	2.58E-04
Ra-226	1.37E-10	8.39E-08	1.71E-04	7.49E-12	7.49E-12	1.71E-10	2.01E-10
Ra-228	1.61E-06	9.84E-04	2.01	4.67E-17	4.67E-17	1.62E-06	1.64E-06
Ac-227	1.85E-09	1.13E-06	2.31E-03	1.87E-11	1.87E-11	2.46E-09	3.02E-09
Pa-231	9.47E-09	5.80E-06	1.18E-02	1.74E-11	1.74E-11	1.24E-08	1.53E-08
Th-229	3.71E-08	2.27E-05	4.64E-02	9.00E-15	9.00E-15	3.74E-08	3.77E-08
Th-232	5.94E-08	3.63E-05	7.41E-02	5.72E-18	5.72E-18	7.57E-08	9.13E-08
U-232	8.96E-06	5.49E-03	11.2	4.03E-06	6.53E-06	1.18E-05	1.48E-05
U-233	3.43E-05	2.10E-02	42.9	1.54E-05	2.50E-05	4.52E-05	5.67E-05
U-234	9.93E-06	6.08E-03	12.4	9.36E-06	9.82E-06	1.00E-05	1.01E-05
U-235	4.27E-07	2.62E-04	0.534	4.09E-07	4.23E-07	4.31E-07	4.36E-07
U-236	1.29E-07	7.88E-05	0.161	1.15E-07	1.25E-07	1.33E-07	1.37E-07
U-238	1.27E-05	7.76E-03	15.8	1.22E-05	1.26E-05	1.28E-05	1.29E-05
Np-237	6.01E-07	3.68E-04	0.751	3.26E-07	4.79E-07	6.97E-07	6.75E-07
Pu-238	2.40E-06	1.47E-03	2.99	1.07E-06	1.73E-06	3.07E-06	3.71E-06
Pu-239	8.59E-05	5.26E-02	107	4.14E-05	6.40E-05	1.08E-04	1.28E-04
Pu-240	1.47E-05	9.01E-03	18.4	6.93E-06	1.08E-05	1.86E-05	2.23E-05
Pu-241	1.73E-04	0.106	216	7.71E-05	1.24E-04	2.21E-04	2.68E-04
Pu-242	8.31E-10	5.09E-07	1.04E-03	3.73E-10	5.99E-10	1.06E-09	1.29E-09
Am-241	4.21E-05	2.58E-02	52.6	1.47E-05	2.81E-05	5.54E-05	6.57E-05
Am-243	1.46E-09	8.91E-07	1.82E-03	4.49E-10	9.30E-10	1.98E-09	2.41E-09
Cm-242	5.55E-10	3.40E-07	6.94E-04	1.38E-11	1.38E-11	5.61E-10	5.66E-10
Cm-243	1.13E-11	6.90E-09	1.41E-05	2.04E-13	2.04E-13	1.14E-11	1.15E-11
Cm-244	1.93E-10	1.18E-07	2.41E-04	2.74E-13	2.74E-13	1.94E-10	1.95E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.12E-03 (g/L)	----	1.40	3.35E-04	7.32E-04	1.50E-03	1.87E-03
U	0.121	1.76E+04	3.60E+04	0.116	0.120	0.122	0.123

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.56E+04 (kg)	(11.0 kgal)	----	----	----	----	----
Heat Load	3.93E-02 (kW)	(134 BTU/hr)	----	2.97E-02	3.38E-02	4.42E-02	5.16E-02
Bulk Density*	1.33 (g/cc)	----	----	1.24	1.30	1.36	1.37
Water wt%†	57.4	----	----	52.8	54.3	60.8	65.3
TOC wt% C (wet)	0.966	----	----	0.616	0.787	1.14	1.32
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.30E-04	9.71E-02	5.40	2.61E-05	2.61E-05	1.39E-04	1.50E-04
C-14	2.22E-05	1.66E-02	0.922	5.05E-06	5.05E-06	2.32E-05	2.42E-05
Ni-59	6.31E-07	4.73E-04	2.63E-02	3.35E-07	3.35E-07	6.52E-07	6.72E-07
Ni-63	6.25E-05	4.69E-02	2.60	3.31E-05	3.31E-05	6.46E-05	6.66E-05
Co-60	3.19E-05	2.39E-02	1.33	6.60E-06	6.60E-06	3.25E-05	3.32E-05
Se-79	1.89E-06	1.41E-03	7.86E-02	6.58E-07	6.58E-07	2.33E-06	2.76E-06
Sr-90	4.64E-02	34.8	1.93E+03	4.18E-02	4.49E-02	4.79E-02	4.94E-02
Y-90	4.64E-02	34.8	1.93E+03	2.55E-02	2.55E-02	4.80E-02	4.94E-02
Zr-93	9.39E-06	7.04E-03	0.391	3.25E-06	3.25E-06	1.16E-05	1.38E-05
Nb-93m	6.61E-06	4.95E-03	0.275	2.31E-06	2.31E-06	8.17E-06	9.66E-06
Tc-99	1.86E-04	0.139	7.72	9.60E-05	1.36E-04	2.41E-04	3.16E-04
Ru-106	4.76E-09	3.57E-06	1.98E-04	1.69E-09	1.69E-09	5.87E-09	6.94E-09
Cd-113m	5.54E-05	4.15E-02	2.31	1.85E-05	1.85E-05	6.87E-05	8.15E-05
Sb-125	1.45E-04	0.108	6.02	3.14E-05	3.14E-05	1.48E-04	1.52E-04
Sn-126	2.84E-06	2.12E-03	0.118	9.93E-07	9.93E-07	3.50E-06	4.14E-06
I-129	3.59E-07	2.69E-04	1.50E-02	1.86E-07	2.63E-07	4.66E-07	6.12E-07
Cs-134	2.23E-06	1.67E-03	9.29E-02	1.36E-06	1.46E-06	2.68E-06	3.12E-06
Cs-137	0.135	101	5.61E+03	8.56E-02	0.106	0.160	0.198
Ba-137m	0.127	95.5	5.31E+03	5.63E-02	5.63E-02	0.135	0.143
Sm-151	6.61E-03	4.95	275	2.31E-03	2.31E-03	8.17E-03	9.66E-03
Eu-152	2.43E-06	1.82E-03	0.101	1.36E-06	1.36E-06	2.75E-06	3.06E-06
Eu-154	4.39E-04	0.329	18.3	1.32E-04	1.32E-04	5.50E-04	6.57E-04
Eu-155	1.48E-04	0.111	6.16	8.37E-05	8.37E-05	1.68E-04	1.87E-04
Ra-226	6.09E-11	4.57E-08	2.54E-06	2.28E-11	2.28E-11	7.47E-11	8.80E-11
Ra-228	4.35E-07	3.26E-04	1.81E-02	3.19E-08	3.19E-08	4.46E-07	4.58E-07
Ac-227	3.71E-10	2.78E-07	1.54E-05	1.50E-10	1.50E-10	4.51E-10	5.28E-10
Pa-231	1.99E-09	1.49E-06	8.28E-05	7.59E-10	7.59E-10	2.43E-09	2.86E-09
Th-229	1.01E-08	7.53E-06	4.19E-04	7.43E-10	7.43E-10	1.03E-08	1.06E-08
Th-232	5.19E-08	3.89E-05	2.16E-03	2.03E-09	2.03E-09	6.55E-08	7.86E-08
U-232	1.02E-06	7.67E-04	4.26E-02	6.46E-07	7.97E-07	1.28E-06	1.56E-06
U-233	3.92E-06	2.94E-03	0.163	2.47E-06	3.05E-06	4.91E-06	5.97E-06
U-234	3.23E-07	2.42E-04	1.35E-02	3.01E-07	3.12E-07	3.34E-07	3.45E-07
U-235	1.22E-08	9.11E-06	5.06E-04	1.13E-08	1.17E-08	1.26E-08	1.30E-08
U-236	1.08E-08	8.07E-06	4.49E-04	9.98E-09	1.04E-08	1.12E-08	1.16E-08
U-238	6.09E-07	4.56E-04	2.53E-02	5.88E-07	5.98E-07	6.20E-07	6.72E-07
Np-237	6.19E-07	4.64E-04	2.58E-02	3.29E-07	4.59E-07	7.99E-07	1.04E-06
Pu-238	6.16E-07	4.61E-04	2.56E-02	5.06E-07	5.58E-07	6.74E-07	7.29E-07
Pu-239	2.09E-05	1.57E-02	0.872	1.72E-05	1.90E-05	2.28E-05	2.46E-05
Pu-240	3.63E-06	2.72E-03	0.151	2.98E-06	3.29E-06	3.97E-06	4.29E-06
Pu-241	4.40E-05	3.30E-02	1.83	3.61E-05	3.99E-05	4.82E-05	5.22E-05
Pu-242	2.31E-10	1.73E-07	9.60E-06	1.91E-10	2.10E-10	2.52E-10	2.74E-10
Am-241	2.91E-05	2.18E-02	1.21	1.60E-05	2.24E-05	3.58E-05	4.22E-05
Am-243	1.10E-09	8.26E-07	4.59E-05	6.29E-10	8.54E-10	1.36E-09	1.62E-09
Cm-242	5.25E-08	3.94E-05	2.19E-03	2.88E-08	4.04E-08	6.47E-08	7.66E-08
Cm-243	4.76E-09	3.57E-06	1.98E-04	2.63E-09	3.67E-09	5.86E-09	6.93E-09
Cm-244	3.45E-08	2.58E-05	1.44E-03	2.64E-08	2.64E-08	3.81E-08	4.16E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.09E-04 (g/L)	----	8.69E-03	1.44E-04	1.76E-04	2.42E-04	2.73E-04
U	3.44E-03	614	34.1	3.20E-03	3.32E-03	3.57E-03	3.69E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.10E+06 (kg)	(341 kgal)	----	----	----	----	----
Heat Load	1.88 (kW)	(6.44E+03 BTU/hr)	----	1.17	1.57	2.10	2.22
Bulk Density†	1.62 (g/cc)	----	----	1.33	1.48	1.73	1.85
Water wt%†	37.4	----	----	18.8	28.0	49.8	60.7
TOC wt% C (wet)†	0.436	----	----	0.353	0.418	0.457	0.464
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.24E-04	7.61E-02	159	8.91E-07	8.91E-07	1.25E-04	1.26E-04
C-14	3.19E-05	1.97E-02	41.2	3.07E-07	3.07E-07	3.30E-05	3.41E-05
Ni-59	3.34E-06	2.06E-03	4.31	1.59E-08	1.59E-08	3.49E-06	3.63E-06
Ni-63	3.32E-04	0.204	428	1.51E-06	1.51E-06	3.46E-04	3.60E-04
Co-60	3.01E-05	1.86E-02	38.9	2.15E-07	2.15E-07	3.04E-05	3.07E-05
Se-79	2.67E-06	1.65E-03	3.45	2.50E-08	2.50E-08	3.27E-06	3.83E-06
Sr-90	0.118	72.7	1.52E+05	9.25E-02	0.111	0.125	0.132
Y-90	0.118	72.7	1.52E+05	9.29E-04	9.29E-04	0.125	0.132
Zr-93	1.29E-05	7.95E-03	16.7	1.23E-07	1.23E-07	1.59E-05	1.86E-05
Nb-93m	9.33E-06	5.75E-03	12.0	9.00E-08	9.00E-08	1.14E-05	1.33E-05
Tc-99	1.79E-04	0.110	231	9.26E-05	1.40E-04	2.10E-04	2.07E-04
Ru-106	5.96E-09	3.67E-06	7.69E-03	5.45E-11	5.45E-11	6.53E-09	7.00E-09
Cd-113m	6.85E-05	4.22E-02	88.4	6.34E-07	6.34E-07	8.64E-05	1.02E-04
Sb-125	1.35E-04	8.32E-02	174	1.01E-06	1.01E-06	1.36E-04	1.38E-04
Sn-126	4.00E-06	2.46E-03	5.16	3.76E-08	3.76E-08	4.90E-06	5.75E-06
I-129	3.47E-07	2.14E-04	0.448	1.79E-07	2.71E-07	4.08E-07	4.02E-07
Cs-134	1.49E-06	9.17E-04	1.92	4.70E-08	4.70E-08	1.50E-06	1.52E-06
Cs-137	0.142	87.5	1.83E+05	6.09E-02	0.101	0.168	0.181
Ba-137m	0.134	82.8	1.73E+05	1.93E-03	1.93E-03	0.135	0.136
Sm-151	9.25E-03	5.70	1.19E+04	8.87E-05	8.87E-05	1.14E-02	1.32E-02
Eu-152	4.17E-06	2.57E-03	5.39	4.73E-08	4.73E-08	4.18E-06	4.20E-06
Eu-154	5.05E-04	0.311	652	4.29E-06	4.29E-06	6.54E-04	6.33E-04
Eu-155	2.53E-04	0.156	327	3.20E-06	3.20E-06	2.54E-04	2.55E-04
Ra-226	1.35E-10	8.29E-08	1.74E-04	7.98E-12	7.98E-12	1.68E-10	1.97E-10
Ra-228	1.57E-06	9.66E-04	2.03	1.03E-09	1.03E-09	1.58E-06	1.60E-06
Ac-227	1.80E-09	1.11E-06	2.33E-03	2.29E-11	2.29E-11	2.39E-09	2.94E-09
Pa-231	9.23E-09	5.69E-06	1.19E-02	4.13E-11	4.13E-11	1.21E-08	1.49E-08
Th-229	3.62E-08	2.23E-05	4.68E-02	2.40E-11	2.40E-11	3.65E-08	3.69E-08
Th-232	5.91E-08	3.64E-05	7.63E-02	6.54E-11	6.54E-11	7.53E-08	9.09E-08
U-232	8.70E-06	5.36E-03	11.2	3.92E-06	6.35E-06	1.15E-05	1.44E-05
U-233	3.33E-05	2.05E-02	43.0	1.50E-05	2.43E-05	4.39E-05	5.51E-05
U-234	9.62E-06	5.92E-03	12.4	9.07E-06	9.51E-06	9.72E-06	9.82E-06
U-235	4.14E-07	2.55E-04	0.534	3.97E-07	4.10E-07	4.18E-07	4.22E-07
U-236	1.25E-07	7.70E-05	0.161	1.11E-07	1.21E-07	1.29E-07	1.33E-07
U-238	1.23E-05	7.57E-03	15.9	1.18E-05	1.22E-05	1.24E-05	1.25E-05
Np-237	6.02E-07	3.71E-04	0.776	3.26E-07	4.78E-07	7.00E-07	6.86E-07
Pu-238	2.34E-06	1.44E-03	3.02	1.05E-06	1.69E-06	2.99E-06	3.61E-06
Pu-239	8.38E-05	5.16E-02	108	4.06E-05	6.25E-05	1.05E-04	1.25E-04
Pu-240	1.44E-05	8.84E-03	18.5	6.81E-06	1.06E-05	1.81E-05	2.17E-05
Pu-241	1.68E-04	0.104	217	7.58E-05	1.22E-04	2.15E-04	2.61E-04
Pu-242	8.12E-10	5.00E-07	1.05E-03	3.67E-10	5.86E-10	1.04E-09	1.26E-09
Am-241	4.17E-05	2.57E-02	53.8	1.47E-05	2.79E-05	5.48E-05	6.50E-05
Am-243	1.44E-09	8.90E-07	1.86E-03	4.55E-10	9.28E-10	1.96E-09	2.39E-09
Cm-242	2.23E-09	1.37E-06	2.88E-03	1.47E-09	1.70E-09	2.63E-09	3.01E-09
Cm-243	1.64E-10	1.01E-07	2.12E-04	9.57E-11	1.29E-10	2.00E-10	2.34E-10
Cm-244	1.30E-09	8.00E-07	1.68E-03	1.04E-09	1.04E-09	1.42E-09	1.53E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.09E-03 (g/L)	----	1.41	3.29E-04	7.14E-04	1.46E-03	1.82E-03
U	0.117	1.72E+04	3.60E+04	0.112	0.116	0.118	0.120

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.46E+06 (kg)	(400 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.89E+03 BTU/hr)	----	1.43	1.92	2.57	2.72
Bulk Density	1.63 (g/cc)	----	----	1.32	1.48	1.74	1.87
Void Fraction	0.774	----	----	0.479	0.664	0.902	0.983
Water wt%	36.6	----	----	17.1	26.7	49.6	61.3
TOC wt% C (wet)	0.437	----	----	0.344	0.416	0.463	0.472

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.8	1.81E+05	4.47E+05	6.65	9.58	15.4	18.3
Al^{3+}	2.20	3.64E+04	8.98E+04	1.02	1.41	3.15	4.07
Fe^{3+} (total Fe)	3.17E-02	1.09E+03	2.68E+03	2.21E-02	2.68E-02	3.66E-02	4.12E-02
Cr^{3+}	5.38E-02	1.72E+03	4.24E+03	4.30E-02	4.86E-02	5.59E-02	5.79E-02
Bi^{3+}	8.76E-04	113	277	6.41E-04	7.99E-04	9.56E-04	1.01E-03
La^{3+}	2.00E-06	0.171	0.421	1.65E-06	1.87E-06	2.08E-06	2.04E-06
Hg^{2+}	1.68E-04	20.8	51.2	1.49E-04	1.64E-04	1.71E-04	1.72E-04
Zr (as $ZrO(OH)_2$)	3.32E-05	1.86	4.59	2.73E-05	3.03E-05	3.43E-05	3.44E-05
Pb^{2+}	1.29E-02	1.64E+03	4.04E+03	9.75E-03	1.16E-02	1.42E-02	1.54E-02
Ni^{2+}	1.32E-02	478	1.18E+03	8.71E-03	1.11E-02	1.43E-02	1.44E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.17E-03	107	264	2.33E-03	2.74E-03	3.60E-03	4.01E-03
Ca^{2+}	7.84E-02	1.93E+03	4.76E+03	5.09E-02	6.44E-02	9.23E-02	0.105
K^+	3.90E-02	937	2.31E+03	2.82E-02	3.41E-02	4.31E-02	4.02E-02
OH^-	10.0	1.05E+05	2.58E+05	5.07	6.79	13.9	17.5
$NO3^-$	6.41	2.44E+05	6.01E+05	2.82	4.66	7.51	8.55
$NO2^-$	1.64	4.63E+04	1.14E+05	0.948	1.31	1.88	2.62
$CO3^{2-}$	0.501	1.85E+04	4.55E+04	0.347	0.396	0.604	0.660
$PO4^{3-}$	6.71E-02	3.91E+03	9.64E+03	5.52E-02	6.34E-02	6.86E-02	7.01E-02
$SO4^{2-}$	0.189	1.11E+04	2.75E+04	0.108	0.150	0.223	0.312
Si (as SiO_x^{2-})	7.49E-02	1.29E+03	3.18E+03	4.43E-02	6.07E-02	8.65E-02	9.54E-02
F^-	5.44E-02	635	1.57E+03	4.64E-02	5.13E-02	5.66E-02	5.51E-02
Cl^-	0.129	2.80E+03	6.91E+03	6.93E-02	9.85E-02	0.135	0.135
$C_6H_5O_7^{3-}$	2.34E-02	2.71E+03	6.69E+03	1.93E-02	2.27E-02	2.38E-02	2.39E-02
$EDTA^{4-}$	5.24E-03	928	2.29E+03	4.62E-03	5.06E-03	5.34E-03	5.36E-03
$HEDTA^{3-}$	7.08E-04	119	294	2.14E-04	4.82E-04	8.89E-04	9.05E-04
$glycolate^-$	1.65E-02	758	1.87E+03	8.32E-03	1.28E-02	1.93E-02	1.87E-02
$acetate^-$	3.12E-02	1.13E+03	2.79E+03	2.72E-02	3.07E-02	3.15E-02	3.19E-02
$oxalate^{2-}$	2.62E-06	0.142	0.349	1.92E-06	2.39E-06	2.86E-06	2.99E-06
DBP	2.48E-02	3.20E+03	7.90E+03	2.14E-02	2.37E-02	2.54E-02	2.53E-02
butanol	2.48E-02	1.13E+03	2.79E+03	2.14E-02	2.37E-02	2.54E-02	2.53E-02
NH_3	1.32E-02	137	339	6.51E-03	9.41E-03	1.71E-02	1.85E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.46E+06 (kg)	(400 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.89E+03 BTU/hr)	----	1.43	1.92	2.57	2.72
Bulk Density†	1.63 (g/cc)	----	----	1.32	1.48	1.74	1.87
Water wt%†	36.6	----	----	17.1	26.7	49.6	61.3
TOC wt% C (wet)†	0.437	----	----	0.344	0.416	0.463	0.472

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.8	1.81E+05	4.47E+05	6.65	9.58	15.4	18.3
Al^{3+}	2.20	3.64E+04	8.98E+04	1.02	1.41	3.15	4.07
Fe^{3+} (total Fe)	3.17E-02	1.09E+03	2.68E+03	2.21E-02	2.68E-02	3.66E-02	4.12E-02
Cr^{3+}	5.38E-02	1.72E+03	4.24E+03	4.30E-02	4.86E-02	5.59E-02	5.79E-02
Bi^{3+}	8.76E-04	113	277	6.41E-04	7.99E-04	9.56E-04	1.01E-03
La^{3+}	2.00E-06	0.171	0.421	1.65E-06	1.87E-06	2.08E-06	2.04E-06
Hg^{2+}	1.68E-04	20.8	51.2	1.49E-04	1.64E-04	1.71E-04	1.72E-04
Zr (as $ZrO(OH)_2$)	3.32E-05	1.86	4.59	2.73E-05	3.03E-05	3.43E-05	3.44E-05
Pb^{2+}	1.29E-02	1.64E+03	4.04E+03	9.75E-03	1.16E-02	1.42E-02	1.54E-02
Ni^{2+}	1.32E-02	478	1.18E+03	8.71E-03	1.11E-02	1.43E-02	1.44E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.17E-03	107	264	2.33E-03	2.74E-03	3.60E-03	4.01E-03
Ca^{2+}	7.84E-02	1.93E+03	4.76E+03	5.09E-02	6.44E-02	9.23E-02	0.105
K^+	3.90E-02	937	2.31E+03	2.82E-02	3.41E-02	4.31E-02	4.02E-02
OH^-	10.0	1.05E+05	2.58E+05	5.07	6.79	13.9	17.5
$NO3^-$	6.41	2.44E+05	6.01E+05	2.82	4.66	7.51	8.55
$NO2^-$	1.64	4.63E+04	1.14E+05	0.948	1.31	1.88	2.62
$CO3^{2-}$	0.501	1.85E+04	4.55E+04	0.347	0.396	0.604	0.660
$PO4^{3-}$	6.71E-02	3.91E+03	9.64E+03	5.52E-02	6.34E-02	6.86E-02	7.01E-02
$SO4^{2-}$	0.189	1.11E+04	2.75E+04	0.108	0.150	0.223	0.312
Si (as SiO_x^{2-})	7.49E-02	1.29E+03	3.18E+03	4.43E-02	6.07E-02	8.65E-02	9.54E-02
F^-	5.44E-02	635	1.57E+03	4.64E-02	5.13E-02	5.66E-02	5.51E-02
Cl^-	0.129	2.80E+03	6.91E+03	6.93E-02	9.85E-02	0.135	0.135
$C_6H_5O_7^{3-}$	2.34E-02	2.71E+03	6.69E+03	1.93E-02	2.27E-02	2.38E-02	2.39E-02
$EDTA^{4-}$	5.24E-03	928	2.29E+03	4.62E-03	5.06E-03	5.34E-03	5.36E-03
$HEDTA^{3-}$	7.08E-04	119	294	2.14E-04	4.82E-04	8.89E-04	9.05E-04
$glycolate^-$	1.65E-02	758	1.87E+03	8.32E-03	1.28E-02	1.93E-02	1.87E-02
$acetate^-$	3.12E-02	1.13E+03	2.79E+03	2.72E-02	3.07E-02	3.15E-02	3.19E-02
$oxalate^{2-}$	2.62E-06	0.142	0.349	1.92E-06	2.39E-06	2.86E-06	2.99E-06
DBP	2.48E-02	3.20E+03	7.90E+03	2.14E-02	2.37E-02	2.54E-02	2.53E-02
butanol	2.48E-02	1.13E+03	2.79E+03	2.14E-02	2.37E-02	2.54E-02	2.53E-02
NH_3	1.32E-02	137	339	6.51E-03	9.41E-03	1.71E-02	1.85E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.46E+06 (kg)	(400 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.89E+03 BTU/hr)	----	1.43	1.92	2.57	2.72
Bulk Density	1.63 (g/cc)	----	----	1.32	1.48	1.74	1.87
Void Fraction	0.774	----	----	0.479	0.664	0.902	0.983
Water wt%	36.6	----	----	17.1	26.7	49.6	61.3
TOC wt% C (wet)	0.437	----	----	0.344	0.416	0.463	0.472
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	7.83E-02	193	1.25E-08	1.25E-08	1.29E-04	1.30E-04
C-14	3.32E-05	2.04E-02	50.3	1.74E-09	1.74E-09	3.44E-05	3.56E-05
Ni-59	3.54E-06	2.18E-03	5.37	4.93E-10	4.93E-10	3.70E-06	3.85E-06
Ni-63	3.52E-04	0.216	533	4.96E-08	4.96E-08	3.67E-04	3.82E-04
Co-60	3.11E-05	1.91E-02	47.1	2.54E-09	2.54E-09	3.13E-05	3.17E-05
Se-79	2.79E-06	1.71E-03	4.22	3.87E-10	3.87E-10	3.41E-06	4.00E-06
Sr-90	0.124	76.4	1.88E+05	9.71E-02	0.117	0.132	0.140
Y-90	0.124	76.4	1.88E+05	4.13E-05	4.13E-05	0.132	0.140
Zr-93	1.34E-05	8.26E-03	20.4	1.83E-09	1.83E-09	1.66E-05	1.94E-05
Nb-93m	9.73E-06	5.98E-03	14.7	1.33E-09	1.33E-09	1.19E-05	1.39E-05
Tc-99	1.85E-04	0.114	280	9.55E-05	1.45E-04	2.16E-04	2.11E-04
Ru-106	6.21E-09	3.81E-06	9.40E-03	4.21E-12	4.21E-12	6.78E-09	7.25E-09
Cd-113m	7.13E-05	4.38E-02	108	8.86E-09	8.86E-09	9.00E-05	1.06E-04
Sb-125	1.39E-04	8.56E-02	211	1.39E-08	1.39E-08	1.40E-04	1.42E-04
Sn-126	4.17E-06	2.56E-03	6.31	5.93E-10	5.93E-10	5.11E-06	5.99E-06
I-129	3.58E-07	2.20E-04	0.542	1.84E-07	2.81E-07	4.19E-07	4.08E-07
Cs-134	1.51E-06	9.31E-04	2.29	9.19E-10	9.19E-10	1.52E-06	1.53E-06
Cs-137	0.147	90.3	2.23E+05	6.20E-02	0.104	0.174	0.187
Ba-137m	0.139	85.4	2.11E+05	4.50E-05	4.50E-05	0.140	0.141
Sm-151	9.64E-03	5.92	1.46E+04	1.40E-06	1.40E-06	1.18E-02	1.38E-02
Eu-152	4.39E-06	2.69E-03	6.64	1.47E-08	1.47E-08	4.40E-06	4.41E-06
Eu-154	5.25E-04	0.322	795	5.03E-08	5.03E-08	6.80E-04	6.53E-04
Eu-155	2.66E-04	0.163	403	1.05E-06	1.05E-06	2.66E-04	2.67E-04
Ra-226	1.34E-10	8.23E-08	2.03E-04	2.53E-14	2.53E-14	1.69E-10	2.00E-10
Ra-228	1.66E-06	1.02E-03	2.52	1.21E-09	1.21E-09	1.68E-06	1.69E-06
Ac-227	5.60E-09	3.44E-06	8.48E-03	3.71E-09	3.71E-09	6.23E-09	6.81E-09
Pa-231	1.53E-08	9.38E-06	2.31E-02	5.49E-09	5.49E-09	1.83E-08	2.13E-08
Th-229	3.89E-08	2.39E-05	5.89E-02	5.48E-10	5.48E-10	3.92E-08	3.96E-08
Th-232	6.14E-08	3.77E-05	9.30E-02	5.64E-11	5.64E-11	7.83E-08	9.45E-08
U-232	9.33E-06	5.73E-03	14.1	4.23E-06	6.82E-06	1.23E-05	1.54E-05
U-233	3.57E-05	2.20E-02	54.1	1.62E-05	2.61E-05	4.69E-05	5.89E-05
U-234	2.84E-06	1.74E-03	4.30	2.26E-06	2.69E-06	2.95E-06	3.06E-06
U-235	1.06E-07	6.54E-05	0.161	8.80E-08	1.00E-07	1.11E-07	1.15E-07
U-236	9.34E-08	5.74E-05	0.141	7.90E-08	8.89E-08	9.75E-08	1.01E-07
U-238	5.57E-06	3.42E-03	8.43	5.05E-06	5.43E-06	5.67E-06	5.77E-06
Np-237	6.21E-07	3.81E-04	0.940	3.36E-07	4.94E-07	7.20E-07	6.97E-07
Pu-238	3.87E-06	2.38E-03	5.86	2.50E-06	3.18E-06	4.57E-06	5.23E-06
Pu-239	1.47E-04	9.02E-02	222	1.01E-04	1.24E-04	1.69E-04	1.91E-04
Pu-240	2.56E-05	1.57E-02	38.7	1.75E-05	2.15E-05	2.96E-05	3.34E-05
Pu-241	2.90E-04	0.178	440	1.92E-04	2.40E-04	3.40E-04	3.89E-04
Pu-242	1.17E-09	7.21E-07	1.78E-03	7.01E-10	9.34E-10	1.41E-09	1.65E-09
Am-241	4.35E-05	2.67E-02	65.9	1.52E-05	2.91E-05	5.73E-05	6.79E-05
Am-243	1.51E-09	9.25E-07	2.28E-03	4.64E-10	9.62E-10	2.05E-09	2.49E-09
Cm-242	7.73E-10	4.75E-07	1.17E-03	2.13E-10	2.13E-10	7.78E-10	7.84E-10
Cm-243	1.73E-11	1.06E-08	2.62E-05	5.87E-12	5.87E-12	1.74E-11	1.75E-11
Cm-244	2.03E-10	1.25E-07	3.08E-04	4.38E-12	4.38E-12	2.05E-10	2.06E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.14E-03 (g/L)	----	3.24	1.33E-03	1.74E-03	2.53E-03	2.91E-03
U	3.02E-02	4.41E+03	1.09E+04	2.49E-02	2.84E-02	3.15E-02	3.27E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.46E+06 (kg)	(400 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.89E+03 BTU/hr)	----	1.43	1.92	2.57	2.72
Bulk Density†	1.63 (g/cc)	----	----	1.32	1.48	1.74	1.87
Water wt%†	36.6	----	----	17.1	26.7	49.6	61.3
TOC wt% C (wet)†	0.437	----	----	0.344	0.416	0.463	0.472
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.28E-04	7.83E-02	193	1.25E-08	1.25E-08	1.29E-04	1.30E-04
C-14	3.32E-05	2.04E-02	50.3	1.74E-09	1.74E-09	3.44E-05	3.56E-05
Ni-59	3.54E-06	2.18E-03	5.37	4.93E-10	4.93E-10	3.70E-06	3.85E-06
Ni-63	3.52E-04	0.216	533	4.96E-08	4.96E-08	3.67E-04	3.82E-04
Co-60	3.11E-05	1.91E-02	47.1	2.54E-09	2.54E-09	3.13E-05	3.17E-05
Se-79	2.79E-06	1.71E-03	4.22	3.87E-10	3.87E-10	3.41E-06	4.00E-06
Sr-90	0.124	76.4	1.88E+05	9.71E-02	0.117	0.132	0.140
Y-90	0.124	76.4	1.88E+05	4.13E-05	4.13E-05	0.132	0.140
Zr-93	1.34E-05	8.26E-03	20.4	1.83E-09	1.83E-09	1.66E-05	1.94E-05
Nb-93m	9.73E-06	5.98E-03	14.7	1.33E-09	1.33E-09	1.19E-05	1.39E-05
Tc-99	1.85E-04	0.114	280	9.55E-05	1.45E-04	2.16E-04	2.11E-04
Ru-106	6.21E-09	3.81E-06	9.40E-03	4.21E-12	4.21E-12	6.78E-09	7.25E-09
Cd-113m	7.13E-05	4.38E-02	108	8.86E-09	8.86E-09	9.00E-05	1.06E-04
Sb-125	1.39E-04	8.56E-02	211	1.39E-08	1.39E-08	1.40E-04	1.42E-04
Sn-126	4.17E-06	2.56E-03	6.31	5.93E-10	5.93E-10	5.11E-06	5.99E-06
I-129	3.58E-07	2.20E-04	0.542	1.84E-07	2.81E-07	4.19E-07	4.08E-07
Cs-134	1.51E-06	9.31E-04	2.29	9.19E-10	9.19E-10	1.52E-06	1.53E-06
Cs-137	0.147	90.3	2.23E+05	6.20E-02	0.104	0.174	0.187
Ba-137m	0.139	85.4	2.11E+05	4.50E-05	4.50E-05	0.140	0.141
Sm-151	9.64E-03	5.92	1.46E+04	1.40E-06	1.40E-06	1.18E-02	1.38E-02
Eu-152	4.39E-06	2.69E-03	6.64	1.47E-08	1.47E-08	4.40E-06	4.41E-06
Eu-154	5.25E-04	0.322	795	5.03E-08	5.03E-08	6.80E-04	6.53E-04
Eu-155	2.66E-04	0.163	403	1.05E-06	1.05E-06	2.66E-04	2.67E-04
Ra-226	1.34E-10	8.23E-08	2.03E-04	2.53E-14	2.53E-14	1.69E-10	2.00E-10
Ra-228	1.66E-06	1.02E-03	2.52	1.21E-09	1.21E-09	1.68E-06	1.69E-06
Ac-227	5.60E-09	3.44E-06	8.48E-03	3.71E-09	3.71E-09	6.23E-09	6.81E-09
Pa-231	1.53E-08	9.38E-06	2.31E-02	5.49E-09	5.49E-09	1.83E-08	2.13E-08
Th-229	3.89E-08	2.39E-05	5.89E-02	5.48E-10	5.48E-10	3.92E-08	3.96E-08
Th-232	6.14E-08	3.77E-05	9.30E-02	5.64E-11	5.64E-11	7.83E-08	9.45E-08
U-232	9.33E-06	5.73E-03	14.1	4.23E-06	6.82E-06	1.23E-05	1.54E-05
U-233	3.57E-05	2.20E-02	54.1	1.62E-05	2.61E-05	4.69E-05	5.89E-05
U-234	2.84E-06	1.74E-03	4.30	2.26E-06	2.69E-06	2.95E-06	3.06E-06
U-235	1.06E-07	6.54E-05	0.161	8.80E-08	1.00E-07	1.11E-07	1.15E-07
U-236	9.34E-08	5.74E-05	0.141	7.90E-08	8.89E-08	9.75E-08	1.01E-07
U-238	5.57E-06	3.42E-03	8.43	5.05E-06	5.43E-06	5.67E-06	5.77E-06
Np-237	6.21E-07	3.81E-04	0.940	3.36E-07	4.94E-07	7.20E-07	6.97E-07
Pu-238	3.87E-06	2.38E-03	5.86	2.50E-06	3.18E-06	4.57E-06	5.23E-06
Pu-239	1.47E-04	9.02E-02	222	1.01E-04	1.24E-04	1.69E-04	1.91E-04
Pu-240	2.56E-05	1.57E-02	38.7	1.75E-05	2.15E-05	2.96E-05	3.34E-05
Pu-241	2.90E-04	0.178	440	1.92E-04	2.40E-04	3.40E-04	3.89E-04
Pu-242	1.17E-09	7.21E-07	1.78E-03	7.01E-10	9.34E-10	1.41E-09	1.65E-09
Am-241	4.35E-05	2.67E-02	65.9	1.52E-05	2.91E-05	5.73E-05	6.79E-05
Am-243	1.51E-09	9.25E-07	2.28E-03	4.64E-10	9.62E-10	2.05E-09	2.49E-09
Cm-242	7.73E-10	4.75E-07	1.17E-03	2.13E-10	2.13E-10	7.78E-10	7.84E-10
Cm-243	1.73E-11	1.06E-08	2.62E-05	5.87E-12	5.87E-12	1.74E-11	1.75E-11
Cm-244	2.03E-10	1.25E-07	3.08E-04	4.38E-12	4.38E-12	2.05E-10	2.06E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.14E-03 (g/L)	----	3.24	1.33E-03	1.74E-03	2.53E-03	2.91E-03
U	3.02E-02	4.41E+03	1.09E+04	2.49E-02	2.84E-02	3.15E-02	3.27E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.09E+06 (kg)	(326 kgal)	----	----	----	----	----
Heat Load	3.38 (kW)	(1.16E+04 BTU/hr)	----	2.99	3.21	3.50	3.57
Bulk Density	1.70 (g/cc)	----	----	1.50	1.52	1.87	1.83
Void Fraction	0.658	----	----	0.495	0.497	0.820	0.843
Water wt%	31.5	----	----	20.9	21.4	43.7	45.7
TOC wt% C (wet)	0.384	----	----	0.336	0.348	0.429	0.436

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.0	1.76E+05	3.69E+05	8.96	9.46	16.6	16.0
Al^{3+}	1.14	1.81E+04	3.80E+04	0.492	0.707	1.67	2.18
Fe^{3+} (total Fe)	0.451	1.49E+04	3.11E+04	0.439	0.445	0.458	0.464
Cr^{3+}	3.05E-02	934	1.95E+03	2.45E-02	2.76E-02	3.16E-02	3.27E-02
Bi^{3+}	0.132	1.62E+04	3.40E+04	0.123	0.127	0.136	0.140
La^{3+}	1.10E-06	9.05E-02	0.189	9.13E-07	1.03E-06	1.15E-06	1.13E-06
Hg^{2+}	1.96E-05	2.31	4.84	1.76E-05	1.86E-05	2.06E-05	2.15E-05
Zr (as $ZrO(OH)_2$)	1.83E-05	0.986	2.06	1.51E-05	1.67E-05	1.90E-05	1.90E-05
Pb^{2+}	3.06E-03	374	783	1.67E-03	2.35E-03	3.77E-03	4.46E-03
Ni^{2+}	6.69E-02	2.32E+03	4.85E+03	6.44E-02	6.57E-02	6.75E-02	6.81E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	56.7	119	1.29E-03	1.52E-03	1.99E-03	2.21E-03
Ca^{2+}	0.179	4.22E+03	8.83E+03	0.130	0.154	0.204	0.227
K^{+}	2.55E-02	589	1.23E+03	1.96E-02	2.29E-02	2.82E-02	2.86E-02
OH^{-}	6.53	6.55E+04	1.37E+05	3.80	4.75	8.67	10.7
$NO3^{-}$	8.50	3.11E+05	6.51E+05	3.68	4.28	12.7	9.69
$NO2^{-}$	1.50	4.07E+04	8.52E+04	1.12	1.08	2.00	2.08
$CO3^{2-}$	0.412	1.46E+04	3.05E+04	0.327	0.354	0.469	0.500
$PO4^{3-}$	0.200	1.12E+04	2.34E+04	0.191	0.179	0.221	0.319
$SO4^{2-}$	0.149	8.43E+03	1.76E+04	0.104	0.119	0.178	0.217
Si (as SiO_x^{2-})	7.13E-02	1.18E+03	2.47E+03	4.99E-02	4.99E-02	0.191	0.305
F^{-}	8.13E-02	910	1.90E+03	7.46E-02	4.72E-02	0.247	0.763
Cl^{-}	8.96E-02	1.87E+03	3.92E+03	5.67E-02	7.29E-02	0.102	0.103
$C_6H_5O_7^{3-}$	1.29E-02	1.44E+03	3.01E+03	1.07E-02	1.25E-02	1.31E-02	1.32E-02
$EDTA^{4-}$	2.90E-03	492	1.03E+03	2.55E-03	2.79E-03	2.95E-03	2.96E-03
$HEDTA^{3-}$	3.91E-04	63.2	132	1.18E-04	2.66E-04	4.91E-04	5.00E-04
$glycolate^{-}$	9.09E-03	402	841	4.60E-03	7.09E-03	1.06E-02	1.04E-02
$acetate^{-}$	1.72E-02	600	1.26E+03	1.50E-02	1.70E-02	1.74E-02	1.76E-02
$oxalate^{2-}$	1.45E-06	7.51E-02	0.157	1.06E-06	1.32E-06	1.58E-06	1.65E-06
DBP	1.37E-02	1.70E+03	3.56E+03	1.18E-02	1.31E-02	1.41E-02	1.40E-02
butanol	1.37E-02	599	1.25E+03	1.18E-02	1.31E-02	1.41E-02	1.40E-02
NH_3	0.143	1.43E+03	2.99E+03	6.95E-02	8.16E-02	0.145	0.146
$Fe(CN)_6^{4-}$	3.59E-02	5.74E+03	1.20E+04	3.59E-02	3.59E-02	3.59E-02	3.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.09E+06 (kg)	(326 kgal)	----	----	----	----	----
Heat Load	3.38 (kW)	(1.16E+04 BTU/hr)	----	2.99	3.21	3.50	3.57
Bulk Density†	1.70 (g/cc)	----	----	1.50	1.52	1.87	1.83
Water wt%†	31.5	----	----	20.9	21.4	43.7	45.7
TOC wt% C (wet)†	0.384	----	----	0.336	0.348	0.429	0.436

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.0	1.76E+05	3.69E+05	8.96	9.46	16.6	16.0
Al^{3+}	1.14	1.81E+04	3.80E+04	0.492	0.707	1.67	2.18
Fe^{3+} (total Fe)	0.451	1.49E+04	3.11E+04	0.439	0.445	0.458	0.464
Cr^{3+}	3.05E-02	934	1.95E+03	2.45E-02	2.76E-02	3.16E-02	3.27E-02
Bi^{3+}	0.132	1.62E+04	3.40E+04	0.123	0.127	0.136	0.140
La^{3+}	1.10E-06	9.05E-02	0.189	9.13E-07	1.03E-06	1.15E-06	1.13E-06
Hg^{2+}	1.96E-05	2.31	4.84	1.76E-05	1.86E-05	2.06E-05	2.15E-05
Zr (as $ZrO(OH)_2$)	1.83E-05	0.986	2.06	1.51E-05	1.67E-05	1.90E-05	1.90E-05
Pb^{2+}	3.06E-03	374	783	1.67E-03	2.35E-03	3.77E-03	4.46E-03
Ni^{2+}	6.69E-02	2.32E+03	4.85E+03	6.44E-02	6.57E-02	6.75E-02	6.81E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	56.7	119	1.29E-03	1.52E-03	1.99E-03	2.21E-03
Ca^{2+}	0.179	4.22E+03	8.83E+03	0.130	0.154	0.204	0.227
K^{+}	2.55E-02	589	1.23E+03	1.96E-02	2.29E-02	2.82E-02	2.86E-02
OH^{-}	6.53	6.55E+04	1.37E+05	3.80	4.75	8.67	10.7
$NO3^{-}$	8.50	3.11E+05	6.51E+05	3.68	4.28	12.7	9.69
$NO2^{-}$	1.50	4.07E+04	8.52E+04	1.12	1.08	2.00	2.08
$CO3^{2-}$	0.412	1.46E+04	3.05E+04	0.327	0.354	0.469	0.500
$PO4^{3-}$	0.200	1.12E+04	2.34E+04	0.191	0.179	0.221	0.319
$SO4^{2-}$	0.149	8.43E+03	1.76E+04	0.104	0.119	0.178	0.217
Si (as SiO_x^{2-})	7.13E-02	1.18E+03	2.47E+03	4.99E-02	4.99E-02	0.191	0.305
F^{-}	8.13E-02	910	1.90E+03	7.46E-02	4.72E-02	0.247	0.763
Cl^{-}	8.96E-02	1.87E+03	3.92E+03	5.67E-02	7.29E-02	0.102	0.103
$C_6H_5O_7^{3-}$	1.29E-02	1.44E+03	3.01E+03	1.07E-02	1.25E-02	1.31E-02	1.32E-02
$EDTA^{4-}$	2.90E-03	492	1.03E+03	2.55E-03	2.79E-03	2.95E-03	2.96E-03
$HEDTA^{3-}$	3.91E-04	63.2	132	1.18E-04	2.66E-04	4.91E-04	5.00E-04
$glycolate^{-}$	9.09E-03	402	841	4.60E-03	7.09E-03	1.06E-02	1.04E-02
$acetate^{-}$	1.72E-02	600	1.26E+03	1.50E-02	1.70E-02	1.74E-02	1.76E-02
$oxalate^{2-}$	1.45E-06	7.51E-02	0.157	1.06E-06	1.32E-06	1.58E-06	1.65E-06
DBP	1.37E-02	1.70E+03	3.56E+03	1.18E-02	1.31E-02	1.41E-02	1.40E-02
butanol	1.37E-02	599	1.25E+03	1.18E-02	1.31E-02	1.41E-02	1.40E-02
NH_3	0.143	1.43E+03	2.99E+03	6.95E-02	8.16E-02	0.145	0.146
$Fe(CN)_6^{4-}$	3.59E-02	5.74E+03	1.20E+04	3.59E-02	3.59E-02	3.59E-02	3.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.09E+06 (kg)	(326 kgal)	----	----	----	----	----
Heat Load	3.38 (kW)	(1.16E+04 BTU/hr)	----	2.99	3.21	3.50	3.57
Bulk Density	1.70 (g/cc)	----	----	1.50	1.52	1.87	1.83
Void Fraction	0.658	----	----	0.495	0.497	0.820	0.843
Water wt%	31.5	----	----	20.9	21.4	43.7	45.7
TOC wt% C (wet)	0.384	----	----	0.336	0.348	0.429	0.436

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.16E-05	4.22E-02	88.4	1.21E-06	1.21E-06	7.26E-05	7.31E-05
C-14	1.85E-05	1.09E-02	22.8	1.68E-07	1.68E-07	1.92E-05	1.98E-05
Ni-59	3.80E-06	2.24E-03	4.68	1.84E-06	1.84E-06	3.88E-06	3.96E-06
Ni-63	3.60E-04	0.212	444	1.66E-04	1.66E-04	3.69E-04	3.77E-04
Co-60	1.72E-05	1.01E-02	21.2	3.85E-08	3.85E-08	1.74E-05	1.76E-05
Se-79	1.57E-06	9.28E-04	1.94	3.55E-08	3.55E-08	1.92E-06	2.24E-06
Sr-90	0.227	134	2.80E+05	0.212	0.223	0.231	0.235
Y-90	0.227	134	2.80E+05	0.158	0.158	0.231	0.235
Zr-93	7.60E-06	4.48E-03	9.37	1.69E-07	1.69E-07	9.32E-06	1.09E-05
Nb-93m	5.51E-06	3.25E-03	6.80	1.42E-07	1.42E-07	6.73E-06	7.81E-06
Tc-99	1.03E-04	6.09E-02	128	5.39E-05	8.13E-05	1.21E-04	1.18E-04
Ru-106	3.43E-09	2.02E-06	4.23E-03	1.60E-14	1.60E-14	3.74E-09	4.00E-09
Cd-113m	3.98E-05	2.34E-02	49.1	4.12E-07	4.12E-07	5.01E-05	5.90E-05
Sb-125	7.70E-05	4.54E-02	95.0	3.57E-08	3.57E-08	7.76E-05	7.86E-05
Sn-126	2.35E-06	1.39E-03	2.91	5.34E-08	5.34E-08	2.87E-06	3.36E-06
I-129	2.00E-07	1.18E-04	0.247	1.04E-07	1.57E-07	2.34E-07	2.28E-07
Cs-134	8.51E-07	5.02E-04	1.05	1.45E-08	1.45E-08	8.55E-07	8.62E-07
Cs-137	0.259	153	3.20E+05	0.212	0.235	0.274	0.281
Ba-137m	0.245	144	3.02E+05	0.168	0.168	0.245	0.246
Sm-151	5.46E-03	3.22	6.73E+03	1.32E-04	1.32E-04	6.67E-03	7.74E-03
Eu-152	2.71E-06	1.60E-03	3.34	2.93E-07	2.93E-07	2.71E-06	2.72E-06
Eu-154	2.91E-04	0.171	359	6.94E-07	6.94E-07	3.76E-04	3.61E-04
Eu-155	1.68E-04	9.93E-02	208	2.21E-05	2.21E-05	1.69E-04	1.69E-04
Ra-226	8.36E-11	4.93E-08	1.03E-04	9.68E-12	9.68E-12	1.03E-10	3.94E-10
Ra-228	9.18E-07	5.41E-04	1.13	1.12E-15	1.12E-15	9.25E-07	9.34E-07
Ac-227	1.10E-09	6.46E-07	1.35E-03	4.95E-11	4.95E-11	1.44E-09	2.51E-09
Pa-231	5.51E-09	3.25E-06	6.80E-03	1.07E-10	1.07E-10	7.20E-09	8.82E-09
Th-229	2.12E-08	1.25E-05	2.61E-02	2.18E-13	2.18E-13	2.14E-08	2.16E-08
Th-232	3.39E-08	2.00E-05	4.18E-02	4.80E-17	4.80E-17	4.32E-08	5.21E-08
U-232	5.12E-06	3.02E-03	6.31	2.30E-06	3.73E-06	6.73E-06	8.45E-06
U-233	1.96E-05	1.16E-02	24.2	8.82E-06	1.43E-05	2.58E-05	3.24E-05
U-234	1.42E-06	8.35E-04	1.75	1.10E-06	1.35E-06	1.48E-06	1.54E-06
U-235	5.27E-08	3.11E-05	6.50E-02	4.25E-08	5.02E-08	5.51E-08	5.76E-08
U-236	4.64E-08	2.74E-05	5.73E-02	3.84E-08	4.42E-08	4.87E-08	5.09E-08
U-238	2.94E-06	1.73E-03	3.62	2.65E-06	2.88E-06	2.99E-06	3.04E-06
Np-237	3.50E-07	2.06E-04	0.432	1.93E-07	2.80E-07	4.05E-07	3.92E-07
Pu-238	1.38E-06	8.12E-04	1.70	6.21E-07	9.95E-07	1.76E-06	2.13E-06
Pu-239	5.04E-05	2.97E-02	62.2	2.50E-05	3.79E-05	6.28E-05	9.82E-05
Pu-240	8.52E-06	5.02E-03	10.5	4.08E-06	6.30E-06	1.07E-05	1.29E-05
Pu-241	9.90E-05	5.83E-02	122	4.44E-05	7.13E-05	1.27E-04	1.53E-04
Pu-242	4.76E-10	2.81E-07	5.88E-04	2.15E-10	3.44E-10	6.09E-10	7.37E-10
Am-241	2.43E-05	1.44E-02	30.0	8.69E-06	1.64E-05	3.20E-05	3.78E-05
Am-243	8.34E-10	4.92E-07	1.03E-03	2.59E-10	5.34E-10	1.13E-09	1.38E-09
Cm-242	5.68E-09	3.35E-06	7.01E-03	5.37E-09	5.37E-09	5.74E-09	5.75E-09
Cm-243	1.16E-10	6.86E-08	1.44E-04	1.10E-10	1.10E-10	1.18E-10	1.18E-10
Cm-244	1.63E-10	9.63E-08	2.02E-04	5.34E-11	5.34E-11	1.98E-10	2.03E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.61E-04 (g/L)	----	0.816	2.14E-04	4.40E-04	8.80E-04	1.45E-03
U	1.49E-02	2.09E+03	4.38E+03	1.20E-02	1.42E-02	1.56E-02	1.63E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.09E+06 (kg)	(326 kgal)	----	----	----	----	----
Heat Load	3.38 (kW)	(1.16E+04 BTU/hr)	----	2.99	3.21	3.50	3.57
Bulk Density†	1.70 (g/cc)	----	----	1.50	1.52	1.87	1.83
Water wt%†	31.5	----	----	20.9	21.4	43.7	45.7
TOC wt% C (wet)†	0.384	----	----	0.336	0.348	0.429	0.436

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.16E-05	4.22E-02	88.4	1.21E-06	1.21E-06	7.26E-05	7.31E-05
C-14	1.85E-05	1.09E-02	22.8	1.68E-07	1.68E-07	1.92E-05	1.98E-05
Ni-59	3.80E-06	2.24E-03	4.68	1.84E-06	1.84E-06	3.88E-06	3.96E-06
Ni-63	3.60E-04	0.212	444	1.66E-04	1.66E-04	3.69E-04	3.77E-04
Co-60	1.72E-05	1.01E-02	21.2	3.85E-08	3.85E-08	1.74E-05	1.76E-05
Se-79	1.57E-06	9.28E-04	1.94	3.55E-08	3.55E-08	1.92E-06	2.24E-06
Sr-90	0.227	134	2.80E+05	0.212	0.223	0.231	0.235
Y-90	0.227	134	2.80E+05	0.158	0.158	0.231	0.235
Zr-93	7.60E-06	4.48E-03	9.37	1.69E-07	1.69E-07	9.32E-06	1.09E-05
Nb-93m	5.51E-06	3.25E-03	6.80	1.42E-07	1.42E-07	6.73E-06	7.81E-06
Tc-99	1.03E-04	6.09E-02	128	5.39E-05	8.13E-05	1.21E-04	1.18E-04
Ru-106	3.43E-09	2.02E-06	4.23E-03	1.60E-14	1.60E-14	3.74E-09	4.00E-09
Cd-113m	3.98E-05	2.34E-02	49.1	4.12E-07	4.12E-07	5.01E-05	5.90E-05
Sb-125	7.70E-05	4.54E-02	95.0	3.57E-08	3.57E-08	7.76E-05	7.86E-05
Sn-126	2.35E-06	1.39E-03	2.91	5.34E-08	5.34E-08	2.87E-06	3.36E-06
I-129	2.00E-07	1.18E-04	0.247	1.04E-07	1.57E-07	2.34E-07	2.28E-07
Cs-134	8.51E-07	5.02E-04	1.05	1.45E-08	1.45E-08	8.55E-07	8.62E-07
Cs-137	0.259	153	3.20E+05	0.212	0.235	0.274	0.281
Ba-137m	0.245	144	3.02E+05	0.168	0.168	0.245	0.246
Sm-151	5.46E-03	3.22	6.73E+03	1.32E-04	1.32E-04	6.67E-03	7.74E-03
Eu-152	2.71E-06	1.60E-03	3.34	2.93E-07	2.93E-07	2.71E-06	2.72E-06
Eu-154	2.91E-04	0.171	359	6.94E-07	6.94E-07	3.76E-04	3.61E-04
Eu-155	1.68E-04	9.93E-02	208	2.21E-05	2.21E-05	1.69E-04	1.69E-04
Ra-226	8.36E-11	4.93E-08	1.03E-04	9.68E-12	9.68E-12	1.03E-10	3.94E-10
Ra-228	9.18E-07	5.41E-04	1.13	1.12E-15	1.12E-15	9.25E-07	9.34E-07
Ac-227	1.10E-09	6.46E-07	1.35E-03	4.95E-11	4.95E-11	1.44E-09	2.51E-09
Pa-231	5.51E-09	3.25E-06	6.80E-03	1.07E-10	1.07E-10	7.20E-09	8.82E-09
Th-229	2.12E-08	1.25E-05	2.61E-02	2.18E-13	2.18E-13	2.14E-08	2.16E-08
Th-232	3.39E-08	2.00E-05	4.18E-02	4.80E-17	4.80E-17	4.32E-08	5.21E-08
U-232	5.12E-06	3.02E-03	6.31	2.30E-06	3.73E-06	6.73E-06	8.45E-06
U-233	1.96E-05	1.16E-02	24.2	8.82E-06	1.43E-05	2.58E-05	3.24E-05
U-234	1.42E-06	8.35E-04	1.75	1.10E-06	1.35E-06	1.48E-06	1.54E-06
U-235	5.27E-08	3.11E-05	6.50E-02	4.25E-08	5.02E-08	5.51E-08	5.76E-08
U-236	4.64E-08	2.74E-05	5.73E-02	3.84E-08	4.42E-08	4.87E-08	5.09E-08
U-238	2.94E-06	1.73E-03	3.62	2.65E-06	2.88E-06	2.99E-06	3.04E-06
Np-237	3.50E-07	2.06E-04	0.432	1.93E-07	2.80E-07	4.05E-07	3.92E-07
Pu-238	1.38E-06	8.12E-04	1.70	6.21E-07	9.95E-07	1.76E-06	2.13E-06
Pu-239	5.04E-05	2.97E-02	62.2	2.50E-05	3.79E-05	6.28E-05	9.82E-05
Pu-240	8.52E-06	5.02E-03	10.5	4.08E-06	6.30E-06	1.07E-05	1.29E-05
Pu-241	9.89E-05	5.83E-02	122	4.44E-05	7.13E-05	1.27E-04	1.53E-04
Pu-242	4.76E-10	2.81E-07	5.88E-04	2.15E-10	3.44E-10	6.09E-10	7.37E-10
Am-241	2.43E-05	1.44E-02	30.0	8.69E-06	1.64E-05	3.20E-05	3.78E-05
Am-243	8.34E-10	4.92E-07	1.03E-03	2.59E-10	5.34E-10	1.13E-09	1.38E-09
Cm-242	5.68E-09	3.35E-06	7.01E-03	5.37E-09	5.37E-09	5.74E-09	5.75E-09
Cm-243	1.16E-10	6.86E-08	1.44E-04	1.10E-10	1.10E-10	1.18E-10	1.18E-10
Cm-244	1.63E-10	9.63E-08	2.02E-04	5.34E-11	5.34E-11	1.98E-10	2.03E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.61E-04 (g/L)	----	0.816	2.14E-04	4.40E-04	8.80E-04	1.45E-03
U	1.49E-02	2.09E+03	4.38E+03	1.20E-02	1.42E-02	1.56E-02	1.63E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.19E+06 (kg)	(503 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.45	3.88	4.44	4.56
Bulk Density	1.68 (g/cc)	----	----	1.47	1.57	1.79	1.84
Void Fraction	0.679	----	----	0.476	0.580	0.778	0.822
Water wt%	33.1	----	----	19.9	26.5	41.3	47.9
TOC wt% C (wet)	0.386	----	----	0.326	0.362	0.412	0.416

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.6	1.73E+05	5.51E+05	8.35	10.4	14.8	16.3
Al^{3+}	1.44	2.32E+04	7.42E+04	0.639	0.906	2.10	2.73
Fe^{3+} (total Fe)	0.296	9.88E+03	3.15E+04	0.289	0.293	0.300	0.304
Cr^{3+}	3.74E-02	1.16E+03	3.70E+03	2.99E-02	3.38E-02	3.88E-02	4.02E-02
Bi^{3+}	8.11E-02	1.01E+04	3.23E+04	7.58E-02	7.84E-02	8.38E-02	8.64E-02
La^{3+}	1.37E-06	0.114	0.363	1.13E-06	1.28E-06	1.43E-06	1.40E-06
Hg^{2+}	2.43E-05	2.91	9.27	2.19E-05	2.30E-05	2.55E-05	2.67E-05
Zr (as $ZrO(OH)_2$)	2.28E-05	1.24	3.95	1.87E-05	2.08E-05	2.35E-05	2.36E-05
Pb^{2+}	3.80E-03	470	1.50E+03	2.07E-03	2.92E-03	4.68E-03	5.53E-03
Ni^{2+}	4.56E-02	1.60E+03	5.10E+03	4.25E-02	4.41E-02	4.63E-02	4.64E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.17E-03	71.2	227	1.60E-03	1.88E-03	2.46E-03	2.75E-03
Ca^{2+}	0.469	1.12E+04	3.58E+04	0.439	0.454	0.485	0.499
K^{+}	2.92E-02	680	2.17E+03	2.18E-02	2.58E-02	3.20E-02	3.10E-02
OH^{-}	8.22	8.33E+04	2.66E+05	4.82	6.00	10.9	13.3
$NO3^{-}$	7.44	2.75E+05	8.78E+05	4.47	4.84	10.0	8.91
$NO2^{-}$	1.49	4.08E+04	1.30E+05	1.01	1.23	1.79	2.16
$CO3^{2-}$	0.484	1.73E+04	5.53E+04	0.379	0.412	0.555	0.593
$PO4^{3-}$	0.159	8.99E+03	2.87E+04	0.151	0.146	0.171	0.232
$SO4^{2-}$	0.171	9.77E+03	3.12E+04	0.115	0.144	0.194	0.255
Si (as SiO_x^{2-})	0.171	2.87E+03	9.15E+03	0.150	0.158	0.244	0.315
F^{-}	6.87E-02	779	2.49E+03	6.32E-02	4.78E-02	0.171	0.487
Cl^{-}	9.96E-02	2.10E+03	6.72E+03	5.88E-02	7.88E-02	0.107	0.108
$C_6H_5O_7^{3-}$	1.60E-02	1.81E+03	5.76E+03	1.32E-02	1.56E-02	1.63E-02	1.64E-02
$EDTA^{4-}$	3.59E-03	618	1.97E+03	3.17E-03	3.47E-03	3.66E-03	3.67E-03
$HEDTA^{3-}$	4.85E-04	79.3	253	1.47E-04	3.30E-04	6.10E-04	6.20E-04
$glycolate^{-}$	1.13E-02	505	1.61E+03	5.71E-03	8.80E-03	1.32E-02	1.28E-02
$acetate^{-}$	2.14E-02	753	2.40E+03	1.86E-02	2.11E-02	2.16E-02	2.18E-02
$oxalate^{2-}$	1.80E-06	9.43E-02	0.301	1.31E-06	1.64E-06	1.96E-06	2.05E-06
DBP	1.70E-02	2.13E+03	6.81E+03	1.47E-02	1.62E-02	1.74E-02	1.74E-02
butanol	1.70E-02	752	2.40E+03	1.47E-02	1.62E-02	1.74E-02	1.74E-02
NH_3	9.21E-02	934	2.98E+03	4.72E-02	5.46E-02	9.48E-02	9.58E-02
$Fe(CN)_6^{4-}$	2.21E-02	3.56E+03	1.14E+04	2.21E-02	2.21E-02	2.21E-02	2.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.19E+06 (kg)	(503 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.45	3.88	4.44	4.56
Bulk Density†	1.68 (g/cc)	----	----	1.47	1.57	1.79	1.84
Water wt%†	33.1	----	----	19.9	26.5	41.3	47.9
TOC wt% C (wet)†	0.386	----	----	0.326	0.362	0.412	0.416

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.6	1.73E+05	5.51E+05	8.35	10.4	14.8	16.3
Al^{3+}	1.44	2.32E+04	7.42E+04	0.639	0.906	2.10	2.73
Fe^{3+} (total Fe)	0.296	9.88E+03	3.15E+04	0.289	0.293	0.300	0.304
Cr^{3+}	3.74E-02	1.16E+03	3.70E+03	2.99E-02	3.38E-02	3.88E-02	4.02E-02
Bi^{3+}	8.11E-02	1.01E+04	3.23E+04	7.58E-02	7.84E-02	8.38E-02	8.64E-02
La^{3+}	1.37E-06	0.114	0.363	1.13E-06	1.28E-06	1.43E-06	1.40E-06
Hg^{2+}	2.43E-05	2.91	9.27	2.19E-05	2.30E-05	2.55E-05	2.67E-05
Zr (as $ZrO(OH)_2$)	2.28E-05	1.24	3.95	1.87E-05	2.08E-05	2.35E-05	2.36E-05
Pb^{2+}	3.80E-03	470	1.50E+03	2.07E-03	2.92E-03	4.68E-03	5.53E-03
Ni^{2+}	4.56E-02	1.60E+03	5.10E+03	4.25E-02	4.41E-02	4.63E-02	4.64E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.17E-03	71.2	227	1.60E-03	1.88E-03	2.46E-03	2.75E-03
Ca^{2+}	0.469	1.12E+04	3.58E+04	0.439	0.454	0.485	0.499
K^{+}	2.92E-02	680	2.17E+03	2.18E-02	2.58E-02	3.20E-02	3.10E-02
OH^{-}	8.22	8.33E+04	2.66E+05	4.82	6.00	10.9	13.3
$NO3^{-}$	7.44	2.75E+05	8.78E+05	4.47	4.84	10.0	8.91
$NO2^{-}$	1.49	4.08E+04	1.30E+05	1.01	1.23	1.79	2.16
$CO3^{2-}$	0.484	1.73E+04	5.53E+04	0.379	0.412	0.555	0.593
$PO4^{3-}$	0.159	8.99E+03	2.87E+04	0.151	0.146	0.171	0.232
$SO4^{2-}$	0.171	9.77E+03	3.12E+04	0.115	0.144	0.194	0.255
Si (as SiO_x^{2-})	0.171	2.87E+03	9.15E+03	0.150	0.158	0.244	0.315
F^{-}	6.87E-02	779	2.49E+03	6.32E-02	4.78E-02	0.171	0.487
Cl^{-}	9.96E-02	2.10E+03	6.72E+03	5.88E-02	7.88E-02	0.107	0.108
$C_6H_5O_7^{3-}$	1.60E-02	1.81E+03	5.76E+03	1.32E-02	1.56E-02	1.63E-02	1.64E-02
$EDTA^{4-}$	3.59E-03	618	1.97E+03	3.17E-03	3.47E-03	3.66E-03	3.67E-03
$HEDTA^{3-}$	4.85E-04	79.3	253	1.47E-04	3.30E-04	6.10E-04	6.20E-04
$glycolate^{-}$	1.13E-02	505	1.61E+03	5.71E-03	8.80E-03	1.32E-02	1.28E-02
$acetate^{-}$	2.14E-02	753	2.40E+03	1.86E-02	2.11E-02	2.16E-02	2.18E-02
$oxalate^{2-}$	1.80E-06	9.43E-02	0.301	1.31E-06	1.64E-06	1.96E-06	2.05E-06
DBP	1.70E-02	2.13E+03	6.81E+03	1.47E-02	1.62E-02	1.74E-02	1.74E-02
butanol	1.70E-02	752	2.40E+03	1.47E-02	1.62E-02	1.74E-02	1.74E-02
NH_3	9.21E-02	934	2.98E+03	4.72E-02	5.46E-02	9.48E-02	9.58E-02
$Fe(CN)_6^{4-}$	2.21E-02	3.56E+03	1.14E+04	2.21E-02	2.21E-02	2.21E-02	2.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.19E+06 (kg)	(503 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.45	3.88	4.44	4.56
Bulk Density	1.68 (g/cc)	----	----	1.47	1.57	1.79	1.84
Void Fraction	0.679	----	----	0.476	0.580	0.778	0.822
Water wt%	33.1	----	----	19.9	26.5	41.3	47.9
TOC wt% C (wet)	0.386	----	----	0.326	0.362	0.412	0.416
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.82E-05	5.26E-02	168	7.75E-07	7.75E-07	8.91E-05	9.00E-05
C-14	2.29E-05	1.37E-02	43.7	1.90E-07	1.90E-07	2.38E-05	2.46E-05
Ni-59	3.56E-06	2.12E-03	6.78	1.13E-06	1.13E-06	3.67E-06	3.77E-06
Ni-63	3.43E-04	0.205	653	1.02E-04	1.02E-04	3.54E-04	3.64E-04
Co-60	2.13E-05	1.27E-02	40.6	2.51E-08	2.51E-08	2.15E-05	2.18E-05
Se-79	1.93E-06	1.15E-03	3.68	2.40E-08	2.40E-08	2.36E-06	2.76E-06
Sr-90	0.182	109	3.47E+05	0.164	0.177	0.188	0.193
Y-90	0.182	109	3.47E+05	9.72E-02	9.72E-02	0.188	0.193
Zr-93	9.33E-06	5.57E-03	17.8	1.14E-07	1.14E-07	1.15E-05	1.34E-05
Nb-93m	6.76E-06	4.03E-03	12.9	9.66E-08	9.66E-08	8.27E-06	9.61E-06
Tc-99	1.28E-04	7.61E-02	243	6.62E-05	1.00E-04	1.49E-04	1.45E-04
Ru-106	4.25E-09	2.54E-06	8.10E-03	9.87E-15	9.87E-15	4.64E-09	4.96E-09
Cd-113m	4.91E-05	2.93E-02	93.5	2.75E-07	2.75E-07	6.19E-05	7.30E-05
Sb-125	9.55E-05	5.70E-02	182	2.27E-08	2.27E-08	9.63E-05	9.75E-05
Sn-126	2.89E-06	1.72E-03	5.51	3.61E-08	3.61E-08	3.54E-06	4.14E-06
I-129	2.47E-07	1.47E-04	0.470	1.28E-07	1.94E-07	2.89E-07	2.81E-07
Cs-134	1.05E-06	6.24E-04	1.99	8.90E-09	8.90E-09	1.05E-06	1.06E-06
Cs-137	0.210	125	4.00E+05	0.152	0.180	0.228	0.237
Ba-137m	0.199	118	3.78E+05	0.103	0.103	0.199	0.200
Sm-151	6.70E-03	3.99	1.27E+04	8.96E-05	8.96E-05	8.20E-03	9.54E-03
Eu-152	3.18E-06	1.90E-03	6.05	1.82E-07	1.82E-07	3.19E-06	3.20E-06
Eu-154	3.60E-04	0.215	686	4.46E-07	4.46E-07	4.67E-04	4.48E-04
Eu-155	1.95E-04	0.117	372	1.39E-05	1.39E-05	1.96E-04	1.96E-04
Ra-226	1.02E-10	6.09E-08	1.94E-04	1.03E-11	1.03E-11	1.26E-10	2.93E-10
Ra-228	1.14E-06	6.79E-04	2.17	7.15E-16	7.15E-16	1.15E-06	1.16E-06
Ac-227	1.34E-09	8.00E-07	2.55E-03	4.13E-11	4.13E-11	1.77E-09	2.21E-09
Pa-231	6.78E-09	4.04E-06	1.29E-02	7.60E-11	7.60E-11	8.87E-09	1.09E-08
Th-229	2.63E-08	1.57E-05	5.01E-02	1.39E-13	1.39E-13	2.65E-08	2.67E-08
Th-232	4.21E-08	2.51E-05	8.01E-02	3.28E-17	3.28E-17	5.36E-08	6.47E-08
U-232	6.35E-06	3.79E-03	12.1	2.86E-06	4.63E-06	8.35E-06	1.05E-05
U-233	2.43E-05	1.45E-02	46.3	1.09E-05	1.77E-05	3.20E-05	4.02E-05
U-234	6.11E-06	3.65E-03	11.6	5.71E-06	6.03E-06	6.19E-06	6.26E-06
U-235	2.61E-07	1.56E-04	0.497	2.49E-07	2.58E-07	2.64E-07	2.67E-07
U-236	8.54E-08	5.09E-05	0.163	7.55E-08	8.26E-08	8.82E-08	9.09E-08
U-238	8.05E-06	4.80E-03	15.3	7.69E-06	7.98E-06	8.12E-06	8.19E-06
Np-237	4.30E-07	2.57E-04	0.819	2.35E-07	3.44E-07	4.98E-07	4.82E-07
Pu-238	1.70E-06	1.02E-03	3.24	7.65E-07	1.23E-06	2.18E-06	2.63E-06
Pu-239	6.17E-05	3.68E-02	118	3.02E-05	4.62E-05	7.71E-05	9.19E-05
Pu-240	1.05E-05	6.27E-03	20.0	4.99E-06	7.74E-06	1.33E-05	1.59E-05
Pu-241	1.23E-04	7.31E-02	233	5.49E-05	8.83E-05	1.57E-04	1.90E-04
Pu-242	5.90E-10	3.52E-07	1.12E-03	2.65E-10	4.25E-10	7.55E-10	9.14E-10
Am-241	3.00E-05	1.79E-02	57.1	1.06E-05	2.01E-05	3.95E-05	4.68E-05
Am-243	1.03E-09	6.16E-07	1.97E-03	3.20E-10	6.61E-10	1.41E-09	1.71E-09
Cm-242	3.69E-09	2.20E-06	7.02E-03	3.30E-09	3.30E-09	3.72E-09	3.73E-09
Cm-243	7.55E-11	4.50E-08	1.44E-04	6.76E-11	6.76E-11	7.62E-11	7.63E-11
Cm-244	1.69E-10	1.01E-07	3.23E-04	3.29E-11	3.29E-11	1.91E-10	1.94E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.07E-04 (g/L)	----	1.54	2.52E-04	5.33E-04	1.08E-03	1.34E-03
U	7.40E-02	1.05E+04	3.35E+04	7.04E-02	7.31E-02	7.48E-02	7.57E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(4.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.19E+06 (kg)	(503 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.45	3.88	4.44	4.56
Bulk Density†	1.68 (g/cc)	----	----	1.47	1.57	1.79	1.84
Water wt%†	33.1	----	----	19.9	26.5	41.3	47.9
TOC wt% C (wet)†	0.386	----	----	0.326	0.362	0.412	0.416
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.82E-05	5.26E-02	168	7.75E-07	7.75E-07	8.91E-05	9.00E-05
C-14	2.29E-05	1.37E-02	43.7	1.90E-07	1.90E-07	2.38E-05	2.46E-05
Ni-59	3.56E-06	2.12E-03	6.78	1.13E-06	1.13E-06	3.67E-06	3.77E-06
Ni-63	3.43E-04	0.205	653	1.02E-04	1.02E-04	3.54E-04	3.64E-04
Co-60	2.13E-05	1.27E-02	40.6	2.51E-08	2.51E-08	2.15E-05	2.18E-05
Se-79	1.93E-06	1.15E-03	3.68	2.40E-08	2.40E-08	2.36E-06	2.76E-06
Sr-90	0.182	109	3.47E+05	0.164	0.177	0.188	0.193
Y-90	0.182	109	3.47E+05	9.72E-02	9.72E-02	0.188	0.193
Zr-93	9.33E-06	5.57E-03	17.8	1.14E-07	1.14E-07	1.15E-05	1.34E-05
Nb-93m	6.76E-06	4.03E-03	12.9	9.66E-08	9.66E-08	8.27E-06	9.61E-06
Tc-99	1.28E-04	7.61E-02	243	6.62E-05	1.00E-04	1.49E-04	1.45E-04
Ru-106	4.25E-09	2.54E-06	8.10E-03	9.87E-15	9.87E-15	4.64E-09	4.96E-09
Cd-113m	4.91E-05	2.93E-02	93.5	2.75E-07	2.75E-07	6.19E-05	7.30E-05
Sb-125	9.55E-05	5.70E-02	182	2.27E-08	2.27E-08	9.63E-05	9.75E-05
Sn-126	2.89E-06	1.72E-03	5.51	3.61E-08	3.61E-08	3.54E-06	4.14E-06
I-129	2.47E-07	1.47E-04	0.470	1.28E-07	1.94E-07	2.89E-07	2.81E-07
Cs-134	1.05E-06	6.24E-04	1.99	8.90E-09	8.90E-09	1.05E-06	1.06E-06
Cs-137	0.210	125	4.00E+05	0.152	0.180	0.228	0.237
Ba-137m	0.199	118	3.78E+05	0.103	0.103	0.199	0.200
Sm-151	6.70E-03	3.99	1.27E+04	8.96E-05	8.96E-05	8.20E-03	9.54E-03
Eu-152	3.18E-06	1.90E-03	6.05	1.82E-07	1.82E-07	3.19E-06	3.20E-06
Eu-154	3.60E-04	0.215	686	4.46E-07	4.46E-07	4.67E-04	4.48E-04
Eu-155	1.95E-04	0.117	372	1.39E-05	1.39E-05	1.96E-04	1.96E-04
Ra-226	1.02E-10	6.09E-08	1.94E-04	1.03E-11	1.03E-11	1.26E-10	2.93E-10
Ra-228	1.14E-06	6.79E-04	2.17	7.15E-16	7.15E-16	1.15E-06	1.16E-06
Ac-227	1.34E-09	8.00E-07	2.55E-03	4.13E-11	4.13E-11	1.77E-09	2.21E-09
Pa-231	6.78E-09	4.04E-06	1.29E-02	7.60E-11	7.60E-11	8.87E-09	1.09E-08
Th-229	2.63E-08	1.57E-05	5.01E-02	1.39E-13	1.39E-13	2.65E-08	2.67E-08
Th-232	4.21E-08	2.51E-05	8.01E-02	3.28E-17	3.28E-17	5.36E-08	6.47E-08
U-232	6.35E-06	3.79E-03	12.1	2.86E-06	4.63E-06	8.35E-06	1.05E-05
U-233	2.43E-05	1.45E-02	46.3	1.09E-05	1.77E-05	3.20E-05	4.02E-05
U-234	6.11E-06	3.65E-03	11.6	5.71E-06	6.03E-06	6.19E-06	6.26E-06
U-235	2.61E-07	1.56E-04	0.497	2.49E-07	2.58E-07	2.64E-07	2.67E-07
U-236	8.54E-08	5.09E-05	0.163	7.55E-08	8.26E-08	8.82E-08	9.09E-08
U-238	8.05E-06	4.80E-03	15.3	7.69E-06	7.98E-06	8.12E-06	8.19E-06
Np-237	4.30E-07	2.57E-04	0.819	2.35E-07	3.44E-07	4.98E-07	4.82E-07
Pu-238	1.70E-06	1.02E-03	3.24	7.65E-07	1.23E-06	2.18E-06	2.63E-06
Pu-239	6.17E-05	3.68E-02	118	3.02E-05	4.62E-05	7.71E-05	9.19E-05
Pu-240	1.05E-05	6.27E-03	20.0	4.99E-06	7.74E-06	1.33E-05	1.59E-05
Pu-241	1.23E-04	7.31E-02	233	5.49E-05	8.83E-05	1.57E-04	1.90E-04
Pu-242	5.90E-10	3.52E-07	1.12E-03	2.65E-10	4.25E-10	7.55E-10	9.14E-10
Am-241	3.00E-05	1.79E-02	57.1	1.06E-05	2.01E-05	3.95E-05	4.68E-05
Am-243	1.03E-09	6.16E-07	1.97E-03	3.20E-10	6.61E-10	1.41E-09	1.71E-09
Cm-242	3.69E-09	2.20E-06	7.02E-03	3.30E-09	3.30E-09	3.72E-09	3.73E-09
Cm-243	7.55E-11	4.50E-08	1.44E-04	6.76E-11	6.76E-11	7.62E-11	7.63E-11
Cm-244	1.69E-10	1.01E-07	3.23E-04	3.29E-11	3.29E-11	1.91E-10	1.94E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.07E-04 (g/L)	----	1.54	2.52E-04	5.33E-04	1.08E-03	1.34E-03
U	7.40E-02	1.05E+04	3.35E+04	7.04E-02	7.31E-02	7.48E-02	7.57E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.00E+06 (kg)	(642 kgal)	----	----	----	----	----
Heat Load	4.63 (kW)	(1.58E+04 BTU/hr)	----	3.41	4.09	5.00	5.19
Bulk Density	1.65 (g/cc)	----	----	1.38	1.52	1.75	1.85
Void Fraction	0.741	----	----	0.485	0.646	0.852	0.922
Water wt%	35.0	----	----	18.2	26.5	45.9	55.2
TOC wt% C (wet)	0.447	----	----	0.365	0.429	0.470	0.478

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.0	1.81E+05	7.26E+05	7.63	10.2	15.2	17.7
Al^{3+}	1.79	2.93E+04	1.17E+05	0.772	1.11	2.62	3.42
Fe^{3+} (total Fe)	0.159	5.40E+03	2.16E+04	0.151	0.155	0.163	0.167
Cr^{3+}	4.69E-02	1.48E+03	5.92E+03	3.75E-02	4.24E-02	4.87E-02	5.04E-02
Bi^{3+}	4.11E-02	5.21E+03	2.09E+04	3.97E-02	4.04E-02	4.18E-02	4.25E-02
La^{3+}	1.73E-06	0.146	0.585	1.43E-06	1.62E-06	1.80E-06	1.77E-06
Hg^{2+}	3.07E-05	3.74	15.0	2.76E-05	2.91E-05	3.23E-05	3.38E-05
Zr (as $ZrO(OH)_2$)	2.88E-05	1.59	6.38	2.37E-05	2.62E-05	2.98E-05	2.98E-05
Pb^{2+}	4.81E-03	604	2.42E+03	2.62E-03	3.69E-03	5.92E-03	6.99E-03
Ni^{2+}	3.18E-02	1.13E+03	4.53E+03	2.79E-02	2.99E-02	3.27E-02	3.28E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-03	91.6	367	2.02E-03	2.38E-03	3.12E-03	3.47E-03
Ca^{2+}	0.105	2.54E+03	1.02E+04	8.07E-02	9.24E-02	0.117	0.128
K^{+}	3.52E-02	835	3.34E+03	2.58E-02	3.10E-02	3.87E-02	3.62E-02
OH^{-}	8.66	8.93E+04	3.58E+05	4.36	5.86	12.0	15.1
$NO3^{-}$	7.08	2.67E+05	1.07E+06	3.97	5.57	8.04	8.95
$NO2^{-}$	1.63	4.54E+04	1.82E+05	1.03	1.34	1.83	2.47
$CO3^{2-}$	0.471	1.71E+04	6.87E+04	0.338	0.380	0.560	0.608
$PO4^{3-}$	0.110	6.32E+03	2.53E+04	9.94E-02	0.106	0.113	0.128
$SO4^{2-}$	0.179	1.05E+04	4.19E+04	0.109	0.145	0.209	0.286
Si (as SiO_x^{2-})	7.45E-02	1.27E+03	5.08E+03	4.80E-02	6.22E-02	9.33E-02	0.111
F^{-}	6.53E-02	753	3.01E+03	5.49E-02	5.99E-02	9.14E-02	0.173
Cl^{-}	0.118	2.54E+03	1.02E+04	6.65E-02	9.18E-02	0.123	0.123
$C_6H_5O_7^{3-}$	2.03E-02	2.32E+03	9.31E+03	1.67E-02	1.97E-02	2.06E-02	2.07E-02
$EDTA^{4-}$	4.55E-03	795	3.18E+03	4.01E-03	4.38E-03	4.63E-03	4.64E-03
$HEDTA^{3-}$	6.14E-04	102	409	1.85E-04	4.18E-04	7.71E-04	7.84E-04
$glycolate^{-}$	1.43E-02	649	2.60E+03	7.22E-03	1.11E-02	1.67E-02	1.63E-02
$acetate^{-}$	2.71E-02	969	3.88E+03	2.36E-02	2.66E-02	2.73E-02	2.76E-02
$oxalate^{2-}$	2.27E-06	0.121	0.486	1.66E-06	2.07E-06	2.48E-06	2.59E-06
DBP	2.15E-02	2.74E+03	1.10E+04	1.86E-02	2.05E-02	2.21E-02	2.20E-02
butanol	2.15E-02	968	3.87E+03	1.86E-02	2.05E-02	2.21E-02	2.20E-02
NH_3	5.48E-02	565	2.26E+03	3.20E-02	4.50E-02	5.82E-02	5.94E-02
$Fe(CN)_6^{4-}$	1.67E-02	2.75E+03	1.10E+04	1.67E-02	1.67E-02	1.67E-02	1.67E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.00E+06 (kg)	(642 kgal)	----	----	----	----	----
Heat Load	4.63 (kW)	(1.58E+04 BTU/hr)	----	3.41	4.09	5.00	5.19
Bulk Density†	1.65 (g/cc)	----	----	1.38	1.52	1.75	1.85
Water wt%†	35.0	----	----	18.2	26.5	45.9	55.2
TOC wt% C (wet)†	0.447	----	----	0.365	0.429	0.470	0.478

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.0	1.81E+05	7.26E+05	7.63	10.2	15.2	17.7
Al^{3+}	1.79	2.93E+04	1.17E+05	0.772	1.11	2.62	3.42
Fe^{3+} (total Fe)	0.159	5.40E+03	2.16E+04	0.151	0.155	0.163	0.167
Cr^{3+}	4.69E-02	1.48E+03	5.92E+03	3.75E-02	4.24E-02	4.87E-02	5.04E-02
Bi^{3+}	4.11E-02	5.21E+03	2.09E+04	3.97E-02	4.04E-02	4.18E-02	4.25E-02
La^{3+}	1.73E-06	0.146	0.585	1.43E-06	1.62E-06	1.80E-06	1.77E-06
Hg^{2+}	3.07E-05	3.74	15.0	2.76E-05	2.91E-05	3.23E-05	3.38E-05
Zr (as $ZrO(OH)_2$)	2.88E-05	1.59	6.38	2.37E-05	2.62E-05	2.98E-05	2.98E-05
Pb^{2+}	4.81E-03	604	2.42E+03	2.62E-03	3.69E-03	5.92E-03	6.99E-03
Ni^{2+}	3.18E-02	1.13E+03	4.53E+03	2.79E-02	2.99E-02	3.27E-02	3.28E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-03	91.6	367	2.02E-03	2.38E-03	3.12E-03	3.47E-03
Ca^{2+}	0.105	2.54E+03	1.02E+04	8.07E-02	9.24E-02	0.117	0.128
K^{+}	3.52E-02	835	3.34E+03	2.58E-02	3.10E-02	3.87E-02	3.62E-02
OH^{-}	8.66	8.93E+04	3.58E+05	4.36	5.86	12.0	15.1
$NO3^{-}$	7.08	2.67E+05	1.07E+06	3.97	5.57	8.04	8.95
$NO2^{-}$	1.63	4.54E+04	1.82E+05	1.03	1.34	1.83	2.47
$CO3^{2-}$	0.471	1.71E+04	6.87E+04	0.338	0.380	0.560	0.608
$PO4^{3-}$	0.110	6.32E+03	2.53E+04	9.94E-02	0.106	0.113	0.128
$SO4^{2-}$	0.179	1.05E+04	4.19E+04	0.109	0.145	0.209	0.286
Si (as SiO_x^{2-})	7.45E-02	1.27E+03	5.08E+03	4.80E-02	6.22E-02	9.33E-02	0.111
F^{-}	6.53E-02	753	3.01E+03	5.49E-02	5.99E-02	9.14E-02	0.173
Cl^{-}	0.118	2.54E+03	1.02E+04	6.65E-02	9.18E-02	0.123	0.123
$C_6H_5O_7^{3-}$	2.03E-02	2.32E+03	9.31E+03	1.67E-02	1.97E-02	2.06E-02	2.07E-02
$EDTA^{4-}$	4.55E-03	795	3.18E+03	4.01E-03	4.38E-03	4.63E-03	4.64E-03
$HEDTA^{3-}$	6.14E-04	102	409	1.85E-04	4.18E-04	7.71E-04	7.84E-04
$glycolate^{-}$	1.43E-02	649	2.60E+03	7.22E-03	1.11E-02	1.67E-02	1.63E-02
$acetate^{-}$	2.71E-02	969	3.88E+03	2.36E-02	2.66E-02	2.73E-02	2.76E-02
$oxalate^{2-}$	2.27E-06	0.121	0.486	1.66E-06	2.07E-06	2.48E-06	2.59E-06
DBP	2.15E-02	2.74E+03	1.10E+04	1.86E-02	2.05E-02	2.21E-02	2.20E-02
butanol	2.15E-02	968	3.87E+03	1.86E-02	2.05E-02	2.21E-02	2.20E-02
NH_3	5.48E-02	565	2.26E+03	3.20E-02	4.50E-02	5.82E-02	5.94E-02
$Fe(CN)_6^{4-}$	1.67E-02	2.75E+03	1.10E+04	1.67E-02	1.67E-02	1.67E-02	1.67E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.00E+06 (kg)	(642 kgal)	----	----	----	----	----
Heat Load	4.63 (kW)	(1.58E+04 BTU/hr)	----	3.41	4.09	5.00	5.19
Bulk Density	1.65 (g/cc)	----	----	1.38	1.52	1.75	1.85
Void Fraction	0.741	----	----	0.485	0.646	0.852	0.922
Water wt%	35.0	----	----	18.2	26.5	45.9	55.2
TOC wt% C (wet)	0.447	----	----	0.365	0.429	0.470	0.478
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.11E-04	6.73E-02	270	4.29E-07	4.29E-07	1.12E-04	1.13E-04
C-14	2.88E-05	1.75E-02	70.1	5.95E-08	5.95E-08	2.99E-05	3.09E-05
Ni-59	3.64E-06	2.21E-03	8.84	5.66E-07	5.66E-07	3.77E-06	3.90E-06
Ni-63	3.56E-04	0.216	865	5.10E-05	5.10E-05	3.69E-04	3.82E-04
Co-60	2.70E-05	1.64E-02	65.5	1.36E-08	1.36E-08	2.72E-05	2.75E-05
Se-79	2.43E-06	1.47E-03	5.90	1.25E-08	1.25E-08	2.97E-06	3.48E-06
Sr-90	0.156	94.9	3.80E+05	0.133	0.150	0.163	0.170
Y-90	0.156	94.9	3.80E+05	4.86E-02	4.86E-02	0.163	0.170
Zr-93	1.17E-05	7.11E-03	28.5	5.96E-08	5.96E-08	1.44E-05	1.69E-05
Nb-93m	8.48E-06	5.15E-03	20.6	5.03E-08	5.03E-08	1.04E-05	1.21E-05
Tc-99	1.61E-04	9.76E-02	391	8.32E-05	1.26E-04	1.88E-04	1.83E-04
Ru-106	5.38E-09	3.26E-06	1.31E-02	5.66E-15	5.66E-15	5.87E-09	6.28E-09
Cd-113m	6.19E-05	3.76E-02	150	1.46E-07	1.46E-07	7.81E-05	9.22E-05
Sb-125	1.21E-04	7.33E-02	294	1.26E-08	1.26E-08	1.22E-04	1.23E-04
Sn-126	3.63E-06	2.20E-03	8.82	1.89E-08	1.89E-08	4.45E-06	5.21E-06
I-129	3.11E-07	1.89E-04	0.756	1.61E-07	2.44E-07	3.64E-07	3.55E-07
Cs-134	1.32E-06	7.99E-04	3.20	4.46E-09	4.46E-09	1.32E-06	1.33E-06
Cs-137	0.182	110	4.42E+05	0.108	0.144	0.205	0.217
Ba-137m	0.172	105	4.18E+05	5.17E-02	5.17E-02	0.173	0.174
Sm-151	8.40E-03	5.10	2.04E+04	4.67E-05	4.67E-05	1.03E-02	1.20E-02
Eu-152	3.88E-06	2.36E-03	9.43	9.03E-08	9.03E-08	3.89E-06	3.90E-06
Eu-154	4.55E-04	0.276	1.11E+03	2.45E-07	2.45E-07	5.90E-04	5.66E-04
Eu-155	2.36E-04	0.143	574	6.81E-06	6.81E-06	2.37E-04	2.38E-04
Ra-226	1.19E-10	7.25E-08	2.90E-04	3.42E-12	3.42E-12	1.50E-10	1.77E-10
Ra-228	1.44E-06	8.74E-04	3.50	3.45E-16	3.45E-16	1.45E-06	1.47E-06
Ac-227	1.66E-09	1.01E-06	4.04E-03	1.75E-11	1.75E-11	2.20E-09	2.70E-09
Pa-231	8.51E-09	5.17E-06	2.07E-02	3.80E-11	3.80E-11	1.12E-08	1.37E-08
Th-229	3.33E-08	2.02E-05	8.08E-02	6.70E-14	6.70E-14	3.35E-08	3.38E-08
Th-232	5.32E-08	3.23E-05	0.129	1.70E-17	1.70E-17	6.78E-08	8.18E-08
U-232	8.03E-06	4.87E-03	19.5	3.61E-06	5.85E-06	1.06E-05	1.33E-05
U-233	3.08E-05	1.87E-02	74.8	1.38E-05	2.24E-05	4.05E-05	5.08E-05
U-234	2.19E-06	1.33E-03	5.32	1.68E-06	2.09E-06	2.29E-06	2.38E-06
U-235	8.11E-08	4.92E-05	0.197	6.52E-08	7.72E-08	8.50E-08	8.88E-08
U-236	7.26E-08	4.41E-05	0.176	6.00E-08	6.90E-08	7.61E-08	7.96E-08
U-238	4.57E-06	2.77E-03	11.1	4.12E-06	4.48E-06	4.66E-06	4.74E-06
Np-237	5.40E-07	3.28E-04	1.31	2.94E-07	4.31E-07	6.27E-07	6.06E-07
Pu-238	2.15E-06	1.31E-03	5.23	9.63E-07	1.55E-06	2.75E-06	3.33E-06
Pu-239	7.73E-05	4.69E-02	188	3.75E-05	5.77E-05	9.68E-05	1.15E-04
Pu-240	1.32E-05	8.03E-03	32.1	6.25E-06	9.73E-06	1.67E-05	2.00E-05
Pu-241	1.55E-04	9.40E-02	376	6.93E-05	1.12E-04	1.98E-04	2.40E-04
Pu-242	7.45E-10	4.52E-07	1.81E-03	3.35E-10	5.37E-10	9.54E-10	1.16E-09
Am-241	3.78E-05	2.30E-02	91.9	1.32E-05	2.53E-05	4.98E-05	5.90E-05
Am-243	1.31E-09	7.93E-07	3.17E-03	4.03E-10	8.35E-10	1.78E-09	2.16E-09
Cm-242	2.14E-09	1.30E-06	5.20E-03	1.65E-09	1.65E-09	2.15E-09	2.15E-09
Cm-243	4.38E-11	2.66E-08	1.06E-04	3.39E-11	3.39E-11	4.40E-11	4.40E-11
Cm-244	1.91E-10	1.16E-07	4.65E-04	1.89E-11	1.89E-11	1.97E-10	1.98E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.01E-03 (g/L)	----	2.45	3.06E-04	6.62E-04	1.35E-03	1.68E-03
U	2.29E-02	3.31E+03	1.33E+04	1.84E-02	2.18E-02	2.40E-02	2.51E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.00E+06 (kg)	(642 kgal)	----	----	----	----	----
Heat Load	4.63 (kW)	(1.58E+04 BTU/hr)	----	3.41	4.09	5.00	5.19
Bulk Density†	1.65 (g/cc)	----	----	1.38	1.52	1.75	1.85
Water wt%†	35.0	----	----	18.2	26.5	45.9	55.2
TOC wt% C (wet)†	0.447	----	----	0.365	0.429	0.470	0.478
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.11E-04	6.73E-02	270	4.29E-07	4.29E-07	1.12E-04	1.13E-04
C-14	2.88E-05	1.75E-02	70.1	5.95E-08	5.95E-08	2.99E-05	3.09E-05
Ni-59	3.64E-06	2.21E-03	8.84	5.66E-07	5.66E-07	3.77E-06	3.90E-06
Ni-63	3.56E-04	0.216	865	5.10E-05	5.10E-05	3.69E-04	3.82E-04
Co-60	2.70E-05	1.64E-02	65.5	1.36E-08	1.36E-08	2.72E-05	2.75E-05
Se-79	2.43E-06	1.47E-03	5.90	1.25E-08	1.25E-08	2.97E-06	3.48E-06
Sr-90	0.156	94.9	3.80E+05	0.133	0.150	0.163	0.170
Y-90	0.156	94.9	3.80E+05	4.86E-02	4.86E-02	0.163	0.170
Zr-93	1.17E-05	7.11E-03	28.5	5.96E-08	5.96E-08	1.44E-05	1.69E-05
Nb-93m	8.48E-06	5.15E-03	20.6	5.03E-08	5.03E-08	1.04E-05	1.21E-05
Tc-99	1.61E-04	9.76E-02	391	8.32E-05	1.26E-04	1.88E-04	1.83E-04
Ru-106	5.38E-09	3.26E-06	1.31E-02	5.66E-15	5.66E-15	5.87E-09	6.28E-09
Cd-113m	6.19E-05	3.76E-02	150	1.46E-07	1.46E-07	7.81E-05	9.22E-05
Sb-125	1.21E-04	7.33E-02	294	1.26E-08	1.26E-08	1.22E-04	1.23E-04
Sn-126	3.63E-06	2.20E-03	8.82	1.89E-08	1.89E-08	4.45E-06	5.21E-06
I-129	3.11E-07	1.89E-04	0.756	1.61E-07	2.44E-07	3.64E-07	3.55E-07
Cs-134	1.32E-06	7.99E-04	3.20	4.46E-09	4.46E-09	1.32E-06	1.33E-06
Cs-137	0.182	110	4.42E+05	0.108	0.144	0.205	0.217
Ba-137m	0.172	105	4.18E+05	5.17E-02	5.17E-02	0.173	0.174
Sm-151	8.40E-03	5.10	2.04E+04	4.67E-05	4.67E-05	1.03E-02	1.20E-02
Eu-152	3.88E-06	2.36E-03	9.43	9.03E-08	9.03E-08	3.89E-06	3.90E-06
Eu-154	4.55E-04	0.276	1.11E+03	2.45E-07	2.45E-07	5.90E-04	5.66E-04
Eu-155	2.36E-04	0.143	574	6.81E-06	6.81E-06	2.37E-04	2.38E-04
Ra-226	1.19E-10	7.25E-08	2.90E-04	3.42E-12	3.42E-12	1.50E-10	1.77E-10
Ra-228	1.44E-06	8.74E-04	3.50	3.45E-16	3.45E-16	1.45E-06	1.47E-06
Ac-227	1.66E-09	1.01E-06	4.04E-03	1.75E-11	1.75E-11	2.20E-09	2.70E-09
Pa-231	8.51E-09	5.17E-06	2.07E-02	3.80E-11	3.80E-11	1.12E-08	1.37E-08
Th-229	3.33E-08	2.02E-05	8.08E-02	6.70E-14	6.70E-14	3.35E-08	3.38E-08
Th-232	5.32E-08	3.23E-05	0.129	1.70E-17	1.70E-17	6.78E-08	8.18E-08
U-232	8.03E-06	4.87E-03	19.5	3.61E-06	5.85E-06	1.06E-05	1.33E-05
U-233	3.08E-05	1.87E-02	74.8	1.38E-05	2.24E-05	4.05E-05	5.08E-05
U-234	2.19E-06	1.33E-03	5.32	1.68E-06	2.09E-06	2.29E-06	2.38E-06
U-235	8.11E-08	4.92E-05	0.197	6.52E-08	7.72E-08	8.50E-08	8.88E-08
U-236	7.26E-08	4.41E-05	0.176	6.00E-08	6.90E-08	7.61E-08	7.96E-08
U-238	4.57E-06	2.77E-03	11.1	4.12E-06	4.48E-06	4.66E-06	4.74E-06
Np-237	5.40E-07	3.28E-04	1.31	2.94E-07	4.31E-07	6.27E-07	6.06E-07
Pu-238	2.15E-06	1.31E-03	5.23	9.63E-07	1.55E-06	2.75E-06	3.33E-06
Pu-239	7.73E-05	4.69E-02	188	3.75E-05	5.77E-05	9.68E-05	1.15E-04
Pu-240	1.32E-05	8.03E-03	32.1	6.25E-06	9.73E-06	1.67E-05	2.00E-05
Pu-241	1.55E-04	9.40E-02	376	6.93E-05	1.12E-04	1.98E-04	2.40E-04
Pu-242	7.45E-10	4.52E-07	1.81E-03	3.35E-10	5.37E-10	9.54E-10	1.16E-09
Am-241	3.78E-05	2.30E-02	91.9	1.32E-05	2.53E-05	4.98E-05	5.90E-05
Am-243	1.31E-09	7.93E-07	3.17E-03	4.03E-10	8.35E-10	1.78E-09	2.16E-09
Cm-242	2.14E-09	1.30E-06	5.20E-03	1.65E-09	1.65E-09	2.15E-09	2.15E-09
Cm-243	4.38E-11	2.66E-08	1.06E-04	3.39E-11	3.39E-11	4.40E-11	4.40E-11
Cm-244	1.91E-10	1.16E-07	4.65E-04	1.89E-11	1.89E-11	1.97E-10	1.98E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.01E-03 (g/L)	----	2.45	3.06E-04	6.62E-04	1.35E-03	1.68E-03
U	2.29E-02	3.31E+03	1.33E+04	1.84E-02	2.18E-02	2.40E-02	2.51E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.66E+06 (kg)	(266 kgal)	----	----	----	----	----
Heat Load	1.95 (kW)	(6.66E+03 BTU/hr)	----	1.62	1.80	2.05	2.11
Bulk Density	1.65 (g/cc)	----	----	1.47	1.56	1.71	1.78
Void Fraction	0.687	----	----	0.518	0.625	0.761	0.807
Water wt%	35.1	----	----	23.6	29.4	42.1	47.6
TOC wt% C (wet)	0.382	----	----	0.330	0.370	0.395	0.396

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.2	1.71E+05	2.83E+05	8.69	10.4	13.7	15.4
Al^{3+}	1.22	2.00E+04	3.32E+04	0.549	0.773	1.77	2.30
Fe^{3+} (total Fe)	0.413	1.40E+04	2.32E+04	0.295	0.404	0.416	0.419
Cr^{3+}	3.19E-02	1.01E+03	1.67E+03	2.56E-02	2.89E-02	3.31E-02	3.42E-02
Bi^{3+}	7.80E-02	9.90E+03	1.64E+04	7.54E-02	7.67E-02	7.94E-02	8.07E-02
La^{3+}	1.15E-06	9.67E-02	0.160	9.48E-07	1.07E-06	1.19E-06	1.17E-06
Hg^{2+}	2.87E-05	3.50	5.80	2.22E-05	2.65E-05	3.00E-05	3.09E-05
Zr (as $ZrO(OH)_2$)	4.11E-05	2.28	3.78	3.29E-05	3.71E-05	4.53E-05	4.93E-05
Pb^{2+}	3.18E-03	400	663	1.73E-03	2.44E-03	3.92E-03	4.62E-03
Ni^{2+}	4.44E-02	1.58E+03	2.62E+03	4.18E-02	4.31E-02	4.50E-02	4.50E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.82E-03	60.6	100	1.34E-03	1.57E-03	2.06E-03	2.30E-03
Ca^{2+}	0.150	3.65E+03	6.05E+03	0.124	0.125	0.158	0.165
K^+	2.61E-02	619	1.03E+03	1.99E-02	2.33E-02	2.84E-02	2.70E-02
OH^-	6.81	7.03E+04	1.17E+05	3.97	4.96	9.04	11.1
$NO3^-$	7.52	2.83E+05	4.69E+05	5.46	6.22	8.79	9.97
$NO2^-$	1.35	3.78E+04	6.26E+04	0.957	1.16	1.51	1.91
$CO3^{2-}$	0.398	1.45E+04	2.41E+04	0.310	0.338	0.458	0.489
$PO4^{3-}$	0.235	1.36E+04	2.25E+04	0.150	0.202	0.255	0.271
$SO4^{2-}$	0.146	8.53E+03	1.41E+04	9.99E-02	0.124	0.166	0.217
Si (as SiO_x^{2-})	7.51E-02	1.28E+03	2.12E+03	5.76E-02	6.70E-02	0.111	0.146
F^-	7.67E-02	885	1.47E+03	5.67E-02	6.64E-02	0.127	0.283
Cl^-	9.17E-02	1.97E+03	3.27E+03	5.76E-02	7.44E-02	9.55E-02	0.106
$C_6H_5O_7^{3-}$	1.34E-02	1.54E+03	2.55E+03	1.11E-02	1.30E-02	1.36E-02	1.37E-02
$EDTA^{4-}$	3.01E-03	526	872	2.65E-03	2.90E-03	3.06E-03	3.07E-03
$HEDTA^{3-}$	4.06E-04	67.5	112	1.23E-04	2.76E-04	5.10E-04	5.19E-04
$glycolate^-$	9.43E-03	429	712	4.77E-03	7.36E-03	1.10E-02	1.07E-02
$acetate^-$	1.79E-02	641	1.06E+03	1.56E-02	1.76E-02	1.80E-02	1.83E-02
$oxalate^{2-}$	1.50E-06	8.03E-02	0.133	1.10E-06	1.37E-06	1.64E-06	1.71E-06
DBP	1.42E-02	1.82E+03	3.01E+03	1.23E-02	1.36E-02	1.46E-02	1.45E-02
butanol	1.42E-02	640	1.06E+03	1.23E-02	1.36E-02	1.46E-02	1.45E-02
NH_3	9.07E-02	936	1.55E+03	4.69E-02	7.20E-02	9.30E-02	9.38E-02
$Fe(CN)_6^{4-}$	3.07E-02	5.04E+03	8.35E+03	3.07E-02	3.07E-02	3.07E-02	3.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.66E+06 (kg)	(266 kgal)	----	----	----	----	----
Heat Load	1.95 (kW)	(6.66E+03 BTU/hr)	----	1.62	1.80	2.05	2.11
Bulk Density†	1.65 (g/cc)	----	----	1.47	1.56	1.71	1.78
Water wt%†	35.1	----	----	23.6	29.4	42.1	47.6
TOC wt% C (wet)†	0.382	----	----	0.330	0.370	0.395	0.396

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.2	1.71E+05	2.83E+05	8.69	10.4	13.7	15.4
Al^{3+}	1.22	2.00E+04	3.32E+04	0.549	0.773	1.77	2.30
Fe^{3+} (total Fe)	0.413	1.40E+04	2.32E+04	0.295	0.404	0.416	0.419
Cr^{3+}	3.19E-02	1.01E+03	1.67E+03	2.56E-02	2.89E-02	3.31E-02	3.42E-02
Bi^{3+}	7.80E-02	9.90E+03	1.64E+04	7.54E-02	7.67E-02	7.94E-02	8.07E-02
La^{3+}	1.15E-06	9.67E-02	0.160	9.48E-07	1.07E-06	1.19E-06	1.17E-06
Hg^{2+}	2.87E-05	3.50	5.80	2.22E-05	2.65E-05	3.00E-05	3.09E-05
Zr (as $ZrO(OH)_2$)	4.11E-05	2.28	3.78	3.29E-05	3.71E-05	4.53E-05	4.93E-05
Pb^{2+}	3.18E-03	400	663	1.73E-03	2.44E-03	3.92E-03	4.62E-03
Ni^{2+}	4.44E-02	1.58E+03	2.62E+03	4.18E-02	4.31E-02	4.50E-02	4.50E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.82E-03	60.6	100	1.34E-03	1.57E-03	2.06E-03	2.30E-03
Ca^{2+}	0.150	3.65E+03	6.05E+03	0.124	0.125	0.158	0.165
K^+	2.61E-02	619	1.03E+03	1.99E-02	2.33E-02	2.84E-02	2.70E-02
OH^-	6.81	7.03E+04	1.17E+05	3.97	4.96	9.04	11.1
$NO3^-$	7.52	2.83E+05	4.69E+05	5.46	6.22	8.79	9.97
$NO2^-$	1.35	3.78E+04	6.26E+04	0.957	1.16	1.51	1.91
$CO3^{2-}$	0.398	1.45E+04	2.41E+04	0.310	0.338	0.458	0.489
$PO4^{3-}$	0.235	1.36E+04	2.25E+04	0.150	0.202	0.255	0.271
$SO4^{2-}$	0.146	8.53E+03	1.41E+04	9.99E-02	0.124	0.166	0.217
Si (as SiO_x^{2-})	7.51E-02	1.28E+03	2.12E+03	5.76E-02	6.70E-02	0.111	0.146
F^-	7.67E-02	885	1.47E+03	5.67E-02	6.64E-02	0.127	0.283
Cl^-	9.17E-02	1.97E+03	3.27E+03	5.76E-02	7.44E-02	9.55E-02	0.106
$C_6H_5O_7^{3-}$	1.34E-02	1.54E+03	2.55E+03	1.11E-02	1.30E-02	1.36E-02	1.37E-02
$EDTA^{4-}$	3.01E-03	526	872	2.65E-03	2.90E-03	3.06E-03	3.07E-03
$HEDTA^{3-}$	4.06E-04	67.5	112	1.23E-04	2.76E-04	5.10E-04	5.19E-04
$glycolate^-$	9.43E-03	429	712	4.77E-03	7.36E-03	1.10E-02	1.07E-02
$acetate^-$	1.79E-02	641	1.06E+03	1.56E-02	1.76E-02	1.80E-02	1.83E-02
$oxalate^{2-}$	1.50E-06	8.03E-02	0.133	1.10E-06	1.37E-06	1.64E-06	1.71E-06
DBP	1.42E-02	1.82E+03	3.01E+03	1.23E-02	1.36E-02	1.46E-02	1.45E-02
butanol	1.42E-02	640	1.06E+03	1.23E-02	1.36E-02	1.46E-02	1.45E-02
NH_3	9.07E-02	936	1.55E+03	4.69E-02	7.20E-02	9.30E-02	9.38E-02
$Fe(CN)_6^{4-}$	3.07E-02	5.04E+03	8.35E+03	3.07E-02	3.07E-02	3.07E-02	3.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.66E+06 (kg)	(266 kgal)	----	----	----	----	----
Heat Load	1.95 (kW)	(6.66E+03 BTU/hr)	----	1.62	1.80	2.05	2.11
Bulk Density	1.65 (g/cc)	----	----	1.47	1.56	1.71	1.78
Void Fraction	0.687	----	----	0.518	0.625	0.761	0.807
Water wt%	35.1	----	----	23.6	29.4	42.1	47.6
TOC wt% C (wet)	0.382	----	----	0.330	0.370	0.395	0.396

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.41E-05	4.50E-02	74.6	1.01E-06	1.01E-06	7.49E-05	7.56E-05
C-14	1.92E-05	1.16E-02	19.3	1.44E-07	1.44E-07	1.99E-05	2.05E-05
Ni-59	3.05E-06	1.85E-03	3.07	1.02E-06	1.02E-06	3.14E-06	3.23E-06
Ni-63	2.94E-04	0.178	296	9.21E-05	9.21E-05	3.02E-04	3.11E-04
Co-60	1.79E-05	1.08E-02	18.0	3.34E-08	3.34E-08	1.80E-05	1.82E-05
Se-79	1.63E-06	9.88E-04	1.64	3.03E-08	3.03E-08	1.99E-06	2.32E-06
Sr-90	0.160	97.0	1.61E+05	0.144	0.155	0.164	0.168
Y-90	0.160	97.0	1.61E+05	8.85E-02	8.85E-02	0.164	0.169
Zr-93	7.85E-06	4.77E-03	7.90	1.44E-07	1.44E-07	9.64E-06	1.13E-05
Nb-93m	5.69E-06	3.46E-03	5.73	1.21E-07	1.21E-07	6.95E-06	8.07E-06
Tc-99	1.07E-04	6.50E-02	108	5.57E-05	8.42E-05	1.25E-04	1.22E-04
Ru-106	3.56E-09	2.16E-06	3.58E-03	1.42E-14	1.42E-14	3.88E-09	4.15E-09
Cd-113m	4.12E-05	2.50E-02	41.5	3.54E-07	3.54E-07	5.19E-05	6.12E-05
Sb-125	7.99E-05	4.85E-02	80.4	3.12E-08	3.12E-08	8.05E-05	8.15E-05
Sn-126	2.43E-06	1.48E-03	2.45	4.57E-08	4.57E-08	2.97E-06	3.48E-06
I-129	2.07E-07	1.26E-04	0.209	1.08E-07	1.63E-07	2.42E-07	2.36E-07
Cs-134	8.76E-07	5.32E-04	0.882	8.18E-09	8.18E-09	8.80E-07	8.87E-07
Cs-137	0.184	112	1.85E+05	0.135	0.159	0.199	0.207
Ba-137m	0.174	106	1.75E+05	9.44E-02	9.44E-02	0.174	0.175
Sm-151	5.64E-03	3.42	5.68E+03	1.13E-04	1.13E-04	6.90E-03	8.01E-03
Eu-152	2.73E-06	1.66E-03	2.74	2.21E-07	2.21E-07	2.73E-06	2.74E-06
Eu-154	3.01E-04	0.183	303	6.06E-07	6.06E-07	3.90E-04	3.75E-04
Eu-155	1.68E-04	0.102	170	1.66E-05	1.66E-05	1.69E-04	1.69E-04
Ra-226	8.48E-11	5.15E-08	8.54E-05	8.09E-12	8.09E-12	1.05E-10	1.79E-10
Ra-228	9.52E-07	5.78E-04	0.959	8.39E-16	8.39E-16	9.60E-07	9.69E-07
Ac-227	1.13E-09	6.85E-07	1.14E-03	4.13E-11	4.13E-11	1.49E-09	1.82E-09
Pa-231	5.69E-09	3.46E-06	5.73E-03	9.01E-11	9.01E-11	7.44E-09	9.13E-09
Th-229	2.20E-08	1.34E-05	2.21E-02	1.63E-13	1.63E-13	2.22E-08	2.24E-08
Th-232	3.52E-08	2.14E-05	3.54E-02	4.09E-17	4.09E-17	4.48E-08	5.41E-08
U-232	5.31E-06	3.22E-03	5.35	2.39E-06	3.87E-06	6.99E-06	8.77E-06
U-233	2.03E-05	1.24E-02	20.5	9.15E-06	1.48E-05	2.68E-05	3.36E-05
U-234	2.78E-06	1.69E-03	2.80	2.45E-06	2.71E-06	2.84E-06	2.91E-06
U-235	1.12E-07	6.83E-05	0.113	1.02E-07	1.09E-07	1.15E-07	1.18E-07
U-236	6.16E-08	3.74E-05	6.20E-02	5.33E-08	5.93E-08	6.40E-08	6.62E-08
U-238	4.38E-06	2.66E-03	4.41	4.08E-06	4.31E-06	4.43E-06	4.49E-06
Np-237	3.62E-07	2.20E-04	0.364	1.99E-07	2.89E-07	4.19E-07	4.05E-07
Pu-238	1.47E-06	8.91E-04	1.48	6.82E-07	1.07E-06	1.86E-06	2.25E-06
Pu-239	5.69E-05	3.46E-02	57.3	3.06E-05	4.40E-05	6.98E-05	8.21E-05
Pu-240	9.30E-06	5.65E-03	9.36	4.69E-06	6.99E-06	1.16E-05	1.38E-05
Pu-241	1.04E-04	6.34E-02	105	4.78E-05	7.57E-05	1.33E-04	1.61E-04
Pu-242	5.02E-10	3.05E-07	5.05E-04	2.30E-10	3.64E-10	6.40E-10	7.73E-10
Am-241	2.52E-05	1.53E-02	25.4	8.96E-06	1.69E-05	3.31E-05	3.92E-05
Am-243	8.65E-10	5.25E-07	8.70E-04	2.68E-10	5.53E-10	1.18E-09	1.43E-09
Cm-242	4.37E-09	2.66E-06	4.40E-03	4.05E-09	4.05E-09	4.39E-09	4.39E-09
Cm-243	8.96E-11	5.44E-08	9.02E-05	8.30E-11	8.30E-11	8.99E-11	9.00E-11
Cm-244	1.61E-10	9.80E-08	1.63E-04	4.74E-11	4.74E-11	1.72E-10	1.74E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.63E-04 (g/L)	----	0.768	2.98E-04	5.33E-04	9.90E-04	1.21E-03
U	3.22E-02	4.66E+03	7.72E+03	2.92E-02	3.13E-02	3.29E-02	3.36E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.66E+06 (kg)	(266 kgal)	----	----	----	----	----
Heat Load	1.95 (kW)	(6.66E+03 BTU/hr)	----	1.62	1.80	2.05	2.11
Bulk Density†	1.65 (g/cc)	----	----	1.47	1.56	1.71	1.78
Water wt%†	35.1	----	----	23.6	29.4	42.1	47.6
TOC wt% C (wet)†	0.382	----	----	0.330	0.370	0.395	0.396

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.41E-05	4.50E-02	74.6	1.01E-06	1.01E-06	7.49E-05	7.56E-05
C-14	1.92E-05	1.16E-02	19.3	1.44E-07	1.44E-07	1.99E-05	2.05E-05
Ni-59	3.05E-06	1.85E-03	3.07	1.02E-06	1.02E-06	3.14E-06	3.23E-06
Ni-63	2.94E-04	0.178	296	9.21E-05	9.21E-05	3.02E-04	3.11E-04
Co-60	1.79E-05	1.08E-02	18.0	3.34E-08	3.34E-08	1.80E-05	1.82E-05
Se-79	1.63E-06	9.88E-04	1.64	3.03E-08	3.03E-08	1.99E-06	2.32E-06
Sr-90	0.160	97.0	1.61E+05	0.144	0.155	0.164	0.168
Y-90	0.160	97.0	1.61E+05	8.85E-02	8.85E-02	0.164	0.169
Zr-93	7.85E-06	4.77E-03	7.90	1.44E-07	1.44E-07	9.64E-06	1.13E-05
Nb-93m	5.69E-06	3.46E-03	5.73	1.21E-07	1.21E-07	6.95E-06	8.07E-06
Tc-99	1.07E-04	6.50E-02	108	5.57E-05	8.42E-05	1.25E-04	1.22E-04
Ru-106	3.56E-09	2.16E-06	3.58E-03	1.42E-14	1.42E-14	3.88E-09	4.15E-09
Cd-113m	4.12E-05	2.50E-02	41.5	3.54E-07	3.54E-07	5.19E-05	6.12E-05
Sb-125	7.99E-05	4.85E-02	80.4	3.12E-08	3.12E-08	8.05E-05	8.15E-05
Sn-126	2.43E-06	1.48E-03	2.45	4.57E-08	4.57E-08	2.97E-06	3.48E-06
I-129	2.07E-07	1.26E-04	0.209	1.08E-07	1.63E-07	2.42E-07	2.36E-07
Cs-134	8.76E-07	5.32E-04	0.882	8.18E-09	8.18E-09	8.80E-07	8.87E-07
Cs-137	0.184	112	1.85E+05	0.135	0.159	0.199	0.207
Ba-137m	0.174	106	1.75E+05	9.44E-02	9.44E-02	0.174	0.175
Sm-151	5.64E-03	3.42	5.68E+03	1.13E-04	1.13E-04	6.90E-03	8.01E-03
Eu-152	2.73E-06	1.66E-03	2.74	2.21E-07	2.21E-07	2.73E-06	2.74E-06
Eu-154	3.01E-04	0.183	303	6.06E-07	6.06E-07	3.90E-04	3.75E-04
Eu-155	1.68E-04	0.102	170	1.66E-05	1.66E-05	1.69E-04	1.69E-04
Ra-226	8.48E-11	5.15E-08	8.54E-05	8.09E-12	8.09E-12	1.05E-10	1.79E-10
Ra-228	9.52E-07	5.78E-04	0.959	8.39E-16	8.39E-16	9.60E-07	9.69E-07
Ac-227	1.13E-09	6.85E-07	1.14E-03	4.13E-11	4.13E-11	1.49E-09	1.82E-09
Pa-231	5.69E-09	3.46E-06	5.73E-03	9.01E-11	9.01E-11	7.44E-09	9.13E-09
Th-229	2.20E-08	1.34E-05	2.21E-02	1.63E-13	1.63E-13	2.22E-08	2.24E-08
Th-232	3.52E-08	2.14E-05	3.54E-02	4.09E-17	4.09E-17	4.48E-08	5.41E-08
U-232	5.31E-06	3.22E-03	5.35	2.39E-06	3.87E-06	6.99E-06	8.77E-06
U-233	2.03E-05	1.24E-02	20.5	9.15E-06	1.48E-05	2.68E-05	3.36E-05
U-234	2.78E-06	1.69E-03	2.80	2.45E-06	2.71E-06	2.84E-06	2.91E-06
U-235	1.12E-07	6.83E-05	0.113	1.02E-07	1.09E-07	1.15E-07	1.18E-07
U-236	6.16E-08	3.74E-05	6.20E-02	5.33E-08	5.93E-08	6.40E-08	6.62E-08
U-238	4.38E-06	2.66E-03	4.41	4.08E-06	4.31E-06	4.43E-06	4.49E-06
Np-237	3.62E-07	2.20E-04	0.364	1.99E-07	2.89E-07	4.19E-07	4.05E-07
Pu-238	1.47E-06	8.91E-04	1.48	6.82E-07	1.07E-06	1.86E-06	2.25E-06
Pu-239	5.69E-05	3.46E-02	57.3	3.06E-05	4.40E-05	6.98E-05	8.21E-05
Pu-240	9.30E-06	5.65E-03	9.36	4.69E-06	6.99E-06	1.16E-05	1.38E-05
Pu-241	1.04E-04	6.34E-02	105	4.78E-05	7.57E-05	1.33E-04	1.61E-04
Pu-242	5.02E-10	3.05E-07	5.05E-04	2.30E-10	3.64E-10	6.40E-10	7.73E-10
Am-241	2.52E-05	1.53E-02	25.4	8.96E-06	1.69E-05	3.31E-05	3.92E-05
Am-243	8.65E-10	5.25E-07	8.70E-04	2.68E-10	5.53E-10	1.18E-09	1.43E-09
Cm-242	4.37E-09	2.66E-06	4.40E-03	4.05E-09	4.05E-09	4.39E-09	4.39E-09
Cm-243	8.96E-11	5.44E-08	9.02E-05	8.30E-11	8.30E-11	8.99E-11	9.00E-11
Cm-244	1.61E-10	9.80E-08	1.63E-04	4.74E-11	4.74E-11	1.72E-10	1.74E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.63E-04 (g/L)	----	0.768	2.98E-04	5.33E-04	9.90E-04	1.21E-03
U	3.22E-02	4.66E+03	7.72E+03	2.92E-02	3.13E-02	3.29E-02	3.36E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.47E+06 (kg)	(228 kgal)	----	----	----	----	----
Heat Load	2.67 (kW)	(9.11E+03 BTU/hr)	----	2.53	2.61	2.71	2.73
Bulk Density	1.70 (g/cc)	----	----	1.48	1.51	1.90	2.08
Void Fraction	0.628	----	----	0.290	0.452	0.807	0.832
Water wt%	31.4	----	----	12.1	20.5	45.0	47.2
TOC wt% C (wet)	0.498	----	----	0.408	0.447	0.562	0.573

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.67E+05	2.46E+05	7.91	8.46	16.3	20.1
Al^{3+}	0.584	9.26E+03	1.36E+04	0.252	0.362	0.854	1.11
Fe^{3+} (total Fe)	0.662	2.17E+04	3.19E+04	0.648	0.655	0.668	0.675
Cr^{3+}	1.65E-02	505	742	1.35E-02	1.51E-02	1.71E-02	1.77E-02
Bi^{3+}	0.184	2.27E+04	3.33E+04	0.175	0.180	0.189	0.194
La^{3+}	5.65E-07	4.61E-02	6.78E-02	4.67E-07	5.30E-07	5.88E-07	5.77E-07
Hg^{2+}	1.00E-05	1.18	1.73	9.01E-06	9.50E-06	1.05E-05	1.10E-05
Zr (as $ZrO(OH)_2$)	9.39E-06	0.503	0.739	7.71E-06	8.56E-06	9.71E-06	9.72E-06
Pb^{2+}	1.57E-03	191	280	8.54E-04	1.20E-03	1.93E-03	2.28E-03
Ni^{2+}	0.101	3.50E+03	5.13E+03	0.100	0.101	0.102	0.102
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.96E-04	28.9	42.5	6.60E-04	7.75E-04	1.02E-03	1.13E-03
Ca^{2+}	0.216	5.08E+03	7.47E+03	0.163	0.189	0.243	0.269
K^{+}	1.80E-02	413	606	1.23E-02	1.50E-02	2.09E-02	2.13E-02
OH^{-}	4.42	4.41E+04	6.48E+04	3.02	3.50	5.51	6.53
$NO3^{-}$	8.88	3.23E+05	4.75E+05	3.54	4.19	13.5	17.7
$NO2^{-}$	1.48	3.99E+04	5.87E+04	0.650	1.01	2.04	2.13
$CO3^{2-}$	0.335	1.18E+04	1.74E+04	0.282	0.306	0.365	0.389
$PO4^{3-}$	0.258	1.44E+04	2.11E+04	0.213	0.235	0.281	0.388
$SO4^{2-}$	0.130	7.35E+03	1.08E+04	6.74E-02	9.79E-02	0.162	0.167
Si (as SiO_x^{2-})	6.58E-02	1.09E+03	1.59E+03	4.25E-02	4.25E-02	0.196	0.321
F^{-}	0.104	1.16E+03	1.70E+03	3.16E-02	6.66E-02	0.285	0.848
Cl^{-}	6.84E-02	1.42E+03	2.09E+03	4.22E-02	5.49E-02	8.18E-02	8.36E-02
$C_6H_5O_7^{3-}$	6.61E-03	734	1.08E+03	5.46E-03	6.42E-03	6.73E-03	6.74E-03
$EDTA^{4-}$	1.48E-03	251	369	1.31E-03	1.43E-03	1.51E-03	1.51E-03
$HEDTA^{3-}$	2.00E-04	32.2	47.3	6.05E-05	1.36E-04	2.51E-04	2.56E-04
$glycolate^{-}$	4.65E-03	205	301	2.35E-03	3.63E-03	5.45E-03	5.30E-03
$acetate^{-}$	8.82E-03	306	449	7.68E-03	8.69E-03	8.90E-03	9.01E-03
$oxalate^{2-}$	7.41E-07	3.83E-02	5.63E-02	5.42E-07	6.75E-07	8.08E-07	8.45E-07
DBP	7.02E-03	866	1.27E+03	6.05E-03	6.70E-03	7.19E-03	7.16E-03
butanol	7.02E-03	306	449	6.05E-03	6.70E-03	7.19E-03	7.16E-03
NH_3	0.206	2.06E+03	3.02E+03	4.77E-02	0.138	0.208	0.209
$Fe(CN)_6^{4-}$	8.98E-02	1.43E+04	2.10E+04	8.98E-02	8.98E-02	8.98E-02	8.98E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(7.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.47E+06 (kg)	(228 kgal)	----	----	----	----	----
Heat Load	2.67 (kW)	(9.11E+03 BTU/hr)	----	2.53	2.61	2.71	2.73
Bulk Density†	1.70 (g/cc)	----	----	1.48	1.51	1.90	2.08
Water wt%†	31.4	----	----	12.1	20.5	45.0	47.2
TOC wt% C (wet)†	0.498	----	----	0.408	0.447	0.562	0.573

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.67E+05	2.46E+05	7.91	8.46	16.3	20.1
Al^{3+}	0.584	9.26E+03	1.36E+04	0.252	0.362	0.854	1.11
Fe^{3+} (total Fe)	0.662	2.17E+04	3.19E+04	0.648	0.655	0.668	0.675
Cr^{3+}	1.65E-02	505	742	1.35E-02	1.51E-02	1.71E-02	1.77E-02
Bi^{3+}	0.184	2.27E+04	3.33E+04	0.175	0.180	0.189	0.194
La^{3+}	5.65E-07	4.61E-02	6.78E-02	4.67E-07	5.30E-07	5.88E-07	5.77E-07
Hg^{2+}	1.00E-05	1.18	1.73	9.01E-06	9.50E-06	1.05E-05	1.10E-05
Zr (as $ZrO(OH)_2$)	9.39E-06	0.503	0.739	7.71E-06	8.56E-06	9.71E-06	9.72E-06
Pb^{2+}	1.57E-03	191	280	8.54E-04	1.20E-03	1.93E-03	2.28E-03
Ni^{2+}	0.101	3.50E+03	5.13E+03	0.100	0.101	0.102	0.102
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.96E-04	28.9	42.5	6.60E-04	7.75E-04	1.02E-03	1.13E-03
Ca^{2+}	0.216	5.08E+03	7.47E+03	0.163	0.189	0.243	0.269
K^{+}	1.80E-02	413	606	1.23E-02	1.50E-02	2.09E-02	2.13E-02
OH^{-}	4.42	4.41E+04	6.48E+04	3.02	3.50	5.51	6.53
$NO3^{-}$	8.88	3.23E+05	4.75E+05	3.54	4.19	13.5	17.7
$NO2^{-}$	1.48	3.99E+04	5.87E+04	0.650	1.01	2.04	2.13
$CO3^{2-}$	0.335	1.18E+04	1.74E+04	0.282	0.306	0.365	0.389
$PO4^{3-}$	0.258	1.44E+04	2.11E+04	0.213	0.235	0.281	0.388
$SO4^{2-}$	0.130	7.35E+03	1.08E+04	6.74E-02	9.79E-02	0.162	0.167
Si (as SiO_x^{2-})	6.58E-02	1.09E+03	1.59E+03	4.25E-02	4.25E-02	0.196	0.321
F^{-}	0.104	1.16E+03	1.70E+03	3.16E-02	6.66E-02	0.285	0.848
Cl^{-}	6.84E-02	1.42E+03	2.09E+03	4.22E-02	5.49E-02	8.18E-02	8.36E-02
$C_6H_5O_7^{3-}$	6.61E-03	734	1.08E+03	5.46E-03	6.42E-03	6.73E-03	6.74E-03
$EDTA^{4-}$	1.48E-03	251	369	1.31E-03	1.43E-03	1.51E-03	1.51E-03
$HEDTA^{3-}$	2.00E-04	32.2	47.3	6.05E-05	1.36E-04	2.51E-04	2.56E-04
$glycolate^{-}$	4.65E-03	205	301	2.35E-03	3.63E-03	5.45E-03	5.30E-03
$acetate^{-}$	8.82E-03	306	449	7.68E-03	8.69E-03	8.90E-03	9.01E-03
$oxalate^{2-}$	7.41E-07	3.83E-02	5.63E-02	5.42E-07	6.75E-07	8.08E-07	8.45E-07
DBP	7.02E-03	866	1.27E+03	6.05E-03	6.70E-03	7.19E-03	7.16E-03
butanol	7.02E-03	306	449	6.05E-03	6.70E-03	7.19E-03	7.16E-03
NH_3	0.206	2.06E+03	3.02E+03	4.77E-02	0.138	0.208	0.209
$Fe(CN)_6^{4-}$	8.98E-02	1.43E+04	2.10E+04	8.98E-02	8.98E-02	8.98E-02	8.98E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.47E+06 (kg)	(228 kgal)	----	----	----	----	----
Heat Load	2.67 (kW)	(9.11E+03 BTU/hr)	----	2.53	2.61	2.71	2.73
Bulk Density	1.70 (g/cc)	----	----	1.48	1.51	1.90	2.08
Void Fraction	0.628	----	----	0.290	0.452	0.807	0.832
Water wt%	31.4	----	----	12.1	20.5	45.0	47.2
TOC wt% C (wet)	0.498	----	----	0.408	0.447	0.562	0.573

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.81E-05	2.24E-02	32.9	2.09E-06	2.09E-06	3.92E-05	3.93E-05
C-14	9.67E-06	5.68E-03	8.35	2.90E-07	2.90E-07	1.00E-05	1.04E-05
Ni-59	3.59E-06	2.11E-03	3.09	2.58E-06	2.58E-06	3.64E-06	3.69E-06
Ni-63	3.32E-04	0.195	287	2.33E-04	2.33E-04	3.37E-04	3.42E-04
Co-60	8.86E-06	5.20E-03	7.64	6.64E-08	6.64E-08	8.93E-06	9.04E-06
Se-79	8.49E-07	4.99E-04	0.733	6.12E-08	6.12E-08	1.03E-06	1.19E-06
Sr-90	0.257	151	2.22E+05	0.249	0.255	0.259	0.261
Y-90	0.257	151	2.22E+05	0.222	0.222	0.259	0.261
Zr-93	4.09E-06	2.40E-03	3.53	2.91E-07	2.91E-07	4.97E-06	5.78E-06
Nb-93m	2.99E-06	1.76E-03	2.58	2.45E-07	2.45E-07	3.62E-06	4.17E-06
Tc-99	5.43E-05	3.19E-02	46.9	2.90E-05	4.30E-05	6.32E-05	6.16E-05
Ru-106	1.75E-09	1.03E-06	1.51E-03	2.76E-14	2.76E-14	1.92E-09	2.05E-09
Cd-113m	2.09E-05	1.23E-02	18.0	7.10E-07	7.10E-07	2.61E-05	3.07E-05
Sb-125	3.94E-05	2.32E-02	34.0	6.15E-08	6.15E-08	3.98E-05	4.03E-05
Sn-126	1.27E-06	7.46E-04	1.10	9.21E-08	9.21E-08	1.54E-06	1.79E-06
I-129	1.05E-07	6.17E-05	9.07E-02	5.59E-08	8.32E-08	1.22E-07	1.19E-07
Cs-134	4.48E-07	2.63E-04	0.387	2.03E-08	2.03E-08	4.51E-07	4.54E-07
Cs-137	0.291	171	2.51E+05	0.267	0.279	0.298	0.302
Ba-137m	0.275	162	2.37E+05	0.236	0.236	0.275	0.276
Sm-151	2.95E-03	1.73	2.55E+03	2.28E-04	2.28E-04	3.57E-03	4.12E-03
Eu-152	1.65E-06	9.69E-04	1.42	4.13E-07	4.13E-07	1.65E-06	1.66E-06
Eu-154	1.50E-04	8.79E-02	129	1.20E-06	1.20E-06	1.93E-04	1.86E-04
Eu-155	1.06E-04	6.23E-02	91.4	3.11E-05	3.11E-05	1.06E-04	1.06E-04
Ra-226	5.45E-11	3.20E-08	4.71E-05	1.67E-11	1.67E-11	6.63E-11	3.93E-10
Ra-228	4.70E-07	2.76E-04	0.405	1.58E-15	1.58E-15	4.74E-07	4.78E-07
Ac-227	6.21E-10	3.65E-07	5.36E-04	8.52E-11	8.52E-11	7.98E-10	2.16E-09
Pa-231	2.95E-09	1.73E-06	2.54E-03	1.85E-10	1.85E-10	3.81E-09	4.64E-09
Th-229	1.08E-08	6.37E-06	9.36E-03	3.06E-13	3.06E-13	1.09E-08	1.10E-08
Th-232	1.73E-08	1.02E-05	1.50E-02	8.27E-17	8.27E-17	2.21E-08	2.67E-08
U-232	2.62E-06	1.54E-03	2.26	1.18E-06	1.91E-06	3.45E-06	4.33E-06
U-233	1.00E-05	5.89E-03	8.66	4.51E-06	7.32E-06	1.32E-05	1.66E-05
U-234	7.60E-07	4.47E-04	0.656	5.96E-07	7.29E-07	7.92E-07	8.23E-07
U-235	2.85E-08	1.68E-05	2.46E-02	2.33E-08	2.73E-08	2.98E-08	3.10E-08
U-236	2.41E-08	1.41E-05	2.08E-02	2.00E-08	2.29E-08	2.52E-08	2.63E-08
U-238	1.54E-06	9.04E-04	1.33	1.39E-06	1.51E-06	1.57E-06	1.59E-06
Np-237	1.88E-07	1.10E-04	0.162	1.07E-07	1.52E-07	2.16E-07	2.09E-07
Pu-238	7.17E-07	4.21E-04	0.618	3.29E-07	5.21E-07	9.12E-07	1.10E-06
Pu-239	2.76E-05	1.62E-02	23.8	1.46E-05	2.11E-05	3.39E-05	7.97E-05
Pu-240	4.51E-06	2.65E-03	3.89	2.24E-06	3.37E-06	5.65E-06	8.98E-06
Pu-241	5.11E-05	3.00E-02	44.1	2.32E-05	3.70E-05	6.52E-05	7.89E-05
Pu-242	2.46E-10	1.44E-07	2.12E-04	1.12E-10	1.78E-10	3.14E-10	3.79E-10
Am-241	1.29E-05	7.55E-03	11.1	4.84E-06	8.77E-06	1.67E-05	1.98E-05
Am-243	4.29E-10	2.52E-07	3.71E-04	1.35E-10	2.76E-10	5.83E-10	7.09E-10
Cm-242	7.72E-09	4.53E-06	6.66E-03	7.56E-09	7.56E-09	7.78E-09	7.79E-09
Cm-243	1.58E-10	9.28E-08	1.36E-04	1.55E-10	1.55E-10	1.59E-10	1.60E-10
Cm-244	1.48E-10	8.71E-08	1.28E-04	7.32E-11	9.20E-11	1.87E-10	1.92E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.67E-04 (g/L)	----	0.317	1.38E-04	2.54E-04	4.80E-04	1.23E-03
U	8.08E-03	1.13E+03	1.66E+03	6.58E-03	7.72E-03	8.44E-03	8.78E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(7.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.47E+06 (kg)	(228 kgal)	----	----	----	----	----
Heat Load	2.67 (kW)	(9.11E+03 BTU/hr)	----	2.53	2.61	2.71	2.73
Bulk Density†	1.70 (g/cc)	----	----	1.48	1.51	1.90	2.08
Water wt%†	31.4	----	----	12.1	20.5	45.0	47.2
TOC wt% C (wet)†	0.498	----	----	0.408	0.447	0.562	0.573

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.81E-05	2.24E-02	32.9	2.09E-06	2.09E-06	3.92E-05	3.93E-05
C-14	9.67E-06	5.68E-03	8.35	2.90E-07	2.90E-07	1.00E-05	1.04E-05
Ni-59	3.59E-06	2.11E-03	3.09	2.58E-06	2.58E-06	3.64E-06	3.69E-06
Ni-63	3.32E-04	0.195	287	2.33E-04	2.33E-04	3.37E-04	3.42E-04
Co-60	8.86E-06	5.20E-03	7.64	6.64E-08	6.64E-08	8.93E-06	9.04E-06
Se-79	8.49E-07	4.99E-04	0.733	6.12E-08	6.12E-08	1.03E-06	1.19E-06
Sr-90	0.257	151	2.22E+05	0.249	0.255	0.259	0.261
Y-90	0.257	151	2.22E+05	0.222	0.222	0.259	0.261
Zr-93	4.09E-06	2.40E-03	3.53	2.91E-07	2.91E-07	4.97E-06	5.78E-06
Nb-93m	2.99E-06	1.76E-03	2.58	2.45E-07	2.45E-07	3.62E-06	4.17E-06
Tc-99	5.43E-05	3.19E-02	46.9	2.90E-05	4.30E-05	6.32E-05	6.16E-05
Ru-106	1.75E-09	1.03E-06	1.51E-03	2.76E-14	2.76E-14	1.92E-09	2.05E-09
Cd-113m	2.09E-05	1.23E-02	18.0	7.10E-07	7.10E-07	2.61E-05	3.07E-05
Sb-125	3.94E-05	2.32E-02	34.0	6.15E-08	6.15E-08	3.98E-05	4.03E-05
Sn-126	1.27E-06	7.46E-04	1.10	9.21E-08	9.21E-08	1.54E-06	1.79E-06
I-129	1.05E-07	6.17E-05	9.07E-02	5.59E-08	8.32E-08	1.22E-07	1.19E-07
Cs-134	4.48E-07	2.63E-04	0.387	2.03E-08	2.03E-08	4.51E-07	4.54E-07
Cs-137	0.291	171	2.51E+05	0.267	0.279	0.298	0.302
Ba-137m	0.275	162	2.37E+05	0.236	0.236	0.275	0.276
Sm-151	2.95E-03	1.73	2.55E+03	2.28E-04	2.28E-04	3.57E-03	4.12E-03
Eu-152	1.65E-06	9.69E-04	1.42	4.13E-07	4.13E-07	1.65E-06	1.66E-06
Eu-154	1.50E-04	8.79E-02	129	1.20E-06	1.20E-06	1.93E-04	1.86E-04
Eu-155	1.06E-04	6.23E-02	91.4	3.11E-05	3.11E-05	1.06E-04	1.06E-04
Ra-226	5.45E-11	3.20E-08	4.71E-05	1.67E-11	1.67E-11	6.63E-11	3.93E-10
Ra-228	4.70E-07	2.76E-04	0.405	1.58E-15	1.58E-15	4.74E-07	4.78E-07
Ac-227	6.21E-10	3.65E-07	5.36E-04	8.52E-11	8.52E-11	7.98E-10	2.16E-09
Pa-231	2.95E-09	1.73E-06	2.54E-03	1.85E-10	1.85E-10	3.81E-09	4.64E-09
Th-229	1.08E-08	6.37E-06	9.36E-03	3.06E-13	3.06E-13	1.09E-08	1.10E-08
Th-232	1.73E-08	1.02E-05	1.50E-02	8.27E-17	8.27E-17	2.21E-08	2.67E-08
U-232	2.62E-06	1.54E-03	2.26	1.18E-06	1.91E-06	3.45E-06	4.33E-06
U-233	1.00E-05	5.89E-03	8.66	4.51E-06	7.32E-06	1.32E-05	1.66E-05
U-234	7.60E-07	4.47E-04	0.656	5.96E-07	7.29E-07	7.92E-07	8.23E-07
U-235	2.85E-08	1.68E-05	2.46E-02	2.33E-08	2.73E-08	2.98E-08	3.10E-08
U-236	2.41E-08	1.41E-05	2.08E-02	2.00E-08	2.29E-08	2.52E-08	2.63E-08
U-238	1.54E-06	9.04E-04	1.33	1.39E-06	1.51E-06	1.57E-06	1.59E-06
Np-237	1.88E-07	1.10E-04	0.162	1.07E-07	1.52E-07	2.16E-07	2.09E-07
Pu-238	7.17E-07	4.21E-04	0.618	3.29E-07	5.21E-07	9.12E-07	1.10E-06
Pu-239	2.76E-05	1.62E-02	23.8	1.46E-05	2.11E-05	3.39E-05	7.97E-05
Pu-240	4.51E-06	2.65E-03	3.89	2.24E-06	3.37E-06	5.65E-06	8.98E-06
Pu-241	5.11E-05	3.00E-02	44.1	2.32E-05	3.70E-05	6.52E-05	7.89E-05
Pu-242	2.46E-10	1.44E-07	2.12E-04	1.12E-10	1.78E-10	3.14E-10	3.79E-10
Am-241	1.29E-05	7.55E-03	11.1	4.84E-06	8.77E-06	1.67E-05	1.98E-05
Am-243	4.29E-10	2.52E-07	3.71E-04	1.35E-10	2.76E-10	5.83E-10	7.09E-10
Cm-242	7.72E-09	4.53E-06	6.66E-03	7.56E-09	7.56E-09	7.78E-09	7.79E-09
Cm-243	1.58E-10	9.28E-08	1.36E-04	1.55E-10	1.55E-10	1.59E-10	1.60E-10
Cm-244	1.48E-10	8.71E-08	1.28E-04	7.32E-11	9.20E-11	1.87E-10	1.92E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.67E-04 (g/L)	----	0.317	1.38E-04	2.54E-04	4.80E-04	1.23E-03
U	8.08E-03	1.13E+03	1.66E+03	6.58E-03	7.72E-03	8.44E-03	8.78E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.62E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	2.29 (kW)	(7.82E+03 BTU/hr)	----	1.42	1.91	2.55	2.69
Bulk Density	1.63 (g/cc)	----	----	1.35	1.49	1.74	1.86
Void Fraction	0.742	----	----	0.466	0.639	0.862	0.938
Water wt%	37.2	----	----	18.9	27.9	49.3	60.0
TOC wt% C (wet)	0.407	----	----	0.324	0.390	0.428	0.433

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.75E+05	4.57E+05	6.63	9.37	14.9	17.5
Al^{3+}	1.93	3.19E+04	8.35E+04	0.833	1.20	2.83	3.69
Fe^{3+} (total Fe)	3.01E-02	1.03E+03	2.69E+03	2.12E-02	2.55E-02	3.47E-02	3.91E-02
Cr^{3+}	5.04E-02	1.60E+03	4.20E+03	4.03E-02	4.56E-02	5.24E-02	5.43E-02
Bi^{3+}	8.20E-04	105	274	6.00E-04	7.48E-04	8.95E-04	9.48E-04
La^{3+}	1.87E-06	0.159	0.416	1.55E-06	1.75E-06	1.95E-06	1.91E-06
Hg^{2+}	3.32E-05	4.07	10.6	2.98E-05	3.15E-05	3.48E-05	3.65E-05
Zr (as $ZrO(OH)_2$)	3.11E-05	1.73	4.54	2.55E-05	2.83E-05	3.21E-05	3.22E-05
Pb^{2+}	5.19E-03	658	1.72E+03	2.83E-03	3.98E-03	6.39E-03	7.55E-03
Ni^{2+}	1.24E-02	446	1.17E+03	8.18E-03	1.04E-02	1.34E-02	1.35E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.97E-03	99.7	261	2.19E-03	2.57E-03	3.37E-03	3.75E-03
Ca^{2+}	7.38E-02	1.81E+03	4.74E+03	4.81E-02	6.07E-02	8.68E-02	9.90E-02
K^{+}	3.65E-02	872	2.28E+03	2.63E-02	3.19E-02	4.03E-02	3.76E-02
OH^{-}	9.86	1.03E+05	2.68E+05	5.22	6.84	13.5	16.9
$NO3^{-}$	5.99	2.27E+05	5.95E+05	2.63	4.36	7.03	8.00
$NO2^{-}$	1.53	4.30E+04	1.13E+05	0.883	1.22	1.75	2.44
$CO3^{2-}$	0.623	2.29E+04	5.98E+04	0.479	0.525	0.720	0.771
$PO4^{3-}$	9.68E-02	5.63E+03	1.47E+04	7.74E-02	8.76E-02	0.105	0.111
$SO4^{2-}$	0.184	1.08E+04	2.83E+04	0.109	0.148	0.216	0.299
Si (as SiO_x^{2-})	7.02E-02	1.21E+03	3.16E+03	4.16E-02	5.70E-02	8.11E-02	8.95E-02
F^{-}	5.09E-02	592	1.55E+03	4.35E-02	4.80E-02	5.29E-02	5.16E-02
Cl^{-}	0.121	2.61E+03	6.84E+03	6.48E-02	9.21E-02	0.126	0.126
$C_6H_5O_7^{3-}$	2.19E-02	2.53E+03	6.62E+03	1.81E-02	2.13E-02	2.23E-02	2.23E-02
$EDTA^{4-}$	4.91E-03	865	2.26E+03	4.33E-03	4.73E-03	5.00E-03	5.01E-03
$HEDTA^{3-}$	6.63E-04	111	291	2.00E-04	4.51E-04	8.32E-04	8.47E-04
$glycolate^{-}$	1.54E-02	707	1.85E+03	7.79E-03	1.20E-02	1.80E-02	1.75E-02
$acetate^{-}$	2.92E-02	1.05E+03	2.76E+03	2.54E-02	2.88E-02	2.95E-02	2.98E-02
$oxalate^{2-}$	2.45E-06	0.132	0.346	1.79E-06	2.23E-06	2.68E-06	2.80E-06
DBP	2.32E-02	2.99E+03	7.82E+03	2.00E-02	2.22E-02	2.38E-02	2.37E-02
butanol	2.32E-02	1.05E+03	2.76E+03	2.00E-02	2.22E-02	2.38E-02	2.37E-02
NH_3	1.23E-02	128	335	6.09E-03	8.81E-03	1.60E-02	1.74E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.62E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	2.29 (kW)	(7.82E+03 BTU/hr)	----	1.42	1.91	2.55	2.69
Bulk Density†	1.63 (g/cc)	----	----	1.35	1.49	1.74	1.86
Water wt%†	37.2	----	----	18.9	27.9	49.3	60.0
TOC wt% C (wet)†	0.407	----	----	0.324	0.390	0.428	0.433

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.4	1.75E+05	4.57E+05	6.63	9.37	14.9	17.5
Al^{3+}	1.93	3.19E+04	8.35E+04	0.833	1.20	2.83	3.69
Fe^{3+} (total Fe)	3.01E-02	1.03E+03	2.69E+03	2.12E-02	2.55E-02	3.47E-02	3.91E-02
Cr^{3+}	5.04E-02	1.60E+03	4.20E+03	4.03E-02	4.56E-02	5.24E-02	5.43E-02
Bi^{3+}	8.20E-04	105	274	6.00E-04	7.48E-04	8.95E-04	9.48E-04
La^{3+}	1.87E-06	0.159	0.416	1.55E-06	1.75E-06	1.95E-06	1.91E-06
Hg^{2+}	3.32E-05	4.07	10.6	2.98E-05	3.15E-05	3.48E-05	3.65E-05
Zr (as $ZrO(OH)_2$)	3.11E-05	1.73	4.54	2.55E-05	2.83E-05	3.21E-05	3.22E-05
Pb^{2+}	5.19E-03	658	1.72E+03	2.83E-03	3.98E-03	6.39E-03	7.55E-03
Ni^{2+}	1.24E-02	446	1.17E+03	8.18E-03	1.04E-02	1.34E-02	1.35E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.97E-03	99.7	261	2.19E-03	2.57E-03	3.37E-03	3.75E-03
Ca^{2+}	7.38E-02	1.81E+03	4.74E+03	4.81E-02	6.07E-02	8.68E-02	9.90E-02
K^{+}	3.65E-02	872	2.28E+03	2.63E-02	3.19E-02	4.03E-02	3.76E-02
OH^{-}	9.86	1.03E+05	2.68E+05	5.22	6.84	13.5	16.9
$NO3^{-}$	5.99	2.27E+05	5.95E+05	2.63	4.36	7.03	8.00
$NO2^{-}$	1.53	4.30E+04	1.13E+05	0.883	1.22	1.75	2.44
$CO3^{2-}$	0.623	2.29E+04	5.98E+04	0.479	0.525	0.720	0.771
$PO4^{3-}$	9.68E-02	5.63E+03	1.47E+04	7.74E-02	8.76E-02	0.105	0.111
$SO4^{2-}$	0.184	1.08E+04	2.83E+04	0.109	0.148	0.216	0.299
Si (as SiO_x^{2-})	7.02E-02	1.21E+03	3.16E+03	4.16E-02	5.70E-02	8.11E-02	8.95E-02
F^{-}	5.09E-02	592	1.55E+03	4.35E-02	4.80E-02	5.29E-02	5.16E-02
Cl^{-}	0.121	2.61E+03	6.84E+03	6.48E-02	9.21E-02	0.126	0.126
$C_6H_5O_7^{3-}$	2.19E-02	2.53E+03	6.62E+03	1.81E-02	2.13E-02	2.23E-02	2.23E-02
$EDTA^{4-}$	4.91E-03	865	2.26E+03	4.33E-03	4.73E-03	5.00E-03	5.01E-03
$HEDTA^{3-}$	6.63E-04	111	291	2.00E-04	4.51E-04	8.32E-04	8.47E-04
$glycolate^{-}$	1.54E-02	707	1.85E+03	7.79E-03	1.20E-02	1.80E-02	1.75E-02
$acetate^{-}$	2.92E-02	1.05E+03	2.76E+03	2.54E-02	2.88E-02	2.95E-02	2.98E-02
$oxalate^{2-}$	2.45E-06	0.132	0.346	1.79E-06	2.23E-06	2.68E-06	2.80E-06
DBP	2.32E-02	2.99E+03	7.82E+03	2.00E-02	2.22E-02	2.38E-02	2.37E-02
butanol	2.32E-02	1.05E+03	2.76E+03	2.00E-02	2.22E-02	2.38E-02	2.37E-02
NH_3	1.23E-02	128	335	6.09E-03	8.81E-03	1.60E-02	1.74E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.62E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	2.29 (kW)	(7.82E+03 BTU/hr)	----	1.42	1.91	2.55	2.69
Bulk Density	1.63 (g/cc)	----	----	1.35	1.49	1.74	1.86
Void Fraction	0.742	----	----	0.466	0.639	0.862	0.938
Water wt%	37.2	----	----	18.9	27.9	49.3	60.0
TOC wt% C (wet)	0.407	----	----	0.324	0.390	0.428	0.433
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.19E-04	7.30E-02	191	8.08E-08	8.08E-08	1.21E-04	1.22E-04
C-14	3.13E-05	1.91E-02	50.1	2.32E-07	2.32E-07	3.24E-05	3.36E-05
Ni-59	3.33E-06	2.03E-03	5.32	8.19E-09	8.19E-09	3.47E-06	3.61E-06
Ni-63	3.30E-04	0.202	528	7.19E-07	7.19E-07	3.44E-04	3.58E-04
Co-60	2.91E-05	1.78E-02	46.6	4.01E-09	4.01E-09	2.93E-05	2.97E-05
Se-79	2.61E-06	1.60E-03	4.19	6.05E-09	6.05E-09	3.20E-06	3.75E-06
Sr-90	0.117	71.3	1.87E+05	9.10E-02	0.109	0.124	0.131
Y-90	0.117	71.3	1.87E+05	1.70E-04	1.70E-04	0.124	0.131
Zr-93	1.26E-05	7.72E-03	20.2	2.88E-08	2.88E-08	1.55E-05	1.82E-05
Nb-93m	9.13E-06	5.58E-03	14.6	2.48E-08	2.48E-08	1.12E-05	1.30E-05
Tc-99	1.73E-04	0.106	278	8.95E-05	1.36E-04	2.03E-04	1.97E-04
Ru-106	5.81E-09	3.55E-06	9.30E-03	9.44E-17	9.44E-17	6.34E-09	6.78E-09
Cd-113m	6.68E-05	4.08E-02	107	5.86E-08	5.86E-08	8.42E-05	9.94E-05
Sb-125	1.30E-04	7.98E-02	209	2.16E-09	2.16E-09	1.31E-04	1.33E-04
Sn-126	3.91E-06	2.39E-03	6.26	8.98E-09	8.98E-09	4.79E-06	5.62E-06
I-129	3.36E-07	2.05E-04	0.537	1.73E-07	2.63E-07	3.93E-07	3.82E-07
Cs-134	1.42E-06	8.67E-04	2.27	2.31E-12	2.31E-12	1.42E-06	1.44E-06
Cs-137	0.138	84.3	2.21E+05	5.82E-02	9.72E-02	0.163	0.175
Ba-137m	0.130	79.7	2.09E+05	1.81E-04	1.81E-04	0.131	0.132
Sm-151	9.05E-03	5.53	1.45E+04	2.29E-05	2.29E-05	1.11E-02	1.29E-02
Eu-152	4.10E-06	2.51E-03	6.56	5.35E-09	5.35E-09	4.11E-06	4.12E-06
Eu-154	4.91E-04	0.301	787	5.39E-08	5.39E-08	6.37E-04	6.11E-04
Eu-155	2.49E-04	0.152	398	8.09E-07	8.09E-07	2.49E-04	2.50E-04
Ra-226	1.37E-10	8.38E-08	2.19E-04	1.17E-11	1.17E-11	1.70E-10	1.99E-10
Ra-228	1.56E-06	9.51E-04	2.49	7.28E-17	7.28E-17	1.57E-06	1.58E-06
Ac-227	1.80E-09	1.10E-06	2.89E-03	2.92E-11	2.92E-11	2.39E-09	2.93E-09
Pa-231	9.18E-09	5.61E-06	1.47E-02	2.71E-11	2.71E-11	1.20E-08	1.48E-08
Th-229	3.59E-08	2.20E-05	5.75E-02	1.40E-14	1.40E-14	3.62E-08	3.65E-08
Th-232	5.74E-08	3.51E-05	9.20E-02	8.93E-18	8.93E-18	7.32E-08	8.84E-08
U-232	8.67E-06	5.30E-03	13.9	3.90E-06	6.32E-06	1.14E-05	1.43E-05
U-233	3.32E-05	2.03E-02	53.2	1.49E-05	2.42E-05	4.37E-05	5.49E-05
U-234	1.40E-05	8.59E-03	22.5	1.35E-05	1.39E-05	1.42E-05	1.43E-05
U-235	6.13E-07	3.75E-04	0.982	5.96E-07	6.09E-07	6.17E-07	6.21E-07
U-236	1.53E-07	9.36E-05	0.245	1.39E-07	1.49E-07	1.57E-07	1.60E-07
U-238	1.68E-05	1.03E-02	26.8	1.63E-05	1.67E-05	1.69E-05	1.70E-05
Np-237	5.82E-07	3.56E-04	0.932	3.16E-07	4.64E-07	6.75E-07	6.53E-07
Pu-238	2.32E-06	1.42E-03	3.71	1.04E-06	1.67E-06	2.97E-06	3.59E-06
Pu-239	8.32E-05	5.09E-02	133	4.02E-05	6.20E-05	1.04E-04	1.24E-04
Pu-240	1.42E-05	8.72E-03	22.8	6.72E-06	1.05E-05	1.80E-05	2.16E-05
Pu-241	1.67E-04	0.102	267	7.47E-05	1.20E-04	2.14E-04	2.59E-04
Pu-242	8.04E-10	4.92E-07	1.29E-03	3.61E-10	5.80E-10	1.03E-09	1.25E-09
Am-241	4.07E-05	2.49E-02	65.2	1.42E-05	2.72E-05	5.36E-05	6.36E-05
Am-243	1.41E-09	8.62E-07	2.26E-03	4.34E-10	9.00E-10	1.92E-09	2.33E-09
Cm-242	5.46E-10	3.34E-07	8.73E-04	2.15E-11	2.15E-11	5.51E-10	5.56E-10
Cm-243	1.10E-11	6.75E-09	1.77E-05	3.19E-13	3.19E-13	1.11E-11	1.12E-11
Cm-244	1.87E-10	1.14E-07	2.99E-04	4.27E-13	4.27E-13	1.88E-10	1.89E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.08E-03 (g/L)	----	1.74	3.26E-04	7.10E-04	1.46E-03	1.81E-03
U	0.174	2.53E+04	6.62E+04	0.169	0.173	0.175	0.176

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.62E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	2.29 (kW)	(7.82E+03 BTU/hr)	----	1.42	1.91	2.55	2.69
Bulk Density†	1.63 (g/cc)	----	----	1.35	1.49	1.74	1.86
Water wt%†	37.2	----	----	18.9	27.9	49.3	60.0
TOC wt% C (wet)†	0.407	----	----	0.324	0.390	0.428	0.433
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.19E-04	7.30E-02	191	8.08E-08	8.08E-08	1.21E-04	1.22E-04
C-14	3.13E-05	1.91E-02	50.1	2.32E-07	2.32E-07	3.24E-05	3.36E-05
Ni-59	3.33E-06	2.03E-03	5.32	8.19E-09	8.19E-09	3.47E-06	3.61E-06
Ni-63	3.30E-04	0.202	528	7.19E-07	7.19E-07	3.44E-04	3.58E-04
Co-60	2.91E-05	1.78E-02	46.6	4.01E-09	4.01E-09	2.93E-05	2.97E-05
Se-79	2.61E-06	1.60E-03	4.19	6.05E-09	6.05E-09	3.20E-06	3.75E-06
Sr-90	0.117	71.3	1.87E+05	9.10E-02	0.109	0.124	0.131
Y-90	0.117	71.3	1.87E+05	1.70E-04	1.70E-04	0.124	0.131
Zr-93	1.26E-05	7.72E-03	20.2	2.88E-08	2.88E-08	1.55E-05	1.82E-05
Nb-93m	9.13E-06	5.58E-03	14.6	2.48E-08	2.48E-08	1.12E-05	1.30E-05
Tc-99	1.73E-04	0.106	278	8.95E-05	1.36E-04	2.03E-04	1.97E-04
Ru-106	5.81E-09	3.55E-06	9.30E-03	9.44E-17	9.44E-17	6.34E-09	6.78E-09
Cd-113m	6.68E-05	4.08E-02	107	5.86E-08	5.86E-08	8.42E-05	9.94E-05
Sb-125	1.30E-04	7.98E-02	209	2.16E-09	2.16E-09	1.31E-04	1.33E-04
Sn-126	3.91E-06	2.39E-03	6.26	8.98E-09	8.98E-09	4.79E-06	5.62E-06
I-129	3.36E-07	2.05E-04	0.537	1.73E-07	2.63E-07	3.93E-07	3.82E-07
Cs-134	1.42E-06	8.67E-04	2.27	2.31E-12	2.31E-12	1.42E-06	1.44E-06
Cs-137	0.138	84.3	2.21E+05	5.82E-02	9.72E-02	0.163	0.175
Ba-137m	0.130	79.7	2.09E+05	1.81E-04	1.81E-04	0.131	0.132
Sm-151	9.05E-03	5.53	1.45E+04	2.29E-05	2.29E-05	1.11E-02	1.29E-02
Eu-152	4.10E-06	2.51E-03	6.56	5.35E-09	5.35E-09	4.11E-06	4.12E-06
Eu-154	4.91E-04	0.301	787	5.39E-08	5.39E-08	6.37E-04	6.11E-04
Eu-155	2.49E-04	0.152	398	8.09E-07	8.09E-07	2.49E-04	2.50E-04
Ra-226	1.37E-10	8.38E-08	2.19E-04	1.17E-11	1.17E-11	1.70E-10	1.99E-10
Ra-228	1.56E-06	9.51E-04	2.49	7.28E-17	7.28E-17	1.57E-06	1.58E-06
Ac-227	1.80E-09	1.10E-06	2.89E-03	2.92E-11	2.92E-11	2.39E-09	2.93E-09
Pa-231	9.18E-09	5.61E-06	1.47E-02	2.71E-11	2.71E-11	1.20E-08	1.48E-08
Th-229	3.59E-08	2.20E-05	5.75E-02	1.40E-14	1.40E-14	3.62E-08	3.65E-08
Th-232	5.74E-08	3.51E-05	9.20E-02	8.93E-18	8.93E-18	7.32E-08	8.84E-08
U-232	8.67E-06	5.30E-03	13.9	3.90E-06	6.32E-06	1.14E-05	1.43E-05
U-233	3.32E-05	2.03E-02	53.2	1.49E-05	2.42E-05	4.37E-05	5.49E-05
U-234	1.40E-05	8.59E-03	22.5	1.35E-05	1.39E-05	1.42E-05	1.43E-05
U-235	6.13E-07	3.75E-04	0.982	5.96E-07	6.09E-07	6.17E-07	6.21E-07
U-236	1.53E-07	9.36E-05	0.245	1.39E-07	1.49E-07	1.57E-07	1.60E-07
U-238	1.68E-05	1.03E-02	26.8	1.63E-05	1.67E-05	1.69E-05	1.70E-05
Np-237	5.82E-07	3.56E-04	0.932	3.16E-07	4.64E-07	6.75E-07	6.53E-07
Pu-238	2.32E-06	1.42E-03	3.71	1.04E-06	1.67E-06	2.97E-06	3.59E-06
Pu-239	8.32E-05	5.09E-02	133	4.02E-05	6.20E-05	1.04E-04	1.24E-04
Pu-240	1.42E-05	8.72E-03	22.8	6.72E-06	1.05E-05	1.80E-05	2.16E-05
Pu-241	1.67E-04	0.102	267	7.47E-05	1.20E-04	2.14E-04	2.59E-04
Pu-242	8.04E-10	4.92E-07	1.29E-03	3.61E-10	5.80E-10	1.03E-09	1.25E-09
Am-241	4.07E-05	2.49E-02	65.2	1.42E-05	2.72E-05	5.36E-05	6.36E-05
Am-243	1.41E-09	8.62E-07	2.26E-03	4.34E-10	9.00E-10	1.92E-09	2.33E-09
Cm-242	5.46E-10	3.34E-07	8.73E-04	2.15E-11	2.15E-11	5.51E-10	5.56E-10
Cm-243	1.10E-11	6.75E-09	1.77E-05	3.19E-13	3.19E-13	1.11E-11	1.12E-11
Cm-244	1.87E-10	1.14E-07	2.99E-04	4.27E-13	4.27E-13	1.88E-10	1.89E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.08E-03 (g/L)	----	1.74	3.26E-04	7.10E-04	1.46E-03	1.81E-03
U	0.174	2.53E+04	6.62E+04	0.169	0.173	0.175	0.176

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.48E+06 (kg)	(398 kgal)	----	----	----	----	----
Heat Load	3.41 (kW)	(1.16E+04 BTU/hr)	----	2.94	3.20	3.55	3.62
Bulk Density	1.64 (g/cc)	----	----	1.48	1.55	1.74	1.82
Void Fraction	0.691	----	----	0.529	0.607	0.777	0.803
Water wt%	35.7	----	----	24.8	29.8	42.3	47.4
TOC wt% C (wet)	0.432	----	----	0.380	0.409	0.458	0.462

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.0	1.68E+05	4.16E+05	8.70	10.1	13.9	15.7
Al^{3+}	1.14	1.88E+04	4.65E+04	0.516	0.725	1.66	2.15
Fe^{3+} (total Fe)	0.393	1.33E+04	3.31E+04	0.386	0.390	0.396	0.399
Cr^{3+}	2.99E-02	946	2.34E+03	2.41E-02	2.72E-02	3.10E-02	3.21E-02
Bi^{3+}	0.105	1.34E+04	3.31E+04	0.101	0.103	0.107	0.110
La^{3+}	1.07E-06	9.03E-02	0.224	8.84E-07	1.00E-06	1.11E-06	1.09E-06
Hg^{2+}	2.76E-05	3.37	8.35	2.09E-05	2.54E-05	2.90E-05	2.98E-05
Zr (as $ZrO(OH)_2$)	4.05E-05	2.25	5.57	3.20E-05	3.64E-05	4.48E-05	4.89E-05
Pb^{2+}	2.96E-03	373	925	1.61E-03	2.28E-03	3.65E-03	4.31E-03
Ni^{2+}	5.88E-02	2.10E+03	5.20E+03	5.64E-02	5.77E-02	5.94E-02	5.94E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.69E-03	56.6	140	1.25E-03	1.47E-03	1.92E-03	2.14E-03
Ca^{2+}	0.150	3.66E+03	9.07E+03	0.125	0.137	0.163	0.176
K^{+}	2.51E-02	597	1.48E+03	1.93E-02	2.25E-02	2.73E-02	2.67E-02
OH^{-}	6.35	6.56E+04	1.63E+05	3.70	4.62	8.42	10.3
$NO3^{-}$	7.30	2.75E+05	6.82E+05	4.75	5.07	9.50	11.5
$NO2^{-}$	1.44	4.02E+04	9.96E+04	1.04	1.21	1.71	1.96
$CO3^{2-}$	0.376	1.37E+04	3.40E+04	0.294	0.320	0.431	0.461
$PO4^{3-}$	0.267	1.54E+04	3.82E+04	0.179	0.233	0.287	0.329
$SO4^{2-}$	0.146	8.55E+03	2.12E+04	0.103	0.125	0.164	0.212
Si (as SiO_x^{2-})	7.94E-02	1.36E+03	3.36E+03	6.30E-02	6.82E-02	0.142	0.201
F^{-}	8.88E-02	1.03E+03	2.54E+03	5.44E-02	7.11E-02	0.176	0.445
Cl^{-}	8.86E-02	1.91E+03	4.73E+03	5.68E-02	7.24E-02	9.50E-02	9.59E-02
$C_6H_5O_7^{3-}$	1.25E-02	1.44E+03	3.56E+03	1.03E-02	1.21E-02	1.27E-02	1.28E-02
$EDTA^{4-}$	2.80E-03	491	1.22E+03	2.47E-03	2.70E-03	2.85E-03	2.86E-03
$HEDTA^{3-}$	3.79E-04	63.1	156	1.14E-04	2.58E-04	4.75E-04	4.84E-04
$glycolate^{-}$	8.80E-03	401	994	4.45E-03	6.86E-03	1.03E-02	1.00E-02
$acetate^{-}$	1.67E-02	599	1.48E+03	1.45E-02	1.64E-02	1.68E-02	1.70E-02
$oxalate^{2-}$	1.40E-06	7.50E-02	0.186	1.03E-06	1.28E-06	1.53E-06	1.60E-06
DBP	1.33E-02	1.70E+03	4.20E+03	1.14E-02	1.27E-02	1.36E-02	1.35E-02
butanol	1.33E-02	598	1.48E+03	1.14E-02	1.27E-02	1.36E-02	1.35E-02
NH_3	0.121	1.25E+03	3.09E+03	4.49E-02	8.82E-02	0.123	0.123
$Fe(CN)_6^{4-}$	4.59E-02	7.56E+03	1.87E+04	4.59E-02	4.59E-02	4.59E-02	4.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.48E+06 (kg)	(398 kgal)	----	----	----	----	----
Heat Load	3.41 (kW)	(1.16E+04 BTU/hr)	----	2.94	3.20	3.55	3.62
Bulk Density†	1.64 (g/cc)	----	----	1.48	1.55	1.74	1.82
Water wt%†	35.7	----	----	24.8	29.8	42.3	47.4
TOC wt% C (wet)†	0.432	----	----	0.380	0.409	0.458	0.462

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.0	1.68E+05	4.16E+05	8.70	10.1	13.9	15.7
Al^{3+}	1.14	1.88E+04	4.65E+04	0.516	0.725	1.66	2.15
Fe^{3+} (total Fe)	0.393	1.33E+04	3.31E+04	0.386	0.390	0.396	0.399
Cr^{3+}	2.99E-02	946	2.34E+03	2.41E-02	2.72E-02	3.10E-02	3.21E-02
Bi^{3+}	0.105	1.34E+04	3.31E+04	0.101	0.103	0.107	0.110
La^{3+}	1.07E-06	9.03E-02	0.224	8.84E-07	1.00E-06	1.11E-06	1.09E-06
Hg^{2+}	2.76E-05	3.37	8.35	2.09E-05	2.54E-05	2.90E-05	2.98E-05
Zr (as $ZrO(OH)_2$)	4.05E-05	2.25	5.57	3.20E-05	3.64E-05	4.48E-05	4.89E-05
Pb^{2+}	2.96E-03	373	925	1.61E-03	2.28E-03	3.65E-03	4.31E-03
Ni^{2+}	5.88E-02	2.10E+03	5.20E+03	5.64E-02	5.77E-02	5.94E-02	5.94E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.69E-03	56.6	140	1.25E-03	1.47E-03	1.92E-03	2.14E-03
Ca^{2+}	0.150	3.66E+03	9.07E+03	0.125	0.137	0.163	0.176
K^{+}	2.51E-02	597	1.48E+03	1.93E-02	2.25E-02	2.73E-02	2.67E-02
OH^{-}	6.35	6.56E+04	1.63E+05	3.70	4.62	8.42	10.3
$NO3^{-}$	7.30	2.75E+05	6.82E+05	4.75	5.07	9.50	11.5
$NO2^{-}$	1.44	4.02E+04	9.96E+04	1.04	1.21	1.71	1.96
$CO3^{2-}$	0.376	1.37E+04	3.40E+04	0.294	0.320	0.431	0.461
$PO4^{3-}$	0.267	1.54E+04	3.82E+04	0.179	0.233	0.287	0.329
$SO4^{2-}$	0.146	8.55E+03	2.12E+04	0.103	0.125	0.164	0.212
Si (as SiO_x^{2-})	7.94E-02	1.36E+03	3.36E+03	6.30E-02	6.82E-02	0.142	0.201
F^{-}	8.88E-02	1.03E+03	2.54E+03	5.44E-02	7.11E-02	0.176	0.445
Cl^{-}	8.86E-02	1.91E+03	4.73E+03	5.68E-02	7.24E-02	9.50E-02	9.59E-02
$C_6H_5O_7^{3-}$	1.25E-02	1.44E+03	3.56E+03	1.03E-02	1.21E-02	1.27E-02	1.28E-02
$EDTA^{4-}$	2.80E-03	491	1.22E+03	2.47E-03	2.70E-03	2.85E-03	2.86E-03
$HEDTA^{3-}$	3.79E-04	63.1	156	1.14E-04	2.58E-04	4.75E-04	4.84E-04
$glycolate^{-}$	8.80E-03	401	994	4.45E-03	6.86E-03	1.03E-02	1.00E-02
$acetate^{-}$	1.67E-02	599	1.48E+03	1.45E-02	1.64E-02	1.68E-02	1.70E-02
$oxalate^{2-}$	1.40E-06	7.50E-02	0.186	1.03E-06	1.28E-06	1.53E-06	1.60E-06
DBP	1.33E-02	1.70E+03	4.20E+03	1.14E-02	1.27E-02	1.36E-02	1.35E-02
butanol	1.33E-02	598	1.48E+03	1.14E-02	1.27E-02	1.36E-02	1.35E-02
NH_3	0.121	1.25E+03	3.09E+03	4.49E-02	8.82E-02	0.123	0.123
$Fe(CN)_6^{4-}$	4.59E-02	7.56E+03	1.87E+04	4.59E-02	4.59E-02	4.59E-02	4.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.48E+06 (kg)	(398 kgal)	----	----	----	----	----
Heat Load	3.41 (kW)	(1.16E+04 BTU/hr)	----	2.94	3.20	3.55	3.62
Bulk Density	1.64 (g/cc)	----	----	1.48	1.55	1.74	1.82
Void Fraction	0.691	----	----	0.529	0.607	0.777	0.803
Water wt%	35.7	----	----	24.8	29.8	42.3	47.4
TOC wt% C (wet)	0.432	----	----	0.380	0.409	0.458	0.462
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.93E-05	4.22E-02	104	1.17E-06	1.17E-06	7.01E-05	7.07E-05
C-14	1.79E-05	1.09E-02	27.0	1.66E-07	1.66E-07	1.86E-05	1.92E-05
Ni-59	3.29E-06	2.00E-03	4.95	1.39E-06	1.39E-06	3.37E-06	3.45E-06
Ni-63	3.14E-04	0.191	472	1.26E-04	1.26E-04	3.22E-04	3.30E-04
Co-60	1.67E-05	1.01E-02	25.1	3.84E-08	3.84E-08	1.68E-05	1.70E-05
Se-79	1.52E-06	9.27E-04	2.30	3.49E-08	3.49E-08	1.86E-06	2.17E-06
Sr-90	0.187	114	2.82E+05	0.172	0.183	0.191	0.195
Y-90	0.187	114	2.82E+05	0.121	0.121	0.191	0.195
Zr-93	7.36E-06	4.47E-03	11.1	1.66E-07	1.66E-07	9.03E-06	1.05E-05
Nb-93m	5.34E-06	3.25E-03	8.04	1.40E-07	1.40E-07	6.51E-06	7.56E-06
Tc-99	1.00E-04	6.09E-02	151	5.22E-05	7.87E-05	1.17E-04	1.14E-04
Ru-106	3.32E-09	2.02E-06	5.00E-03	1.63E-14	1.63E-14	3.62E-09	3.87E-09
Cd-113m	3.85E-05	2.34E-02	58.0	4.08E-07	4.08E-07	4.85E-05	5.72E-05
Sb-125	7.45E-05	4.53E-02	112	3.59E-08	3.59E-08	7.51E-05	7.61E-05
Sn-126	2.28E-06	1.39E-03	3.44	5.26E-08	5.26E-08	2.78E-06	3.26E-06
I-129	1.94E-07	1.18E-04	0.292	1.01E-07	1.52E-07	2.26E-07	2.20E-07
Cs-134	8.21E-07	4.99E-04	1.24	1.11E-08	1.11E-08	8.25E-07	8.31E-07
Cs-137	0.214	130	3.22E+05	0.169	0.191	0.228	0.235
Ba-137m	0.202	123	3.05E+05	0.128	0.128	0.203	0.204
Sm-151	5.28E-03	3.21	7.96E+03	1.30E-04	1.30E-04	6.46E-03	7.50E-03
Eu-152	2.56E-06	1.56E-03	3.86	2.27E-07	2.27E-07	2.57E-06	2.58E-06
Eu-154	2.81E-04	0.171	424	6.96E-07	6.96E-07	3.64E-04	3.50E-04
Eu-155	1.59E-04	9.65E-02	239	1.71E-05	1.71E-05	1.59E-04	1.59E-04
Ra-226	8.09E-11	4.92E-08	1.22E-04	9.34E-12	9.34E-12	9.97E-11	2.43E-10
Ra-228	8.88E-07	5.40E-04	1.34	8.62E-16	8.62E-16	8.96E-07	9.04E-07
Ac-227	1.06E-09	6.45E-07	1.60E-03	4.77E-11	4.77E-11	1.40E-09	1.80E-09
Pa-231	5.33E-09	3.24E-06	8.03E-03	1.04E-10	1.04E-10	6.97E-09	8.54E-09
Th-229	2.05E-08	1.25E-05	3.09E-02	1.67E-13	1.67E-13	2.07E-08	2.09E-08
Th-232	3.28E-08	2.00E-05	4.94E-02	4.71E-17	4.71E-17	4.18E-08	5.05E-08
U-232	4.95E-06	3.01E-03	7.46	2.23E-06	3.61E-06	6.52E-06	8.18E-06
U-233	1.90E-05	1.15E-02	28.6	8.54E-06	1.38E-05	2.50E-05	3.13E-05
U-234	2.73E-06	1.66E-03	4.11	2.42E-06	2.65E-06	2.79E-06	2.84E-06
U-235	1.11E-07	6.74E-05	0.167	1.01E-07	1.08E-07	1.13E-07	1.16E-07
U-236	5.88E-08	3.58E-05	8.86E-02	5.11E-08	5.66E-08	6.10E-08	6.31E-08
U-238	4.22E-06	2.57E-03	6.36	3.94E-06	4.15E-06	4.27E-06	4.32E-06
Np-237	3.39E-07	2.06E-04	0.510	1.87E-07	2.71E-07	3.92E-07	3.80E-07
Pu-238	1.37E-06	8.36E-04	2.07	6.42E-07	1.00E-06	1.74E-06	2.10E-06
Pu-239	5.39E-05	3.28E-02	81.1	2.93E-05	4.18E-05	6.59E-05	7.88E-05
Pu-240	8.75E-06	5.32E-03	13.2	4.45E-06	6.59E-06	1.09E-05	1.30E-05
Pu-241	9.76E-05	5.93E-02	147	4.48E-05	7.09E-05	1.24E-04	1.50E-04
Pu-242	4.69E-10	2.85E-07	7.07E-04	2.16E-10	3.41E-10	5.98E-10	7.22E-10
Am-241	2.36E-05	1.43E-02	35.5	8.42E-06	1.59E-05	3.09E-05	3.66E-05
Am-243	8.07E-10	4.91E-07	1.22E-03	2.50E-10	5.17E-10	1.10E-09	1.34E-09
Cm-242	4.46E-09	2.71E-06	6.72E-03	4.16E-09	4.16E-09	4.49E-09	4.50E-09
Cm-243	9.13E-11	5.55E-08	1.38E-04	8.52E-11	8.52E-11	9.20E-11	9.21E-11
Cm-244	1.61E-10	9.78E-08	2.42E-04	5.43E-11	5.43E-11	1.79E-10	1.82E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.24E-04 (g/L)	----	1.09	2.91E-04	5.10E-04	9.36E-04	1.14E-03
U	3.18E-02	4.60E+03	1.14E+04	2.89E-02	3.08E-02	3.24E-02	3.31E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.48E+06 (kg)	(398 kgal)	----	----	----	----	----
Heat Load	3.41 (kW)	(1.16E+04 BTU/hr)	----	2.94	3.20	3.55	3.62
Bulk Density†	1.64 (g/cc)	----	----	1.48	1.55	1.74	1.82
Water wt%†	35.7	----	----	24.8	29.8	42.3	47.4
TOC wt% C (wet)†	0.432	----	----	0.380	0.409	0.458	0.462
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.93E-05	4.22E-02	104	1.17E-06	1.17E-06	7.01E-05	7.07E-05
C-14	1.79E-05	1.09E-02	27.0	1.66E-07	1.66E-07	1.86E-05	1.92E-05
Ni-59	3.29E-06	2.00E-03	4.95	1.39E-06	1.39E-06	3.37E-06	3.45E-06
Ni-63	3.14E-04	0.191	472	1.26E-04	1.26E-04	3.22E-04	3.30E-04
Co-60	1.67E-05	1.01E-02	25.1	3.84E-08	3.84E-08	1.68E-05	1.70E-05
Se-79	1.52E-06	9.27E-04	2.30	3.49E-08	3.49E-08	1.86E-06	2.17E-06
Sr-90	0.187	114	2.82E+05	0.172	0.183	0.191	0.195
Y-90	0.187	114	2.82E+05	0.121	0.121	0.191	0.195
Zr-93	7.36E-06	4.47E-03	11.1	1.66E-07	1.66E-07	9.03E-06	1.05E-05
Nb-93m	5.34E-06	3.25E-03	8.04	1.40E-07	1.40E-07	6.51E-06	7.56E-06
Tc-99	1.00E-04	6.09E-02	151	5.22E-05	7.87E-05	1.17E-04	1.14E-04
Ru-106	3.32E-09	2.02E-06	5.00E-03	1.63E-14	1.63E-14	3.62E-09	3.87E-09
Cd-113m	3.85E-05	2.34E-02	58.0	4.08E-07	4.08E-07	4.85E-05	5.72E-05
Sb-125	7.45E-05	4.53E-02	112	3.59E-08	3.59E-08	7.51E-05	7.61E-05
Sn-126	2.28E-06	1.39E-03	3.44	5.26E-08	5.26E-08	2.78E-06	3.26E-06
I-129	1.94E-07	1.18E-04	0.292	1.01E-07	1.52E-07	2.26E-07	2.20E-07
Cs-134	8.21E-07	4.99E-04	1.24	1.11E-08	1.11E-08	8.25E-07	8.31E-07
Cs-137	0.214	130	3.22E+05	0.169	0.191	0.228	0.235
Ba-137m	0.202	123	3.05E+05	0.128	0.128	0.203	0.204
Sm-151	5.28E-03	3.21	7.96E+03	1.30E-04	1.30E-04	6.46E-03	7.50E-03
Eu-152	2.56E-06	1.56E-03	3.86	2.27E-07	2.27E-07	2.57E-06	2.58E-06
Eu-154	2.81E-04	0.171	424	6.96E-07	6.96E-07	3.64E-04	3.50E-04
Eu-155	1.59E-04	9.65E-02	239	1.71E-05	1.71E-05	1.59E-04	1.59E-04
Ra-226	8.09E-11	4.92E-08	1.22E-04	9.34E-12	9.34E-12	9.97E-11	2.43E-10
Ra-228	8.88E-07	5.40E-04	1.34	8.62E-16	8.62E-16	8.96E-07	9.04E-07
Ac-227	1.06E-09	6.45E-07	1.60E-03	4.77E-11	4.77E-11	1.40E-09	1.80E-09
Pa-231	5.33E-09	3.24E-06	8.03E-03	1.04E-10	1.04E-10	6.97E-09	8.54E-09
Th-229	2.05E-08	1.25E-05	3.09E-02	1.67E-13	1.67E-13	2.07E-08	2.09E-08
Th-232	3.28E-08	2.00E-05	4.94E-02	4.71E-17	4.71E-17	4.18E-08	5.05E-08
U-232	4.95E-06	3.01E-03	7.46	2.23E-06	3.61E-06	6.52E-06	8.18E-06
U-233	1.90E-05	1.15E-02	28.6	8.54E-06	1.38E-05	2.50E-05	3.13E-05
U-234	2.73E-06	1.66E-03	4.11	2.42E-06	2.65E-06	2.79E-06	2.84E-06
U-235	1.11E-07	6.74E-05	0.167	1.01E-07	1.08E-07	1.13E-07	1.16E-07
U-236	5.88E-08	3.58E-05	8.86E-02	5.11E-08	5.66E-08	6.10E-08	6.31E-08
U-238	4.22E-06	2.57E-03	6.36	3.94E-06	4.15E-06	4.27E-06	4.32E-06
Np-237	3.39E-07	2.06E-04	0.510	1.87E-07	2.71E-07	3.92E-07	3.80E-07
Pu-238	1.37E-06	8.36E-04	2.07	6.42E-07	1.00E-06	1.74E-06	2.10E-06
Pu-239	5.39E-05	3.28E-02	81.1	2.93E-05	4.18E-05	6.59E-05	7.88E-05
Pu-240	8.75E-06	5.32E-03	13.2	4.45E-06	6.59E-06	1.09E-05	1.30E-05
Pu-241	9.76E-05	5.93E-02	147	4.48E-05	7.09E-05	1.24E-04	1.50E-04
Pu-242	4.69E-10	2.85E-07	7.07E-04	2.16E-10	3.41E-10	5.98E-10	7.22E-10
Am-241	2.36E-05	1.43E-02	35.5	8.42E-06	1.59E-05	3.09E-05	3.66E-05
Am-243	8.07E-10	4.91E-07	1.22E-03	2.50E-10	5.17E-10	1.10E-09	1.34E-09
Cm-242	4.46E-09	2.71E-06	6.72E-03	4.16E-09	4.16E-09	4.49E-09	4.50E-09
Cm-243	9.13E-11	5.55E-08	1.38E-04	8.52E-11	8.52E-11	9.20E-11	9.21E-11
Cm-244	1.61E-10	9.78E-08	2.42E-04	5.43E-11	5.43E-11	1.79E-10	1.82E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.24E-04 (g/L)	----	1.09	2.91E-04	5.10E-04	9.36E-04	1.14E-03
U	3.18E-02	4.60E+03	1.14E+04	2.89E-02	3.08E-02	3.24E-02	3.31E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.84E+06 (kg)	(459 kgal)	----	----	----	----	----
Heat Load	2.56 (kW)	(8.75E+03 BTU/hr)	----	1.59	2.13	2.85	3.01
Bulk Density	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Void Fraction	0.753	----	----	0.468	0.647	0.877	0.955
Water wt%	36.9	----	----	18.1	27.3	49.4	60.5
TOC wt% C (wet)	0.420	----	----	0.333	0.402	0.443	0.450

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.6	1.78E+05	5.05E+05	6.67	9.50	15.2	17.9
Al^{3+}	1.99	3.29E+04	9.34E+04	0.859	1.24	2.91	3.81
Fe^{3+} (total Fe)	2.74E-02	935	2.65E+03	1.81E-02	2.26E-02	3.21E-02	3.66E-02
Cr^{3+}	5.19E-02	1.65E+03	4.69E+03	4.15E-02	4.70E-02	5.40E-02	5.59E-02
Bi^{3+}	8.46E-04	108	307	6.18E-04	7.71E-04	9.22E-04	9.77E-04
La^{3+}	1.93E-06	0.164	0.466	1.60E-06	1.81E-06	2.01E-06	1.97E-06
Hg^{2+}	3.42E-05	4.20	11.9	3.08E-05	3.24E-05	3.59E-05	3.76E-05
Zr (as $ZrO(OH)_2$)	3.20E-05	1.79	5.08	2.63E-05	2.92E-05	3.31E-05	3.32E-05
Pb^{2+}	5.35E-03	679	1.93E+03	2.91E-03	4.11E-03	6.59E-03	7.79E-03
Ni^{2+}	1.28E-02	460	1.30E+03	8.42E-03	1.07E-02	1.38E-02	1.39E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.06E-03	103	292	2.25E-03	2.65E-03	3.47E-03	3.87E-03
Ca^{2+}	7.35E-02	1.80E+03	5.12E+03	4.69E-02	5.99E-02	8.69E-02	9.94E-02
K^+	3.76E-02	900	2.55E+03	2.71E-02	3.29E-02	4.16E-02	3.87E-02
OH^-	9.83	1.02E+05	2.90E+05	5.05	6.71	13.6	17.0
$NO3^-$	6.18	2.34E+05	6.65E+05	2.71	4.49	7.24	8.25
$NO2^-$	1.58	4.44E+04	1.26E+05	0.911	1.26	1.81	2.52
$CO3^{2-}$	0.583	2.14E+04	6.08E+04	0.435	0.482	0.683	0.737
$PO4^{3-}$	8.74E-02	5.08E+03	1.44E+04	7.45E-02	8.13E-02	9.26E-02	9.69E-02
$SO4^{2-}$	0.187	1.10E+04	3.12E+04	0.109	0.149	0.220	0.306
Si (as SiO_x^{2-})	7.24E-02	1.24E+03	3.53E+03	4.28E-02	5.87E-02	8.36E-02	9.22E-02
F^-	5.25E-02	611	1.73E+03	4.48E-02	4.95E-02	5.46E-02	5.32E-02
Cl^-	0.124	2.69E+03	7.65E+03	6.68E-02	9.49E-02	0.130	0.130
$C_6H_5O_7^{3-}$	2.26E-02	2.61E+03	7.41E+03	1.86E-02	2.19E-02	2.30E-02	2.30E-02
$EDTA^{4-}$	5.06E-03	893	2.53E+03	4.46E-03	4.88E-03	5.15E-03	5.17E-03
$HEDTA^{3-}$	6.83E-04	115	325	2.06E-04	4.65E-04	8.58E-04	8.73E-04
$glycolate^-$	1.59E-02	729	2.07E+03	8.03E-03	1.24E-02	1.86E-02	1.81E-02
$acetate^-$	3.01E-02	1.09E+03	3.09E+03	2.62E-02	2.97E-02	3.04E-02	3.08E-02
$oxalate^{2-}$	2.53E-06	0.136	0.387	1.85E-06	2.30E-06	2.76E-06	2.89E-06
DBP	2.40E-02	3.08E+03	8.75E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
butanol	2.40E-02	1.09E+03	3.08E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
NH_3	1.27E-02	132	375	6.28E-03	9.08E-03	1.65E-02	1.79E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.84E+06 (kg)	(459 kgal)	----	----	----	----	----
Heat Load	2.56 (kW)	(8.75E+03 BTU/hr)	----	1.59	2.13	2.85	3.01
Bulk Density†	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Water wt%†	36.9	----	----	18.1	27.3	49.4	60.5
TOC wt% C (wet)†	0.420	----	----	0.333	0.402	0.443	0.450

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.6	1.78E+05	5.05E+05	6.67	9.50	15.2	17.9
Al^{3+}	1.99	3.29E+04	9.34E+04	0.859	1.24	2.91	3.81
Fe^{3+} (total Fe)	2.74E-02	935	2.65E+03	1.81E-02	2.26E-02	3.21E-02	3.66E-02
Cr^{3+}	5.19E-02	1.65E+03	4.69E+03	4.15E-02	4.70E-02	5.40E-02	5.59E-02
Bi^{3+}	8.46E-04	108	307	6.18E-04	7.71E-04	9.22E-04	9.77E-04
La^{3+}	1.93E-06	0.164	0.466	1.60E-06	1.81E-06	2.01E-06	1.97E-06
Hg^{2+}	3.42E-05	4.20	11.9	3.08E-05	3.24E-05	3.59E-05	3.76E-05
Zr (as $ZrO(OH)_2$)	3.20E-05	1.79	5.08	2.63E-05	2.92E-05	3.31E-05	3.32E-05
Pb^{2+}	5.35E-03	679	1.93E+03	2.91E-03	4.11E-03	6.59E-03	7.79E-03
Ni^{2+}	1.28E-02	460	1.30E+03	8.42E-03	1.07E-02	1.38E-02	1.39E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.06E-03	103	292	2.25E-03	2.65E-03	3.47E-03	3.87E-03
Ca^{2+}	7.35E-02	1.80E+03	5.12E+03	4.69E-02	5.99E-02	8.69E-02	9.94E-02
K^+	3.76E-02	900	2.55E+03	2.71E-02	3.29E-02	4.16E-02	3.87E-02
OH^-	9.83	1.02E+05	2.90E+05	5.05	6.71	13.6	17.0
$NO3^-$	6.18	2.34E+05	6.65E+05	2.71	4.49	7.24	8.25
$NO2^-$	1.58	4.44E+04	1.26E+05	0.911	1.26	1.81	2.52
$CO3^{2-}$	0.583	2.14E+04	6.08E+04	0.435	0.482	0.683	0.737
$PO4^{3-}$	8.74E-02	5.08E+03	1.44E+04	7.45E-02	8.13E-02	9.26E-02	9.69E-02
$SO4^{2-}$	0.187	1.10E+04	3.12E+04	0.109	0.149	0.220	0.306
Si (as SiO_x^{2-})	7.24E-02	1.24E+03	3.53E+03	4.28E-02	5.87E-02	8.36E-02	9.22E-02
F^-	5.25E-02	611	1.73E+03	4.48E-02	4.95E-02	5.46E-02	5.32E-02
Cl^-	0.124	2.69E+03	7.65E+03	6.68E-02	9.49E-02	0.130	0.130
$C_6H_5O_7^{3-}$	2.26E-02	2.61E+03	7.41E+03	1.86E-02	2.19E-02	2.30E-02	2.30E-02
$EDTA^{4-}$	5.06E-03	893	2.53E+03	4.46E-03	4.88E-03	5.15E-03	5.17E-03
$HEDTA^{3-}$	6.83E-04	115	325	2.06E-04	4.65E-04	8.58E-04	8.73E-04
$glycolate^-$	1.59E-02	729	2.07E+03	8.03E-03	1.24E-02	1.86E-02	1.81E-02
$acetate^-$	3.01E-02	1.09E+03	3.09E+03	2.62E-02	2.97E-02	3.04E-02	3.08E-02
$oxalate^{2-}$	2.53E-06	0.136	0.387	1.85E-06	2.30E-06	2.76E-06	2.89E-06
DBP	2.40E-02	3.08E+03	8.75E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
butanol	2.40E-02	1.09E+03	3.08E+03	2.07E-02	2.29E-02	2.46E-02	2.45E-02
NH_3	1.27E-02	132	375	6.28E-03	9.08E-03	1.65E-02	1.79E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.84E+06 (kg)	(459 kgal)	----	----	----	----	----
Heat Load	2.56 (kW)	(8.75E+03 BTU/hr)	----	1.59	2.13	2.85	3.01
Bulk Density	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Void Fraction	0.753	----	----	0.468	0.647	0.877	0.955
Water wt%	36.9	----	----	18.1	27.3	49.4	60.5
TOC wt% C (wet)	0.420	----	----	0.333	0.402	0.443	0.450
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.23E-04	7.54E-02	214	5.38E-08	5.38E-08	1.24E-04	1.26E-04
C-14	3.22E-05	1.97E-02	55.9	1.54E-07	1.54E-07	3.34E-05	3.45E-05
Ni-59	3.43E-06	2.10E-03	5.95	5.45E-09	5.45E-09	3.57E-06	3.72E-06
Ni-63	3.40E-04	0.208	591	4.78E-07	4.78E-07	3.55E-04	3.69E-04
Co-60	3.00E-05	1.84E-02	52.1	2.67E-09	2.67E-09	3.03E-05	3.06E-05
Se-79	2.69E-06	1.65E-03	4.68	4.02E-09	4.02E-09	3.30E-06	3.86E-06
Sr-90	0.120	73.5	2.09E+05	9.38E-02	0.113	0.128	0.135
Y-90	0.120	73.6	2.09E+05	1.13E-04	1.13E-04	0.128	0.135
Zr-93	1.30E-05	7.96E-03	22.6	1.92E-08	1.92E-08	1.60E-05	1.87E-05
Nb-93m	9.40E-06	5.76E-03	16.3	1.65E-08	1.65E-08	1.15E-05	1.34E-05
Tc-99	1.79E-04	0.109	310	9.22E-05	1.40E-04	2.09E-04	2.03E-04
Ru-106	5.99E-09	3.67E-06	1.04E-02	6.28E-17	6.28E-17	6.54E-09	6.99E-09
Cd-113m	6.88E-05	4.21E-02	120	3.90E-08	3.90E-08	8.68E-05	1.02E-04
Sb-125	1.34E-04	8.23E-02	234	1.44E-09	1.44E-09	1.36E-04	1.37E-04
Sn-126	4.03E-06	2.47E-03	7.00	5.98E-09	5.98E-09	4.94E-06	5.79E-06
I-129	3.46E-07	2.12E-04	0.601	1.78E-07	2.71E-07	4.05E-07	3.94E-07
Cs-134	1.46E-06	8.95E-04	2.54	1.54E-12	1.54E-12	1.47E-06	1.48E-06
Cs-137	0.142	86.9	2.47E+05	5.99E-02	0.100	0.168	0.180
Ba-137m	0.134	82.2	2.33E+05	1.21E-04	1.21E-04	0.135	0.136
Sm-151	9.32E-03	5.71	1.62E+04	1.52E-05	1.52E-05	1.14E-02	1.33E-02
Eu-152	4.22E-06	2.59E-03	7.34	3.56E-09	3.56E-09	4.23E-06	4.25E-06
Eu-154	5.07E-04	0.310	880	3.58E-08	3.58E-08	6.56E-04	6.30E-04
Eu-155	2.56E-04	0.157	445	5.38E-07	5.38E-07	2.57E-04	2.58E-04
Ra-226	1.37E-10	8.39E-08	2.38E-04	7.78E-12	7.78E-12	1.71E-10	2.01E-10
Ra-228	1.60E-06	9.82E-04	2.79	4.85E-17	4.85E-17	1.62E-06	1.63E-06
Ac-227	1.85E-09	1.13E-06	3.21E-03	1.94E-11	1.94E-11	2.45E-09	3.01E-09
Pa-231	9.45E-09	5.79E-06	1.64E-02	1.80E-11	1.80E-11	1.24E-08	1.52E-08
Th-229	3.70E-08	2.27E-05	6.43E-02	9.35E-15	9.35E-15	3.73E-08	3.77E-08
Th-232	5.92E-08	3.63E-05	0.103	5.94E-18	5.94E-18	7.55E-08	9.11E-08
U-232	8.94E-06	5.47E-03	15.5	4.02E-06	6.52E-06	1.18E-05	1.48E-05
U-233	3.43E-05	2.10E-02	59.5	1.54E-05	2.50E-05	4.51E-05	5.66E-05
U-234	1.02E-05	6.25E-03	17.7	9.65E-06	1.01E-05	1.03E-05	1.04E-05
U-235	4.40E-07	2.69E-04	0.764	4.22E-07	4.36E-07	4.44E-07	4.48E-07
U-236	1.30E-07	7.98E-05	0.227	1.16E-07	1.26E-07	1.34E-07	1.38E-07
U-238	1.30E-05	7.94E-03	22.5	1.25E-05	1.29E-05	1.31E-05	1.32E-05
Np-237	6.00E-07	3.67E-04	1.04	3.25E-07	4.78E-07	6.96E-07	6.73E-07
Pu-238	2.39E-06	1.46E-03	4.15	1.07E-06	1.72E-06	3.06E-06	3.70E-06
Pu-239	8.57E-05	5.25E-02	149	4.13E-05	6.39E-05	1.07E-04	1.28E-04
Pu-240	1.47E-05	8.99E-03	25.5	6.92E-06	1.08E-05	1.86E-05	2.23E-05
Pu-241	1.72E-04	0.105	299	7.70E-05	1.24E-04	2.21E-04	2.67E-04
Pu-242	8.29E-10	5.08E-07	1.44E-03	3.72E-10	5.98E-10	1.06E-09	1.29E-09
Am-241	4.20E-05	2.57E-02	72.9	1.46E-05	2.80E-05	5.53E-05	6.56E-05
Am-243	1.45E-09	8.89E-07	2.52E-03	4.48E-10	9.28E-10	1.98E-09	2.41E-09
Cm-242	5.55E-10	3.40E-07	9.64E-04	1.43E-11	1.43E-11	5.60E-10	5.65E-10
Cm-243	1.13E-11	6.89E-09	1.96E-05	2.12E-13	2.12E-13	1.14E-11	1.15E-11
Cm-244	1.92E-10	1.18E-07	3.34E-04	2.84E-13	2.84E-13	1.94E-10	1.95E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.12E-03 (g/L)	----	1.94	3.35E-04	7.30E-04	1.50E-03	1.87E-03
U	0.125	1.82E+04	5.15E+04	0.120	0.123	0.126	0.127

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.84E+06 (kg)	(459 kgal)	----	----	----	----	----
Heat Load	2.56 (kW)	(8.75E+03 BTU/hr)	----	1.59	2.13	2.85	3.01
Bulk Density†	1.63 (g/cc)	----	----	1.34	1.49	1.74	1.86
Water wt%†	36.9	----	----	18.1	27.3	49.4	60.5
TOC wt% C (wet)†	0.420	----	----	0.333	0.402	0.443	0.450
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.23E-04	7.54E-02	214	5.38E-08	5.38E-08	1.24E-04	1.26E-04
C-14	3.22E-05	1.97E-02	55.9	1.54E-07	1.54E-07	3.34E-05	3.45E-05
Ni-59	3.43E-06	2.10E-03	5.95	5.45E-09	5.45E-09	3.57E-06	3.72E-06
Ni-63	3.40E-04	0.208	591	4.78E-07	4.78E-07	3.55E-04	3.69E-04
Co-60	3.00E-05	1.84E-02	52.1	2.67E-09	2.67E-09	3.03E-05	3.06E-05
Se-79	2.69E-06	1.65E-03	4.68	4.02E-09	4.02E-09	3.30E-06	3.86E-06
Sr-90	0.120	73.5	2.09E+05	9.38E-02	0.113	0.128	0.135
Y-90	0.120	73.6	2.09E+05	1.13E-04	1.13E-04	0.128	0.135
Zr-93	1.30E-05	7.96E-03	22.6	1.92E-08	1.92E-08	1.60E-05	1.87E-05
Nb-93m	9.40E-06	5.76E-03	16.3	1.65E-08	1.65E-08	1.15E-05	1.34E-05
Tc-99	1.79E-04	0.109	310	9.22E-05	1.40E-04	2.09E-04	2.03E-04
Ru-106	5.99E-09	3.67E-06	1.04E-02	6.28E-17	6.28E-17	6.54E-09	6.99E-09
Cd-113m	6.88E-05	4.21E-02	120	3.90E-08	3.90E-08	8.68E-05	1.02E-04
Sb-125	1.34E-04	8.23E-02	234	1.44E-09	1.44E-09	1.36E-04	1.37E-04
Sn-126	4.03E-06	2.47E-03	7.00	5.98E-09	5.98E-09	4.94E-06	5.79E-06
I-129	3.46E-07	2.12E-04	0.601	1.78E-07	2.71E-07	4.05E-07	3.94E-07
Cs-134	1.46E-06	8.95E-04	2.54	1.54E-12	1.54E-12	1.47E-06	1.48E-06
Cs-137	0.142	86.9	2.47E+05	5.99E-02	0.100	0.168	0.180
Ba-137m	0.134	82.2	2.33E+05	1.21E-04	1.21E-04	0.135	0.136
Sm-151	9.32E-03	5.71	1.62E+04	1.52E-05	1.52E-05	1.14E-02	1.33E-02
Eu-152	4.22E-06	2.59E-03	7.34	3.56E-09	3.56E-09	4.23E-06	4.25E-06
Eu-154	5.07E-04	0.310	880	3.58E-08	3.58E-08	6.56E-04	6.30E-04
Eu-155	2.56E-04	0.157	445	5.38E-07	5.38E-07	2.57E-04	2.58E-04
Ra-226	1.37E-10	8.39E-08	2.38E-04	7.78E-12	7.78E-12	1.71E-10	2.01E-10
Ra-228	1.60E-06	9.82E-04	2.79	4.85E-17	4.85E-17	1.62E-06	1.63E-06
Ac-227	1.85E-09	1.13E-06	3.21E-03	1.94E-11	1.94E-11	2.45E-09	3.01E-09
Pa-231	9.45E-09	5.79E-06	1.64E-02	1.80E-11	1.80E-11	1.24E-08	1.52E-08
Th-229	3.70E-08	2.27E-05	6.43E-02	9.35E-15	9.35E-15	3.73E-08	3.77E-08
Th-232	5.92E-08	3.63E-05	0.103	5.94E-18	5.94E-18	7.55E-08	9.11E-08
U-232	8.94E-06	5.47E-03	15.5	4.02E-06	6.52E-06	1.18E-05	1.48E-05
U-233	3.43E-05	2.10E-02	59.5	1.54E-05	2.50E-05	4.51E-05	5.66E-05
U-234	1.02E-05	6.25E-03	17.7	9.65E-06	1.01E-05	1.03E-05	1.04E-05
U-235	4.40E-07	2.69E-04	0.764	4.22E-07	4.36E-07	4.44E-07	4.48E-07
U-236	1.30E-07	7.98E-05	0.227	1.16E-07	1.26E-07	1.34E-07	1.38E-07
U-238	1.30E-05	7.94E-03	22.5	1.25E-05	1.29E-05	1.31E-05	1.32E-05
Np-237	6.00E-07	3.67E-04	1.04	3.25E-07	4.78E-07	6.96E-07	6.73E-07
Pu-238	2.39E-06	1.46E-03	4.15	1.07E-06	1.72E-06	3.06E-06	3.70E-06
Pu-239	8.57E-05	5.25E-02	149	4.13E-05	6.39E-05	1.07E-04	1.28E-04
Pu-240	1.47E-05	8.99E-03	25.5	6.92E-06	1.08E-05	1.86E-05	2.23E-05
Pu-241	1.72E-04	0.105	299	7.70E-05	1.24E-04	2.21E-04	2.67E-04
Pu-242	8.29E-10	5.08E-07	1.44E-03	3.72E-10	5.98E-10	1.06E-09	1.29E-09
Am-241	4.20E-05	2.57E-02	72.9	1.46E-05	2.80E-05	5.53E-05	6.56E-05
Am-243	1.45E-09	8.89E-07	2.52E-03	4.48E-10	9.28E-10	1.98E-09	2.41E-09
Cm-242	5.55E-10	3.40E-07	9.64E-04	1.43E-11	1.43E-11	5.60E-10	5.65E-10
Cm-243	1.13E-11	6.89E-09	1.96E-05	2.12E-13	2.12E-13	1.14E-11	1.15E-11
Cm-244	1.92E-10	1.18E-07	3.34E-04	2.84E-13	2.84E-13	1.94E-10	1.95E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.12E-03 (g/L)	----	1.94	3.35E-04	7.30E-04	1.50E-03	1.87E-03
U	0.125	1.82E+04	5.15E+04	0.120	0.123	0.126	0.127

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.80E+06 (kg)	(291 kgal)	----	----	----	----	----
Heat Load	1.77 (kW)	(6.03E+03 BTU/hr)	----	1.13	1.49	1.96	2.06
Bulk Density	1.63 (g/cc)	----	----	1.33	1.48	1.75	1.87
Void Fraction	0.766	----	----	0.473	0.657	0.894	0.974
Water wt%	36.1	----	----	16.9	26.3	49.0	60.5
TOC wt% C (wet)	0.440	----	----	0.348	0.420	0.466	0.475

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.0	1.83E+05	3.30E+05	6.89	9.80	15.6	18.5
Al^{3+}	2.06	3.39E+04	6.11E+04	0.886	1.27	3.01	3.92
Fe^{3+} (total Fe)	4.18E-02	1.43E+03	2.57E+03	3.23E-02	3.69E-02	4.66E-02	5.13E-02
Cr^{3+}	5.35E-02	1.70E+03	3.07E+03	4.27E-02	4.84E-02	5.56E-02	5.76E-02
Bi^{3+}	6.75E-03	864	1.55E+03	6.36E-03	6.55E-03	6.95E-03	7.14E-03
La^{3+}	1.99E-06	0.169	0.304	1.65E-06	1.86E-06	2.07E-06	2.03E-06
Hg^{2+}	3.52E-05	4.33	7.79	3.17E-05	3.34E-05	3.70E-05	3.88E-05
Zr (as $ZrO(OH)_2$)	3.30E-05	1.84	3.32	2.72E-05	3.01E-05	3.42E-05	3.42E-05
Pb^{2+}	5.52E-03	700	1.26E+03	3.00E-03	4.23E-03	6.80E-03	8.03E-03
Ni^{2+}	1.58E-02	569	1.02E+03	1.13E-02	1.37E-02	1.69E-02	1.70E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.15E-03	106	191	2.32E-03	2.73E-03	3.58E-03	3.98E-03
Ca^{2+}	7.77E-02	1.91E+03	3.43E+03	5.03E-02	6.37E-02	9.14E-02	0.104
K^+	3.89E-02	932	1.68E+03	2.82E-02	3.41E-02	4.30E-02	4.01E-02
OH^-	9.63	1.00E+05	1.80E+05	4.70	6.42	13.5	17.1
$NO3^-$	6.58	2.50E+05	4.50E+05	3.01	4.85	7.69	8.72
$NO2^-$	1.65	4.65E+04	8.37E+04	0.965	1.33	1.89	2.63
$CO3^{2-}$	0.510	1.87E+04	3.37E+04	0.358	0.406	0.613	0.668
$PO4^{3-}$	7.68E-02	4.46E+03	8.03E+03	6.50E-02	7.31E-02	7.83E-02	8.21E-02
$SO4^{2-}$	0.190	1.12E+04	2.01E+04	0.110	0.151	0.224	0.313
Si (as SiO_x^{2-})	7.58E-02	1.30E+03	2.35E+03	4.54E-02	6.18E-02	8.74E-02	9.63E-02
F^-	5.64E-02	657	1.18E+03	4.85E-02	5.33E-02	6.39E-02	8.70E-02
Cl^-	0.129	2.79E+03	5.03E+03	6.96E-02	9.86E-02	0.135	0.135
$C_6H_5O_7^{3-}$	2.32E-02	2.69E+03	4.84E+03	1.92E-02	2.26E-02	2.37E-02	2.37E-02
$EDTA^{4-}$	5.22E-03	920	1.66E+03	4.60E-03	5.03E-03	5.31E-03	5.33E-03
$HEDTA^{3-}$	7.04E-04	118	213	2.13E-04	4.79E-04	8.85E-04	9.00E-04
$glycolate^-$	1.64E-02	752	1.35E+03	8.28E-03	1.28E-02	1.92E-02	1.87E-02
$acetate^-$	3.10E-02	1.12E+03	2.02E+03	2.70E-02	3.06E-02	3.13E-02	3.17E-02
$oxalate^{2-}$	2.61E-06	0.140	0.253	1.91E-06	2.37E-06	2.84E-06	2.98E-06
DBP	2.47E-02	3.18E+03	5.72E+03	2.13E-02	2.36E-02	2.53E-02	2.52E-02
butanol	2.47E-02	1.12E+03	2.02E+03	2.13E-02	2.36E-02	2.53E-02	2.52E-02
NH_3	1.92E-02	199	359	1.25E-02	1.54E-02	2.31E-02	2.45E-02
$Fe(CN)_6^{4-}$	1.61E-03	267	480	1.61E-03	1.61E-03	1.61E-03	1.61E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.80E+06 (kg)	(291 kgal)	----	----	----	----	----
Heat Load	1.77 (kW)	(6.03E+03 BTU/hr)	----	1.13	1.49	1.96	2.06
Bulk Density†	1.63 (g/cc)	----	----	1.33	1.48	1.75	1.87
Water wt%†	36.1	----	----	16.9	26.3	49.0	60.5
TOC wt% C (wet)†	0.440	----	----	0.348	0.420	0.466	0.475

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.0	1.83E+05	3.30E+05	6.89	9.80	15.6	18.5
Al^{3+}	2.06	3.39E+04	6.11E+04	0.886	1.27	3.01	3.92
Fe^{3+} (total Fe)	4.18E-02	1.43E+03	2.57E+03	3.23E-02	3.69E-02	4.66E-02	5.13E-02
Cr^{3+}	5.35E-02	1.70E+03	3.07E+03	4.27E-02	4.84E-02	5.56E-02	5.76E-02
Bi^{3+}	6.75E-03	864	1.55E+03	6.36E-03	6.55E-03	6.95E-03	7.14E-03
La^{3+}	1.99E-06	0.169	0.304	1.65E-06	1.86E-06	2.07E-06	2.03E-06
Hg^{2+}	3.52E-05	4.33	7.79	3.17E-05	3.34E-05	3.70E-05	3.88E-05
Zr (as $ZrO(OH)_2$)	3.30E-05	1.84	3.32	2.72E-05	3.01E-05	3.42E-05	3.42E-05
Pb^{2+}	5.52E-03	700	1.26E+03	3.00E-03	4.23E-03	6.80E-03	8.03E-03
Ni^{2+}	1.58E-02	569	1.02E+03	1.13E-02	1.37E-02	1.69E-02	1.70E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.15E-03	106	191	2.32E-03	2.73E-03	3.58E-03	3.98E-03
Ca^{2+}	7.77E-02	1.91E+03	3.43E+03	5.03E-02	6.37E-02	9.14E-02	0.104
K^+	3.89E-02	932	1.68E+03	2.82E-02	3.41E-02	4.30E-02	4.01E-02
OH^-	9.63	1.00E+05	1.80E+05	4.70	6.42	13.5	17.1
$NO3^-$	6.58	2.50E+05	4.50E+05	3.01	4.85	7.69	8.72
$NO2^-$	1.65	4.65E+04	8.37E+04	0.965	1.33	1.89	2.63
$CO3^{2-}$	0.510	1.87E+04	3.37E+04	0.358	0.406	0.613	0.668
$PO4^{3-}$	7.68E-02	4.46E+03	8.03E+03	6.50E-02	7.31E-02	7.83E-02	8.21E-02
$SO4^{2-}$	0.190	1.12E+04	2.01E+04	0.110	0.151	0.224	0.313
Si (as SiO_x^{2-})	7.58E-02	1.30E+03	2.35E+03	4.54E-02	6.18E-02	8.74E-02	9.63E-02
F^-	5.64E-02	657	1.18E+03	4.85E-02	5.33E-02	6.39E-02	8.70E-02
Cl^-	0.129	2.79E+03	5.03E+03	6.96E-02	9.86E-02	0.135	0.135
$C_6H_5O_7^{3-}$	2.32E-02	2.69E+03	4.84E+03	1.92E-02	2.26E-02	2.37E-02	2.37E-02
$EDTA^{4-}$	5.22E-03	920	1.66E+03	4.60E-03	5.03E-03	5.31E-03	5.33E-03
$HEDTA^{3-}$	7.04E-04	118	213	2.13E-04	4.79E-04	8.85E-04	9.00E-04
$glycolate^-$	1.64E-02	752	1.35E+03	8.28E-03	1.28E-02	1.92E-02	1.87E-02
$acetate^-$	3.10E-02	1.12E+03	2.02E+03	2.70E-02	3.06E-02	3.13E-02	3.17E-02
$oxalate^{2-}$	2.61E-06	0.140	0.253	1.91E-06	2.37E-06	2.84E-06	2.98E-06
DBP	2.47E-02	3.18E+03	5.72E+03	2.13E-02	2.36E-02	2.53E-02	2.52E-02
butanol	2.47E-02	1.12E+03	2.02E+03	2.13E-02	2.36E-02	2.53E-02	2.52E-02
NH_3	1.92E-02	199	359	1.25E-02	1.54E-02	2.31E-02	2.45E-02
$Fe(CN)_6^{4-}$	1.61E-03	267	480	1.61E-03	1.61E-03	1.61E-03	1.61E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.80E+06 (kg)	(291 kgal)	----	----	----	----	----
Heat Load	1.77 (kW)	(6.03E+03 BTU/hr)	----	1.13	1.49	1.96	2.06
Bulk Density	1.63 (g/cc)	----	----	1.33	1.48	1.75	1.87
Void Fraction	0.766	----	----	0.473	0.657	0.894	0.974
Water wt%	36.1	----	----	16.9	26.3	49.0	60.5
TOC wt% C (wet)	0.440	----	----	0.348	0.420	0.466	0.475

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.27E-04	7.77E-02	140	6.09E-08	6.09E-08	1.28E-04	1.30E-04
C-14	3.31E-05	2.02E-02	36.4	2.63E-08	2.63E-08	3.43E-05	3.54E-05
Ni-59	3.61E-06	2.21E-03	3.97	8.31E-08	8.31E-08	3.76E-06	3.91E-06
Ni-63	3.57E-04	0.219	394	7.49E-06	7.49E-06	3.73E-04	3.87E-04
Co-60	3.09E-05	1.89E-02	34.1	2.05E-09	2.05E-09	3.12E-05	3.16E-05
Se-79	2.77E-06	1.70E-03	3.06	2.08E-09	2.08E-09	3.40E-06	3.98E-06
Sr-90	0.131	80.1	1.44E+05	0.104	0.123	0.139	0.146
Y-90	0.131	80.1	1.44E+05	7.10E-03	7.10E-03	0.139	0.146
Zr-93	1.34E-05	8.20E-03	14.7	9.88E-09	9.88E-09	1.65E-05	1.93E-05
Nb-93m	9.68E-06	5.93E-03	10.7	8.38E-09	8.38E-09	1.19E-05	1.38E-05
Tc-99	1.84E-04	0.113	203	9.50E-05	1.44E-04	2.15E-04	2.10E-04
Ru-106	6.17E-09	3.78E-06	6.80E-03	7.26E-16	7.26E-16	6.74E-09	7.21E-09
Cd-113m	7.09E-05	4.34E-02	78.1	2.32E-08	2.32E-08	8.95E-05	1.06E-04
Sb-125	1.39E-04	8.49E-02	153	1.77E-09	1.77E-09	1.40E-04	1.41E-04
Sn-126	4.15E-06	2.54E-03	4.57	3.12E-09	3.12E-09	5.08E-06	5.96E-06
I-129	3.57E-07	2.18E-04	0.393	1.84E-07	2.79E-07	4.17E-07	4.06E-07
Cs-134	1.51E-06	9.23E-04	1.66	6.50E-10	6.50E-10	1.51E-06	1.53E-06
Cs-137	0.154	94.4	1.70E+05	6.96E-02	0.111	0.181	0.194
Ba-137m	0.146	89.3	1.61E+05	7.55E-03	7.55E-03	0.147	0.148
Sm-151	9.60E-03	5.88	1.06E+04	7.77E-06	7.77E-06	1.18E-02	1.37E-02
Eu-152	4.36E-06	2.67E-03	4.81	1.36E-08	1.36E-08	4.37E-06	4.39E-06
Eu-154	5.22E-04	0.320	575	3.54E-08	3.54E-08	6.77E-04	6.50E-04
Eu-155	2.65E-04	0.162	291	1.06E-06	1.06E-06	2.65E-04	2.66E-04
Ra-226	1.35E-10	8.24E-08	1.48E-04	1.38E-12	1.38E-12	1.70E-10	2.00E-10
Ra-228	1.65E-06	1.01E-03	1.82	5.61E-17	5.61E-17	1.67E-06	1.68E-06
Ac-227	1.89E-09	1.16E-06	2.08E-03	4.57E-12	4.57E-12	2.51E-09	3.09E-09
Pa-231	9.73E-09	5.96E-06	1.07E-02	7.00E-12	7.00E-12	1.28E-08	1.57E-08
Th-229	3.82E-08	2.34E-05	4.20E-02	1.09E-14	1.09E-14	3.85E-08	3.88E-08
Th-232	6.11E-08	3.74E-05	6.73E-02	2.87E-18	2.87E-18	7.78E-08	9.39E-08
U-232	9.22E-06	5.64E-03	10.2	4.15E-06	6.72E-06	1.21E-05	1.52E-05
U-233	3.53E-05	2.16E-02	38.9	1.59E-05	2.57E-05	4.65E-05	5.83E-05
U-234	3.45E-06	2.11E-03	3.79	2.87E-06	3.33E-06	3.56E-06	3.66E-06
U-235	1.35E-07	8.27E-05	0.149	1.17E-07	1.31E-07	1.40E-07	1.44E-07
U-236	8.92E-08	5.46E-05	9.83E-02	7.48E-08	8.52E-08	9.33E-08	9.73E-08
U-238	6.19E-06	3.79E-03	6.82	5.68E-06	6.09E-06	6.29E-06	6.39E-06
Np-237	6.18E-07	3.78E-04	0.680	3.35E-07	4.92E-07	7.17E-07	6.94E-07
Pu-238	2.46E-06	1.51E-03	2.71	1.10E-06	1.78E-06	3.15E-06	3.82E-06
Pu-239	8.83E-05	5.40E-02	97.2	4.25E-05	6.57E-05	1.11E-04	1.32E-04
Pu-240	1.51E-05	9.26E-03	16.7	7.13E-06	1.11E-05	1.91E-05	2.30E-05
Pu-241	1.78E-04	0.109	196	7.94E-05	1.28E-04	2.27E-04	2.75E-04
Pu-242	8.55E-10	5.23E-07	9.42E-04	3.84E-10	6.16E-10	1.09E-09	1.33E-09
Am-241	4.33E-05	2.65E-02	47.7	1.51E-05	2.89E-05	5.70E-05	6.76E-05
Am-243	1.50E-09	9.17E-07	1.65E-03	4.62E-10	9.57E-10	2.04E-09	2.48E-09
Cm-242	8.00E-10	4.89E-07	8.81E-04	2.42E-10	2.42E-10	8.05E-10	8.10E-10
Cm-243	1.63E-11	1.00E-08	1.80E-05	4.96E-12	4.96E-12	1.64E-11	1.66E-11
Cm-244	2.01E-10	1.23E-07	2.21E-04	2.43E-12	2.43E-12	2.02E-10	2.03E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.15E-03 (g/L)	----	1.27	3.43E-04	7.51E-04	1.54E-03	1.92E-03
U	3.82E-02	5.57E+03	1.00E+04	3.30E-02	3.70E-02	3.95E-02	4.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-BY-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.80E+06 (kg)	(291 kgal)	----	----	----	----	----
Heat Load	1.77 (kW)	(6.03E+03 BTU/hr)	----	1.13	1.49	1.96	2.06
Bulk Density†	1.63 (g/cc)	----	----	1.33	1.48	1.75	1.87
Water wt%†	36.1	----	----	16.9	26.3	49.0	60.5
TOC wt% C (wet)†	0.440	----	----	0.348	0.420	0.466	0.475

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.27E-04	7.77E-02	140	6.09E-08	6.09E-08	1.28E-04	1.30E-04
C-14	3.31E-05	2.02E-02	36.4	2.63E-08	2.63E-08	3.43E-05	3.54E-05
Ni-59	3.61E-06	2.21E-03	3.97	8.31E-08	8.31E-08	3.76E-06	3.91E-06
Ni-63	3.57E-04	0.219	394	7.49E-06	7.49E-06	3.73E-04	3.87E-04
Co-60	3.09E-05	1.89E-02	34.1	2.05E-09	2.05E-09	3.12E-05	3.16E-05
Se-79	2.77E-06	1.70E-03	3.06	2.08E-09	2.08E-09	3.40E-06	3.98E-06
Sr-90	0.131	80.1	1.44E+05	0.104	0.123	0.139	0.146
Y-90	0.131	80.1	1.44E+05	7.10E-03	7.10E-03	0.139	0.146
Zr-93	1.34E-05	8.20E-03	14.7	9.88E-09	9.88E-09	1.65E-05	1.93E-05
Nb-93m	9.68E-06	5.93E-03	10.7	8.38E-09	8.38E-09	1.19E-05	1.38E-05
Tc-99	1.84E-04	0.113	203	9.50E-05	1.44E-04	2.15E-04	2.10E-04
Ru-106	6.17E-09	3.78E-06	6.80E-03	7.26E-16	7.26E-16	6.74E-09	7.21E-09
Cd-113m	7.09E-05	4.34E-02	78.1	2.32E-08	2.32E-08	8.95E-05	1.06E-04
Sb-125	1.39E-04	8.49E-02	153	1.77E-09	1.77E-09	1.40E-04	1.41E-04
Sn-126	4.15E-06	2.54E-03	4.57	3.12E-09	3.12E-09	5.08E-06	5.96E-06
I-129	3.57E-07	2.18E-04	0.393	1.84E-07	2.79E-07	4.17E-07	4.06E-07
Cs-134	1.51E-06	9.23E-04	1.66	6.50E-10	6.50E-10	1.51E-06	1.53E-06
Cs-137	0.154	94.4	1.70E+05	6.96E-02	0.111	0.181	0.194
Ba-137m	0.146	89.3	1.61E+05	7.55E-03	7.55E-03	0.147	0.148
Sm-151	9.60E-03	5.88	1.06E+04	7.77E-06	7.77E-06	1.18E-02	1.37E-02
Eu-152	4.36E-06	2.67E-03	4.81	1.36E-08	1.36E-08	4.37E-06	4.39E-06
Eu-154	5.22E-04	0.320	575	3.54E-08	3.54E-08	6.77E-04	6.50E-04
Eu-155	2.65E-04	0.162	291	1.06E-06	1.06E-06	2.65E-04	2.66E-04
Ra-226	1.35E-10	8.24E-08	1.48E-04	1.38E-12	1.38E-12	1.70E-10	2.00E-10
Ra-228	1.65E-06	1.01E-03	1.82	5.61E-17	5.61E-17	1.67E-06	1.68E-06
Ac-227	1.89E-09	1.16E-06	2.08E-03	4.57E-12	4.57E-12	2.51E-09	3.09E-09
Pa-231	9.73E-09	5.96E-06	1.07E-02	7.00E-12	7.00E-12	1.28E-08	1.57E-08
Th-229	3.82E-08	2.34E-05	4.20E-02	1.09E-14	1.09E-14	3.85E-08	3.88E-08
Th-232	6.11E-08	3.74E-05	6.73E-02	2.87E-18	2.87E-18	7.78E-08	9.39E-08
U-232	9.22E-06	5.64E-03	10.2	4.15E-06	6.72E-06	1.21E-05	1.52E-05
U-233	3.53E-05	2.16E-02	38.9	1.59E-05	2.57E-05	4.65E-05	5.83E-05
U-234	3.45E-06	2.11E-03	3.79	2.87E-06	3.33E-06	3.56E-06	3.66E-06
U-235	1.35E-07	8.27E-05	0.149	1.17E-07	1.31E-07	1.40E-07	1.44E-07
U-236	8.92E-08	5.46E-05	9.83E-02	7.48E-08	8.52E-08	9.33E-08	9.73E-08
U-238	6.19E-06	3.79E-03	6.82	5.68E-06	6.09E-06	6.29E-06	6.39E-06
Np-237	6.18E-07	3.78E-04	0.680	3.35E-07	4.92E-07	7.17E-07	6.94E-07
Pu-238	2.46E-06	1.51E-03	2.71	1.10E-06	1.78E-06	3.15E-06	3.82E-06
Pu-239	8.83E-05	5.40E-02	97.2	4.25E-05	6.57E-05	1.11E-04	1.32E-04
Pu-240	1.51E-05	9.26E-03	16.7	7.13E-06	1.11E-05	1.91E-05	2.30E-05
Pu-241	1.78E-04	0.109	196	7.94E-05	1.28E-04	2.27E-04	2.75E-04
Pu-242	8.55E-10	5.23E-07	9.42E-04	3.84E-10	6.16E-10	1.09E-09	1.33E-09
Am-241	4.33E-05	2.65E-02	47.7	1.51E-05	2.89E-05	5.70E-05	6.76E-05
Am-243	1.50E-09	9.17E-07	1.65E-03	4.62E-10	9.57E-10	2.04E-09	2.48E-09
Cm-242	8.00E-10	4.89E-07	8.81E-04	2.42E-10	2.42E-10	8.05E-10	8.10E-10
Cm-243	1.63E-11	1.00E-08	1.80E-05	4.96E-12	4.96E-12	1.64E-11	1.66E-11
Cm-244	2.01E-10	1.23E-07	2.21E-04	2.43E-12	2.43E-12	2.02E-10	2.03E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.15E-03 (g/L)	----	1.27	3.43E-04	7.51E-04	1.54E-03	1.92E-03
U	3.82E-02	5.57E+03	1.00E+04	3.30E-02	3.70E-02	3.95E-02	4.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.26E+05 (kg)	(88.0 kgal)	----	----	----	----	----
Heat Load	1.53E-02 (kW)	(52.3 BTU/hr)	----	8.43E-03	9.15E-03	2.15E-02	2.23E-02
Bulk Density	1.58 (g/cc)	----	----	1.32	1.36	1.73	1.61
Void Fraction	0.669	----	----	0.660	0.534	0.841	0.855
Water wt%	41.8	----	----	40.9	31.6	60.4	65.9
TOC wt% C (wet)	4.34E-05	----	----	1.13E-06	4.94E-06	8.99E-05	9.70E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.99	8.72E+04	4.59E+04	1.22	1.70	9.05	6.23
Al^{3+}	3.42	5.84E+04	3.07E+04	3.33	3.37	3.47	3.52
Fe^{3+} (total Fe)	0.727	2.57E+04	1.35E+04	0.190	0.683	0.732	0.737
Cr^{3+}	2.09E-03	68.7	36.2	1.60E-03	1.65E-03	2.53E-03	2.59E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.54E-03	323	170	2.29E-03	2.48E-03	2.57E-03	2.58E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.133	1.74E+04	9.15E+03	9.33E-02	0.124	0.137	0.140
Ni^{2+}	1.04E-03	38.8	20.4	7.99E-04	8.24E-04	3.20E-03	5.83E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.252	6.40E+03	3.37E+03	0.135	0.137	0.276	0.294
K^+	3.45E-03	85.5	45.0	1.04E-03	1.29E-03	5.62E-03	5.91E-03
OH^-	14.0	1.51E+05	7.95E+04	12.4	13.7	14.3	14.6
$NO3^-$	4.90	1.92E+05	1.01E+05	0.350	0.681	8.16	5.00
$NO2^-$	0.347	1.01E+04	5.32E+03	0.295	0.300	0.426	0.440
$CO3^{2-}$	0.342	1.30E+04	6.84E+03	0.197	0.220	0.367	0.383
$PO4^{3-}$	3.40E-02	2.04E+03	1.08E+03	1.41E-02	1.62E-02	5.18E-02	8.99E-02
$SO4^{2-}$	3.16E-02	1.92E+03	1.01E+03	9.90E-03	1.22E-02	5.10E-02	5.37E-02
Si (as SiO_x^{2-})	5.82E-03	103	54.5	4.74E-03	5.27E-03	6.37E-03	1.77E-02
F^-	0	0	0	0	0	0	0
Cl^-	1.95E-02	437	230	4.86E-03	6.40E-03	3.26E-02	8.59E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	4.76E-06	0.633	0.333	1.03E-07	5.93E-07	8.92E-06	9.48E-06
butanol	4.76E-06	0.223	0.117	1.03E-07	5.93E-07	8.92E-06	9.48E-06
NH_3	2.30E-04	2.47	1.30	8.17E-05	8.54E-05	4.63E-04	4.75E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.26E+05 (kg)	(88.0 kgal)	----	----	----	----	----
Heat Load	1.53E-02 (kW)	(52.3 BTU/hr)	----	8.43E-03	9.15E-03	2.15E-02	2.23E-02
Bulk Density†	1.58 (g/cc)	----	----	1.32	1.36	1.73	1.61
Water wt%†	41.8	----	----	40.9	31.6	60.4	65.9
TOC wt% C (wet)†	4.34E-05	----	----	1.13E-06	4.94E-06	8.99E-05	9.70E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.99	8.72E+04	4.59E+04	1.22	1.70	9.05	6.23
Al^{3+}	3.42	5.84E+04	3.07E+04	3.33	3.37	3.47	3.52
Fe^{3+} (total Fe)	0.727	2.57E+04	1.35E+04	0.190	0.683	0.732	0.737
Cr^{3+}	2.09E-03	68.7	36.2	1.60E-03	1.65E-03	2.53E-03	2.59E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.54E-03	323	170	2.29E-03	2.48E-03	2.57E-03	2.58E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.133	1.74E+04	9.15E+03	9.33E-02	0.124	0.137	0.140
Ni^{2+}	1.04E-03	38.8	20.4	7.99E-04	8.24E-04	3.20E-03	5.83E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.252	6.40E+03	3.37E+03	0.135	0.137	0.276	0.294
K^+	3.45E-03	85.5	45.0	1.04E-03	1.29E-03	5.62E-03	5.91E-03
OH^-	14.0	1.51E+05	7.95E+04	12.4	13.7	14.3	14.6
$NO3^-$	4.90	1.92E+05	1.01E+05	0.350	0.681	8.16	5.00
$NO2^-$	0.347	1.01E+04	5.32E+03	0.295	0.300	0.426	0.440
$CO3^{2-}$	0.342	1.30E+04	6.84E+03	0.197	0.220	0.367	0.383
$PO4^{3-}$	3.40E-02	2.04E+03	1.08E+03	1.41E-02	1.62E-02	5.18E-02	8.99E-02
$SO4^{2-}$	3.16E-02	1.92E+03	1.01E+03	9.90E-03	1.22E-02	5.10E-02	5.37E-02
Si (as SiO_x^{2-})	5.82E-03	103	54.5	4.74E-03	5.27E-03	6.37E-03	1.77E-02
F^-	0	0	0	0	0	0	0
Cl^-	1.95E-02	437	230	4.86E-03	6.40E-03	3.26E-02	8.59E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	4.76E-06	0.633	0.333	1.03E-07	5.93E-07	8.92E-06	9.48E-06
butanol	4.76E-06	0.223	0.117	1.03E-07	5.93E-07	8.92E-06	9.48E-06
NH_3	2.30E-04	2.47	1.30	8.17E-05	8.54E-05	4.63E-04	4.75E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.26E+05 (kg)	(88.0 kgal)	----	----	----	----	----
Heat Load	1.53E-02 (kW)	(52.3 BTU/hr)	----	8.43E-03	9.15E-03	2.15E-02	2.23E-02
Bulk Density	1.58 (g/cc)	----	----	1.32	1.36	1.73	1.61
Void Fraction	0.669	----	----	0.660	0.534	0.841	0.855
Water wt%	41.8	----	----	40.9	31.6	60.4	65.9
TOC wt% C (wet)	4.34E-05	----	----	1.13E-06	4.94E-06	8.99E-05	9.70E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.28E-06	8.10E-04	0.427	4.98E-07	5.89E-07	2.06E-06	2.18E-06
C-14	2.68E-07	1.69E-04	8.91E-02	1.62E-07	1.73E-07	3.62E-07	3.75E-07
Ni-59	5.29E-08	3.35E-05	1.76E-02	2.28E-08	2.59E-08	9.33E-08	1.43E-07
Ni-63	4.90E-06	3.10E-03	1.63	2.18E-06	2.47E-06	8.96E-06	1.39E-05
Co-60	8.53E-08	5.40E-05	2.84E-02	6.10E-08	6.36E-08	1.07E-07	1.10E-07
Se-79	3.96E-08	2.50E-05	1.32E-02	1.72E-08	1.96E-08	5.95E-08	6.22E-08
Sr-90	3.21E-03	2.03	1.07E+03	1.49E-03	1.67E-03	4.75E-03	4.96E-03
Y-90	3.21E-03	2.03	1.07E+03	1.49E-03	1.67E-03	4.75E-03	4.96E-03
Zr-93	1.87E-07	1.19E-04	6.24E-02	8.14E-08	9.25E-08	2.82E-07	2.95E-07
Nb-93m	1.54E-07	9.72E-05	5.11E-02	6.40E-08	7.35E-08	2.34E-07	2.44E-07
Tc-99	1.30E-06	8.25E-04	0.434	5.69E-07	6.46E-07	1.96E-06	2.05E-06
Ru-106	5.35E-11	3.39E-08	1.78E-05	1.64E-11	3.50E-11	7.20E-11	8.99E-11
Cd-113m	5.62E-07	3.55E-04	0.187	3.02E-07	3.30E-07	7.94E-07	8.25E-07
Sb-125	2.56E-07	1.62E-04	8.51E-02	1.33E-07	1.95E-07	3.17E-07	3.76E-07
Sn-126	6.00E-08	3.80E-05	2.00E-02	2.64E-08	2.99E-08	9.01E-08	9.41E-08
I-129	2.48E-09	1.57E-06	8.25E-04	1.09E-09	1.24E-09	3.71E-09	3.88E-09
Cs-134	1.34E-08	8.47E-06	4.46E-03	5.26E-09	9.35E-09	1.74E-08	2.13E-08
Cs-137	5.20E-03	3.29	1.73E+03	3.26E-03	3.47E-03	6.93E-03	7.16E-03
Ba-137m	4.92E-03	3.11	1.64E+03	3.09E-03	3.28E-03	6.55E-03	6.77E-03
Sm-151	1.46E-04	9.21E-02	48.5	6.25E-05	7.12E-05	2.20E-04	2.30E-04
Eu-152	5.05E-07	3.20E-04	0.168	5.02E-07	5.02E-07	5.08E-07	5.08E-07
Eu-154	1.72E-06	1.09E-03	0.572	1.27E-06	1.33E-06	2.11E-06	2.16E-06
Eu-155	3.59E-05	2.27E-02	12.0	3.57E-05	3.57E-05	3.61E-05	3.61E-05
Ra-226	1.21E-11	7.63E-09	4.01E-06	5.96E-12	6.60E-12	2.12E-11	2.76E-10
Ra-228	1.53E-08	9.68E-06	5.09E-03	1.51E-08	1.52E-08	1.54E-08	1.55E-08
Ac-227	4.69E-08	2.97E-05	1.56E-02	3.80E-08	4.48E-08	4.81E-08	4.93E-08
Pa-231	6.94E-08	4.39E-05	2.31E-02	2.02E-08	5.82E-08	7.63E-08	8.29E-08
Th-229	6.92E-09	4.38E-06	2.31E-03	6.82E-09	6.87E-09	6.98E-09	7.03E-09
Th-232	7.13E-10	4.51E-07	2.37E-04	2.14E-10	4.65E-10	9.61E-10	1.20E-09
U-232	7.89E-07	4.99E-04	0.263	9.64E-09	4.26E-07	9.58E-07	1.05E-06
U-233	3.06E-06	1.94E-03	1.02	3.65E-08	1.65E-06	3.72E-06	4.09E-06
U-234	1.25E-05	7.92E-03	4.17	8.44E-06	1.06E-05	1.34E-05	1.39E-05
U-235	5.38E-07	3.41E-04	0.179	3.71E-07	4.60E-07	5.74E-07	5.95E-07
U-236	2.18E-07	1.38E-04	7.25E-02	9.55E-08	1.61E-07	2.44E-07	2.59E-07
U-238	1.24E-05	7.87E-03	4.14	8.59E-06	1.06E-05	1.33E-05	1.37E-05
Np-237	8.34E-09	5.28E-06	2.78E-03	3.80E-09	4.28E-09	1.24E-08	1.29E-08
Pu-238	2.57E-05	1.63E-02	8.55	2.05E-05	2.45E-05	2.64E-05	2.71E-05
Pu-239	1.25E-03	0.790	416	1.03E-03	1.20E-03	1.28E-03	1.31E-03
Pu-240	2.09E-04	0.132	69.7	1.71E-04	2.00E-04	2.15E-04	2.20E-04
Pu-241	2.00E-03	1.26	665	1.58E-03	1.90E-03	2.06E-03	2.11E-03
Pu-242	6.21E-09	3.93E-06	2.07E-03	5.04E-09	5.94E-09	6.37E-09	6.53E-09
Am-241	4.97E-07	3.15E-04	0.166	2.94E-07	3.15E-07	6.79E-07	7.04E-07
Am-243	4.36E-12	2.76E-09	1.45E-06	2.94E-12	3.09E-12	5.63E-12	5.80E-12
Cm-242	8.66E-09	5.48E-06	2.88E-03	8.60E-09	8.61E-09	8.71E-09	8.72E-09
Cm-243	2.03E-10	1.28E-07	6.75E-05	2.01E-10	2.01E-10	2.04E-10	2.04E-10
Cm-244	1.63E-10	1.03E-07	5.42E-05	1.24E-10	1.33E-10	1.93E-10	2.01E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.10E-02 (g/L)	----	7.01	1.74E-02	2.02E-02	2.15E-02	2.20E-02
U	0.156	2.36E+04	1.24E+04	0.108	0.134	0.167	0.173

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.26E+05 (kg)	(88.0 kgal)	----	----	----	----	----
Heat Load	1.53E-02 (kW)	(52.3 BTU/hr)	----	8.43E-03	9.15E-03	2.15E-02	2.23E-02
Bulk Density†	1.58 (g/cc)	----	----	1.32	1.36	1.73	1.61
Water wt%†	41.8	----	----	40.9	31.6	60.4	65.9
TOC wt% C (wet)†	4.34E-05	----	----	1.13E-06	4.94E-06	8.99E-05	9.70E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.28E-06	8.10E-04	0.427	4.98E-07	5.89E-07	2.06E-06	2.18E-06
C-14	2.68E-07	1.69E-04	8.91E-02	1.62E-07	1.73E-07	3.62E-07	3.75E-07
Ni-59	5.29E-08	3.35E-05	1.76E-02	2.28E-08	2.59E-08	9.33E-08	1.43E-07
Ni-63	4.89E-06	3.10E-03	1.63	2.18E-06	2.47E-06	8.96E-06	1.39E-05
Co-60	8.53E-08	5.40E-05	2.84E-02	6.10E-08	6.36E-08	1.07E-07	1.10E-07
Se-79	3.96E-08	2.50E-05	1.32E-02	1.72E-08	1.96E-08	5.95E-08	6.22E-08
Sr-90	3.21E-03	2.03	1.07E+03	1.49E-03	1.67E-03	4.75E-03	4.96E-03
Y-90	3.21E-03	2.03	1.07E+03	1.49E-03	1.67E-03	4.75E-03	4.96E-03
Zr-93	1.87E-07	1.19E-04	6.24E-02	8.14E-08	9.25E-08	2.82E-07	2.95E-07
Nb-93m	1.54E-07	9.72E-05	5.11E-02	6.40E-08	7.35E-08	2.34E-07	2.44E-07
Tc-99	1.30E-06	8.25E-04	0.434	5.69E-07	6.46E-07	1.96E-06	2.05E-06
Ru-106	5.35E-11	3.39E-08	1.78E-05	1.64E-11	3.50E-11	7.20E-11	8.99E-11
Cd-113m	5.62E-07	3.55E-04	0.187	3.02E-07	3.30E-07	7.94E-07	8.25E-07
Sb-125	2.55E-07	1.62E-04	8.51E-02	1.33E-07	1.95E-07	3.17E-07	3.76E-07
Sn-126	6.00E-08	3.80E-05	2.00E-02	2.64E-08	2.99E-08	9.01E-08	9.41E-08
I-129	2.48E-09	1.57E-06	8.25E-04	1.09E-09	1.24E-09	3.71E-09	3.88E-09
Cs-134	1.34E-08	8.47E-06	4.46E-03	5.26E-09	9.35E-09	1.74E-08	2.13E-08
Cs-137	5.20E-03	3.29	1.73E+03	3.26E-03	3.47E-03	6.93E-03	7.16E-03
Ba-137m	4.92E-03	3.11	1.64E+03	3.09E-03	3.28E-03	6.55E-03	6.77E-03
Sm-151	1.46E-04	9.21E-02	48.5	6.25E-05	7.12E-05	2.20E-04	2.30E-04
Eu-152	5.05E-07	3.20E-04	0.168	5.02E-07	5.02E-07	5.08E-07	5.08E-07
Eu-154	1.72E-06	1.09E-03	0.572	1.27E-06	1.33E-06	2.11E-06	2.16E-06
Eu-155	3.59E-05	2.27E-02	12.0	3.57E-05	3.57E-05	3.61E-05	3.61E-05
Ra-226	1.21E-11	7.63E-09	4.01E-06	5.96E-12	6.60E-12	2.12E-11	2.76E-10
Ra-228	1.53E-08	9.68E-06	5.09E-03	1.51E-08	1.52E-08	1.54E-08	1.55E-08
Ac-227	4.69E-08	2.97E-05	1.56E-02	3.80E-08	4.48E-08	4.81E-08	4.93E-08
Pa-231	6.94E-08	4.39E-05	2.31E-02	2.02E-08	5.82E-08	7.63E-08	8.29E-08
Th-229	6.92E-09	4.38E-06	2.31E-03	6.82E-09	6.87E-09	6.98E-09	7.03E-09
Th-232	7.13E-10	4.51E-07	2.37E-04	2.14E-10	4.65E-10	9.61E-10	1.20E-09
U-232	7.89E-07	4.99E-04	0.263	9.64E-09	4.26E-07	9.58E-07	1.05E-06
U-233	3.06E-06	1.94E-03	1.02	3.65E-08	1.65E-06	3.72E-06	4.09E-06
U-234	1.25E-05	7.92E-03	4.17	8.44E-06	1.06E-05	1.34E-05	1.39E-05
U-235	5.38E-07	3.41E-04	0.179	3.71E-07	4.60E-07	5.74E-07	5.95E-07
U-236	2.18E-07	1.38E-04	7.25E-02	9.55E-08	1.61E-07	2.44E-07	2.59E-07
U-238	1.24E-05	7.87E-03	4.14	8.59E-06	1.06E-05	1.33E-05	1.37E-05
Np-237	8.34E-09	5.28E-06	2.78E-03	3.80E-09	4.28E-09	1.24E-08	1.29E-08
Pu-238	2.57E-05	1.63E-02	8.55	2.05E-05	2.45E-05	2.64E-05	2.71E-05
Pu-239	1.25E-03	0.790	416	1.03E-03	1.20E-03	1.28E-03	1.31E-03
Pu-240	2.09E-04	0.132	69.7	1.71E-04	2.00E-04	2.15E-04	2.20E-04
Pu-241	2.00E-03	1.26	665	1.58E-03	1.90E-03	2.06E-03	2.11E-03
Pu-242	6.21E-09	3.93E-06	2.07E-03	5.04E-09	5.94E-09	6.37E-09	6.53E-09
Am-241	4.97E-07	3.15E-04	0.166	2.94E-07	3.15E-07	6.79E-07	7.04E-07
Am-243	4.36E-12	2.76E-09	1.45E-06	2.94E-12	3.09E-12	5.63E-12	5.80E-12
Cm-242	8.66E-09	5.48E-06	2.88E-03	8.60E-09	8.61E-09	8.71E-09	8.72E-09
Cm-243	2.03E-10	1.28E-07	6.75E-05	2.01E-10	2.01E-10	2.04E-10	2.04E-10
Cm-244	1.63E-10	1.03E-07	5.42E-05	1.24E-10	1.33E-10	1.93E-10	2.01E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.10E-02 (g/L)	----	7.01	1.74E-02	2.02E-02	2.15E-02	2.20E-02
U	0.156	2.36E+04	1.24E+04	0.108	0.134	0.167	0.173

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.40E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	4.97E-02 (kW)	(170 BTU/hr)	----	3.02E-02	4.00E-02	6.18E-02	6.88E-02
Bulk Density	1.50 (g/cc)	----	----	1.35	1.43	1.54	1.58
Void Fraction	0.766	----	----	0.715	0.736	0.785	0.803
Water wt%	51.4	----	----	46.9	48.6	54.1	58.2
TOC wt% C (wet)	1.04E-03	----	----	2.11E-04	6.73E-04	1.09E-03	1.16E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	2.09	3.20E+04	7.69E+04	1.42	1.61	2.79	3.22
Al^{3+}	5.02	9.03E+04	2.17E+05	4.75	4.89	5.15	5.27
Fe^{3+} (total Fe)	0.501	1.87E+04	4.48E+04	0.366	0.470	0.516	0.525
Cr^{3+}	2.64E-03	91.5	220	1.36E-03	2.00E-03	3.27E-03	3.89E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.87E-03	652	1.56E+03	4.20E-03	4.72E-03	4.94E-03	4.98E-03
Zr (as $ZrO(OH)_2$)	2.85E-02	1.73E+03	4.16E+03	2.63E-02	2.80E-02	2.87E-02	2.88E-02
Pb^{2+}	0.263	3.64E+04	8.73E+04	0.155	0.239	0.275	0.282
Ni^{2+}	3.53E-03	138	332	1.17E-03	2.55E-03	9.45E-03	1.67E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.287	7.68E+03	1.84E+04	4.00E-02	0.148	0.352	0.388
K^+	9.39E-03	245	588	5.33E-03	7.33E-03	1.15E-02	1.35E-02
OH^-	18.7	2.12E+05	5.08E+05	16.2	17.6	19.4	20.1
$NO3^-$	1.11	4.60E+04	1.10E+05	0.607	0.643	1.83	2.27
$NO2^-$	0.244	7.48E+03	1.80E+04	0.120	0.181	0.308	0.372
$CO3^{2-}$	0.312	1.25E+04	3.00E+04	6.45E-02	0.173	0.377	0.413
$PO4^{3-}$	1.22E-02	772	1.85E+03	8.77E-03	1.02E-02	1.42E-02	1.84E-02
$SO4^{2-}$	1.50E-02	962	2.31E+03	9.77E-03	1.24E-02	1.76E-02	2.02E-02
Si (as SiO_x^{2-})	1.34E-03	25.1	60.2	1.09E-03	1.21E-03	1.47E-03	4.07E-03
F^-	0.169	2.15E+03	5.15E+03	1.34E-02	0.129	0.188	0.199
Cl^-	1.28E-02	303	727	8.01E-03	1.04E-02	1.52E-02	2.02E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.09E-04	15.2	36.6	2.28E-05	7.16E-05	1.09E-04	1.10E-04
butanol	1.09E-04	5.38	12.9	2.28E-05	7.16E-05	1.09E-04	1.10E-04
NH_3	2.04E-02	231	554	6.50E-03	1.34E-02	2.73E-02	3.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.40E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	4.97E-02 (kW)	(170 BTU/hr)	----	3.02E-02	4.00E-02	6.18E-02	6.88E-02
Bulk Density†	1.50 (g/cc)	----	----	1.35	1.43	1.54	1.58
Water wt%†	51.4	----	----	46.9	48.6	54.1	58.2
TOC wt% C (wet)†	1.04E-03	----	----	2.11E-04	6.73E-04	1.09E-03	1.16E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	2.09	3.20E+04	7.69E+04	1.42	1.61	2.79	3.22
Al^{3+}	5.02	9.03E+04	2.17E+05	4.75	4.89	5.15	5.27
Fe^{3+} (total Fe)	0.501	1.87E+04	4.48E+04	0.366	0.470	0.516	0.525
Cr^{3+}	2.64E-03	91.5	220	1.36E-03	2.00E-03	3.27E-03	3.89E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.87E-03	652	1.56E+03	4.20E-03	4.72E-03	4.94E-03	4.98E-03
Zr (as $ZrO(OH)_2$)	2.85E-02	1.73E+03	4.16E+03	2.63E-02	2.80E-02	2.87E-02	2.88E-02
Pb^{2+}	0.263	3.64E+04	8.73E+04	0.155	0.239	0.275	0.282
Ni^{2+}	3.53E-03	138	332	1.17E-03	2.55E-03	9.45E-03	1.67E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.287	7.68E+03	1.84E+04	4.00E-02	0.148	0.352	0.388
K^+	9.39E-03	245	588	5.33E-03	7.33E-03	1.15E-02	1.35E-02
OH^-	18.7	2.12E+05	5.08E+05	16.2	17.6	19.4	20.1
$NO3^-$	1.11	4.60E+04	1.10E+05	0.607	0.643	1.83	2.27
$NO2^-$	0.244	7.48E+03	1.80E+04	0.120	0.181	0.308	0.372
$CO3^{2-}$	0.312	1.25E+04	3.00E+04	6.45E-02	0.173	0.377	0.413
$PO4^{3-}$	1.22E-02	772	1.85E+03	8.77E-03	1.02E-02	1.42E-02	1.84E-02
$SO4^{2-}$	1.50E-02	962	2.31E+03	9.77E-03	1.24E-02	1.76E-02	2.02E-02
Si (as SiO_x^{2-})	1.34E-03	25.1	60.2	1.09E-03	1.21E-03	1.47E-03	4.07E-03
F^-	0.169	2.15E+03	5.15E+03	1.34E-02	0.129	0.188	0.199
Cl^-	1.28E-02	303	727	8.01E-03	1.04E-02	1.52E-02	2.02E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.09E-04	15.2	36.6	2.28E-05	7.16E-05	1.09E-04	1.10E-04
butanol	1.09E-04	5.38	12.9	2.28E-05	7.16E-05	1.09E-04	1.10E-04
NH_3	2.04E-02	231	554	6.50E-03	1.34E-02	2.73E-02	3.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.40E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	4.97E-02 (kW)	(170 BTU/hr)	----	3.02E-02	4.00E-02	6.18E-02	6.88E-02
Bulk Density	1.50 (g/cc)	----	----	1.35	1.43	1.54	1.58
Void Fraction	0.766	----	----	0.715	0.736	0.785	0.803
Water wt%	51.4	----	----	46.9	48.6	54.1	58.2
TOC wt% C (wet)	1.04E-03	----	----	2.11E-04	6.73E-04	1.09E-03	1.16E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.11E-07	6.08E-04	1.46	5.16E-07	6.58E-07	1.28E-06	1.74E-06
C-14	1.32E-07	8.79E-05	0.211	8.95E-08	1.11E-07	1.53E-07	1.73E-07
Ni-59	2.56E-08	1.70E-05	4.09E-02	1.36E-08	1.96E-08	1.37E-07	2.72E-07
Ni-63	2.51E-06	1.67E-03	4.02	1.31E-06	1.91E-06	1.37E-05	2.73E-05
Co-60	1.39E-07	9.28E-05	0.223	7.75E-08	1.09E-07	1.70E-07	2.00E-07
Se-79	2.76E-08	1.84E-05	4.42E-02	1.82E-08	2.29E-08	3.23E-08	3.68E-08
Sr-90	2.53E-03	1.68	4.04E+03	1.52E-03	2.03E-03	3.03E-03	3.51E-03
Y-90	2.53E-03	1.69	4.05E+03	1.53E-03	2.03E-03	3.03E-03	3.51E-03
Zr-93	1.17E-07	7.77E-05	0.187	7.23E-08	9.46E-08	1.39E-07	1.60E-07
Nb-93m	8.72E-08	5.82E-05	0.140	5.49E-08	7.12E-08	1.03E-07	1.19E-07
Tc-99	7.69E-07	5.13E-04	1.23	4.57E-07	6.14E-07	9.24E-07	1.07E-06
Ru-106	5.60E-10	3.73E-07	8.96E-04	1.97E-10	2.51E-10	1.03E-09	1.49E-09
Cd-113m	4.77E-07	3.18E-04	0.763	2.62E-07	3.70E-07	5.84E-07	6.87E-07
Sb-125	7.71E-07	5.14E-04	1.23	4.35E-07	6.04E-07	9.39E-07	1.10E-06
Sn-126	3.84E-08	2.56E-05	6.15E-02	2.41E-08	3.13E-08	4.56E-08	5.26E-08
I-129	1.61E-09	1.07E-06	2.57E-03	1.01E-09	1.31E-09	1.91E-09	2.20E-09
Cs-134	7.51E-08	5.01E-05	0.120	4.80E-08	6.14E-08	9.06E-08	1.03E-07
Cs-137	2.99E-03	1.99	4.79E+03	1.84E-03	2.42E-03	4.82E-03	5.93E-03
Ba-137m	2.83E-03	1.89	4.53E+03	1.74E-03	2.29E-03	4.56E-03	5.61E-03
Sm-151	8.05E-05	5.37E-02	129	4.65E-05	6.36E-05	9.74E-05	1.14E-04
Eu-152	6.44E-07	4.30E-04	1.03	6.36E-07	6.40E-07	6.48E-07	6.52E-07
Eu-154	3.15E-06	2.10E-03	5.05	1.93E-06	2.55E-06	3.76E-06	4.35E-06
Eu-155	4.22E-05	2.82E-02	67.6	4.17E-05	4.20E-05	4.25E-05	4.28E-05
Ra-226	4.70E-10	3.14E-07	7.53E-04	3.40E-10	4.37E-10	4.93E-10	5.14E-10
Ra-228	3.37E-06	2.25E-03	5.39	3.23E-06	3.31E-06	3.37E-06	3.37E-06
Ac-227	1.11E-05	7.39E-03	17.7	1.11E-05	1.11E-05	1.11E-05	1.11E-05
Pa-231	1.85E-05	1.24E-02	29.7	1.84E-05	1.85E-05	1.86E-05	1.86E-05
Th-229	9.91E-08	6.61E-05	0.159	9.58E-08	9.77E-08	9.93E-08	9.94E-08
Th-232	2.01E-08	1.34E-05	3.21E-02	5.69E-09	1.39E-08	2.07E-08	1.31E-07
U-232	2.24E-06	1.50E-03	3.59	1.05E-07	1.25E-06	2.71E-06	2.97E-06
U-233	8.73E-06	5.82E-03	14.0	4.15E-07	4.85E-06	1.05E-05	1.15E-05
U-234	1.41E-05	9.38E-03	22.5	2.88E-06	8.85E-06	1.65E-05	1.78E-05
U-235	5.84E-07	3.89E-04	0.935	1.25E-07	3.70E-07	6.83E-07	7.39E-07
U-236	3.93E-07	2.62E-04	0.629	5.72E-08	2.36E-07	4.66E-07	5.06E-07
U-238	1.34E-05	8.93E-03	21.4	2.83E-06	8.47E-06	1.57E-05	1.70E-05
Np-237	5.58E-09	3.72E-06	8.93E-03	3.26E-09	4.43E-09	6.74E-09	7.85E-09
Pu-238	6.40E-05	4.27E-02	102	4.98E-05	6.07E-05	6.60E-05	6.79E-05
Pu-239	2.21E-03	1.47	3.53E+03	1.61E-03	2.07E-03	2.29E-03	2.37E-03
Pu-240	4.07E-04	0.271	651	3.01E-04	3.83E-04	4.21E-04	4.36E-04
Pu-241	4.93E-03	3.29	7.90E+03	3.80E-03	4.67E-03	5.09E-03	5.25E-03
Pu-242	1.87E-08	1.25E-05	3.00E-02	1.55E-08	1.80E-08	1.92E-08	1.96E-08
Am-241	1.11E-06	7.39E-04	1.77	6.46E-07	8.73E-07	2.76E-06	5.49E-06
Am-243	1.05E-10	6.97E-08	1.67E-04	3.58E-11	6.97E-11	3.51E-10	7.58E-10
Cm-242	2.22E-08	1.48E-05	3.55E-02	2.13E-08	2.17E-08	2.26E-08	2.30E-08
Cm-243	2.02E-09	1.35E-06	3.23E-03	1.91E-09	1.96E-09	2.07E-09	2.12E-09
Cm-244	4.49E-08	3.00E-05	7.19E-02	2.20E-09	2.81E-08	5.44E-08	6.35E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.73E-02 (g/L)	----	59.8	2.73E-02	3.51E-02	3.87E-02	4.01E-02
U	0.168	2.67E+04	6.42E+04	3.56E-02	0.107	0.197	0.213

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.40E+06 (kg)	(423 kgal)	----	----	----	----	----
Heat Load	4.97E-02 (kW)	(170 BTU/hr)	----	3.02E-02	4.00E-02	6.18E-02	6.88E-02
Bulk Density†	1.50 (g/cc)	----	----	1.35	1.43	1.54	1.58
Water wt%†	51.4	----	----	46.9	48.6	54.1	58.2
TOC wt% C (wet)†	1.04E-03	----	----	2.11E-04	6.73E-04	1.09E-03	1.16E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.11E-07	6.08E-04	1.46	5.16E-07	6.58E-07	1.28E-06	1.74E-06
C-14	1.32E-07	8.79E-05	0.211	8.95E-08	1.11E-07	1.53E-07	1.73E-07
Ni-59	2.56E-08	1.70E-05	4.09E-02	1.36E-08	1.96E-08	1.37E-07	2.72E-07
Ni-63	2.51E-06	1.67E-03	4.02	1.31E-06	1.91E-06	1.37E-05	2.73E-05
Co-60	1.39E-07	9.28E-05	0.223	7.75E-08	1.09E-07	1.70E-07	2.00E-07
Se-79	2.76E-08	1.84E-05	4.42E-02	1.82E-08	2.29E-08	3.23E-08	3.68E-08
Sr-90	2.53E-03	1.68	4.04E+03	1.52E-03	2.03E-03	3.03E-03	3.51E-03
Y-90	2.53E-03	1.69	4.05E+03	1.53E-03	2.03E-03	3.03E-03	3.51E-03
Zr-93	1.17E-07	7.77E-05	0.187	7.23E-08	9.46E-08	1.39E-07	1.60E-07
Nb-93m	8.72E-08	5.82E-05	0.140	5.49E-08	7.12E-08	1.03E-07	1.19E-07
Tc-99	7.69E-07	5.13E-04	1.23	4.57E-07	6.14E-07	9.24E-07	1.07E-06
Ru-106	5.59E-10	3.73E-07	8.96E-04	1.97E-10	2.51E-10	1.03E-09	1.49E-09
Cd-113m	4.77E-07	3.18E-04	0.763	2.62E-07	3.70E-07	5.84E-07	6.87E-07
Sb-125	7.71E-07	5.14E-04	1.23	4.35E-07	6.04E-07	9.39E-07	1.10E-06
Sn-126	3.84E-08	2.56E-05	6.15E-02	2.41E-08	3.13E-08	4.56E-08	5.26E-08
I-129	1.61E-09	1.07E-06	2.57E-03	1.01E-09	1.31E-09	1.91E-09	2.20E-09
Cs-134	7.51E-08	5.01E-05	0.120	4.80E-08	6.14E-08	9.06E-08	1.03E-07
Cs-137	2.99E-03	1.99	4.79E+03	1.84E-03	2.42E-03	4.82E-03	5.93E-03
Ba-137m	2.83E-03	1.89	4.53E+03	1.74E-03	2.29E-03	4.56E-03	5.61E-03
Sm-151	8.05E-05	5.37E-02	129	4.65E-05	6.36E-05	9.74E-05	1.14E-04
Eu-152	6.44E-07	4.30E-04	1.03	6.36E-07	6.40E-07	6.48E-07	6.52E-07
Eu-154	3.15E-06	2.10E-03	5.05	1.93E-06	2.55E-06	3.76E-06	4.35E-06
Eu-155	4.22E-05	2.82E-02	67.6	4.17E-05	4.20E-05	4.25E-05	4.28E-05
Ra-226	4.70E-10	3.14E-07	7.53E-04	3.40E-10	4.37E-10	4.93E-10	5.14E-10
Ra-228	3.37E-06	2.25E-03	5.39	3.23E-06	3.31E-06	3.37E-06	3.37E-06
Ac-227	1.11E-05	7.39E-03	17.7	1.11E-05	1.11E-05	1.11E-05	1.11E-05
Pa-231	1.85E-05	1.24E-02	29.7	1.84E-05	1.85E-05	1.86E-05	1.86E-05
Th-229	9.91E-08	6.61E-05	0.159	9.58E-08	9.77E-08	9.93E-08	9.94E-08
Th-232	2.01E-08	1.34E-05	3.21E-02	5.69E-09	1.39E-08	2.07E-08	1.31E-07
U-232	2.24E-06	1.50E-03	3.59	1.05E-07	1.25E-06	2.71E-06	2.97E-06
U-233	8.73E-06	5.82E-03	14.0	4.15E-07	4.85E-06	1.05E-05	1.15E-05
U-234	1.41E-05	9.38E-03	22.5	2.88E-06	8.85E-06	1.65E-05	1.78E-05
U-235	5.84E-07	3.89E-04	0.935	1.25E-07	3.70E-07	6.83E-07	7.39E-07
U-236	3.93E-07	2.62E-04	0.629	5.72E-08	2.36E-07	4.66E-07	5.06E-07
U-238	1.34E-05	8.93E-03	21.4	2.83E-06	8.47E-06	1.57E-05	1.70E-05
Np-237	5.58E-09	3.72E-06	8.93E-03	3.26E-09	4.43E-09	6.74E-09	7.85E-09
Pu-238	6.40E-05	4.27E-02	102	4.98E-05	6.07E-05	6.60E-05	6.79E-05
Pu-239	2.21E-03	1.47	3.53E+03	1.61E-03	2.07E-03	2.29E-03	2.37E-03
Pu-240	4.07E-04	0.271	651	3.01E-04	3.83E-04	4.21E-04	4.36E-04
Pu-241	4.93E-03	3.29	7.90E+03	3.80E-03	4.67E-03	5.09E-03	5.25E-03
Pu-242	1.87E-08	1.25E-05	3.00E-02	1.55E-08	1.80E-08	1.92E-08	1.96E-08
Am-241	1.11E-06	7.39E-04	1.77	6.46E-07	8.73E-07	2.76E-06	5.49E-06
Am-243	1.05E-10	6.97E-08	1.67E-04	3.58E-11	6.97E-11	3.51E-10	7.58E-10
Cm-242	2.22E-08	1.48E-05	3.55E-02	2.13E-08	2.17E-08	2.26E-08	2.30E-08
Cm-243	2.02E-09	1.35E-06	3.23E-03	1.91E-09	1.96E-09	2.07E-09	2.12E-09
Cm-244	4.49E-08	3.00E-05	7.19E-02	2.20E-09	2.81E-08	5.44E-08	6.35E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.73E-02 (g/L)	----	59.8	2.73E-02	3.51E-02	3.87E-02	4.01E-02
U	0.168	2.67E+04	6.42E+04	3.56E-02	0.107	0.197	0.213

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.23E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	8.02 (kW)	(2.74E+04 BTU/hr)	----	7.88	7.95	8.09	8.16
Bulk Density	1.38 (g/cc)	----	----	1.36	1.37	1.39	1.40
Void Fraction	0.833	----	----	0.829	0.831	0.834	0.837
Water wt%	61.9	----	----	60.9	61.3	62.4	63.0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.47	5.79E+04	1.87E+04	3.25	3.36	3.58	3.70
Al^{3+}	3.10	6.08E+04	1.97E+04	3.03	3.06	3.15	3.18
Fe^{3+} (total Fe)	0.623	2.53E+04	8.17E+03	0.617	0.620	0.626	0.629
Cr^{3+}	7.26E-03	274	88.6	6.97E-03	7.11E-03	7.40E-03	7.55E-03
Bi^{3+}	3.89E-06	0.590	0.191	3.28E-06	3.58E-06	4.19E-06	4.49E-06
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.51E-03	220	71.0	1.49E-03	1.50E-03	1.51E-03	1.52E-03
Zr (as $ZrO(OH)_2$)	1.54E-08	1.02E-03	3.29E-04	1.52E-08	1.53E-08	1.54E-08	1.55E-08
Pb^{2+}	7.02E-02	1.06E+04	3.41E+03	6.53E-02	6.77E-02	7.27E-02	7.52E-02
Ni^{2+}	5.68E-02	2.42E+03	783	5.65E-02	5.67E-02	5.70E-02	5.72E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.93E-04	35.6	11.5	6.20E-04	7.54E-04	1.03E-03	1.17E-03
Ca^{2+}	0.116	3.38E+03	1.09E+03	9.26E-02	0.104	0.128	0.140
K^+	3.32E-03	94.2	30.5	3.18E-03	3.25E-03	3.39E-03	3.46E-03
OH^-	12.4	1.53E+05	4.95E+04	12.0	12.2	12.6	12.8
$NO3^-$	0.333	1.50E+04	4.85E+03	0.273	0.302	0.364	0.393
$NO2^-$	0.663	2.21E+04	7.16E+03	0.586	0.623	0.703	0.742
$CO3^{2-}$	0.162	7.06E+03	2.28E+03	0.138	0.150	0.174	0.186
$PO4^{3-}$	7.86E-03	542	175	7.78E-03	7.82E-03	7.90E-03	7.97E-03
$SO4^{2-}$	3.37E-02	2.35E+03	760	3.25E-02	3.31E-02	3.43E-02	3.49E-02
Si (as SiO_x^{2-})	0.925	1.89E+04	6.10E+03	0.838	0.892	0.957	0.988
F^-	1.30E-04	1.80	0.581	1.22E-04	1.29E-04	1.31E-04	1.32E-04
Cl^-	9.83E-03	253	81.8	9.19E-03	9.50E-03	1.02E-02	1.05E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	8.14E-02	1.01E+03	325	7.98E-02	8.06E-02	8.23E-02	8.37E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.69E+05 (kg)	(133 kgal)	----	----	----	----	----
Heat Load	0.384 (kW)	(1.31E+03 BTU/hr)	----	0.238	0.331	0.437	0.489
Bulk Density*	1.13 (g/cc)	----	----	1.10	1.12	1.14	1.16
Water wt%	78.5	----	----	73.7	76.0	81.0	83.6
TOC wt% C (wet)	1.71	----	----	0.571	1.13	2.28	2.82

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.01	6.13E+04	3.49E+04	2.30	2.65	3.38	3.71
Al^{3+}	0.305	7.28E+03	4.14E+03	0.213	0.284	0.314	0.323
Fe^{3+} (total Fe)	3.27E-03	162	91.9	2.28E-03	2.76E-03	3.78E-03	4.26E-03
Cr^{3+}	1.49E-02	686	390	1.15E-02	1.30E-02	1.68E-02	1.95E-02
Bi^{3+}	1.84E-04	34.0	19.3	1.59E-04	1.71E-04	1.96E-04	2.15E-04
La^{3+}	7.24E-07	8.90E-02	5.07E-02	5.98E-07	6.53E-07	8.02E-07	9.15E-07
Hg^{2+}	2.11E-06	0.375	0.214	1.98E-06	2.05E-06	2.18E-06	2.25E-06
Zr (as $ZrO(OH)_2$)	8.90E-06	0.718	0.409	6.78E-06	7.58E-06	1.01E-05	1.22E-05
Pb^{2+}	3.57E-04	65.5	37.3	2.59E-04	3.07E-04	4.08E-04	4.56E-04
Ni^{2+}	7.17E-04	37.3	21.2	6.73E-04	6.94E-04	7.30E-04	7.42E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.50E-04	46.2	26.3	8.01E-04	8.74E-04	1.03E-03	1.10E-03
Ca^{2+}	6.11E-03	217	123	4.41E-03	5.61E-03	6.60E-03	7.04E-03
K^+	1.52E-02	525	299	1.21E-02	1.34E-02	1.72E-02	2.00E-02
OH^-	1.60	2.41E+04	1.37E+04	1.17	1.48	1.65	1.71
$NO3^-$	0.744	4.08E+04	2.32E+04	0.669	0.708	0.781	0.816
$NO2^-$	0.494	2.01E+04	1.14E+04	0.334	0.401	0.594	0.622
$CO3^{2-}$	0.157	8.36E+03	4.75E+03	0.105	0.131	0.183	0.196
$PO4^{3-}$	1.65E-02	1.38E+03	787	1.24E-02	1.41E-02	1.83E-02	2.07E-02
$SO4^{2-}$	7.92E-02	6.73E+03	3.83E+03	5.74E-02	6.80E-02	9.20E-02	0.101
Si (as SiO_x^{2-})	1.95E-02	486	276	1.49E-02	1.72E-02	2.19E-02	2.42E-02
F^-	1.12E-02	188	107	7.93E-03	9.27E-03	1.33E-02	1.64E-02
Cl^-	5.22E-02	1.64E+03	931	3.89E-02	4.54E-02	5.90E-02	6.57E-02
$C_6H_5O_7^{3-}$	7.31E-03	1.22E+03	696	6.38E-03	6.77E-03	7.88E-03	8.80E-03
$EDTA^{4-}$	4.41E-02	1.12E+04	6.39E+03	1.21E-02	2.77E-02	6.05E-02	7.66E-02
$HEDTA^{3-}$	8.37E-02	2.03E+04	1.16E+04	1.98E-02	5.10E-02	0.117	0.149
$glycolate^-$	9.36E-02	6.22E+03	3.54E+03	2.97E-02	6.09E-02	0.127	0.159
$acetate^-$	1.40E-02	730	415	1.24E-02	1.31E-02	1.49E-02	1.64E-02
$oxalate^{2-}$	9.49E-07	7.39E-02	4.21E-02	8.94E-07	9.17E-07	9.80E-07	1.04E-06
DBP	6.25E-03	1.16E+03	661	4.81E-03	5.43E-03	7.13E-03	8.45E-03
butanol	6.25E-03	410	233	4.81E-03	5.43E-03	7.13E-03	8.45E-03
NH_3	6.95E-03	105	59.5	5.51E-03	6.04E-03	8.18E-03	1.00E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.92E+05 (kg)	(195 kgal)	----	----	----	----	----
Heat Load	8.40 (kW)	(2.87E+04 BTU/hr)	----	8.26	8.33	8.48	8.55
Bulk Density†	1.21 (g/cc)	----	----	1.19	1.20	1.22	1.23
Water wt%†	72.5	----	----	69.5	70.9	74.0	75.6
TOC wt% C (wet)†	1.09	----	----	0.361	0.720	1.46	1.81

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.16	6.01E+04	5.36E+04	2.67	2.91	3.41	3.63
Al^{3+}	1.19	2.67E+04	2.38E+04	1.13	1.18	1.21	1.22
Fe^{3+} (total Fe)	0.200	9.26E+03	8.26E+03	0.198	0.199	0.201	0.202
Cr^{3+}	1.25E-02	537	479	1.02E-02	1.12E-02	1.38E-02	1.56E-02
Bi^{3+}	1.27E-04	21.9	19.5	1.10E-04	1.18E-04	1.35E-04	1.48E-04
La^{3+}	4.94E-07	5.68E-02	5.07E-02	4.08E-07	4.45E-07	5.47E-07	6.24E-07
Hg^{2+}	4.81E-04	79.8	71.2	4.75E-04	4.78E-04	4.83E-04	4.85E-04
Zr (as $ZrO(OH)_2$)	6.07E-06	0.458	0.409	4.63E-06	5.18E-06	6.92E-06	8.32E-06
Pb^{2+}	2.26E-02	3.87E+03	3.45E+03	2.10E-02	2.18E-02	2.34E-02	2.41E-02
Ni^{2+}	1.86E-02	901	804	1.84E-02	1.85E-02	1.86E-02	1.87E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.32E-04	42.4	37.8	8.29E-04	8.80E-04	9.84E-04	1.03E-03
Ca^{2+}	4.11E-02	1.36E+03	1.22E+03	3.37E-02	3.73E-02	4.50E-02	4.87E-02
K^+	1.14E-02	369	329	9.34E-03	1.02E-02	1.28E-02	1.47E-02
OH^-	5.04	7.09E+04	6.32E+04	4.74	4.95	5.10	5.16
$NO3^-$	0.614	3.15E+04	2.81E+04	0.562	0.589	0.639	0.663
$NO2^-$	0.548	2.08E+04	1.86E+04	0.439	0.485	0.616	0.635
$CO3^{2-}$	0.159	7.89E+03	7.04E+03	0.123	0.141	0.177	0.186
$PO4^{3-}$	1.37E-02	1.08E+03	962	1.09E-02	1.21E-02	1.50E-02	1.66E-02
$SO4^{2-}$	6.47E-02	5.14E+03	4.59E+03	4.99E-02	5.71E-02	7.34E-02	7.98E-02
Si (as SiO_x^{2-})	0.307	7.14E+03	6.37E+03	0.280	0.297	0.317	0.327
F^-	7.66E-03	120	107	5.45E-03	6.36E-03	9.09E-03	1.12E-02
Cl^-	3.87E-02	1.14E+03	1.01E+03	2.97E-02	3.41E-02	4.34E-02	4.79E-02
$C_6H_5O_7^{3-}$	4.99E-03	780	696	4.35E-03	4.62E-03	5.38E-03	6.00E-03
$EDTA^{4-}$	3.00E-02	7.16E+03	6.39E+03	8.25E-03	1.89E-02	4.13E-02	5.22E-02
$HEDTA^{3-}$	5.71E-02	1.30E+04	1.16E+04	1.35E-02	3.48E-02	7.95E-02	0.101
$glycolate^-$	6.39E-02	3.96E+03	3.54E+03	2.03E-02	4.16E-02	8.63E-02	0.108
$acetate^-$	9.53E-03	465	415	8.44E-03	8.93E-03	1.02E-02	1.12E-02
$oxalate^{2-}$	6.47E-07	4.71E-02	4.21E-02	6.10E-07	6.26E-07	6.68E-07	7.11E-07
DBP	4.26E-03	741	661	3.28E-03	3.70E-03	4.87E-03	5.76E-03
butanol	4.26E-03	261	233	3.28E-03	3.70E-03	4.87E-03	5.76E-03
NH_3	3.06E-02	431	384	2.97E-02	3.00E-02	3.15E-02	3.27E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.23E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	8.02 (kW)	(2.74E+04 BTU/hr)	----	7.88	7.95	8.09	8.16
Bulk Density	1.38 (g/cc)	----	----	1.36	1.37	1.39	1.40
Void Fraction	0.833	----	----	0.829	0.831	0.834	0.837
Water wt%	61.9	----	----	60.9	61.3	62.4	63.0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.51E-06	1.82E-03	0.589	2.33E-06	2.41E-06	2.62E-06	2.73E-06
C-14	4.55E-06	3.30E-03	1.07	4.50E-06	4.53E-06	4.58E-06	4.61E-06
Ni-59	4.51E-05	3.28E-02	10.6	4.31E-05	4.41E-05	4.62E-05	4.73E-05
Ni-63	4.43E-03	3.22	1.04E+03	4.23E-03	4.33E-03	4.54E-03	4.64E-03
Co-60	4.59E-06	3.33E-03	1.08	4.54E-06	4.56E-06	4.61E-06	4.83E-06
Se-79	2.04E-05	1.48E-02	4.78	1.03E-06	7.03E-06	3.37E-05	4.65E-05
Sr-90	5.00	3.63E+03	1.17E+06	4.91	4.95	5.05	5.09
Y-90	5.00	3.63E+03	1.17E+06	4.91	4.96	5.05	5.09
Zr-93	8.54E-05	6.20E-02	20.0	4.84E-06	1.87E-05	1.52E-04	2.16E-04
Nb-93m	7.74E-05	5.62E-02	18.2	3.69E-06	3.07E-05	1.24E-04	1.69E-04
Tc-99	3.20E-05	2.33E-02	7.52	3.17E-05	3.19E-05	3.22E-05	3.25E-05
Ru-106	5.23E-09	3.80E-06	1.23E-03	1.69E-09	1.73E-09	2.95E-08	5.28E-08
Cd-113m	6.00E-05	4.36E-02	14.1	2.05E-05	2.10E-05	4.35E-04	8.19E-04
Sb-125	1.71E-05	1.24E-02	4.02	1.70E-05	1.70E-05	1.72E-05	1.74E-05
Sn-126	3.32E-05	2.41E-02	7.79	1.60E-06	1.32E-05	5.32E-05	7.24E-05
I-129	6.19E-08	4.50E-05	1.45E-02	6.13E-08	6.16E-08	6.23E-08	6.28E-08
Cs-134	7.81E-07	5.67E-04	0.183	7.73E-07	7.77E-07	7.85E-07	7.91E-07
Cs-137	0.107	77.6	2.51E+04	0.106	0.106	0.107	0.108
Ba-137m	0.101	73.4	2.37E+04	0.100	0.101	0.102	0.102
Sm-151	7.83E-02	56.8	1.84E+04	3.75E-03	3.15E-02	0.125	0.170
Eu-152	3.00E-05	2.18E-02	7.05	3.00E-05	3.00E-05	3.00E-05	3.00E-05
Eu-154	9.83E-05	7.13E-02	23.1	9.26E-05	9.45E-05	1.02E-04	2.59E-03
Eu-155	1.97E-03	1.43	463	1.97E-03	1.97E-03	1.97E-03	1.97E-03
Ra-226	2.90E-09	2.10E-06	6.80E-04	2.09E-09	2.48E-09	3.31E-09	3.71E-09
Ra-228	3.35E-10	2.43E-07	7.85E-05	3.34E-10	3.35E-10	3.35E-10	3.35E-10
Ac-227	1.51E-08	1.10E-05	3.55E-03	1.05E-08	1.28E-08	1.75E-08	1.97E-08
Pa-231	2.08E-08	1.51E-05	4.88E-03	1.03E-09	7.74E-09	3.38E-08	4.63E-08
Th-229	1.55E-10	1.12E-07	3.63E-05	1.55E-10	1.55E-10	1.55E-10	1.55E-10
Th-232	3.61E-11	2.62E-08	8.47E-06	3.57E-11	3.59E-11	3.63E-11	3.66E-11
U-232	2.15E-08	1.56E-05	5.05E-03	1.94E-08	2.04E-08	2.26E-08	2.36E-08
U-233	8.20E-08	5.95E-05	1.92E-02	7.38E-08	7.78E-08	8.62E-08	9.02E-08
U-234	6.53E-06	4.74E-03	1.53	6.00E-06	6.28E-06	6.73E-06	6.89E-06
U-235	2.78E-07	2.02E-04	6.53E-02	2.56E-07	2.68E-07	2.87E-07	2.94E-07
U-236	1.14E-07	8.26E-05	2.67E-02	1.05E-07	1.10E-07	1.17E-07	1.20E-07
U-238	6.68E-06	4.85E-03	1.57	6.14E-06	6.43E-06	6.89E-06	7.05E-06
Np-237	1.02E-07	7.41E-05	2.40E-02	1.01E-07	1.02E-07	1.03E-07	1.04E-07
Pu-238	1.47E-05	1.07E-02	3.45	1.40E-05	1.43E-05	1.50E-05	1.53E-05
Pu-239	9.24E-04	0.671	217	8.82E-04	9.02E-04	9.46E-04	9.66E-04
Pu-240	1.42E-04	0.103	33.2	1.35E-04	1.38E-04	1.45E-04	1.48E-04
Pu-241	1.07E-03	0.775	251	1.02E-03	1.04E-03	1.09E-03	1.12E-03
Pu-242	4.13E-09	3.00E-06	9.69E-04	3.94E-09	4.03E-09	4.22E-09	4.31E-09
Am-241	6.76E-04	0.491	159	2.84E-04	4.76E-04	8.76E-04	1.07E-03
Am-243	1.49E-08	1.08E-05	3.49E-03	6.58E-09	1.07E-08	1.88E-08	2.25E-08
Cm-242	7.18E-07	5.21E-04	0.168	7.17E-07	7.17E-07	7.18E-07	7.18E-07
Cm-243	4.03E-08	2.92E-05	9.45E-03	4.03E-08	4.03E-08	4.03E-08	4.03E-08
Cm-244	3.18E-07	2.31E-04	7.46E-02	3.95E-08	4.02E-08	8.03E-07	1.27E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.51E-02 (g/L)	----	3.54	1.44E-02	1.47E-02	1.55E-02	1.58E-02
U	8.40E-02	1.45E+04	4.69E+03	7.72E-02	8.09E-02	8.66E-02	8.87E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.69E+05 (kg)	(133 kgal)	----	----	----	----	----
Heat Load	0.384 (kW)	(1.31E+03 BTU/hr)	----	0.238	0.331	0.437	0.489
Bulk Density*	1.13 (g/cc)	----	----	1.10	1.12	1.14	1.16
Water wt%†	78.5	----	----	73.7	76.0	81.0	83.6
TOC wt% C (wet)	1.71	----	----	0.571	1.13	2.28	2.82

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.22E-05	5.50E-02	31.3	3.69E-05	3.94E-05	8.72E-05	1.18E-04
C-14	8.81E-06	7.80E-03	4.44	5.04E-06	5.04E-06	9.67E-06	1.01E-05
Ni-59	2.70E-07	2.39E-04	0.136	1.69E-07	1.69E-07	2.76E-07	2.80E-07
Ni-63	2.68E-05	2.37E-02	13.5	1.67E-05	1.67E-05	2.73E-05	2.78E-05
Co-60	1.33E-05	1.18E-02	6.71	7.76E-06	7.76E-06	1.51E-05	1.70E-05
Se-79	1.11E-06	9.86E-04	0.561	7.21E-07	8.43E-07	1.31E-06	1.51E-06
Sr-90	5.05E-02	44.7	2.54E+04	3.77E-02	4.77E-02	5.33E-02	5.60E-02
Y-90	5.05E-02	44.7	2.54E+04	3.77E-02	4.58E-02	5.33E-02	5.60E-02
Zr-93	5.53E-06	4.90E-03	2.79	3.57E-06	4.18E-06	6.54E-06	7.50E-06
Nb-93m	3.91E-06	3.46E-03	1.97	2.53E-06	2.96E-06	4.61E-06	5.29E-06
Tc-99	6.80E-05	6.02E-02	34.2	4.82E-05	5.71E-05	8.02E-05	9.67E-05
Ru-106	2.79E-09	2.47E-06	1.41E-03	1.81E-09	2.12E-09	3.30E-09	3.78E-09
Cd-113m	3.23E-05	2.86E-02	16.3	2.05E-05	2.42E-05	3.83E-05	4.05E-05
Sb-125	6.57E-05	5.81E-02	33.1	4.07E-05	4.07E-05	7.60E-05	8.60E-05
Sn-126	1.68E-06	1.48E-03	0.844	1.09E-06	1.27E-06	1.98E-06	2.27E-06
I-129	1.32E-07	1.17E-04	6.63E-02	9.34E-08	1.11E-07	1.55E-07	1.87E-07
Cs-134	3.46E-06	3.06E-03	1.74	1.04E-06	2.22E-06	4.71E-06	5.92E-06
Cs-137	9.03E-02	79.9	4.55E+04	4.65E-02	6.79E-02	0.113	0.135
Ba-137m	8.54E-02	75.6	4.30E+04	4.40E-02	6.42E-02	0.107	0.127
Sm-151	3.91E-03	3.46	1.97E+03	2.53E-03	2.96E-03	4.61E-03	5.29E-03
Eu-152	2.81E-06	2.49E-03	1.42	1.09E-06	1.93E-06	3.70E-06	4.56E-06
Eu-154	2.59E-04	0.229	130	1.60E-04	1.91E-04	2.83E-04	3.07E-04
Eu-155	1.72E-04	0.152	86.7	6.66E-05	1.18E-04	2.27E-04	2.80E-04
Ra-226	3.62E-11	3.20E-08	1.82E-05	2.40E-11	2.78E-11	4.24E-11	4.84E-11
Ra-228	1.01E-07	8.96E-05	5.10E-02	1.23E-08	1.23E-08	1.06E-07	1.10E-07
Ac-227	2.24E-10	1.98E-07	1.13E-04	1.53E-10	1.75E-10	2.60E-10	2.95E-10
Pa-231	1.20E-09	1.06E-06	6.02E-04	8.03E-10	9.25E-10	1.40E-09	1.59E-09
Th-229	2.36E-09	2.08E-06	1.19E-03	3.03E-10	3.03E-10	2.45E-09	2.55E-09
Th-232	1.19E-08	1.05E-05	5.97E-03	8.74E-10	8.74E-10	1.49E-08	1.78E-08
U-232	2.78E-07	2.46E-04	0.140	1.95E-07	2.28E-07	3.35E-07	3.96E-07
U-233	1.07E-06	9.43E-04	0.536	7.46E-07	8.74E-07	1.28E-06	1.52E-06
U-234	1.29E-07	1.14E-04	6.48E-02	1.20E-07	1.24E-07	1.33E-07	1.37E-07
U-235	4.96E-09	4.39E-06	2.50E-03	4.63E-09	4.79E-09	5.14E-09	5.30E-09
U-236	4.72E-09	4.18E-06	2.38E-03	4.16E-09	4.43E-09	5.01E-09	5.29E-09
U-238	2.63E-07	2.33E-04	0.132	2.56E-07	2.59E-07	2.66E-07	2.77E-07
Np-237	2.25E-07	1.99E-04	0.113	1.61E-07	1.90E-07	2.65E-07	3.19E-07
Pu-238	5.66E-07	5.01E-04	0.285	3.06E-07	4.31E-07	7.06E-07	8.47E-07
Pu-239	1.69E-05	1.50E-02	8.51	1.00E-05	1.34E-05	2.04E-05	2.38E-05
Pu-240	3.04E-06	2.69E-03	1.53	1.76E-06	2.38E-06	3.71E-06	4.36E-06
Pu-241	4.02E-05	3.56E-02	20.2	2.18E-05	3.06E-05	5.01E-05	6.01E-05
Pu-242	2.26E-10	2.00E-07	1.14E-04	1.17E-10	1.69E-10	2.86E-10	3.47E-10
Am-241	1.73E-05	1.53E-02	8.69	1.14E-05	1.42E-05	2.03E-05	2.32E-05
Am-243	7.65E-10	6.77E-07	3.85E-04	4.37E-10	5.83E-10	9.90E-10	1.27E-09
Cm-242	9.85E-08	8.72E-05	4.96E-02	3.31E-08	6.50E-08	1.32E-07	1.65E-07
Cm-243	8.89E-09	7.87E-06	4.48E-03	3.01E-09	5.88E-09	1.19E-08	1.49E-08
Cm-244	4.28E-08	3.79E-05	2.16E-02	2.32E-08	3.28E-08	5.29E-08	6.25E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.28E-04 (g/L)	----	0.115	1.12E-04	1.69E-04	2.88E-04	3.45E-04
U	1.40E-03	294	167	1.31E-03	1.35E-03	1.44E-03	1.48E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.92E+05 (kg)	(195 kgal)	----	----	----	----	----
Heat Load	8.40 (kW)	(2.87E+04 BTU/hr)	----	8.26	8.33	8.48	8.55
Bulk Density†	1.21 (g/cc)	----	----	1.19	1.20	1.22	1.23
Water wt%†	72.5	----	----	69.5	70.9	74.0	75.6
TOC wt% C (wet)†	1.09	----	----	0.361	0.720	1.46	1.81

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.32E-05	3.58E-02	31.9	2.60E-05	2.77E-05	6.03E-05	8.14E-05
C-14	7.46E-06	6.17E-03	5.50	4.88E-06	4.88E-06	8.04E-06	8.34E-06
Ni-59	1.45E-05	1.20E-02	10.7	1.39E-05	1.42E-05	1.49E-05	1.52E-05
Ni-63	1.43E-03	1.18	1.05E+03	1.36E-03	1.39E-03	1.46E-03	1.49E-03
Co-60	1.05E-05	8.73E-03	7.79	6.75E-06	6.75E-06	1.17E-05	1.30E-05
Se-79	7.24E-06	5.99E-03	5.34	1.11E-06	3.01E-06	1.15E-05	1.55E-05
Sr-90	1.62	1.34E+03	1.20E+06	1.60	1.61	1.64	1.65
Y-90	1.62	1.34E+03	1.20E+06	1.60	1.61	1.64	1.65
Zr-93	3.09E-05	2.56E-02	22.8	5.40E-06	9.79E-06	5.21E-05	7.24E-05
Nb-93m	2.73E-05	2.26E-02	20.1	3.92E-06	1.25E-05	4.21E-05	5.63E-05
Tc-99	5.66E-05	4.68E-02	41.7	4.31E-05	4.91E-05	6.49E-05	7.61E-05
Ru-106	3.57E-09	2.95E-06	2.63E-03	2.45E-09	2.46E-09	1.12E-08	1.86E-08
Cd-113m	4.11E-05	3.40E-02	30.3	2.86E-05	2.87E-05	1.60E-04	2.82E-04
Sb-125	5.02E-05	4.16E-02	37.1	3.32E-05	3.32E-05	5.73E-05	6.41E-05
Sn-126	1.17E-05	9.68E-03	8.64	1.68E-06	5.36E-06	1.80E-05	2.41E-05
I-129	1.10E-07	9.06E-05	8.08E-02	8.34E-08	9.51E-08	1.26E-07	1.48E-07
Cs-134	2.61E-06	2.16E-03	1.93	9.60E-07	1.77E-06	3.46E-06	4.29E-06
Cs-137	9.56E-02	79.1	7.05E+04	6.57E-02	8.03E-02	0.111	0.126
Ba-137m	9.04E-02	74.8	6.67E+04	6.22E-02	7.60E-02	0.105	0.119
Sm-151	2.75E-02	22.8	2.03E+04	3.94E-03	1.27E-02	4.23E-02	5.66E-02
Eu-152	1.15E-05	9.49E-03	8.46	1.03E-05	1.09E-05	1.21E-05	1.27E-05
Eu-154	2.08E-04	0.172	153	1.41E-04	1.62E-04	2.25E-04	9.98E-04
Eu-155	7.44E-04	0.616	549	6.72E-04	7.08E-04	7.82E-04	8.18E-04
Ra-226	9.46E-10	7.83E-07	6.98E-04	6.89E-10	8.15E-10	1.08E-09	1.20E-09
Ra-228	6.92E-08	5.72E-05	5.10E-02	8.51E-09	8.51E-09	7.21E-08	7.52E-08
Ac-227	4.96E-09	4.10E-06	3.66E-03	3.50E-09	4.21E-09	5.70E-09	6.41E-09
Pa-231	7.42E-09	6.14E-06	5.48E-03	1.16E-09	3.29E-09	1.16E-08	1.55E-08
Th-229	1.66E-09	1.37E-06	1.22E-03	2.56E-10	2.56E-10	1.72E-09	1.79E-09
Th-232	8.10E-09	6.70E-06	5.98E-03	6.08E-10	6.08E-10	1.02E-08	1.21E-08
U-232	1.96E-07	1.63E-04	0.145	1.40E-07	1.62E-07	2.35E-07	2.77E-07
U-233	7.53E-07	6.23E-04	0.556	5.35E-07	6.22E-07	9.02E-07	1.06E-06
U-234	2.16E-06	1.79E-03	1.60	1.99E-06	2.09E-06	2.23E-06	2.28E-06
U-235	9.19E-08	7.60E-05	6.78E-02	8.47E-08	8.86E-08	9.46E-08	9.68E-08
U-236	3.94E-08	3.26E-05	2.91E-02	3.65E-08	3.81E-08	4.05E-08	4.14E-08
U-238	2.30E-06	1.91E-03	1.70	2.13E-06	2.22E-06	2.37E-06	2.42E-06
Np-237	1.86E-07	1.54E-04	0.137	1.42E-07	1.62E-07	2.13E-07	2.50E-07
Pu-238	5.05E-06	4.18E-03	3.73	4.84E-06	4.95E-06	5.16E-06	5.26E-06
Pu-239	3.05E-04	0.253	225	2.92E-04	2.98E-04	3.12E-04	3.19E-04
Pu-240	4.71E-05	3.90E-02	34.8	4.51E-05	4.61E-05	4.81E-05	4.92E-05
Pu-241	3.67E-04	0.304	271	3.52E-04	3.59E-04	3.75E-04	3.82E-04
Pu-242	1.47E-09	1.21E-06	1.08E-03	1.39E-09	1.43E-09	1.51E-09	1.55E-09
Am-241	2.27E-04	0.188	167	1.02E-04	1.63E-04	2.90E-04	3.51E-04
Am-243	5.25E-09	4.34E-06	3.87E-03	2.62E-09	3.94E-09	6.50E-09	7.65E-09
Cm-242	2.95E-07	2.44E-04	0.218	2.51E-07	2.72E-07	3.18E-07	3.41E-07
Cm-243	1.89E-08	1.56E-05	1.39E-02	1.49E-08	1.68E-08	2.09E-08	2.29E-08
Cm-244	1.30E-07	1.08E-04	9.61E-02	4.21E-08	4.24E-08	2.84E-07	4.31E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.95E-03 (g/L)	----	3.66	4.73E-03	4.84E-03	5.07E-03	5.18E-03
U	2.77E-02	5.45E+03	4.86E+03	2.55E-02	2.67E-02	2.85E-02	2.92E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.61E+06 (kg)	(290 kgal)	----	----	----	----	----
Heat Load	3.67 (kW)	(1.25E+04 BTU/hr)	----	0.987	2.72	4.10	4.33
Bulk Density	1.46 (g/cc)	----	----	1.42	1.44	1.51	1.54
Void Fraction	0.794	----	----	0.725	0.753	0.799	0.805
Water wt%	53.5	----	----	47.2	49.5	54.3	55.5
TOC wt% C (wet)	0.155	----	----	5.60E-02	0.108	0.201	0.230

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.49	3.91E+04	6.28E+04	2.00	2.36	3.43	4.02
Al^{3+}	3.50	6.45E+04	1.04E+05	3.42	3.46	3.54	3.58
Fe^{3+} (total Fe)	1.14	4.34E+04	6.97E+04	1.10	1.13	1.15	1.15
Cr^{3+}	3.20E-03	114	183	2.71E-03	2.99E-03	3.40E-03	3.59E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.02E-03	414	664	2.81E-03	2.97E-03	3.04E-03	3.05E-03
Zr (as $ZrO(OH)_2$)	8.63E-02	5.38E+03	8.64E+03	7.96E-02	8.48E-02	8.70E-02	8.74E-02
Pb^{2+}	0.134	1.90E+04	3.05E+04	0.101	0.127	0.138	0.140
Ni^{2+}	4.75E-02	1.91E+03	3.06E+03	3.89E-02	4.36E-02	5.06E-02	5.31E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.91E-05	2.22	3.56	5.04E-05	5.47E-05	6.35E-05	6.78E-05
Ca^{2+}	0.343	9.39E+03	1.51E+04	0.267	0.300	0.374	0.405
K^{+}	2.23E-02	596	958	1.00E-02	1.61E-02	2.87E-02	3.48E-02
OH^{-}	16.1	1.87E+05	3.00E+05	15.3	15.8	16.3	16.5
$NO3^{-}$	0.794	3.37E+04	5.41E+04	0.655	0.664	1.76	2.39
$NO2^{-}$	0.384	1.21E+04	1.94E+04	0.329	0.344	0.407	0.429
$CO3^{2-}$	0.388	1.59E+04	2.56E+04	0.313	0.346	0.419	0.448
$PO4^{3-}$	1.35E-02	876	1.41E+03	8.90E-03	1.11E-02	1.44E-02	1.87E-02
$SO4^{2-}$	1.75E-02	1.15E+03	1.84E+03	1.42E-02	1.60E-02	1.86E-02	1.93E-02
Si (as SiO_x^{2-})	8.46E-02	1.62E+03	2.61E+03	1.69E-02	5.29E-02	9.85E-02	0.108
F^{-}	0.502	6.51E+03	1.05E+04	2.89E-02	0.379	0.559	0.590
Cl^{-}	1.54E-02	372	598	1.15E-02	1.37E-02	1.61E-02	1.68E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	4.90E-03	964	1.55E+03	1.33E-03	3.20E-03	6.56E-03	7.62E-03
$HEDTA^{3-}$	9.79E-03	1.83E+03	2.95E+03	2.66E-03	6.40E-03	1.31E-02	1.52E-02
$glycolate^{-}$	9.79E-03	502	806	2.66E-03	6.40E-03	1.31E-02	1.52E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.89E-03	271	435	1.37E-03	1.66E-03	1.98E-03	2.07E-03
butanol	1.89E-03	95.5	153	1.37E-03	1.66E-03	1.98E-03	2.07E-03
NH_3	6.89E-02	801	1.29E+03	2.70E-02	4.78E-02	9.01E-02	0.110
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+04 (kg)	(5.04 kgal)	----	----	----	----	----
Heat Load	2.57E-02 (kW)	(87.8 BTU/hr)	----	2.27E-02	2.46E-02	2.68E-02	2.79E-02
Bulk Density*	1.35 (g/cc)	----	----	1.32	1.34	1.36	1.37
Water wt%	54.0	----	----	52.0	52.9	55.0	56.0
TOC wt% C (wet)	1.05	----	----	0.527	0.783	1.31	1.57

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.08	1.38E+05	3.54E+03	7.56	7.82	8.31	8.51
Al^{3+}	0.980	1.96E+04	504	0.861	0.952	1.01	1.03
Fe^{3+} (total Fe)	6.06E-03	250	6.45	5.19E-03	5.62E-03	6.50E-03	6.92E-03
Cr^{3+}	7.38E-02	2.84E+03	73.1	6.39E-02	6.92E-02	7.62E-02	7.97E-02
Bi^{3+}	7.09E-04	110	2.83	6.64E-04	6.86E-04	7.32E-04	7.54E-04
La^{3+}	1.44E-05	1.48	3.80E-02	1.05E-05	1.24E-05	1.63E-05	1.82E-05
Hg^{2+}	5.56E-06	0.827	2.13E-02	5.33E-06	5.46E-06	5.65E-06	5.74E-06
Zr (as $ZrO(OH)_2$)	1.02E-04	6.87	0.177	9.35E-05	9.64E-05	1.05E-04	1.10E-04
Pb^{2+}	7.27E-04	112	2.87	5.99E-04	6.62E-04	7.92E-04	8.55E-04
Ni^{2+}	3.20E-03	139	3.58	3.07E-03	3.13E-03	3.23E-03	3.26E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.53E-03	103	2.65	2.11E-03	2.32E-03	2.74E-03	2.94E-03
Ca^{2+}	1.77E-02	524	13.5	1.64E-02	1.70E-02	1.83E-02	1.89E-02
K^{+}	3.84E-02	1.11E+03	28.6	3.45E-02	3.62E-02	4.11E-02	4.47E-02
OH^{-}	5.62	7.07E+04	1.82E+03	5.05	5.46	5.78	5.88
$NO3^{-}$	2.61	1.20E+05	3.08E+03	2.46	2.55	2.65	2.70
$NO2^{-}$	1.44	4.92E+04	1.27E+03	1.24	1.32	1.57	1.62
$CO3^{2-}$	0.293	1.30E+04	335	0.265	0.279	0.307	0.315
$PO4^{3-}$	5.20E-02	3.65E+03	94.0	4.67E-02	4.87E-02	5.43E-02	5.74E-02
$SO4^{2-}$	0.162	1.15E+04	297	0.138	0.148	0.179	0.185
Si (as SiO_x^{2-})	4.56E-02	949	24.4	3.97E-02	4.26E-02	4.86E-02	5.15E-02
F^{-}	3.75E-02	527	13.6	3.33E-02	3.50E-02	4.02E-02	4.43E-02
Cl^{-}	0.140	3.67E+03	94.4	0.126	0.132	0.144	0.148
$C_6H_5O_7^{3-}$	1.82E-02	2.55E+03	65.5	1.69E-02	1.75E-02	1.89E-02	2.01E-02
$EDTA^{4-}$	2.50E-02	5.33E+03	137	7.55E-03	1.61E-02	3.39E-02	4.27E-02
$HEDTA^{3-}$	4.61E-02	9.35E+03	241	1.12E-02	2.82E-02	6.40E-02	8.15E-02
$glycolate^{-}$	8.19E-02	4.55E+03	117	4.71E-02	6.41E-02	9.98E-02	0.117
$acetate^{-}$	1.24E-02	541	13.9	1.04E-02	1.12E-02	1.36E-02	1.55E-02
$oxalate^{2-}$	1.88E-05	1.23	3.16E-02	1.67E-05	1.78E-05	1.99E-05	2.09E-05
DBP	1.43E-02	2.22E+03	57.2	1.24E-02	1.32E-02	1.54E-02	1.71E-02
butanol	1.43E-02	784	20.2	1.24E-02	1.32E-02	1.54E-02	1.71E-02
NH_3	3.87E-02	487	12.5	3.20E-02	3.46E-02	4.38E-02	4.98E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.63E+06 (kg)	(295 kgal)	----	----	----	----	----
Heat Load	3.70 (kW)	(1.26E+04 BTU/hr)	----	1.01	2.75	4.12	4.35
Bulk Density†	1.46 (g/cc)	----	----	1.42	1.44	1.51	1.53
Water wt%†	53.5	----	----	47.3	49.6	54.3	55.5
TOC wt% C (wet)†	0.169	----	----	6.34E-02	0.119	0.219	0.251

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.58	4.07E+04	6.63E+04	2.10	2.46	3.51	4.09
Al^{3+}	3.45	6.38E+04	1.04E+05	3.38	3.42	3.49	3.53
Fe^{3+} (total Fe)	1.12	4.27E+04	6.97E+04	1.08	1.11	1.13	1.13
Cr^{3+}	4.41E-03	157	256	3.93E-03	4.20E-03	4.60E-03	4.79E-03
Bi^{3+}	1.21E-05	1.73	2.83	1.13E-05	1.17E-05	1.25E-05	1.29E-05
La^{3+}	2.45E-07	2.33E-02	3.80E-02	1.80E-07	2.12E-07	2.79E-07	3.11E-07
Hg^{2+}	2.97E-03	407	664	2.76E-03	2.92E-03	2.99E-03	3.00E-03
Zr (as $ZrO(OH)_2$)	8.48E-02	5.30E+03	8.64E+03	7.83E-02	8.33E-02	8.55E-02	8.59E-02
Pb^{2+}	0.132	1.87E+04	3.05E+04	9.94E-02	0.124	0.135	0.138
Ni^{2+}	4.67E-02	1.88E+03	3.06E+03	3.83E-02	4.29E-02	4.98E-02	5.22E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.01E-04	3.81	6.21	9.26E-05	9.68E-05	1.06E-04	1.10E-04
Ca^{2+}	0.337	9.25E+03	1.51E+04	0.263	0.295	0.368	0.398
K^{+}	2.26E-02	605	986	1.05E-02	1.64E-02	2.88E-02	3.49E-02
OH^{-}	15.9	1.85E+05	3.02E+05	15.2	15.6	16.1	16.3
$NO3^{-}$	0.825	3.50E+04	5.71E+04	0.689	0.697	1.78	2.39
$NO2^{-}$	0.402	1.27E+04	2.07E+04	0.348	0.363	0.425	0.446
$CO3^{2-}$	0.387	1.59E+04	2.59E+04	0.312	0.345	0.417	0.446
$PO4^{3-}$	1.42E-02	920	1.50E+03	9.63E-03	1.18E-02	1.51E-02	1.92E-02
$SO4^{2-}$	1.99E-02	1.31E+03	2.14E+03	1.67E-02	1.85E-02	2.12E-02	2.20E-02
Si (as SiO_x^{2-})	8.39E-02	1.61E+03	2.63E+03	1.74E-02	5.28E-02	9.76E-02	0.107
F^{-}	0.494	6.42E+03	1.05E+04	2.90E-02	0.373	0.550	0.581
Cl^{-}	1.75E-02	424	692	1.37E-02	1.58E-02	1.82E-02	1.89E-02
$C_6H_5O_7^{3-}$	3.10E-04	40.1	65.5	2.89E-04	2.98E-04	3.23E-04	3.43E-04
$EDTA^{4-}$	5.24E-03	1.03E+03	1.68E+03	1.44E-03	3.42E-03	7.03E-03	8.22E-03
$HEDTA^{3-}$	1.04E-02	1.95E+03	3.19E+03	2.81E-03	6.77E-03	1.40E-02	1.64E-02
$glycolate^{-}$	1.10E-02	566	923	3.42E-03	7.38E-03	1.46E-02	1.70E-02
$acetate^{-}$	2.11E-04	8.54	13.9	1.77E-04	1.92E-04	2.32E-04	2.64E-04
$oxalate^{2-}$	3.21E-07	1.94E-02	3.16E-02	2.86E-07	3.03E-07	3.39E-07	3.57E-07
DBP	2.10E-03	302	492	1.59E-03	1.88E-03	2.19E-03	2.28E-03
butanol	2.10E-03	106	174	1.59E-03	1.88E-03	2.19E-03	2.28E-03
NH_3	6.84E-02	796	1.30E+03	2.71E-02	4.76E-02	8.92E-02	0.109
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.61E+06 (kg)	(290 kgal)	----	----	----	----	----
Heat Load	3.67 (kW)	(1.25E+04 BTU/hr)	----	0.987	2.72	4.10	4.33
Bulk Density	1.46 (g/cc)	----	----	1.42	1.44	1.51	1.54
Void Fraction	0.794	----	----	0.725	0.753	0.799	0.805
Water wt%	53.5	----	----	47.2	49.5	54.3	55.5
TOC wt% C (wet)	0.155	----	----	5.60E-02	0.108	0.201	0.230
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.70E-06	4.58E-03	7.35	3.76E-06	4.82E-06	9.39E-06	1.21E-05
C-14	5.71E-07	3.90E-04	0.626	3.84E-07	4.82E-07	6.58E-07	1.86E-06
Ni-59	2.40E-05	1.64E-02	26.3	2.23E-05	2.31E-05	2.48E-05	2.56E-05
Ni-63	2.36E-03	1.61	2.59E+03	2.20E-03	2.28E-03	2.44E-03	2.52E-03
Co-60	9.35E-07	6.39E-04	1.03	5.56E-07	7.55E-07	1.11E-06	2.89E-06
Se-79	1.37E-05	9.38E-03	15.1	3.32E-06	7.31E-06	2.01E-05	2.63E-05
Sr-90	0.485	332	5.33E+05	0.126	0.358	0.541	0.571
Y-90	0.485	332	5.33E+05	0.126	0.359	0.541	0.571
Zr-93	5.95E-05	4.06E-02	65.3	1.22E-05	2.74E-05	9.15E-05	1.22E-04
Nb-93m	5.06E-05	3.46E-02	55.5	1.08E-05	2.82E-05	7.30E-05	9.45E-05
Tc-99	4.08E-06	2.79E-03	4.48	2.82E-06	3.48E-06	4.67E-06	5.05E-06
Ru-106	1.04E-07	7.09E-05	0.114	8.00E-08	9.80E-08	1.09E-07	1.15E-07
Cd-113m	1.35E-04	9.20E-02	148	1.71E-05	6.62E-05	2.98E-04	4.82E-04
Sb-125	6.23E-06	4.26E-03	6.84	4.00E-06	5.17E-06	7.27E-06	7.94E-06
Sn-126	2.20E-05	1.50E-02	24.1	5.55E-06	1.24E-05	3.16E-05	4.08E-05
I-129	8.68E-09	5.93E-06	9.53E-03	6.22E-09	7.51E-09	9.83E-09	1.06E-08
Cs-134	6.20E-07	4.23E-04	0.680	3.50E-07	4.91E-07	9.03E-07	1.07E-06
Cs-137	1.63E-02	11.2	1.79E+04	1.14E-02	1.40E-02	2.85E-02	3.59E-02
Ba-137m	1.54E-02	10.6	1.69E+04	1.08E-02	1.32E-02	2.70E-02	3.39E-02
Sm-151	5.12E-02	35.0	5.62E+04	1.31E-02	2.88E-02	7.36E-02	9.51E-02
Eu-152	1.36E-05	9.26E-03	14.9	1.34E-05	1.35E-05	1.36E-05	1.37E-05
Eu-154	3.39E-04	0.232	373	6.21E-05	7.06E-05	9.09E-04	1.89E-03
Eu-155	8.39E-04	0.573	921	8.27E-04	8.33E-04	8.44E-04	8.48E-04
Ra-226	4.45E-09	3.04E-06	4.88E-03	4.06E-09	4.25E-09	4.64E-09	4.84E-09
Ra-228	2.02E-05	1.38E-02	22.2	1.94E-05	1.99E-05	2.02E-05	2.02E-05
Ac-227	6.33E-05	4.32E-02	69.4	6.33E-05	6.33E-05	6.33E-05	6.33E-05
Pa-231	1.14E-04	7.78E-02	125	1.14E-04	1.14E-04	1.14E-04	1.14E-04
Th-229	4.49E-07	3.07E-04	0.493	4.31E-07	4.41E-07	4.49E-07	4.49E-07
Th-232	1.12E-06	7.67E-04	1.23	3.90E-08	6.09E-07	1.46E-06	1.79E-06
U-232	1.72E-05	1.18E-02	18.9	9.64E-06	1.38E-05	2.00E-05	2.22E-05
U-233	6.60E-05	4.51E-02	72.5	3.70E-05	5.29E-05	7.66E-05	8.50E-05
U-234	1.60E-05	1.09E-02	17.6	1.26E-05	1.44E-05	1.68E-05	1.74E-05
U-235	6.29E-07	4.30E-04	0.691	4.89E-07	5.64E-07	6.60E-07	6.80E-07
U-236	7.04E-07	4.81E-04	0.773	5.49E-07	6.34E-07	7.61E-07	8.06E-07
U-238	1.35E-05	9.24E-03	14.8	1.03E-05	1.20E-05	1.42E-05	1.46E-05
Np-237	1.52E-08	1.04E-05	1.67E-02	1.12E-08	1.33E-08	1.71E-08	1.83E-08
Pu-238	9.26E-05	6.33E-02	102	8.65E-05	9.14E-05	9.38E-05	9.49E-05
Pu-239	2.11E-03	1.44	2.31E+03	1.93E-03	2.07E-03	2.15E-03	2.19E-03
Pu-240	4.15E-04	0.284	456	3.83E-04	4.08E-04	4.22E-04	4.29E-04
Pu-241	6.28E-03	4.29	6.89E+03	5.84E-03	6.19E-03	6.36E-03	6.44E-03
Pu-242	3.66E-08	2.50E-05	4.01E-02	3.40E-08	3.61E-08	3.70E-08	3.75E-08
Am-241	5.75E-04	0.393	631	3.87E-04	4.79E-04	6.71E-04	7.64E-04
Am-243	2.97E-08	2.03E-05	3.26E-02	2.23E-08	2.74E-08	3.19E-08	3.38E-08
Cm-242	5.29E-07	3.61E-04	0.580	5.21E-07	5.25E-07	5.32E-07	5.34E-07
Cm-243	4.86E-08	3.32E-05	5.33E-02	4.79E-08	4.83E-08	4.89E-08	4.91E-08
Cm-244	1.87E-06	1.28E-03	2.05	1.40E-06	1.76E-06	1.98E-06	2.09E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.58E-02 (g/L)	----	39.3	3.28E-02	3.51E-02	3.65E-02	3.72E-02
U	0.170	2.77E+04	4.45E+04	0.130	0.151	0.179	0.184

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+04 (kg)	(5.04 kgal)	----	----	----	----	----
Heat Load	2.57E-02 (kW)	(87.8 BTU/hr)	----	2.27E-02	2.46E-02	2.68E-02	2.79E-02
Bulk Density*	1.35 (g/cc)	----	----	1.32	1.34	1.36	1.37
Water wt%†	54.0	----	----	52.0	52.9	55.0	56.0
TOC wt% C (wet)	1.05	----	----	0.527	0.783	1.31	1.57
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.49E-04	0.110	2.83	9.58E-05	9.58E-05	1.62E-04	1.79E-04
C-14	2.24E-05	1.66E-02	0.426	1.13E-05	1.13E-05	2.28E-05	2.31E-05
Ni-59	1.23E-06	9.10E-04	2.34E-02	7.09E-07	7.09E-07	1.25E-06	1.28E-06
Ni-63	1.21E-04	8.94E-02	2.30	6.94E-05	6.94E-05	1.23E-04	1.26E-04
Co-60	2.77E-05	2.05E-02	0.527	1.50E-05	1.50E-05	2.86E-05	2.96E-05
Se-79	2.27E-06	1.68E-03	4.33E-02	1.57E-06	1.57E-06	2.53E-06	2.77E-06
Sr-90	7.55E-02	55.9	1.44E+03	6.85E-02	7.37E-02	7.72E-02	7.89E-02
Y-90	7.55E-02	55.9	1.44E+03	5.11E-02	5.11E-02	7.72E-02	7.89E-02
Zr-93	1.12E-05	8.29E-03	0.213	7.68E-06	7.68E-06	1.25E-05	1.37E-05
Nb-93m	8.05E-06	5.96E-03	0.153	5.58E-06	5.58E-06	8.94E-06	9.80E-06
Tc-99	1.67E-04	0.123	3.17	1.25E-04	1.46E-04	1.88E-04	2.08E-04
Ru-106	4.93E-09	3.65E-06	9.40E-05	3.30E-09	3.30E-09	5.30E-09	5.63E-09
Cd-113m	6.12E-05	4.53E-02	1.17	4.00E-05	4.00E-05	6.88E-05	7.62E-05
Sb-125	1.24E-04	9.18E-02	2.36	6.92E-05	6.92E-05	1.30E-04	1.35E-04
Sn-126	3.43E-06	2.54E-03	6.54E-02	2.37E-06	2.37E-06	3.81E-06	4.18E-06
I-129	3.22E-07	2.38E-04	6.13E-03	2.42E-07	2.81E-07	3.63E-07	4.02E-07
Cs-134	2.81E-06	2.08E-03	5.36E-02	1.50E-06	2.14E-06	3.49E-06	4.15E-06
Cs-137	0.180	133	3.42E+03	0.156	0.167	0.192	0.204
Ba-137m	0.170	126	3.24E+03	0.147	0.147	0.181	0.193
Sm-151	7.99E-03	5.92	152	5.52E-03	5.52E-03	8.88E-03	9.74E-03
Eu-152	3.23E-06	2.39E-03	6.15E-02	2.29E-06	2.35E-06	3.71E-06	4.18E-06
Eu-154	4.48E-04	0.332	8.54	2.72E-04	2.72E-04	5.12E-04	5.37E-04
Eu-155	1.93E-04	0.143	3.69	1.36E-04	1.42E-04	2.23E-04	2.52E-04
Ra-226	8.82E-11	6.53E-08	1.68E-06	6.64E-11	6.64E-11	9.61E-11	1.04E-10
Ra-228	1.79E-07	1.33E-04	3.41E-03	6.39E-08	6.39E-08	2.02E-07	2.26E-07
Ac-227	5.50E-10	4.07E-07	1.05E-05	4.23E-10	4.23E-10	5.96E-10	6.40E-10
Pa-231	2.64E-09	1.96E-06	5.04E-05	1.94E-09	1.94E-09	2.90E-09	3.14E-09
Th-229	4.16E-09	3.08E-06	7.93E-05	1.50E-09	1.50E-09	4.66E-09	5.19E-09
Th-232	1.84E-08	1.36E-05	3.50E-04	4.15E-09	4.15E-09	2.23E-08	2.60E-08
U-232	5.91E-07	4.38E-04	1.13E-02	4.37E-07	5.12E-07	6.82E-07	7.80E-07
U-233	2.27E-06	1.68E-03	4.32E-02	1.68E-06	1.96E-06	2.62E-06	2.99E-06
U-234	4.49E-07	3.32E-04	8.55E-03	4.34E-07	4.42E-07	4.56E-07	4.60E-07
U-235	1.79E-08	1.33E-05	3.42E-04	1.73E-08	1.76E-08	1.82E-08	1.84E-08
U-236	1.44E-08	1.07E-05	2.74E-04	1.39E-08	1.42E-08	1.46E-08	1.47E-08
U-238	5.99E-07	4.44E-04	1.14E-02	5.85E-07	5.93E-07	6.07E-07	6.17E-07
Np-237	5.87E-07	4.35E-04	1.12E-02	4.52E-07	5.18E-07	6.56E-07	7.23E-07
Pu-238	9.33E-07	6.91E-04	1.78E-02	7.75E-07	8.52E-07	1.01E-06	1.09E-06
Pu-239	3.07E-05	2.28E-02	0.586	2.67E-05	2.87E-05	3.28E-05	3.48E-05
Pu-240	5.31E-06	3.93E-03	0.101	4.55E-06	4.92E-06	5.69E-06	6.06E-06
Pu-241	6.44E-05	4.77E-02	1.23	5.36E-05	5.89E-05	6.99E-05	7.52E-05
Pu-242	3.55E-10	2.63E-07	6.76E-06	2.90E-10	3.22E-10	3.87E-10	4.20E-10
Am-241	3.74E-05	2.77E-02	0.712	2.99E-05	3.35E-05	4.12E-05	4.49E-05
Am-243	1.41E-09	1.04E-06	2.68E-05	1.15E-09	1.27E-09	1.57E-09	1.70E-09
Cm-242	1.13E-07	8.38E-05	2.16E-03	7.73E-08	7.73E-08	1.32E-07	1.49E-07
Cm-243	1.05E-08	7.75E-06	1.99E-04	7.05E-09	7.05E-09	1.21E-08	1.37E-08
Cm-244	8.24E-08	6.10E-05	1.57E-03	4.72E-08	4.72E-08	9.43E-08	1.02E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.73E-04 (g/L)	----	7.10E-03	2.96E-04	3.34E-04	4.12E-04	4.49E-04
U	5.07E-03	893	23.0	4.89E-03	4.98E-03	5.16E-03	5.21E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.63E+06 (kg)	(295 kgal)	----	----	----	----	----
Heat Load	3.70 (kW)	(1.26E+04 BTU/hr)	----	1.01	2.75	4.12	4.35
Bulk Density†	1.46 (g/cc)	----	----	1.42	1.44	1.51	1.53
Water wt%†	53.5	----	----	47.3	49.6	54.3	55.5
TOC wt% C (wet)†	0.169	----	----	6.34E-02	0.119	0.219	0.251
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	9.12E-06	6.24E-03	10.2	5.99E-06	7.11E-06	1.20E-05	1.49E-05
C-14	9.42E-07	6.45E-04	1.05	7.43E-07	7.54E-07	1.04E-06	2.22E-06
Ni-59	2.36E-05	1.61E-02	26.3	2.19E-05	2.27E-05	2.44E-05	2.52E-05
Ni-63	2.32E-03	1.59	2.59E+03	2.16E-03	2.24E-03	2.40E-03	2.48E-03
Co-60	1.39E-06	9.52E-04	1.55	9.87E-07	1.18E-06	1.58E-06	3.31E-06
Se-79	1.35E-05	9.25E-03	15.1	3.30E-06	7.23E-06	1.98E-05	2.59E-05
Sr-90	0.478	327	5.34E+05	0.125	0.354	0.533	0.563
Y-90	0.478	327	5.34E+05	0.125	0.354	0.533	0.563
Zr-93	5.86E-05	4.01E-02	65.5	1.21E-05	2.72E-05	9.01E-05	1.20E-04
Nb-93m	4.99E-05	3.41E-02	55.7	1.08E-05	2.78E-05	7.19E-05	9.30E-05
Tc-99	6.86E-06	4.69E-03	7.66	5.51E-06	6.21E-06	7.49E-06	7.91E-06
Ru-106	1.02E-07	6.98E-05	0.114	7.88E-08	9.64E-08	1.08E-07	1.13E-07
Cd-113m	1.33E-04	9.13E-02	149	1.78E-05	6.62E-05	2.94E-04	4.75E-04
Sb-125	8.24E-06	5.64E-03	9.20	5.86E-06	7.10E-06	9.36E-06	1.01E-05
Sn-126	2.17E-05	1.48E-02	24.2	5.51E-06	1.22E-05	3.11E-05	4.02E-05
I-129	1.40E-08	9.60E-06	1.57E-02	1.14E-08	1.28E-08	1.53E-08	1.61E-08
Cs-134	6.57E-07	4.50E-04	0.734	3.69E-07	5.19E-07	9.35E-07	1.10E-06
Cs-137	1.91E-02	13.1	2.13E+04	1.39E-02	1.66E-02	3.11E-02	3.83E-02
Ba-137m	1.81E-02	12.4	2.02E+04	1.32E-02	1.57E-02	2.94E-02	3.63E-02
Sm-151	5.05E-02	34.5	5.63E+04	1.30E-02	2.84E-02	7.25E-02	9.36E-02
Eu-152	1.34E-05	9.15E-03	14.9	1.32E-05	1.33E-05	1.35E-05	1.35E-05
Eu-154	3.41E-04	0.234	381	6.78E-05	7.68E-05	9.01E-04	1.87E-03
Eu-155	8.28E-04	0.567	924	8.15E-04	8.22E-04	8.34E-04	8.38E-04
Ra-226	4.37E-09	2.99E-06	4.88E-03	3.99E-09	4.18E-09	4.57E-09	4.75E-09
Ra-228	1.99E-05	1.36E-02	22.2	1.91E-05	1.95E-05	1.99E-05	1.99E-05
Ac-227	6.22E-05	4.26E-02	69.4	6.22E-05	6.22E-05	6.22E-05	6.22E-05
Pa-231	1.12E-04	7.66E-02	125	1.12E-04	1.12E-04	1.12E-04	1.12E-04
Th-229	4.42E-07	3.02E-04	0.493	4.24E-07	4.34E-07	4.42E-07	4.42E-07
Th-232	1.10E-06	7.55E-04	1.23	3.87E-08	5.99E-07	1.44E-06	1.76E-06
U-232	1.70E-05	1.16E-02	18.9	9.49E-06	1.36E-05	1.97E-05	2.18E-05
U-233	6.50E-05	4.45E-02	72.5	3.64E-05	5.20E-05	7.54E-05	8.36E-05
U-234	1.57E-05	1.08E-02	17.6	1.24E-05	1.42E-05	1.65E-05	1.72E-05
U-235	6.19E-07	4.23E-04	0.691	4.81E-07	5.55E-07	6.49E-07	6.68E-07
U-236	6.93E-07	4.74E-04	0.773	5.40E-07	6.24E-07	7.48E-07	7.92E-07
U-238	1.33E-05	9.10E-03	14.8	1.01E-05	1.18E-05	1.40E-05	1.44E-05
Np-237	2.50E-08	1.71E-05	2.79E-02	2.07E-08	2.29E-08	2.70E-08	2.83E-08
Pu-238	9.11E-05	6.23E-02	102	8.50E-05	8.99E-05	9.22E-05	9.33E-05
Pu-239	2.07E-03	1.42	2.32E+03	1.90E-03	2.03E-03	2.11E-03	2.15E-03
Pu-240	4.08E-04	0.279	456	3.77E-04	4.01E-04	4.15E-04	4.22E-04
Pu-241	6.17E-03	4.22	6.89E+03	5.74E-03	6.09E-03	6.25E-03	6.33E-03
Pu-242	3.60E-08	2.46E-05	4.01E-02	3.34E-08	3.55E-08	3.64E-08	3.68E-08
Am-241	5.66E-04	0.387	632	3.81E-04	4.72E-04	6.60E-04	7.51E-04
Am-243	2.93E-08	2.00E-05	3.27E-02	2.20E-08	2.70E-08	3.13E-08	3.32E-08
Cm-242	5.22E-07	3.57E-04	0.582	5.14E-07	5.18E-07	5.25E-07	5.28E-07
Cm-243	4.79E-08	3.28E-05	5.35E-02	4.72E-08	4.76E-08	4.83E-08	4.85E-08
Cm-244	1.84E-06	1.26E-03	2.05	1.38E-06	1.73E-06	1.95E-06	2.06E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.52E-02 (g/L)	----	39.3	3.22E-02	3.45E-02	3.59E-02	3.66E-02
U	0.167	2.73E+04	4.45E+04	0.128	0.149	0.176	0.181

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.31E+05 (kg)	(150 kgal)	----	----	----	----	----
Heat Load	2.03E-02 (kW)	(69.5 BTU/hr)	----	1.69E-02	1.73E-02	2.34E-02	2.38E-02
Bulk Density	1.46 (g/cc)	----	----	1.39	1.40	1.51	1.49
Void Fraction	0.796	----	----	0.791	0.756	0.846	0.851
Water wt%	53.1	----	----	51.8	49.3	58.9	60.4
TOC wt% C (wet)	1.37E-05	----	----	3.15E-07	1.66E-06	2.66E-05	2.84E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.20	5.03E+04	4.18E+04	1.80	1.94	4.10	3.54
Al^{3+}	4.64	8.56E+04	7.11E+04	4.52	4.58	4.70	4.76
Fe^{3+} (total Fe)	0.306	1.17E+04	9.70E+03	0.149	0.293	0.310	0.315
Cr^{3+}	2.46E-03	87.4	72.6	2.03E-03	2.24E-03	2.68E-03	2.90E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.27E-03	312	259	2.25E-03	2.26E-03	2.28E-03	2.29E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.106	1.50E+04	1.25E+04	9.84E-02	0.102	0.110	0.113
Ni^{2+}	1.23E-03	49.4	41.0	1.01E-03	1.12E-03	1.34E-03	1.75E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.143	3.91E+03	3.25E+03	0.107	0.109	0.161	0.179
K^+	1.86E-03	49.7	41.3	1.15E-03	1.23E-03	2.49E-03	2.58E-03
OH^-	16.4	1.91E+05	1.59E+05	15.9	16.2	16.7	17.0
$NO3^-$	1.84	7.80E+04	6.48E+04	0.506	0.603	2.80	1.93
$NO2^-$	0.626	1.97E+04	1.63E+04	0.509	0.566	0.686	0.745
$CO3^{2-}$	0.151	6.20E+03	5.15E+03	0.109	0.115	0.170	0.187
$PO4^{3-}$	5.98E-03	388	322	1.30E-04	7.45E-04	1.12E-02	2.24E-02
$SO4^{2-}$	1.60E-02	1.05E+03	874	9.67E-03	1.03E-02	2.17E-02	2.25E-02
Si (as SiO_x^{2-})	1.52E-02	292	243	1.24E-02	1.38E-02	1.67E-02	4.67E-02
F^-	0	0	0	0	0	0	0
Cl^-	9.62E-03	233	193	5.32E-03	5.77E-03	1.35E-02	2.91E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.40E-06	0.201	0.167	3.04E-08	1.74E-07	2.62E-06	2.78E-06
butanol	1.40E-06	7.07E-02	5.87E-02	3.04E-08	1.74E-07	2.62E-06	2.78E-06
NH_3	2.35E-04	2.73	2.26	1.69E-04	1.92E-04	3.03E-04	3.15E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.31E+05 (kg)	(150 kgal)	----	----	----	----	----
Heat Load	2.03E-02 (kW)	(69.5 BTU/hr)	----	1.69E-02	1.73E-02	2.34E-02	2.38E-02
Bulk Density†	1.46 (g/cc)	----	----	1.39	1.40	1.51	1.49
Water wt%†	53.1	----	----	51.8	49.3	58.9	60.4
TOC wt% C (wet)†	1.37E-05	----	----	3.15E-07	1.66E-06	2.66E-05	2.84E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.20	5.03E+04	4.18E+04	1.80	1.94	4.10	3.54
Al^{3+}	4.64	8.56E+04	7.11E+04	4.52	4.58	4.70	4.76
Fe^{3+} (total Fe)	0.306	1.17E+04	9.70E+03	0.149	0.293	0.310	0.315
Cr^{3+}	2.46E-03	87.4	72.6	2.03E-03	2.24E-03	2.68E-03	2.90E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.27E-03	312	259	2.25E-03	2.26E-03	2.28E-03	2.29E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.106	1.50E+04	1.25E+04	9.84E-02	0.102	0.110	0.113
Ni^{2+}	1.23E-03	49.4	41.0	1.01E-03	1.12E-03	1.34E-03	1.75E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.143	3.91E+03	3.25E+03	0.107	0.109	0.161	0.179
K^+	1.86E-03	49.7	41.3	1.15E-03	1.23E-03	2.49E-03	2.58E-03
OH^-	16.4	1.91E+05	1.59E+05	15.9	16.2	16.7	17.0
$NO3^-$	1.84	7.80E+04	6.48E+04	0.506	0.603	2.80	1.93
$NO2^-$	0.626	1.97E+04	1.63E+04	0.509	0.566	0.686	0.745
$CO3^{2-}$	0.151	6.20E+03	5.15E+03	0.109	0.115	0.170	0.187
$PO4^{3-}$	5.98E-03	388	322	1.30E-04	7.45E-04	1.12E-02	2.24E-02
$SO4^{2-}$	1.60E-02	1.05E+03	874	9.67E-03	1.03E-02	2.17E-02	2.25E-02
Si (as SiO_x^{2-})	1.52E-02	292	243	1.24E-02	1.38E-02	1.67E-02	4.67E-02
F^-	0	0	0	0	0	0	0
Cl^-	9.61E-03	233	193	5.32E-03	5.77E-03	1.35E-02	2.91E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.40E-06	0.201	0.167	3.04E-08	1.74E-07	2.62E-06	2.78E-06
butanol	1.40E-06	7.07E-02	5.87E-02	3.04E-08	1.74E-07	2.62E-06	2.78E-06
NH_3	2.35E-04	2.73	2.26	1.69E-04	1.92E-04	3.03E-04	3.15E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.31E+05 (kg)	(150 kgal)	----	----	----	----	----
Heat Load	2.03E-02 (kW)	(69.5 BTU/hr)	----	1.69E-02	1.73E-02	2.34E-02	2.38E-02
Bulk Density	1.46 (g/cc)	----	----	1.39	1.40	1.51	1.49
Void Fraction	0.796	----	----	0.791	0.756	0.846	0.851
Water wt%	53.1	----	----	51.8	49.3	58.9	60.4
TOC wt% C (wet)	1.37E-05	----	----	3.15E-07	1.66E-06	2.66E-05	2.84E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.04E-06	7.13E-04	0.592	7.65E-07	8.40E-07	1.27E-06	1.38E-06
C-14	1.49E-07	1.02E-04	8.46E-02	1.18E-07	1.21E-07	1.77E-07	1.81E-07
Ni-59	4.23E-08	2.89E-05	2.40E-02	3.34E-08	3.44E-08	5.02E-08	5.72E-08
Ni-63	4.00E-06	2.73E-03	2.27	3.20E-06	3.29E-06	4.71E-06	5.43E-06
Co-60	7.79E-08	5.33E-05	4.42E-02	6.47E-08	7.12E-08	8.47E-08	9.12E-08
Se-79	3.16E-08	2.16E-05	1.79E-02	2.50E-08	2.57E-08	3.74E-08	3.82E-08
Sr-90	2.78E-03	1.90	1.58E+03	2.28E-03	2.33E-03	3.24E-03	3.30E-03
Y-90	2.78E-03	1.90	1.58E+03	2.28E-03	2.33E-03	3.24E-03	3.30E-03
Zr-93	1.49E-07	1.02E-04	8.46E-02	1.18E-07	1.21E-07	1.77E-07	1.81E-07
Nb-93m	1.20E-07	8.19E-05	6.81E-02	9.36E-08	9.64E-08	1.43E-07	1.47E-07
Tc-99	1.04E-06	7.11E-04	0.591	8.25E-07	8.48E-07	1.23E-06	1.26E-06
Ru-106	9.65E-13	6.60E-10	5.48E-07	7.85E-13	8.73E-13	1.06E-12	1.15E-12
Cd-113m	5.04E-07	3.44E-04	0.286	4.24E-07	4.36E-07	5.72E-07	5.84E-07
Sb-125	1.56E-07	1.07E-04	8.88E-02	1.28E-07	1.42E-07	1.71E-07	1.85E-07
Sn-126	4.86E-08	3.32E-05	2.76E-02	3.87E-08	3.97E-08	5.74E-08	5.86E-08
I-129	2.00E-09	1.37E-06	1.14E-03	1.59E-09	1.64E-09	2.36E-09	2.41E-09
Cs-134	4.00E-09	2.73E-06	2.27E-03	3.27E-09	3.63E-09	4.38E-09	4.74E-09
Cs-137	3.65E-03	2.49	2.07E+03	3.08E-03	3.14E-03	4.16E-03	4.23E-03
Ba-137m	3.45E-03	2.36	1.96E+03	2.92E-03	2.97E-03	3.93E-03	4.00E-03
Sm-151	1.14E-04	7.80E-02	64.8	8.98E-05	9.24E-05	1.36E-04	1.39E-04
Eu-152	2.56E-07	1.75E-04	0.145	2.54E-07	2.55E-07	2.57E-07	2.58E-07
Eu-154	1.75E-06	1.20E-03	0.995	1.45E-06	1.60E-06	1.91E-06	2.06E-06
Eu-155	1.51E-05	1.03E-02	8.58	1.50E-05	1.51E-05	1.52E-05	1.52E-05
Ra-226	4.01E-12	2.74E-09	2.28E-06	2.22E-12	2.41E-12	6.69E-12	8.14E-11
Ra-228	4.31E-16	2.94E-13	2.45E-10	4.27E-16	4.28E-16	4.34E-16	4.34E-16
Ac-227	2.08E-11	1.42E-08	1.18E-05	1.17E-11	1.27E-11	2.90E-11	3.73E-10
Pa-231	4.88E-11	3.33E-08	2.77E-05	2.89E-11	3.10E-11	6.65E-11	6.89E-11
Th-229	8.42E-14	5.75E-11	4.78E-08	8.35E-14	8.36E-14	8.48E-14	8.49E-14
Th-232	3.58E-17	2.45E-14	2.03E-11	2.70E-17	2.79E-17	4.38E-17	4.48E-17
U-232	5.12E-10	3.50E-07	2.91E-04	4.70E-10	4.93E-10	5.28E-10	5.41E-10
U-233	1.72E-11	1.17E-08	9.75E-06	1.58E-11	1.65E-11	1.77E-11	1.81E-11
U-234	9.75E-06	6.66E-03	5.53	8.95E-06	9.38E-06	1.01E-05	1.03E-05
U-235	4.16E-07	2.84E-04	0.236	3.82E-07	4.00E-07	4.29E-07	4.39E-07
U-236	1.69E-07	1.15E-04	9.59E-02	1.55E-07	1.63E-07	1.74E-07	1.78E-07
U-238	9.99E-06	6.83E-03	5.67	9.17E-06	9.61E-06	1.03E-05	1.05E-05
Np-237	6.69E-09	4.57E-06	3.80E-03	5.36E-09	5.50E-09	7.88E-09	8.04E-09
Pu-238	2.12E-05	1.45E-02	12.0	2.02E-05	2.07E-05	2.17E-05	2.22E-05
Pu-239	1.35E-03	0.925	769	1.29E-03	1.32E-03	1.39E-03	1.42E-03
Pu-240	2.07E-04	0.142	118	1.97E-04	2.02E-04	2.12E-04	2.17E-04
Pu-241	1.54E-03	1.05	876	1.47E-03	1.51E-03	1.58E-03	1.62E-03
Pu-242	5.89E-09	4.03E-06	3.34E-03	5.61E-09	5.75E-09	6.03E-09	6.17E-09
Am-241	4.50E-07	3.08E-04	0.256	3.77E-07	3.97E-07	5.04E-07	5.24E-07
Am-243	4.22E-12	2.89E-09	2.40E-06	3.51E-12	3.85E-12	4.60E-12	4.94E-12
Cm-242	5.11E-09	3.49E-06	2.90E-03	5.06E-09	5.09E-09	5.13E-09	5.15E-09
Cm-243	1.21E-10	8.26E-08	6.86E-05	1.20E-10	1.20E-10	1.21E-10	1.22E-10
Cm-244	2.03E-10	1.39E-07	1.15E-04	1.67E-10	1.84E-10	2.21E-10	2.39E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.27E-02 (g/L)	----	12.9	2.16E-02	2.22E-02	2.33E-02	2.38E-02
U	0.126	2.04E+04	1.70E+04	0.115	0.121	0.130	0.133

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.31E+05 (kg)	(150 kgal)	----	----	----	----	----
Heat Load	2.03E-02 (kW)	(69.5 BTU/hr)	----	1.69E-02	1.73E-02	2.34E-02	2.38E-02
Bulk Density†	1.46 (g/cc)	----	----	1.39	1.40	1.51	1.49
Water wt%†	53.1	----	----	51.8	49.3	58.9	60.4
TOC wt% C (wet)†	1.37E-05	----	----	3.15E-07	1.66E-06	2.66E-05	2.84E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.04E-06	7.13E-04	0.592	7.65E-07	8.40E-07	1.27E-06	1.38E-06
C-14	1.49E-07	1.02E-04	8.46E-02	1.18E-07	1.21E-07	1.77E-07	1.81E-07
Ni-59	4.23E-08	2.89E-05	2.40E-02	3.34E-08	3.44E-08	5.02E-08	5.72E-08
Ni-63	4.00E-06	2.73E-03	2.27	3.20E-06	3.29E-06	4.71E-06	5.43E-06
Co-60	7.79E-08	5.33E-05	4.42E-02	6.47E-08	7.12E-08	8.47E-08	9.12E-08
Se-79	3.16E-08	2.16E-05	1.79E-02	2.50E-08	2.57E-08	3.74E-08	3.82E-08
Sr-90	2.78E-03	1.90	1.58E+03	2.28E-03	2.33E-03	3.24E-03	3.30E-03
Y-90	2.78E-03	1.90	1.58E+03	2.28E-03	2.33E-03	3.24E-03	3.30E-03
Zr-93	1.49E-07	1.02E-04	8.46E-02	1.18E-07	1.21E-07	1.77E-07	1.81E-07
Nb-93m	1.20E-07	8.19E-05	6.81E-02	9.36E-08	9.64E-08	1.43E-07	1.47E-07
Tc-99	1.04E-06	7.11E-04	0.591	8.25E-07	8.48E-07	1.23E-06	1.26E-06
Ru-106	9.65E-13	6.60E-10	5.48E-07	7.85E-13	8.73E-13	1.06E-12	1.15E-12
Cd-113m	5.04E-07	3.44E-04	0.286	4.24E-07	4.36E-07	5.72E-07	5.84E-07
Sb-125	1.56E-07	1.07E-04	8.88E-02	1.28E-07	1.42E-07	1.71E-07	1.85E-07
Sn-126	4.86E-08	3.32E-05	2.76E-02	3.87E-08	3.97E-08	5.74E-08	5.86E-08
I-129	2.00E-09	1.37E-06	1.14E-03	1.59E-09	1.64E-09	2.36E-09	2.41E-09
Cs-134	4.00E-09	2.73E-06	2.27E-03	3.27E-09	3.63E-09	4.38E-09	4.74E-09
Cs-137	3.65E-03	2.49	2.07E+03	3.08E-03	3.14E-03	4.16E-03	4.23E-03
Ba-137m	3.45E-03	2.36	1.96E+03	2.92E-03	2.97E-03	3.93E-03	4.00E-03
Sm-151	1.14E-04	7.80E-02	64.8	8.98E-05	9.24E-05	1.36E-04	1.39E-04
Eu-152	2.56E-07	1.75E-04	0.145	2.54E-07	2.55E-07	2.57E-07	2.58E-07
Eu-154	1.75E-06	1.20E-03	0.995	1.45E-06	1.60E-06	1.91E-06	2.06E-06
Eu-155	1.51E-05	1.03E-02	8.58	1.50E-05	1.51E-05	1.52E-05	1.52E-05
Ra-226	4.01E-12	2.74E-09	2.28E-06	2.22E-12	2.41E-12	6.69E-12	8.14E-11
Ra-228	4.31E-16	2.94E-13	2.45E-10	4.27E-16	4.28E-16	4.34E-16	4.34E-16
Ac-227	2.08E-11	1.42E-08	1.18E-05	1.17E-11	1.27E-11	2.90E-11	3.73E-10
Pa-231	4.88E-11	3.33E-08	2.77E-05	2.89E-11	3.10E-11	6.65E-11	6.89E-11
Th-229	8.42E-14	5.75E-11	4.78E-08	8.35E-14	8.36E-14	8.48E-14	8.49E-14
Th-232	3.58E-17	2.45E-14	2.03E-11	2.70E-17	2.79E-17	4.38E-17	4.48E-17
U-232	5.12E-10	3.50E-07	2.91E-04	4.70E-10	4.93E-10	5.28E-10	5.41E-10
U-233	1.72E-11	1.17E-08	9.75E-06	1.58E-11	1.65E-11	1.77E-11	1.81E-11
U-234	9.75E-06	6.66E-03	5.53	8.95E-06	9.38E-06	1.01E-05	1.03E-05
U-235	4.16E-07	2.84E-04	0.236	3.82E-07	4.00E-07	4.29E-07	4.39E-07
U-236	1.69E-07	1.15E-04	9.59E-02	1.55E-07	1.63E-07	1.74E-07	1.78E-07
U-238	9.98E-06	6.83E-03	5.67	9.17E-06	9.61E-06	1.03E-05	1.05E-05
Np-237	6.69E-09	4.57E-06	3.80E-03	5.36E-09	5.50E-09	7.88E-09	8.04E-09
Pu-238	2.12E-05	1.45E-02	12.0	2.02E-05	2.07E-05	2.17E-05	2.22E-05
Pu-239	1.35E-03	0.925	769	1.29E-03	1.32E-03	1.39E-03	1.42E-03
Pu-240	2.07E-04	0.142	118	1.97E-04	2.02E-04	2.12E-04	2.17E-04
Pu-241	1.54E-03	1.05	876	1.47E-03	1.51E-03	1.58E-03	1.62E-03
Pu-242	5.89E-09	4.03E-06	3.34E-03	5.61E-09	5.75E-09	6.03E-09	6.17E-09
Am-241	4.50E-07	3.08E-04	0.256	3.77E-07	3.97E-07	5.04E-07	5.24E-07
Am-243	4.22E-12	2.89E-09	2.40E-06	3.51E-12	3.85E-12	4.60E-12	4.94E-12
Cm-242	5.11E-09	3.49E-06	2.90E-03	5.06E-09	5.09E-09	5.13E-09	5.15E-09
Cm-243	1.21E-10	8.26E-08	6.86E-05	1.20E-10	1.20E-10	1.21E-10	1.22E-10
Cm-244	2.03E-10	1.39E-07	1.15E-04	1.67E-10	1.84E-10	2.21E-10	2.39E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.27E-02 (g/L)	----	12.9	2.16E-02	2.22E-02	2.33E-02	2.38E-02
U	0.126	2.04E+04	1.70E+04	0.115	0.121	0.130	0.133

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.08E+06 (kg)	(197 kgal)	----	----	----	----	----
Heat Load	40.6 (kW)	(1.39E+05 BTU/hr)	----	32.7	38.1	42.1	43.0
Bulk Density	1.44 (g/cc)	----	----	1.37	1.39	1.48	1.48
Void Fraction	0.760	----	----	0.726	0.729	0.798	0.802
Water wt%	55.6	----	----	54.1	52.7	60.2	61.3
TOC wt% C (wet)	7.21E-02	----	----	4.26E-02	6.39E-02	8.01E-02	0.111

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.01	9.58E+04	1.03E+05	4.51	4.91	6.70	7.20
Al^{3+}	1.73	3.24E+04	3.48E+04	1.71	1.72	1.74	1.76
Fe^{3+} (total Fe)	1.37	5.29E+04	5.69E+04	1.25	1.34	1.38	1.40
Cr^{3+}	7.47E-03	269	290	7.36E-03	7.37E-03	7.57E-03	7.58E-03
Bi^{3+}	4.70E-06	0.680	0.732	3.97E-06	4.33E-06	5.07E-06	5.43E-06
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.36E-04	60.6	65.2	4.31E-04	4.34E-04	4.38E-04	4.40E-04
Zr (as $ZrO(OH)_2$)	1.86E-08	1.17E-03	1.26E-03	1.84E-08	1.85E-08	1.86E-08	1.88E-08
Pb^{2+}	2.03E-02	2.92E+03	3.14E+03	1.89E-02	1.96E-02	2.11E-02	2.18E-02
Ni^{2+}	0.387	1.57E+04	1.69E+04	0.302	0.360	0.402	0.411
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.08E-03	41.1	44.2	7.49E-04	9.11E-04	1.25E-03	1.41E-03
Ca^{2+}	0.154	4.29E+03	4.61E+03	0.102	0.102	0.231	0.290
K^{+}	6.25E-03	169	182	5.21E-03	5.77E-03	6.74E-03	7.64E-03
OH^{-}	10.7	1.26E+05	1.36E+05	10.1	10.5	10.8	11.1
$NO3^{-}$	1.12	4.79E+04	5.16E+04	9.87E-02	0.173	1.84	1.13
$NO2^{-}$	0.597	1.90E+04	2.05E+04	0.518	0.575	0.615	0.688
$CO3^{2-}$	0.262	1.09E+04	1.17E+04	0.126	0.203	0.343	0.393
$PO4^{3-}$	1.58E-02	1.04E+03	1.12E+03	1.14E-02	1.18E-02	1.98E-02	2.83E-02
$SO4^{2-}$	4.77E-02	3.17E+03	3.41E+03	4.28E-02	4.33E-02	5.20E-02	5.26E-02
Si (as SiO_x^{2-})	1.74	3.38E+04	3.64E+04	1.11	1.23	2.07	2.39
F^{-}	1.58E-04	2.08	2.23	1.47E-04	1.55E-04	1.58E-04	1.60E-04
Cl^{-}	2.30E-02	565	608	1.82E-02	2.01E-02	2.59E-02	3.78E-02
$C_6H_5O_7^{3-}$	2.65E-03	348	374	1.49E-03	2.27E-03	2.92E-03	4.19E-03
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	3.54E-02	1.84E+03	1.98E+03	1.99E-02	3.03E-02	3.90E-02	5.59E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.06E-06	0.155	0.167	2.31E-08	1.33E-07	1.99E-06	2.12E-06
butanol	1.06E-06	5.46E-02	5.87E-02	2.31E-08	1.33E-07	1.99E-06	2.12E-06
NH_3	0.123	1.45E+03	1.56E+03	0.102	0.117	0.128	0.146
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.24E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	4.37E-03 (kW)	(14.9 BTU/hr)	----	3.74E-03	4.05E-03	4.69E-03	5.00E-03
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.01	1.03	1.03
Water wt%	96.6	----	----	94.8	95.6	97.5	98.4
TOC wt% C (wet)	9.09E-02	----	----	4.16E-02	6.58E-02	0.116	0.139

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.537	1.21E+04	1.50E+03	0.245	0.390	0.685	0.820
Al^{3+}	4.11E-02	1.09E+03	134	1.86E-02	2.96E-02	5.26E-02	6.36E-02
Fe^{3+} (total Fe)	3.15E-04	17.2	2.13	1.74E-04	2.43E-04	3.87E-04	4.56E-04
Cr^{3+}	4.67E-08	2.38E-03	2.94E-04	2.94E-08	3.79E-08	5.56E-08	6.40E-08
Bi^{3+}	2.40E-11	4.91E-06	6.07E-07	2.26E-11	2.33E-11	2.47E-11	2.54E-11
La^{3+}	4.43E-18	6.03E-13	7.45E-14	3.20E-18	3.80E-18	5.05E-18	5.66E-18
Hg^{2+}	4.97E-13	9.77E-08	1.21E-08	4.72E-13	4.84E-13	5.10E-13	5.22E-13
Zr (as $ZrO(OH)_2$)	6.55E-13	5.85E-08	7.24E-09	4.50E-13	5.34E-13	7.54E-13	8.74E-13
Pb^{2+}	7.70E-11	1.56E-05	1.93E-06	5.90E-11	6.78E-11	8.62E-11	9.51E-11
Ni^{2+}	2.83E-04	16.3	2.02	2.55E-04	2.69E-04	2.98E-04	3.12E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.68E-09	1.44E-04	1.79E-05	2.13E-09	2.40E-09	2.96E-09	3.24E-09
Ca^{2+}	1.42E-03	55.6	6.88	7.37E-04	1.13E-03	1.63E-03	1.63E-03
K^{+}	2.12E-03	81.4	10.1	9.61E-04	1.53E-03	2.72E-03	3.29E-03
OH^{-}	0.365	6.08E+03	751	0.166	0.263	0.467	0.564
$NO3^{-}$	0.131	7.96E+03	985	5.93E-02	9.44E-02	0.168	0.203
$NO2^{-}$	8.38E-03	378	46.7	3.79E-03	6.03E-03	1.07E-02	1.30E-02
$CO3^{2-}$	4.24E-02	2.49E+03	308	1.93E-02	3.07E-02	5.39E-02	6.19E-02
$PO4^{3-}$	1.58E-03	147	18.2	7.13E-04	1.14E-03	2.02E-03	2.44E-03
$SO4^{2-}$	6.94E-03	653	80.8	3.14E-03	5.00E-03	8.89E-03	1.07E-02
Si (as SiO_x^{2-})	5.35E-03	147	18.2	2.71E-03	4.00E-03	6.70E-03	7.88E-03
F^{-}	9.83E-10	1.83E-05	2.26E-06	8.50E-10	9.04E-10	1.05E-09	1.12E-09
Cl^{-}	9.77E-03	339	42.0	4.42E-03	7.04E-03	1.25E-02	1.51E-02
$C_6H_5O_7^{3-}$	2.37E-03	438	54.2	1.07E-03	1.70E-03	3.03E-03	3.66E-03
$EDTA^{4-}$	3.66E-12	1.03E-06	1.28E-07	2.51E-12	3.07E-12	4.25E-12	4.83E-12
$HEDTA^{3-}$	3.10E-12	8.32E-07	1.03E-07	8.20E-13	1.93E-12	4.27E-12	5.41E-12
$glycolate^{-}$	3.15E-02	2.32E+03	287	1.43E-02	2.27E-02	4.04E-02	4.88E-02
$acetate^{-}$	1.36E-11	7.85E-07	9.71E-08	1.10E-11	1.23E-11	1.49E-11	1.62E-11
$oxalate^{2-}$	5.80E-18	5.00E-13	6.18E-14	5.14E-18	5.46E-18	6.14E-18	6.46E-18
DBP	4.03E-09	8.31E-04	1.03E-04	3.47E-09	3.75E-09	4.32E-09	4.60E-09
butanol	4.03E-09	2.93E-04	3.62E-05	3.47E-09	3.75E-09	4.32E-09	4.60E-09
NH_3	1.81E-05	0.301	3.72E-02	8.16E-06	1.30E-05	2.32E-05	2.80E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.20E+06 (kg)	(229 kgal)	----	----	----	----	----
Heat Load	40.6 (kW)	(1.39E+05 BTU/hr)	----	32.7	38.1	42.1	43.0
Bulk Density†	1.38 (g/cc)	----	----	1.32	1.34	1.41	1.42
Water wt%†	59.9	----	----	58.3	57.1	64.1	65.1
TOC wt% C (wet)†	7.40E-02	----	----	4.25E-02	6.41E-02	8.16E-02	0.114

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.25	8.72E+04	1.05E+05	3.91	4.28	5.84	6.27
Al^{3+}	1.49	2.91E+04	3.50E+04	1.47	1.48	1.50	1.52
Fe^{3+} (total Fe)	1.17	4.74E+04	5.69E+04	1.07	1.15	1.19	1.20
Cr^{3+}	6.43E-03	242	290	6.33E-03	6.34E-03	6.51E-03	6.52E-03
Bi^{3+}	4.04E-06	0.610	0.732	3.41E-06	3.72E-06	4.36E-06	4.67E-06
La^{3+}	6.19E-19	6.21E-14	7.45E-14	4.47E-19	5.31E-19	7.06E-19	7.91E-19
Hg^{2+}	3.75E-04	54.4	65.2	3.71E-04	3.73E-04	3.77E-04	3.78E-04
Zr (as $ZrO(OH)_2$)	1.60E-08	1.05E-03	1.26E-03	1.58E-08	1.59E-08	1.60E-08	1.62E-08
Pb^{2+}	1.75E-02	2.62E+03	3.14E+03	1.63E-02	1.69E-02	1.81E-02	1.87E-02
Ni^{2+}	0.333	1.41E+04	1.69E+04	0.260	0.309	0.346	0.354
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.28E-04	36.8	44.2	6.45E-04	7.83E-04	1.07E-03	1.21E-03
Ca^{2+}	0.133	3.85E+03	4.62E+03	8.75E-02	8.81E-02	0.199	0.249
K^{+}	5.68E-03	160	192	4.62E-03	5.26E-03	6.09E-03	7.03E-03
OH^{-}	9.25	1.14E+05	1.36E+05	8.68	9.06	9.37	9.59
$NO3^{-}$	0.978	4.38E+04	5.25E+04	0.103	0.167	1.60	0.993
$NO2^{-}$	0.515	1.71E+04	2.05E+04	0.446	0.495	0.530	0.593
$CO3^{2-}$	0.231	1.00E+04	1.20E+04	0.117	0.179	0.303	0.344
$PO4^{3-}$	1.38E-02	949	1.14E+03	1.00E-02	1.04E-02	1.73E-02	2.46E-02
$SO4^{2-}$	4.20E-02	2.91E+03	3.49E+03	3.78E-02	3.82E-02	4.57E-02	4.64E-02
Si (as SiO_x^{2-})	1.50	3.04E+04	3.64E+04	0.958	1.06	1.78	2.05
F^{-}	1.36E-04	1.86	2.23	1.27E-04	1.34E-04	1.36E-04	1.37E-04
Cl^{-}	2.12E-02	542	650	1.63E-02	1.86E-02	2.37E-02	3.39E-02
$C_6H_5O_7^{3-}$	2.61E-03	357	428	1.43E-03	2.19E-03	2.94E-03	4.12E-03
$EDTA^{4-}$	5.12E-13	1.07E-07	1.28E-07	3.51E-13	4.30E-13	5.94E-13	6.75E-13
$HEDTA^{3-}$	4.33E-13	8.58E-08	1.03E-07	1.15E-13	2.70E-13	5.97E-13	7.57E-13
$glycolate^{-}$	3.48E-02	1.89E+03	2.26E+03	1.91E-02	2.93E-02	3.92E-02	5.49E-02
$acetate^{-}$	1.90E-12	8.10E-08	9.71E-08	1.54E-12	1.71E-12	2.08E-12	2.26E-12
$oxalate^{2-}$	8.11E-19	5.16E-14	6.18E-14	7.18E-19	7.63E-19	8.58E-19	9.03E-19
DBP	9.15E-07	0.139	0.167	2.04E-08	1.15E-07	1.71E-06	1.82E-06
butanol	9.15E-07	4.90E-02	5.88E-02	2.04E-08	1.15E-07	1.71E-06	1.82E-06
NH_3	0.106	1.30E+03	1.56E+03	8.76E-02	0.101	0.110	0.125
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.08E+06 (kg)	(197 kgal)	----	----	----	----	----
Heat Load	40.6 (kW)	(1.39E+05 BTU/hr)	----	32.7	38.1	42.1	43.0
Bulk Density	1.44 (g/cc)	----	----	1.37	1.39	1.48	1.48
Void Fraction	0.760	----	----	0.726	0.729	0.798	0.802
Water wt%	55.6	----	----	54.1	52.7	60.2	61.3
TOC wt% C (wet)	7.21E-02	----	----	4.26E-02	6.39E-02	8.01E-02	0.111
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.07E-06	4.90E-03	5.27	3.83E-06	5.43E-06	8.84E-06	1.32E-05
C-14	5.75E-06	3.98E-03	4.28	5.62E-06	5.70E-06	5.78E-06	8.83E-06
Ni-59	1.04E-04	7.24E-02	77.9	9.12E-05	1.00E-04	1.07E-04	1.09E-04
Ni-63	1.03E-02	7.14	7.68E+03	8.99E-03	9.88E-03	1.05E-02	1.07E-02
Co-60	6.17E-06	4.28E-03	4.60	5.88E-06	6.07E-06	6.24E-06	6.55E-06
Se-79	2.48E-05	1.72E-02	18.5	1.43E-06	8.68E-06	4.09E-05	7.02E-05
Sr-90	8.00	5.55E+03	5.97E+06	6.41	7.49	8.29	8.47
Y-90	8.01	5.55E+03	5.97E+06	6.41	7.50	8.29	8.47
Zr-93	1.04E-04	7.21E-02	77.6	6.70E-06	2.34E-05	1.85E-04	3.09E-04
Nb-93m	9.42E-05	6.53E-02	70.2	5.14E-06	3.77E-05	1.51E-04	2.57E-04
Tc-99	4.03E-05	2.80E-02	30.1	3.95E-05	4.01E-05	4.06E-05	4.15E-05
Ru-106	4.27E-07	2.96E-04	0.319	1.93E-07	3.50E-07	5.04E-07	5.78E-07
Cd-113m	7.54E-05	5.22E-02	56.2	2.77E-05	2.82E-05	5.28E-04	9.93E-04
Sb-125	2.47E-05	1.71E-02	18.4	2.29E-05	2.41E-05	2.51E-05	2.70E-05
Sn-126	4.04E-05	2.80E-02	30.1	2.23E-06	1.62E-05	6.46E-05	1.12E-04
I-129	7.80E-08	5.41E-05	5.82E-02	7.64E-08	7.75E-08	7.84E-08	8.03E-08
Cs-134	9.41E-07	6.52E-04	0.702	9.32E-07	9.37E-07	9.46E-07	9.53E-07
Cs-137	0.128	89.0	9.58E+04	0.127	0.128	0.129	0.130
Ba-137m	0.121	84.2	9.06E+04	0.120	0.121	0.122	0.123
Sm-151	9.53E-02	66.0	7.10E+04	5.22E-03	3.88E-02	0.152	0.259
Eu-152	7.60E-05	5.27E-02	56.6	7.59E-05	7.59E-05	7.60E-05	7.61E-05
Eu-154	1.38E-04	9.56E-02	103	1.29E-04	1.33E-04	1.42E-04	3.15E-03
Eu-155	4.66E-03	3.23	3.47E+03	4.65E-03	4.66E-03	4.66E-03	4.66E-03
Ra-226	5.17E-09	3.58E-06	3.85E-03	3.51E-09	3.92E-09	6.41E-09	7.61E-09
Ra-228	4.04E-10	2.80E-07	3.02E-04	4.04E-10	4.04E-10	4.05E-10	4.05E-10
Ac-227	2.55E-08	1.77E-05	1.90E-02	1.83E-08	1.83E-08	3.28E-08	3.97E-08
Pa-231	2.53E-08	1.75E-05	1.89E-02	1.42E-09	9.53E-09	4.10E-08	6.58E-08
Th-229	1.90E-10	1.32E-07	1.42E-04	1.90E-10	1.90E-10	1.90E-10	1.90E-10
Th-232	4.36E-11	3.02E-08	3.25E-05	4.32E-11	4.34E-11	4.39E-11	4.42E-11
U-232	2.57E-08	1.78E-05	1.92E-02	2.31E-08	2.44E-08	2.70E-08	2.83E-08
U-233	9.91E-08	6.87E-05	7.39E-02	8.92E-08	9.40E-08	1.04E-07	1.09E-07
U-234	1.95E-06	1.35E-03	1.46	1.80E-06	1.88E-06	2.01E-06	2.06E-06
U-235	8.33E-08	5.77E-05	6.21E-02	7.67E-08	8.03E-08	8.57E-08	8.77E-08
U-236	3.47E-08	2.41E-05	2.59E-02	3.21E-08	3.35E-08	3.57E-08	3.65E-08
U-238	2.00E-06	1.38E-03	1.49	1.84E-06	1.92E-06	2.05E-06	2.10E-06
Np-237	1.27E-07	8.84E-05	9.50E-02	1.25E-07	1.27E-07	1.28E-07	1.31E-07
Pu-238	7.14E-05	4.95E-02	53.2	4.83E-05	6.28E-05	7.97E-05	8.73E-05
Pu-239	1.46E-03	1.01	1.09E+03	1.05E-03	1.28E-03	1.63E-03	1.80E-03
Pu-240	2.98E-04	0.207	222	2.10E-04	2.62E-04	3.33E-04	3.67E-04
Pu-241	5.02E-03	3.48	3.74E+03	3.39E-03	4.41E-03	5.60E-03	6.14E-03
Pu-242	3.18E-08	2.20E-05	2.37E-02	2.12E-08	2.79E-08	3.54E-08	3.88E-08
Am-241	1.89E-03	1.31	1.41E+03	8.22E-04	1.29E-03	2.50E-03	3.08E-03
Am-243	9.95E-08	6.90E-05	7.42E-02	1.84E-08	5.64E-08	1.37E-07	1.70E-07
Cm-242	2.98E-06	2.06E-03	2.22	2.97E-06	2.98E-06	2.98E-06	2.98E-06
Cm-243	2.74E-07	1.90E-04	0.204	2.73E-07	2.73E-07	2.74E-07	2.74E-07
Cm-244	6.41E-06	4.44E-03	4.78	1.73E-06	4.87E-06	7.95E-06	9.42E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.43E-02 (g/L)	----	18.1	1.74E-02	2.14E-02	2.73E-02	3.02E-02
U	2.51E-02	4.14E+03	4.45E+03	2.31E-02	2.42E-02	2.59E-02	2.65E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.24E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	4.37E-03 (kW)	(14.9 BTU/hr)	----	3.74E-03	4.05E-03	4.69E-03	5.00E-03
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.01	1.03	1.03
Water wt%†	96.6	----	----	94.8	95.6	97.5	98.4
TOC wt% C (wet)	9.09E-02	----	----	4.16E-02	6.58E-02	0.116	0.139
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.89E-06	3.81E-03	0.471	8.03E-07	2.03E-06	6.35E-06	9.19E-06
C-14	2.62E-07	2.57E-04	3.17E-02	1.19E-07	1.89E-07	3.36E-07	3.87E-07
Ni-59	4.43E-08	4.34E-05	5.37E-03	4.24E-08	4.34E-08	4.51E-08	4.57E-08
Ni-63	4.39E-06	4.30E-03	0.532	4.20E-06	4.30E-06	4.47E-06	4.53E-06
Co-60	5.89E-07	5.78E-04	7.14E-02	2.67E-07	4.24E-07	7.55E-07	9.13E-07
Se-79	1.78E-07	1.74E-04	2.15E-02	8.04E-08	1.27E-07	2.28E-07	2.75E-07
Sr-90	5.35E-03	5.24	648	4.58E-03	4.96E-03	5.74E-03	6.12E-03
Y-90	5.35E-03	5.25	648	4.58E-03	4.96E-03	5.75E-03	6.12E-03
Zr-93	7.99E-07	7.83E-04	9.69E-02	3.62E-07	5.48E-07	1.02E-06	1.24E-06
Nb-93m	6.40E-07	6.27E-04	7.75E-02	2.89E-07	4.61E-07	8.20E-07	9.91E-07
Tc-99	1.75E-06	1.72E-03	0.212	7.93E-07	1.26E-06	2.25E-06	2.71E-06
Ru-106	7.87E-10	7.71E-07	9.53E-05	2.29E-10	5.02E-10	1.07E-09	1.34E-09
Cd-113m	2.73E-06	2.67E-03	0.330	1.23E-06	1.96E-06	3.96E-06	4.22E-06
Sb-125	3.61E-06	3.53E-03	0.437	1.63E-06	2.60E-06	4.62E-06	5.58E-06
Sn-126	2.81E-07	2.75E-04	3.40E-02	1.27E-07	2.02E-07	3.59E-07	4.35E-07
I-129	3.41E-09	3.34E-06	4.13E-04	1.54E-09	2.46E-09	4.37E-09	5.28E-09
Cs-134	2.46E-12	2.41E-09	2.98E-07	2.06E-12	2.25E-12	2.66E-12	2.86E-12
Cs-137	3.25E-07	3.18E-04	3.94E-02	2.93E-07	3.08E-07	3.41E-07	3.57E-07
Ba-137m	3.07E-07	3.01E-04	3.72E-02	2.77E-07	2.92E-07	3.23E-07	3.38E-07
Sm-151	6.44E-04	0.631	78.0	2.91E-04	4.64E-04	8.25E-04	9.97E-04
Eu-152	1.61E-07	1.57E-04	1.95E-02	7.27E-08	1.16E-07	2.06E-07	2.49E-07
Eu-154	1.78E-05	1.75E-02	2.16	8.07E-06	1.28E-05	2.28E-05	2.76E-05
Eu-155	9.21E-06	9.02E-03	1.12	4.17E-06	6.63E-06	1.18E-05	1.43E-05
Ra-226	9.76E-12	9.56E-09	1.18E-06	2.84E-12	6.23E-12	1.33E-11	1.34E-11
Ra-228	1.19E-15	1.17E-12	1.44E-10	4.87E-16	8.30E-16	1.61E-15	2.05E-15
Ac-227	5.66E-11	5.55E-08	6.86E-06	1.65E-11	3.62E-11	7.69E-11	6.82E-11
Pa-231	1.58E-10	1.55E-07	1.91E-05	6.74E-11	1.08E-10	2.02E-10	2.44E-10
Th-229	1.28E-14	1.25E-11	1.55E-09	5.80E-15	9.20E-15	1.63E-14	1.97E-14
Th-232	3.51E-16	3.44E-13	4.26E-11	2.77E-16	3.14E-16	3.95E-16	4.42E-16
U-232	4.32E-13	4.23E-10	5.23E-08	2.27E-13	3.27E-13	5.37E-13	6.37E-13
U-233	2.28E-13	2.24E-10	2.77E-08	2.12E-13	2.20E-13	2.37E-13	2.45E-13
U-234	1.41E-09	1.38E-06	1.71E-04	6.38E-10	1.02E-09	1.81E-09	2.18E-09
U-235	5.46E-11	5.35E-08	6.62E-06	2.47E-11	3.93E-11	6.99E-11	8.45E-11
U-236	1.03E-10	1.01E-07	1.24E-05	4.64E-11	7.39E-11	1.31E-10	1.59E-10
U-238	1.09E-09	1.07E-06	1.32E-04	4.92E-10	7.83E-10	1.39E-09	1.68E-09
Np-237	5.60E-09	5.49E-06	6.79E-04	2.53E-09	4.03E-09	7.17E-09	8.67E-09
Pu-238	7.78E-08	7.62E-05	9.42E-03	2.17E-08	4.86E-08	1.08E-07	1.39E-07
Pu-239	1.36E-06	1.34E-03	0.165	3.97E-07	8.70E-07	1.85E-06	2.33E-06
Pu-240	2.96E-07	2.90E-04	3.58E-02	8.46E-08	1.87E-07	4.06E-07	5.15E-07
Pu-241	5.45E-06	5.34E-03	0.661	1.52E-06	3.41E-06	7.59E-06	9.75E-06
Pu-242	3.55E-11	3.48E-08	4.30E-06	9.83E-12	2.21E-11	4.96E-11	6.40E-11
Am-241	4.72E-06	4.63E-03	0.572	1.37E-06	3.01E-06	6.43E-06	7.59E-06
Am-243	3.57E-10	3.50E-07	4.33E-05	9.23E-11	2.14E-10	5.22E-10	6.65E-10
Cm-242	8.54E-09	8.37E-06	1.04E-03	3.87E-09	6.15E-09	1.09E-08	1.32E-08
Cm-243	9.10E-10	8.92E-07	1.10E-04	4.12E-10	6.55E-10	1.17E-09	1.41E-09
Cm-244	1.57E-08	1.54E-05	1.91E-03	4.58E-09	1.00E-08	2.14E-08	2.69E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.33E-05 (g/L)	----	2.82E-03	6.78E-06	1.49E-05	3.17E-05	3.98E-05
U	1.37E-05	3.20	0.395	6.20E-06	9.87E-06	1.76E-05	2.12E-05

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.20E+06 (kg)	(229 kgal)	----	----	----	----	----
Heat Load	40.6 (kW)	(1.39E+05 BTU/hr)	----	32.7	38.1	42.1	43.0
Bulk Density†	1.38 (g/cc)	----	----	1.32	1.34	1.41	1.42
Water wt%†	59.9	----	----	58.3	57.1	64.1	65.1
TOC wt% C (wet)†	7.40E-02	----	----	4.25E-02	6.41E-02	8.16E-02	0.114
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.63E-06	4.79E-03	5.75	3.41E-06	4.95E-06	8.49E-06	1.27E-05
C-14	4.98E-06	3.60E-03	4.32	4.85E-06	4.93E-06	5.02E-06	7.65E-06
Ni-59	8.98E-05	6.49E-02	77.9	7.85E-05	8.62E-05	9.19E-05	9.35E-05
Ni-63	8.86E-03	6.40	7.68E+03	7.73E-03	8.50E-03	9.06E-03	9.22E-03
Co-60	5.39E-06	3.89E-03	4.67	5.09E-06	5.28E-06	5.47E-06	5.76E-06
Se-79	2.14E-05	1.54E-02	18.5	1.26E-06	7.49E-06	3.52E-05	6.04E-05
Sr-90	6.89	4.98E+03	5.97E+06	5.52	6.45	7.13	7.29
Y-90	6.89	4.98E+03	5.97E+06	5.52	6.45	7.14	7.29
Zr-93	8.96E-05	6.48E-02	77.7	5.87E-06	2.03E-05	1.59E-04	2.66E-04
Nb-93m	8.11E-05	5.86E-02	70.3	4.51E-06	3.25E-05	1.30E-04	2.21E-04
Tc-99	3.49E-05	2.53E-02	30.3	3.41E-05	3.46E-05	3.52E-05	3.61E-05
Ru-106	3.68E-07	2.66E-04	0.319	1.66E-07	3.01E-07	4.34E-07	4.97E-07
Cd-113m	6.52E-05	4.71E-02	56.5	2.42E-05	2.46E-05	4.55E-04	8.54E-04
Sb-125	2.17E-05	1.57E-02	18.8	1.99E-05	2.11E-05	2.22E-05	2.40E-05
Sn-126	3.48E-05	2.52E-02	30.2	1.96E-06	1.40E-05	5.56E-05	9.63E-05
I-129	6.76E-08	4.89E-05	5.86E-02	6.59E-08	6.70E-08	6.81E-08	6.98E-08
Cs-134	8.10E-07	5.85E-04	0.702	8.02E-07	8.06E-07	8.14E-07	8.20E-07
Cs-137	0.110	79.8	9.58E+04	0.109	0.110	0.111	0.112
Ba-137m	0.105	75.5	9.06E+04	0.104	0.104	0.105	0.106
Sm-151	8.20E-02	59.3	7.11E+04	4.58E-03	3.35E-02	0.131	0.223
Eu-152	6.54E-05	4.72E-02	56.7	6.53E-05	6.53E-05	6.54E-05	6.55E-05
Eu-154	1.21E-04	8.75E-02	105	1.12E-04	1.17E-04	1.25E-04	2.72E-03
Eu-155	4.01E-03	2.90	3.47E+03	4.00E-03	4.01E-03	4.01E-03	4.01E-03
Ra-226	4.45E-09	3.21E-06	3.85E-03	3.02E-09	3.37E-09	5.52E-09	6.55E-09
Ra-228	3.48E-10	2.51E-07	3.02E-04	3.48E-10	3.48E-10	3.48E-10	3.48E-10
Ac-227	2.20E-08	1.59E-05	1.90E-02	1.58E-08	1.58E-08	2.82E-08	3.42E-08
Pa-231	2.18E-08	1.57E-05	1.89E-02	1.24E-09	8.22E-09	3.53E-08	5.66E-08
Th-229	1.64E-10	1.18E-07	1.42E-04	1.64E-10	1.64E-10	1.64E-10	1.64E-10
Th-232	3.75E-11	2.71E-08	3.25E-05	3.72E-11	3.73E-11	3.77E-11	3.81E-11
U-232	2.21E-08	1.60E-05	1.92E-02	1.99E-08	2.10E-08	2.32E-08	2.43E-08
U-233	8.52E-08	6.16E-05	7.39E-02	7.67E-08	8.09E-08	8.96E-08	9.38E-08
U-234	1.68E-06	1.21E-03	1.46	1.55E-06	1.62E-06	1.73E-06	1.77E-06
U-235	7.16E-08	5.18E-05	6.21E-02	6.60E-08	6.90E-08	7.38E-08	7.55E-08
U-236	2.99E-08	2.16E-05	2.59E-02	2.76E-08	2.88E-08	3.07E-08	3.14E-08
U-238	1.72E-06	1.24E-03	1.49	1.58E-06	1.65E-06	1.77E-06	1.81E-06
Np-237	1.10E-07	7.98E-05	9.57E-02	1.08E-07	1.09E-07	1.11E-07	1.14E-07
Pu-238	6.14E-05	4.44E-02	53.2	4.15E-05	5.40E-05	6.85E-05	7.51E-05
Pu-239	1.25E-03	0.907	1.09E+03	9.06E-04	1.10E-03	1.41E-03	1.55E-03
Pu-240	2.56E-04	0.185	222	1.81E-04	2.26E-04	2.87E-04	3.16E-04
Pu-241	4.32E-03	3.12	3.74E+03	2.92E-03	3.80E-03	4.82E-03	5.28E-03
Pu-242	2.73E-08	1.98E-05	2.37E-02	1.82E-08	2.40E-08	3.05E-08	3.34E-08
Am-241	1.63E-03	1.18	1.41E+03	7.08E-04	1.11E-03	2.15E-03	2.65E-03
Am-243	8.56E-08	6.19E-05	7.42E-02	1.59E-08	4.86E-08	1.18E-07	1.46E-07
Cm-242	2.56E-06	1.85E-03	2.22	2.56E-06	2.56E-06	2.56E-06	2.57E-06
Cm-243	2.35E-07	1.70E-04	0.204	2.35E-07	2.35E-07	2.36E-07	2.36E-07
Cm-244	5.51E-06	3.99E-03	4.78	1.49E-06	4.19E-06	6.84E-06	8.11E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.09E-02 (g/L)	----	18.1	1.50E-02	1.84E-02	2.35E-02	2.60E-02
U	2.16E-02	3.72E+03	4.46E+03	1.99E-02	2.08E-02	2.22E-02	2.28E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.45E+06 (kg)	(275 kgal)	----	----	----	----	----
Heat Load	5.02 (kW)	(1.71E+04 BTU/hr)	----	0.141	3.30	5.79	6.21
Bulk Density	1.39 (g/cc)	----	----	1.32	1.36	1.42	1.44
Void Fraction	0.734	----	----	0.680	0.704	0.776	0.832
Water wt%	61.9	----	----	58.8	60.3	64.0	66.9
TOC wt% C (wet)	0.275	----	----	7.57E-02	0.181	0.367	0.424

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.78	7.88E+04	1.14E+05	3.25	4.11	5.31	5.79
Al^{3+}	1.26	2.44E+04	3.55E+04	1.22	1.24	1.29	1.31
Fe^{3+} (total Fe)	0.434	1.74E+04	2.52E+04	0.361	0.419	0.440	0.443
Cr^{3+}	4.16E-03	155	225	3.37E-03	3.76E-03	4.58E-03	4.98E-03
Bi^{3+}	4.95E-02	7.41E+03	1.08E+04	3.93E-02	4.52E-02	5.26E-02	5.49E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	8.79E-04	126	184	7.63E-04	8.53E-04	8.92E-04	8.99E-04
Zr (as $ZrO(OH)_2$)	1.90E-04	12.4	18.0	1.51E-04	1.69E-04	2.10E-04	2.30E-04
Pb^{2+}	4.38E-02	6.51E+03	9.45E+03	2.52E-02	3.96E-02	4.58E-02	4.71E-02
Ni^{2+}	1.10E-03	46.5	67.5	9.10E-04	1.00E-03	2.13E-03	3.37E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.114	3.26E+03	4.74E+03	7.10E-02	8.96E-02	0.125	0.131
K^{+}	6.44E-03	180	262	5.34E-03	5.87E-03	7.01E-03	7.57E-03
OH^{-}	6.35	7.74E+04	1.12E+05	5.93	6.17	6.49	6.60
$NO3^{-}$	0.890	3.96E+04	5.75E+04	0.753	0.821	0.957	1.02
$NO2^{-}$	0.258	8.50E+03	1.23E+04	0.188	0.220	0.300	0.345
$CO3^{2-}$	0.128	5.53E+03	8.03E+03	8.58E-02	0.104	0.141	0.172
$PO4^{3-}$	0.912	6.21E+04	9.02E+04	0.533	0.752	1.03	1.12
$SO4^{2-}$	4.89E-02	3.37E+03	4.89E+03	4.04E-02	4.45E-02	5.34E-02	5.77E-02
Si (as SiO_x^{2-})	0.308	6.21E+03	9.01E+03	0.179	0.248	0.351	0.392
F^{-}	0.110	1.50E+03	2.18E+03	8.75E-02	9.85E-02	0.122	0.256
Cl^{-}	2.96E-02	752	1.09E+03	2.46E-02	2.70E-02	3.23E-02	3.48E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	9.39E-03	1.94E+03	2.81E+03	2.55E-03	6.14E-03	1.26E-02	1.46E-02
$HEDTA^{3-}$	1.88E-02	3.69E+03	5.36E+03	5.10E-03	1.23E-02	2.52E-02	2.92E-02
$glycolate^{-}$	1.88E-02	1.01E+03	1.47E+03	5.10E-03	1.23E-02	2.52E-02	2.92E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.90E-06	0.286	0.416	5.16E-07	1.24E-06	2.55E-06	2.96E-06
butanol	1.90E-06	0.101	0.147	5.16E-07	1.24E-06	2.55E-06	2.96E-06
NH_3	7.27E-02	886	1.29E+03	6.09E-02	6.67E-02	7.87E-02	8.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.20E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.45E+06 (kg)	(275 kgal)	----	----	----	----	----
Heat Load	5.02 (kW)	(1.71E+04 BTU/hr)	----	0.141	3.30	5.79	6.21
Bulk Density†	1.39 (g/cc)	----	----	1.32	1.36	1.42	1.44
Water wt%†	61.9	----	----	58.8	60.3	64.0	66.9
TOC wt% C (wet)†	0.275	----	----	7.57E-02	0.181	0.367	0.424

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.78	7.88E+04	1.14E+05	3.25	4.11	5.31	5.79
Al^{3+}	1.26	2.44E+04	3.55E+04	1.22	1.24	1.29	1.31
Fe^{3+} (total Fe)	0.434	1.74E+04	2.52E+04	0.361	0.419	0.440	0.443
Cr^{3+}	4.16E-03	155	225	3.37E-03	3.76E-03	4.58E-03	4.98E-03
Bi^{3+}	4.95E-02	7.41E+03	1.08E+04	3.93E-02	4.52E-02	5.26E-02	5.49E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	8.79E-04	126	184	7.63E-04	8.53E-04	8.92E-04	8.99E-04
Zr (as $ZrO(OH)_2$)	1.90E-04	12.4	18.0	1.51E-04	1.69E-04	2.10E-04	2.30E-04
Pb^{2+}	4.38E-02	6.51E+03	9.45E+03	2.52E-02	3.96E-02	4.58E-02	4.71E-02
Ni^{2+}	1.10E-03	46.5	67.5	9.10E-04	1.00E-03	2.13E-03	3.37E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.114	3.26E+03	4.74E+03	7.10E-02	8.96E-02	0.125	0.131
K^{+}	6.44E-03	180	262	5.34E-03	5.87E-03	7.01E-03	7.57E-03
OH^{-}	6.35	7.74E+04	1.12E+05	5.93	6.17	6.49	6.60
$NO3^{-}$	0.890	3.96E+04	5.75E+04	0.753	0.821	0.957	1.02
$NO2^{-}$	0.258	8.50E+03	1.23E+04	0.188	0.220	0.300	0.345
$CO3^{2-}$	0.128	5.53E+03	8.03E+03	8.58E-02	0.104	0.141	0.172
$PO4^{3-}$	0.912	6.21E+04	9.02E+04	0.533	0.752	1.03	1.12
$SO4^{2-}$	4.89E-02	3.37E+03	4.89E+03	4.04E-02	4.45E-02	5.34E-02	5.77E-02
Si (as SiO_x^{2-})	0.308	6.21E+03	9.01E+03	0.179	0.248	0.351	0.392
F^{-}	0.110	1.50E+03	2.18E+03	8.75E-02	9.85E-02	0.122	0.256
Cl^{-}	2.96E-02	752	1.09E+03	2.46E-02	2.70E-02	3.23E-02	3.48E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	9.39E-03	1.94E+03	2.81E+03	2.55E-03	6.14E-03	1.26E-02	1.46E-02
$HEDTA^{3-}$	1.88E-02	3.69E+03	5.36E+03	5.10E-03	1.23E-02	2.52E-02	2.92E-02
$glycolate^{-}$	1.88E-02	1.01E+03	1.47E+03	5.10E-03	1.23E-02	2.52E-02	2.92E-02
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.90E-06	0.286	0.416	5.16E-07	1.24E-06	2.55E-06	2.96E-06
butanol	1.90E-06	0.101	0.147	5.16E-07	1.24E-06	2.55E-06	2.96E-06
NH_3	7.27E-02	886	1.29E+03	6.09E-02	6.67E-02	7.87E-02	8.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.45E+06 (kg)	(275 kgal)	----	----	----	----	----
Heat Load	5.02 (kW)	(1.71E+04 BTU/hr)	----	0.141	3.30	5.79	6.21
Bulk Density	1.39 (g/cc)	----	----	1.32	1.36	1.42	1.44
Void Fraction	0.734	----	----	0.680	0.704	0.776	0.832
Water wt%	61.9	----	----	58.8	60.3	64.0	66.9
TOC wt% C (wet)	0.275	----	----	7.57E-02	0.181	0.367	0.424
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.38E-06	4.57E-03	6.64	7.38E-07	2.77E-06	1.15E-05	1.67E-05
C-14	5.72E-07	4.10E-04	0.595	2.13E-07	4.01E-07	7.39E-07	3.05E-06
Ni-59	4.44E-05	3.18E-02	46.2	4.12E-05	4.27E-05	4.60E-05	4.76E-05
Ni-63	4.37E-03	3.13	4.54E+03	4.05E-03	4.21E-03	4.53E-03	4.68E-03
Co-60	1.02E-06	7.33E-04	1.06	2.96E-07	6.77E-07	1.36E-06	3.57E-06
Se-79	2.47E-05	1.77E-02	25.7	4.79E-06	1.24E-05	3.70E-05	4.88E-05
Sr-90	0.703	504	7.31E+05	1.28E-02	0.459	0.809	0.867
Y-90	0.703	504	7.31E+05	1.28E-02	0.459	0.809	0.868
Zr-93	1.07E-04	7.66E-02	111	1.62E-05	4.55E-05	1.68E-04	2.27E-04
Nb-93m	9.17E-05	6.57E-02	95.4	1.54E-05	4.87E-05	1.35E-04	1.76E-04
Tc-99	3.88E-06	2.78E-03	4.04	1.46E-06	2.73E-06	5.01E-06	5.73E-06
Ru-106	1.91E-07	1.37E-04	0.199	1.46E-07	1.80E-07	2.02E-07	2.13E-07
Cd-113m	2.28E-04	0.163	237	2.57E-06	9.67E-05	5.41E-04	8.94E-04
Sb-125	5.97E-06	4.28E-03	6.22	1.69E-06	3.93E-06	7.97E-06	9.25E-06
Sn-126	3.98E-05	2.85E-02	41.4	8.22E-06	2.13E-05	5.82E-05	7.59E-05
I-129	7.50E-09	5.38E-06	7.80E-03	2.79E-09	5.26E-09	9.70E-09	1.11E-08
Cs-134	7.16E-07	5.13E-04	0.745	1.98E-07	4.70E-07	9.57E-07	1.11E-06
Cs-137	1.99E-02	14.3	2.07E+04	1.06E-02	1.55E-02	2.43E-02	2.71E-02
Ba-137m	1.89E-02	13.5	1.96E+04	1.00E-02	1.46E-02	2.30E-02	2.56E-02
Sm-151	9.25E-02	66.3	9.63E+04	1.95E-02	4.96E-02	0.136	0.177
Eu-152	2.32E-05	1.66E-02	24.1	2.28E-05	2.30E-05	2.34E-05	2.35E-05
Eu-154	5.44E-04	0.390	566	1.20E-05	2.83E-05	1.64E-03	3.52E-03
Eu-155	1.42E-03	1.02	1.48E+03	1.40E-03	1.41E-03	1.44E-03	1.44E-03
Ra-226	2.98E-09	2.14E-06	3.11E-03	2.24E-09	2.60E-09	3.37E-09	3.73E-09
Ra-228	7.24E-09	5.19E-06	7.54E-03	7.13E-09	7.19E-09	7.30E-09	7.35E-09
Ac-227	3.76E-08	2.70E-05	3.92E-02	3.33E-08	3.54E-08	3.98E-08	4.20E-08
Pa-231	5.60E-08	4.01E-05	5.83E-02	3.27E-08	4.37E-08	6.82E-08	8.00E-08
Th-229	3.28E-09	2.35E-06	3.42E-03	3.23E-09	3.26E-09	3.31E-09	3.33E-09
Th-232	3.38E-10	2.42E-07	3.51E-04	1.02E-10	2.20E-10	4.55E-10	5.69E-10
U-232	3.74E-07	2.68E-04	0.389	4.60E-09	2.02E-07	4.54E-07	4.98E-07
U-233	1.45E-06	1.04E-03	1.51	1.73E-08	7.83E-07	1.76E-06	1.93E-06
U-234	1.46E-05	1.05E-02	15.2	1.27E-05	1.37E-05	1.50E-05	1.53E-05
U-235	6.49E-07	4.65E-04	0.675	5.70E-07	6.12E-07	6.66E-07	6.76E-07
U-236	1.40E-07	1.00E-04	0.145	8.16E-08	1.13E-07	1.52E-07	1.59E-07
U-238	1.47E-05	1.05E-02	15.2	1.28E-05	1.38E-05	1.50E-05	1.53E-05
Np-237	1.39E-08	1.00E-05	1.45E-02	6.28E-09	1.03E-08	1.75E-08	1.98E-08
Pu-238	4.31E-05	3.09E-02	44.8	3.12E-05	4.07E-05	4.53E-05	4.74E-05
Pu-239	1.29E-03	0.926	1.34E+03	9.75E-04	1.21E-03	1.37E-03	1.45E-03
Pu-240	2.36E-04	0.169	245	1.77E-04	2.22E-04	2.49E-04	2.62E-04
Pu-241	3.13E-03	2.24	3.26E+03	2.29E-03	2.96E-03	3.29E-03	3.44E-03
Pu-242	1.64E-08	1.17E-05	1.70E-02	1.14E-08	1.54E-08	1.72E-08	1.81E-08
Am-241	1.05E-03	0.751	1.09E+03	6.87E-04	8.64E-04	1.23E-03	1.41E-03
Am-243	5.49E-08	3.93E-05	5.71E-02	4.06E-08	5.04E-08	5.90E-08	6.26E-08
Cm-242	8.79E-07	6.30E-04	0.915	8.65E-07	8.73E-07	8.86E-07	8.90E-07
Cm-243	7.90E-08	5.66E-05	8.22E-02	7.77E-08	7.84E-08	7.96E-08	8.00E-08
Cm-244	3.22E-06	2.31E-03	3.35	2.31E-06	3.00E-06	3.44E-06	3.65E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.19E-02 (g/L)	----	22.8	1.65E-02	2.05E-02	2.32E-02	2.45E-02
U	0.184	3.15E+04	4.57E+04	0.161	0.174	0.189	0.192

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.20E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.45E+06 (kg)	(275 kgal)	----	----	----	----	----
Heat Load	5.02 (kW)	(1.71E+04 BTU/hr)	----	0.141	3.30	5.79	6.21
Bulk Density†	1.39 (g/cc)	----	----	1.32	1.36	1.42	1.44
Water wt%†	61.9	----	----	58.8	60.3	64.0	66.9
TOC wt% C (wet)†	0.275	----	----	7.57E-02	0.181	0.367	0.424
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.38E-06	4.57E-03	6.64	7.38E-07	2.77E-06	1.15E-05	1.67E-05
C-14	5.72E-07	4.10E-04	0.595	2.13E-07	4.01E-07	7.39E-07	3.05E-06
Ni-59	4.44E-05	3.18E-02	46.2	4.12E-05	4.27E-05	4.60E-05	4.76E-05
Ni-63	4.37E-03	3.13	4.54E+03	4.05E-03	4.21E-03	4.53E-03	4.68E-03
Co-60	1.02E-06	7.33E-04	1.06	2.96E-07	6.77E-07	1.36E-06	3.57E-06
Se-79	2.47E-05	1.77E-02	25.7	4.79E-06	1.24E-05	3.70E-05	4.88E-05
Sr-90	0.703	504	7.31E+05	1.28E-02	0.459	0.809	0.867
Y-90	0.703	504	7.31E+05	1.28E-02	0.459	0.809	0.868
Zr-93	1.07E-04	7.66E-02	111	1.62E-05	4.55E-05	1.68E-04	2.27E-04
Nb-93m	9.17E-05	6.57E-02	95.4	1.54E-05	4.87E-05	1.35E-04	1.76E-04
Tc-99	3.88E-06	2.78E-03	4.04	1.46E-06	2.73E-06	5.01E-06	5.73E-06
Ru-106	1.91E-07	1.37E-04	0.199	1.46E-07	1.80E-07	2.02E-07	2.13E-07
Cd-113m	2.28E-04	0.163	237	2.57E-06	9.67E-05	5.41E-04	8.94E-04
Sb-125	5.97E-06	4.28E-03	6.22	1.69E-06	3.93E-06	7.97E-06	9.25E-06
Sn-126	3.98E-05	2.85E-02	41.4	8.22E-06	2.13E-05	5.82E-05	7.59E-05
I-129	7.50E-09	5.38E-06	7.80E-03	2.79E-09	5.26E-09	9.70E-09	1.11E-08
Cs-134	7.16E-07	5.13E-04	0.745	1.98E-07	4.70E-07	9.57E-07	1.11E-06
Cs-137	1.99E-02	14.3	2.07E+04	1.06E-02	1.55E-02	2.43E-02	2.71E-02
Ba-137m	1.89E-02	13.5	1.96E+04	1.00E-02	1.46E-02	2.30E-02	2.56E-02
Sm-151	9.25E-02	66.3	9.63E+04	1.95E-02	4.96E-02	0.136	0.177
Eu-152	2.32E-05	1.66E-02	24.1	2.28E-05	2.30E-05	2.34E-05	2.35E-05
Eu-154	5.44E-04	0.390	566	1.20E-05	2.83E-05	1.64E-03	3.52E-03
Eu-155	1.42E-03	1.02	1.48E+03	1.40E-03	1.41E-03	1.44E-03	1.44E-03
Ra-226	2.98E-09	2.14E-06	3.11E-03	2.24E-09	2.60E-09	3.37E-09	3.73E-09
Ra-228	7.24E-09	5.19E-06	7.54E-03	7.13E-09	7.19E-09	7.30E-09	7.35E-09
Ac-227	3.76E-08	2.70E-05	3.92E-02	3.33E-08	3.54E-08	3.98E-08	4.20E-08
Pa-231	5.60E-08	4.01E-05	5.83E-02	3.27E-08	4.37E-08	6.82E-08	8.00E-08
Th-229	3.28E-09	2.35E-06	3.42E-03	3.23E-09	3.26E-09	3.31E-09	3.33E-09
Th-232	3.37E-10	2.42E-07	3.51E-04	1.02E-10	2.20E-10	4.55E-10	5.69E-10
U-232	3.74E-07	2.68E-04	0.389	4.60E-09	2.02E-07	4.54E-07	4.98E-07
U-233	1.45E-06	1.04E-03	1.51	1.73E-08	7.83E-07	1.76E-06	1.93E-06
U-234	1.46E-05	1.05E-02	15.2	1.27E-05	1.37E-05	1.50E-05	1.53E-05
U-235	6.49E-07	4.65E-04	0.675	5.70E-07	6.12E-07	6.66E-07	6.76E-07
U-236	1.40E-07	1.00E-04	0.145	8.16E-08	1.13E-07	1.52E-07	1.59E-07
U-238	1.47E-05	1.05E-02	15.2	1.28E-05	1.38E-05	1.50E-05	1.53E-05
Np-237	1.39E-08	1.00E-05	1.45E-02	6.28E-09	1.03E-08	1.75E-08	1.98E-08
Pu-238	4.31E-05	3.09E-02	44.8	3.12E-05	4.07E-05	4.53E-05	4.74E-05
Pu-239	1.29E-03	0.926	1.34E+03	9.75E-04	1.21E-03	1.37E-03	1.45E-03
Pu-240	2.36E-04	0.169	245	1.77E-04	2.22E-04	2.49E-04	2.62E-04
Pu-241	3.13E-03	2.24	3.26E+03	2.29E-03	2.96E-03	3.29E-03	3.44E-03
Pu-242	1.64E-08	1.17E-05	1.70E-02	1.14E-08	1.54E-08	1.72E-08	1.81E-08
Am-241	1.05E-03	0.751	1.09E+03	6.87E-04	8.64E-04	1.23E-03	1.41E-03
Am-243	5.49E-08	3.93E-05	5.71E-02	4.06E-08	5.04E-08	5.90E-08	6.26E-08
Cm-242	8.79E-07	6.30E-04	0.915	8.65E-07	8.73E-07	8.86E-07	8.90E-07
Cm-243	7.90E-08	5.66E-05	8.22E-02	7.77E-08	7.84E-08	7.96E-08	8.00E-08
Cm-244	3.22E-06	2.31E-03	3.35	2.31E-06	3.00E-06	3.44E-06	3.65E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.19E-02 (g/L)	----	22.8	1.65E-02	2.05E-02	2.32E-02	2.45E-02
U	0.184	3.15E+04	4.57E+04	0.161	0.174	0.189	0.192

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.80E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	0.446 (kW)	(1.52E+03 BTU/hr)	----	0.441	0.441	0.451	0.452
Bulk Density	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.58
Void Fraction	0.651	----	----	0.604	0.500	0.842	0.858
Water wt%	46.1	----	----	42.1	34.1	68.9	75.8
TOC wt% C (wet)	0.307	----	----	0.297	0.277	0.364	0.380

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.24	1.24E+05	4.73E+04	2.93	3.47	11.6	9.32
Al^{3+}	0.263	4.66E+03	1.77E+03	0.263	0.263	0.263	0.263
Fe^{3+} (total Fe)	0.816	2.99E+04	1.14E+04	0.220	0.768	0.822	0.828
Cr^{3+}	2.69E-03	91.9	35.0	2.15E-03	2.20E-03	3.18E-03	3.25E-03
Bi^{3+}	2.74E-02	3.76E+03	1.43E+03	2.18E-02	2.50E-02	2.91E-02	3.04E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.64E-05	6.12	2.33	3.23E-05	4.05E-05	5.08E-05	5.39E-05
Zr (as $ZrO(OH)_2$)	1.05E-04	6.29	2.39	8.34E-05	9.39E-05	1.16E-04	1.27E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.119	4.60E+03	1.75E+03	0.118	0.119	0.120	0.120
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.308	8.11E+03	3.09E+03	0.178	0.180	0.332	0.354
K^+	7.62E-03	196	74.4	4.93E-03	5.21E-03	1.00E-02	1.03E-02
OH^-	3.69	4.12E+04	1.57E+04	1.90	3.54	3.70	3.72
$NO3^-$	5.53	2.25E+05	8.56E+04	0.469	0.837	9.15	6.76
$NO2^-$	0.572	1.73E+04	6.57E+03	0.446	0.519	0.660	0.675
$CO3^{2-}$	0.340	1.34E+04	5.10E+03	0.179	0.204	0.368	0.385
$PO4^{3-}$	0.550	3.43E+04	1.30E+04	0.339	0.461	0.615	0.663
$SO4^{2-}$	5.01E-02	3.16E+03	1.20E+03	2.60E-02	2.85E-02	7.17E-02	7.46E-02
Si (as SiO_x^{2-})	9.82E-02	1.81E+03	689	5.03E-02	7.46E-02	0.122	0.145
F^-	6.11E-02	762	290	4.85E-02	5.46E-02	6.77E-02	0.142
Cl^-	3.90E-02	908	346	2.28E-02	2.45E-02	5.36E-02	0.113
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	5.29E-06	0.730	0.278	1.15E-07	6.59E-07	9.91E-06	1.05E-05
butanol	5.29E-06	0.257	9.79E-02	1.15E-07	6.59E-07	9.91E-06	1.05E-05
NH_3	7.75E-02	865	329	7.10E-02	7.42E-02	8.08E-02	0.146
$Fe(CN)_6^{4-}$	6.49E-02	1.15E+04	4.39E+03	6.49E-02	6.49E-02	6.49E-02	6.49E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.80E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	0.446 (kW)	(1.52E+03 BTU/hr)	----	0.441	0.441	0.451	0.452
Bulk Density†	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.58
Water wt%†	46.1	----	----	42.1	34.1	68.9	75.8
TOC wt% C (wet)†	0.307	----	----	0.297	0.277	0.364	0.380

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.24	1.24E+05	4.73E+04	2.93	3.47	11.6	9.32
Al^{3+}	0.263	4.66E+03	1.77E+03	0.263	0.263	0.263	0.263
Fe^{3+} (total Fe)	0.816	2.99E+04	1.14E+04	0.220	0.768	0.822	0.828
Cr^{3+}	2.69E-03	91.9	35.0	2.15E-03	2.20E-03	3.18E-03	3.25E-03
Bi^{3+}	2.74E-02	3.76E+03	1.43E+03	2.18E-02	2.50E-02	2.91E-02	3.04E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.64E-05	6.12	2.33	3.23E-05	4.05E-05	5.08E-05	5.39E-05
Zr (as $ZrO(OH)_2$)	1.05E-04	6.29	2.39	8.34E-05	9.39E-05	1.16E-04	1.27E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.119	4.60E+03	1.75E+03	0.118	0.119	0.120	0.120
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.308	8.11E+03	3.09E+03	0.178	0.180	0.332	0.354
K^+	7.62E-03	196	74.4	4.93E-03	5.21E-03	1.00E-02	1.03E-02
OH^-	3.69	4.12E+04	1.57E+04	1.90	3.54	3.70	3.72
$NO3^-$	5.53	2.25E+05	8.56E+04	0.469	0.837	9.15	6.76
$NO2^-$	0.572	1.73E+04	6.57E+03	0.446	0.519	0.660	0.675
$CO3^{2-}$	0.340	1.34E+04	5.10E+03	0.179	0.204	0.368	0.385
$PO4^{3-}$	0.550	3.43E+04	1.30E+04	0.339	0.461	0.615	0.663
$SO4^{2-}$	5.01E-02	3.16E+03	1.20E+03	2.60E-02	2.85E-02	7.17E-02	7.46E-02
Si (as SiO_x^{2-})	9.82E-02	1.81E+03	689	5.03E-02	7.46E-02	0.122	0.145
F^-	6.11E-02	762	290	4.85E-02	5.46E-02	6.77E-02	0.142
Cl^-	3.90E-02	908	346	2.28E-02	2.45E-02	5.36E-02	0.113
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	5.29E-06	0.730	0.278	1.15E-07	6.59E-07	9.91E-06	1.05E-05
butanol	5.29E-06	0.257	9.79E-02	1.15E-07	6.59E-07	9.91E-06	1.05E-05
NH_3	7.75E-02	865	329	7.10E-02	7.42E-02	8.08E-02	0.146
$Fe(CN)_6^{4-}$	6.49E-02	1.15E+04	4.39E+03	6.49E-02	6.49E-02	6.49E-02	6.49E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.80E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	0.446 (kW)	(1.52E+03 BTU/hr)	----	0.441	0.441	0.451	0.452
Bulk Density	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.58
Void Fraction	0.651	----	----	0.604	0.500	0.842	0.858
Water wt%	46.1	----	----	42.1	34.1	68.9	75.8
TOC wt% C (wet)	0.307	----	----	0.297	0.277	0.364	0.380

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.65E-06	1.08E-03	0.412	7.79E-07	8.80E-07	2.52E-06	2.64E-06
C-14	2.71E-07	1.78E-04	6.78E-02	1.54E-07	1.66E-07	3.77E-07	3.91E-07
Ni-59	2.14E-06	1.41E-03	0.535	2.10E-06	2.11E-06	2.17E-06	2.19E-06
Ni-63	1.93E-04	0.127	48.2	1.89E-04	1.90E-04	1.96E-04	1.97E-04
Co-60	5.87E-08	3.86E-05	1.47E-02	3.18E-08	3.46E-08	8.28E-08	8.60E-08
Se-79	5.72E-08	3.76E-05	1.43E-02	3.24E-08	3.50E-08	7.94E-08	8.24E-08
Sr-90	0.148	97.3	3.70E+04	0.146	0.146	0.150	0.150
Y-90	0.148	97.3	3.70E+04	0.146	0.147	0.150	0.150
Zr-93	2.72E-07	1.79E-04	6.80E-02	1.54E-07	1.67E-07	3.77E-07	3.92E-07
Nb-93m	2.30E-07	1.51E-04	5.75E-02	1.31E-07	1.41E-07	3.19E-07	3.31E-07
Tc-99	1.88E-06	1.24E-03	0.470	1.07E-06	1.15E-06	2.61E-06	2.71E-06
Ru-106	2.23E-14	1.47E-11	5.58E-09	1.11E-14	1.23E-14	3.24E-14	3.37E-14
Cd-113m	6.49E-07	4.26E-04	0.162	3.61E-07	3.91E-07	9.07E-07	9.42E-07
Sb-125	5.23E-08	3.44E-05	1.31E-02	2.74E-08	3.00E-08	7.46E-08	7.76E-08
Sn-126	8.60E-08	5.64E-05	2.15E-02	4.86E-08	5.26E-08	1.19E-07	1.24E-07
I-129	3.54E-09	2.33E-06	8.85E-04	2.00E-09	2.17E-09	4.92E-09	5.10E-09
Cs-134	1.35E-08	8.84E-06	3.36E-03	1.33E-08	1.33E-08	1.36E-08	1.36E-08
Cs-137	0.168	110	4.20E+04	0.166	0.166	0.170	0.170
Ba-137m	0.159	105	3.98E+04	0.157	0.157	0.161	0.161
Sm-151	2.14E-04	0.140	53.3	1.21E-04	1.31E-04	2.96E-04	3.07E-04
Eu-152	5.43E-07	3.56E-04	0.136	5.39E-07	5.40E-07	5.46E-07	5.46E-07
Eu-154	1.03E-06	6.79E-04	0.258	5.49E-07	6.00E-07	1.47E-06	1.53E-06
Eu-155	4.12E-05	2.70E-02	10.3	4.09E-05	4.09E-05	4.14E-05	4.14E-05
Ra-226	1.68E-11	1.11E-08	4.21E-06	1.01E-11	1.08E-11	2.70E-11	3.10E-10
Ra-228	2.11E-15	1.39E-12	5.27E-10	2.10E-15	2.10E-15	2.12E-15	2.12E-15
Ac-227	8.58E-11	5.63E-08	2.14E-05	5.12E-11	5.49E-11	1.17E-10	1.42E-09
Pa-231	1.85E-10	1.21E-07	4.62E-05	1.10E-10	1.18E-10	2.52E-10	2.61E-10
Th-229	4.09E-13	2.69E-10	1.02E-07	4.07E-13	4.07E-13	4.12E-13	4.12E-13
Th-232	7.84E-17	5.15E-14	1.96E-11	4.48E-17	4.84E-17	1.08E-16	1.12E-16
U-232	8.39E-11	5.51E-08	2.09E-05	7.86E-11	8.17E-11	8.55E-11	8.67E-11
U-233	5.01E-12	3.29E-09	1.25E-06	4.70E-12	4.88E-12	5.11E-12	5.18E-12
U-234	7.05E-06	4.63E-03	1.76	6.61E-06	6.86E-06	7.19E-06	7.29E-06
U-235	3.17E-07	2.08E-04	7.92E-02	2.97E-07	3.09E-07	3.23E-07	3.28E-07
U-236	4.51E-08	2.96E-05	1.13E-02	4.23E-08	4.39E-08	4.60E-08	4.66E-08
U-238	1.23E-05	8.09E-03	3.08	1.09E-05	1.21E-05	1.25E-05	1.26E-05
Np-237	1.16E-08	7.60E-06	2.89E-03	6.54E-09	7.07E-09	1.61E-08	1.67E-08
Pu-238	3.68E-08	2.41E-05	9.19E-03	2.17E-08	2.27E-08	6.57E-08	3.33E-07
Pu-239	9.39E-06	6.16E-03	2.34	4.65E-06	4.98E-06	1.85E-05	5.45E-05
Pu-240	6.07E-07	3.99E-04	0.152	3.28E-07	3.48E-07	1.14E-06	4.48E-06
Pu-241	7.98E-07	5.24E-04	0.199	5.36E-07	5.64E-07	1.85E-06	1.25E-05
Pu-242	3.19E-12	2.10E-09	7.98E-07	2.01E-12	2.14E-12	7.94E-12	5.57E-11
Am-241	4.62E-07	3.03E-04	0.115	2.36E-07	2.60E-07	6.64E-07	6.92E-07
Am-243	3.17E-12	2.08E-09	7.92E-07	1.59E-12	1.76E-12	4.58E-12	4.77E-12
Cm-242	9.88E-09	6.49E-06	2.47E-03	9.82E-09	9.83E-09	9.94E-09	9.95E-09
Cm-243	2.02E-10	1.33E-07	5.05E-05	2.01E-10	2.01E-10	2.03E-10	2.04E-10
Cm-244	7.46E-11	4.90E-08	1.86E-05	3.73E-11	4.12E-11	1.08E-10	1.13E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.54E-04 (g/L)	----	3.84E-02	7.63E-05	8.17E-05	3.02E-04	8.97E-04
U	8.99E-02	1.40E+04	5.34E+03	8.42E-02	8.75E-02	9.16E-02	9.29E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.80E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	0.446 (kW)	(1.52E+03 BTU/hr)	----	0.441	0.441	0.451	0.452
Bulk Density†	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.58
Water wt%†	46.1	----	----	42.1	34.1	68.9	75.8
TOC wt% C (wet)†	0.307	----	----	0.297	0.277	0.364	0.380

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.65E-06	1.08E-03	0.412	7.79E-07	8.80E-07	2.52E-06	2.64E-06
C-14	2.71E-07	1.78E-04	6.78E-02	1.54E-07	1.66E-07	3.77E-07	3.91E-07
Ni-59	2.14E-06	1.41E-03	0.535	2.10E-06	2.11E-06	2.17E-06	2.19E-06
Ni-63	1.93E-04	0.127	48.2	1.89E-04	1.90E-04	1.96E-04	1.97E-04
Co-60	5.87E-08	3.86E-05	1.47E-02	3.18E-08	3.46E-08	8.28E-08	8.60E-08
Se-79	5.72E-08	3.76E-05	1.43E-02	3.24E-08	3.50E-08	7.94E-08	8.24E-08
Sr-90	0.148	97.3	3.70E+04	0.146	0.146	0.150	0.150
Y-90	0.148	97.3	3.70E+04	0.146	0.147	0.150	0.150
Zr-93	2.72E-07	1.79E-04	6.80E-02	1.54E-07	1.67E-07	3.77E-07	3.92E-07
Nb-93m	2.30E-07	1.51E-04	5.75E-02	1.31E-07	1.41E-07	3.19E-07	3.31E-07
Tc-99	1.88E-06	1.24E-03	0.470	1.07E-06	1.15E-06	2.61E-06	2.71E-06
Ru-106	2.23E-14	1.47E-11	5.58E-09	1.11E-14	1.23E-14	3.24E-14	3.37E-14
Cd-113m	6.49E-07	4.26E-04	0.162	3.61E-07	3.91E-07	9.07E-07	9.42E-07
Sb-125	5.23E-08	3.44E-05	1.31E-02	2.74E-08	3.00E-08	7.46E-08	7.76E-08
Sn-126	8.60E-08	5.64E-05	2.15E-02	4.86E-08	5.26E-08	1.19E-07	1.24E-07
I-129	3.54E-09	2.33E-06	8.85E-04	2.00E-09	2.17E-09	4.92E-09	5.10E-09
Cs-134	1.35E-08	8.84E-06	3.36E-03	1.33E-08	1.33E-08	1.36E-08	1.36E-08
Cs-137	0.168	110	4.20E+04	0.166	0.166	0.170	0.170
Ba-137m	0.159	105	3.98E+04	0.157	0.157	0.161	0.161
Sm-151	2.14E-04	0.140	53.3	1.21E-04	1.31E-04	2.96E-04	3.07E-04
Eu-152	5.43E-07	3.56E-04	0.136	5.39E-07	5.40E-07	5.46E-07	5.46E-07
Eu-154	1.03E-06	6.79E-04	0.258	5.49E-07	6.00E-07	1.47E-06	1.53E-06
Eu-155	4.12E-05	2.70E-02	10.3	4.09E-05	4.09E-05	4.14E-05	4.14E-05
Ra-226	1.68E-11	1.11E-08	4.21E-06	1.01E-11	1.08E-11	2.70E-11	3.10E-10
Ra-228	2.11E-15	1.39E-12	5.27E-10	2.10E-15	2.10E-15	2.12E-15	2.12E-15
Ac-227	8.58E-11	5.63E-08	2.14E-05	5.12E-11	5.49E-11	1.17E-10	1.42E-09
Pa-231	1.85E-10	1.21E-07	4.62E-05	1.10E-10	1.18E-10	2.52E-10	2.61E-10
Th-229	4.09E-13	2.69E-10	1.02E-07	4.07E-13	4.07E-13	4.12E-13	4.12E-13
Th-232	7.84E-17	5.15E-14	1.96E-11	4.48E-17	4.84E-17	1.08E-16	1.12E-16
U-232	8.39E-11	5.51E-08	2.09E-05	7.86E-11	8.17E-11	8.55E-11	8.67E-11
U-233	5.01E-12	3.29E-09	1.25E-06	4.70E-12	4.88E-12	5.11E-12	5.18E-12
U-234	7.05E-06	4.63E-03	1.76	6.61E-06	6.86E-06	7.19E-06	7.29E-06
U-235	3.17E-07	2.08E-04	7.92E-02	2.97E-07	3.09E-07	3.23E-07	3.28E-07
U-236	4.51E-08	2.96E-05	1.13E-02	4.23E-08	4.39E-08	4.60E-08	4.66E-08
U-238	1.23E-05	8.09E-03	3.08	1.09E-05	1.21E-05	1.25E-05	1.26E-05
Np-237	1.16E-08	7.60E-06	2.89E-03	6.54E-09	7.07E-09	1.61E-08	1.67E-08
Pu-238	3.68E-08	2.41E-05	9.19E-03	2.17E-08	2.27E-08	6.57E-08	3.33E-07
Pu-239	9.39E-06	6.16E-03	2.34	4.65E-06	4.98E-06	1.85E-05	5.45E-05
Pu-240	6.07E-07	3.99E-04	0.152	3.28E-07	3.48E-07	1.14E-06	4.48E-06
Pu-241	7.98E-07	5.24E-04	0.199	5.36E-07	5.64E-07	1.85E-06	1.25E-05
Pu-242	3.19E-12	2.10E-09	7.98E-07	2.01E-12	2.14E-12	7.94E-12	5.57E-11
Am-241	4.62E-07	3.03E-04	0.115	2.36E-07	2.60E-07	6.64E-07	6.92E-07
Am-243	3.17E-12	2.08E-09	7.92E-07	1.59E-12	1.76E-12	4.58E-12	4.77E-12
Cm-242	9.88E-09	6.49E-06	2.47E-03	9.82E-09	9.83E-09	9.94E-09	9.95E-09
Cm-243	2.02E-10	1.33E-07	5.05E-05	2.01E-10	2.01E-10	2.03E-10	2.04E-10
Cm-244	7.46E-11	4.90E-08	1.86E-05	3.73E-11	4.12E-11	1.08E-10	1.13E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.54E-04 (g/L)	----	3.84E-02	7.63E-05	8.17E-05	3.02E-04	8.97E-04
U	8.99E-02	1.40E+04	5.34E+03	8.42E-02	8.75E-02	9.16E-02	9.29E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.20E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	3.06 (kW)	(1.05E+04 BTU/hr)	----	2.94	3.01	3.11	3.16
Bulk Density	1.36 (g/cc)	----	----	1.35	1.36	1.37	1.57
Void Fraction	0.862	----	----	0.677	0.851	0.873	0.883
Water wt%	64.3	----	----	45.6	64.0	64.8	65.3
TOC wt% C (wet)	1.54	----	----	1.33	1.52	1.55	1.57

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.54	5.97E+04	1.91E+04	3.22	3.40	3.64	7.85
Al^{3+}	9.65E-02	1.91E+03	611	9.65E-02	9.65E-02	9.65E-02	9.65E-02
Fe^{3+} (total Fe)	0.956	3.92E+04	1.25E+04	0.948	0.952	0.960	0.964
Cr^{3+}	1.53E-03	58.3	18.6	1.37E-03	1.44E-03	1.61E-03	1.69E-03
Bi^{3+}	1.01E-02	1.54E+03	493	7.99E-03	9.19E-03	1.07E-02	1.12E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.70E-05	2.51	0.802	1.19E-05	1.49E-05	1.86E-05	1.98E-05
Zr (as $ZrO(OH)_2$)	3.86E-05	2.58	0.825	3.06E-05	3.45E-05	4.27E-05	4.67E-05
Pb^{2+}	1.71E-02	2.60E+03	832	1.03E-02	1.37E-02	2.06E-02	2.39E-02
Ni^{2+}	0.494	2.13E+04	6.81E+03	0.490	0.492	0.496	0.499
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.589	1.73E+04	5.54E+03	0.410	0.498	0.681	0.769
K^+	1.70E-02	488	156	1.48E-02	1.62E-02	1.78E-02	1.85E-02
OH^-	3.11	3.88E+04	1.24E+04	3.08	3.09	3.12	3.13
$NO3^-$	0.177	8.05E+03	2.57E+03	0.149	0.163	0.190	5.09
$NO2^-$	1.78	6.01E+04	1.92E+04	1.28	1.75	1.81	1.83
$CO3^{2-}$	0.590	2.60E+04	8.31E+03	0.411	0.499	0.682	0.770
$PO4^{3-}$	0.271	1.89E+04	6.03E+03	0.193	0.238	0.295	0.418
$SO4^{2-}$	2.51E-02	1.77E+03	566	2.22E-02	2.42E-02	2.60E-02	2.69E-02
Si (as SiO_x^{2-})	3.61E-02	743	238	1.85E-02	2.74E-02	4.48E-02	5.31E-02
F^-	2.24E-02	313	99.9	1.78E-02	2.00E-02	2.48E-02	5.21E-02
Cl^-	4.48E-02	1.16E+03	372	3.49E-02	4.42E-02	4.54E-02	4.59E-02
$C_6H_5O_7^{3-}$	3.72E-03	517	165	3.03E-03	3.37E-03	4.08E-03	4.42E-03
$EDTA^{4-}$	7.45E-03	1.57E+03	503	6.05E-03	6.73E-03	8.16E-03	8.84E-03
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	4.75E-02	2.06E+03	657	3.86E-02	4.29E-02	5.20E-02	5.64E-02
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.211	2.63E+03	841	0.193	0.205	0.216	0.485
$Fe(CN)_6^{4-}$	0.259	5.15E+04	1.65E+04	0.259	0.259	0.259	0.259

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+04 (kg)	(4.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.35E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	3.06 (kW)	(1.05E+04 BTU/hr)	----	2.94	3.01	3.11	3.16
Bulk Density†	1.34 (g/cc)	----	----	1.33	1.33	1.35	1.54
Water wt%†	66.0	----	----	47.7	65.6	66.4	66.9
TOC wt% C (wet)†	1.47	----	----	1.28	1.45	1.48	1.50

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.32	5.69E+04	1.91E+04	3.03	3.19	3.42	7.37
Al^{3+}	9.07E-02	1.82E+03	611	9.07E-02	9.07E-02	9.07E-02	9.07E-02
Fe^{3+} (total Fe)	0.898	3.74E+04	1.25E+04	0.890	0.894	0.902	0.906
Cr^{3+}	1.43E-03	55.7	18.6	1.28E-03	1.36E-03	1.51E-03	1.59E-03
Bi^{3+}	9.45E-03	1.47E+03	493	7.50E-03	8.63E-03	1.00E-02	1.05E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.60E-05	2.40	0.802	1.11E-05	1.40E-05	1.75E-05	1.86E-05
Zr (as $ZrO(OH)_2$)	3.62E-05	2.46	0.825	2.88E-05	3.24E-05	4.01E-05	4.39E-05
Pb^{2+}	1.61E-02	2.48E+03	832	9.71E-03	1.28E-02	1.93E-02	2.24E-02
Ni^{2+}	0.464	2.03E+04	6.81E+03	0.460	0.462	0.466	0.468
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.554	1.66E+04	5.54E+03	0.385	0.468	0.640	0.722
K^+	1.60E-02	466	156	1.39E-02	1.52E-02	1.67E-02	1.74E-02
OH^-	2.92	3.70E+04	1.24E+04	2.89	2.91	2.93	2.94
$NO3^-$	0.166	7.68E+03	2.57E+03	0.140	0.153	0.179	4.78
$NO2^-$	1.67	5.74E+04	1.92E+04	1.20	1.65	1.70	1.72
$CO3^{2-}$	0.554	2.48E+04	8.31E+03	0.386	0.468	0.640	0.723
$PO4^{3-}$	0.254	1.80E+04	6.03E+03	0.182	0.224	0.277	0.393
$SO4^{2-}$	2.36E-02	1.69E+03	566	2.08E-02	2.28E-02	2.45E-02	2.53E-02
Si (as SiO_x^{2-})	3.39E-02	710	238	1.74E-02	2.57E-02	4.21E-02	4.99E-02
F^-	2.10E-02	298	99.9	1.67E-02	1.88E-02	2.33E-02	4.90E-02
Cl^-	4.21E-02	1.11E+03	372	3.28E-02	4.15E-02	4.26E-02	4.31E-02
$C_6H_5O_7^{3-}$	3.50E-03	493	165	2.84E-03	3.16E-03	3.83E-03	4.15E-03
$EDTA^{4-}$	6.99E-03	1.50E+03	503	5.68E-03	6.33E-03	7.66E-03	8.30E-03
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	4.46E-02	1.96E+03	657	3.62E-02	4.03E-02	4.88E-02	5.29E-02
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.198	2.51E+03	841	0.181	0.193	0.203	0.456
$Fe(CN)_6^{4-}$	0.243	4.92E+04	1.65E+04	0.243	0.243	0.243	0.243

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.20E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	3.06 (kW)	(1.05E+04 BTU/hr)	----	2.94	3.01	3.11	3.16
Bulk Density	1.36 (g/cc)	----	----	1.35	1.36	1.37	1.57
Void Fraction	0.862	----	----	0.677	0.851	0.873	0.883
Water wt%	64.3	----	----	45.6	64.0	64.8	65.3
TOC wt% C (wet)	1.54	----	----	1.33	1.52	1.55	1.57

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.59E-06	1.90E-03	0.608	1.84E-06	2.55E-06	2.63E-06	2.67E-06
C-14	4.99E-07	3.67E-04	0.117	3.73E-07	4.92E-07	5.07E-07	5.14E-07
Ni-59	2.10E-05	1.54E-02	4.93	1.86E-05	1.99E-05	2.20E-05	2.31E-05
Ni-63	1.99E-03	1.46	468	1.76E-03	1.89E-03	2.09E-03	2.20E-03
Co-60	1.41E-07	1.03E-04	3.30E-02	1.12E-07	1.37E-07	1.44E-07	3.48E-07
Se-79	2.46E-07	1.80E-04	5.76E-02	1.58E-07	1.90E-07	8.82E-06	2.07E-05
Sr-90	1.49	1.09E+03	3.49E+05	1.41	1.46	1.52	1.55
Y-90	1.49	1.09E+03	3.50E+05	1.41	1.46	1.52	1.55
Zr-93	1.12E-06	8.20E-04	0.262	7.32E-07	8.36E-07	3.53E-05	9.49E-05
Nb-93m	9.42E-07	6.91E-04	0.221	6.00E-07	7.46E-07	3.42E-05	7.59E-05
Tc-99	3.47E-06	2.55E-03	0.814	2.59E-06	3.42E-06	3.52E-06	3.57E-06
Ru-106	2.81E-10	2.06E-07	6.60E-05	2.18E-10	2.49E-10	2.06E-09	2.14E-08
Cd-113m	2.81E-06	2.06E-03	0.659	2.04E-06	2.42E-06	4.19E-06	3.12E-04
Sb-125	2.33E-07	1.71E-04	5.47E-02	2.06E-07	2.20E-07	2.46E-07	2.59E-07
Sn-126	3.83E-07	2.81E-04	8.98E-02	2.43E-07	2.99E-07	1.47E-05	3.25E-05
I-129	6.55E-09	4.80E-06	1.54E-03	4.89E-09	6.45E-09	6.64E-09	6.74E-09
Cs-134	5.25E-08	3.85E-05	1.23E-02	5.24E-08	5.24E-08	5.25E-08	5.25E-08
Cs-137	0.643	472	1.51E+05	0.642	0.642	0.643	0.643
Ba-137m	0.608	446	1.43E+05	0.608	0.608	0.608	0.608
Sm-151	9.19E-04	0.674	216	5.95E-04	7.22E-04	3.46E-02	7.63E-02
Eu-152	1.08E-05	7.90E-03	2.52	1.07E-05	1.07E-05	1.08E-05	1.08E-05
Eu-154	7.52E-06	5.52E-03	1.76	2.60E-06	4.25E-06	1.08E-05	3.29E-04
Eu-155	7.12E-04	0.523	167	7.11E-04	7.12E-04	7.13E-04	7.13E-04
Ra-226	1.12E-09	8.25E-07	2.64E-04	3.70E-10	7.39E-10	1.51E-09	2.24E-09
Ra-228	1.02E-14	7.48E-12	2.39E-09	1.02E-14	1.02E-14	1.02E-14	1.02E-14
Ac-227	5.51E-09	4.04E-06	1.29E-03	1.13E-09	3.27E-09	7.74E-09	1.05E-08
Pa-231	4.47E-10	3.28E-07	1.05E-04	3.46E-10	3.91E-10	8.78E-09	2.07E-08
Th-229	1.90E-12	1.39E-09	4.45E-07	1.90E-12	1.90E-12	1.90E-12	1.90E-12
Th-232	1.41E-16	1.04E-13	3.31E-11	1.05E-16	1.39E-16	1.43E-16	1.45E-16
U-232	3.20E-11	2.35E-08	7.50E-06	3.01E-11	3.12E-11	3.26E-11	3.30E-11
U-233	1.90E-12	1.39E-09	4.45E-07	1.78E-12	1.85E-12	1.93E-12	1.96E-12
U-234	2.65E-06	1.95E-03	0.622	2.49E-06	2.58E-06	2.70E-06	2.74E-06
U-235	1.19E-07	8.75E-05	2.80E-02	1.12E-07	1.16E-07	1.21E-07	1.23E-07
U-236	1.71E-08	1.26E-05	4.01E-03	1.61E-08	1.67E-08	1.74E-08	1.77E-08
U-238	2.33E-05	1.71E-02	5.48	1.75E-05	2.30E-05	2.37E-05	2.40E-05
Np-237	2.07E-08	1.52E-05	4.85E-03	1.52E-08	2.03E-08	2.10E-08	2.13E-08
Pu-238	1.00E-05	7.37E-03	2.36	7.61E-06	8.80E-06	1.13E-05	1.24E-05
Pu-239	4.29E-04	0.315	101	3.22E-04	3.74E-04	4.84E-04	6.00E-04
Pu-240	7.00E-05	5.14E-02	16.4	5.26E-05	6.11E-05	7.89E-05	8.73E-05
Pu-241	7.24E-04	0.531	170	5.48E-04	6.34E-04	8.13E-04	8.97E-04
Pu-242	3.56E-09	2.61E-06	8.35E-04	2.71E-09	3.13E-09	3.99E-09	4.39E-09
Am-241	1.44E-04	0.105	33.7	3.40E-06	4.21E-06	3.30E-04	5.09E-04
Am-243	3.43E-09	2.52E-06	8.05E-04	8.19E-11	9.38E-11	7.39E-09	1.09E-08
Cm-242	2.49E-07	1.83E-04	5.85E-02	2.49E-07	2.49E-07	2.49E-07	2.50E-07
Cm-243	1.30E-08	9.54E-06	3.05E-03	1.30E-08	1.30E-08	1.30E-08	1.30E-08
Cm-244	6.26E-09	4.60E-06	1.47E-03	5.00E-09	5.62E-09	9.17E-08	4.78E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.22E-03 (g/L)	----	1.69	5.42E-03	6.30E-03	8.13E-03	1.00E-02
U	3.38E-02	5.90E+03	1.89E+03	3.17E-02	3.29E-02	3.44E-02	3.49E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+04 (kg)	(4.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.35E+05 (kg)	(66.0 kgal)	----	----	----	----	----
Heat Load	3.06 (kW)	(1.05E+04 BTU/hr)	----	2.94	3.01	3.11	3.16
Bulk Density†	1.34 (g/cc)	----	----	1.33	1.33	1.35	1.54
Water wt%†	66.0	----	----	47.7	65.6	66.4	66.9
TOC wt% C (wet)†	1.47	----	----	1.28	1.45	1.48	1.50

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.43E-06	1.82E-03	0.608	1.73E-06	2.40E-06	2.47E-06	2.51E-06
C-14	4.69E-07	3.50E-04	0.117	3.50E-07	4.62E-07	4.76E-07	4.83E-07
Ni-59	1.97E-05	1.47E-02	4.93	1.75E-05	1.87E-05	2.07E-05	2.17E-05
Ni-63	1.87E-03	1.40	468	1.65E-03	1.77E-03	1.97E-03	2.06E-03
Co-60	1.32E-07	9.86E-05	3.30E-02	1.05E-07	1.29E-07	1.35E-07	3.27E-07
Se-79	2.31E-07	1.72E-04	5.76E-02	1.49E-07	1.78E-07	8.29E-06	1.95E-05
Sr-90	1.40	1.04E+03	3.49E+05	1.33	1.37	1.43	1.46
Y-90	1.40	1.04E+03	3.50E+05	1.33	1.37	1.43	1.46
Zr-93	1.05E-06	7.83E-04	0.262	6.87E-07	7.86E-07	3.31E-05	8.91E-05
Nb-93m	8.85E-07	6.60E-04	0.221	5.64E-07	7.01E-07	3.21E-05	7.13E-05
Tc-99	3.26E-06	2.43E-03	0.814	2.43E-06	3.21E-06	3.31E-06	3.35E-06
Ru-106	2.64E-10	1.97E-07	6.60E-05	2.04E-10	2.34E-10	1.93E-09	2.01E-08
Cd-113m	2.64E-06	1.97E-03	0.659	1.92E-06	2.27E-06	3.93E-06	2.93E-04
Sb-125	2.19E-07	1.63E-04	5.47E-02	1.94E-07	2.07E-07	2.31E-07	2.43E-07
Sn-126	3.60E-07	2.68E-04	8.98E-02	2.28E-07	2.81E-07	1.38E-05	3.05E-05
I-129	6.15E-09	4.59E-06	1.54E-03	4.59E-09	6.06E-09	6.24E-09	6.33E-09
Cs-134	4.93E-08	3.68E-05	1.23E-02	4.93E-08	4.93E-08	4.93E-08	4.93E-08
Cs-137	0.603	450	1.51E+05	0.603	0.603	0.604	0.604
Ba-137m	0.571	426	1.43E+05	0.571	0.571	0.571	0.571
Sm-151	8.63E-04	0.644	216	5.59E-04	6.79E-04	3.25E-02	7.17E-02
Eu-152	1.01E-05	7.54E-03	2.52	1.01E-05	1.01E-05	1.01E-05	1.01E-05
Eu-154	7.06E-06	5.27E-03	1.76	2.44E-06	3.99E-06	1.01E-05	3.09E-04
Eu-155	6.69E-04	0.499	167	6.68E-04	6.68E-04	6.70E-04	6.70E-04
Ra-226	1.06E-09	7.88E-07	2.64E-04	3.47E-10	6.94E-10	1.42E-09	2.10E-09
Ra-228	9.58E-15	7.14E-12	2.39E-09	9.56E-15	9.57E-15	9.58E-15	9.59E-15
Ac-227	5.17E-09	3.86E-06	1.29E-03	1.06E-09	3.07E-09	7.27E-09	9.90E-09
Pa-231	4.19E-10	3.13E-07	1.05E-04	3.25E-10	3.67E-10	8.25E-09	1.94E-08
Th-229	1.78E-12	1.33E-09	4.45E-07	1.78E-12	1.78E-12	1.78E-12	1.78E-12
Th-232	1.33E-16	9.89E-14	3.31E-11	9.87E-17	1.31E-16	1.35E-16	1.36E-16
U-232	3.00E-11	2.24E-08	7.50E-06	2.82E-11	2.93E-11	3.06E-11	3.10E-11
U-233	1.78E-12	1.33E-09	4.45E-07	1.67E-12	1.74E-12	1.82E-12	1.84E-12
U-234	2.49E-06	1.86E-03	0.622	2.34E-06	2.43E-06	2.54E-06	2.57E-06
U-235	1.12E-07	8.35E-05	2.80E-02	1.05E-07	1.09E-07	1.14E-07	1.16E-07
U-236	1.61E-08	1.20E-05	4.01E-03	1.51E-08	1.57E-08	1.64E-08	1.66E-08
U-238	2.19E-05	1.64E-02	5.48	1.65E-05	2.16E-05	2.22E-05	2.26E-05
Np-237	1.94E-08	1.45E-05	4.85E-03	1.43E-08	1.91E-08	1.97E-08	2.00E-08
Pu-238	9.43E-06	7.03E-03	2.36	7.14E-06	8.27E-06	1.06E-05	1.17E-05
Pu-239	4.03E-04	0.301	101	3.02E-04	3.52E-04	4.54E-04	5.64E-04
Pu-240	6.57E-05	4.90E-02	16.4	4.94E-05	5.74E-05	7.41E-05	8.20E-05
Pu-241	6.80E-04	0.507	170	5.15E-04	5.96E-04	7.63E-04	8.43E-04
Pu-242	3.34E-09	2.49E-06	8.35E-04	2.55E-09	2.94E-09	3.74E-09	4.12E-09
Am-241	1.35E-04	0.101	33.7	3.19E-06	3.95E-06	3.10E-04	4.78E-04
Am-243	3.22E-09	2.40E-06	8.05E-04	7.69E-11	8.81E-11	6.94E-09	1.02E-08
Cm-242	2.34E-07	1.75E-04	5.85E-02	2.34E-07	2.34E-07	2.34E-07	2.34E-07
Cm-243	1.22E-08	9.11E-06	3.05E-03	1.22E-08	1.22E-08	1.22E-08	1.22E-08
Cm-244	5.88E-09	4.39E-06	1.47E-03	4.69E-09	5.28E-09	8.61E-08	4.49E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.78E-03 (g/L)	----	1.69	5.09E-03	5.91E-03	7.64E-03	9.42E-03
U	3.17E-02	5.63E+03	1.89E+03	2.98E-02	3.09E-02	3.23E-02	3.28E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.77E+05 (kg)	(187 kgal)	----	----	----	----	----
Heat Load	6.47E-02 (kW)	(221 BTU/hr)	----	5.14E-02	5.79E-02	7.17E-02	7.85E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.23	8.70E+04	8.50E+04	3.30	4.38	5.89	6.50
Al^{3+}	0.599	1.17E+04	1.14E+04	0.599	0.599	0.599	0.599
Fe^{3+} (total Fe)	0.352	1.43E+04	1.39E+04	0.346	0.349	0.355	0.358
Cr^{3+}	4.86E-03	183	179	3.86E-03	4.34E-03	5.38E-03	5.89E-03
Bi^{3+}	6.24E-02	9.44E+03	9.23E+03	4.95E-02	5.70E-02	6.63E-02	6.92E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.06E-04	15.4	15.0	7.36E-05	9.22E-05	1.16E-04	1.23E-04
Zr (as $ZrO(OH)_2$)	2.39E-04	15.8	15.4	1.90E-04	2.14E-04	2.65E-04	2.90E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.20E-03	50.8	49.7	9.50E-04	1.07E-03	2.11E-03	3.41E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.62E-02	2.21E+03	2.16E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
K^+	6.72E-03	190	186	5.34E-03	6.01E-03	7.45E-03	8.15E-03
OH^-	4.06	5.00E+04	4.89E+04	3.97	4.03	4.10	4.12
$NO3^-$	1.04	4.65E+04	4.54E+04	0.862	0.948	1.12	1.20
$NO2^-$	0.236	7.86E+03	7.68E+03	0.148	0.188	0.289	0.346
$CO3^{2-}$	7.62E-02	3.31E+03	3.24E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
$PO4^{3-}$	1.15	7.92E+04	7.74E+04	0.672	0.949	1.30	1.41
$SO4^{2-}$	5.20E-02	3.62E+03	3.54E+03	4.13E-02	4.65E-02	5.76E-02	6.30E-02
Si (as SiO_x^{2-})	0.224	4.55E+03	4.45E+03	0.115	0.170	0.278	0.330
F^-	0.139	1.91E+03	1.87E+03	0.110	0.124	0.154	0.323
Cl^-	3.09E-02	794	776	2.46E-02	2.77E-02	3.43E-02	3.75E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.94E-02	978	955	6.45E-02	7.18E-02	8.70E-02	9.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(7.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.77E+05 (kg)	(187 kgal)	----	----	----	----	----
Heat Load	6.47E-02 (kW)	(221 BTU/hr)	----	5.14E-02	5.79E-02	7.17E-02	7.85E-02
Bulk Density†	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Water wt%†	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.23	8.70E+04	8.50E+04	3.30	4.38	5.89	6.50
Al^{3+}	0.599	1.17E+04	1.14E+04	0.599	0.599	0.599	0.599
Fe^{3+} (total Fe)	0.352	1.43E+04	1.39E+04	0.346	0.349	0.355	0.358
Cr^{3+}	4.86E-03	183	179	3.86E-03	4.34E-03	5.38E-03	5.89E-03
Bi^{3+}	6.24E-02	9.44E+03	9.23E+03	4.95E-02	5.70E-02	6.63E-02	6.92E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.06E-04	15.4	15.0	7.36E-05	9.22E-05	1.16E-04	1.23E-04
Zr (as $ZrO(OH)_2$)	2.39E-04	15.8	15.4	1.90E-04	2.14E-04	2.65E-04	2.90E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.20E-03	50.8	49.7	9.50E-04	1.07E-03	2.11E-03	3.41E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.62E-02	2.21E+03	2.16E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
K^+	6.72E-03	190	186	5.34E-03	6.01E-03	7.45E-03	8.15E-03
OH^-	4.06	5.00E+04	4.89E+04	3.97	4.03	4.10	4.12
$NO3^-$	1.04	4.65E+04	4.54E+04	0.862	0.948	1.12	1.20
$NO2^-$	0.236	7.86E+03	7.68E+03	0.148	0.188	0.289	0.346
$CO3^{2-}$	7.62E-02	3.31E+03	3.24E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
$PO4^{3-}$	1.15	7.92E+04	7.74E+04	0.672	0.949	1.30	1.41
$SO4^{2-}$	5.20E-02	3.62E+03	3.54E+03	4.13E-02	4.65E-02	5.76E-02	6.30E-02
Si (as SiO_x^{2-})	0.224	4.55E+03	4.45E+03	0.115	0.170	0.278	0.330
F^-	0.139	1.91E+03	1.87E+03	0.110	0.124	0.154	0.323
Cl^-	3.09E-02	794	776	2.46E-02	2.77E-02	3.43E-02	3.75E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.94E-02	978	955	6.45E-02	7.18E-02	8.70E-02	9.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.77E+05 (kg)	(187 kgal)	----	----	----	----	----
Heat Load	6.47E-02 (kW)	(221 BTU/hr)	----	5.14E-02	5.79E-02	7.17E-02	7.85E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.39E-07	2.45E-04	0.240	1.99E-07	2.62E-07	4.27E-07	5.20E-07
C-14	8.66E-08	6.27E-05	6.13E-02	6.88E-08	7.75E-08	9.60E-08	1.05E-07
Ni-59	2.47E-08	1.79E-05	1.75E-02	1.96E-08	2.21E-08	4.37E-08	7.05E-08
Ni-63	2.17E-06	1.57E-03	1.53	1.72E-06	1.94E-06	3.83E-06	6.19E-06
Co-60	1.21E-08	8.75E-06	8.55E-03	9.59E-09	1.08E-08	1.34E-08	1.46E-08
Se-79	1.82E-08	1.32E-05	1.29E-02	1.45E-08	1.63E-08	2.02E-08	2.21E-08
Sr-90	7.61E-03	5.51	5.39E+03	6.04E-03	6.80E-03	8.43E-03	9.22E-03
Y-90	7.61E-03	5.51	5.39E+03	6.04E-03	6.81E-03	8.44E-03	9.23E-03
Zr-93	8.69E-08	6.29E-05	6.15E-02	6.90E-08	7.77E-08	9.63E-08	1.05E-07
Nb-93m	7.49E-08	5.42E-05	5.30E-02	5.95E-08	6.69E-08	8.30E-08	9.07E-08
Tc-99	5.99E-07	4.34E-04	0.424	4.76E-07	5.36E-07	6.64E-07	7.26E-07
Ru-106	2.85E-16	2.06E-13	2.01E-10	2.26E-16	2.55E-16	3.15E-16	3.45E-16
Cd-113m	1.77E-07	1.28E-04	0.125	1.40E-07	1.58E-07	1.96E-07	2.14E-07
Sb-125	6.52E-09	4.72E-06	4.61E-03	5.18E-09	5.83E-09	7.22E-09	7.90E-09
Sn-126	2.71E-08	1.96E-05	1.92E-02	2.15E-08	2.42E-08	3.00E-08	3.28E-08
I-129	1.12E-09	8.08E-07	7.90E-04	8.86E-10	9.98E-10	1.24E-09	1.35E-09
Cs-134	1.03E-10	7.49E-08	7.32E-05	8.22E-11	9.25E-11	1.15E-10	1.25E-10
Cs-137	8.58E-03	6.21	6.07E+03	6.81E-03	7.67E-03	9.51E-03	1.04E-02
Ba-137m	8.11E-03	5.88	5.74E+03	6.44E-03	7.26E-03	8.99E-03	9.84E-03
Sm-151	6.89E-05	4.99E-02	48.8	5.47E-05	6.16E-05	7.64E-05	8.35E-05
Eu-152	8.46E-09	6.13E-06	5.99E-03	8.30E-09	8.37E-09	8.54E-09	8.62E-09
Eu-154	1.62E-07	1.18E-04	0.115	1.29E-07	1.45E-07	1.80E-07	1.97E-07
Eu-155	1.28E-06	9.26E-04	0.905	1.25E-06	1.27E-06	1.29E-06	1.30E-06
Ra-226	7.78E-12	5.63E-09	5.50E-06	6.18E-12	6.95E-12	8.62E-12	9.43E-12
Ra-228	1.15E-16	8.34E-14	8.15E-11	1.13E-16	1.14E-16	1.16E-16	1.17E-16
Ac-227	3.92E-11	2.84E-08	2.77E-05	3.11E-11	3.50E-11	4.34E-11	4.75E-11
Pa-231	8.16E-11	5.91E-08	5.78E-05	6.48E-11	7.30E-11	9.05E-11	9.89E-11
Th-229	2.22E-14	1.61E-11	1.57E-08	2.18E-14	2.20E-14	2.24E-14	2.26E-14
Th-232	2.69E-17	1.95E-14	1.91E-11	2.14E-17	2.41E-17	2.98E-17	3.26E-17
U-232	1.89E-10	1.37E-07	1.34E-04	1.77E-10	1.84E-10	1.93E-10	1.95E-10
U-233	1.13E-11	8.20E-09	8.01E-06	1.06E-11	1.10E-11	1.15E-11	1.17E-11
U-234	1.60E-05	1.16E-02	11.3	1.49E-05	1.55E-05	1.63E-05	1.65E-05
U-235	7.18E-07	5.20E-04	0.508	6.72E-07	6.98E-07	7.31E-07	7.42E-07
U-236	1.02E-07	7.38E-05	7.21E-02	9.54E-08	9.92E-08	1.04E-07	1.05E-07
U-238	1.62E-05	1.17E-02	11.4	1.51E-05	1.57E-05	1.65E-05	1.67E-05
Np-237	3.60E-09	2.61E-06	2.55E-03	2.86E-09	3.22E-09	3.99E-09	4.36E-09
Pu-238	5.36E-08	3.88E-05	3.79E-02	1.92E-08	2.16E-08	1.20E-07	1.83E-07
Pu-239	1.68E-05	1.22E-02	11.9	6.00E-06	6.76E-06	3.74E-05	5.72E-05
Pu-240	9.89E-07	7.16E-04	0.700	3.54E-07	3.98E-07	2.21E-06	3.37E-06
Pu-241	6.33E-07	4.59E-04	0.448	2.26E-07	2.55E-07	1.41E-06	2.16E-06
Pu-242	1.93E-12	1.40E-09	1.37E-06	6.92E-13	7.79E-13	4.31E-12	6.60E-12
Am-241	3.01E-08	2.18E-05	2.13E-02	2.39E-08	2.69E-08	3.34E-08	3.65E-08
Am-243	8.42E-14	6.09E-11	5.96E-08	6.68E-14	7.52E-14	9.33E-14	1.02E-13
Cm-242	3.39E-11	2.46E-08	2.40E-05	3.33E-11	3.36E-11	3.43E-11	3.46E-11
Cm-243	5.04E-13	3.65E-10	3.56E-07	4.94E-13	4.99E-13	5.09E-13	5.14E-13
Cm-244	1.29E-12	9.33E-10	9.12E-07	1.02E-12	1.15E-12	1.43E-12	1.56E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.74E-04 (g/L)	----	0.194	9.81E-05	1.10E-04	6.12E-04	9.36E-04
U	0.203	3.50E+04	3.43E+04	0.190	0.198	0.207	0.210

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(7.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.77E+05 (kg)	(187 kgal)	----	----	----	----	----
Heat Load	6.47E-02 (kW)	(221 BTU/hr)	----	5.14E-02	5.79E-02	7.17E-02	7.85E-02
Bulk Density†	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Water wt%†	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.39E-07	2.45E-04	0.240	1.99E-07	2.62E-07	4.27E-07	5.20E-07
C-14	8.66E-08	6.27E-05	6.13E-02	6.88E-08	7.75E-08	9.60E-08	1.05E-07
Ni-59	2.47E-08	1.79E-05	1.75E-02	1.96E-08	2.21E-08	4.37E-08	7.05E-08
Ni-63	2.17E-06	1.57E-03	1.53	1.72E-06	1.94E-06	3.83E-06	6.19E-06
Co-60	1.21E-08	8.75E-06	8.55E-03	9.59E-09	1.08E-08	1.34E-08	1.46E-08
Se-79	1.82E-08	1.32E-05	1.29E-02	1.45E-08	1.63E-08	2.02E-08	2.21E-08
Sr-90	7.61E-03	5.51	5.39E+03	6.04E-03	6.80E-03	8.43E-03	9.22E-03
Y-90	7.61E-03	5.51	5.39E+03	6.04E-03	6.81E-03	8.44E-03	9.23E-03
Zr-93	8.69E-08	6.29E-05	6.15E-02	6.90E-08	7.77E-08	9.63E-08	1.05E-07
Nb-93m	7.49E-08	5.42E-05	5.30E-02	5.95E-08	6.69E-08	8.30E-08	9.07E-08
Tc-99	5.99E-07	4.34E-04	0.424	4.76E-07	5.36E-07	6.64E-07	7.26E-07
Ru-106	2.85E-16	2.06E-13	2.01E-10	2.26E-16	2.55E-16	3.15E-16	3.45E-16
Cd-113m	1.77E-07	1.28E-04	0.125	1.40E-07	1.58E-07	1.96E-07	2.14E-07
Sb-125	6.52E-09	4.72E-06	4.61E-03	5.18E-09	5.83E-09	7.22E-09	7.90E-09
Sn-126	2.71E-08	1.96E-05	1.92E-02	2.15E-08	2.42E-08	3.00E-08	3.28E-08
I-129	1.12E-09	8.08E-07	7.90E-04	8.86E-10	9.98E-10	1.24E-09	1.35E-09
Cs-134	1.03E-10	7.49E-08	7.32E-05	8.22E-11	9.25E-11	1.15E-10	1.25E-10
Cs-137	8.58E-03	6.21	6.07E+03	6.81E-03	7.67E-03	9.51E-03	1.04E-02
Ba-137m	8.11E-03	5.88	5.74E+03	6.44E-03	7.26E-03	8.99E-03	9.84E-03
Sm-151	6.89E-05	4.99E-02	48.8	5.47E-05	6.16E-05	7.64E-05	8.35E-05
Eu-152	8.46E-09	6.13E-06	5.99E-03	8.30E-09	8.37E-09	8.54E-09	8.62E-09
Eu-154	1.62E-07	1.18E-04	0.115	1.29E-07	1.45E-07	1.80E-07	1.97E-07
Eu-155	1.28E-06	9.26E-04	0.905	1.25E-06	1.27E-06	1.29E-06	1.30E-06
Ra-226	7.77E-12	5.63E-09	5.50E-06	6.18E-12	6.95E-12	8.62E-12	9.43E-12
Ra-228	1.15E-16	8.34E-14	8.15E-11	1.13E-16	1.14E-16	1.16E-16	1.17E-16
Ac-227	3.92E-11	2.84E-08	2.77E-05	3.11E-11	3.50E-11	4.34E-11	4.75E-11
Pa-231	8.16E-11	5.91E-08	5.78E-05	6.48E-11	7.30E-11	9.05E-11	9.89E-11
Th-229	2.22E-14	1.61E-11	1.57E-08	2.18E-14	2.20E-14	2.24E-14	2.26E-14
Th-232	2.69E-17	1.95E-14	1.91E-11	2.14E-17	2.41E-17	2.98E-17	3.26E-17
U-232	1.89E-10	1.37E-07	1.34E-04	1.77E-10	1.84E-10	1.93E-10	1.95E-10
U-233	1.13E-11	8.20E-09	8.01E-06	1.06E-11	1.10E-11	1.15E-11	1.17E-11
U-234	1.60E-05	1.16E-02	11.3	1.49E-05	1.55E-05	1.63E-05	1.65E-05
U-235	7.18E-07	5.20E-04	0.508	6.72E-07	6.98E-07	7.31E-07	7.42E-07
U-236	1.02E-07	7.38E-05	7.21E-02	9.54E-08	9.92E-08	1.04E-07	1.05E-07
U-238	1.62E-05	1.17E-02	11.4	1.51E-05	1.57E-05	1.65E-05	1.67E-05
Np-237	3.60E-09	2.61E-06	2.55E-03	2.86E-09	3.22E-09	3.99E-09	4.36E-09
Pu-238	5.36E-08	3.88E-05	3.79E-02	1.92E-08	2.16E-08	1.20E-07	1.83E-07
Pu-239	1.68E-05	1.22E-02	11.9	6.00E-06	6.76E-06	3.74E-05	5.72E-05
Pu-240	9.89E-07	7.16E-04	0.700	3.54E-07	3.98E-07	2.21E-06	3.37E-06
Pu-241	6.33E-07	4.59E-04	0.448	2.26E-07	2.55E-07	1.41E-06	2.16E-06
Pu-242	1.93E-12	1.40E-09	1.37E-06	6.92E-13	7.79E-13	4.31E-12	6.60E-12
Am-241	3.01E-08	2.18E-05	2.13E-02	2.39E-08	2.69E-08	3.34E-08	3.65E-08
Am-243	8.42E-14	6.09E-11	5.96E-08	6.68E-14	7.52E-14	9.33E-14	1.02E-13
Cm-242	3.39E-11	2.46E-08	2.40E-05	3.33E-11	3.36E-11	3.43E-11	3.46E-11
Cm-243	5.04E-13	3.65E-10	3.56E-07	4.94E-13	4.99E-13	5.09E-13	5.14E-13
Cm-244	1.29E-12	9.33E-10	9.12E-07	1.02E-12	1.15E-12	1.43E-12	1.56E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.74E-04 (g/L)	----	0.194	9.81E-05	1.10E-04	6.12E-04	9.36E-04
U	0.203	3.50E+04	3.43E+04	0.190	0.198	0.207	0.210

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.00E+05 (kg)	(57.0 kgal)	----	----	----	----	----
Heat Load	0.193 (kW)	(658 BTU/hr)	----	0.190	0.191	0.194	0.195
Bulk Density	1.39 (g/cc)	----	----	1.33	1.36	1.41	1.43
Void Fraction	0.767	----	----	0.724	0.743	0.800	0.845
Water wt%	62.4	----	----	59.9	61.1	64.1	66.4
TOC wt% C (wet)	0.162	----	----	0.158	0.160	0.165	0.170

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.16	6.88E+04	2.06E+04	2.95	3.63	4.58	4.97
Al^{3+}	1.82	3.54E+04	1.06E+04	1.79	1.81	1.84	1.86
Fe^{3+} (total Fe)	0.300	1.21E+04	3.62E+03	0.296	0.298	0.302	0.304
Cr^{3+}	3.79E-03	142	42.5	3.16E-03	3.46E-03	4.12E-03	4.44E-03
Bi^{3+}	3.94E-02	5.92E+03	1.78E+03	3.13E-02	3.60E-02	4.19E-02	4.37E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	7.76E-04	112	33.6	7.56E-04	7.67E-04	7.82E-04	7.87E-04
Zr (as $ZrO(OH)_2$)	1.51E-04	9.90	2.97	1.20E-04	1.35E-04	1.67E-04	1.83E-04
Pb^{2+}	3.30E-02	4.92E+03	1.48E+03	3.07E-02	3.18E-02	3.42E-02	3.53E-02
Ni^{2+}	5.82E-02	2.46E+03	737	5.77E-02	5.79E-02	5.88E-02	5.96E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.152	4.37E+03	1.31E+03	0.130	0.141	0.163	0.173
K^{+}	5.53E-03	155	46.6	4.65E-03	5.08E-03	5.99E-03	6.43E-03
OH^{-}	7.60	9.29E+04	2.79E+04	7.43	7.51	7.69	7.77
$NO3^{-}$	0.812	3.62E+04	1.09E+04	0.702	0.757	0.865	1.40
$NO2^{-}$	0.537	1.78E+04	5.33E+03	0.477	0.507	0.571	0.607
$CO3^{2-}$	0.152	6.54E+03	1.96E+03	0.130	0.141	0.163	0.173
$PO4^{3-}$	0.737	5.03E+04	1.51E+04	0.435	0.610	0.831	0.900
$SO4^{2-}$	3.71E-02	2.56E+03	768	3.03E-02	3.36E-02	4.06E-02	4.41E-02
Si (as SiO_x^{2-})	0.146	2.95E+03	885	7.71E-02	0.112	0.180	0.213
F^{-}	8.78E-02	1.20E+03	360	6.97E-02	7.85E-02	9.73E-02	0.204
Cl^{-}	2.54E-02	647	194	2.14E-02	2.34E-02	2.75E-02	2.96E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.07E-02	864	259	6.13E-02	6.59E-02	7.55E-02	0.104
$Fe(CN)_6^{4-}$	3.13E-02	6.09E+03	1.83E+03	3.13E-02	3.13E-02	3.13E-02	3.13E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(9.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.00E+05 (kg)	(57.0 kgal)	----	----	----	----	----
Heat Load	0.193 (kW)	(658 BTU/hr)	----	0.190	0.191	0.194	0.195
Bulk Density†	1.39 (g/cc)	----	----	1.33	1.36	1.41	1.43
Water wt%†	62.4	----	----	59.9	61.1	64.1	66.4
TOC wt% C (wet)†	0.162	----	----	0.158	0.160	0.165	0.170

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.16	6.88E+04	2.06E+04	2.95	3.63	4.58	4.97
Al^{3+}	1.82	3.54E+04	1.06E+04	1.79	1.81	1.84	1.86
Fe^{3+} (total Fe)	0.300	1.21E+04	3.62E+03	0.296	0.298	0.302	0.304
Cr^{3+}	3.79E-03	142	42.5	3.16E-03	3.46E-03	4.12E-03	4.44E-03
Bi^{3+}	3.94E-02	5.92E+03	1.78E+03	3.13E-02	3.60E-02	4.19E-02	4.37E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	7.76E-04	112	33.6	7.56E-04	7.67E-04	7.82E-04	7.87E-04
Zr (as $ZrO(OH)_2$)	1.51E-04	9.90	2.97	1.20E-04	1.35E-04	1.67E-04	1.83E-04
Pb^{2+}	3.30E-02	4.92E+03	1.48E+03	3.07E-02	3.18E-02	3.42E-02	3.53E-02
Ni^{2+}	5.82E-02	2.46E+03	737	5.77E-02	5.79E-02	5.88E-02	5.96E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.152	4.37E+03	1.31E+03	0.130	0.141	0.163	0.173
K^{+}	5.53E-03	155	46.6	4.65E-03	5.08E-03	5.99E-03	6.43E-03
OH^{-}	7.60	9.29E+04	2.79E+04	7.43	7.51	7.69	7.77
$NO3^{-}$	0.812	3.62E+04	1.09E+04	0.702	0.757	0.865	1.40
$NO2^{-}$	0.537	1.78E+04	5.33E+03	0.477	0.507	0.571	0.607
$CO3^{2-}$	0.152	6.54E+03	1.96E+03	0.130	0.141	0.163	0.173
$PO4^{3-}$	0.737	5.03E+04	1.51E+04	0.435	0.610	0.831	0.900
$SO4^{2-}$	3.71E-02	2.56E+03	768	3.03E-02	3.36E-02	4.06E-02	4.41E-02
Si (as SiO_x^{2-})	0.146	2.95E+03	885	7.71E-02	0.112	0.180	0.213
F^{-}	8.78E-02	1.20E+03	360	6.97E-02	7.85E-02	9.73E-02	0.204
Cl^{-}	2.54E-02	647	194	2.14E-02	2.34E-02	2.75E-02	2.96E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.07E-02	864	259	6.13E-02	6.59E-02	7.55E-02	0.104
$Fe(CN)_6^{4-}$	3.13E-02	6.09E+03	1.83E+03	3.13E-02	3.13E-02	3.13E-02	3.13E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.00E+05 (kg)	(57.0 kgal)	----	----	----	----	----
Heat Load	0.193 (kW)	(658 BTU/hr)	----	0.190	0.191	0.194	0.195
Bulk Density	1.39 (g/cc)	----	----	1.33	1.36	1.41	1.43
Void Fraction	0.767	----	----	0.724	0.743	0.800	0.845
Water wt%	62.4	----	----	59.9	61.1	64.1	66.4
TOC wt% C (wet)	0.162	----	----	0.158	0.160	0.165	0.170
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.71E-07	5.54E-04	0.166	6.80E-07	7.23E-07	8.27E-07	8.85E-07
C-14	1.46E-07	1.05E-04	3.15E-02	1.31E-07	1.40E-07	1.52E-07	1.57E-07
Ni-59	1.04E-06	7.45E-04	0.224	1.02E-06	1.03E-06	1.05E-06	1.07E-06
Ni-63	9.35E-05	6.72E-02	20.2	9.15E-05	9.25E-05	9.46E-05	9.60E-05
Co-60	4.21E-08	3.03E-05	9.09E-03	3.80E-08	4.00E-08	4.43E-08	4.63E-08
Se-79	3.08E-08	2.21E-05	6.64E-03	2.76E-08	2.96E-08	3.20E-08	3.32E-08
Sr-90	7.44E-02	53.5	1.60E+04	7.34E-02	7.39E-02	7.49E-02	7.54E-02
Y-90	7.44E-02	53.5	1.60E+04	7.34E-02	7.39E-02	7.49E-02	7.54E-02
Zr-93	1.46E-07	1.05E-04	3.15E-02	1.31E-07	1.40E-07	1.52E-07	1.58E-07
Nb-93m	1.22E-07	8.80E-05	2.64E-02	1.09E-07	1.17E-07	1.28E-07	1.32E-07
Tc-99	1.01E-06	7.28E-04	0.219	9.07E-07	9.73E-07	1.05E-06	1.09E-06
Ru-106	3.05E-13	2.20E-10	6.59E-08	2.49E-13	2.77E-13	3.34E-13	3.62E-13
Cd-113m	3.78E-07	2.72E-04	8.15E-02	3.41E-07	3.65E-07	3.91E-07	4.03E-07
Sb-125	6.24E-08	4.48E-05	1.35E-02	5.36E-08	5.79E-08	6.68E-08	7.12E-08
Sn-126	4.64E-08	3.34E-05	1.00E-02	4.16E-08	4.46E-08	4.83E-08	5.00E-08
I-129	1.91E-09	1.37E-06	4.13E-04	1.71E-09	1.84E-09	1.99E-09	2.06E-09
Cs-134	7.60E-09	5.47E-06	1.64E-03	7.37E-09	7.49E-09	7.72E-09	7.83E-09
Cs-137	8.36E-02	60.1	1.80E+04	8.25E-02	8.31E-02	8.42E-02	8.48E-02
Ba-137m	7.91E-02	56.9	1.71E+04	7.81E-02	7.86E-02	7.97E-02	8.02E-02
Sm-151	1.14E-04	8.21E-02	24.6	1.02E-04	1.10E-04	1.19E-04	1.23E-04
Eu-152	1.90E-07	1.36E-04	4.09E-02	1.89E-07	1.89E-07	1.90E-07	1.90E-07
Eu-154	8.33E-07	5.99E-04	0.180	7.38E-07	7.85E-07	8.82E-07	9.28E-07
Eu-155	1.34E-05	9.63E-03	2.89	1.34E-05	1.34E-05	1.34E-05	1.34E-05
Ra-226	8.73E-12	6.28E-09	1.88E-06	7.72E-12	8.21E-12	1.00E-11	1.43E-10
Ra-228	6.07E-16	4.36E-13	1.31E-10	6.05E-16	6.06E-16	6.07E-16	6.08E-16
Ac-227	4.44E-11	3.19E-08	9.57E-06	3.93E-11	4.17E-11	4.70E-11	6.52E-10
Pa-231	9.53E-11	6.85E-08	2.06E-05	8.47E-11	8.98E-11	1.01E-10	1.06E-10
Th-229	1.18E-13	8.47E-11	2.54E-08	1.17E-13	1.18E-13	1.18E-13	1.18E-13
Th-232	4.09E-17	2.94E-14	8.83E-12	3.66E-17	3.91E-17	4.28E-17	4.45E-17
U-232	2.79E-10	2.01E-07	6.02E-05	2.66E-10	2.73E-10	2.84E-10	2.88E-10
U-233	1.25E-11	9.00E-09	2.70E-06	1.21E-11	1.23E-11	1.27E-11	1.28E-11
U-234	1.31E-05	9.44E-03	2.83	1.25E-05	1.29E-05	1.33E-05	1.35E-05
U-235	5.83E-07	4.19E-04	0.126	5.55E-07	5.71E-07	5.92E-07	5.99E-07
U-236	1.17E-07	8.42E-05	2.53E-02	1.13E-07	1.15E-07	1.19E-07	1.20E-07
U-238	1.58E-05	1.14E-02	3.41	1.51E-05	1.56E-05	1.60E-05	1.62E-05
Np-237	6.27E-09	4.51E-06	1.35E-03	5.62E-09	6.03E-09	6.52E-09	6.75E-09
Pu-238	6.65E-06	4.78E-03	1.43	6.34E-06	6.49E-06	6.81E-06	6.96E-06
Pu-239	4.33E-04	0.311	93.5	4.13E-04	4.23E-04	4.46E-04	4.59E-04
Pu-240	6.52E-05	4.69E-02	14.1	6.22E-05	6.37E-05	6.68E-05	6.83E-05
Pu-241	4.82E-04	0.346	104	4.59E-04	4.70E-04	4.93E-04	5.04E-04
Pu-242	1.84E-09	1.32E-06	3.97E-04	1.75E-09	1.79E-09	1.88E-09	1.93E-09
Am-241	2.45E-07	1.76E-04	5.29E-02	2.16E-07	2.34E-07	2.57E-07	2.68E-07
Am-243	1.97E-12	1.42E-09	4.25E-07	1.75E-12	1.86E-12	2.08E-12	2.19E-12
Cm-242	3.53E-09	2.54E-06	7.61E-04	3.52E-09	3.52E-09	3.54E-09	3.54E-09
Cm-243	7.72E-11	5.55E-08	1.67E-05	7.68E-11	7.70E-11	7.74E-11	7.75E-11
Cm-244	7.82E-11	5.62E-08	1.69E-05	6.70E-11	7.25E-11	8.40E-11	8.95E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.26E-03 (g/L)	----	1.57	6.93E-03	7.09E-03	7.47E-03	7.68E-03
U	0.168	2.87E+04	8.61E+03	0.160	0.164	0.170	0.172

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(9.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.00E+05 (kg)	(57.0 kgal)	----	----	----	----	----
Heat Load	0.193 (kW)	(658 BTU/hr)	----	0.190	0.191	0.194	0.195
Bulk Density†	1.39 (g/cc)	----	----	1.33	1.36	1.41	1.43
Water wt%†	62.4	----	----	59.9	61.1	64.1	66.4
TOC wt% C (wet)†	0.162	----	----	0.158	0.160	0.165	0.170
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.71E-07	5.54E-04	0.166	6.80E-07	7.23E-07	8.27E-07	8.85E-07
C-14	1.46E-07	1.05E-04	3.15E-02	1.31E-07	1.40E-07	1.52E-07	1.57E-07
Ni-59	1.04E-06	7.45E-04	0.224	1.02E-06	1.03E-06	1.05E-06	1.07E-06
Ni-63	9.35E-05	6.72E-02	20.2	9.15E-05	9.25E-05	9.46E-05	9.60E-05
Co-60	4.21E-08	3.03E-05	9.09E-03	3.80E-08	4.00E-08	4.43E-08	4.63E-08
Se-79	3.08E-08	2.21E-05	6.64E-03	2.76E-08	2.96E-08	3.20E-08	3.32E-08
Sr-90	7.44E-02	53.5	1.60E+04	7.34E-02	7.39E-02	7.49E-02	7.54E-02
Y-90	7.44E-02	53.5	1.60E+04	7.34E-02	7.39E-02	7.49E-02	7.54E-02
Zr-93	1.46E-07	1.05E-04	3.15E-02	1.31E-07	1.40E-07	1.52E-07	1.58E-07
Nb-93m	1.22E-07	8.80E-05	2.64E-02	1.09E-07	1.17E-07	1.28E-07	1.32E-07
Tc-99	1.01E-06	7.28E-04	0.219	9.07E-07	9.73E-07	1.05E-06	1.09E-06
Ru-106	3.05E-13	2.20E-10	6.59E-08	2.49E-13	2.77E-13	3.34E-13	3.62E-13
Cd-113m	3.78E-07	2.72E-04	8.15E-02	3.41E-07	3.65E-07	3.91E-07	4.03E-07
Sb-125	6.24E-08	4.48E-05	1.35E-02	5.36E-08	5.79E-08	6.68E-08	7.12E-08
Sn-126	4.64E-08	3.34E-05	1.00E-02	4.16E-08	4.46E-08	4.83E-08	5.00E-08
I-129	1.91E-09	1.37E-06	4.13E-04	1.71E-09	1.84E-09	1.99E-09	2.06E-09
Cs-134	7.60E-09	5.47E-06	1.64E-03	7.37E-09	7.49E-09	7.72E-09	7.83E-09
Cs-137	8.36E-02	60.1	1.80E+04	8.25E-02	8.31E-02	8.42E-02	8.48E-02
Ba-137m	7.91E-02	56.9	1.71E+04	7.81E-02	7.86E-02	7.97E-02	8.02E-02
Sm-151	1.14E-04	8.21E-02	24.6	1.02E-04	1.10E-04	1.19E-04	1.23E-04
Eu-152	1.90E-07	1.36E-04	4.09E-02	1.89E-07	1.89E-07	1.90E-07	1.90E-07
Eu-154	8.33E-07	5.99E-04	0.180	7.38E-07	7.85E-07	8.82E-07	9.28E-07
Eu-155	1.34E-05	9.63E-03	2.89	1.34E-05	1.34E-05	1.34E-05	1.34E-05
Ra-226	8.73E-12	6.28E-09	1.88E-06	7.72E-12	8.21E-12	1.00E-11	1.43E-10
Ra-228	6.06E-16	4.36E-13	1.31E-10	6.05E-16	6.06E-16	6.07E-16	6.08E-16
Ac-227	4.44E-11	3.19E-08	9.57E-06	3.93E-11	4.17E-11	4.70E-11	6.52E-10
Pa-231	9.53E-11	6.85E-08	2.06E-05	8.47E-11	8.98E-11	1.01E-10	1.06E-10
Th-229	1.18E-13	8.47E-11	2.54E-08	1.17E-13	1.18E-13	1.18E-13	1.18E-13
Th-232	4.09E-17	2.94E-14	8.83E-12	3.66E-17	3.91E-17	4.28E-17	4.45E-17
U-232	2.79E-10	2.01E-07	6.02E-05	2.66E-10	2.73E-10	2.84E-10	2.88E-10
U-233	1.25E-11	9.00E-09	2.70E-06	1.21E-11	1.23E-11	1.27E-11	1.28E-11
U-234	1.31E-05	9.44E-03	2.83	1.25E-05	1.29E-05	1.33E-05	1.35E-05
U-235	5.83E-07	4.19E-04	0.126	5.55E-07	5.71E-07	5.92E-07	5.99E-07
U-236	1.17E-07	8.42E-05	2.53E-02	1.13E-07	1.15E-07	1.19E-07	1.20E-07
U-238	1.58E-05	1.14E-02	3.41	1.51E-05	1.56E-05	1.60E-05	1.62E-05
Np-237	6.27E-09	4.51E-06	1.35E-03	5.62E-09	6.03E-09	6.52E-09	6.75E-09
Pu-238	6.65E-06	4.78E-03	1.43	6.34E-06	6.49E-06	6.81E-06	6.96E-06
Pu-239	4.33E-04	0.311	93.5	4.13E-04	4.23E-04	4.46E-04	4.59E-04
Pu-240	6.52E-05	4.69E-02	14.1	6.22E-05	6.37E-05	6.68E-05	6.83E-05
Pu-241	4.82E-04	0.346	104	4.59E-04	4.70E-04	4.93E-04	5.04E-04
Pu-242	1.84E-09	1.32E-06	3.97E-04	1.75E-09	1.79E-09	1.88E-09	1.93E-09
Am-241	2.45E-07	1.76E-04	5.29E-02	2.16E-07	2.34E-07	2.57E-07	2.68E-07
Am-243	1.97E-12	1.42E-09	4.25E-07	1.75E-12	1.86E-12	2.08E-12	2.19E-12
Cm-242	3.53E-09	2.54E-06	7.61E-04	3.52E-09	3.52E-09	3.54E-09	3.54E-09
Cm-243	7.72E-11	5.55E-08	1.67E-05	7.68E-11	7.70E-11	7.74E-11	7.75E-11
Cm-244	7.82E-11	5.62E-08	1.69E-05	6.70E-11	7.25E-11	8.40E-11	8.95E-11
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.26E-03 (g/L)	----	1.57	6.93E-03	7.09E-03	7.47E-03	7.68E-03
U	0.168	2.87E+04	8.61E+03	0.160	0.164	0.170	0.172

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.38E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	2.78 (kW)	(9.51E+03 BTU/hr)	----	2.77	2.78	2.79	2.80
Bulk Density	1.37 (g/cc)	----	----	1.35	1.36	1.37	1.57
Void Fraction	0.861	----	----	0.685	0.851	0.871	0.881
Water wt%	65.2	----	----	47.1	64.8	65.6	66.1
TOC wt% C (wet)	1.32	----	----	1.15	1.31	1.32	1.33

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	3.43	5.77E+04	3.10E+04	3.15	3.31	3.52	7.54
Al^{3+}	0.900	1.78E+04	9.55E+03	0.883	0.891	0.908	0.916
Fe^{3+} (total Fe)	0.386	1.58E+04	8.49E+03	0.381	0.385	0.387	0.388
Cr^{3+}	1.15E-03	43.8	23.6	1.01E-03	1.08E-03	1.23E-03	1.30E-03
Bi^{3+}	9.00E-03	1.38E+03	740	7.14E-03	8.22E-03	9.57E-03	9.98E-03
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.02E-04	73.6	39.6	4.77E-04	4.96E-04	5.04E-04	5.06E-04
Zr (as $ZrO(OH)_2$)	3.45E-05	2.30	1.24	2.74E-05	3.08E-05	3.82E-05	4.18E-05
Pb^{2+}	2.56E-02	3.87E+03	2.08E+03	2.16E-02	2.46E-02	2.61E-02	2.66E-02
Ni^{2+}	0.453	1.95E+04	1.05E+04	0.449	0.451	0.456	0.458
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.585	1.72E+04	9.23E+03	0.415	0.498	0.673	0.757
K^{+}	9.19E-03	263	141	7.14E-03	9.07E-03	9.31E-03	9.42E-03
OH^{-}	4.01	4.99E+04	2.68E+04	3.92	3.97	4.05	4.09
$NO3^{-}$	0.243	1.10E+04	5.94E+03	0.218	0.231	0.256	4.93
$NO2^{-}$	1.70	5.72E+04	3.07E+04	1.22	1.67	1.72	1.75
$CO3^{2-}$	0.586	2.57E+04	1.38E+04	0.415	0.499	0.673	0.757
$PO4^{3-}$	0.247	1.72E+04	9.24E+03	0.178	0.218	0.268	0.388
$SO4^{2-}$	1.96E-02	1.38E+03	742	1.68E-02	1.88E-02	2.04E-02	2.12E-02
Si (as SiO_x^{2-})	3.44E-02	706	380	1.86E-02	2.66E-02	4.22E-02	4.96E-02
F^{-}	2.00E-02	279	150	1.59E-02	1.79E-02	2.22E-02	4.66E-02
Cl^{-}	3.94E-02	1.02E+03	550	3.00E-02	3.89E-02	4.00E-02	4.05E-02
$C_6H_5O_7^{3-}$	3.17E-04	43.8	23.6	2.57E-04	2.86E-04	3.47E-04	3.76E-04
$EDTA^{4-}$	6.34E-04	134	71.8	5.15E-04	5.73E-04	6.94E-04	7.52E-04
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	4.04E-03	174	93.8	3.28E-03	3.65E-03	4.42E-03	4.80E-03
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.176	2.18E+03	1.18E+03	0.158	0.170	0.181	0.437
$Fe(CN)_6^{4-}$	0.247	4.90E+04	2.63E+04	0.247	0.247	0.247	0.247

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.38E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	2.78 (kW)	(9.51E+03 BTU/hr)	----	2.77	2.78	2.79	2.80
Bulk Density†	1.37 (g/cc)	----	----	1.35	1.36	1.37	1.57
Water wt%†	65.2	----	----	47.1	64.8	65.6	66.1
TOC wt% C (wet)†	1.32	----	----	1.15	1.31	1.32	1.33

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	3.43	5.77E+04	3.10E+04	3.15	3.31	3.52	7.54
Al^{3+}	0.900	1.78E+04	9.55E+03	0.883	0.891	0.908	0.916
Fe^{3+} (total Fe)	0.386	1.58E+04	8.49E+03	0.381	0.385	0.387	0.388
Cr^{3+}	1.15E-03	43.8	23.6	1.01E-03	1.08E-03	1.23E-03	1.30E-03
Bi^{3+}	9.00E-03	1.38E+03	740	7.14E-03	8.22E-03	9.57E-03	9.98E-03
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.02E-04	73.6	39.6	4.77E-04	4.96E-04	5.04E-04	5.06E-04
Zr (as $ZrO(OH)_2$)	3.45E-05	2.30	1.24	2.74E-05	3.08E-05	3.82E-05	4.18E-05
Pb^{2+}	2.56E-02	3.87E+03	2.08E+03	2.16E-02	2.46E-02	2.61E-02	2.66E-02
Ni^{2+}	0.453	1.95E+04	1.05E+04	0.449	0.451	0.456	0.458
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.585	1.72E+04	9.23E+03	0.415	0.498	0.673	0.757
K^{+}	9.19E-03	263	141	7.14E-03	9.07E-03	9.31E-03	9.42E-03
OH^{-}	4.01	4.99E+04	2.68E+04	3.92	3.97	4.05	4.09
$NO3^{-}$	0.243	1.10E+04	5.94E+03	0.218	0.231	0.256	4.93
$NO2^{-}$	1.70	5.72E+04	3.07E+04	1.22	1.67	1.72	1.75
$CO3^{2-}$	0.586	2.57E+04	1.38E+04	0.415	0.499	0.673	0.757
$PO4^{3-}$	0.247	1.72E+04	9.24E+03	0.178	0.218	0.268	0.388
$SO4^{2-}$	1.96E-02	1.38E+03	742	1.68E-02	1.88E-02	2.04E-02	2.12E-02
Si (as SiO_x^{2-})	3.44E-02	706	380	1.86E-02	2.66E-02	4.22E-02	4.96E-02
F^{-}	2.00E-02	279	150	1.59E-02	1.79E-02	2.22E-02	4.66E-02
Cl^{-}	3.94E-02	1.02E+03	550	3.00E-02	3.89E-02	4.00E-02	4.05E-02
$C_6H_5O_7^{3-}$	3.17E-04	43.8	23.6	2.57E-04	2.86E-04	3.47E-04	3.76E-04
$EDTA^{4-}$	6.33E-04	134	71.8	5.15E-04	5.73E-04	6.94E-04	7.52E-04
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	4.04E-03	174	93.8	3.28E-03	3.65E-03	4.42E-03	4.80E-03
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.176	2.18E+03	1.18E+03	0.158	0.170	0.181	0.437
$Fe(CN)_6^{4-}$	0.247	4.90E+04	2.63E+04	0.247	0.247	0.247	0.247

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.38E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	2.78 (kW)	(9.51E+03 BTU/hr)	----	2.77	2.78	2.79	2.80
Bulk Density	1.37 (g/cc)	----	----	1.35	1.36	1.37	1.57
Void Fraction	0.861	----	----	0.685	0.851	0.871	0.881
Water wt%	65.2	----	----	47.1	64.8	65.6	66.1
TOC wt% C (wet)	1.32	----	----	1.15	1.31	1.32	1.33

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.58E-06	1.89E-03	1.01	1.86E-06	2.54E-06	2.62E-06	2.65E-06
C-14	4.65E-07	3.40E-04	0.183	3.44E-07	4.58E-07	4.72E-07	4.79E-07
Ni-59	9.07E-06	6.64E-03	3.57	8.87E-06	8.98E-06	9.16E-06	9.25E-06
Ni-63	8.26E-04	0.605	325	8.06E-04	8.17E-04	8.35E-04	8.44E-04
Co-60	1.16E-07	8.52E-05	4.58E-02	8.88E-08	1.15E-07	1.18E-07	1.34E-07
Se-79	1.10E-07	8.05E-05	4.33E-02	8.45E-08	1.05E-07	8.40E-07	1.85E-06
Sr-90	0.624	456	2.45E+05	0.617	0.621	0.626	0.629
Y-90	0.624	456	2.46E+05	0.617	0.621	0.627	0.629
Zr-93	5.18E-07	3.79E-04	0.204	3.97E-07	4.94E-07	3.43E-06	8.49E-06
Nb-93m	4.36E-07	3.19E-04	0.172	3.34E-07	4.20E-07	3.26E-06	6.81E-06
Tc-99	3.23E-06	2.36E-03	1.27	2.39E-06	3.18E-06	3.28E-06	3.32E-06
Ru-106	2.95E-11	2.16E-08	1.16E-05	2.41E-11	2.67E-11	1.81E-10	1.82E-09
Cd-113m	1.29E-06	9.47E-04	0.509	9.98E-07	1.26E-06	1.41E-06	2.76E-05
Sb-125	1.42E-07	1.04E-04	5.60E-02	1.17E-07	1.36E-07	1.49E-07	1.55E-07
Sn-126	1.67E-07	1.22E-04	6.56E-02	1.28E-07	1.60E-07	1.38E-06	2.90E-06
I-129	6.09E-09	4.45E-06	2.40E-03	4.51E-09	5.99E-09	6.18E-09	6.27E-09
Cs-134	5.16E-08	3.78E-05	2.03E-02	5.08E-08	5.12E-08	5.21E-08	5.25E-08
Cs-137	0.613	449	2.41E+05	0.613	0.613	0.613	0.613
Ba-137m	0.580	424	2.28E+05	0.580	0.580	0.580	0.580
Sm-151	4.10E-04	0.300	161	3.15E-04	3.93E-04	3.28E-03	6.82E-03
Eu-152	1.88E-06	1.37E-03	0.738	1.87E-06	1.88E-06	1.88E-06	1.88E-06
Eu-154	2.57E-06	1.88E-03	1.01	2.07E-06	2.29E-06	2.85E-06	2.99E-05
Eu-155	1.32E-04	9.69E-02	52.1	1.32E-04	1.32E-04	1.32E-04	1.33E-04
Ra-226	1.20E-10	8.75E-08	4.71E-05	5.54E-11	8.68E-11	1.52E-10	1.18E-09
Ra-228	1.55E-09	1.14E-06	6.11E-04	1.53E-09	1.54E-09	1.56E-09	1.58E-09
Ac-227	5.35E-09	3.91E-06	2.10E-03	4.45E-09	5.14E-09	5.54E-09	1.01E-08
Pa-231	7.35E-09	5.38E-06	2.89E-03	2.35E-09	6.20E-09	8.06E-09	9.07E-09
Th-229	7.04E-10	5.15E-07	2.77E-04	6.93E-10	6.99E-10	7.09E-10	7.14E-10
Th-232	7.24E-11	5.30E-08	2.85E-05	2.18E-11	4.72E-11	9.76E-11	1.22E-10
U-232	8.02E-08	5.87E-05	3.16E-02	1.05E-09	4.33E-08	9.73E-08	1.07E-07
U-233	3.11E-07	2.28E-04	0.122	3.71E-09	1.68E-07	3.78E-07	4.15E-07
U-234	4.15E-06	3.03E-03	1.63	3.73E-06	3.95E-06	4.24E-06	4.29E-06
U-235	1.82E-07	1.33E-04	7.15E-02	1.65E-07	1.74E-07	1.85E-07	1.87E-07
U-236	5.14E-08	3.76E-05	2.02E-02	3.89E-08	4.56E-08	5.40E-08	5.55E-08
U-238	2.39E-05	1.75E-02	9.41	1.83E-05	2.36E-05	2.42E-05	2.45E-05
Np-237	1.99E-08	1.46E-05	7.83E-03	1.47E-08	1.96E-08	2.02E-08	2.05E-08
Pu-238	5.62E-06	4.11E-03	2.21	5.09E-06	5.50E-06	5.72E-06	6.69E-06
Pu-239	3.05E-04	0.223	120	2.83E-04	3.00E-04	3.16E-04	4.68E-04
Pu-240	4.84E-05	3.54E-02	19.1	4.45E-05	4.75E-05	4.93E-05	6.24E-05
Pu-241	4.20E-04	0.308	165	3.78E-04	4.11E-04	4.28E-04	4.62E-04
Pu-242	1.53E-09	1.12E-06	6.02E-04	1.41E-09	1.49E-09	1.57E-09	1.72E-09
Am-241	1.31E-05	9.55E-03	5.14	1.12E-06	1.18E-06	2.89E-05	4.41E-05
Am-243	2.98E-10	2.18E-07	1.17E-04	1.29E-11	1.39E-11	6.35E-10	9.30E-10
Cm-242	3.88E-08	2.84E-05	1.53E-02	3.87E-08	3.87E-08	3.88E-08	3.88E-08
Cm-243	1.47E-09	1.08E-06	5.78E-04	1.47E-09	1.47E-09	1.47E-09	1.47E-09
Cm-244	6.90E-10	5.05E-07	2.72E-04	5.82E-10	6.35E-10	7.96E-09	4.08E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.12E-03 (g/L)	----	2.01	4.75E-03	5.03E-03	5.30E-03	7.81E-03
U	5.27E-02	9.17E+03	4.94E+03	4.78E-02	5.04E-02	5.37E-02	5.43E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.38E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	2.78 (kW)	(9.51E+03 BTU/hr)	----	2.77	2.78	2.79	2.80
Bulk Density†	1.37 (g/cc)	----	----	1.35	1.36	1.37	1.57
Water wt%†	65.2	----	----	47.1	64.8	65.6	66.1
TOC wt% C (wet)†	1.32	----	----	1.15	1.31	1.32	1.33

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.58E-06	1.89E-03	1.01	1.86E-06	2.54E-06	2.62E-06	2.65E-06
C-14	4.65E-07	3.40E-04	0.183	3.44E-07	4.58E-07	4.72E-07	4.79E-07
Ni-59	9.07E-06	6.64E-03	3.57	8.87E-06	8.98E-06	9.16E-06	9.25E-06
Ni-63	8.26E-04	0.605	325	8.06E-04	8.17E-04	8.35E-04	8.44E-04
Co-60	1.16E-07	8.52E-05	4.58E-02	8.88E-08	1.15E-07	1.18E-07	1.34E-07
Se-79	1.10E-07	8.05E-05	4.33E-02	8.45E-08	1.05E-07	8.40E-07	1.85E-06
Sr-90	0.624	456	2.45E+05	0.617	0.621	0.626	0.629
Y-90	0.624	456	2.46E+05	0.617	0.621	0.627	0.629
Zr-93	5.18E-07	3.79E-04	0.204	3.97E-07	4.94E-07	3.43E-06	8.49E-06
Nb-93m	4.36E-07	3.19E-04	0.172	3.34E-07	4.20E-07	3.26E-06	6.81E-06
Tc-99	3.23E-06	2.36E-03	1.27	2.39E-06	3.18E-06	3.28E-06	3.32E-06
Ru-106	2.95E-11	2.16E-08	1.16E-05	2.41E-11	2.67E-11	1.81E-10	1.82E-09
Cd-113m	1.29E-06	9.47E-04	0.509	9.98E-07	1.26E-06	1.41E-06	2.76E-05
Sb-125	1.42E-07	1.04E-04	5.60E-02	1.17E-07	1.36E-07	1.49E-07	1.55E-07
Sn-126	1.67E-07	1.22E-04	6.56E-02	1.28E-07	1.60E-07	1.38E-06	2.90E-06
I-129	6.09E-09	4.45E-06	2.40E-03	4.51E-09	5.99E-09	6.18E-09	6.27E-09
Cs-134	5.16E-08	3.78E-05	2.03E-02	5.08E-08	5.12E-08	5.21E-08	5.25E-08
Cs-137	0.613	449	2.41E+05	0.613	0.613	0.613	0.613
Ba-137m	0.580	424	2.28E+05	0.580	0.580	0.580	0.580
Sm-151	4.09E-04	0.300	161	3.15E-04	3.93E-04	3.28E-03	6.82E-03
Eu-152	1.88E-06	1.37E-03	0.738	1.87E-06	1.88E-06	1.88E-06	1.88E-06
Eu-154	2.57E-06	1.88E-03	1.01	2.07E-06	2.29E-06	2.85E-06	2.99E-05
Eu-155	1.32E-04	9.69E-02	52.1	1.32E-04	1.32E-04	1.32E-04	1.33E-04
Ra-226	1.20E-10	8.75E-08	4.71E-05	5.54E-11	8.68E-11	1.52E-10	1.18E-09
Ra-228	1.55E-09	1.14E-06	6.11E-04	1.53E-09	1.54E-09	1.56E-09	1.58E-09
Ac-227	5.35E-09	3.91E-06	2.10E-03	4.45E-09	5.14E-09	5.54E-09	1.01E-08
Pa-231	7.35E-09	5.38E-06	2.89E-03	2.35E-09	6.20E-09	8.06E-09	9.07E-09
Th-229	7.04E-10	5.15E-07	2.77E-04	6.93E-10	6.99E-10	7.09E-10	7.14E-10
Th-232	7.24E-11	5.30E-08	2.85E-05	2.18E-11	4.72E-11	9.76E-11	1.22E-10
U-232	8.02E-08	5.87E-05	3.16E-02	1.05E-09	4.33E-08	9.73E-08	1.07E-07
U-233	3.11E-07	2.28E-04	0.122	3.71E-09	1.68E-07	3.78E-07	4.15E-07
U-234	4.15E-06	3.03E-03	1.63	3.73E-06	3.95E-06	4.24E-06	4.29E-06
U-235	1.82E-07	1.33E-04	7.15E-02	1.65E-07	1.74E-07	1.85E-07	1.87E-07
U-236	5.13E-08	3.76E-05	2.02E-02	3.89E-08	4.56E-08	5.40E-08	5.55E-08
U-238	2.39E-05	1.75E-02	9.41	1.83E-05	2.36E-05	2.42E-05	2.45E-05
Np-237	1.99E-08	1.46E-05	7.83E-03	1.47E-08	1.96E-08	2.02E-08	2.05E-08
Pu-238	5.62E-06	4.11E-03	2.21	5.09E-06	5.50E-06	5.72E-06	6.69E-06
Pu-239	3.05E-04	0.223	120	2.83E-04	3.00E-04	3.16E-04	4.68E-04
Pu-240	4.84E-05	3.54E-02	19.1	4.45E-05	4.75E-05	4.93E-05	6.24E-05
Pu-241	4.20E-04	0.308	165	3.78E-04	4.11E-04	4.28E-04	4.62E-04
Pu-242	1.53E-09	1.12E-06	6.02E-04	1.41E-09	1.49E-09	1.57E-09	1.72E-09
Am-241	1.30E-05	9.55E-03	5.14	1.12E-06	1.18E-06	2.89E-05	4.41E-05
Am-243	2.98E-10	2.18E-07	1.17E-04	1.29E-11	1.39E-11	6.35E-10	9.30E-10
Cm-242	3.88E-08	2.84E-05	1.53E-02	3.87E-08	3.87E-08	3.88E-08	3.88E-08
Cm-243	1.47E-09	1.08E-06	5.78E-04	1.47E-09	1.47E-09	1.47E-09	1.47E-09
Cm-244	6.90E-10	5.05E-07	2.72E-04	5.82E-10	6.35E-10	7.96E-09	4.08E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.12E-03 (g/L)	----	2.01	4.75E-03	5.03E-03	5.30E-03	7.81E-03
U	5.27E-02	9.17E+03	4.94E+03	4.78E-02	5.04E-02	5.37E-02	5.43E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.18E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(707 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density	1.57 (g/cc)	----	----	1.53	1.55	1.58	1.59
Void Fraction	0.609	----	----	0.553	0.579	0.644	0.684
Water wt%	45.4	----	----	44.2	44.7	46.2	47.1
TOC wt% C (wet)	0.651	----	----	0.533	0.591	0.710	0.768

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.45	5.06E+04	599	2.61	3.05	3.79	4.07
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.89	1.03E+05	1.22E+03	2.86	2.87	2.91	2.93
Cr^{3+}	3.98E-03	132	1.57	3.36E-03	3.66E-03	4.30E-03	4.60E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	7.58E-02	1.00E+04	119	4.58E-02	6.05E-02	9.11E-02	0.106
Ni^{2+}	9.29E-02	3.48E+03	41.2	7.53E-02	8.48E-02	9.95E-02	0.105
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	4.41E-02	1.13E+03	13.4	3.12E-02	3.75E-02	5.07E-02	5.70E-02
K^+	3.67E-02	916	10.9	2.99E-02	3.32E-02	4.02E-02	4.36E-02
OH^-	14.3	1.55E+05	1.84E+03	14.2	14.3	14.4	14.4
$NO3^-$	3.69E-02	1.46E+03	17.3	3.13E-02	3.41E-02	3.96E-02	4.20E-02
$NO2^-$	0.451	1.33E+04	157	0.367	0.408	0.494	0.535
$CO3^{2-}$	0.946	3.63E+04	429	0.681	0.822	1.05	1.14
$PO4^{3-}$	0.200	1.21E+04	144	8.59E-02	0.146	0.246	0.284
$SO4^{2-}$	7.29E-02	4.47E+03	53.0	6.63E-02	6.96E-02	7.61E-02	7.89E-02
Si (as SiO_x^{2-})	8.53E-04	15.3	0.181	7.29E-04	7.91E-04	9.13E-04	9.67E-04
F^-	0	0	0	0	0	0	0
Cl^-	2.10E-02	474	5.62	1.72E-02	1.90E-02	2.29E-02	2.48E-02
$C_6H_5O_7^{3-}$	1.65E-02	1.99E+03	23.6	1.34E-02	1.49E-02	1.81E-02	1.96E-02
$EDTA^{4-}$	3.30E-02	6.07E+03	71.8	2.68E-02	2.98E-02	3.61E-02	3.92E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0.210	7.92E+03	93.8	0.171	0.190	0.230	0.250
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.126	1.37E+03	16.2	9.58E-02	0.111	0.141	0.156
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(707 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density†	1.56 (g/cc)	----	----	1.53	1.55	1.58	1.59
Water wt%†	45.4	----	----	44.2	44.7	46.2	47.1
TOC wt% C (wet)†	0.651	----	----	0.533	0.591	0.710	0.768

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.44	5.06E+04	599	2.61	3.05	3.79	4.07
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.89	1.03E+05	1.22E+03	2.86	2.87	2.91	2.93
Cr^{3+}	3.98E-03	132	1.57	3.36E-03	3.66E-03	4.30E-03	4.60E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	7.57E-02	1.00E+04	119	4.58E-02	6.05E-02	9.11E-02	0.106
Ni^{2+}	9.28E-02	3.48E+03	41.2	7.53E-02	8.48E-02	9.95E-02	0.105
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	4.40E-02	1.13E+03	13.4	3.12E-02	3.75E-02	5.07E-02	5.70E-02
K^+	3.67E-02	916	10.9	2.99E-02	3.32E-02	4.02E-02	4.36E-02
OH^-	14.3	1.55E+05	1.84E+03	14.2	14.3	14.4	14.4
$NO3^-$	3.68E-02	1.46E+03	17.3	3.13E-02	3.41E-02	3.96E-02	4.20E-02
$NO2^-$	0.451	1.33E+04	157	0.367	0.408	0.494	0.535
$CO3^{2-}$	0.945	3.63E+04	429	0.681	0.822	1.05	1.14
$PO4^{3-}$	0.200	1.21E+04	144	8.59E-02	0.146	0.246	0.284
$SO4^{2-}$	7.28E-02	4.47E+03	53.0	6.63E-02	6.96E-02	7.61E-02	7.89E-02
Si (as SiO_x^{2-})	8.52E-04	15.3	0.181	7.29E-04	7.91E-04	9.13E-04	9.67E-04
F^-	0	0	0	0	0	0	0
Cl^-	2.09E-02	474	5.62	1.72E-02	1.90E-02	2.29E-02	2.48E-02
$C_6H_5O_7^{3-}$	1.65E-02	1.99E+03	23.6	1.34E-02	1.49E-02	1.81E-02	1.96E-02
$EDTA^{4-}$	3.29E-02	6.07E+03	71.8	2.68E-02	2.98E-02	3.61E-02	3.92E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0.210	7.92E+03	93.8	0.171	0.190	0.230	0.250
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.126	1.37E+03	16.2	9.58E-02	0.111	0.141	0.156
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.18E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(707 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density	1.57 (g/cc)	----	----	1.53	1.55	1.58	1.59
Void Fraction	0.609	----	----	0.553	0.579	0.644	0.684
Water wt%	45.4	----	----	44.2	44.7	46.2	47.1
TOC wt% C (wet)	0.651	----	----	0.533	0.591	0.710	0.768

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.83E-07	3.72E-04	4.41E-03	5.03E-07	5.41E-07	6.26E-07	6.69E-07
C-14	1.51E-06	9.65E-04	1.14E-02	1.11E-06	1.32E-06	1.67E-06	1.81E-06
Ni-59	5.59E-05	3.57E-02	0.423	4.53E-05	5.11E-05	6.05E-05	6.51E-05
Ni-63	5.48E-03	3.50	41.5	4.44E-03	5.01E-03	5.93E-03	6.38E-03
Co-60	1.80E-07	1.15E-04	1.36E-03	1.51E-07	1.65E-07	1.95E-07	1.10E-06
Se-79	6.88E-07	4.40E-04	5.21E-03	3.01E-07	4.40E-07	3.87E-05	9.14E-05
Sr-90	4.07	2.60E+03	3.07E+04	3.73	3.91	4.21	4.34
Y-90	4.07	2.60E+03	3.08E+04	3.73	3.91	4.21	4.35
Zr-93	3.05E-06	1.95E-03	2.31E-02	1.34E-06	1.81E-06	1.54E-04	4.18E-04
Nb-93m	2.57E-06	1.64E-03	1.95E-02	1.06E-06	1.70E-06	1.50E-04	3.34E-04
Tc-99	2.22E-06	1.42E-03	1.68E-02	2.02E-06	2.12E-06	2.32E-06	2.41E-06
Ru-106	1.24E-09	7.95E-07	9.41E-06	9.64E-10	1.10E-09	9.12E-09	9.47E-08
Cd-113m	7.77E-06	4.96E-03	5.87E-02	4.37E-06	6.04E-06	1.39E-05	1.38E-03
Sb-125	6.16E-07	3.94E-04	4.66E-03	5.03E-07	5.59E-07	6.74E-07	7.30E-07
Sn-126	1.09E-06	6.99E-04	8.28E-03	4.74E-07	7.22E-07	6.43E-05	1.43E-04
I-129	4.21E-09	2.69E-06	3.18E-05	3.83E-09	4.01E-09	4.40E-09	4.59E-09
Cs-134	5.97E-10	3.81E-07	4.52E-06	4.88E-10	5.41E-10	6.53E-10	7.07E-10
Cs-137	1.20E-03	0.766	9.08	1.04E-03	1.12E-03	1.28E-03	1.35E-03
Ba-137m	1.14E-03	0.725	8.58	9.80E-04	1.06E-03	1.21E-03	1.28E-03
Sm-151	2.58E-03	1.65	19.5	1.15E-03	1.71E-03	0.152	0.336
Eu-152	4.30E-05	2.75E-02	0.325	4.29E-05	4.30E-05	4.30E-05	4.31E-05
Eu-154	2.52E-05	1.61E-02	0.191	3.46E-06	1.08E-05	3.97E-05	1.45E-03
Eu-155	2.81E-03	1.79	21.2	2.80E-03	2.80E-03	2.81E-03	2.81E-03
Ra-226	4.93E-09	3.14E-06	3.72E-05	1.59E-09	3.22E-09	6.63E-09	8.26E-09
Ra-228	2.77E-14	1.77E-11	2.09E-10	2.76E-14	2.76E-14	2.77E-14	2.77E-14
Ac-227	2.39E-08	1.53E-05	1.81E-04	4.55E-09	1.41E-08	3.38E-08	4.33E-08
Pa-231	8.01E-10	5.12E-07	6.06E-06	3.55E-10	5.53E-10	3.77E-08	9.05E-08
Th-229	5.01E-12	3.20E-09	3.79E-08	5.00E-12	5.01E-12	5.02E-12	5.02E-12
Th-232	8.80E-17	5.62E-14	6.65E-13	8.03E-17	8.41E-17	9.16E-17	9.50E-17
U-232	8.15E-10	5.20E-07	6.16E-06	8.12E-10	8.13E-10	8.16E-10	8.17E-10
U-233	4.88E-11	3.11E-08	3.69E-07	4.86E-11	4.87E-11	4.88E-11	4.89E-11
U-234	6.87E-05	4.39E-02	0.520	6.85E-05	6.86E-05	6.88E-05	6.89E-05
U-235	3.09E-06	1.97E-03	2.34E-02	3.08E-06	3.09E-06	3.10E-06	3.10E-06
U-236	4.39E-07	2.80E-04	3.32E-03	4.37E-07	4.38E-07	4.39E-07	4.40E-07
U-238	6.96E-05	4.44E-02	0.526	6.93E-05	6.95E-05	6.97E-05	6.98E-05
Np-237	1.02E-08	6.51E-06	7.71E-05	9.17E-09	9.68E-09	1.07E-08	1.11E-08
Pu-238	4.43E-05	2.83E-02	0.335	3.35E-05	3.88E-05	4.97E-05	5.49E-05
Pu-239	1.87E-03	1.20	14.2	1.40E-03	1.63E-03	2.11E-03	2.35E-03
Pu-240	3.08E-04	0.197	2.33	2.31E-04	2.69E-04	3.47E-04	3.85E-04
Pu-241	3.20E-03	2.04	24.2	2.42E-03	2.80E-03	3.59E-03	3.97E-03
Pu-242	1.57E-08	1.01E-05	1.19E-04	1.20E-08	1.38E-08	1.76E-08	1.94E-08
Am-241	6.32E-04	0.404	4.78	1.12E-05	1.48E-05	1.46E-03	2.25E-03
Am-243	1.52E-08	9.68E-06	1.15E-04	3.36E-10	3.89E-10	3.27E-08	4.81E-08
Cm-242	1.02E-06	6.50E-04	7.70E-03	1.02E-06	1.02E-06	1.02E-06	1.02E-06
Cm-243	5.58E-08	3.56E-05	4.22E-04	5.57E-08	5.57E-08	5.59E-08	5.59E-08
Cm-244	2.71E-08	1.73E-05	2.05E-04	2.15E-08	2.42E-08	4.05E-07	2.12E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.15E-02 (g/L)	----	0.238	2.35E-02	2.74E-02	3.56E-02	3.95E-02
U	0.876	1.33E+05	1.58E+03	0.873	0.874	0.877	0.878

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(707 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density†	1.56 (g/cc)	----	----	1.53	1.55	1.58	1.59
Water wt%†	45.4	----	----	44.2	44.7	46.2	47.1
TOC wt% C (wet)†	0.651	----	----	0.533	0.591	0.710	0.768

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.82E-07	3.72E-04	4.41E-03	5.03E-07	5.41E-07	6.26E-07	6.69E-07
C-14	1.51E-06	9.65E-04	1.14E-02	1.11E-06	1.32E-06	1.67E-06	1.81E-06
Ni-59	5.59E-05	3.57E-02	0.423	4.53E-05	5.11E-05	6.05E-05	6.51E-05
Ni-63	5.48E-03	3.50	41.5	4.44E-03	5.01E-03	5.93E-03	6.38E-03
Co-60	1.80E-07	1.15E-04	1.36E-03	1.51E-07	1.65E-07	1.95E-07	1.10E-06
Se-79	6.88E-07	4.40E-04	5.21E-03	3.01E-07	4.40E-07	3.87E-05	9.14E-05
Sr-90	4.06	2.60E+03	3.07E+04	3.73	3.91	4.21	4.34
Y-90	4.06	2.60E+03	3.08E+04	3.73	3.91	4.21	4.35
Zr-93	3.05E-06	1.95E-03	2.31E-02	1.34E-06	1.81E-06	1.54E-04	4.18E-04
Nb-93m	2.57E-06	1.64E-03	1.95E-02	1.06E-06	1.70E-06	1.50E-04	3.34E-04
Tc-99	2.22E-06	1.42E-03	1.68E-02	2.02E-06	2.12E-06	2.32E-06	2.41E-06
Ru-106	1.24E-09	7.95E-07	9.41E-06	9.64E-10	1.10E-09	9.12E-09	9.47E-08
Cd-113m	7.76E-06	4.96E-03	5.87E-02	4.37E-06	6.04E-06	1.39E-05	1.38E-03
Sb-125	6.16E-07	3.94E-04	4.66E-03	5.03E-07	5.59E-07	6.74E-07	7.30E-07
Sn-126	1.09E-06	6.99E-04	8.28E-03	4.74E-07	7.22E-07	6.43E-05	1.43E-04
I-129	4.20E-09	2.69E-06	3.18E-05	3.83E-09	4.01E-09	4.40E-09	4.59E-09
Cs-134	5.97E-10	3.81E-07	4.52E-06	4.88E-10	5.41E-10	6.53E-10	7.07E-10
Cs-137	1.20E-03	0.766	9.08	1.04E-03	1.12E-03	1.28E-03	1.35E-03
Ba-137m	1.13E-03	0.725	8.58	9.80E-04	1.06E-03	1.21E-03	1.28E-03
Sm-151	2.58E-03	1.65	19.5	1.15E-03	1.71E-03	0.152	0.336
Eu-152	4.30E-05	2.75E-02	0.325	4.29E-05	4.30E-05	4.30E-05	4.31E-05
Eu-154	2.52E-05	1.61E-02	0.191	3.46E-06	1.08E-05	3.97E-05	1.45E-03
Eu-155	2.80E-03	1.79	21.2	2.80E-03	2.80E-03	2.81E-03	2.81E-03
Ra-226	4.92E-09	3.14E-06	3.72E-05	1.59E-09	3.22E-09	6.63E-09	8.26E-09
Ra-228	2.76E-14	1.77E-11	2.09E-10	2.76E-14	2.76E-14	2.77E-14	2.77E-14
Ac-227	2.39E-08	1.53E-05	1.81E-04	4.55E-09	1.41E-08	3.38E-08	4.33E-08
Pa-231	8.01E-10	5.12E-07	6.06E-06	3.55E-10	5.53E-10	3.77E-08	9.05E-08
Th-229	5.01E-12	3.20E-09	3.79E-08	5.00E-12	5.01E-12	5.02E-12	5.02E-12
Th-232	8.79E-17	5.62E-14	6.65E-13	8.03E-17	8.41E-17	9.16E-17	9.50E-17
U-232	8.14E-10	5.20E-07	6.16E-06	8.12E-10	8.13E-10	8.16E-10	8.17E-10
U-233	4.87E-11	3.11E-08	3.69E-07	4.86E-11	4.87E-11	4.88E-11	4.89E-11
U-234	6.86E-05	4.39E-02	0.520	6.85E-05	6.86E-05	6.88E-05	6.89E-05
U-235	3.09E-06	1.97E-03	2.34E-02	3.08E-06	3.09E-06	3.10E-06	3.10E-06
U-236	4.38E-07	2.80E-04	3.32E-03	4.37E-07	4.38E-07	4.39E-07	4.40E-07
U-238	6.95E-05	4.44E-02	0.526	6.93E-05	6.95E-05	6.97E-05	6.98E-05
Np-237	1.02E-08	6.51E-06	7.71E-05	9.17E-09	9.68E-09	1.07E-08	1.11E-08
Pu-238	4.43E-05	2.83E-02	0.335	3.35E-05	3.88E-05	4.97E-05	5.49E-05
Pu-239	1.87E-03	1.20	14.2	1.40E-03	1.63E-03	2.11E-03	2.35E-03
Pu-240	3.08E-04	0.197	2.33	2.31E-04	2.69E-04	3.47E-04	3.85E-04
Pu-241	3.20E-03	2.04	24.2	2.42E-03	2.80E-03	3.59E-03	3.97E-03
Pu-242	1.57E-08	1.01E-05	1.19E-04	1.20E-08	1.38E-08	1.76E-08	1.94E-08
Am-241	6.32E-04	0.404	4.78	1.12E-05	1.48E-05	1.46E-03	2.25E-03
Am-243	1.52E-08	9.68E-06	1.15E-04	3.36E-10	3.89E-10	3.27E-08	4.81E-08
Cm-242	1.02E-06	6.50E-04	7.70E-03	1.02E-06	1.02E-06	1.02E-06	1.02E-06
Cm-243	5.57E-08	3.56E-05	4.22E-04	5.57E-08	5.57E-08	5.59E-08	5.59E-08
Cm-244	2.71E-08	1.73E-05	2.05E-04	2.15E-08	2.42E-08	4.05E-07	2.12E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.15E-02 (g/L)	----	0.238	2.35E-02	2.74E-02	3.56E-02	3.95E-02
U	0.875	1.33E+05	1.58E+03	0.873	0.874	0.877	0.878

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.215	0.221
Bulk Density	1.45 (g/cc)	----	----	1.42	1.44	1.46	1.47
Void Fraction	0.823	----	----	0.820	0.821	0.824	0.826
Water wt%	43.6	----	----	41.6	42.6	44.6	45.8
TOC wt% C (wet)	1.41	----	----	1.16	1.28	1.53	1.65

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.83	2.90E+04	159	1.48	1.65	2.00	2.17
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	5.67	2.19E+05	1.20E+03	5.59	5.63	5.71	5.74
Cr^{3+}	6.59E-03	237	1.30	5.36E-03	5.96E-03	7.22E-03	7.83E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.152	2.17E+04	119	9.16E-02	0.121	0.182	0.212
Ni^{2+}	0.185	7.51E+03	41.1	0.150	0.169	0.198	0.209
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	4.04E-03	112	0.613	3.28E-03	3.65E-03	4.43E-03	4.80E-03
K^+	7.31E-02	1.98E+03	10.8	5.94E-02	6.61E-02	8.01E-02	8.68E-02
OH^-	17.8	2.09E+05	1.14E+03	17.5	17.6	17.9	18.0
$NO3^-$	2.34E-08	1.00E-03	5.48E-06	7.15E-09	1.28E-08	4.27E-08	7.87E-08
$NO2^-$	0.897	2.85E+04	156	0.729	0.812	0.983	1.07
$CO3^{2-}$	4.04E-03	167	0.917	3.28E-03	3.65E-03	4.43E-03	4.80E-03
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	5.56E-02	3.69E+03	20.2	4.52E-02	5.03E-02	6.09E-02	6.60E-02
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	4.05E-02	992	5.44	3.29E-02	3.67E-02	4.44E-02	4.81E-02
$C_6H_5O_7^{3-}$	3.30E-02	4.31E+03	23.6	2.68E-02	2.98E-02	3.61E-02	3.92E-02
$EDTA^{4-}$	6.59E-02	1.31E+04	71.9	5.36E-02	5.96E-02	7.22E-02	7.83E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0.420	1.71E+04	93.9	0.342	0.380	0.461	0.499
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.252	2.96E+03	16.2	0.192	0.221	0.282	0.311
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.215	0.221
Bulk Density†	1.45 (g/cc)	----	----	1.42	1.44	1.46	1.47
Water wt%†	43.6	----	----	41.6	42.6	44.6	45.8
TOC wt% C (wet)†	1.41	----	----	1.16	1.28	1.53	1.65

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.83	2.90E+04	159	1.48	1.65	2.00	2.17
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	5.67	2.19E+05	1.20E+03	5.59	5.63	5.71	5.74
Cr^{3+}	6.59E-03	237	1.30	5.36E-03	5.96E-03	7.22E-03	7.83E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.152	2.17E+04	119	9.16E-02	0.121	0.182	0.212
Ni^{2+}	0.185	7.51E+03	41.1	0.150	0.169	0.198	0.209
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	4.04E-03	112	0.613	3.28E-03	3.65E-03	4.43E-03	4.80E-03
K^+	7.31E-02	1.98E+03	10.8	5.94E-02	6.61E-02	8.01E-02	8.68E-02
OH^-	17.8	2.09E+05	1.14E+03	17.5	17.6	17.9	18.0
$NO3^-$	2.34E-08	1.00E-03	5.48E-06	7.15E-09	1.28E-08	4.27E-08	7.87E-08
$NO2^-$	0.897	2.85E+04	156	0.729	0.812	0.983	1.07
$CO3^{2-}$	4.04E-03	167	0.917	3.28E-03	3.65E-03	4.43E-03	4.80E-03
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	5.56E-02	3.69E+03	20.2	4.52E-02	5.03E-02	6.09E-02	6.60E-02
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	4.05E-02	992	5.44	3.29E-02	3.67E-02	4.44E-02	4.81E-02
$C_6H_5O_7^{3-}$	3.30E-02	4.31E+03	23.6	2.68E-02	2.98E-02	3.61E-02	3.92E-02
$EDTA^{4-}$	6.59E-02	1.31E+04	71.9	5.36E-02	5.96E-02	7.22E-02	7.83E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0.420	1.71E+04	93.9	0.342	0.380	0.461	0.499
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.252	2.96E+03	16.2	0.192	0.221	0.282	0.311
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.215	0.221
Bulk Density	1.45 (g/cc)	----	----	1.42	1.44	1.46	1.47
Void Fraction	0.823	----	----	0.820	0.821	0.824	0.826
Water wt%	43.6	----	----	41.6	42.6	44.6	45.8
TOC wt% C (wet)	1.41	----	----	1.16	1.28	1.53	1.65
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.16E-07	1.49E-04	8.19E-04	1.42E-07	1.77E-07	2.60E-07	3.06E-07
C-14	2.98E-07	2.06E-04	1.13E-03	2.42E-07	2.70E-07	3.27E-07	3.54E-07
Ni-59	1.12E-04	7.72E-02	0.423	9.05E-05	1.02E-04	1.21E-04	1.30E-04
Ni-63	1.10E-02	7.57	41.5	8.88E-03	1.00E-02	1.19E-02	1.28E-02
Co-60	3.14E-07	2.17E-04	1.19E-03	2.55E-07	2.84E-07	3.44E-07	2.15E-06
Se-79	1.31E-06	9.02E-04	4.94E-03	5.31E-07	8.09E-07	7.73E-05	1.83E-04
Sr-90	8.13	5.62E+03	3.08E+04	7.46	7.83	8.41	8.69
Y-90	8.13	5.62E+03	3.08E+04	7.47	7.83	8.42	8.69
Zr-93	5.76E-06	3.98E-03	2.18E-02	2.35E-06	3.27E-06	3.08E-04	8.36E-04
Nb-93m	4.85E-06	3.35E-03	1.84E-02	1.83E-06	3.12E-06	2.99E-04	6.68E-04
Tc-99	2.10E-06	1.45E-03	7.95E-03	1.71E-06	1.90E-06	2.30E-06	2.49E-06
Ru-106	2.49E-09	1.72E-06	9.42E-06	1.93E-09	2.20E-09	1.82E-08	1.89E-07
Cd-113m	1.48E-05	1.03E-02	5.62E-02	8.05E-06	1.14E-05	2.71E-05	2.75E-03
Sb-125	1.21E-06	8.34E-04	4.57E-03	9.81E-07	1.09E-06	1.32E-06	1.43E-06
Sn-126	2.08E-06	1.44E-03	7.88E-03	8.42E-07	1.34E-06	1.28E-04	2.87E-04
I-129	4.06E-09	2.81E-06	1.54E-05	3.30E-09	3.67E-09	4.45E-09	4.82E-09
Cs-134	1.17E-09	8.06E-07	4.42E-06	9.49E-10	1.06E-09	1.28E-09	1.39E-09
Cs-137	1.46E-04	0.101	0.554	1.19E-04	1.32E-04	1.60E-04	1.74E-04
Ba-137m	1.39E-04	9.57E-02	0.524	1.13E-04	1.25E-04	1.52E-04	1.64E-04
Sm-151	4.90E-03	3.38	18.5	2.03E-03	3.16E-03	0.303	0.673
Eu-152	8.59E-05	5.94E-02	0.325	8.58E-05	8.59E-05	8.60E-05	8.61E-05
Eu-154	4.98E-05	3.44E-02	0.189	6.30E-06	2.09E-05	7.87E-05	2.90E-03
Eu-155	5.60E-03	3.87	21.2	5.59E-03	5.60E-03	5.61E-03	5.61E-03
Ra-226	9.71E-09	6.71E-06	3.68E-05	3.03E-09	6.31E-09	1.31E-08	1.64E-08
Ra-228	5.45E-14	3.76E-11	2.06E-10	5.44E-14	5.44E-14	5.45E-14	5.46E-14
Ac-227	4.75E-08	3.28E-05	1.80E-04	8.76E-09	2.78E-08	6.73E-08	8.63E-08
Pa-231	1.28E-09	8.88E-07	4.86E-06	3.91E-10	7.88E-10	7.51E-08	1.81E-07
Th-229	9.86E-12	6.81E-09	3.73E-08	9.84E-12	9.85E-12	9.87E-12	9.88E-12
Th-232	7.10E-17	4.91E-14	2.69E-13	5.77E-17	6.42E-17	7.78E-17	8.43E-17
U-232	7.72E-14	5.34E-11	2.92E-10	6.28E-14	6.98E-14	8.46E-14	9.17E-14
U-233	2.03E-15	1.40E-12	7.68E-12	1.65E-15	1.84E-15	2.22E-15	2.41E-15
U-234	1.11E-09	7.64E-07	4.19E-06	8.99E-10	1.00E-09	1.21E-09	1.31E-09
U-235	4.66E-11	3.22E-08	1.76E-07	3.79E-11	4.21E-11	5.10E-11	5.53E-11
U-236	2.57E-11	1.78E-08	9.74E-08	2.09E-11	2.33E-11	2.82E-11	3.06E-11
U-238	1.10E-09	7.59E-07	4.16E-06	8.93E-10	9.94E-10	1.20E-09	1.30E-09
Np-237	6.36E-09	4.39E-06	2.41E-05	5.17E-09	5.75E-09	6.97E-09	7.55E-09
Pu-238	8.86E-05	6.12E-02	0.335	6.71E-05	7.77E-05	9.95E-05	1.10E-04
Pu-239	3.74E-03	2.58	14.2	2.79E-03	3.26E-03	4.22E-03	4.69E-03
Pu-240	6.15E-04	0.425	2.33	4.61E-04	5.37E-04	6.94E-04	7.69E-04
Pu-241	6.40E-03	4.42	24.2	4.84E-03	5.61E-03	7.19E-03	7.94E-03
Pu-242	3.15E-08	2.18E-05	1.19E-04	2.40E-08	2.77E-08	3.53E-08	3.88E-08
Am-241	1.26E-03	0.874	4.79	2.24E-05	2.95E-05	2.91E-03	4.50E-03
Am-243	3.03E-08	2.10E-05	1.15E-04	6.72E-10	7.77E-10	6.54E-08	9.61E-08
Cm-242	2.04E-06	1.41E-03	7.71E-03	2.03E-06	2.03E-06	2.04E-06	2.04E-06
Cm-243	1.12E-07	7.71E-05	4.22E-04	1.11E-07	1.11E-07	1.12E-07	1.12E-07
Cm-244	5.42E-08	3.75E-05	2.05E-04	4.30E-08	4.85E-08	8.11E-07	4.23E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.29E-02 (g/L)	----	0.238	4.70E-02	5.48E-02	7.11E-02	7.89E-02
U	1.38E-05	2.27	1.25E-02	1.12E-05	1.25E-05	1.51E-05	1.64E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.215	0.221
Bulk Density†	1.45 (g/cc)	----	----	1.42	1.44	1.46	1.47
Water wt%†	43.6	----	----	41.6	42.6	44.6	45.8
TOC wt% C (wet)†	1.41	----	----	1.16	1.28	1.53	1.65
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.16E-07	1.49E-04	8.19E-04	1.42E-07	1.77E-07	2.60E-07	3.06E-07
C-14	2.98E-07	2.06E-04	1.13E-03	2.42E-07	2.70E-07	3.27E-07	3.54E-07
Ni-59	1.12E-04	7.72E-02	0.423	9.05E-05	1.02E-04	1.21E-04	1.30E-04
Ni-63	1.10E-02	7.57	41.5	8.88E-03	1.00E-02	1.19E-02	1.28E-02
Co-60	3.14E-07	2.17E-04	1.19E-03	2.55E-07	2.84E-07	3.44E-07	2.15E-06
Se-79	1.31E-06	9.02E-04	4.94E-03	5.31E-07	8.09E-07	7.73E-05	1.83E-04
Sr-90	8.13	5.62E+03	3.08E+04	7.46	7.83	8.41	8.69
Y-90	8.13	5.62E+03	3.08E+04	7.47	7.83	8.42	8.69
Zr-93	5.76E-06	3.98E-03	2.18E-02	2.35E-06	3.27E-06	3.08E-04	8.36E-04
Nb-93m	4.85E-06	3.35E-03	1.84E-02	1.83E-06	3.12E-06	2.99E-04	6.68E-04
Tc-99	2.10E-06	1.45E-03	7.95E-03	1.71E-06	1.90E-06	2.30E-06	2.49E-06
Ru-106	2.49E-09	1.72E-06	9.42E-06	1.93E-09	2.20E-09	1.82E-08	1.89E-07
Cd-113m	1.48E-05	1.03E-02	5.62E-02	8.05E-06	1.14E-05	2.71E-05	2.75E-03
Sb-125	1.21E-06	8.34E-04	4.57E-03	9.81E-07	1.09E-06	1.32E-06	1.43E-06
Sn-126	2.08E-06	1.44E-03	7.88E-03	8.42E-07	1.34E-06	1.28E-04	2.87E-04
I-129	4.06E-09	2.81E-06	1.54E-05	3.30E-09	3.67E-09	4.45E-09	4.82E-09
Cs-134	1.17E-09	8.06E-07	4.42E-06	9.49E-10	1.06E-09	1.28E-09	1.39E-09
Cs-137	1.46E-04	0.101	0.554	1.19E-04	1.32E-04	1.60E-04	1.74E-04
Ba-137m	1.39E-04	9.57E-02	0.524	1.13E-04	1.25E-04	1.52E-04	1.64E-04
Sm-151	4.90E-03	3.38	18.5	2.03E-03	3.16E-03	0.303	0.673
Eu-152	8.59E-05	5.94E-02	0.325	8.58E-05	8.59E-05	8.60E-05	8.61E-05
Eu-154	4.98E-05	3.44E-02	0.189	6.30E-06	2.09E-05	7.87E-05	2.90E-03
Eu-155	5.60E-03	3.87	21.2	5.59E-03	5.60E-03	5.61E-03	5.61E-03
Ra-226	9.71E-09	6.71E-06	3.68E-05	3.03E-09	6.31E-09	1.31E-08	1.64E-08
Ra-228	5.45E-14	3.76E-11	2.06E-10	5.44E-14	5.44E-14	5.45E-14	5.46E-14
Ac-227	4.75E-08	3.28E-05	1.80E-04	8.76E-09	2.78E-08	6.73E-08	8.63E-08
Pa-231	1.28E-09	8.88E-07	4.86E-06	3.91E-10	7.88E-10	7.51E-08	1.81E-07
Th-229	9.86E-12	6.81E-09	3.73E-08	9.84E-12	9.85E-12	9.87E-12	9.88E-12
Th-232	7.10E-17	4.91E-14	2.69E-13	5.77E-17	6.42E-17	7.78E-17	8.43E-17
U-232	7.72E-14	5.34E-11	2.92E-10	6.28E-14	6.98E-14	8.46E-14	9.17E-14
U-233	2.03E-15	1.40E-12	7.68E-12	1.65E-15	1.84E-15	2.22E-15	2.41E-15
U-234	1.11E-09	7.64E-07	4.19E-06	8.99E-10	1.00E-09	1.21E-09	1.31E-09
U-235	4.66E-11	3.22E-08	1.76E-07	3.79E-11	4.21E-11	5.10E-11	5.53E-11
U-236	2.57E-11	1.78E-08	9.74E-08	2.09E-11	2.33E-11	2.82E-11	3.06E-11
U-238	1.10E-09	7.59E-07	4.16E-06	8.93E-10	9.94E-10	1.20E-09	1.30E-09
Np-237	6.36E-09	4.39E-06	2.41E-05	5.17E-09	5.75E-09	6.97E-09	7.55E-09
Pu-238	8.86E-05	6.12E-02	0.335	6.71E-05	7.77E-05	9.95E-05	1.10E-04
Pu-239	3.74E-03	2.58	14.2	2.79E-03	3.26E-03	4.22E-03	4.69E-03
Pu-240	6.15E-04	0.425	2.33	4.61E-04	5.37E-04	6.94E-04	7.69E-04
Pu-241	6.40E-03	4.42	24.2	4.84E-03	5.61E-03	7.19E-03	7.94E-03
Pu-242	3.15E-08	2.18E-05	1.19E-04	2.40E-08	2.77E-08	3.53E-08	3.88E-08
Am-241	1.26E-03	0.874	4.79	2.24E-05	2.95E-05	2.91E-03	4.50E-03
Am-243	3.03E-08	2.10E-05	1.15E-04	6.72E-10	7.77E-10	6.54E-08	9.61E-08
Cm-242	2.04E-06	1.41E-03	7.71E-03	2.03E-06	2.03E-06	2.04E-06	2.04E-06
Cm-243	1.12E-07	7.71E-05	4.22E-04	1.11E-07	1.11E-07	1.12E-07	1.12E-07
Cm-244	5.42E-08	3.75E-05	2.05E-04	4.30E-08	4.85E-08	8.11E-07	4.23E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.29E-02 (g/L)	----	0.238	4.70E-02	5.48E-02	7.11E-02	7.89E-02
U	1.38E-05	2.27	1.25E-02	1.12E-05	1.25E-05	1.51E-05	1.64E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.10E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.68
Void Fraction	0.481	----	----	0.392	0.432	0.538	0.601
Water wt%	46.4	----	----	44.6	45.4	47.6	49.0
TOC wt% C (wet)	0.248	----	----	0.203	0.225	0.272	0.294

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.42	6.21E+04	1.92E+03	3.08	3.79	4.96	5.41
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.23	4.18E+04	1.30E+03	1.21	1.22	1.23	1.24
Cr^{3+}	2.41E-03	76.5	2.37	2.16E-03	2.28E-03	2.54E-03	2.66E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	3.03E-02	3.83E+03	119	1.83E-02	2.42E-02	3.64E-02	4.23E-02
Ni^{2+}	3.75E-02	1.34E+03	41.7	3.05E-02	3.43E-02	4.02E-02	4.23E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	6.82E-02	1.67E+03	51.7	4.75E-02	5.76E-02	7.87E-02	8.88E-02
K^{+}	1.48E-02	354	11.0	1.21E-02	1.34E-02	1.62E-02	1.76E-02
OH^{-}	12.2	1.27E+05	3.94E+03	12.2	12.2	12.3	12.3
$NO3^{-}$	5.90E-02	2.24E+03	69.2	5.01E-02	5.46E-02	6.34E-02	6.73E-02
$NO2^{-}$	0.183	5.15E+03	159	0.150	0.166	0.200	0.217
$CO3^{2-}$	1.51	5.54E+04	1.72E+03	1.09	1.31	1.68	1.83
$PO4^{3-}$	0.320	1.86E+04	575	0.138	0.234	0.394	0.454
$SO4^{2-}$	8.33E-02	4.89E+03	151	7.28E-02	7.81E-02	8.84E-02	9.30E-02
Si (as SiO_x^{2-})	1.37E-03	23.4	0.726	1.17E-03	1.27E-03	1.46E-03	1.55E-03
F^{-}	0	0	0	0	0	0	0
Cl^{-}	9.20E-03	199	6.17	7.69E-03	8.43E-03	9.98E-03	1.07E-02
$C_6H_5O_7^{3-}$	6.58E-03	760	23.5	5.35E-03	5.95E-03	7.21E-03	7.82E-03
$EDTA^{4-}$	1.32E-02	2.32E+03	71.8	1.07E-02	1.19E-02	1.44E-02	1.56E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	8.39E-02	3.03E+03	93.7	6.82E-02	7.59E-02	9.20E-02	9.97E-02
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.03E-02	522	16.2	3.83E-02	4.42E-02	5.63E-02	6.22E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.10E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density†	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.68
Water wt%†	46.4	----	----	44.6	45.4	47.6	49.0
TOC wt% C (wet)†	0.248	----	----	0.203	0.225	0.272	0.294

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.42	6.21E+04	1.92E+03	3.08	3.79	4.96	5.41
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.23	4.18E+04	1.30E+03	1.21	1.22	1.23	1.24
Cr^{3+}	2.41E-03	76.5	2.37	2.16E-03	2.28E-03	2.54E-03	2.66E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	3.03E-02	3.83E+03	119	1.83E-02	2.42E-02	3.64E-02	4.23E-02
Ni^{2+}	3.75E-02	1.34E+03	41.7	3.05E-02	3.43E-02	4.02E-02	4.23E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	6.81E-02	1.67E+03	51.7	4.75E-02	5.76E-02	7.87E-02	8.88E-02
K^{+}	1.48E-02	354	11.0	1.21E-02	1.34E-02	1.62E-02	1.76E-02
OH^{-}	12.2	1.27E+05	3.94E+03	12.2	12.2	12.3	12.3
$NO3^{-}$	5.90E-02	2.24E+03	69.2	5.01E-02	5.46E-02	6.34E-02	6.73E-02
$NO2^{-}$	0.183	5.15E+03	159	0.150	0.166	0.200	0.217
$CO3^{2-}$	1.51	5.54E+04	1.72E+03	1.09	1.31	1.68	1.83
$PO4^{3-}$	0.320	1.86E+04	575	0.138	0.234	0.394	0.454
$SO4^{2-}$	8.33E-02	4.89E+03	151	7.28E-02	7.81E-02	8.84E-02	9.30E-02
Si (as SiO_x^{2-})	1.37E-03	23.4	0.726	1.17E-03	1.27E-03	1.46E-03	1.55E-03
F^{-}	0	0	0	0	0	0	0
Cl^{-}	9.20E-03	199	6.17	7.69E-03	8.43E-03	9.98E-03	1.07E-02
$C_6H_5O_7^{3-}$	6.58E-03	760	23.5	5.35E-03	5.95E-03	7.21E-03	7.82E-03
$EDTA^{4-}$	1.32E-02	2.32E+03	71.8	1.07E-02	1.19E-02	1.44E-02	1.56E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	8.39E-02	3.03E+03	93.7	6.82E-02	7.59E-02	9.20E-02	9.97E-02
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.02E-02	522	16.2	3.83E-02	4.42E-02	5.63E-02	6.22E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.10E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.68
Void Fraction	0.481	----	----	0.392	0.432	0.538	0.601
Water wt%	46.4	----	----	44.6	45.4	47.6	49.0
TOC wt% C (wet)	0.248	----	----	0.203	0.225	0.272	0.294
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.03E-07	4.90E-04	1.52E-02	6.75E-07	7.36E-07	8.72E-07	9.41E-07
C-14	2.24E-06	1.37E-03	4.24E-02	1.60E-06	1.94E-06	2.50E-06	2.71E-06
Ni-59	2.24E-05	1.37E-02	0.424	1.82E-05	2.05E-05	2.42E-05	2.61E-05
Ni-63	2.20E-03	1.34	41.5	1.78E-03	2.00E-03	2.38E-03	2.55E-03
Co-60	1.00E-07	6.13E-05	1.90E-03	8.86E-08	9.43E-08	1.06E-07	4.68E-07
Se-79	3.18E-07	1.94E-04	6.01E-03	1.63E-07	2.18E-07	1.55E-05	3.66E-05
Sr-90	1.62	992	3.07E+04	1.49	1.56	1.68	1.74
Y-90	1.63	993	3.07E+04	1.49	1.56	1.68	1.74
Zr-93	1.42E-06	8.68E-04	2.69E-02	7.40E-07	9.25E-07	6.19E-05	1.67E-04
Nb-93m	1.20E-06	7.35E-04	2.28E-02	5.98E-07	8.56E-07	6.00E-05	1.34E-04
Tc-99	2.29E-06	1.40E-03	4.33E-02	2.02E-06	2.15E-06	2.42E-06	2.54E-06
Ru-106	4.97E-10	3.04E-07	9.40E-06	3.85E-10	4.40E-10	3.64E-09	3.78E-08
Cd-113m	3.52E-06	2.15E-03	6.65E-02	2.16E-06	2.82E-06	5.95E-06	5.50E-04
Sb-125	2.61E-07	1.60E-04	4.95E-03	2.16E-07	2.38E-07	2.84E-07	3.07E-07
Sn-126	5.00E-07	3.06E-04	9.47E-03	2.53E-07	3.52E-07	2.57E-05	5.73E-05
I-129	4.29E-09	2.62E-06	8.12E-05	3.78E-09	4.04E-09	4.54E-09	4.76E-09
Cs-134	2.55E-10	1.56E-07	4.82E-06	2.11E-10	2.33E-10	2.77E-10	2.98E-10
Cs-137	1.83E-03	1.12	34.7	1.57E-03	1.70E-03	1.96E-03	2.07E-03
Ba-137m	1.73E-03	1.06	32.8	1.49E-03	1.61E-03	1.85E-03	1.96E-03
Sm-151	1.19E-03	0.728	22.6	6.20E-04	8.46E-04	6.08E-02	0.135
Eu-152	1.72E-05	1.05E-02	0.326	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Eu-154	1.05E-05	6.39E-03	0.198	1.76E-06	4.68E-06	1.62E-05	5.79E-04
Eu-155	1.13E-03	0.688	21.3	1.12E-03	1.13E-03	1.13E-03	1.13E-03
Ra-226	2.05E-09	1.25E-06	3.88E-05	7.16E-10	1.37E-09	2.73E-09	3.38E-09
Ra-228	1.16E-14	7.06E-12	2.19E-10	1.15E-14	1.16E-14	1.16E-14	1.16E-14
Ac-227	9.77E-09	5.97E-06	1.85E-04	2.02E-09	5.82E-09	1.37E-08	1.75E-08
Pa-231	5.11E-10	3.12E-07	9.67E-06	3.33E-10	4.12E-10	1.53E-08	3.63E-08
Th-229	2.10E-12	1.28E-09	3.97E-08	2.10E-12	2.10E-12	2.10E-12	2.10E-12
Th-232	9.82E-17	5.99E-14	1.86E-12	8.59E-17	9.20E-17	1.04E-16	1.09E-16
U-232	1.30E-09	7.96E-07	2.47E-05	1.30E-09	1.30E-09	1.31E-09	1.31E-09
U-233	7.80E-11	4.77E-08	1.48E-06	7.78E-11	7.79E-11	7.82E-11	7.82E-11
U-234	1.10E-04	6.72E-02	2.08	1.10E-04	1.10E-04	1.10E-04	1.10E-04
U-235	4.95E-06	3.02E-03	9.36E-02	4.93E-06	4.94E-06	4.95E-06	4.96E-06
U-236	7.02E-07	4.29E-04	1.33E-02	7.00E-07	7.01E-07	7.03E-07	7.04E-07
U-238	1.11E-04	6.80E-02	2.11	1.11E-04	1.11E-04	1.12E-04	1.12E-04
Np-237	1.25E-08	7.63E-06	2.36E-04	1.09E-08	1.17E-08	1.33E-08	1.40E-08
Pu-238	1.77E-05	1.08E-02	0.335	1.34E-05	1.55E-05	1.99E-05	2.19E-05
Pu-239	7.50E-04	0.458	14.2	5.60E-04	6.53E-04	8.46E-04	9.39E-04
Pu-240	1.23E-04	7.51E-02	2.33	9.22E-05	1.07E-04	1.39E-04	1.54E-04
Pu-241	1.28E-03	0.781	24.2	9.67E-04	1.12E-03	1.44E-03	1.58E-03
Pu-242	6.29E-09	3.84E-06	1.19E-04	4.78E-09	5.53E-09	7.04E-09	7.75E-09
Am-241	2.53E-04	0.154	4.78	4.56E-06	5.99E-06	5.82E-04	8.98E-04
Am-243	6.06E-09	3.70E-06	1.15E-04	1.34E-10	1.55E-10	1.31E-08	1.92E-08
Cm-242	4.07E-07	2.48E-04	7.69E-03	4.06E-07	4.06E-07	4.07E-07	4.07E-07
Cm-243	2.23E-08	1.36E-05	4.22E-04	2.22E-08	2.23E-08	2.23E-08	2.23E-08
Cm-244	1.08E-08	6.61E-06	2.05E-04	8.59E-09	9.69E-09	1.62E-07	8.45E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.26E-02 (g/L)	----	0.239	9.43E-03	1.10E-02	1.42E-02	1.58E-02
U	1.40	2.04E+05	6.31E+03	1.40	1.40	1.40	1.41

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	----	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.10E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.199	0.214	0.221
Bulk Density†	1.64 (g/cc)	----	----	1.58	1.61	1.66	1.68
Water wt%†	46.4	----	----	44.6	45.4	47.6	49.0
TOC wt% C (wet)†	0.248	----	----	0.203	0.225	0.272	0.294
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.03E-07	4.90E-04	1.52E-02	6.75E-07	7.36E-07	8.72E-07	9.41E-07
C-14	2.24E-06	1.37E-03	4.24E-02	1.60E-06	1.94E-06	2.50E-06	2.71E-06
Ni-59	2.24E-05	1.37E-02	0.424	1.82E-05	2.05E-05	2.42E-05	2.61E-05
Ni-63	2.19E-03	1.34	41.5	1.78E-03	2.00E-03	2.38E-03	2.55E-03
Co-60	1.00E-07	6.13E-05	1.90E-03	8.86E-08	9.43E-08	1.06E-07	4.68E-07
Se-79	3.17E-07	1.94E-04	6.01E-03	1.63E-07	2.18E-07	1.55E-05	3.66E-05
Sr-90	1.62	992	3.07E+04	1.49	1.56	1.68	1.74
Y-90	1.62	993	3.07E+04	1.49	1.56	1.68	1.74
Zr-93	1.42E-06	8.68E-04	2.69E-02	7.40E-07	9.25E-07	6.19E-05	1.67E-04
Nb-93m	1.20E-06	7.35E-04	2.28E-02	5.98E-07	8.56E-07	6.00E-05	1.34E-04
Tc-99	2.29E-06	1.40E-03	4.33E-02	2.02E-06	2.15E-06	2.42E-06	2.54E-06
Ru-106	4.97E-10	3.04E-07	9.40E-06	3.85E-10	4.40E-10	3.64E-09	3.78E-08
Cd-113m	3.51E-06	2.15E-03	6.65E-02	2.16E-06	2.82E-06	5.95E-06	5.50E-04
Sb-125	2.61E-07	1.60E-04	4.95E-03	2.16E-07	2.38E-07	2.84E-07	3.07E-07
Sn-126	5.00E-07	3.06E-04	9.47E-03	2.53E-07	3.52E-07	2.57E-05	5.73E-05
I-129	4.29E-09	2.62E-06	8.12E-05	3.78E-09	4.04E-09	4.54E-09	4.76E-09
Cs-134	2.55E-10	1.56E-07	4.82E-06	2.11E-10	2.33E-10	2.77E-10	2.98E-10
Cs-137	1.83E-03	1.12	34.7	1.57E-03	1.70E-03	1.96E-03	2.07E-03
Ba-137m	1.73E-03	1.06	32.8	1.49E-03	1.61E-03	1.85E-03	1.96E-03
Sm-151	1.19E-03	0.728	22.6	6.20E-04	8.46E-04	6.08E-02	0.135
Eu-152	1.72E-05	1.05E-02	0.326	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Eu-154	1.05E-05	6.39E-03	0.198	1.76E-06	4.68E-06	1.62E-05	5.79E-04
Eu-155	1.13E-03	0.688	21.3	1.12E-03	1.13E-03	1.13E-03	1.13E-03
Ra-226	2.05E-09	1.25E-06	3.88E-05	7.16E-10	1.37E-09	2.73E-09	3.38E-09
Ra-228	1.16E-14	7.06E-12	2.19E-10	1.15E-14	1.16E-14	1.16E-14	1.16E-14
Ac-227	9.76E-09	5.97E-06	1.85E-04	2.02E-09	5.82E-09	1.37E-08	1.75E-08
Pa-231	5.11E-10	3.12E-07	9.67E-06	3.33E-10	4.12E-10	1.53E-08	3.63E-08
Th-229	2.10E-12	1.28E-09	3.97E-08	2.10E-12	2.10E-12	2.10E-12	2.10E-12
Th-232	9.81E-17	5.99E-14	1.86E-12	8.59E-17	9.20E-17	1.04E-16	1.09E-16
U-232	1.30E-09	7.96E-07	2.47E-05	1.30E-09	1.30E-09	1.31E-09	1.31E-09
U-233	7.80E-11	4.77E-08	1.48E-06	7.78E-11	7.79E-11	7.82E-11	7.82E-11
U-234	1.10E-04	6.72E-02	2.08	1.10E-04	1.10E-04	1.10E-04	1.10E-04
U-235	4.95E-06	3.02E-03	9.36E-02	4.93E-06	4.94E-06	4.95E-06	4.96E-06
U-236	7.02E-07	4.29E-04	1.33E-02	7.00E-07	7.01E-07	7.03E-07	7.04E-07
U-238	1.11E-04	6.80E-02	2.11	1.11E-04	1.11E-04	1.12E-04	1.12E-04
Np-237	1.25E-08	7.63E-06	2.36E-04	1.09E-08	1.17E-08	1.33E-08	1.40E-08
Pu-238	1.77E-05	1.08E-02	0.335	1.34E-05	1.55E-05	1.99E-05	2.19E-05
Pu-239	7.49E-04	0.458	14.2	5.60E-04	6.53E-04	8.46E-04	9.39E-04
Pu-240	1.23E-04	7.51E-02	2.33	9.22E-05	1.07E-04	1.39E-04	1.54E-04
Pu-241	1.28E-03	0.781	24.2	9.67E-04	1.12E-03	1.44E-03	1.58E-03
Pu-242	6.28E-09	3.84E-06	1.19E-04	4.78E-09	5.53E-09	7.04E-09	7.75E-09
Am-241	2.53E-04	0.154	4.78	4.56E-06	5.99E-06	5.82E-04	8.98E-04
Am-243	6.06E-09	3.70E-06	1.15E-04	1.34E-10	1.55E-10	1.31E-08	1.92E-08
Cm-242	4.07E-07	2.48E-04	7.69E-03	4.06E-07	4.06E-07	4.07E-07	4.07E-07
Cm-243	2.23E-08	1.36E-05	4.22E-04	2.22E-08	2.23E-08	2.23E-08	2.23E-08
Cm-244	1.08E-08	6.61E-06	2.05E-04	8.59E-09	9.69E-09	1.62E-07	8.45E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.26E-02 (g/L)	----	0.239	9.43E-03	1.10E-02	1.42E-02	1.58E-02
U	1.40	2.04E+05	6.31E+03	1.40	1.40	1.40	1.41

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-C-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.82E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.214	0.221
Bulk Density	1.61 (g/cc)	----	----	1.55	1.58	1.63	1.64
Void Fraction	0.538	----	----	0.464	0.497	0.585	0.638
Water wt%	46.0	----	----	44.4	45.1	47.0	48.2
TOC wt% C (wet)	0.423	----	----	0.345	0.383	0.462	0.500

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	3.99	5.71E+04	1.04E+03	2.87	3.46	4.44	4.81
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.97	6.84E+04	1.25E+03	1.94	1.95	1.98	1.99
Cr^{3+}	3.11E-03	101	1.83	2.70E-03	2.90E-03	3.32E-03	3.52E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	5.05E-02	6.52E+03	119	3.05E-02	4.03E-02	6.07E-02	7.05E-02
Ni^{2+}	6.21E-02	2.27E+03	41.4	5.04E-02	5.68E-02	6.65E-02	7.01E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	5.75E-02	1.43E+03	26.1	4.03E-02	4.87E-02	6.62E-02	7.46E-02
K^{+}	2.46E-02	598	10.9	2.00E-02	2.22E-02	2.69E-02	2.91E-02
OH^{-}	13.2	1.39E+05	2.54E+03	13.1	13.1	13.2	13.2
$NO3^{-}$	4.92E-02	1.90E+03	34.6	4.18E-02	4.55E-02	5.28E-02	5.61E-02
$NO2^{-}$	0.302	8.66E+03	158	0.246	0.274	0.331	0.358
$CO3^{2-}$	1.26	4.71E+04	859	0.907	1.09	1.40	1.53
$PO4^{3-}$	0.267	1.58E+04	288	0.115	0.195	0.328	0.378
$SO4^{2-}$	7.87E-02	4.71E+03	85.8	6.99E-02	7.43E-02	8.29E-02	8.67E-02
Si (as SiO_x^{2-})	1.14E-03	19.9	0.363	9.72E-04	1.05E-03	1.22E-03	1.29E-03
F^{-}	0	0	0	0	0	0	0
Cl^{-}	1.44E-02	318	5.80	1.19E-02	1.31E-02	1.57E-02	1.70E-02
$C_6H_5O_7^{3-}$	1.10E-02	1.29E+03	23.6	8.93E-03	9.93E-03	1.20E-02	1.30E-02
$EDTA^{4-}$	2.20E-02	3.94E+03	71.8	1.79E-02	1.99E-02	2.41E-02	2.61E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0.140	5.15E+03	93.8	0.114	0.127	0.153	0.166
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	8.39E-02	888	16.2	6.38E-02	7.37E-02	9.40E-02	0.104
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.82E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.214	0.221
Bulk Density†	1.61 (g/cc)	----	----	1.55	1.58	1.63	1.64
Water wt%†	46.0	----	----	44.4	45.1	47.0	48.2
TOC wt% C (wet)†	0.423	----	----	0.345	0.383	0.462	0.500

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	3.99	5.71E+04	1.04E+03	2.87	3.46	4.44	4.81
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.97	6.84E+04	1.25E+03	1.94	1.95	1.98	1.99
Cr^{3+}	3.11E-03	101	1.83	2.70E-03	2.90E-03	3.32E-03	3.52E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	5.05E-02	6.52E+03	119	3.05E-02	4.03E-02	6.07E-02	7.05E-02
Ni^{2+}	6.21E-02	2.27E+03	41.4	5.04E-02	5.68E-02	6.65E-02	7.01E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	5.74E-02	1.43E+03	26.1	4.03E-02	4.87E-02	6.62E-02	7.46E-02
K^{+}	2.45E-02	598	10.9	2.00E-02	2.22E-02	2.69E-02	2.91E-02
OH^{-}	13.2	1.39E+05	2.54E+03	13.1	13.1	13.2	13.2
$NO3^{-}$	4.92E-02	1.90E+03	34.6	4.18E-02	4.55E-02	5.28E-02	5.61E-02
$NO2^{-}$	0.302	8.66E+03	158	0.246	0.274	0.331	0.358
$CO3^{2-}$	1.26	4.71E+04	859	0.907	1.09	1.40	1.53
$PO4^{3-}$	0.267	1.58E+04	288	0.115	0.195	0.328	0.378
$SO4^{2-}$	7.87E-02	4.71E+03	85.8	6.99E-02	7.43E-02	8.29E-02	8.67E-02
Si (as SiO_x^{2-})	1.14E-03	19.9	0.363	9.72E-04	1.05E-03	1.22E-03	1.29E-03
F^{-}	0	0	0	0	0	0	0
Cl^{-}	1.44E-02	318	5.80	1.19E-02	1.31E-02	1.57E-02	1.70E-02
$C_6H_5O_7^{3-}$	1.10E-02	1.29E+03	23.6	8.93E-03	9.93E-03	1.20E-02	1.30E-02
$EDTA^{4-}$	2.20E-02	3.94E+03	71.8	1.79E-02	1.99E-02	2.41E-02	2.61E-02
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0.140	5.15E+03	93.8	0.114	0.127	0.153	0.166
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	8.38E-02	888	16.2	6.38E-02	7.37E-02	9.40E-02	0.104
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.82E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.214	0.221
Bulk Density	1.61 (g/cc)	----	----	1.55	1.58	1.63	1.64
Void Fraction	0.538	----	----	0.464	0.497	0.585	0.638
Water wt%	46.0	----	----	44.4	45.1	47.0	48.2
TOC wt% C (wet)	0.423	----	----	0.345	0.383	0.462	0.500
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.05E-07	4.39E-04	8.00E-03	5.98E-07	6.50E-07	7.63E-07	8.20E-07
C-14	1.92E-06	1.19E-03	2.18E-02	1.38E-06	1.67E-06	2.13E-06	2.31E-06
Ni-59	3.73E-05	2.32E-02	0.423	3.02E-05	3.41E-05	4.04E-05	4.34E-05
Ni-63	3.66E-03	2.28	41.5	2.96E-03	3.34E-03	3.96E-03	4.26E-03
Co-60	1.36E-07	8.46E-05	1.54E-03	1.16E-07	1.26E-07	1.46E-07	7.48E-07
Se-79	4.82E-07	3.00E-04	5.48E-03	2.24E-07	3.17E-07	2.58E-05	6.09E-05
Sr-90	2.71	1.69E+03	3.08E+04	2.49	2.61	2.80	2.90
Y-90	2.71	1.69E+03	3.08E+04	2.49	2.61	2.80	2.90
Zr-93	2.14E-06	1.34E-03	2.43E-02	1.01E-06	1.32E-06	1.03E-04	2.79E-04
Nb-93m	1.81E-06	1.13E-03	2.06E-02	8.03E-07	1.23E-06	9.98E-05	2.23E-04
Tc-99	2.26E-06	1.41E-03	2.56E-02	2.03E-06	2.14E-06	2.37E-06	2.46E-06
Ru-106	8.29E-10	5.16E-07	9.41E-06	6.42E-10	7.34E-10	6.07E-09	6.31E-08
Cd-113m	5.40E-06	3.37E-03	6.13E-02	3.14E-06	4.25E-06	9.47E-06	9.17E-04
Sb-125	4.19E-07	2.61E-04	4.76E-03	3.44E-07	3.81E-07	4.58E-07	4.95E-07
Sn-126	7.64E-07	4.76E-04	8.68E-03	3.51E-07	5.16E-07	4.29E-05	9.56E-05
I-129	4.25E-09	2.65E-06	4.83E-05	3.83E-09	4.04E-09	4.46E-09	4.64E-09
Cs-134	4.07E-10	2.53E-07	4.62E-06	3.34E-10	3.70E-10	4.44E-10	4.80E-10
Cs-137	1.55E-03	0.966	17.6	1.33E-03	1.44E-03	1.66E-03	1.75E-03
Ba-137m	1.47E-03	0.914	16.7	1.26E-03	1.36E-03	1.57E-03	1.66E-03
Sm-151	1.81E-03	1.13	20.5	8.54E-04	1.23E-03	0.101	0.224
Eu-152	2.87E-05	1.79E-02	0.325	2.86E-05	2.86E-05	2.87E-05	2.87E-05
Eu-154	1.70E-05	1.06E-02	0.193	2.52E-06	7.38E-06	2.66E-05	9.65E-04
Eu-155	1.87E-03	1.17	21.3	1.87E-03	1.87E-03	1.87E-03	1.88E-03
Ra-226	3.33E-09	2.07E-06	3.78E-05	1.10E-09	2.19E-09	4.46E-09	5.55E-09
Ra-228	1.87E-14	1.17E-11	2.12E-10	1.87E-14	1.87E-14	1.87E-14	1.88E-14
Ac-227	1.61E-08	1.00E-05	1.82E-04	3.15E-09	9.48E-09	2.27E-08	2.90E-08
Pa-231	6.40E-10	3.99E-07	7.27E-06	3.42E-10	4.75E-10	2.52E-08	6.04E-08
Th-229	3.39E-12	2.11E-09	3.85E-08	3.39E-12	3.39E-12	3.40E-12	3.40E-12
Th-232	9.36E-17	5.83E-14	1.06E-12	8.34E-17	8.85E-17	9.85E-17	1.03E-16
U-232	1.09E-09	6.77E-07	1.23E-05	1.08E-09	1.08E-09	1.09E-09	1.09E-09
U-233	6.50E-11	4.05E-08	7.38E-07	6.48E-11	6.49E-11	6.51E-11	6.52E-11
U-234	9.17E-05	5.71E-02	1.04	9.13E-05	9.15E-05	9.18E-05	9.19E-05
U-235	4.12E-06	2.57E-03	4.68E-02	4.11E-06	4.12E-06	4.13E-06	4.13E-06
U-236	5.85E-07	3.64E-04	6.64E-03	5.83E-07	5.84E-07	5.86E-07	5.87E-07
U-238	9.28E-05	5.78E-02	1.05	9.25E-05	9.27E-05	9.29E-05	9.30E-05
Np-237	1.15E-08	7.14E-06	1.30E-04	1.01E-08	1.08E-08	1.21E-08	1.27E-08
Pu-238	2.95E-05	1.84E-02	0.335	2.23E-05	2.59E-05	3.31E-05	3.66E-05
Pu-239	1.25E-03	0.777	14.2	9.32E-04	1.09E-03	1.41E-03	1.56E-03
Pu-240	2.05E-04	0.128	2.33	1.54E-04	1.79E-04	2.31E-04	2.56E-04
Pu-241	2.13E-03	1.33	24.2	1.61E-03	1.87E-03	2.39E-03	2.64E-03
Pu-242	1.05E-08	6.53E-06	1.19E-04	7.98E-09	9.22E-09	1.17E-08	1.29E-08
Am-241	4.21E-04	0.262	4.78	7.53E-06	9.91E-06	9.71E-04	1.50E-03
Am-243	1.01E-08	6.29E-06	1.15E-04	2.24E-10	2.59E-10	2.18E-08	3.20E-08
Cm-242	6.78E-07	4.22E-04	7.70E-03	6.77E-07	6.78E-07	6.79E-07	6.80E-07
Cm-243	3.72E-08	2.32E-05	4.22E-04	3.71E-08	3.71E-08	3.72E-08	3.72E-08
Cm-244	1.81E-08	1.12E-05	2.05E-04	1.43E-08	1.62E-08	2.70E-07	1.41E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.10E-02 (g/L)	----	0.238	1.57E-02	1.83E-02	2.37E-02	2.63E-02
U	1.17	1.73E+05	3.16E+03	1.16	1.17	1.17	1.17

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-C-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-C-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.82E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0.207 (kW)	(708 BTU/hr)	----	0.190	0.200	0.214	0.221
Bulk Density†	1.61 (g/cc)	----	----	1.55	1.58	1.63	1.64
Water wt%†	46.0	----	----	44.4	45.1	47.0	48.2
TOC wt% C (wet)†	0.423	----	----	0.345	0.383	0.462	0.500
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.05E-07	4.39E-04	8.00E-03	5.98E-07	6.50E-07	7.63E-07	8.20E-07
C-14	1.92E-06	1.19E-03	2.18E-02	1.38E-06	1.67E-06	2.13E-06	2.31E-06
Ni-59	3.73E-05	2.32E-02	0.423	3.02E-05	3.41E-05	4.04E-05	4.34E-05
Ni-63	3.66E-03	2.28	41.5	2.96E-03	3.34E-03	3.96E-03	4.26E-03
Co-60	1.36E-07	8.46E-05	1.54E-03	1.16E-07	1.26E-07	1.46E-07	7.48E-07
Se-79	4.82E-07	3.00E-04	5.48E-03	2.24E-07	3.17E-07	2.58E-05	6.09E-05
Sr-90	2.71	1.69E+03	3.08E+04	2.49	2.61	2.80	2.90
Y-90	2.71	1.69E+03	3.08E+04	2.49	2.61	2.80	2.90
Zr-93	2.14E-06	1.34E-03	2.43E-02	1.01E-06	1.32E-06	1.03E-04	2.79E-04
Nb-93m	1.81E-06	1.13E-03	2.06E-02	8.03E-07	1.23E-06	9.98E-05	2.23E-04
Tc-99	2.26E-06	1.41E-03	2.56E-02	2.03E-06	2.14E-06	2.37E-06	2.46E-06
Ru-106	8.29E-10	5.16E-07	9.41E-06	6.42E-10	7.34E-10	6.07E-09	6.31E-08
Cd-113m	5.40E-06	3.37E-03	6.13E-02	3.14E-06	4.25E-06	9.47E-06	9.17E-04
Sb-125	4.19E-07	2.61E-04	4.76E-03	3.44E-07	3.81E-07	4.58E-07	4.95E-07
Sn-126	7.64E-07	4.76E-04	8.68E-03	3.51E-07	5.16E-07	4.29E-05	9.56E-05
I-129	4.25E-09	2.65E-06	4.83E-05	3.83E-09	4.04E-09	4.46E-09	4.64E-09
Cs-134	4.07E-10	2.53E-07	4.62E-06	3.34E-10	3.70E-10	4.44E-10	4.80E-10
Cs-137	1.55E-03	0.966	17.6	1.33E-03	1.44E-03	1.66E-03	1.75E-03
Ba-137m	1.47E-03	0.914	16.7	1.26E-03	1.36E-03	1.57E-03	1.66E-03
Sm-151	1.81E-03	1.13	20.5	8.54E-04	1.23E-03	0.101	0.224
Eu-152	2.87E-05	1.79E-02	0.325	2.86E-05	2.86E-05	2.87E-05	2.87E-05
Eu-154	1.70E-05	1.06E-02	0.193	2.52E-06	7.38E-06	2.66E-05	9.65E-04
Eu-155	1.87E-03	1.17	21.3	1.87E-03	1.87E-03	1.87E-03	1.88E-03
Ra-226	3.33E-09	2.07E-06	3.78E-05	1.10E-09	2.19E-09	4.46E-09	5.55E-09
Ra-228	1.87E-14	1.17E-11	2.12E-10	1.87E-14	1.87E-14	1.87E-14	1.88E-14
Ac-227	1.61E-08	1.00E-05	1.82E-04	3.15E-09	9.48E-09	2.27E-08	2.90E-08
Pa-231	6.40E-10	3.99E-07	7.27E-06	3.42E-10	4.75E-10	2.52E-08	6.04E-08
Th-229	3.39E-12	2.11E-09	3.85E-08	3.39E-12	3.39E-12	3.40E-12	3.40E-12
Th-232	9.36E-17	5.83E-14	1.06E-12	8.34E-17	8.85E-17	9.85E-17	1.03E-16
U-232	1.09E-09	6.77E-07	1.23E-05	1.08E-09	1.08E-09	1.09E-09	1.09E-09
U-233	6.50E-11	4.05E-08	7.38E-07	6.48E-11	6.49E-11	6.51E-11	6.52E-11
U-234	9.16E-05	5.71E-02	1.04	9.13E-05	9.15E-05	9.18E-05	9.19E-05
U-235	4.12E-06	2.57E-03	4.68E-02	4.11E-06	4.12E-06	4.13E-06	4.13E-06
U-236	5.85E-07	3.64E-04	6.64E-03	5.83E-07	5.84E-07	5.86E-07	5.87E-07
U-238	9.28E-05	5.78E-02	1.05	9.25E-05	9.27E-05	9.29E-05	9.30E-05
Np-237	1.15E-08	7.14E-06	1.30E-04	1.01E-08	1.08E-08	1.21E-08	1.27E-08
Pu-238	2.95E-05	1.84E-02	0.335	2.23E-05	2.59E-05	3.31E-05	3.66E-05
Pu-239	1.25E-03	0.777	14.2	9.32E-04	1.09E-03	1.41E-03	1.56E-03
Pu-240	2.05E-04	0.128	2.33	1.54E-04	1.79E-04	2.31E-04	2.56E-04
Pu-241	2.13E-03	1.33	24.2	1.61E-03	1.87E-03	2.39E-03	2.64E-03
Pu-242	1.05E-08	6.53E-06	1.19E-04	7.98E-09	9.22E-09	1.17E-08	1.29E-08
Am-241	4.21E-04	0.262	4.78	7.53E-06	9.91E-06	9.71E-04	1.50E-03
Am-243	1.01E-08	6.29E-06	1.15E-04	2.24E-10	2.59E-10	2.18E-08	3.20E-08
Cm-242	6.78E-07	4.22E-04	7.70E-03	6.77E-07	6.78E-07	6.79E-07	6.80E-07
Cm-243	3.72E-08	2.32E-05	4.22E-04	3.71E-08	3.71E-08	3.72E-08	3.72E-08
Cm-244	1.81E-08	1.12E-05	2.05E-04	1.43E-08	1.62E-08	2.70E-07	1.41E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.10E-02 (g/L)	----	0.238	1.57E-02	1.83E-02	2.37E-02	2.63E-02
U	1.17	1.73E+05	3.16E+03	1.16	1.17	1.17	1.17

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.39E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	3.39 (kW)	(1.16E+04 BTU/hr)	----	2.77	3.13	3.56	3.64
Bulk Density	1.74 (g/cc)	----	----	1.62	1.64	1.89	1.95
Void Fraction	0.658	----	----	0.450	0.519	0.746	0.748
Water wt%	29.9	----	----	17.4	21.4	36.4	38.2
TOC wt% C (wet)	2.21E-03	----	----	1.97E-03	2.03E-03	2.38E-03	2.57E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.4	1.37E+05	1.90E+05	8.15	8.37	13.2	14.8
Al^{3+}	6.03	9.36E+04	1.30E+05	5.20	5.44	6.67	7.32
Fe^{3+} (total Fe)	0.472	1.51E+04	2.10E+04	0.464	0.468	0.476	0.480
Cr^{3+}	0.378	1.13E+04	1.57E+04	0.232	0.302	0.578	0.813
Bi^{3+}	2.93E-06	0.352	0.489	2.48E-06	2.70E-06	3.23E-06	3.55E-06
La^{3+}	7.22E-12	5.76E-07	8.01E-07	6.33E-12	6.83E-12	7.98E-12	8.77E-12
Hg^{2+}	5.61E-04	64.7	89.9	5.53E-04	5.58E-04	5.64E-04	5.65E-04
Zr (as $ZrO(OH)_2$)	2.93E-07	1.53E-02	2.13E-02	2.69E-07	2.80E-07	3.07E-07	3.31E-07
Pb^{2+}	1.62E-02	1.93E+03	2.69E+03	1.49E-02	1.57E-02	1.68E-02	1.74E-02
Ni^{2+}	2.87E-02	968	1.34E+03	2.25E-02	2.60E-02	3.07E-02	3.03E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.13E-05	0.674	0.936	1.52E-05	1.82E-05	2.45E-05	2.76E-05
Ca^{2+}	0.145	3.35E+03	4.65E+03	0.113	0.129	0.162	0.178
K^{+}	1.88E-02	422	586	1.44E-02	1.62E-02	2.05E-02	2.13E-02
OH^{-}	24.9	2.43E+05	3.38E+05	21.0	22.3	27.6	30.3
$NO3^{-}$	4.62	1.65E+05	2.29E+05	2.35	2.35	8.19	10.1
$NO2^{-}$	1.57	4.14E+04	5.75E+04	0.987	1.19	1.87	1.87
$CO3^{2-}$	0.147	5.08E+03	7.06E+03	0.115	0.131	0.164	0.180
$PO4^{3-}$	1.90E-04	10.4	14.4	1.76E-04	1.84E-04	1.97E-04	2.15E-04
$SO4^{2-}$	2.29E-02	1.27E+03	1.76E+03	1.89E-02	2.05E-02	2.45E-02	2.61E-02
Si (as SiO_x^{2-})	6.17E-02	997	1.38E+03	4.14E-02	5.40E-02	7.02E-02	8.31E-02
F^{-}	1.51E-04	1.65	2.29	1.29E-04	1.42E-04	1.66E-04	1.79E-04
Cl^{-}	8.04E-02	1.64E+03	2.28E+03	5.41E-02	6.70E-02	8.84E-02	0.126
$C_6H_5O_7^{3-}$	1.56E-04	17.0	23.6	1.51E-04	1.54E-04	1.63E-04	1.77E-04
$EDTA^{4-}$	6.08E-06	1.01	1.40	4.28E-06	5.26E-06	7.16E-06	8.24E-06
$HEDTA^{3-}$	5.05E-06	0.796	1.11	1.62E-06	3.47E-06	6.74E-06	8.39E-06
$glycolate^{-}$	2.20E-04	9.51	13.2	1.20E-04	1.74E-04	2.74E-04	3.26E-04
$acetate^{-}$	2.29E-05	0.776	1.08	2.22E-05	2.25E-05	2.43E-05	2.60E-05
$oxalate^{2-}$	9.46E-12	4.78E-07	6.65E-07	8.38E-12	8.90E-12	1.04E-11	1.14E-11
DBP	1.39E-04	16.7	23.3	1.29E-04	1.35E-04	1.50E-04	1.62E-04
butanol	1.39E-04	5.90	8.20	1.29E-04	1.35E-04	1.50E-04	1.62E-04
NH_3	0.127	1.24E+03	1.72E+03	4.40E-02	5.57E-02	0.133	0.139
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.26E+06 (kg)	(216 kgal)	----	----	----	----	----
Heat Load	1.51 (kW)	(5.17E+03 BTU/hr)	----	1.42	1.47	1.56	1.60
Bulk Density*	1.54 (g/cc)	----	----	1.49	1.51	1.55	1.57
Water wt%	38.2	----	----	35.5	36.7	39.7	41.6
TOC wt% C (wet)	0.692	----	----	0.466	0.577	0.808	0.921

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.5	1.88E+05	2.36E+05	11.4	12.0	13.0	13.5
Al^{3+}	1.49	2.62E+04	3.29E+04	1.38	1.44	1.56	1.60
Fe^{3+} (total Fe)	9.64E-03	351	440	7.79E-03	8.70E-03	1.06E-02	1.15E-02
Cr^{3+}	0.133	4.52E+03	5.67E+03	0.111	0.123	0.137	0.141
Bi^{3+}	1.09E-03	148	186	9.94E-04	1.04E-03	1.14E-03	1.18E-03
La^{3+}	3.30E-05	2.99	3.75	2.39E-05	2.83E-05	3.77E-05	4.22E-05
Hg^{2+}	7.80E-06	1.02	1.28	7.30E-06	7.58E-06	7.92E-06	8.03E-06
Zr (as $ZrO(OH)_2$)	2.00E-04	11.9	14.9	1.83E-04	1.89E-04	2.07E-04	2.17E-04
Pb^{2+}	8.81E-04	119	149	7.15E-04	7.97E-04	9.66E-04	1.05E-03
Ni^{2+}	5.65E-03	216	271	5.40E-03	5.52E-03	5.72E-03	5.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.44E-03	123	154	2.55E-03	2.98E-03	3.89E-03	4.32E-03
Ca^{2+}	2.96E-02	772	970	2.69E-02	2.82E-02	3.09E-02	3.22E-02
K^{+}	5.75E-02	1.47E+03	1.84E+03	5.21E-02	5.47E-02	6.05E-02	6.33E-02
OH^{-}	9.00	9.97E+04	1.25E+05	8.32	8.64	9.37	9.57
$NO3^{-}$	4.33	1.75E+05	2.20E+05	4.03	4.21	4.40	4.45
$NO2^{-}$	2.20	6.59E+04	8.27E+04	1.82	1.99	2.40	2.58
$CO3^{2-}$	0.379	1.48E+04	1.86E+04	0.343	0.361	0.403	0.410
$PO4^{3-}$	7.74E-02	4.79E+03	6.01E+03	6.73E-02	7.08E-02	7.92E-02	8.09E-02
$SO4^{2-}$	0.213	1.34E+04	1.68E+04	0.164	0.188	0.240	0.263
Si (as SiO_x^{2-})	6.88E-02	1.26E+03	1.58E+03	5.61E-02	6.23E-02	7.53E-02	8.15E-02
F^{-}	5.34E-02	661	830	4.52E-02	4.86E-02	5.75E-02	6.07E-02
Cl^{-}	0.215	4.97E+03	6.24E+03	0.194	0.204	0.225	0.234
$C_6H_5O_7^{3-}$	2.57E-02	3.17E+03	3.98E+03	2.37E-02	2.47E-02	2.68E-02	2.78E-02
$EDTA^{4-}$	1.26E-02	2.37E+03	2.97E+03	4.01E-03	8.22E-03	1.71E-02	2.14E-02
$HEDTA^{3-}$	2.33E-02	4.15E+03	5.22E+03	6.06E-03	1.45E-02	3.21E-02	4.08E-02
$glycolate^{-}$	7.68E-02	3.75E+03	4.71E+03	4.99E-02	6.30E-02	9.06E-02	0.104
$acetate^{-}$	6.32E-03	243	305	5.16E-03	5.73E-03	6.91E-03	7.47E-03
$oxalate^{2-}$	4.32E-05	2.48	3.11	3.83E-05	4.07E-05	4.58E-05	4.82E-05
DBP	1.72E-02	2.35E+03	2.95E+03	1.40E-02	1.56E-02	1.87E-02	2.02E-02
butanol	1.72E-02	829	1.04E+03	1.40E-02	1.56E-02	1.87E-02	2.02E-02
NH_3	7.38E-02	817	1.03E+03	5.94E-02	6.51E-02	8.48E-02	9.77E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.64E+06 (kg)	(427 kgal)	----	----	----	----	----
Heat Load	4.90 (kW)	(1.67E+04 BTU/hr)	----	4.24	4.62	5.10	5.14
Bulk Density†	1.64 (g/cc)	----	----	1.57	1.58	1.72	1.74
Water wt%†	33.8	----	----	27.0	28.8	37.6	38.4
TOC wt% C (wet)†	0.330	----	----	0.222	0.275	0.385	0.439

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.5	1.61E+05	4.26E+05	10.1	10.3	13.0	13.5
Al^{3+}	3.74	6.16E+04	1.63E+05	3.31	3.45	4.05	4.37
Fe^{3+} (total Fe)	0.238	8.12E+03	2.15E+04	0.234	0.236	0.240	0.242
Cr^{3+}	0.254	8.08E+03	2.14E+04	0.182	0.217	0.348	0.458
Bi^{3+}	5.53E-04	70.6	187	5.05E-04	5.28E-04	5.77E-04	6.01E-04
La^{3+}	1.67E-05	1.42	3.75	1.21E-05	1.43E-05	1.91E-05	2.13E-05
Hg^{2+}	2.81E-04	34.5	91.2	2.77E-04	2.80E-04	2.82E-04	2.83E-04
Zr (as $ZrO(OH)_2$)	1.01E-04	5.65	14.9	9.26E-05	9.57E-05	1.05E-04	1.10E-04
Pb^{2+}	8.47E-03	1.07E+03	2.84E+03	7.82E-03	8.20E-03	8.74E-03	9.00E-03
Ni^{2+}	1.70E-02	611	1.62E+03	1.40E-02	1.57E-02	1.80E-02	1.78E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	58.7	155	1.30E-03	1.52E-03	1.98E-03	2.20E-03
Ca^{2+}	8.67E-02	2.12E+03	5.62E+03	7.15E-02	7.90E-02	9.45E-02	0.102
K^{+}	3.84E-02	917	2.43E+03	3.56E-02	3.69E-02	3.99E-02	4.13E-02
OH^{-}	16.8	1.75E+05	4.63E+05	14.8	15.5	18.2	19.6
$NO3^{-}$	4.48	1.70E+05	4.49E+05	3.30	3.34	6.22	7.11
$NO2^{-}$	1.89	5.30E+04	1.40E+05	1.56	1.71	2.05	2.08
$CO3^{2-}$	0.265	9.71E+03	2.57E+04	0.246	0.255	0.277	0.280
$PO4^{3-}$	3.92E-02	2.28E+03	6.02E+03	3.41E-02	3.59E-02	4.01E-02	4.10E-02
$SO4^{2-}$	0.119	7.00E+03	1.85E+04	9.45E-02	0.106	0.133	0.144
Si (as SiO_x^{2-})	6.53E-02	1.12E+03	2.97E+03	5.66E-02	6.15E-02	6.93E-02	7.52E-02
F^{-}	2.71E-02	315	832	2.29E-02	2.47E-02	2.92E-02	3.08E-02
Cl^{-}	0.149	3.22E+03	8.51E+03	0.129	0.139	0.154	0.170
$C_6H_5O_7^{3-}$	1.31E-02	1.51E+03	4.00E+03	1.21E-02	1.26E-02	1.36E-02	1.41E-02
$EDTA^{4-}$	6.39E-03	1.12E+03	2.97E+03	2.03E-03	4.16E-03	8.63E-03	1.08E-02
$HEDTA^{3-}$	1.18E-02	1.97E+03	5.22E+03	3.07E-03	7.32E-03	1.63E-02	2.06E-02
$glycolate^{-}$	3.90E-02	1.79E+03	4.72E+03	2.53E-02	3.20E-02	4.60E-02	5.26E-02
$acetate^{-}$	3.21E-03	116	306	2.62E-03	2.91E-03	3.51E-03	3.79E-03
$oxalate^{2-}$	2.19E-05	1.18	3.11	1.94E-05	2.06E-05	2.31E-05	2.44E-05
DBP	8.75E-03	1.12E+03	2.97E+03	7.17E-03	7.95E-03	9.54E-03	1.03E-02
butanol	8.75E-03	397	1.05E+03	7.17E-03	7.95E-03	9.54E-03	1.03E-02
NH_3	1.00E-01	1.04E+03	2.75E+03	5.75E-02	6.41E-02	0.106	0.112
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.39E+06 (kg)	(211 kgal)	----	----	----	----	----
Heat Load	3.39 (kW)	(1.16E+04 BTU/hr)	----	2.77	3.13	3.56	3.64
Bulk Density	1.74 (g/cc)	----	----	1.62	1.64	1.89	1.95
Void Fraction	0.658	----	----	0.450	0.519	0.746	0.748
Water wt%	29.9	----	----	17.4	21.4	36.4	38.2
TOC wt% C (wet)	2.21E-03	----	----	1.97E-03	2.03E-03	2.38E-03	2.57E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.08E-04	6.21E-02	86.2	1.29E-05	1.29E-05	1.13E-04	1.21E-04
C-14	5.88E-06	3.38E-03	4.70	1.00E-06	1.00E-06	6.23E-06	6.53E-06
Ni-59	9.39E-06	5.40E-03	7.50	6.48E-06	6.48E-06	9.99E-06	9.88E-06
Ni-63	8.88E-04	0.510	709	6.05E-04	6.05E-04	9.44E-04	9.33E-04
Co-60	4.79E-06	2.75E-03	3.82	3.96E-07	3.96E-07	4.98E-06	5.38E-06
Se-79	3.18E-06	1.83E-03	2.54	2.13E-07	2.13E-07	3.25E-06	6.09E-06
Sr-90	0.517	297	4.13E+05	0.401	0.467	0.556	0.563
Y-90	0.517	297	4.13E+05	0.401	0.405	0.556	0.563
Zr-93	1.50E-05	8.64E-03	12.0	1.00E-06	1.00E-06	1.54E-05	2.73E-05
Nb-93m	1.22E-05	7.02E-03	9.75	8.21E-07	8.21E-07	1.25E-05	2.54E-05
Tc-99	4.49E-05	2.58E-02	35.9	3.88E-05	4.13E-05	4.78E-05	5.11E-05
Ru-106	1.02E-09	5.84E-07	8.11E-04	1.13E-12	1.13E-12	1.06E-09	1.15E-09
Cd-113m	2.29E-05	1.31E-02	18.3	3.10E-06	3.10E-06	4.70E-05	4.55E-05
Sb-125	1.63E-05	9.35E-03	13.0	5.83E-07	5.83E-07	1.70E-05	1.84E-05
Sn-126	4.88E-06	2.80E-03	3.89	3.27E-07	3.27E-07	4.99E-06	9.55E-06
I-129	8.54E-08	4.91E-05	6.82E-02	7.37E-08	7.84E-08	9.09E-08	9.71E-08
Cs-134	9.93E-07	5.71E-04	0.793	1.21E-08	1.21E-08	1.03E-06	1.11E-06
Cs-137	0.163	93.6	1.30E+05	0.145	0.152	0.173	0.184
Ba-137m	0.154	88.6	1.23E+05	2.34E-02	2.34E-02	0.161	0.169
Sm-151	1.13E-02	6.51	9.05E+03	7.59E-04	7.59E-04	1.16E-02	2.21E-02
Eu-152	6.86E-06	3.94E-03	5.48	3.08E-06	3.08E-06	6.89E-06	6.93E-06
Eu-154	1.15E-04	6.58E-02	91.5	9.57E-06	9.57E-06	1.19E-04	1.48E-04
Eu-155	3.37E-04	0.194	269	1.45E-04	1.45E-04	3.38E-04	3.41E-04
Ra-226	6.72E-10	3.86E-07	5.36E-04	2.65E-10	4.64E-10	8.79E-10	1.08E-09
Ra-228	6.72E-09	3.86E-06	5.37E-03	4.08E-15	4.08E-15	6.78E-09	6.86E-09
Ac-227	3.25E-09	1.87E-06	2.60E-03	1.31E-09	2.04E-09	4.46E-09	5.61E-09
Pa-231	4.73E-09	2.72E-06	3.78E-03	3.18E-10	3.18E-10	5.31E-09	1.17E-08
Th-229	1.62E-10	9.30E-08	1.29E-04	7.76E-13	7.76E-13	1.63E-10	1.65E-10
Th-232	9.01E-11	5.18E-08	7.19E-05	2.63E-16	2.63E-16	1.14E-10	1.37E-10
U-232	3.01E-08	1.73E-05	2.40E-02	1.07E-08	1.97E-08	4.29E-08	5.71E-08
U-233	1.15E-07	6.60E-05	9.18E-02	4.06E-08	7.50E-08	1.64E-07	2.18E-07
U-234	2.63E-06	1.51E-03	2.10	2.32E-06	2.47E-06	2.80E-06	2.97E-06
U-235	1.11E-07	6.36E-05	8.83E-02	9.82E-08	1.04E-07	1.17E-07	1.24E-07
U-236	6.81E-08	3.91E-05	5.44E-02	5.59E-08	6.19E-08	7.45E-08	8.09E-08
U-238	2.51E-06	1.44E-03	2.00	2.24E-06	2.37E-06	2.66E-06	2.81E-06
Np-237	2.11E-07	1.21E-04	0.169	1.71E-07	1.87E-07	2.27E-07	2.40E-07
Pu-238	7.34E-06	4.22E-03	5.86	6.53E-06	6.92E-06	7.75E-06	8.15E-06
Pu-239	4.59E-04	0.264	367	4.01E-04	4.30E-04	4.89E-04	5.17E-04
Pu-240	6.60E-05	3.79E-02	52.7	5.77E-05	6.18E-05	7.03E-05	7.43E-05
Pu-241	4.15E-04	0.239	332	3.66E-04	3.90E-04	4.40E-04	4.64E-04
Pu-242	1.88E-09	1.08E-06	1.50E-03	1.65E-09	1.76E-09	1.99E-09	2.10E-09
Am-241	5.34E-05	3.07E-02	42.6	3.18E-05	4.66E-05	6.06E-05	1.12E-04
Am-243	1.62E-09	9.33E-07	1.30E-03	7.64E-10	1.41E-09	1.78E-09	2.17E-09
Cm-242	7.14E-08	4.10E-05	5.70E-02	6.99E-08	7.05E-08	7.20E-08	7.20E-08
Cm-243	1.63E-09	9.39E-07	1.30E-03	1.60E-09	1.61E-09	1.65E-09	1.65E-09
Cm-244	1.28E-09	7.34E-07	1.02E-03	2.33E-10	6.51E-10	1.70E-09	1.70E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.68E-03 (g/L)	----	6.13	6.71E-03	7.18E-03	8.17E-03	8.65E-03
U	3.15E-02	4.31E+03	5.98E+03	2.81E-02	2.97E-02	3.33E-02	3.52E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.26E+06 (kg)	(216 kgal)	----	----	----	----	----
Heat Load	1.51 (kW)	(5.17E+03 BTU/hr)	----	1.42	1.47	1.56	1.60
Bulk Density*	1.54 (g/cc)	----	----	1.49	1.51	1.55	1.57
Water wt%†	38.2	----	----	35.5	36.7	39.7	41.6
TOC wt% C (wet)	0.692	----	----	0.466	0.577	0.808	0.921
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.29E-04	0.149	187	1.15E-04	1.15E-04	2.35E-04	2.44E-04
C-14	3.31E-05	2.16E-02	27.1	9.45E-06	9.45E-06	3.36E-05	3.40E-05
Ni-59	2.10E-06	1.37E-03	1.72	9.85E-07	9.85E-07	2.16E-06	2.21E-06
Ni-63	2.06E-04	0.134	168	9.55E-05	9.55E-05	2.11E-04	2.17E-04
Co-60	3.67E-05	2.39E-02	30.0	9.56E-06	9.56E-06	3.73E-05	3.79E-05
Se-79	3.23E-06	2.11E-03	2.64	1.72E-06	1.72E-06	3.78E-06	4.31E-06
Sr-90	0.107	70.0	8.79E+04	0.100	0.104	0.111	0.115
Y-90	0.108	70.0	8.79E+04	5.52E-02	5.52E-02	0.111	0.115
Zr-93	1.59E-05	1.03E-02	13.0	8.31E-06	8.31E-06	1.86E-05	2.12E-05
Nb-93m	1.15E-05	7.50E-03	9.42	6.22E-06	6.22E-06	1.34E-05	1.53E-05
Tc-99	2.36E-04	0.154	193	1.48E-04	1.91E-04	2.81E-04	3.25E-04
Ru-106	6.45E-09	4.20E-06	5.27E-03	2.94E-09	2.94E-09	7.23E-09	7.95E-09
Cd-113m	8.36E-05	5.44E-02	68.3	3.82E-05	3.82E-05	1.00E-04	1.16E-04
Sb-125	1.58E-04	0.103	129	4.02E-05	4.02E-05	1.60E-04	1.63E-04
Sn-126	4.89E-06	3.18E-03	4.00	2.62E-06	2.62E-06	5.71E-06	6.49E-06
I-129	4.55E-07	2.96E-04	0.372	2.84E-07	3.68E-07	5.43E-07	6.28E-07
Cs-134	2.31E-06	1.51E-03	1.89	1.66E-06	1.91E-06	2.65E-06	2.98E-06
Cs-137	0.240	157	1.97E+05	0.218	0.229	0.252	0.263
Ba-137m	0.227	148	1.86E+05	0.174	0.174	0.238	0.249
Sm-151	1.14E-02	7.41	9.31E+03	6.09E-03	6.09E-03	1.33E-02	1.51E-02
Eu-152	3.70E-06	2.41E-03	3.03	1.83E-06	1.83E-06	3.94E-06	4.17E-06
Eu-154	5.91E-04	0.385	483	2.13E-04	2.13E-04	7.28E-04	7.82E-04
Eu-155	2.18E-04	0.142	179	1.07E-04	1.07E-04	2.33E-04	2.47E-04
Ra-226	1.36E-10	8.88E-08	1.12E-04	8.95E-11	8.95E-11	1.53E-10	1.70E-10
Ra-228	1.26E-07	8.20E-05	0.103	5.28E-08	8.85E-08	1.69E-07	2.15E-07
Ac-227	8.62E-10	5.62E-07	7.05E-04	5.90E-10	5.90E-10	9.61E-10	1.06E-09
Pa-231	3.98E-09	2.59E-06	3.26E-03	2.47E-09	2.47E-09	4.53E-09	5.06E-09
Th-229	2.96E-09	1.93E-06	2.42E-03	1.36E-09	2.14E-09	3.91E-09	4.93E-09
Th-232	8.44E-09	5.50E-06	6.90E-03	4.40E-09	6.38E-09	1.05E-08	1.25E-08
U-232	6.55E-07	4.26E-04	0.535	3.62E-07	5.05E-07	8.28E-07	1.01E-06
U-233	2.51E-06	1.63E-03	2.05	1.39E-06	1.94E-06	3.18E-06	3.88E-06
U-234	7.62E-07	4.96E-04	0.623	7.34E-07	7.47E-07	7.78E-07	7.88E-07
U-235	3.09E-08	2.02E-05	2.53E-02	2.97E-08	3.03E-08	3.16E-08	3.20E-08
U-236	2.38E-08	1.55E-05	1.94E-02	2.29E-08	2.34E-08	2.42E-08	2.46E-08
U-238	8.82E-07	5.75E-04	0.721	8.53E-07	8.67E-07	8.99E-07	9.06E-07
Np-237	8.61E-07	5.61E-04	0.704	5.73E-07	7.13E-07	1.01E-06	1.15E-06
Pu-238	1.32E-06	8.59E-04	1.08	9.80E-07	1.15E-06	1.49E-06	1.66E-06
Pu-239	4.49E-05	2.93E-02	36.7	3.62E-05	4.05E-05	4.94E-05	5.36E-05
Pu-240	7.64E-06	4.97E-03	6.24	6.02E-06	6.81E-06	8.46E-06	9.25E-06
Pu-241	8.93E-05	5.82E-02	73.0	6.62E-05	7.75E-05	1.01E-04	1.12E-04
Pu-242	4.91E-10	3.20E-07	4.01E-04	3.53E-10	4.20E-10	5.61E-10	6.29E-10
Am-241	5.44E-05	3.54E-02	44.5	3.83E-05	4.62E-05	6.26E-05	7.05E-05
Am-243	1.90E-09	1.23E-06	1.55E-03	1.39E-09	1.63E-09	2.16E-09	2.42E-09
Cm-242	1.40E-07	9.14E-05	0.115	6.34E-08	6.34E-08	1.49E-07	1.58E-07
Cm-243	1.30E-08	8.48E-06	1.06E-02	5.69E-09	5.69E-09	1.38E-08	1.46E-08
Cm-244	1.30E-07	8.45E-05	0.106	5.41E-08	5.41E-08	1.55E-07	1.72E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.60E-04 (g/L)	----	0.458	3.95E-04	4.76E-04	6.43E-04	7.23E-04
U	8.75E-03	1.36E+03	1.70E+03	8.38E-03	8.56E-03	8.95E-03	9.05E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.64E+06 (kg)	(427 kgal)	----	----	----	----	----
Heat Load	4.90 (kW)	(1.67E+04 BTU/hr)	----	4.24	4.62	5.10	5.14
Bulk Density†	1.64 (g/cc)	----	----	1.57	1.58	1.72	1.74
Water wt%†	33.8	----	----	27.0	28.8	37.6	38.4
TOC wt% C (wet)†	0.330	----	----	0.222	0.275	0.385	0.439
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.69E-04	0.103	273	9.97E-05	9.97E-05	1.72E-04	1.77E-04
C-14	1.97E-05	1.20E-02	31.8	7.69E-06	7.69E-06	1.99E-05	2.01E-05
Ni-59	5.70E-06	3.48E-03	9.22	4.20E-06	4.20E-06	6.00E-06	5.93E-06
Ni-63	5.43E-04	0.332	877	3.97E-04	3.97E-04	5.70E-04	5.64E-04
Co-60	2.09E-05	1.28E-02	33.8	7.20E-06	7.20E-06	2.12E-05	2.15E-05
Se-79	3.21E-06	1.96E-03	5.18	1.58E-06	1.58E-06	3.48E-06	4.57E-06
Sr-90	0.310	189	5.01E+05	0.253	0.285	0.329	0.331
Y-90	0.310	189	5.01E+05	0.252	0.252	0.329	0.331
Zr-93	1.55E-05	9.45E-03	25.0	7.74E-06	7.74E-06	1.68E-05	2.12E-05
Nb-93m	1.19E-05	7.25E-03	19.2	5.68E-06	5.68E-06	1.28E-05	1.80E-05
Tc-99	1.42E-04	8.65E-02	229	9.69E-05	1.19E-04	1.65E-04	1.87E-04
Ru-106	3.76E-09	2.30E-06	6.08E-03	1.99E-09	1.99E-09	4.16E-09	4.52E-09
Cd-113m	5.36E-05	3.27E-02	86.6	3.06E-05	3.06E-05	6.39E-05	6.99E-05
Sb-125	8.78E-05	5.37E-02	142	2.84E-05	2.84E-05	8.92E-05	9.06E-05
Sn-126	4.88E-06	2.98E-03	7.89	2.40E-06	2.40E-06	5.30E-06	7.07E-06
I-129	2.72E-07	1.66E-04	0.440	1.86E-07	2.28E-07	3.17E-07	3.60E-07
Cs-134	1.66E-06	1.02E-03	2.69	9.74E-07	9.74E-07	1.83E-06	2.00E-06
Cs-137	0.202	124	3.27E+05	0.191	0.196	0.210	0.219
Ba-137m	0.191	117	3.09E+05	9.96E-02	9.96E-02	0.197	0.202
Sm-151	1.14E-02	6.94	1.84E+04	5.58E-03	5.58E-03	1.23E-02	1.64E-02
Eu-152	5.26E-06	3.22E-03	8.50	3.30E-06	3.30E-06	5.38E-06	5.50E-06
Eu-154	3.56E-04	0.217	575	1.64E-04	1.64E-04	4.25E-04	4.52E-04
Eu-155	2.77E-04	0.169	448	1.78E-04	1.78E-04	2.85E-04	2.92E-04
Ra-226	4.01E-10	2.45E-07	6.48E-04	2.10E-10	2.97E-10	4.98E-10	5.91E-10
Ra-228	6.70E-08	4.09E-05	0.108	3.00E-08	4.81E-08	8.89E-08	1.12E-07
Ac-227	2.04E-09	1.25E-06	3.30E-03	1.13E-09	1.43E-09	2.61E-09	3.15E-09
Pa-231	4.35E-09	2.66E-06	7.03E-03	2.01E-09	2.01E-09	4.63E-09	7.63E-09
Th-229	1.58E-09	9.64E-07	2.55E-03	7.66E-10	1.16E-09	2.06E-09	2.57E-09
Th-232	4.31E-09	2.64E-06	6.97E-03	2.27E-09	3.27E-09	5.36E-09	6.36E-09
U-232	3.46E-07	2.11E-04	0.559	1.98E-07	2.70E-07	4.34E-07	5.28E-07
U-233	1.33E-06	8.11E-04	2.14	7.59E-07	1.04E-06	1.66E-06	2.02E-06
U-234	1.68E-06	1.03E-03	2.72	1.53E-06	1.61E-06	1.77E-06	1.85E-06
U-235	7.03E-08	4.30E-05	0.114	6.42E-08	6.71E-08	7.37E-08	7.71E-08
U-236	4.57E-08	2.79E-05	7.38E-02	3.97E-08	4.27E-08	4.88E-08	5.20E-08
U-238	1.69E-06	1.03E-03	2.73	1.55E-06	1.62E-06	1.76E-06	1.84E-06
Np-237	5.40E-07	3.30E-04	0.873	3.94E-07	4.65E-07	6.15E-07	6.88E-07
Pu-238	4.29E-06	2.62E-03	6.94	3.91E-06	4.10E-06	4.49E-06	4.67E-06
Pu-239	2.50E-04	0.153	404	2.22E-04	2.36E-04	2.64E-04	2.77E-04
Pu-240	3.65E-05	2.23E-02	59.0	3.26E-05	3.45E-05	3.85E-05	4.04E-05
Pu-241	2.50E-04	0.153	405	2.27E-04	2.39E-04	2.62E-04	2.73E-04
Pu-242	1.18E-09	7.18E-07	1.90E-03	1.07E-09	1.12E-09	1.23E-09	1.28E-09
Am-241	5.39E-05	3.29E-02	87.1	4.16E-05	4.97E-05	5.81E-05	8.15E-05
Am-243	1.76E-09	1.08E-06	2.85E-03	1.28E-09	1.62E-09	1.90E-09	2.03E-09
Cm-242	1.06E-07	6.49E-05	0.172	6.73E-08	6.73E-08	1.11E-07	1.15E-07
Cm-243	7.40E-09	4.52E-06	1.20E-02	3.68E-09	3.68E-09	7.81E-09	8.21E-09
Cm-244	6.63E-08	4.05E-05	0.107	2.80E-08	2.80E-08	7.92E-08	8.75E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.08E-03 (g/L)	----	6.59	3.62E-03	3.84E-03	4.31E-03	4.53E-03
U	2.00E-02	2.91E+03	7.68E+03	1.83E-02	1.91E-02	2.09E-02	2.18E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.66E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	9.86E-02 (kW)	(337 BTU/hr)	----	7.15E-02	8.74E-02	0.106	0.109
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.13	1.06E+05	2.83E+03	3.05	3.56	14.7	18.2
Al^{3+}	6.99	1.07E+05	2.85E+03	6.58	6.74	7.15	7.15
Fe^{3+} (total Fe)	1.01	3.22E+04	856	0.994	1.00	1.02	1.03
Cr^{3+}	6.19E-02	1.83E+03	48.7	7.08E-03	3.39E-02	0.522	1.06
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.07E-02	1.69E+03	45.0	3.66E-02	4.45E-02	5.54E-02	5.45E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.220	5.02E+03	133	0.146	0.182	0.258	0.294
K^+	1.12E-02	250	6.64	1.28E-03	5.25E-03	1.52E-02	1.52E-02
OH^-	25.6	2.48E+05	6.59E+03	23.1	24.3	26.9	28.4
$NO3^-$	5.29	1.87E+05	4.96E+03	6.03E-02	6.03E-02	13.5	17.9
$NO2^-$	1.46	3.82E+04	1.01E+03	0.132	0.595	2.15	2.15
$CO3^{2-}$	0.220	7.51E+03	200	0.146	0.182	0.258	0.294
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.04E-02	569	15.1	1.19E-03	4.87E-03	1.41E-02	1.41E-02
Si (as SiO_x^{2-})	8.06E-03	129	3.42	9.21E-04	3.77E-03	1.09E-02	1.09E-02
F^-	0	0	0	0	0	0	0
Cl^-	5.16E-02	1.04E+03	27.7	5.91E-03	2.42E-02	7.00E-02	0.157
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.256	2.47E+03	65.7	6.55E-02	9.25E-02	0.270	0.284
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.64E+06 (kg)	(545 kgal)	----	----	----	----	----
Heat Load	1.99 (kW)	(6.80E+03 BTU/hr)	----	1.88	1.93	2.05	2.11
Bulk Density*	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%	61.4	----	----	59.5	60.4	62.5	63.7
TOC wt% C (wet)	0.413	----	----	0.274	0.342	0.484	0.553

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.50	1.17E+05	3.08E+05	5.95	6.22	6.73	6.95
Al^{3+}	0.779	1.64E+04	4.33E+04	0.719	0.747	0.813	0.830
Fe^{3+} (total Fe)	4.88E-03	213	562	3.98E-03	4.42E-03	5.34E-03	5.78E-03
Cr^{3+}	7.01E-02	2.85E+03	7.52E+03	5.79E-02	6.45E-02	7.23E-02	7.44E-02
Bi^{3+}	5.71E-04	93.3	246	5.19E-04	5.44E-04	5.97E-04	6.23E-04
La^{3+}	1.54E-05	1.67	4.41	1.11E-05	1.32E-05	1.76E-05	1.96E-05
Hg^{2+}	3.99E-06	0.626	1.65	3.72E-06	3.87E-06	4.05E-06	4.10E-06
Zr (as $ZrO(OH)_2$)	1.07E-04	7.66	20.2	9.79E-05	1.01E-04	1.11E-04	1.17E-04
Pb^{2+}	4.43E-04	71.8	189	3.61E-04	4.01E-04	4.84E-04	5.24E-04
Ni^{2+}	2.91E-03	133	352	2.78E-03	2.84E-03	2.94E-03	2.97E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	75.2	198	1.32E-03	1.53E-03	1.97E-03	2.18E-03
Ca^{2+}	1.52E-02	477	1.26E+03	1.39E-02	1.45E-02	1.59E-02	1.65E-02
K^+	2.97E-02	908	2.39E+03	2.70E-02	2.83E-02	3.11E-02	3.25E-02
OH^-	4.67	6.21E+04	1.64E+05	4.30	4.47	4.88	4.95
$NO3^-$	2.29	1.11E+05	2.93E+05	2.12	2.22	2.33	2.34
$NO2^-$	1.14	4.09E+04	1.08E+05	0.952	1.04	1.23	1.32
$CO3^{2-}$	0.191	8.95E+03	2.36E+04	0.173	0.180	0.204	0.206
$PO4^{3-}$	3.91E-02	2.91E+03	7.66E+03	3.37E-02	3.56E-02	4.01E-02	4.10E-02
$SO4^{2-}$	0.108	8.13E+03	2.14E+04	8.44E-02	9.57E-02	0.121	0.132
Si (as SiO_x^{2-})	3.52E-02	774	2.04E+03	2.90E-02	3.20E-02	3.84E-02	4.14E-02
F^-	2.80E-02	416	1.10E+03	2.34E-02	2.53E-02	3.02E-02	3.19E-02
Cl^-	0.112	3.10E+03	8.16E+03	0.101	0.106	0.117	0.121
$C_6H_5O_7^{3-}$	1.25E-02	1.85E+03	4.89E+03	1.15E-02	1.20E-02	1.30E-02	1.35E-02
$EDTA^{4-}$	6.31E-03	1.42E+03	3.75E+03	1.95E-03	4.08E-03	8.56E-03	1.08E-02
$HEDTA^{3-}$	1.18E-02	2.53E+03	6.67E+03	3.06E-03	7.32E-03	1.63E-02	2.07E-02
glycolate$^-$	3.83E-02	2.25E+03	5.93E+03	2.49E-02	3.15E-02	4.51E-02	5.17E-02
acetate$^-$	2.67E-03	123	325	2.19E-03	2.43E-03	2.92E-03	3.16E-03
oxalate^{2-}	2.01E-05	1.39	3.66	1.78E-05	1.90E-05	2.13E-05	2.24E-05
DBP	8.44E-03	1.39E+03	3.66E+03	6.92E-03	7.67E-03	9.20E-03	9.93E-03
butanol	8.44E-03	490	1.29E+03	6.92E-03	7.67E-03	9.20E-03	9.93E-03
NH_3	3.84E-02	511	1.35E+03	3.14E-02	3.42E-02	4.38E-02	5.01E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.66E+06 (kg)	(549 kgal)	----	----	----	----	----
Heat Load	2.09 (kW)	(7.13E+03 BTU/hr)	----	1.97	2.03	2.15	2.20
Bulk Density†	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%†	61.1	----	----	59.2	60.0	62.1	63.4
TOC wt% C (wet)†	0.409	----	----	0.271	0.338	0.479	0.547

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.51	1.17E+05	3.11E+05	5.96	6.24	6.74	6.95
Al^{3+}	0.824	1.73E+04	4.62E+04	0.764	0.793	0.856	0.874
Fe^{3+} (total Fe)	1.22E-02	533	1.42E+03	1.13E-02	1.18E-02	1.27E-02	1.31E-02
Cr^{3+}	7.01E-02	2.84E+03	7.57E+03	6.21E-02	6.59E-02	7.28E-02	7.43E-02
Bi^{3+}	5.67E-04	92.4	246	5.15E-04	5.40E-04	5.93E-04	6.18E-04
La^{3+}	1.53E-05	1.65	4.41	1.11E-05	1.31E-05	1.74E-05	1.95E-05
Hg^{2+}	3.96E-06	0.620	1.65	3.69E-06	3.84E-06	4.02E-06	4.07E-06
Zr (as $ZrO(OH)_2$)	1.07E-04	7.59	20.2	9.71E-05	1.01E-04	1.10E-04	1.16E-04
Pb^{2+}	4.39E-04	71.0	189	3.58E-04	3.98E-04	4.81E-04	5.21E-04
Ni^{2+}	3.25E-03	149	397	3.13E-03	3.19E-03	3.29E-03	3.32E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.74E-03	74.5	198	1.31E-03	1.52E-03	1.96E-03	2.17E-03
Ca^{2+}	1.67E-02	522	1.39E+03	1.54E-02	1.60E-02	1.74E-02	1.80E-02
K^+	2.95E-02	901	2.40E+03	2.69E-02	2.82E-02	3.10E-02	3.23E-02
OH^-	4.82	6.40E+04	1.70E+05	4.45	4.63	5.02	5.10
$NO3^-$	2.31	1.12E+05	2.97E+05	2.14	2.24	2.35	2.36
$NO2^-$	1.14	4.09E+04	1.09E+05	0.956	1.04	1.23	1.33
$CO3^{2-}$	0.191	8.94E+03	2.38E+04	0.173	0.181	0.204	0.206
$PO4^{3-}$	3.88E-02	2.88E+03	7.66E+03	3.35E-02	3.53E-02	3.98E-02	4.07E-02
$SO4^{2-}$	0.107	8.06E+03	2.15E+04	8.38E-02	9.51E-02	0.120	0.131
Si (as SiO_x^{2-})	3.50E-02	767	2.04E+03	2.89E-02	3.19E-02	3.81E-02	4.11E-02
F^-	2.78E-02	412	1.10E+03	2.33E-02	2.52E-02	3.00E-02	3.17E-02
Cl^-	0.111	3.08E+03	8.19E+03	0.101	0.105	0.116	0.120
$C_6H_5O_7^{3-}$	1.24E-02	1.84E+03	4.89E+03	1.14E-02	1.19E-02	1.30E-02	1.34E-02
$EDTA^{4-}$	6.27E-03	1.41E+03	3.75E+03	1.93E-03	4.05E-03	8.50E-03	1.07E-02
$HEDTA^{3-}$	1.17E-02	2.50E+03	6.67E+03	3.03E-03	7.27E-03	1.62E-02	2.05E-02
glycolate$^-$	3.80E-02	2.23E+03	5.93E+03	2.48E-02	3.12E-02	4.48E-02	5.13E-02
acetate$^-$	2.65E-03	122	325	2.17E-03	2.41E-03	2.90E-03	3.14E-03
oxalate^{2-}	2.00E-05	1.37	3.66	1.77E-05	1.88E-05	2.12E-05	2.23E-05
DBP	8.38E-03	1.37E+03	3.66E+03	6.87E-03	7.61E-03	9.14E-03	9.86E-03
butanol	8.38E-03	485	1.29E+03	6.87E-03	7.61E-03	9.14E-03	9.86E-03
NH_3	4.00E-02	530	1.41E+03	3.31E-02	3.58E-02	4.53E-02	5.15E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.66E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	9.86E-02 (kW)	(337 BTU/hr)	----	7.15E-02	8.74E-02	0.106	0.109
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.92E-05	1.67E-02	0.443	3.05E-06	1.47E-05	4.10E-05	4.10E-05
C-14	2.26E-06	1.29E-03	3.43E-02	2.59E-07	1.06E-06	3.07E-06	3.07E-06
Ni-59	1.49E-05	8.46E-03	0.225	1.07E-05	1.31E-05	1.62E-05	1.60E-05
Ni-63	1.39E-03	0.790	21.0	1.00E-03	1.22E-03	1.52E-03	1.49E-03
Co-60	8.94E-07	5.09E-04	1.35E-02	1.02E-07	4.18E-07	1.21E-06	1.21E-06
Se-79	4.81E-07	2.74E-04	7.27E-03	5.50E-08	2.25E-07	6.51E-07	7.15E-06
Sr-90	0.928	529	1.40E+04	0.662	0.812	1.02	1.03
Y-90	0.929	529	1.41E+04	0.662	0.812	1.02	1.03
Zr-93	2.27E-06	1.29E-03	3.43E-02	2.59E-07	1.06E-06	3.08E-06	3.03E-05
Nb-93m	1.85E-06	1.06E-03	2.81E-02	2.12E-07	8.68E-07	2.51E-06	3.21E-05
Tc-99	1.58E-05	9.02E-03	0.240	1.81E-06	7.42E-06	2.15E-05	2.15E-05
Ru-106	2.50E-12	1.42E-09	3.78E-08	2.86E-13	1.17E-12	3.38E-12	3.38E-12
Cd-113m	6.99E-06	3.98E-03	0.106	8.00E-07	3.27E-06	9.48E-06	9.48E-06
Sb-125	1.31E-06	7.47E-04	1.99E-02	1.50E-07	6.14E-07	1.78E-06	1.78E-06
Sn-126	7.39E-07	4.21E-04	1.12E-02	8.45E-08	3.46E-07	1.00E-06	1.14E-05
I-129	3.04E-08	1.73E-05	4.61E-04	3.48E-09	1.42E-08	4.13E-08	4.13E-08
Cs-134	2.72E-08	1.55E-05	4.11E-04	7.19E-09	1.52E-08	3.52E-08	3.52E-08
Cs-137	5.60E-02	31.9	848	1.48E-02	3.13E-02	7.26E-02	7.26E-02
Ba-137m	5.30E-02	30.2	802	1.40E-02	2.96E-02	6.87E-02	6.87E-02
Sm-151	1.71E-03	0.976	26.0	1.96E-04	8.03E-04	2.33E-03	2.64E-02
Eu-152	7.00E-06	3.98E-03	0.106	6.85E-06	6.91E-06	7.06E-06	7.06E-06
Eu-154	2.16E-05	1.23E-02	0.327	2.47E-06	1.01E-05	2.93E-05	2.93E-05
Eu-155	3.30E-04	0.188	5.00	3.23E-04	3.26E-04	3.33E-04	3.33E-04
Ra-226	1.08E-09	6.15E-07	1.63E-05	1.48E-10	6.04E-10	1.56E-09	2.01E-09
Ra-228	9.26E-15	5.28E-12	1.40E-10	9.07E-15	9.15E-15	9.34E-15	9.34E-15
Ac-227	4.76E-09	2.71E-06	7.20E-05	3.06E-10	2.00E-09	7.52E-09	1.02E-08
Pa-231	7.18E-10	4.09E-07	1.09E-05	8.21E-11	3.36E-10	2.04E-09	1.68E-08
Th-229	1.77E-12	1.01E-09	2.67E-08	1.73E-12	1.75E-12	1.78E-12	1.78E-12
Th-232	5.91E-16	3.36E-13	8.94E-12	6.76E-17	2.77E-16	8.01E-16	8.01E-16
U-232	5.24E-12	2.98E-09	7.92E-08	5.99E-13	2.45E-12	7.10E-12	7.10E-12
U-233	2.00E-13	1.14E-10	3.02E-09	2.28E-14	9.34E-14	2.71E-13	2.71E-13
U-234	1.19E-07	6.78E-05	1.80E-03	1.36E-08	5.58E-08	1.62E-07	1.62E-07
U-235	5.13E-09	2.92E-06	7.76E-05	5.86E-10	2.40E-09	6.95E-09	6.95E-09
U-236	1.88E-09	1.07E-06	2.85E-05	2.16E-10	8.82E-10	2.56E-09	2.56E-09
U-238	1.22E-07	6.92E-05	1.84E-03	1.39E-08	5.69E-08	1.65E-07	1.65E-07
Np-237	1.03E-07	5.86E-05	1.56E-03	1.18E-08	4.81E-08	1.39E-07	1.39E-07
Pu-238	6.61E-06	3.77E-03	0.100	4.75E-06	5.66E-06	7.57E-06	8.48E-06
Pu-239	4.72E-04	0.269	7.14	3.39E-04	4.04E-04	5.40E-04	6.05E-04
Pu-240	6.76E-05	3.85E-02	1.02	4.85E-05	5.78E-05	7.73E-05	8.66E-05
Pu-241	3.97E-04	0.226	6.01	2.85E-04	3.40E-04	4.55E-04	5.09E-04
Pu-242	1.82E-09	1.04E-06	2.76E-05	1.31E-09	1.56E-09	2.08E-09	2.34E-09
Am-241	8.09E-06	4.61E-03	0.122	9.26E-07	3.79E-06	1.10E-05	1.43E-04
Am-243	7.57E-11	4.31E-08	1.15E-06	8.66E-12	3.54E-11	1.03E-10	1.34E-09
Cm-242	1.61E-07	9.16E-05	2.44E-03	1.58E-07	1.59E-07	1.62E-07	1.62E-07
Cm-243	3.69E-09	2.10E-06	5.58E-05	3.61E-09	3.64E-09	3.72E-09	3.72E-09
Cm-244	2.70E-09	1.54E-06	4.09E-05	3.09E-10	1.27E-09	3.67E-09	3.67E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.89E-03 (g/L)	----	0.119	5.67E-03	6.76E-03	9.03E-03	1.01E-02
U	1.53E-03	207	5.51	1.75E-04	7.16E-04	2.07E-03	2.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.64E+06 (kg)	(545 kgal)	----	----	----	----	----
Heat Load	1.99 (kW)	(6.80E+03 BTU/hr)	----	1.88	1.93	2.05	2.11
Bulk Density*	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%†	61.4	----	----	59.5	60.4	62.5	63.7
TOC wt% C (wet)	0.413	----	----	0.274	0.342	0.484	0.553

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.17E-04	9.14E-02	241	6.17E-05	6.17E-05	1.20E-04	1.24E-04
C-14	1.66E-05	1.30E-02	34.2	5.05E-06	5.05E-06	1.68E-05	1.70E-05
Ni-59	1.07E-06	8.36E-04	2.20	5.26E-07	5.26E-07	1.10E-06	1.12E-06
Ni-63	1.05E-04	8.18E-02	216	5.09E-05	5.09E-05	1.07E-04	1.10E-04
Co-60	1.82E-05	1.43E-02	37.6	5.04E-06	5.04E-06	1.86E-05	1.89E-05
Se-79	1.65E-06	1.29E-03	3.40	9.12E-07	9.12E-07	1.91E-06	2.17E-06
Sr-90	5.46E-02	42.7	1.13E+05	5.09E-02	5.27E-02	5.64E-02	5.82E-02
Y-90	5.46E-02	42.7	1.13E+05	2.91E-02	2.91E-02	5.64E-02	5.82E-02
Zr-93	8.08E-06	6.33E-03	16.7	4.41E-06	4.41E-06	9.41E-06	1.07E-05
Nb-93m	5.87E-06	4.60E-03	12.1	3.30E-06	3.30E-06	6.81E-06	7.70E-06
Tc-99	1.18E-04	9.24E-02	244	7.51E-05	9.61E-05	1.40E-04	1.62E-04
Ru-106	3.22E-09	2.52E-06	6.64E-03	1.51E-09	1.51E-09	3.60E-09	3.95E-09
Cd-113m	4.23E-05	3.31E-02	87.3	2.03E-05	2.03E-05	5.03E-05	5.80E-05
Sb-125	7.81E-05	6.11E-02	161	2.10E-05	2.10E-05	7.96E-05	8.09E-05
Sn-126	2.49E-06	1.95E-03	5.14	1.39E-06	1.39E-06	2.89E-06	3.27E-06
I-129	2.28E-07	1.78E-04	0.470	1.44E-07	1.85E-07	2.70E-07	3.12E-07
Cs-134	1.20E-06	9.41E-04	2.48	8.72E-07	9.86E-07	1.37E-06	1.54E-06
Cs-137	0.128	99.8	2.63E+05	0.116	0.121	0.134	0.139
Ba-137m	0.121	94.4	2.49E+05	9.19E-02	9.19E-02	0.126	0.132
Sm-151	5.80E-03	4.54	1.20E+04	3.22E-03	3.22E-03	6.73E-03	7.63E-03
Eu-152	1.86E-06	1.46E-03	3.84	9.51E-07	9.51E-07	1.98E-06	2.10E-06
Eu-154	2.96E-04	0.232	611	1.12E-04	1.12E-04	3.63E-04	3.89E-04
Eu-155	1.10E-04	8.60E-02	227	5.56E-05	5.56E-05	1.17E-04	1.25E-04
Ra-226	7.03E-11	5.50E-08	1.45E-04	4.75E-11	4.75E-11	7.85E-11	8.65E-11
Ra-228	6.33E-08	4.95E-05	0.131	2.63E-08	4.44E-08	8.52E-08	1.09E-07
Ac-227	4.42E-10	3.46E-07	9.13E-04	3.10E-10	3.10E-10	4.90E-10	5.36E-10
Pa-231	2.03E-09	1.59E-06	4.19E-03	1.30E-09	1.30E-09	2.30E-09	2.55E-09
Th-229	1.49E-09	1.16E-06	3.07E-03	6.74E-10	1.07E-09	1.97E-09	2.48E-09
Th-232	4.21E-09	3.30E-06	8.69E-03	2.16E-09	3.17E-09	5.26E-09	6.26E-09
U-232	3.30E-07	2.58E-04	0.680	1.81E-07	2.54E-07	4.17E-07	5.11E-07
U-233	1.26E-06	9.89E-04	2.61	6.96E-07	9.73E-07	1.60E-06	1.96E-06
U-234	3.91E-07	3.06E-04	0.807	3.76E-07	3.83E-07	4.00E-07	4.04E-07
U-235	1.59E-08	1.24E-05	3.28E-02	1.52E-08	1.55E-08	1.63E-08	1.64E-08
U-236	1.22E-08	9.53E-06	2.51E-02	1.18E-08	1.20E-08	1.24E-08	1.26E-08
U-238	4.48E-07	3.50E-04	0.924	4.32E-07	4.39E-07	4.57E-07	4.60E-07
Np-237	4.34E-07	3.40E-04	0.895	2.94E-07	3.62E-07	5.06E-07	5.76E-07
Pu-238	6.63E-07	5.19E-04	1.37	4.98E-07	5.79E-07	7.47E-07	8.28E-07
Pu-239	2.28E-05	1.78E-02	47.0	1.86E-05	2.06E-05	2.49E-05	2.70E-05
Pu-240	3.86E-06	3.02E-03	7.96	3.07E-06	3.46E-06	4.26E-06	4.64E-06
Pu-241	4.48E-05	3.50E-02	92.3	3.35E-05	3.90E-05	5.05E-05	5.60E-05
Pu-242	2.46E-10	1.92E-07	5.07E-04	1.79E-10	2.11E-10	2.80E-10	3.13E-10
Am-241	2.78E-05	2.17E-02	57.3	2.00E-05	2.38E-05	3.18E-05	3.56E-05
Am-243	9.55E-10	7.48E-07	1.97E-03	7.10E-10	8.27E-10	1.09E-09	1.21E-09
Cm-242	7.01E-08	5.49E-05	0.145	3.27E-08	3.27E-08	7.47E-08	7.92E-08
Cm-243	6.49E-09	5.08E-06	1.34E-02	2.92E-09	2.92E-09	6.90E-09	7.30E-09
Cm-244	6.46E-08	5.06E-05	0.133	2.78E-08	2.78E-08	7.71E-08	8.50E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.85E-04 (g/L)	----	0.587	2.05E-04	2.44E-04	3.25E-04	3.64E-04
U	4.49E-03	836	2.20E+03	4.29E-03	4.38E-03	4.61E-03	4.64E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.66E+06 (kg)	(549 kgal)	----	----	----	----	----
Heat Load	2.09 (kW)	(7.13E+03 BTU/hr)	----	1.97	2.03	2.15	2.20
Bulk Density†	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%†	61.1	----	----	59.2	60.0	62.1	63.4
TOC wt% C (wet)†	0.409	----	----	0.271	0.338	0.479	0.547

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.16E-04	9.07E-02	241	6.15E-05	6.15E-05	1.20E-04	1.24E-04
C-14	1.65E-05	1.29E-02	34.2	5.03E-06	5.03E-06	1.67E-05	1.69E-05
Ni-59	1.17E-06	9.12E-04	2.43	6.30E-07	6.30E-07	1.20E-06	1.22E-06
Ni-63	1.14E-04	8.89E-02	237	6.07E-05	6.07E-05	1.17E-04	1.19E-04
Co-60	1.81E-05	1.41E-02	37.6	5.01E-06	5.01E-06	1.84E-05	1.87E-05
Se-79	1.64E-06	1.28E-03	3.41	9.08E-07	9.08E-07	1.90E-06	2.16E-06
Sr-90	6.09E-02	47.5	1.27E+05	5.73E-02	5.91E-02	6.27E-02	6.45E-02
Y-90	6.09E-02	47.5	1.27E+05	3.57E-02	3.57E-02	6.28E-02	6.45E-02
Zr-93	8.04E-06	6.28E-03	16.7	4.39E-06	4.39E-06	9.36E-06	1.06E-05
Nb-93m	5.85E-06	4.56E-03	12.1	3.29E-06	3.29E-06	6.77E-06	7.66E-06
Tc-99	1.17E-04	9.16E-02	244	7.47E-05	9.55E-05	1.39E-04	1.61E-04
Ru-106	3.20E-09	2.49E-06	6.64E-03	1.50E-09	1.50E-09	3.57E-09	3.92E-09
Cd-113m	4.21E-05	3.28E-02	87.4	2.02E-05	2.02E-05	5.00E-05	5.76E-05
Sb-125	7.76E-05	6.05E-02	161	2.09E-05	2.09E-05	7.90E-05	8.04E-05
Sn-126	2.48E-06	1.93E-03	5.15	1.38E-06	1.38E-06	2.87E-06	3.25E-06
I-129	2.26E-07	1.77E-04	0.470	1.44E-07	1.84E-07	2.69E-07	3.10E-07
Cs-134	1.19E-06	9.32E-04	2.48	8.66E-07	9.79E-07	1.36E-06	1.53E-06
Cs-137	0.127	99.1	2.64E+05	0.115	0.121	0.133	0.139
Ba-137m	0.120	93.8	2.50E+05	9.16E-02	9.16E-02	0.126	0.131
Sm-151	5.77E-03	4.50	1.20E+04	3.21E-03	3.21E-03	6.70E-03	7.58E-03
Eu-152	1.90E-06	1.48E-03	3.95	9.95E-07	9.95E-07	2.02E-06	2.14E-06
Eu-154	2.94E-04	0.229	611	1.11E-04	1.11E-04	3.60E-04	3.86E-04
Eu-155	1.11E-04	8.70E-02	232	5.76E-05	5.76E-05	1.19E-04	1.26E-04
Ra-226	7.76E-11	6.06E-08	1.61E-04	5.50E-11	5.50E-11	8.58E-11	9.37E-11
Ra-228	6.28E-08	4.90E-05	0.131	2.61E-08	4.41E-08	8.46E-08	1.08E-07
Ac-227	4.74E-10	3.70E-07	9.85E-04	3.42E-10	3.42E-10	5.21E-10	5.67E-10
Pa-231	2.02E-09	1.58E-06	4.20E-03	1.29E-09	1.29E-09	2.29E-09	2.54E-09
Th-229	1.48E-09	1.15E-06	3.07E-03	6.69E-10	1.06E-09	1.95E-09	2.46E-09
Th-232	4.18E-09	3.26E-06	8.69E-03	2.15E-09	3.14E-09	5.22E-09	6.21E-09
U-232	3.27E-07	2.55E-04	0.680	1.80E-07	2.52E-07	4.14E-07	5.07E-07
U-233	1.25E-06	9.79E-04	2.61	6.91E-07	9.66E-07	1.59E-06	1.94E-06
U-234	3.89E-07	3.04E-04	0.809	3.74E-07	3.81E-07	3.98E-07	4.01E-07
U-235	1.58E-08	1.23E-05	3.29E-02	1.52E-08	1.55E-08	1.62E-08	1.63E-08
U-236	1.21E-08	9.45E-06	2.52E-02	1.17E-08	1.19E-08	1.23E-08	1.25E-08
U-238	4.45E-07	3.48E-04	0.925	4.30E-07	4.37E-07	4.54E-07	4.57E-07
Np-237	4.31E-07	3.37E-04	0.897	2.92E-07	3.60E-07	5.03E-07	5.73E-07
Pu-238	7.06E-07	5.51E-04	1.47	5.42E-07	6.23E-07	7.90E-07	8.70E-07
Pu-239	2.61E-05	2.03E-02	54.2	2.19E-05	2.39E-05	2.82E-05	3.02E-05
Pu-240	4.32E-06	3.37E-03	8.98	3.54E-06	3.93E-06	4.72E-06	5.10E-06
Pu-241	4.73E-05	3.69E-02	98.4	3.62E-05	4.16E-05	5.30E-05	5.85E-05
Pu-242	2.57E-10	2.01E-07	5.34E-04	1.91E-10	2.23E-10	2.91E-10	3.24E-10
Am-241	2.76E-05	2.16E-02	57.4	1.99E-05	2.37E-05	3.16E-05	3.54E-05
Am-243	9.49E-10	7.41E-07	1.97E-03	7.05E-10	8.22E-10	1.08E-09	1.20E-09
Cm-242	7.08E-08	5.52E-05	0.147	3.37E-08	3.37E-08	7.54E-08	7.98E-08
Cm-243	6.47E-09	5.05E-06	1.34E-02	2.92E-09	2.92E-09	6.88E-09	7.28E-09
Cm-244	6.42E-08	5.01E-05	0.133	2.76E-08	2.76E-08	7.65E-08	8.44E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.40E-04 (g/L)	----	0.707	2.61E-04	3.00E-04	3.80E-04	4.19E-04
U	4.47E-03	830	2.21E+03	4.27E-03	4.37E-03	4.58E-03	4.61E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.98E+04 (kg)	(9.00 kgal)	----	----	----	----	----
Heat Load	0.222 (kW)	(758 BTU/hr)	----	0.161	0.197	0.238	0.246
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.13	1.06E+05	6.36E+03	3.05	3.56	14.7	18.2
Al^{3+}	6.99	1.07E+05	6.42E+03	6.58	6.74	7.15	7.15
Fe^{3+} (total Fe)	1.01	3.22E+04	1.93E+03	0.994	1.00	1.02	1.03
Cr^{3+}	6.19E-02	1.83E+03	110	7.08E-03	3.39E-02	0.522	1.06
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.07E-02	1.69E+03	101	3.66E-02	4.45E-02	5.54E-02	5.45E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.220	5.02E+03	300	0.146	0.182	0.258	0.294
K^+	1.12E-02	250	14.9	1.28E-03	5.25E-03	1.52E-02	1.52E-02
OH^-	25.6	2.48E+05	1.48E+04	23.1	24.3	26.9	28.4
$NO3^-$	5.29	1.87E+05	1.12E+04	6.03E-02	6.03E-02	13.5	17.9
$NO2^-$	1.46	3.82E+04	2.28E+03	0.132	0.595	2.15	2.15
$CO3^{2-}$	0.220	7.51E+03	449	0.146	0.182	0.258	0.294
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.04E-02	569	34.0	1.19E-03	4.87E-03	1.41E-02	1.41E-02
Si (as SiO_x^{2-})	8.06E-03	129	7.71	9.21E-04	3.77E-03	1.09E-02	1.09E-02
F^-	0	0	0	0	0	0	0
Cl^-	5.16E-02	1.04E+03	62.3	5.91E-03	2.42E-02	7.00E-02	0.157
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.256	2.47E+03	148	6.55E-02	9.25E-02	0.270	0.284
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+06 (kg)	(239 kgal)	----	----	----	----	----
Heat Load	2.12 (kW)	(7.25E+03 BTU/hr)	----	1.99	2.06	2.19	2.26
Bulk Density*	1.67 (g/cc)	----	----	1.62	1.65	1.70	1.72
Water wt%	28.3	----	----	25.7	26.8	29.8	31.7
TOC wt% C (wet)	0.798	----	----	0.523	0.658	0.938	1.07

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.8	2.17E+05	3.28E+05	14.5	15.1	16.4	16.9
Al^{3+}	1.86	2.99E+04	4.53E+04	1.72	1.79	1.93	1.99
Fe^{3+} (total Fe)	1.21E-02	403	611	9.90E-03	1.10E-02	1.32E-02	1.43E-02
Cr^{3+}	0.165	5.12E+03	7.75E+03	0.137	0.152	0.170	0.174
Bi^{3+}	1.52E-03	190	288	1.38E-03	1.45E-03	1.59E-03	1.66E-03
La^{3+}	4.56E-05	3.78	5.72	3.30E-05	3.91E-05	5.20E-05	5.82E-05
Hg^{2+}	1.03E-05	1.23	1.86	9.52E-06	9.94E-06	1.04E-05	1.05E-05
Zr (as $ZrO(OH)_2$)	2.87E-04	15.6	23.7	2.61E-04	2.70E-04	2.97E-04	3.12E-04
Pb^{2+}	1.12E-03	138	209	9.06E-04	1.01E-03	1.22E-03	1.33E-03
Ni^{2+}	7.21E-03	253	383	6.89E-03	7.05E-03	7.29E-03	7.37E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.31E-03	141	214	3.26E-03	3.78E-03	4.85E-03	5.36E-03
Ca^{2+}	3.78E-02	905	1.37E+03	3.47E-02	3.62E-02	3.94E-02	4.09E-02
K^+	7.32E-02	1.71E+03	2.59E+03	6.68E-02	6.98E-02	7.67E-02	8.00E-02
OH^-	11.1	1.13E+05	1.71E+05	10.2	10.6	11.6	11.8
$NO3^-$	5.64	2.09E+05	3.16E+05	5.19	5.45	5.73	5.78
$NO2^-$	2.72	7.47E+04	1.13E+05	2.27	2.48	2.95	3.17
$CO3^{2-}$	0.482	1.73E+04	2.62E+04	0.437	0.454	0.516	0.522
$PO4^{3-}$	0.101	5.74E+03	8.70E+03	8.67E-02	9.18E-02	0.104	0.106
$SO4^{2-}$	0.272	1.56E+04	2.36E+04	0.214	0.241	0.303	0.330
Si (as SiO_x^{2-})	8.66E-02	1.45E+03	2.20E+03	7.15E-02	7.89E-02	9.42E-02	0.102
F^-	7.47E-02	847	1.28E+03	6.26E-02	6.77E-02	8.07E-02	8.54E-02
Cl^-	0.273	5.77E+03	8.75E+03	0.247	0.257	0.285	0.295
$C_6H_5O_7^{3-}$	3.07E-02	3.46E+03	5.24E+03	2.81E-02	2.94E-02	3.19E-02	3.32E-02
$EDTA^{4-}$	1.64E-02	2.83E+03	4.28E+03	5.03E-03	1.06E-02	2.23E-02	2.80E-02
$HEDTA^{3-}$	3.07E-02	5.03E+03	7.62E+03	7.92E-03	1.91E-02	4.25E-02	5.39E-02
$glycolate^-$	9.70E-02	4.34E+03	6.58E+03	6.35E-02	7.99E-02	0.114	0.131
$acetate^-$	6.90E-03	243	368	5.66E-03	6.27E-03	7.53E-03	8.14E-03
$oxalate^{2-}$	5.97E-05	3.14	4.75	5.29E-05	5.62E-05	6.31E-05	6.65E-05
DBP	2.09E-02	2.62E+03	3.97E+03	1.72E-02	1.90E-02	2.27E-02	2.45E-02
butanol	2.09E-02	923	1.40E+03	1.72E-02	1.90E-02	2.27E-02	2.45E-02
NH_3	9.63E-02	977	1.48E+03	7.94E-02	8.60E-02	0.109	0.125
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.58E+06 (kg)	(248 kgal)	----	----	----	----	----
Heat Load	2.35 (kW)	(8.01E+03 BTU/hr)	----	2.21	2.28	2.41	2.48
Bulk Density†	1.68 (g/cc)	----	----	1.63	1.65	1.70	1.72
Water wt%†	28.3	----	----	25.7	26.8	29.7	31.5
TOC wt% C (wet)†	0.768	----	----	0.503	0.633	0.903	1.03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.5	2.12E+05	3.35E+05	14.2	14.9	16.1	16.6
Al^{3+}	2.04	3.29E+04	5.17E+04	1.91	1.98	2.11	2.17
Fe^{3+} (total Fe)	4.84E-02	1.61E+03	2.54E+03	4.63E-02	4.73E-02	4.95E-02	5.05E-02
Cr^{3+}	0.161	4.99E+03	7.86E+03	0.143	0.152	0.172	0.171
Bi^{3+}	1.47E-03	183	288	1.33E-03	1.40E-03	1.54E-03	1.60E-03
La^{3+}	4.39E-05	3.63	5.72	3.18E-05	3.77E-05	5.01E-05	5.61E-05
Hg^{2+}	9.88E-06	1.18	1.86	9.17E-06	9.57E-06	1.00E-05	1.02E-05
Zr (as $ZrO(OH)_2$)	2.76E-04	15.0	23.7	2.52E-04	2.60E-04	2.86E-04	3.00E-04
Pb^{2+}	1.08E-03	133	209	8.73E-04	9.73E-04	1.18E-03	1.28E-03
Ni^{2+}	8.79E-03	307	484	8.28E-03	8.56E-03	8.96E-03	8.94E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.15E-03	136	214	3.14E-03	3.64E-03	4.67E-03	5.17E-03
Ca^{2+}	4.44E-02	1.06E+03	1.67E+03	4.14E-02	4.29E-02	4.60E-02	4.74E-02
K^+	7.09E-02	1.65E+03	2.60E+03	6.48E-02	6.77E-02	7.43E-02	7.75E-02
OH^-	11.6	1.18E+05	1.85E+05	10.8	11.2	12.0	12.3
$NO3^-$	5.62	2.08E+05	3.27E+05	5.19	5.40	5.88	5.87
$NO2^-$	2.67	7.33E+04	1.15E+05	2.24	2.44	2.90	3.11
$CO3^{2-}$	0.472	1.69E+04	2.66E+04	0.429	0.446	0.506	0.511
$PO4^{3-}$	9.76E-02	5.53E+03	8.70E+03	8.36E-02	8.85E-02	0.100	0.103
$SO4^{2-}$	0.262	1.50E+04	2.36E+04	0.207	0.233	0.292	0.319
Si (as SiO_x^{2-})	8.37E-02	1.40E+03	2.21E+03	6.92E-02	7.63E-02	9.11E-02	9.82E-02
F^-	7.20E-02	815	1.28E+03	6.03E-02	6.52E-02	7.77E-02	8.23E-02
Cl^-	0.265	5.59E+03	8.81E+03	0.240	0.249	0.276	0.286
$C_6H_5O_7^{3-}$	2.95E-02	3.33E+03	5.24E+03	2.71E-02	2.83E-02	3.08E-02	3.20E-02
$EDTA^{4-}$	1.58E-02	2.72E+03	4.28E+03	4.85E-03	1.02E-02	2.15E-02	2.70E-02
$HEDTA^{3-}$	2.96E-02	4.84E+03	7.62E+03	7.63E-03	1.84E-02	4.09E-02	5.20E-02
$glycolate^-$	9.35E-02	4.18E+03	6.58E+03	6.12E-02	7.70E-02	0.110	0.126
$acetate^-$	6.65E-03	234	368	5.46E-03	6.04E-03	7.26E-03	7.85E-03
$oxalate^{2-}$	5.75E-05	3.02	4.75	5.09E-05	5.42E-05	6.09E-05	6.41E-05
DBP	2.01E-02	2.52E+03	3.97E+03	1.65E-02	1.83E-02	2.19E-02	2.36E-02
butanol	2.01E-02	888	1.40E+03	1.65E-02	1.83E-02	2.19E-02	2.36E-02
NH_3	0.102	1.03E+03	1.63E+03	8.58E-02	9.22E-02	0.115	0.129
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.98E+04 (kg)	(9.00 kgal)	----	----	----	----	----
Heat Load	0.222 (kW)	(758 BTU/hr)	----	0.161	0.197	0.238	0.246
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.92E-05	1.67E-02	0.996	3.05E-06	1.47E-05	4.10E-05	4.10E-05
C-14	2.26E-06	1.29E-03	7.71E-02	2.59E-07	1.06E-06	3.07E-06	3.07E-06
Ni-59	1.49E-05	8.46E-03	0.506	1.07E-05	1.31E-05	1.62E-05	1.60E-05
Ni-63	1.39E-03	0.790	47.2	1.00E-03	1.22E-03	1.52E-03	1.49E-03
Co-60	8.94E-07	5.09E-04	3.04E-02	1.02E-07	4.18E-07	1.21E-06	1.21E-06
Se-79	4.81E-07	2.74E-04	1.64E-02	5.50E-08	2.25E-07	6.51E-07	7.15E-06
Sr-90	0.928	529	3.16E+04	0.662	0.812	1.02	1.03
Y-90	0.929	529	3.16E+04	0.662	0.812	1.02	1.03
Zr-93	2.27E-06	1.29E-03	7.73E-02	2.59E-07	1.06E-06	3.08E-06	3.03E-05
Nb-93m	1.85E-06	1.06E-03	6.32E-02	2.12E-07	8.68E-07	2.51E-06	3.21E-05
Tc-99	1.58E-05	9.02E-03	0.540	1.81E-06	7.42E-06	2.15E-05	2.15E-05
Ru-106	2.50E-12	1.42E-09	8.50E-08	2.86E-13	1.17E-12	3.38E-12	3.38E-12
Cd-113m	6.99E-06	3.98E-03	0.238	8.00E-07	3.27E-06	9.48E-06	9.48E-06
Sb-125	1.31E-06	7.47E-04	4.47E-02	1.50E-07	6.14E-07	1.78E-06	1.78E-06
Sn-126	7.39E-07	4.21E-04	2.52E-02	8.45E-08	3.46E-07	1.00E-06	1.14E-05
I-129	3.04E-08	1.73E-05	1.04E-03	3.48E-09	1.42E-08	4.13E-08	4.13E-08
Cs-134	2.72E-08	1.55E-05	9.26E-04	7.19E-09	1.52E-08	3.52E-08	3.52E-08
Cs-137	5.60E-02	31.9	1.91E+03	1.48E-02	3.13E-02	7.26E-02	7.26E-02
Ba-137m	5.30E-02	30.2	1.80E+03	1.40E-02	2.96E-02	6.87E-02	6.87E-02
Sm-151	1.71E-03	0.976	58.4	1.96E-04	8.03E-04	2.33E-03	2.64E-02
Eu-152	7.00E-06	3.98E-03	0.238	6.85E-06	6.91E-06	7.06E-06	7.06E-06
Eu-154	2.16E-05	1.23E-02	0.735	2.47E-06	1.01E-05	2.93E-05	2.93E-05
Eu-155	3.30E-04	0.188	11.3	3.23E-04	3.26E-04	3.33E-04	3.33E-04
Ra-226	1.08E-09	6.15E-07	3.68E-05	1.48E-10	6.04E-10	1.56E-09	2.01E-09
Ra-228	9.26E-15	5.28E-12	3.16E-10	9.07E-15	9.15E-15	9.34E-15	9.34E-15
Ac-227	4.76E-09	2.71E-06	1.62E-04	3.06E-10	2.00E-09	7.52E-09	1.02E-08
Pa-231	7.18E-10	4.09E-07	2.44E-05	8.21E-11	3.36E-10	2.04E-09	1.68E-08
Th-229	1.77E-12	1.01E-09	6.02E-08	1.73E-12	1.75E-12	1.78E-12	1.78E-12
Th-232	5.91E-16	3.36E-13	2.01E-11	6.76E-17	2.77E-16	8.01E-16	8.01E-16
U-232	5.24E-12	2.98E-09	1.78E-07	5.99E-13	2.45E-12	7.10E-12	7.10E-12
U-233	2.00E-13	1.14E-10	6.80E-09	2.28E-14	9.34E-14	2.71E-13	2.71E-13
U-234	1.19E-07	6.78E-05	4.06E-03	1.36E-08	5.58E-08	1.62E-07	1.62E-07
U-235	5.13E-09	2.92E-06	1.75E-04	5.86E-10	2.40E-09	6.95E-09	6.95E-09
U-236	1.88E-09	1.07E-06	6.42E-05	2.16E-10	8.82E-10	2.56E-09	2.56E-09
U-238	1.22E-07	6.92E-05	4.14E-03	1.39E-08	5.69E-08	1.65E-07	1.65E-07
Np-237	1.03E-07	5.86E-05	3.50E-03	1.18E-08	4.81E-08	1.39E-07	1.39E-07
Pu-238	6.61E-06	3.77E-03	0.225	4.75E-06	5.66E-06	7.57E-06	8.48E-06
Pu-239	4.72E-04	0.269	16.1	3.39E-04	4.04E-04	5.40E-04	6.05E-04
Pu-240	6.76E-05	3.85E-02	2.30	4.85E-05	5.78E-05	7.73E-05	8.66E-05
Pu-241	3.97E-04	0.226	13.5	2.85E-04	3.40E-04	4.55E-04	5.09E-04
Pu-242	1.82E-09	1.04E-06	6.21E-05	1.31E-09	1.56E-09	2.08E-09	2.34E-09
Am-241	8.09E-06	4.61E-03	0.276	9.26E-07	3.79E-06	1.10E-05	1.43E-04
Am-243	7.57E-11	4.31E-08	2.58E-06	8.66E-12	3.54E-11	1.03E-10	1.34E-09
Cm-242	1.61E-07	9.16E-05	5.48E-03	1.58E-07	1.59E-07	1.62E-07	1.62E-07
Cm-243	3.69E-09	2.10E-06	1.26E-04	3.61E-09	3.64E-09	3.72E-09	3.72E-09
Cm-244	2.70E-09	1.54E-06	9.21E-05	3.09E-10	1.27E-09	3.67E-09	3.67E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.89E-03 (g/L)	----	0.269	5.67E-03	6.76E-03	9.03E-03	1.01E-02
U	1.53E-03	207	12.4	1.75E-04	7.16E-04	2.07E-03	2.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+06 (kg)	(239 kgal)	----	----	----	----	----
Heat Load	2.12 (kW)	(7.25E+03 BTU/hr)	----	1.99	2.06	2.19	2.26
Bulk Density*	1.67 (g/cc)	----	----	1.62	1.65	1.70	1.72
Water wt%†	28.3	----	----	25.7	26.8	29.8	31.7
TOC wt% C (wet)	0.798	----	----	0.523	0.658	0.938	1.07
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.80E-04	0.167	253	1.46E-04	1.46E-04	2.89E-04	3.00E-04
C-14	4.03E-05	2.41E-02	36.4	1.23E-05	1.23E-05	4.09E-05	4.15E-05
Ni-59	2.61E-06	1.56E-03	2.36	1.29E-06	1.29E-06	2.67E-06	2.74E-06
Ni-63	2.55E-04	0.153	231	1.25E-04	1.25E-04	2.62E-04	2.68E-04
Co-60	4.46E-05	2.66E-02	40.3	1.26E-05	1.26E-05	4.54E-05	4.62E-05
Se-79	4.00E-06	2.39E-03	3.62	2.21E-06	2.21E-06	4.65E-06	5.27E-06
Sr-90	0.133	79.6	1.21E+05	0.124	0.129	0.138	0.142
Y-90	0.133	79.6	1.21E+05	7.16E-02	7.16E-02	0.138	0.142
Zr-93	1.96E-05	1.17E-02	17.8	1.07E-05	1.07E-05	2.29E-05	2.60E-05
Nb-93m	1.43E-05	8.51E-03	12.9	8.01E-06	8.01E-06	1.65E-05	1.87E-05
Tc-99	2.87E-04	0.171	260	1.83E-04	2.34E-04	3.41E-04	3.92E-04
Ru-106	7.93E-09	4.73E-06	7.17E-03	3.79E-09	3.79E-09	8.85E-09	9.69E-09
Cd-113m	1.03E-04	6.15E-02	93.2	4.94E-05	4.94E-05	1.22E-04	1.41E-04
Sb-125	1.92E-04	0.114	173	5.30E-05	5.30E-05	1.95E-04	1.99E-04
Sn-126	6.05E-06	3.61E-03	5.47	3.37E-06	3.37E-06	7.02E-06	7.94E-06
I-129	5.53E-07	3.30E-04	0.500	3.51E-07	4.50E-07	6.57E-07	7.57E-07
Cs-134	3.03E-06	1.81E-03	2.74	2.16E-06	2.55E-06	3.47E-06	3.90E-06
Cs-137	0.310	185	2.80E+05	0.279	0.294	0.325	0.341
Ba-137m	0.293	175	2.65E+05	0.230	0.230	0.308	0.322
Sm-151	1.41E-02	8.41	1.27E+04	7.84E-03	7.84E-03	1.63E-02	1.85E-02
Eu-152	4.61E-06	2.75E-03	4.17	2.40E-06	2.40E-06	4.93E-06	5.24E-06
Eu-154	7.23E-04	0.432	654	2.77E-04	2.77E-04	8.85E-04	9.49E-04
Eu-155	2.73E-04	0.163	247	1.41E-04	1.41E-04	2.92E-04	3.11E-04
Ra-226	1.71E-10	1.02E-07	1.55E-04	1.16E-10	1.16E-10	1.91E-10	2.10E-10
Ra-228	1.67E-07	9.95E-05	0.151	6.98E-08	1.17E-07	2.24E-07	2.85E-07
Ac-227	1.08E-09	6.46E-07	9.79E-04	7.61E-10	7.61E-10	1.20E-09	1.31E-09
Pa-231	4.96E-09	2.96E-06	4.49E-03	3.18E-09	3.18E-09	5.61E-09	6.23E-09
Th-229	3.91E-09	2.33E-06	3.54E-03	1.78E-09	2.82E-09	5.17E-09	6.52E-09
Th-232	1.11E-08	6.63E-06	1.00E-02	5.74E-09	8.37E-09	1.38E-08	1.65E-08
U-232	8.58E-07	5.12E-04	0.776	4.69E-07	6.59E-07	1.09E-06	1.33E-06
U-233	3.29E-06	1.96E-03	2.97	1.80E-06	2.53E-06	4.17E-06	5.11E-06
U-234	9.64E-07	5.76E-04	0.872	9.28E-07	9.46E-07	9.84E-07	9.94E-07
U-235	3.91E-08	2.34E-05	3.54E-02	3.76E-08	3.83E-08	4.00E-08	4.04E-08
U-236	3.02E-08	1.80E-05	2.73E-02	2.91E-08	2.97E-08	3.06E-08	3.11E-08
U-238	1.12E-06	6.67E-04	1.01	1.08E-06	1.10E-06	1.14E-06	1.15E-06
Np-237	1.05E-06	6.26E-04	0.948	7.07E-07	8.74E-07	1.22E-06	1.39E-06
Pu-238	1.63E-06	9.75E-04	1.48	1.23E-06	1.43E-06	1.84E-06	2.03E-06
Pu-239	5.61E-05	3.35E-02	50.8	4.58E-05	5.09E-05	6.13E-05	6.63E-05
Pu-240	9.51E-06	5.68E-03	8.60	7.60E-06	8.54E-06	1.05E-05	1.14E-05
Pu-241	1.10E-04	6.59E-02	99.8	8.31E-05	9.64E-05	1.24E-04	1.38E-04
Pu-242	6.06E-10	3.62E-07	5.48E-04	4.43E-10	5.23E-10	6.89E-10	7.69E-10
Am-241	6.81E-05	4.06E-02	61.6	4.91E-05	5.84E-05	7.78E-05	8.71E-05
Am-243	2.36E-09	1.41E-06	2.13E-03	1.76E-09	2.05E-09	2.68E-09	2.98E-09
Cm-242	1.75E-07	1.04E-04	0.158	8.40E-08	8.40E-08	1.87E-07	1.99E-07
Cm-243	1.62E-08	9.66E-06	1.46E-02	7.52E-09	7.52E-09	1.73E-08	1.83E-08
Cm-244	1.60E-07	9.55E-05	0.145	7.07E-08	7.07E-08	1.90E-07	2.10E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.03E-04 (g/L)	----	0.636	5.09E-04	6.04E-04	8.02E-04	8.96E-04
U	1.10E-02	1.57E+03	2.38E+03	1.06E-02	1.08E-02	1.13E-02	1.14E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.58E+06 (kg)	(248 kgal)	----	----	----	----	----
Heat Load	2.35 (kW)	(8.01E+03 BTU/hr)	----	2.21	2.28	2.41	2.48
Bulk Density†	1.68 (g/cc)	----	----	1.63	1.65	1.70	1.72
Water wt%†	28.3	----	----	25.7	26.8	29.7	31.5
TOC wt% C (wet)†	0.768	----	----	0.503	0.633	0.903	1.03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.71E-04	0.161	254	1.42E-04	1.42E-04	2.79E-04	2.90E-04
C-14	3.89E-05	2.32E-02	36.5	1.19E-05	1.19E-05	3.95E-05	4.01E-05
Ni-59	3.05E-06	1.82E-03	2.86	1.78E-06	1.78E-06	3.12E-06	3.18E-06
Ni-63	2.97E-04	0.177	278	1.71E-04	1.71E-04	3.03E-04	3.09E-04
Co-60	4.30E-05	2.56E-02	40.4	1.21E-05	1.21E-05	4.38E-05	4.46E-05
Se-79	3.87E-06	2.31E-03	3.64	2.15E-06	2.15E-06	4.50E-06	5.09E-06
Sr-90	0.162	96.6	1.52E+05	0.152	0.158	0.166	0.171
Y-90	0.162	96.6	1.52E+05	0.103	0.103	0.166	0.171
Zr-93	1.90E-05	1.13E-02	17.8	1.04E-05	1.04E-05	2.21E-05	2.51E-05
Nb-93m	1.38E-05	8.23E-03	13.0	7.78E-06	7.78E-06	1.60E-05	1.81E-05
Tc-99	2.77E-04	0.165	260	1.77E-04	2.26E-04	3.29E-04	3.79E-04
Ru-106	7.64E-09	4.55E-06	7.17E-03	3.65E-09	3.65E-09	8.53E-09	9.34E-09
Cd-113m	9.95E-05	5.93E-02	93.4	4.79E-05	4.79E-05	1.18E-04	1.36E-04
Sb-125	1.85E-04	0.110	173	5.11E-05	5.11E-05	1.88E-04	1.92E-04
Sn-126	5.85E-06	3.49E-03	5.49	3.27E-06	3.27E-06	6.79E-06	7.68E-06
I-129	5.34E-07	3.18E-04	0.501	3.40E-07	4.35E-07	6.34E-07	7.31E-07
Cs-134	2.92E-06	1.74E-03	2.74	2.09E-06	2.46E-06	3.35E-06	3.76E-06
Cs-137	0.300	179	2.82E+05	0.271	0.285	0.316	0.331
Ba-137m	0.284	169	2.67E+05	0.223	0.223	0.299	0.313
Sm-151	1.36E-02	8.13	1.28E+04	7.61E-03	7.61E-03	1.58E-02	1.79E-02
Eu-152	4.70E-06	2.80E-03	4.41	2.57E-06	2.57E-06	5.00E-06	5.30E-06
Eu-154	6.98E-04	0.416	655	2.68E-04	2.68E-04	8.53E-04	9.16E-04
Eu-155	2.75E-04	0.164	258	1.48E-04	1.48E-04	2.93E-04	3.12E-04
Ra-226	2.04E-10	1.22E-07	1.92E-04	1.51E-10	1.51E-10	2.23E-10	2.42E-10
Ra-228	1.61E-07	9.58E-05	0.151	6.72E-08	1.13E-07	2.16E-07	2.75E-07
Ac-227	1.22E-09	7.25E-07	1.14E-03	9.06E-10	9.06E-10	1.33E-09	1.44E-09
Pa-231	4.81E-09	2.87E-06	4.52E-03	3.09E-09	3.09E-09	5.43E-09	6.03E-09
Th-229	3.77E-09	2.25E-06	3.54E-03	1.72E-09	2.72E-09	4.98E-09	6.28E-09
Th-232	1.07E-08	6.38E-06	1.00E-02	5.53E-09	8.07E-09	1.33E-08	1.59E-08
U-232	8.27E-07	4.93E-04	0.776	4.52E-07	6.35E-07	1.05E-06	1.29E-06
U-233	3.17E-06	1.89E-03	2.97	1.74E-06	2.44E-06	4.02E-06	4.92E-06
U-234	9.34E-07	5.56E-04	0.876	8.99E-07	9.16E-07	9.51E-07	9.62E-07
U-235	3.79E-08	2.26E-05	3.56E-02	3.64E-08	3.71E-08	3.86E-08	3.91E-08
U-236	2.91E-08	1.74E-05	2.74E-02	2.81E-08	2.87E-08	2.96E-08	3.00E-08
U-238	1.08E-06	6.44E-04	1.01	1.05E-06	1.06E-06	1.10E-06	1.11E-06
Np-237	1.01E-06	6.04E-04	0.952	6.86E-07	8.46E-07	1.18E-06	1.35E-06
Pu-238	1.81E-06	1.08E-03	1.70	1.43E-06	1.62E-06	2.01E-06	2.20E-06
Pu-239	7.12E-05	4.24E-02	66.8	6.13E-05	6.62E-05	7.62E-05	8.10E-05
Pu-240	1.16E-05	6.92E-03	10.9	9.78E-06	1.07E-05	1.26E-05	1.35E-05
Pu-241	1.21E-04	7.20E-02	113	9.45E-05	1.07E-04	1.34E-04	1.47E-04
Pu-242	6.50E-10	3.88E-07	6.10E-04	4.93E-10	5.70E-10	7.30E-10	8.08E-10
Am-241	6.59E-05	3.93E-02	61.8	4.76E-05	5.66E-05	7.52E-05	8.42E-05
Am-243	2.28E-09	1.36E-06	2.14E-03	1.70E-09	1.98E-09	2.58E-09	2.88E-09
Cm-242	1.74E-07	1.04E-04	0.164	8.68E-08	8.68E-08	1.86E-07	1.97E-07
Cm-243	1.57E-08	9.37E-06	1.48E-02	7.38E-09	7.38E-09	1.68E-08	1.78E-08
Cm-244	1.54E-07	9.20E-05	0.145	6.83E-08	6.83E-08	1.83E-07	2.02E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.64E-04 (g/L)	----	0.905	7.77E-04	8.69E-04	1.06E-03	1.15E-03
U	1.07E-02	1.52E+03	2.39E+03	1.03E-02	1.05E-02	1.09E-02	1.10E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.92E+06 (kg)	(293 kgal)	----	----	----	----	----
Heat Load	4.67 (kW)	(1.59E+04 BTU/hr)	----	3.94	4.37	4.87	4.96
Bulk Density	1.73 (g/cc)	----	----	1.58	1.65	1.86	1.91
Void Fraction	0.682	----	----	0.507	0.565	0.756	0.788
Water wt%	31.0	----	----	20.1	23.6	36.5	42.0
TOC wt% C (wet)	2.85E-03	----	----	2.58E-03	2.65E-03	3.06E-03	3.33E-03
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	11.0	1.46E+05	2.81E+05	8.34	9.35	13.5	14.7
Al^{3+}	5.36	8.34E+04	1.60E+05	4.28	4.60	6.18	7.01
Fe^{3+} (total Fe)	0.397	1.28E+04	2.46E+04	0.390	0.393	0.400	0.404
Cr^{3+}	0.475	1.42E+04	2.74E+04	0.287	0.376	0.644	0.842
Bi^{3+}	3.78E-06	0.455	0.875	3.19E-06	3.48E-06	4.16E-06	4.57E-06
La^{3+}	9.30E-12	7.45E-07	1.43E-06	8.15E-12	8.80E-12	1.03E-11	1.13E-11
Hg^{2+}	3.35E-04	38.7	74.5	3.30E-04	3.33E-04	3.36E-04	3.37E-04
Zr (as $ZrO(OH)_2$)	3.77E-07	1.98E-02	3.81E-02	3.46E-07	3.61E-07	3.95E-07	4.26E-07
Pb^{2+}	9.73E-03	1.16E+03	2.24E+03	8.95E-03	9.38E-03	1.01E-02	1.04E-02
Ni^{2+}	2.71E-02	917	1.76E+03	2.19E-02	2.48E-02	2.88E-02	2.85E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-05	0.871	1.67	1.96E-05	2.35E-05	3.15E-05	3.55E-05
Ca^{2+}	0.133	3.08E+03	5.92E+03	0.106	0.119	0.147	0.161
K^+	2.18E-02	493	947	1.82E-02	1.96E-02	2.34E-02	2.51E-02
OH^-	23.1	2.27E+05	4.36E+05	18.2	19.8	26.7	30.2
$NO3^-$	4.88	1.75E+05	3.36E+05	2.96	2.96	7.89	9.53
$NO2^-$	1.64	4.36E+04	8.39E+04	1.15	1.33	1.90	1.90
$CO3^{2-}$	0.136	4.70E+03	9.04E+03	0.108	0.122	0.150	0.163
$PO4^{3-}$	2.44E-04	13.4	25.7	2.27E-04	2.37E-04	2.54E-04	2.77E-04
$SO4^{2-}$	2.67E-02	1.48E+03	2.85E+03	2.33E-02	2.47E-02	2.87E-02	3.08E-02
Si (as SiO_x^{2-})	7.61E-02	1.23E+03	2.37E+03	4.98E-02	6.61E-02	8.60E-02	9.57E-02
F^-	1.95E-04	2.13	4.10	1.66E-04	1.83E-04	2.14E-04	2.31E-04
Cl^-	9.29E-02	1.90E+03	3.65E+03	5.90E-02	7.56E-02	0.100	0.132
$C_6H_5O_7^{3-}$	2.01E-04	21.9	42.2	1.95E-04	1.98E-04	2.10E-04	2.28E-04
$EDTA^{4-}$	7.84E-06	1.30	2.50	5.51E-06	6.78E-06	9.23E-06	1.06E-05
$HEDTA^{3-}$	6.51E-06	1.03	1.98	2.09E-06	4.47E-06	8.69E-06	1.08E-05
$glycolate^-$	2.84E-04	12.3	23.6	1.54E-04	2.25E-04	3.53E-04	4.19E-04
$acetate^-$	2.95E-05	1.00	1.93	2.85E-05	2.90E-05	3.13E-05	3.35E-05
$oxalate^{2-}$	1.22E-11	6.19E-07	1.19E-06	1.08E-11	1.15E-11	1.34E-11	1.47E-11
DBP	1.78E-04	21.6	41.6	1.67E-04	1.74E-04	1.93E-04	2.08E-04
butanol	1.78E-04	7.63	14.7	1.67E-04	1.74E-04	1.93E-04	2.08E-04
NH_3	0.114	1.12E+03	2.15E+03	4.40E-02	5.39E-02	0.119	0.125
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.89E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	4.58E-03 (kW)	(15.6 BTU/hr)	----	3.75E-03	4.15E-03	5.01E-03	5.45E-03
Bulk Density*	1.28 (g/cc)	----	----	1.24	1.26	1.29	1.30
Water wt%	63.4	----	----	61.0	62.1	64.9	67.2
TOC wt% C (wet)	5.57E-03	----	----	4.15E-03	4.83E-03	6.27E-03	6.92E-03
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	6.39	1.15E+05	561	5.36	5.92	6.79	7.14
Al^{3+}	0.994	2.10E+04	102	0.915	0.957	1.03	1.07
Fe^{3+} (total Fe)	1.24E-03	54.3	0.265	6.87E-04	9.59E-04	1.53E-03	1.80E-03
Cr^{3+}	7.46E-02	3.03E+03	14.8	4.25E-02	5.82E-02	9.09E-02	0.107
Bi^{3+}	5.44E-06	0.889	4.34E-03	4.59E-06	5.01E-06	5.87E-06	6.28E-06
La^{3+}	1.34E-11	1.46E-06	7.11E-09	9.43E-12	1.14E-11	1.54E-11	1.72E-11
Hg^{2+}	8.54E-07	0.134	6.55E-04	7.70E-07	8.12E-07	8.97E-07	9.38E-07
Zr (as $ZrO(OH)_2$)	5.43E-07	3.87E-02	1.89E-04	4.29E-07	4.74E-07	5.90E-07	6.50E-07
Pb^{2+}	1.35E-04	21.9	0.107	7.39E-05	1.04E-04	1.67E-04	1.97E-04
Ni^{2+}	1.12E-03	51.4	0.251	1.01E-03	1.06E-03	1.18E-03	1.23E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.96E-05	1.70	8.31E-03	2.88E-05	3.41E-05	4.51E-05	5.03E-05
Ca^{2+}	5.59E-03	175	0.856	3.41E-03	4.48E-03	6.71E-03	7.78E-03
K^+	2.53E-02	775	3.78	1.92E-02	2.21E-02	2.86E-02	3.19E-02
OH^-	6.20	8.24E+04	402	5.42	5.96	6.44	6.69
$NO3^-$	1.74	8.44E+04	412	1.41	1.57	1.91	2.07
$NO2^-$	1.48	5.33E+04	260	1.03	1.26	1.63	1.73
$CO3^{2-}$	9.52E-03	447	2.18	7.33E-03	8.40E-03	1.06E-02	1.17E-02
$PO4^{3-}$	3.52E-04	26.1	0.128	2.73E-04	3.20E-04	3.75E-04	3.92E-04
$SO4^{2-}$	3.20E-02	2.40E+03	11.7	2.43E-02	2.80E-02	3.61E-02	4.01E-02
Si (as SiO_x^{2-})	2.11E-02	464	2.27	1.07E-02	1.58E-02	2.65E-02	3.16E-02
F^-	2.81E-04	4.17	2.04E-02	2.01E-04	2.37E-04	3.20E-04	3.52E-04
Cl^-	0.106	2.93E+03	14.3	5.68E-02	8.07E-02	0.116	0.116
$C_6H_5O_7^{3-}$	2.90E-04	42.9	0.209	2.45E-04	2.67E-04	3.11E-04	3.30E-04
$EDTA^{4-}$	1.13E-05	2.54	1.24E-02	6.38E-06	8.76E-06	1.38E-05	1.62E-05
$HEDTA^{3-}$	9.38E-06	2.01	9.82E-03	2.42E-06	5.77E-06	1.30E-05	1.65E-05
$glycolate^-$	4.09E-04	24.0	0.117	1.78E-04	2.90E-04	5.27E-04	6.40E-04
$acetate^-$	4.25E-05	1.96	9.57E-03	3.35E-05	3.79E-05	4.68E-05	5.09E-05
$oxalate^{2-}$	1.76E-11	1.21E-06	5.90E-09	1.55E-11	1.65E-11	1.86E-11	1.96E-11
DBP	2.57E-04	42.3	0.206	1.93E-04	2.24E-04	2.88E-04	3.18E-04
butanol	2.57E-04	14.9	7.28E-02	1.93E-04	2.24E-04	2.88E-04	3.18E-04
NH_3	2.85E-02	379	1.85	1.77E-02	2.28E-02	3.37E-02	3.84E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.93E+06 (kg)	(294 kgal)	----	----	----	----	----
Heat Load	4.67 (kW)	(1.60E+04 BTU/hr)	----	3.94	4.37	4.87	4.96
Bulk Density†	1.73 (g/cc)	----	----	1.58	1.65	1.86	1.91
Water wt%†	31.1	----	----	20.2	23.7	36.6	42.1
TOC wt% C (wet)†	2.86E-03	----	----	2.59E-03	2.66E-03	3.07E-03	3.33E-03
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	11.0	1.46E+05	2.82E+05	8.33	9.34	13.4	14.7
Al^{3+}	5.34	8.32E+04	1.60E+05	4.27	4.59	6.16	6.99
Fe^{3+} (total Fe)	0.395	1.27E+04	2.46E+04	0.388	0.392	0.399	0.402
Cr^{3+}	0.473	1.42E+04	2.74E+04	0.286	0.375	0.642	0.840
Bi^{3+}	3.78E-06	0.456	0.879	3.19E-06	3.48E-06	4.16E-06	4.58E-06
La^{3+}	9.31E-12	7.47E-07	1.44E-06	8.16E-12	8.81E-12	1.03E-11	1.13E-11
Hg^{2+}	3.34E-04	38.6	74.5	3.29E-04	3.32E-04	3.35E-04	3.36E-04
Zr (as $ZrO(OH)_2$)	3.77E-07	1.99E-02	3.83E-02	3.47E-07	3.62E-07	3.96E-07	4.27E-07
Pb^{2+}	9.70E-03	1.16E+03	2.24E+03	8.92E-03	9.35E-03	1.00E-02	1.04E-02
Ni^{2+}	2.70E-02	914	1.76E+03	2.18E-02	2.47E-02	2.87E-02	2.84E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.75E-05	0.873	1.68	1.97E-05	2.35E-05	3.16E-05	3.56E-05
Ca^{2+}	0.133	3.07E+03	5.92E+03	0.105	0.119	0.147	0.160
K^+	2.19E-02	494	951	1.82E-02	1.97E-02	2.34E-02	2.52E-02
OH^-	23.1	2.26E+05	4.36E+05	18.1	19.7	26.6	30.1
$NO3^-$	4.87	1.74E+05	3.36E+05	2.95	2.95	7.87	9.50
$NO2^-$	1.64	4.36E+04	8.41E+04	1.16	1.33	1.90	1.90
$CO3^{2-}$	0.135	4.69E+03	9.04E+03	0.108	0.121	0.149	0.163
$PO4^{3-}$	2.45E-04	13.4	25.9	2.27E-04	2.37E-04	2.55E-04	2.77E-04
$SO4^{2-}$	2.68E-02	1.48E+03	2.86E+03	2.34E-02	2.47E-02	2.87E-02	3.08E-02
Si (as SiO_x^{2-})	7.59E-02	1.23E+03	2.37E+03	4.97E-02	6.59E-02	8.58E-02	9.54E-02
F^-	1.95E-04	2.14	4.12	1.66E-04	1.84E-04	2.14E-04	2.31E-04
Cl^-	9.30E-02	1.90E+03	3.67E+03	5.90E-02	7.56E-02	0.100	0.132
$C_6H_5O_7^{3-}$	2.02E-04	22.0	42.4	1.95E-04	1.98E-04	2.10E-04	2.29E-04
$EDTA^{4-}$	7.85E-06	1.31	2.52	5.52E-06	6.79E-06	9.24E-06	1.06E-05
$HEDTA^{3-}$	6.52E-06	1.03	1.99	2.09E-06	4.48E-06	8.70E-06	1.08E-05
$glycolate^-$	2.84E-04	12.3	23.7	1.54E-04	2.25E-04	3.54E-04	4.20E-04
$acetate^-$	2.95E-05	1.01	1.94	2.86E-05	2.90E-05	3.14E-05	3.35E-05
$oxalate^{2-}$	1.22E-11	6.20E-07	1.19E-06	1.08E-11	1.15E-11	1.34E-11	1.47E-11
DBP	1.79E-04	21.7	41.8	1.67E-04	1.74E-04	1.93E-04	2.09E-04
butanol	1.79E-04	7.65	14.7	1.67E-04	1.74E-04	1.93E-04	2.09E-04
NH_3	0.114	1.12E+03	2.15E+03	4.39E-02	5.38E-02	0.119	0.124
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.92E+06 (kg)	(293 kgal)	----	----	----	----	----
Heat Load	4.67 (kW)	(1.59E+04 BTU/hr)	----	3.94	4.37	4.87	4.96
Bulk Density	1.73 (g/cc)	----	----	1.58	1.65	1.86	1.91
Void Fraction	0.682	----	----	0.507	0.565	0.756	0.788
Water wt%	31.0	----	----	20.1	23.6	36.5	42.0
TOC wt% C (wet)	2.85E-03	----	----	2.58E-03	2.65E-03	3.06E-03	3.33E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.33E-04	7.69E-02	148	1.09E-05	1.09E-05	1.39E-04	1.51E-04
C-14	7.13E-06	4.11E-03	7.90	8.43E-07	8.43E-07	7.42E-06	7.96E-06
Ni-59	9.22E-06	5.32E-03	10.2	5.48E-06	5.48E-06	9.73E-06	9.64E-06
Ni-63	8.75E-04	0.505	971	5.12E-04	5.12E-04	9.23E-04	9.14E-04
Co-60	5.99E-06	3.46E-03	6.64	3.33E-07	3.33E-07	6.23E-06	6.75E-06
Se-79	4.00E-06	2.31E-03	4.43	1.79E-07	1.79E-07	4.06E-06	6.46E-06
Sr-90	0.487	281	5.40E+05	0.389	0.444	0.520	0.525
Y-90	0.487	281	5.40E+05	0.342	0.342	0.520	0.525
Zr-93	1.89E-05	1.09E-02	21.0	8.45E-07	8.45E-07	1.92E-05	2.93E-05
Nb-93m	1.54E-05	8.86E-03	17.0	6.91E-07	6.91E-07	1.56E-05	2.65E-05
Tc-99	5.48E-05	3.16E-02	60.7	4.96E-05	5.16E-05	5.84E-05	6.26E-05
Ru-106	1.31E-09	7.55E-07	1.45E-03	9.43E-13	9.43E-13	1.37E-09	1.49E-09
Cd-113m	2.81E-05	1.62E-02	31.1	2.61E-06	2.61E-06	5.91E-05	5.72E-05
Sb-125	2.07E-05	1.19E-02	23.0	4.90E-07	4.90E-07	2.16E-05	2.34E-05
Sn-126	6.14E-06	3.54E-03	6.80	2.75E-07	2.75E-07	6.23E-06	1.01E-05
I-129	1.04E-07	6.00E-05	0.115	9.41E-08	9.81E-08	1.11E-07	1.19E-07
Cs-134	1.27E-06	7.35E-04	1.41	1.02E-08	1.02E-08	1.32E-06	1.42E-06
Cs-137	0.199	115	2.20E+05	0.184	0.190	0.212	0.226
Ba-137m	0.188	108	2.09E+05	1.97E-02	1.97E-02	0.194	0.208
Sm-151	1.43E-02	8.22	1.58E+04	6.39E-04	6.39E-04	1.45E-02	2.33E-02
Eu-152	7.47E-06	4.31E-03	8.28	2.59E-06	2.59E-06	7.50E-06	7.56E-06
Eu-154	1.43E-04	8.27E-02	159	8.05E-06	8.05E-06	1.49E-04	1.86E-04
Eu-155	3.70E-04	0.213	410	1.22E-04	1.22E-04	3.71E-04	3.74E-04
Ra-226	6.56E-10	3.79E-07	7.28E-04	3.13E-10	3.98E-10	8.32E-10	1.00E-09
Ra-228	8.66E-09	4.99E-06	9.60E-03	3.44E-15	3.44E-15	8.74E-09	8.84E-09
Ac-227	3.27E-09	1.88E-06	3.62E-03	1.62E-09	1.76E-09	4.28E-09	5.26E-09
Pa-231	5.95E-09	3.43E-06	6.60E-03	2.67E-10	2.67E-10	6.44E-09	1.19E-08
Th-229	2.08E-10	1.20E-07	2.31E-04	6.55E-13	6.55E-13	2.10E-10	2.12E-10
Th-232	1.16E-10	6.69E-08	1.29E-04	2.21E-16	2.21E-16	1.46E-10	1.76E-10
U-232	3.87E-08	2.23E-05	4.29E-02	1.37E-08	2.53E-08	5.52E-08	7.34E-08
U-233	1.48E-07	8.54E-05	0.164	5.23E-08	9.66E-08	2.11E-07	2.81E-07
U-234	1.96E-06	1.13E-03	2.17	1.56E-06	1.75E-06	2.17E-06	2.39E-06
U-235	8.16E-08	4.71E-05	9.05E-02	6.57E-08	7.34E-08	9.05E-08	9.94E-08
U-236	5.63E-08	3.25E-05	6.25E-02	4.06E-08	4.84E-08	6.46E-08	7.28E-08
U-238	1.84E-06	1.06E-03	2.04	1.49E-06	1.66E-06	2.03E-06	2.23E-06
Np-237	2.51E-07	1.45E-04	0.279	2.18E-07	2.31E-07	2.69E-07	2.89E-07
Pu-238	5.79E-06	3.34E-03	6.42	4.88E-06	5.32E-06	6.25E-06	6.70E-06
Pu-239	3.48E-04	0.200	385	2.98E-04	3.23E-04	3.73E-04	3.97E-04
Pu-240	5.04E-05	2.91E-02	55.9	4.34E-05	4.68E-05	5.40E-05	5.74E-05
Pu-241	3.26E-04	0.188	362	2.80E-04	3.03E-04	3.50E-04	3.73E-04
Pu-242	1.51E-09	8.69E-07	1.67E-03	1.26E-09	1.38E-09	1.63E-09	1.75E-09
Am-241	6.71E-05	3.87E-02	74.5	3.94E-05	5.85E-05	7.65E-05	1.17E-04
Am-243	2.07E-09	1.20E-06	2.30E-03	9.69E-10	1.80E-09	2.28E-09	2.54E-09
Cm-242	6.05E-08	3.49E-05	6.71E-02	5.92E-08	5.96E-08	6.10E-08	6.10E-08
Cm-243	1.38E-09	7.99E-07	1.54E-03	1.36E-09	1.37E-09	1.40E-09	1.40E-09
Cm-244	1.11E-09	6.41E-07	1.23E-03	2.29E-10	5.81E-10	1.47E-09	1.47E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.81E-03 (g/L)	----	6.44	4.99E-03	5.39E-03	6.23E-03	6.63E-03
U	2.30E-02	3.16E+03	6.07E+03	1.87E-02	2.08E-02	2.54E-02	2.78E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.89E+03 (kg)	(1.01 kgal)	----	----	----	----	----
Heat Load	4.58E-03 (kW)	(15.6 BTU/hr)	----	3.75E-03	4.15E-03	5.01E-03	5.45E-03
Bulk Density*	1.28 (g/cc)	----	----	1.24	1.26	1.29	1.30
Water wt%†	63.4	----	----	61.0	62.1	64.9	67.2
TOC wt% C (wet)	5.57E-03	----	----	4.15E-03	4.83E-03	6.27E-03	6.92E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.76E-04	0.138	0.674	9.18E-10	9.18E-10	1.77E-04	1.77E-04
C-14	9.06E-06	7.08E-03	3.46E-02	7.13E-11	7.13E-11	9.14E-06	9.22E-06
Ni-59	5.05E-07	3.95E-04	1.93E-03	9.02E-12	9.02E-12	5.32E-07	5.58E-07
Ni-63	4.90E-05	3.83E-02	0.187	8.43E-10	8.43E-10	5.17E-05	5.42E-05
Co-60	8.15E-06	6.37E-03	3.11E-02	2.84E-11	2.84E-11	8.22E-06	8.29E-06
Se-79	1.24E-06	9.72E-04	4.75E-03	1.51E-11	1.51E-11	1.69E-06	2.09E-06
Sr-90	2.11E-02	16.5	80.7	1.81E-02	1.96E-02	2.27E-02	2.42E-02
Y-90	2.11E-02	16.5	80.7	5.85E-07	5.85E-07	2.27E-02	2.42E-02
Zr-93	6.22E-06	4.86E-03	2.37E-02	7.15E-11	7.15E-11	8.46E-06	9.97E-06
Nb-93m	4.35E-06	3.40E-03	1.66E-02	5.84E-11	5.84E-11	5.92E-06	7.43E-06
Tc-99	7.04E-05	5.50E-02	0.269	5.49E-05	6.24E-05	7.84E-05	8.65E-05
Ru-106	1.88E-09	1.47E-06	7.19E-06	1.78E-16	1.78E-16	1.90E-09	1.92E-09
Cd-113m	3.67E-05	2.87E-02	0.140	2.21E-10	2.21E-10	3.70E-05	3.73E-05
Sb-125	2.91E-05	2.28E-02	0.111	4.27E-11	4.27E-11	2.93E-05	2.96E-05
Sn-126	1.86E-06	1.46E-03	7.12E-03	2.33E-11	2.33E-11	2.54E-06	3.06E-06
I-129	1.34E-07	1.04E-04	5.10E-04	1.04E-07	1.18E-07	1.49E-07	1.64E-07
Cs-134	1.60E-06	1.25E-03	6.12E-03	7.87E-13	7.87E-13	1.62E-06	1.63E-06
Cs-137	0.226	176	862	0.179	0.201	0.250	0.274
Ba-137m	0.213	167	815	1.39E-06	1.39E-06	0.215	0.217
Sm-151	4.35E-03	3.40	16.6	5.41E-08	5.41E-08	5.92E-03	7.38E-03
Eu-152	7.06E-07	5.52E-04	2.70E-03	5.34E-12	5.34E-12	7.12E-07	7.19E-07
Eu-154	1.95E-04	0.152	0.744	6.85E-10	6.85E-10	1.96E-04	1.98E-04
Eu-155	3.58E-05	2.80E-02	0.137	2.53E-10	2.53E-10	3.61E-05	3.65E-05
Ra-226	3.85E-11	3.01E-08	1.47E-07	1.05E-15	1.05E-15	5.25E-11	6.58E-11
Ra-228	1.25E-09	9.80E-07	4.79E-06	7.12E-21	7.12E-21	1.27E-09	1.28E-09
Ac-227	2.24E-10	1.75E-07	8.55E-07	6.10E-15	6.10E-15	3.05E-10	3.82E-10
Pa-231	1.24E-09	9.72E-07	4.75E-06	2.26E-14	2.26E-14	1.69E-09	2.12E-09
Th-229	3.01E-11	2.35E-08	1.15E-07	1.34E-18	1.34E-18	3.04E-11	3.06E-11
Th-232	1.67E-10	1.31E-07	6.38E-07	1.89E-20	1.89E-20	2.09E-10	2.49E-10
U-232	1.27E-08	9.94E-06	4.85E-05	1.04E-08	1.17E-08	1.37E-08	1.47E-08
U-233	4.86E-08	3.80E-05	1.86E-04	3.97E-08	4.49E-08	5.25E-08	5.61E-08
U-234	2.30E-07	1.80E-04	8.77E-04	2.07E-07	2.18E-07	2.41E-07	2.52E-07
U-235	9.28E-09	7.25E-06	3.54E-05	8.35E-09	8.80E-09	9.74E-09	1.02E-08
U-236	9.51E-09	7.44E-06	3.63E-05	8.54E-09	9.01E-09	1.00E-08	1.05E-08
U-238	2.01E-07	1.57E-04	7.69E-04	1.81E-07	1.91E-07	2.11E-07	2.21E-07
Np-237	3.07E-07	2.40E-04	1.17E-03	2.36E-07	2.70E-07	3.45E-07	3.82E-07
Pu-238	1.71E-07	1.34E-04	6.53E-04	5.09E-08	1.10E-07	2.32E-07	2.91E-07
Pu-239	5.52E-06	4.32E-03	2.11E-02	1.66E-06	3.55E-06	7.50E-06	9.39E-06
Pu-240	9.16E-07	7.16E-04	3.50E-03	2.74E-07	5.89E-07	1.24E-06	1.56E-06
Pu-241	8.77E-06	6.86E-03	3.35E-02	2.63E-06	5.64E-06	1.19E-05	1.49E-05
Pu-242	4.65E-11	3.64E-08	1.78E-07	1.39E-11	2.99E-11	6.32E-11	7.91E-11
Am-241	1.86E-05	1.46E-02	7.12E-02	5.42E-06	1.19E-05	2.54E-05	3.19E-05
Am-243	5.95E-10	4.65E-07	2.27E-06	1.40E-10	3.33E-10	8.72E-10	1.15E-09
Cm-242	1.26E-10	9.86E-08	4.81E-07	1.22E-13	1.22E-13	1.28E-10	1.29E-10
Cm-243	2.58E-12	2.01E-09	9.84E-09	2.80E-15	2.80E-15	2.61E-12	2.63E-12
Cm-244	1.50E-10	1.17E-07	5.73E-07	8.52E-14	8.52E-14	1.52E-10	1.53E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.20E-05 (g/L)	----	3.51E-04	2.68E-05	5.87E-05	1.25E-04	1.57E-04
U	2.49E-03	463	2.26	2.24E-03	2.36E-03	2.61E-03	2.73E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.93E+06 (kg)	(294 kgal)	----	----	----	----	----
Heat Load	4.67 (kW)	(1.60E+04 BTU/hr)	----	3.94	4.37	4.87	4.96
Bulk Density†	1.73 (g/cc)	----	----	1.58	1.65	1.86	1.91
Water wt%†	31.1	----	----	20.2	23.7	36.6	42.1
TOC wt% C (wet)†	2.86E-03	----	----	2.59E-03	2.66E-03	3.07E-03	3.33E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.33E-04	7.71E-02	149	1.08E-05	1.08E-05	1.40E-04	1.51E-04
C-14	7.13E-06	4.12E-03	7.94	8.40E-07	8.40E-07	7.43E-06	7.96E-06
Ni-59	9.19E-06	5.31E-03	10.2	5.46E-06	5.46E-06	9.70E-06	9.61E-06
Ni-63	8.72E-04	0.504	971	5.10E-04	5.10E-04	9.20E-04	9.11E-04
Co-60	6.00E-06	3.46E-03	6.67	3.32E-07	3.32E-07	6.24E-06	6.75E-06
Se-79	3.99E-06	2.30E-03	4.44	1.78E-07	1.78E-07	4.05E-06	6.44E-06
Sr-90	0.485	280	5.40E+05	0.387	0.443	0.518	0.523
Y-90	0.485	280	5.40E+05	0.341	0.341	0.518	0.524
Zr-93	1.89E-05	1.09E-02	21.0	8.43E-07	8.43E-07	1.92E-05	2.92E-05
Nb-93m	1.53E-05	8.85E-03	17.0	6.89E-07	6.89E-07	1.56E-05	2.64E-05
Tc-99	5.48E-05	3.16E-02	61.0	4.97E-05	5.17E-05	5.85E-05	6.27E-05
Ru-106	1.31E-09	7.57E-07	1.46E-03	9.39E-13	9.39E-13	1.37E-09	1.49E-09
Cd-113m	2.81E-05	1.62E-02	31.3	2.60E-06	2.60E-06	5.90E-05	5.70E-05
Sb-125	2.07E-05	1.20E-02	23.1	4.88E-07	4.88E-07	2.16E-05	2.34E-05
Sn-126	6.12E-06	3.53E-03	6.81	2.74E-07	2.74E-07	6.22E-06	1.01E-05
I-129	1.04E-07	6.01E-05	0.116	9.42E-08	9.82E-08	1.11E-07	1.19E-07
Cs-134	1.28E-06	7.36E-04	1.42	1.01E-08	1.01E-08	1.32E-06	1.43E-06
Cs-137	0.199	115	2.21E+05	0.184	0.190	0.212	0.227
Ba-137m	0.188	109	2.09E+05	1.96E-02	1.96E-02	0.194	0.208
Sm-151	1.42E-02	8.21	1.58E+04	6.37E-04	6.37E-04	1.44E-02	2.33E-02
Eu-152	7.45E-06	4.30E-03	8.29	2.58E-06	2.58E-06	7.48E-06	7.54E-06
Eu-154	1.43E-04	8.28E-02	160	8.02E-06	8.02E-06	1.49E-04	1.86E-04
Eu-155	3.69E-04	0.213	410	1.22E-04	1.22E-04	3.70E-04	3.73E-04
Ra-226	6.54E-10	3.78E-07	7.28E-04	3.12E-10	3.97E-10	8.29E-10	9.97E-10
Ra-228	8.63E-09	4.98E-06	9.60E-03	3.43E-15	3.43E-15	8.71E-09	8.81E-09
Ac-227	3.26E-09	1.88E-06	3.62E-03	1.62E-09	1.75E-09	4.27E-09	5.25E-09
Pa-231	5.93E-09	3.43E-06	6.60E-03	2.66E-10	2.66E-10	6.42E-09	1.18E-08
Th-229	2.08E-10	1.20E-07	2.31E-04	6.53E-13	6.53E-13	2.09E-10	2.12E-10
Th-232	1.16E-10	6.71E-08	1.29E-04	2.20E-16	2.20E-16	1.46E-10	1.76E-10
U-232	3.86E-08	2.23E-05	4.30E-02	1.37E-08	2.52E-08	5.50E-08	7.32E-08
U-233	1.48E-07	8.53E-05	0.164	5.23E-08	9.64E-08	2.10E-07	2.80E-07
U-234	1.95E-06	1.13E-03	2.17	1.56E-06	1.75E-06	2.17E-06	2.39E-06
U-235	8.14E-08	4.70E-05	9.06E-02	6.55E-08	7.32E-08	9.02E-08	9.91E-08
U-236	5.62E-08	3.24E-05	6.25E-02	4.05E-08	4.83E-08	6.44E-08	7.26E-08
U-238	1.83E-06	1.06E-03	2.04	1.49E-06	1.65E-06	2.03E-06	2.22E-06
Np-237	2.52E-07	1.45E-04	0.280	2.18E-07	2.32E-07	2.69E-07	2.89E-07
Pu-238	5.77E-06	3.33E-03	6.42	4.86E-06	5.31E-06	6.23E-06	6.68E-06
Pu-239	3.46E-04	0.200	385	2.97E-04	3.21E-04	3.71E-04	3.95E-04
Pu-240	5.02E-05	2.90E-02	55.9	4.32E-05	4.67E-05	5.38E-05	5.73E-05
Pu-241	3.25E-04	0.188	362	2.79E-04	3.02E-04	3.49E-04	3.72E-04
Pu-242	1.50E-09	8.67E-07	1.67E-03	1.25E-09	1.38E-09	1.63E-09	1.75E-09
Am-241	6.70E-05	3.87E-02	74.5	3.93E-05	5.83E-05	7.63E-05	1.17E-04
Am-243	2.07E-09	1.20E-06	2.30E-03	9.67E-10	1.79E-09	2.28E-09	2.53E-09
Cm-242	6.03E-08	3.48E-05	6.71E-02	5.90E-08	5.94E-08	6.08E-08	6.08E-08
Cm-243	1.38E-09	7.97E-07	1.54E-03	1.35E-09	1.36E-09	1.39E-09	1.39E-09
Cm-244	1.11E-09	6.40E-07	1.23E-03	2.28E-10	5.80E-10	1.46E-09	1.46E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.79E-03 (g/L)	----	6.44	4.97E-03	5.37E-03	6.21E-03	6.61E-03
U	2.29E-02	3.15E+03	6.07E+03	1.86E-02	2.07E-02	2.53E-02	2.78E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.33E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	4.93E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.37E-02	5.29E-02	5.46E-02
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.13	1.06E+05	1.41E+03	3.05	3.56	14.7	18.2
Al^{3+}	6.99	1.07E+05	1.43E+03	6.58	6.74	7.15	7.15
Fe^{3+} (total Fe)	1.01	3.22E+04	428	0.994	1.00	1.02	1.03
Cr^{3+}	6.19E-02	1.83E+03	24.3	7.08E-03	3.39E-02	0.522	1.06
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.07E-02	1.69E+03	22.5	3.66E-02	4.45E-02	5.54E-02	5.45E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.220	5.02E+03	66.6	0.146	0.182	0.258	0.294
K^+	1.12E-02	250	3.32	1.28E-03	5.25E-03	1.52E-02	1.52E-02
OH^-	25.6	2.48E+05	3.29E+03	23.1	24.3	26.9	28.4
$NO3^-$	5.29	1.87E+05	2.48E+03	6.03E-02	6.03E-02	13.5	17.9
$NO2^-$	1.46	3.82E+04	507	0.132	0.595	2.15	2.15
$CO3^{2-}$	0.220	7.51E+03	99.8	0.146	0.182	0.258	0.294
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.04E-02	569	7.56	1.19E-03	4.87E-03	1.41E-02	1.41E-02
Si (as SiO_x^{2-})	8.06E-03	129	1.71	9.21E-04	3.77E-03	1.09E-02	1.09E-02
F^-	0	0	0	0	0	0	0
Cl^-	5.16E-02	1.04E+03	13.8	5.91E-03	2.42E-02	7.00E-02	0.157
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.256	2.47E+03	32.9	6.55E-02	9.25E-02	0.270	0.284
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.46E+06 (kg)	(405 kgal)	----	----	----	----	----
Heat Load	2.89 (kW)	(9.88E+03 BTU/hr)	----	2.69	2.79	3.01	3.01
Bulk Density*	1.61 (g/cc)	----	----	1.54	1.58	1.63	1.63
Water wt%	34.2	----	----	32.4	33.1	35.9	38.5
TOC wt% C (wet)	0.264	----	----	0.235	0.249	0.278	0.292

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.9	1.99E+05	4.90E+05	12.4	13.2	14.4	14.6
Al^{3+}	1.97	3.32E+04	8.17E+04	1.70	1.83	2.13	2.03
Fe^{3+} (total Fe)	8.26E-03	287	707	6.92E-03	7.58E-03	8.93E-03	9.59E-03
Cr^{3+}	0.204	6.59E+03	1.62E+04	0.147	0.178	0.209	0.213
Bi^{3+}	7.36E-04	95.7	236	6.61E-04	6.97E-04	7.74E-04	8.11E-04
La^{3+}	9.36E-10	8.09E-05	1.99E-04	7.17E-10	8.25E-10	1.05E-09	1.16E-09
Hg^{2+}	6.14E-06	0.767	1.89	5.75E-06	5.97E-06	6.23E-06	6.31E-06
Zr (as $ZrO(OH)_2$)	1.54E-04	8.72	21.5	1.40E-04	1.45E-04	1.59E-04	1.67E-04
Pb^{2+}	7.23E-04	93.2	230	5.99E-04	6.60E-04	7.86E-04	8.47E-04
Ni^{2+}	5.57E-03	203	501	5.35E-03	5.45E-03	5.68E-03	5.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.39E-03	81.6	201	1.75E-03	2.06E-03	2.71E-03	3.03E-03
Ca^{2+}	2.84E-02	709	1.75E+03	2.42E-02	2.63E-02	3.06E-02	3.26E-02
K^+	5.80E-02	1.41E+03	3.48E+03	5.13E-02	5.45E-02	6.20E-02	6.22E-02
OH^-	11.9	1.26E+05	3.10E+05	10.2	11.0	12.9	12.3
$NO3^-$	4.70	1.81E+05	4.47E+05	4.26	4.48	4.88	4.88
$NO2^-$	2.62	7.50E+04	1.85E+05	2.25	2.46	2.76	2.90
$CO3^{2-}$	0.234	8.74E+03	2.15E+04	0.212	0.219	0.253	0.255
$PO4^{3-}$	5.27E-02	3.11E+03	7.67E+03	4.62E-02	4.85E-02	5.41E-02	5.54E-02
$SO4^{2-}$	0.161	9.60E+03	2.36E+04	0.125	0.142	0.180	0.196
Si (as SiO_x^{2-})	6.27E-02	1.10E+03	2.70E+03	5.36E-02	5.80E-02	6.74E-02	7.19E-02
F^-	3.52E-02	417	1.03E+03	2.87E-02	3.14E-02	3.85E-02	4.10E-02
Cl^-	0.236	5.19E+03	1.28E+04	0.204	0.219	0.253	0.249
$C_6H_5O_7^{3-}$	1.71E-02	2.01E+03	4.96E+03	1.58E-02	1.64E-02	1.78E-02	1.84E-02
$EDTA^{4-}$	1.92E-03	344	846	9.55E-04	1.42E-03	2.41E-03	2.89E-03
$HEDTA^{3-}$	3.07E-03	523	1.29E+03	1.15E-03	2.08E-03	4.06E-03	5.02E-03
$glycolate^-$	2.65E-02	1.24E+03	3.04E+03	1.53E-02	2.08E-02	3.22E-02	3.76E-02
$acetate^-$	2.46E-03	90.4	223	1.99E-03	2.22E-03	2.70E-03	2.93E-03
$oxalate^{2-}$	1.23E-09	6.72E-05	1.65E-04	1.11E-09	1.17E-09	1.29E-09	1.34E-09
DBP	1.19E-02	1.55E+03	3.83E+03	9.63E-03	1.07E-02	1.30E-02	1.41E-02
butanol	1.19E-02	548	1.35E+03	9.63E-03	1.07E-02	1.30E-02	1.41E-02
NH_3	6.88E-02	728	1.79E+03	5.85E-02	6.26E-02	7.68E-02	8.61E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.48E+06 (kg)	(407 kgal)	----	----	----	----	----
Heat Load	2.94 (kW)	(1.00E+04 BTU/hr)	----	2.73	2.83	3.06	3.06
Bulk Density†	1.61 (g/cc)	----	----	1.54	1.58	1.63	1.63
Water wt%†	34.2	----	----	32.3	33.0	35.9	38.6
TOC wt% C (wet)†	0.262	----	----	0.233	0.247	0.277	0.290

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.9	1.99E+05	4.92E+05	12.3	13.2	14.4	14.5
Al^{3+}	2.00	3.36E+04	8.31E+04	1.72	1.85	2.16	2.05
Fe^{3+} (total Fe)	1.32E-02	458	1.13E+03	1.19E-02	1.25E-02	1.39E-02	1.45E-02
Cr^{3+}	0.203	6.56E+03	1.63E+04	0.152	0.179	0.209	0.212
Bi^{3+}	7.32E-04	95.2	236	6.57E-04	6.94E-04	7.70E-04	8.07E-04
La^{3+}	9.32E-10	8.05E-05	1.99E-04	7.14E-10	8.20E-10	1.04E-09	1.15E-09
Hg^{2+}	6.11E-06	0.763	1.89	5.72E-06	5.95E-06	6.20E-06	6.28E-06
Zr (as $ZrO(OH)_2$)	1.53E-04	8.67	21.5	1.39E-04	1.44E-04	1.58E-04	1.66E-04
Pb^{2+}	7.19E-04	92.7	230	5.96E-04	6.56E-04	7.82E-04	8.43E-04
Ni^{2+}	5.79E-03	211	523	5.59E-03	5.69E-03	5.89E-03	5.98E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.37E-03	81.2	201	1.74E-03	2.05E-03	2.70E-03	3.01E-03
Ca^{2+}	2.94E-02	733	1.81E+03	2.55E-02	2.74E-02	3.13E-02	3.32E-02
K^+	5.78E-02	1.41E+03	3.48E+03	5.11E-02	5.43E-02	6.17E-02	6.19E-02
OH^-	12.0	1.27E+05	3.13E+05	10.2	11.1	12.9	12.4
$NO3^-$	4.71	1.82E+05	4.49E+05	4.33	4.51	4.86	4.86
$NO2^-$	2.61	7.48E+04	1.85E+05	2.25	2.46	2.75	2.89
$CO3^{2-}$	0.234	8.73E+03	2.16E+04	0.212	0.219	0.252	0.255
$PO4^{3-}$	5.24E-02	3.10E+03	7.67E+03	4.60E-02	4.82E-02	5.38E-02	5.52E-02
$SO4^{2-}$	0.160	9.55E+03	2.36E+04	0.125	0.141	0.179	0.195
Si (as SiO_x^{2-})	6.24E-02	1.09E+03	2.70E+03	5.33E-02	5.78E-02	6.71E-02	7.16E-02
F^-	3.51E-02	415	1.03E+03	2.86E-02	3.13E-02	3.83E-02	4.08E-02
Cl^-	0.235	5.17E+03	1.28E+04	0.204	0.218	0.252	0.248
$C_6H_5O_7^{3-}$	1.70E-02	2.00E+03	4.96E+03	1.57E-02	1.64E-02	1.77E-02	1.83E-02
$EDTA^{4-}$	1.91E-03	342	846	9.51E-04	1.42E-03	2.40E-03	2.88E-03
$HEDTA^{3-}$	3.05E-03	520	1.29E+03	1.14E-03	2.07E-03	4.04E-03	5.00E-03
$glycolate^-$	2.63E-02	1.23E+03	3.04E+03	1.53E-02	2.07E-02	3.20E-02	3.74E-02
$acetate^-$	2.45E-03	89.9	223	1.98E-03	2.21E-03	2.69E-03	2.91E-03
$oxalate^{2-}$	1.22E-09	6.68E-05	1.65E-04	1.10E-09	1.16E-09	1.28E-09	1.34E-09
DBP	1.18E-02	1.55E+03	3.83E+03	9.58E-03	1.07E-02	1.29E-02	1.40E-02
butanol	1.18E-02	545	1.35E+03	9.58E-03	1.07E-02	1.29E-02	1.40E-02
NH_3	6.97E-02	737	1.83E+03	5.95E-02	6.35E-02	7.76E-02	8.69E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.33E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	4.93E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.37E-02	5.29E-02	5.46E-02
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.92E-05	1.67E-02	0.221	3.05E-06	1.47E-05	4.10E-05	4.10E-05
C-14	2.26E-06	1.29E-03	1.71E-02	2.59E-07	1.06E-06	3.07E-06	3.07E-06
Ni-59	1.49E-05	8.46E-03	0.112	1.07E-05	1.31E-05	1.62E-05	1.60E-05
Ni-63	1.39E-03	0.790	10.5	1.00E-03	1.22E-03	1.52E-03	1.49E-03
Co-60	8.94E-07	5.09E-04	6.76E-03	1.02E-07	4.18E-07	1.21E-06	1.21E-06
Se-79	4.81E-07	2.74E-04	3.63E-03	5.50E-08	2.25E-07	6.51E-07	7.15E-06
Sr-90	0.928	529	7.02E+03	0.662	0.812	1.02	1.03
Y-90	0.929	529	7.02E+03	0.662	0.812	1.02	1.03
Zr-93	2.27E-06	1.29E-03	1.72E-02	2.59E-07	1.06E-06	3.08E-06	3.03E-05
Nb-93m	1.85E-06	1.06E-03	1.40E-02	2.12E-07	8.68E-07	2.51E-06	3.21E-05
Tc-99	1.58E-05	9.02E-03	0.120	1.81E-06	7.42E-06	2.15E-05	2.15E-05
Ru-106	2.50E-12	1.42E-09	1.89E-08	2.86E-13	1.17E-12	3.38E-12	3.38E-12
Cd-113m	6.99E-06	3.98E-03	5.29E-02	8.00E-07	3.27E-06	9.48E-06	9.48E-06
Sb-125	1.31E-06	7.47E-04	9.92E-03	1.50E-07	6.14E-07	1.78E-06	1.78E-06
Sn-126	7.39E-07	4.21E-04	5.59E-03	8.45E-08	3.46E-07	1.00E-06	1.14E-05
I-129	3.04E-08	1.73E-05	2.30E-04	3.48E-09	1.42E-08	4.13E-08	4.13E-08
Cs-134	2.72E-08	1.55E-05	2.06E-04	7.19E-09	1.52E-08	3.52E-08	3.52E-08
Cs-137	5.60E-02	31.9	424	1.48E-02	3.13E-02	7.26E-02	7.26E-02
Ba-137m	5.30E-02	30.2	401	1.40E-02	2.96E-02	6.87E-02	6.87E-02
Sm-151	1.71E-03	0.976	13.0	1.96E-04	8.03E-04	2.33E-03	2.64E-02
Eu-152	7.00E-06	3.98E-03	5.29E-02	6.85E-06	6.91E-06	7.06E-06	7.06E-06
Eu-154	2.16E-05	1.23E-02	0.163	2.47E-06	1.01E-05	2.93E-05	2.93E-05
Eu-155	3.30E-04	0.188	2.50	3.23E-04	3.26E-04	3.33E-04	3.33E-04
Ra-226	1.08E-09	6.15E-07	8.17E-06	1.48E-10	6.04E-10	1.56E-09	2.01E-09
Ra-228	9.26E-15	5.28E-12	7.01E-11	9.07E-15	9.15E-15	9.34E-15	9.34E-15
Ac-227	4.76E-09	2.71E-06	3.60E-05	3.06E-10	2.00E-09	7.52E-09	1.02E-08
Pa-231	7.18E-10	4.09E-07	5.43E-06	8.21E-11	3.36E-10	2.04E-09	1.68E-08
Th-229	1.77E-12	1.01E-09	1.34E-08	1.73E-12	1.75E-12	1.78E-12	1.78E-12
Th-232	5.91E-16	3.36E-13	4.47E-12	6.76E-17	2.77E-16	8.01E-16	8.01E-16
U-232	5.24E-12	2.98E-09	3.96E-08	5.99E-13	2.45E-12	7.10E-12	7.10E-12
U-233	2.00E-13	1.14E-10	1.51E-09	2.28E-14	9.34E-14	2.71E-13	2.71E-13
U-234	1.19E-07	6.78E-05	9.01E-04	1.36E-08	5.58E-08	1.62E-07	1.62E-07
U-235	5.13E-09	2.92E-06	3.88E-05	5.86E-10	2.40E-09	6.95E-09	6.95E-09
U-236	1.88E-09	1.07E-06	1.43E-05	2.16E-10	8.82E-10	2.56E-09	2.56E-09
U-238	1.22E-07	6.92E-05	9.20E-04	1.39E-08	5.69E-08	1.65E-07	1.65E-07
Np-237	1.03E-07	5.86E-05	7.78E-04	1.18E-08	4.81E-08	1.39E-07	1.39E-07
Pu-238	6.61E-06	3.77E-03	5.00E-02	4.75E-06	5.66E-06	7.57E-06	8.48E-06
Pu-239	4.72E-04	0.269	3.57	3.39E-04	4.04E-04	5.40E-04	6.05E-04
Pu-240	6.76E-05	3.85E-02	0.511	4.85E-05	5.78E-05	7.73E-05	8.66E-05
Pu-241	3.97E-04	0.226	3.01	2.85E-04	3.40E-04	4.55E-04	5.09E-04
Pu-242	1.82E-09	1.04E-06	1.38E-05	1.31E-09	1.56E-09	2.08E-09	2.34E-09
Am-241	8.09E-06	4.61E-03	6.12E-02	9.26E-07	3.79E-06	1.10E-05	1.43E-04
Am-243	7.57E-11	4.31E-08	5.72E-07	8.66E-12	3.54E-11	1.03E-10	1.34E-09
Cm-242	1.61E-07	9.16E-05	1.22E-03	1.58E-07	1.59E-07	1.62E-07	1.62E-07
Cm-243	3.69E-09	2.10E-06	2.79E-05	3.61E-09	3.64E-09	3.72E-09	3.72E-09
Cm-244	2.70E-09	1.54E-06	2.05E-05	3.09E-10	1.27E-09	3.67E-09	3.67E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.89E-03 (g/L)	----	5.97E-02	5.67E-03	6.76E-03	9.03E-03	1.01E-02
U	1.53E-03	207	2.75	1.75E-04	7.16E-04	2.07E-03	2.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.46E+06 (kg)	(405 kgal)	----	----	----	----	----
Heat Load	2.89 (kW)	(9.88E+03 BTU/hr)	----	2.69	2.79	3.01	3.01
Bulk Density*	1.61 (g/cc)	----	----	1.54	1.58	1.63	1.63
Water wt%†	34.2	----	----	32.4	33.1	35.9	38.5
TOC wt% C (wet)	0.264	----	----	0.235	0.249	0.278	0.292

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.25E-04	0.140	345	1.43E-04	1.43E-04	2.41E-04	2.34E-04
C-14	2.77E-05	1.72E-02	42.4	1.06E-05	1.06E-05	2.85E-05	2.83E-05
Ni-59	1.97E-06	1.23E-03	3.02	1.17E-06	1.17E-06	2.01E-06	2.05E-06
Ni-63	1.91E-04	0.119	293	1.11E-04	1.11E-04	1.95E-04	1.99E-04
Co-60	2.72E-05	1.70E-02	41.8	7.72E-06	7.72E-06	2.77E-05	2.81E-05
Se-79	3.02E-06	1.88E-03	4.63	1.93E-06	1.93E-06	3.41E-06	3.79E-06
Sr-90	9.96E-02	62.0	1.53E+05	9.37E-02	9.66E-02	0.103	0.105
Y-90	9.96E-02	62.0	1.53E+05	6.20E-02	6.20E-02	0.103	0.105
Zr-93	1.47E-05	9.16E-03	22.6	9.28E-06	9.28E-06	1.67E-05	1.86E-05
Nb-93m	1.10E-05	6.84E-03	16.8	7.17E-06	7.17E-06	1.24E-05	1.37E-05
Tc-99	1.97E-04	0.123	302	1.34E-04	1.65E-04	2.30E-04	2.62E-04
Ru-106	4.14E-09	2.58E-06	6.35E-03	1.62E-09	1.62E-09	4.71E-09	5.22E-09
Cd-113m	7.02E-05	4.37E-02	108	3.75E-05	3.75E-05	8.20E-05	9.34E-05
Sb-125	1.10E-04	6.87E-02	169	2.58E-05	2.58E-05	1.12E-04	1.14E-04
Sn-126	4.58E-06	2.85E-03	7.02	2.95E-06	2.95E-06	5.17E-06	5.74E-06
I-129	3.80E-07	2.36E-04	0.582	2.57E-07	3.17E-07	4.43E-07	5.04E-07
Cs-134	1.33E-06	8.28E-04	2.04	8.79E-07	8.79E-07	1.44E-06	1.54E-06
Cs-137	0.260	162	3.98E+05	0.232	0.245	0.276	0.276
Ba-137m	0.246	153	3.77E+05	0.185	0.185	0.261	0.261
Sm-151	1.07E-02	6.64	1.63E+04	6.85E-03	6.85E-03	1.20E-02	1.34E-02
Eu-152	2.52E-06	1.57E-03	3.86	1.17E-06	1.17E-06	2.58E-06	2.62E-06
Eu-154	4.43E-04	0.276	680	1.71E-04	1.71E-04	5.42E-04	5.81E-04
Eu-155	1.44E-04	8.96E-02	221	6.36E-05	6.36E-05	1.48E-04	1.52E-04
Ra-226	1.47E-10	9.12E-08	2.25E-04	9.37E-11	1.13E-10	1.73E-10	1.99E-10
Ra-228	5.48E-08	3.41E-05	8.40E-02	2.13E-08	3.77E-08	7.47E-08	9.58E-08
Ac-227	8.85E-10	5.50E-07	1.36E-03	5.78E-10	6.89E-10	1.04E-09	1.14E-09
Pa-231	3.84E-09	2.39E-06	5.89E-03	2.76E-09	2.76E-09	4.24E-09	4.62E-09
Th-229	1.30E-09	8.09E-07	1.99E-03	5.65E-10	9.24E-10	1.74E-09	2.20E-09
Th-232	3.63E-09	2.26E-06	5.57E-03	1.78E-09	2.69E-09	4.58E-09	5.49E-09
U-232	3.20E-07	1.99E-04	0.491	1.86E-07	2.52E-07	4.00E-07	4.85E-07
U-233	1.23E-06	7.65E-04	1.88	7.15E-07	9.66E-07	1.53E-06	1.86E-06
U-234	7.68E-07	4.78E-04	1.18	6.96E-07	7.30E-07	8.09E-07	7.86E-07
U-235	3.18E-08	1.98E-05	4.88E-02	2.87E-08	3.02E-08	3.36E-08	3.26E-08
U-236	2.12E-08	1.32E-05	3.26E-02	2.01E-08	2.06E-08	2.19E-08	2.18E-08
U-238	8.01E-07	4.98E-04	1.23	7.27E-07	7.62E-07	8.43E-07	8.18E-07
Np-237	8.00E-07	4.98E-04	1.23	5.93E-07	6.94E-07	9.08E-07	1.01E-06
Pu-238	9.60E-07	5.97E-04	1.47	7.16E-07	8.35E-07	1.08E-06	1.20E-06
Pu-239	3.73E-05	2.32E-02	57.2	2.98E-05	3.35E-05	4.12E-05	4.49E-05
Pu-240	6.04E-06	3.76E-03	9.26	4.88E-06	5.45E-06	6.63E-06	7.20E-06
Pu-241	6.30E-05	3.92E-02	96.5	4.63E-05	5.45E-05	7.15E-05	7.96E-05
Pu-242	3.37E-10	2.10E-07	5.17E-04	2.38E-10	2.87E-10	3.88E-10	4.37E-10
Am-241	4.89E-05	3.04E-02	74.9	3.73E-05	4.30E-05	5.48E-05	6.04E-05
Am-243	1.29E-09	8.06E-07	1.98E-03	9.31E-10	1.10E-09	1.49E-09	1.67E-09
Cm-242	8.75E-08	5.44E-05	0.134	3.21E-08	3.21E-08	8.90E-08	9.05E-08
Cm-243	7.64E-09	4.76E-06	1.17E-02	2.36E-09	2.36E-09	7.81E-09	7.97E-09
Cm-244	8.49E-08	5.28E-05	0.130	3.05E-08	3.05E-08	1.03E-07	1.15E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.01E-04 (g/L)	----	0.768	3.75E-04	4.37E-04	5.66E-04	6.27E-04
U	9.09E-03	1.35E+03	3.32E+03	8.17E-03	8.61E-03	9.63E-03	9.31E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.48E+06 (kg)	(407 kgal)	----	----	----	----	----
Heat Load	2.94 (kW)	(1.00E+04 BTU/hr)	----	2.73	2.83	3.06	3.06
Bulk Density†	1.61 (g/cc)	----	----	1.54	1.58	1.63	1.63
Water wt%†	34.2	----	----	32.3	33.0	35.9	38.6
TOC wt% C (wet)†	0.262	----	----	0.233	0.247	0.277	0.290

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.24E-04	0.139	345	1.43E-04	1.43E-04	2.40E-04	2.33E-04
C-14	2.75E-05	1.71E-02	42.4	1.06E-05	1.06E-05	2.83E-05	2.82E-05
Ni-59	2.03E-06	1.27E-03	3.13	1.24E-06	1.24E-06	2.07E-06	2.11E-06
Ni-63	1.97E-04	0.122	303	1.18E-04	1.18E-04	2.01E-04	2.05E-04
Co-60	2.71E-05	1.69E-02	41.8	7.69E-06	7.69E-06	2.76E-05	2.80E-05
Se-79	3.01E-06	1.87E-03	4.63	1.92E-06	1.92E-06	3.40E-06	3.78E-06
Sr-90	0.104	64.5	1.60E+05	9.83E-02	0.101	0.106	0.109
Y-90	0.104	64.5	1.60E+05	6.62E-02	6.62E-02	0.106	0.109
Zr-93	1.47E-05	9.12E-03	22.6	9.24E-06	9.24E-06	1.66E-05	1.85E-05
Nb-93m	1.09E-05	6.81E-03	16.9	7.15E-06	7.15E-06	1.23E-05	1.36E-05
Tc-99	1.96E-04	0.122	303	1.33E-04	1.64E-04	2.29E-04	2.60E-04
Ru-106	4.12E-09	2.56E-06	6.35E-03	1.61E-09	1.61E-09	4.68E-09	5.19E-09
Cd-113m	6.99E-05	4.35E-02	108	3.74E-05	3.74E-05	8.17E-05	9.29E-05
Sb-125	1.10E-04	6.83E-02	169	2.57E-05	2.57E-05	1.12E-04	1.14E-04
Sn-126	4.56E-06	2.84E-03	7.02	2.93E-06	2.93E-06	5.15E-06	5.71E-06
I-129	3.78E-07	2.35E-04	0.582	2.56E-07	3.15E-07	4.41E-07	5.02E-07
Cs-134	1.32E-06	8.24E-04	2.04	8.75E-07	8.75E-07	1.43E-06	1.53E-06
Cs-137	0.259	161	3.98E+05	0.231	0.244	0.275	0.275
Ba-137m	0.245	152	3.77E+05	0.185	0.185	0.260	0.260
Sm-151	1.06E-02	6.60	1.64E+04	6.83E-03	6.83E-03	1.20E-02	1.33E-02
Eu-152	2.54E-06	1.58E-03	3.91	1.20E-06	1.20E-06	2.60E-06	2.64E-06
Eu-154	4.41E-04	0.275	680	1.70E-04	1.70E-04	5.39E-04	5.78E-04
Eu-155	1.45E-04	9.01E-02	223	6.49E-05	6.49E-05	1.49E-04	1.52E-04
Ra-226	1.51E-10	9.40E-08	2.33E-04	1.03E-10	1.18E-10	1.76E-10	1.99E-10
Ra-228	5.45E-08	3.39E-05	8.40E-02	2.12E-08	3.75E-08	7.43E-08	9.54E-08
Ac-227	9.04E-10	5.62E-07	1.39E-03	6.25E-10	7.09E-10	1.05E-09	1.13E-09
Pa-231	3.83E-09	2.38E-06	5.90E-03	2.75E-09	2.75E-09	4.22E-09	4.60E-09
Th-229	1.29E-09	8.05E-07	1.99E-03	5.62E-10	9.20E-10	1.73E-09	2.19E-09
Th-232	3.61E-09	2.25E-06	5.57E-03	1.77E-09	2.67E-09	4.56E-09	5.46E-09
U-232	3.19E-07	1.98E-04	0.491	1.85E-07	2.51E-07	3.98E-07	4.83E-07
U-233	1.22E-06	7.61E-04	1.88	7.11E-07	9.61E-07	1.53E-06	1.85E-06
U-234	7.64E-07	4.76E-04	1.18	6.93E-07	7.27E-07	8.05E-07	7.83E-07
U-235	3.17E-08	1.97E-05	4.88E-02	2.86E-08	3.01E-08	3.34E-08	3.24E-08
U-236	2.11E-08	1.32E-05	3.26E-02	2.00E-08	2.06E-08	2.18E-08	2.17E-08
U-238	7.97E-07	4.96E-04	1.23	7.24E-07	7.59E-07	8.39E-07	8.15E-07
Np-237	7.97E-07	4.96E-04	1.23	5.90E-07	6.91E-07	9.04E-07	1.01E-06
Pu-238	9.88E-07	6.14E-04	1.52	7.45E-07	8.64E-07	1.11E-06	1.23E-06
Pu-239	3.95E-05	2.46E-02	60.8	3.26E-05	3.60E-05	4.30E-05	4.63E-05
Pu-240	6.34E-06	3.94E-03	9.77	5.18E-06	5.75E-06	6.93E-06	7.50E-06
Pu-241	6.46E-05	4.02E-02	99.5	4.80E-05	5.61E-05	7.31E-05	8.12E-05
Pu-242	3.45E-10	2.14E-07	5.31E-04	2.46E-10	2.94E-10	3.95E-10	4.44E-10
Am-241	4.87E-05	3.03E-02	75.0	3.71E-05	4.28E-05	5.46E-05	6.02E-05
Am-243	1.29E-09	8.02E-07	1.99E-03	9.27E-10	1.10E-09	1.48E-09	1.67E-09
Cm-242	8.78E-08	5.46E-05	0.135	3.27E-08	3.27E-08	8.94E-08	9.08E-08
Cm-243	7.63E-09	4.74E-06	1.17E-02	2.37E-09	2.37E-09	7.79E-09	7.95E-09
Cm-244	8.45E-08	5.26E-05	0.130	3.03E-08	3.03E-08	1.03E-07	1.15E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.38E-04 (g/L)	----	0.828	4.20E-04	4.78E-04	5.97E-04	6.55E-04
U	9.06E-03	1.34E+03	3.32E+03	8.14E-03	8.57E-03	9.58E-03	9.27E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.15E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	3.00E-03 (kW)	(10.3 BTU/hr)	----	2.52E-03	2.90E-03	3.11E-03	3.20E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	2.19E+04	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	3.66E+04	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	1.12E+03	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	12.8	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	99.1	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	2.95E+03	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	7.24	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	586	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	7.27	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	8.59E+04	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	4.30E+03	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	5.34E+03	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	878	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	97.6	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	68.4	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	30.3	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	0.422	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.80E+06 (kg)	(447 kgal)	----	----	----	----	----
Heat Load	3.65 (kW)	(1.25E+04 BTU/hr)	----	3.47	3.56	3.76	3.85
Bulk Density*	1.66 (g/cc)	----	----	1.60	1.63	1.68	1.69
Water wt%	31.0	----	----	28.8	29.8	32.3	34.4
TOC wt% C (wet)	0.342	----	----	0.306	0.324	0.360	0.377

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.2	2.11E+05	5.90E+05	13.9	14.6	15.6	16.1
Al^{3+}	2.08	3.38E+04	9.47E+04	1.85	1.95	2.21	2.15
Fe^{3+} (total Fe)	9.22E-03	311	871	7.46E-03	8.32E-03	1.01E-02	1.10E-02
Cr^{3+}	0.207	6.50E+03	1.82E+04	0.160	0.185	0.215	0.223
Bi^{3+}	6.55E-04	82.7	232	5.92E-04	6.23E-04	6.87E-04	7.18E-04
La^{3+}	3.27E-08	2.75E-03	7.69E-03	2.40E-08	2.83E-08	3.72E-08	4.15E-08
Hg^{2+}	5.82E-06	0.705	1.97	5.49E-06	5.68E-06	5.89E-06	5.95E-06
Zr (as $ZrO(OH)_2$)	1.32E-04	7.30	20.4	1.21E-04	1.25E-04	1.37E-04	1.44E-04
Pb^{2+}	7.06E-04	88.3	247	6.08E-04	6.56E-04	7.55E-04	8.03E-04
Ni^{2+}	5.89E-03	209	586	5.72E-03	5.80E-03	5.99E-03	6.07E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.04E-03	101	283	2.20E-03	2.61E-03	3.48E-03	3.89E-03
Ca^{2+}	3.00E-02	727	2.04E+03	2.65E-02	2.82E-02	3.18E-02	3.35E-02
K^+	6.36E-02	1.50E+03	4.21E+03	5.80E-02	6.07E-02	6.68E-02	6.91E-02
OH^-	12.7	1.31E+05	3.66E+05	11.3	12.0	13.5	13.3
$NO3^-$	4.93	1.85E+05	5.17E+05	4.56	4.74	5.08	5.10
$NO2^-$	2.90	8.06E+04	2.26E+05	2.54	2.71	3.09	3.27
$CO3^{2-}$	0.291	1.05E+04	2.95E+04	0.261	0.275	0.306	0.314
$PO4^{3-}$	5.70E-02	3.27E+03	9.15E+03	5.16E-02	5.34E-02	5.83E-02	5.96E-02
$SO4^{2-}$	0.185	1.07E+04	3.00E+04	0.138	0.160	0.210	0.232
Si (as SiO_x^{2-})	7.16E-02	1.21E+03	3.40E+03	5.94E-02	6.54E-02	7.77E-02	8.37E-02
F^-	3.13E-02	359	1.00E+03	2.58E-02	2.81E-02	3.39E-02	3.61E-02
Cl^-	0.256	5.49E+03	1.54E+04	0.230	0.243	0.271	0.274
$C_6H_5O_7^{3-}$	2.34E-02	2.67E+03	7.48E+03	2.17E-02	2.25E-02	2.43E-02	2.51E-02
$EDTA^{4-}$	2.10E-03	366	1.02E+03	1.06E-03	1.57E-03	2.64E-03	3.16E-03
$HEDTA^{3-}$	3.45E-03	571	1.60E+03	1.37E-03	2.39E-03	4.52E-03	5.56E-03
$glycolate^-$	4.48E-02	2.03E+03	5.69E+03	2.44E-02	3.44E-02	5.53E-02	6.53E-02
$acetate^-$	2.43E-03	86.6	243	1.97E-03	2.20E-03	2.66E-03	2.89E-03
$oxalate^{2-}$	4.29E-08	2.28E-03	6.38E-03	3.81E-08	4.04E-08	4.53E-08	4.76E-08
DBP	1.51E-02	1.92E+03	5.37E+03	1.21E-02	1.36E-02	1.66E-02	1.80E-02
butanol	1.51E-02	676	1.89E+03	1.21E-02	1.36E-02	1.66E-02	1.80E-02
NH_3	7.44E-02	764	2.14E+03	6.07E-02	6.61E-02	8.49E-02	9.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.02E+06 (kg)	(479 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.47	3.56	3.76	3.85
Bulk Density†	1.66 (g/cc)	----	----	1.61	1.64	1.68	1.70
Water wt%†	30.6	----	----	28.5	29.3	32.0	33.6
TOC wt% C (wet)†	0.317	----	----	0.284	0.300	0.334	0.350

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.7	2.03E+05	6.12E+05	13.5	14.2	15.1	15.5
Al^{3+}	2.69	4.36E+04	1.31E+05	2.31	2.43	2.86	2.99
Fe^{3+} (total Fe)	1.96E-02	659	1.99E+03	1.80E-02	1.88E-02	2.05E-02	2.13E-02
Cr^{3+}	0.193	6.04E+03	1.82E+04	0.150	0.173	0.201	0.208
Bi^{3+}	6.11E-04	76.8	232	5.52E-04	5.81E-04	6.41E-04	6.70E-04
La^{3+}	3.05E-08	2.55E-03	7.69E-03	2.24E-08	2.64E-08	3.47E-08	3.87E-08
Hg^{2+}	2.78E-04	33.5	101	2.74E-04	2.76E-04	2.79E-04	2.80E-04
Zr (as $ZrO(OH)_2$)	1.24E-04	6.78	20.4	1.13E-04	1.17E-04	1.28E-04	1.34E-04
Pb^{2+}	8.52E-03	1.06E+03	3.20E+03	7.88E-03	8.26E-03	8.75E-03	8.98E-03
Ni^{2+}	5.57E-03	197	593	5.40E-03	5.48E-03	5.65E-03	5.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.84E-03	93.8	283	2.05E-03	2.44E-03	3.24E-03	3.63E-03
Ca^{2+}	3.61E-02	869	2.62E+03	3.25E-02	3.44E-02	3.77E-02	3.93E-02
K^+	5.95E-02	1.40E+03	4.22E+03	5.42E-02	5.67E-02	6.25E-02	6.46E-02
OH^-	14.7	1.50E+05	4.52E+05	13.2	13.7	15.4	15.9
$NO3^-$	4.64	1.73E+05	5.22E+05	4.30	4.46	4.78	4.80
$NO2^-$	2.77	7.67E+04	2.31E+05	2.43	2.59	2.95	3.11
$CO3^{2-}$	0.279	1.01E+04	3.04E+04	0.252	0.265	0.294	0.301
$PO4^{3-}$	5.32E-02	3.04E+03	9.15E+03	4.81E-02	4.99E-02	5.44E-02	5.56E-02
$SO4^{2-}$	0.173	9.98E+03	3.01E+04	0.129	0.150	0.196	0.217
Si (as SiO_x^{2-})	6.81E-02	1.15E+03	3.47E+03	5.68E-02	6.24E-02	7.39E-02	7.94E-02
F^-	2.92E-02	333	1.00E+03	2.40E-02	2.62E-02	3.17E-02	3.37E-02
Cl^-	0.240	5.11E+03	1.54E+04	0.216	0.227	0.254	0.256
$C_6H_5O_7^{3-}$	2.18E-02	2.48E+03	7.48E+03	2.02E-02	2.10E-02	2.26E-02	2.34E-02
$EDTA^{4-}$	1.96E-03	340	1.02E+03	9.93E-04	1.47E-03	2.46E-03	2.95E-03
$HEDTA^{3-}$	3.22E-03	531	1.60E+03	1.28E-03	2.23E-03	4.22E-03	5.19E-03
$glycolate^-$	4.18E-02	1.89E+03	5.69E+03	2.28E-02	3.21E-02	5.16E-02	6.09E-02
$acetate^-$	2.27E-03	80.5	243	1.84E-03	2.05E-03	2.49E-03	2.70E-03
$oxalate^{2-}$	4.00E-08	2.12E-03	6.38E-03	3.56E-08	3.77E-08	4.23E-08	4.44E-08
DBP	1.41E-02	1.78E+03	5.37E+03	1.13E-02	1.27E-02	1.55E-02	1.68E-02
butanol	1.41E-02	628	1.89E+03	1.13E-02	1.27E-02	1.55E-02	1.68E-02
NH_3	6.94E-02	710	2.14E+03	5.67E-02	6.17E-02	7.92E-02	9.07E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.15E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	3.00E-03 (kW)	(10.3 BTU/hr)	----	2.52E-03	2.90E-03	3.11E-03	3.20E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	0.123	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	1.32E-02	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	3.75E-03	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	0.351	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	5.71E-03	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	2.87E-03	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	248	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	248	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	1.36E-02	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	1.11E-02	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	9.49E-02	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	3.34E-08	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	4.25E-02	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	9.56E-03	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	4.38E-03	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	1.82E-04	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	2.00E-04	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	285	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	269	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	10.3	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	2.12E-02	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	0.139	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	1.01	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	3.42E-07	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	3.54E-11	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	1.76E-06	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	4.17E-06	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	5.00E-09	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	4.89E-12	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	7.83E-05	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	2.90E-06	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	1.79	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	7.62E-02	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	3.95E-02	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	1.75	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	6.64E-04	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	3.04	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	195	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	27.5	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	168	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	7.12E-04	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	4.95E-02	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	4.51E-07	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	4.42E-04	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	1.01E-05	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	1.57E-05	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	3.26	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	5.23E+03	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.80E+06 (kg)	(447 kgal)	----	----	----	----	----
Heat Load	3.65 (kW)	(1.25E+04 BTU/hr)	----	3.47	3.56	3.76	3.85
Bulk Density*	1.66 (g/cc)	----	----	1.60	1.63	1.68	1.69
Water wt%†	31.0	----	----	28.8	29.8	32.3	34.4
TOC wt% C (wet)	0.342	----	----	0.306	0.324	0.360	0.377

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.82E-04	0.171	478	1.74E-04	1.74E-04	2.95E-04	2.90E-04
C-14	3.45E-05	2.09E-02	58.4	1.19E-05	1.19E-05	3.52E-05	3.51E-05
Ni-59	2.26E-06	1.36E-03	3.82	1.20E-06	1.20E-06	2.31E-06	2.36E-06
Ni-63	2.20E-04	0.133	372	1.15E-04	1.15E-04	2.25E-04	2.30E-04
Co-60	3.54E-05	2.14E-02	59.9	9.52E-06	9.52E-06	3.58E-05	3.61E-05
Se-79	3.57E-06	2.16E-03	6.04	2.13E-06	2.13E-06	4.09E-06	4.59E-06
Sr-90	0.112	67.6	1.89E+05	0.105	0.108	0.116	0.119
Y-90	0.112	67.6	1.89E+05	6.21E-02	6.21E-02	0.116	0.119
Zr-93	1.75E-05	1.06E-02	29.6	1.03E-05	1.03E-05	2.01E-05	2.26E-05
Nb-93m	1.29E-05	7.77E-03	21.8	7.81E-06	7.81E-06	1.47E-05	1.64E-05
Tc-99	2.47E-04	0.149	418	1.63E-04	2.04E-04	2.90E-04	3.32E-04
Ru-106	5.80E-09	3.50E-06	9.81E-03	2.46E-09	2.46E-09	6.55E-09	7.23E-09
Cd-113m	8.82E-05	5.33E-02	149	4.49E-05	4.49E-05	1.04E-04	1.19E-04
Sb-125	1.46E-04	8.80E-02	246	3.37E-05	3.37E-05	1.47E-04	1.49E-04
Sn-126	5.41E-06	3.27E-03	9.15	3.25E-06	3.25E-06	6.19E-06	6.94E-06
I-129	4.76E-07	2.87E-04	0.805	3.13E-07	3.92E-07	5.60E-07	6.41E-07
Cs-134	1.72E-06	1.04E-03	2.92	9.10E-07	9.10E-07	1.82E-06	1.91E-06
Cs-137	0.300	181	5.07E+05	0.276	0.288	0.313	0.325
Ba-137m	0.284	171	4.80E+05	0.175	0.175	0.296	0.298
Sm-151	1.26E-02	7.61	2.13E+04	7.55E-03	7.55E-03	1.44E-02	1.62E-02
Eu-152	3.14E-06	1.90E-03	5.32	1.36E-06	1.36E-06	3.20E-06	3.25E-06
Eu-154	5.78E-04	0.349	978	2.18E-04	2.18E-04	7.08E-04	7.60E-04
Eu-155	1.80E-04	0.109	305	7.38E-05	7.38E-05	1.84E-04	1.87E-04
Ra-226	1.57E-10	9.51E-08	2.66E-04	1.13E-10	1.13E-10	1.80E-10	2.01E-10
Ra-228	5.17E-08	3.12E-05	8.74E-02	2.06E-08	3.58E-08	7.01E-08	8.97E-08
Ac-227	9.48E-10	5.73E-07	1.60E-03	6.89E-10	6.89E-10	1.08E-09	1.16E-09
Pa-231	4.28E-09	2.58E-06	7.24E-03	2.84E-09	2.84E-09	4.80E-09	5.30E-09
Th-229	1.24E-09	7.47E-07	2.09E-03	5.55E-10	8.88E-10	1.64E-09	2.07E-09
Th-232	3.56E-09	2.15E-06	6.03E-03	1.85E-09	2.69E-09	4.44E-09	5.28E-09
U-232	3.23E-07	1.95E-04	0.547	1.99E-07	2.59E-07	3.97E-07	4.75E-07
U-233	1.24E-06	7.49E-04	2.10	7.63E-07	9.96E-07	1.52E-06	1.82E-06
U-234	8.07E-07	4.88E-04	1.37	7.47E-07	7.76E-07	8.41E-07	8.31E-07
U-235	3.33E-08	2.01E-05	5.63E-02	3.07E-08	3.19E-08	3.48E-08	3.43E-08
U-236	2.39E-08	1.44E-05	4.04E-02	2.29E-08	2.34E-08	2.44E-08	2.46E-08
U-238	8.30E-07	5.01E-04	1.40	7.69E-07	7.98E-07	8.65E-07	8.53E-07
Np-237	9.66E-07	5.84E-04	1.64	6.91E-07	8.26E-07	1.11E-06	1.25E-06
Pu-238	1.18E-06	7.13E-04	2.00	8.58E-07	1.02E-06	1.35E-06	1.50E-06
Pu-239	4.26E-05	2.57E-02	72.0	3.43E-05	3.84E-05	4.68E-05	5.08E-05
Pu-240	7.06E-06	4.27E-03	12.0	5.52E-06	6.28E-06	7.85E-06	8.60E-06
Pu-241	7.81E-05	4.72E-02	132	5.61E-05	6.69E-05	8.94E-05	1.00E-04
Pu-242	4.26E-10	2.57E-07	7.20E-04	2.94E-10	3.59E-10	4.93E-10	5.57E-10
Am-241	5.79E-05	3.50E-02	97.9	4.25E-05	5.01E-05	6.57E-05	7.32E-05
Am-243	1.75E-09	1.06E-06	2.96E-03	1.27E-09	1.50E-09	2.01E-09	2.25E-09
Cm-242	1.09E-07	6.57E-05	0.184	3.55E-08	3.55E-08	1.12E-07	1.14E-07
Cm-243	9.83E-09	5.94E-06	1.66E-02	2.84E-09	2.84E-09	1.01E-08	1.04E-08
Cm-244	1.10E-07	6.65E-05	0.186	3.80E-08	3.80E-08	1.35E-07	1.50E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.47E-04 (g/L)	----	0.926	3.91E-04	4.68E-04	6.27E-04	7.03E-04
U	9.47E-03	1.36E+03	3.81E+03	8.70E-03	9.06E-03	9.91E-03	9.75E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.02E+06 (kg)	(479 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.47	3.56	3.76	3.85
Bulk Density†	1.66 (g/cc)	----	----	1.61	1.64	1.68	1.70
Water wt%†	30.6	----	----	28.5	29.3	32.0	33.6
TOC wt% C (wet)†	0.317	----	----	0.284	0.300	0.334	0.350

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.63E-04	0.158	478	1.63E-04	1.63E-04	2.76E-04	2.71E-04
C-14	3.22E-05	1.94E-02	58.4	1.11E-05	1.11E-05	3.28E-05	3.27E-05
Ni-59	2.11E-06	1.27E-03	3.82	1.12E-06	1.12E-06	2.16E-06	2.21E-06
Ni-63	2.05E-04	0.123	372	1.07E-04	1.07E-04	2.10E-04	2.15E-04
Co-60	3.30E-05	1.99E-02	59.9	8.89E-06	8.89E-06	3.34E-05	3.37E-05
Se-79	3.34E-06	2.01E-03	6.05	1.99E-06	1.99E-06	3.82E-06	4.29E-06
Sr-90	0.105	62.9	1.90E+05	9.80E-02	0.101	0.108	0.111
Y-90	0.105	62.9	1.90E+05	5.81E-02	5.81E-02	0.108	0.111
Zr-93	1.63E-05	9.82E-03	29.6	9.60E-06	9.60E-06	1.88E-05	2.11E-05
Nb-93m	1.20E-05	7.22E-03	21.8	7.30E-06	7.30E-06	1.37E-05	1.53E-05
Tc-99	2.31E-04	0.139	418	1.52E-04	1.90E-04	2.71E-04	3.10E-04
Ru-106	5.41E-09	3.25E-06	9.81E-03	2.29E-09	2.29E-09	6.11E-09	6.74E-09
Cd-113m	8.23E-05	4.95E-02	149	4.19E-05	4.19E-05	9.69E-05	1.11E-04
Sb-125	1.36E-04	8.17E-02	246	3.14E-05	3.14E-05	1.38E-04	1.39E-04
Sn-126	5.05E-06	3.04E-03	9.15	3.03E-06	3.03E-06	5.78E-06	6.48E-06
I-129	4.44E-07	2.67E-04	0.805	2.92E-07	3.66E-07	5.22E-07	5.98E-07
Cs-134	1.61E-06	9.67E-04	2.92	8.49E-07	8.49E-07	1.70E-06	1.78E-06
Cs-137	0.280	168	5.08E+05	0.258	0.269	0.293	0.303
Ba-137m	0.265	159	4.80E+05	0.164	0.164	0.277	0.278
Sm-151	1.18E-02	7.07	2.13E+04	7.05E-03	7.05E-03	1.35E-02	1.51E-02
Eu-152	2.95E-06	1.77E-03	5.34	1.28E-06	1.28E-06	3.00E-06	3.04E-06
Eu-154	5.39E-04	0.324	978	2.03E-04	2.03E-04	6.61E-04	7.10E-04
Eu-155	1.69E-04	0.101	306	6.94E-05	6.94E-05	1.72E-04	1.75E-04
Ra-226	1.47E-10	8.85E-08	2.67E-04	1.05E-10	1.05E-10	1.68E-10	1.88E-10
Ra-228	4.82E-08	2.90E-05	8.74E-02	1.93E-08	3.34E-08	6.54E-08	8.37E-08
Ac-227	8.86E-10	5.33E-07	1.61E-03	6.44E-10	6.44E-10	1.01E-09	1.08E-09
Pa-231	4.00E-09	2.40E-06	7.24E-03	2.65E-09	2.65E-09	4.48E-09	4.95E-09
Th-229	1.15E-09	6.93E-07	2.09E-03	5.18E-10	8.28E-10	1.53E-09	1.93E-09
Th-232	3.33E-09	2.00E-06	6.03E-03	1.72E-09	2.51E-09	4.14E-09	4.93E-09
U-232	3.02E-07	1.81E-04	0.547	1.85E-07	2.42E-07	3.70E-07	4.44E-07
U-233	1.16E-06	6.96E-04	2.10	7.12E-07	9.30E-07	1.42E-06	1.70E-06
U-234	1.74E-06	1.05E-03	3.16	1.61E-06	1.69E-06	1.78E-06	1.81E-06
U-235	7.31E-08	4.39E-05	0.132	6.76E-08	7.08E-08	7.47E-08	7.59E-08
U-236	4.41E-08	2.65E-05	7.99E-02	4.12E-08	4.29E-08	4.49E-08	4.55E-08
U-238	1.74E-06	1.04E-03	3.15	1.61E-06	1.68E-06	1.77E-06	1.80E-06
Np-237	9.02E-07	5.42E-04	1.64	6.46E-07	7.71E-07	1.03E-06	1.16E-06
Pu-238	2.78E-06	1.67E-03	5.04	2.48E-06	2.63E-06	2.93E-06	3.08E-06
Pu-239	1.47E-04	8.85E-02	267	1.39E-04	1.43E-04	1.51E-04	1.55E-04
Pu-240	2.17E-05	1.31E-02	39.4	2.03E-05	2.10E-05	2.25E-05	2.32E-05
Pu-241	1.65E-04	9.95E-02	300	1.45E-04	1.55E-04	1.76E-04	1.86E-04
Pu-242	7.90E-10	4.75E-07	1.43E-03	6.67E-10	7.27E-10	8.53E-10	9.13E-10
Am-241	5.40E-05	3.25E-02	98.0	3.97E-05	4.67E-05	6.13E-05	6.83E-05
Am-243	1.63E-09	9.82E-07	2.96E-03	1.18E-09	1.40E-09	1.87E-09	2.10E-09
Cm-242	1.02E-07	6.12E-05	0.185	3.34E-08	3.34E-08	1.04E-07	1.07E-07
Cm-243	9.18E-09	5.52E-06	1.66E-02	2.66E-09	2.66E-09	9.46E-09	9.73E-09
Cm-244	1.03E-07	6.18E-05	0.186	3.55E-08	3.55E-08	1.26E-07	1.40E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.31E-03 (g/L)	----	4.18	2.16E-03	2.23E-03	2.38E-03	2.45E-03
U	2.10E-02	3.00E+03	9.04E+03	1.94E-02	2.03E-02	2.14E-02	2.18E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.64E+06 (kg)	(254 kgal)	----	----	----	----	----
Heat Load	2.45 (kW)	(8.38E+03 BTU/hr)	----	1.83	2.19	2.62	2.70
Bulk Density	1.71 (g/cc)	----	----	1.61	1.63	1.84	1.89
Void Fraction	0.649	----	----	0.477	0.534	0.722	0.724
Water wt%	31.8	----	----	20.9	24.5	39.2	42.1
TOC wt% C (wet)	2.69E-04	----	----	2.44E-04	2.51E-04	2.94E-04	3.21E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.01	9.42E+04	1.55E+05	5.04	5.35	9.39	10.7
Al^{3+}	7.60	1.20E+05	1.97E+05	5.72	6.22	8.58	9.30
Fe^{3+} (total Fe)	0.510	1.67E+04	2.74E+04	0.503	0.507	0.514	0.517
Cr^{3+}	6.58E-02	2.00E+03	3.29E+03	4.59E-02	5.56E-02	0.232	0.427
Bi^{3+}	3.52E-07	4.30E-02	7.06E-02	2.97E-07	3.24E-07	3.87E-07	4.26E-07
La^{3+}	8.66E-13	7.04E-08	1.16E-07	7.59E-13	8.20E-13	9.58E-13	1.05E-12
Hg^{2+}	3.39E-03	398	654	3.37E-03	3.38E-03	3.40E-03	3.40E-03
Zr (as $ZrO(OH)_2$)	6.57E-02	3.50E+03	5.76E+03	6.06E-02	6.45E-02	6.62E-02	6.65E-02
Pb^{2+}	9.51E-02	1.15E+04	1.89E+04	9.10E-02	9.30E-02	9.71E-02	9.91E-02
Ni^{2+}	1.98E-02	679	1.12E+03	1.47E-02	1.76E-02	2.15E-02	2.12E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.56E-06	8.23E-02	0.135	1.83E-06	2.19E-06	2.94E-06	3.31E-06
Ca^{2+}	0.186	4.36E+03	7.16E+03	0.159	0.172	0.200	0.213
K^{+}	2.03E-02	465	764	1.10E-02	1.56E-02	2.52E-02	2.99E-02
OH^{-}	29.0	2.88E+05	4.74E+05	21.4	23.5	33.0	35.8
$NO3^{-}$	2.51	9.10E+04	1.50E+05	0.617	0.617	5.47	7.08
$NO2^{-}$	1.00	2.69E+04	4.43E+04	0.521	0.689	1.25	1.25
$CO3^{2-}$	0.186	6.53E+03	1.07E+04	0.159	0.172	0.200	0.213
$PO4^{3-}$	2.28E-05	1.26	2.08	2.11E-05	2.21E-05	2.37E-05	2.58E-05
$SO4^{2-}$	1.05E-02	588	966	7.12E-03	8.46E-03	1.18E-02	1.18E-02
Si (as SiO_x^{2-})	1.66E-02	273	449	1.40E-02	1.51E-02	3.82E-02	7.10E-02
F^{-}	0.375	4.16E+03	6.84E+03	1.49E-02	0.282	0.418	0.442
Cl^{-}	3.04E-02	630	1.04E+03	1.38E-02	2.05E-02	3.71E-02	6.85E-02
$C_6H_5O_7^{3-}$	1.87E-05	2.07	3.41	1.82E-05	1.84E-05	1.96E-05	2.13E-05
$EDTA^{4-}$	7.30E-07	0.123	0.202	5.14E-07	6.32E-07	8.60E-07	9.89E-07
$HEDTA^{3-}$	6.06E-07	9.72E-02	0.160	1.95E-07	4.17E-07	8.09E-07	1.01E-06
$glycolate^{-}$	2.65E-05	1.16	1.91	1.44E-05	2.09E-05	3.29E-05	3.91E-05
$acetate^{-}$	2.75E-06	9.48E-02	0.156	2.66E-06	2.70E-06	2.92E-06	3.12E-06
$oxalate^{2-}$	1.13E-12	5.84E-08	9.60E-08	1.01E-12	1.07E-12	1.25E-12	1.37E-12
DBP	1.66E-05	2.04	3.36	1.55E-05	1.62E-05	1.80E-05	1.94E-05
butanol	1.66E-05	0.721	1.18	1.55E-05	1.62E-05	1.80E-05	1.94E-05
NH_3	0.141	1.40E+03	2.31E+03	7.24E-02	8.22E-02	0.157	0.173
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.46E+05 (kg)	(122 kgal)	----	----	----	----	----
Heat Load	0.732 (kW)	(2.50E+03 BTU/hr)	----	0.670	0.710	0.755	0.777
Bulk Density*	1.40 (g/cc)	----	----	1.37	1.38	1.41	1.42
Water wt%	49.0	----	----	46.8	47.8	50.4	51.9
TOC wt% C (wet)	0.898	----	----	0.468	0.679	1.12	1.33

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.39	1.54E+05	9.97E+04	8.60	9.00	9.73	10.0
Al^{3+}	1.05	2.03E+04	1.31E+04	0.975	1.01	1.09	1.13
Fe^{3+} (total Fe)	7.79E-03	311	201	6.49E-03	7.13E-03	8.46E-03	9.09E-03
Cr^{3+}	9.29E-02	3.45E+03	2.23E+03	7.83E-02	8.61E-02	9.55E-02	9.81E-02
Bi^{3+}	8.42E-04	126	81.2	7.67E-04	8.04E-04	8.79E-04	9.16E-04
La^{3+}	2.73E-05	2.72	1.75	1.98E-05	2.35E-05	3.12E-05	3.49E-05
Hg^{2+}	5.80E-06	0.832	0.537	5.41E-06	5.63E-06	5.89E-06	5.97E-06
Zr (as $ZrO(OH)_2$)	1.55E-04	10.1	6.52	1.41E-04	1.46E-04	1.60E-04	1.68E-04
Pb^{2+}	6.44E-04	95.4	61.6	5.20E-04	5.81E-04	7.07E-04	7.68E-04
Ni^{2+}	4.33E-03	182	117	4.14E-03	4.24E-03	4.38E-03	4.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.64E-03	104	67.0	2.02E-03	2.32E-03	2.96E-03	3.27E-03
Ca^{2+}	2.33E-02	668	431	2.14E-02	2.23E-02	2.43E-02	2.52E-02
K^{+}	4.35E-02	1.22E+03	786	3.97E-02	4.15E-02	4.56E-02	4.76E-02
OH^{-}	6.38	7.76E+04	5.01E+04	5.93	6.14	6.63	6.78
$NO3^{-}$	3.21	1.42E+05	9.19E+04	2.97	3.11	3.26	3.31
$NO2^{-}$	1.58	5.21E+04	3.37E+04	1.32	1.44	1.72	1.86
$CO3^{2-}$	0.319	1.37E+04	8.86E+03	0.286	0.303	0.338	0.348
$PO4^{3-}$	6.02E-02	4.09E+03	2.64E+03	5.23E-02	5.51E-02	6.16E-02	6.30E-02
$SO4^{2-}$	0.171	1.17E+04	7.59E+03	0.137	0.153	0.190	0.206
Si (as SiO_x^{2-})	5.57E-02	1.12E+03	723	4.68E-02	5.12E-02	6.03E-02	6.47E-02
F^{-}	4.13E-02	562	363	3.49E-02	3.76E-02	4.45E-02	4.70E-02
Cl^{-}	0.162	4.12E+03	2.66E+03	0.147	0.154	0.170	0.175
$C_6H_5O_7^{3-}$	1.90E-02	2.57E+03	1.66E+03	1.72E-02	1.81E-02	2.00E-02	2.09E-02
$EDTA^{4-}$	2.04E-02	4.20E+03	2.71E+03	5.54E-03	1.28E-02	2.80E-02	3.55E-02
$HEDTA^{3-}$	3.94E-02	7.72E+03	4.99E+03	9.66E-03	2.42E-02	5.47E-02	6.96E-02
$glycolate^{-}$	8.79E-02	4.72E+03	3.05E+03	5.82E-02	7.27E-02	0.103	0.118
$acetate^{-}$	4.52E-03	191	123	3.71E-03	4.10E-03	4.93E-03	5.33E-03
$oxalate^{2-}$	3.58E-05	2.25	1.46	3.17E-05	3.37E-05	3.79E-05	3.99E-05
DBP	1.24E-02	1.87E+03	1.21E+03	1.02E-02	1.13E-02	1.35E-02	1.46E-02
butanol	1.24E-02	660	426	1.02E-02	1.13E-02	1.35E-02	1.46E-02
NH_3	5.52E-02	671	433	4.51E-02	4.91E-02	6.30E-02	7.20E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.29E+06 (kg)	(376 kgal)	----	----	----	----	----
Heat Load	3.19 (kW)	(1.09E+04 BTU/hr)	----	2.55	2.92	3.36	3.43
Bulk Density†	1.61 (g/cc)	----	----	1.54	1.55	1.70	1.73
Water wt%†	36.7	----	----	28.4	30.9	42.0	44.2
TOC wt% C (wet)†	0.253	----	----	0.131	0.191	0.316	0.377

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.78	1.11E+05	2.55E+05	6.41	6.61	9.43	10.2
Al^{3+}	5.47	9.18E+04	2.10E+05	4.20	4.55	6.14	6.62
Fe^{3+} (total Fe)	0.347	1.21E+04	2.76E+04	0.343	0.345	0.350	0.352
Cr^{3+}	7.46E-02	2.41E+03	5.52E+03	6.14E-02	6.79E-02	0.185	0.314
Bi^{3+}	2.73E-04	35.5	81.3	2.49E-04	2.61E-04	2.86E-04	2.97E-04
La^{3+}	8.87E-06	0.766	1.75	6.43E-06	7.62E-06	1.01E-05	1.13E-05
Hg^{2+}	2.29E-03	286	655	2.28E-03	2.29E-03	2.30E-03	2.30E-03
Zr (as $ZrO(OH)_2$)	4.44E-02	2.52E+03	5.77E+03	4.10E-02	4.36E-02	4.48E-02	4.50E-02
Pb^{2+}	6.44E-02	8.30E+03	1.90E+04	6.17E-02	6.30E-02	6.58E-02	6.71E-02
Ni^{2+}	1.48E-02	539	1.23E+03	1.13E-02	1.33E-02	1.59E-02	1.57E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.59E-04	29.3	67.2	6.56E-04	7.55E-04	9.63E-04	1.06E-03
Ca^{2+}	0.133	3.32E+03	7.59E+03	0.115	0.124	0.142	0.151
K^{+}	2.79E-02	677	1.55E+03	2.08E-02	2.43E-02	3.15E-02	3.50E-02
OH^{-}	21.7	2.29E+05	5.24E+05	16.5	17.9	24.3	26.3
$NO3^{-}$	2.74	1.05E+05	2.41E+05	1.44	1.46	4.73	5.79
$NO2^{-}$	1.19	3.40E+04	7.80E+04	0.850	0.988	1.37	1.37
$CO3^{2-}$	0.229	8.56E+03	1.96E+04	0.212	0.220	0.239	0.247
$PO4^{3-}$	1.96E-02	1.16E+03	2.64E+03	1.70E-02	1.79E-02	2.00E-02	2.05E-02
$SO4^{2-}$	6.26E-02	3.74E+03	8.55E+03	5.14E-02	5.67E-02	6.86E-02	7.39E-02
Si (as SiO_x^{2-})	2.93E-02	512	1.17E+03	2.64E-02	2.78E-02	4.38E-02	6.57E-02
F^{-}	0.266	3.15E+03	7.21E+03	2.34E-02	0.204	0.296	0.312
Cl^{-}	7.33E-02	1.61E+03	3.69E+03	6.23E-02	6.77E-02	7.77E-02	9.85E-02
$C_6H_5O_7^{3-}$	6.19E-03	728	1.67E+03	5.59E-03	5.88E-03	6.50E-03	6.80E-03
$EDTA^{4-}$	6.62E-03	1.19E+03	2.71E+03	1.80E-03	4.15E-03	9.10E-03	1.15E-02
$HEDTA^{3-}$	1.28E-02	2.18E+03	4.99E+03	3.14E-03	7.85E-03	1.77E-02	2.26E-02
$glycolate^{-}$	2.85E-02	1.33E+03	3.05E+03	1.89E-02	2.36E-02	3.35E-02	3.83E-02
$acetate^{-}$	1.47E-03	53.9	123	1.21E-03	1.33E-03	1.60E-03	1.73E-03
$oxalate^{2-}$	1.16E-05	0.636	1.46	1.03E-05	1.09E-05	1.23E-05	1.29E-05
DBP	4.05E-03	529	1.21E+03	3.34E-03	3.69E-03	4.41E-03	4.75E-03
butanol	4.05E-03	187	427	3.34E-03	3.69E-03	4.41E-03	4.75E-03
NH_3	0.113	1.20E+03	2.74E+03	6.62E-02	7.31E-02	0.125	0.137
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.64E+06 (kg)	(254 kgal)	----	----	----	----	----
Heat Load	2.45 (kW)	(8.38E+03 BTU/hr)	----	1.83	2.19	2.62	2.70
Bulk Density	1.71 (g/cc)	----	----	1.61	1.63	1.84	1.89
Void Fraction	0.649	----	----	0.477	0.534	0.722	0.724
Water wt%	31.8	----	----	20.9	24.5	39.2	42.1
TOC wt% C (wet)	2.69E-04	----	----	2.44E-04	2.51E-04	2.94E-04	3.21E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.26E-05	1.32E-02	21.8	1.12E-05	1.12E-05	2.69E-05	2.69E-05
C-14	1.51E-06	8.81E-04	1.45	7.81E-07	9.22E-07	1.80E-06	1.80E-06
Ni-59	5.75E-06	3.36E-03	5.53	4.25E-06	5.10E-06	6.25E-06	6.16E-06
Ni-63	5.38E-04	0.315	517	3.99E-04	4.77E-04	5.85E-04	5.76E-04
Co-60	9.91E-07	5.79E-04	0.952	4.64E-07	4.64E-07	1.11E-06	1.11E-06
Se-79	5.49E-07	3.21E-04	0.528	1.94E-07	1.94E-07	6.11E-07	2.97E-06
Sr-90	0.352	206	3.38E+05	0.255	0.310	0.384	0.389
Y-90	0.352	206	3.38E+05	0.255	0.310	0.384	0.389
Zr-93	2.60E-06	1.52E-03	2.50	9.16E-07	9.16E-07	2.89E-06	1.28E-05
Nb-93m	2.11E-06	1.23E-03	2.03	7.43E-07	7.43E-07	2.35E-06	1.30E-05
Tc-99	1.09E-05	6.40E-03	10.5	5.86E-06	7.89E-06	1.30E-05	1.30E-05
Ru-106	1.08E-09	6.31E-07	1.04E-03	2.44E-10	3.67E-10	2.17E-09	3.22E-09
Cd-113m	5.29E-06	3.09E-03	5.08	2.92E-06	2.92E-06	8.18E-06	8.00E-06
Sb-125	2.91E-06	1.70E-03	2.79	1.02E-06	1.02E-06	3.08E-06	3.19E-06
Sn-126	8.43E-07	4.93E-04	0.811	2.97E-07	2.97E-07	9.39E-07	4.72E-06
I-129	2.09E-08	1.22E-05	2.01E-02	1.12E-08	1.51E-08	2.49E-08	2.49E-08
Cs-134	2.25E-07	1.32E-04	0.216	1.07E-07	1.07E-07	2.57E-07	2.89E-07
Cs-137	3.91E-02	22.9	3.76E+04	2.42E-02	3.02E-02	4.51E-02	4.51E-02
Ba-137m	3.70E-02	21.6	3.56E+04	2.13E-02	2.13E-02	4.27E-02	4.27E-02
Sm-151	1.95E-03	1.14	1.88E+03	6.86E-04	6.86E-04	2.18E-03	1.09E-02
Eu-152	3.44E-06	2.01E-03	3.30	2.98E-06	2.98E-06	3.46E-06	3.46E-06
Eu-154	2.40E-05	1.40E-02	23.1	1.14E-05	1.14E-05	2.68E-05	2.80E-05
Eu-155	1.62E-04	9.49E-02	156	1.39E-04	1.39E-04	1.63E-04	1.63E-04
Ra-226	4.17E-10	2.44E-07	4.01E-04	7.91E-11	2.45E-10	5.89E-10	7.55E-10
Ra-228	8.06E-10	4.72E-07	7.75E-04	3.92E-15	3.92E-15	8.14E-10	8.23E-10
Ac-227	1.87E-09	1.10E-06	1.80E-03	2.59E-10	8.72E-10	2.87E-09	3.84E-09
Pa-231	8.10E-10	4.74E-07	7.78E-04	2.80E-10	2.80E-10	1.29E-09	6.63E-09
Th-229	2.00E-11	1.17E-08	1.92E-05	6.84E-13	6.84E-13	2.02E-11	2.04E-11
Th-232	1.08E-11	6.32E-09	1.04E-05	2.65E-16	2.65E-16	1.36E-11	1.64E-11
U-232	4.75E-09	2.78E-06	4.57E-03	2.42E-09	3.50E-09	6.28E-09	7.99E-09
U-233	1.38E-08	8.08E-06	1.33E-02	4.90E-09	9.02E-09	1.97E-08	2.62E-08
U-234	1.52E-05	8.88E-03	14.6	1.45E-05	1.49E-05	1.54E-05	1.55E-05
U-235	5.99E-07	3.51E-04	0.576	5.70E-07	5.87E-07	6.08E-07	6.14E-07
U-236	7.89E-07	4.61E-04	0.758	7.27E-07	7.71E-07	7.98E-07	8.06E-07
U-238	1.20E-05	7.03E-03	11.6	1.14E-05	1.17E-05	1.22E-05	1.24E-05
Np-237	6.38E-08	3.73E-05	6.14E-02	3.08E-08	4.40E-08	7.71E-08	7.71E-08
Pu-238	7.39E-05	4.32E-02	71.0	7.12E-05	7.33E-05	7.45E-05	7.52E-05
Pu-239	1.76E-03	1.03	1.69E+03	1.71E-03	1.74E-03	1.79E-03	1.81E-03
Pu-240	3.16E-04	0.185	303	3.09E-04	3.12E-04	3.19E-04	3.23E-04
Pu-241	4.03E-03	2.35	3.87E+03	3.84E-03	3.98E-03	4.05E-03	4.08E-03
Pu-242	2.30E-08	1.34E-05	2.21E-02	2.15E-08	2.26E-08	2.32E-08	2.33E-08
Am-241	1.07E-05	6.27E-03	10.3	8.13E-06	9.16E-06	1.45E-05	5.96E-05
Am-243	4.51E-10	2.64E-07	4.34E-04	2.93E-10	3.71E-10	1.02E-09	1.96E-09
Cm-242	9.40E-08	5.50E-05	9.03E-02	9.21E-08	9.30E-08	9.49E-08	9.59E-08
Cm-243	5.56E-09	3.25E-06	5.34E-03	5.32E-09	5.44E-09	5.68E-09	5.80E-09
Cm-244	1.04E-07	6.10E-05	0.100	5.75E-09	6.55E-08	1.26E-07	1.47E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.98E-02 (g/L)	----	28.6	2.90E-02	2.94E-02	3.02E-02	3.06E-02
U	0.151	2.11E+04	3.46E+04	0.143	0.148	0.154	0.156

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.46E+05 (kg)	(122 kgal)	----	----	----	----	----
Heat Load	0.732 (kW)	(2.50E+03 BTU/hr)	----	0.670	0.710	0.755	0.777
Bulk Density*	1.40 (g/cc)	----	----	1.37	1.38	1.41	1.42
Water wt%†	49.0	----	----	46.8	47.8	50.4	51.9
TOC wt% C (wet)	0.898	----	----	0.468	0.679	1.12	1.33
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.69E-04	0.121	78.2	8.95E-05	8.95E-05	1.81E-04	1.95E-04
C-14	2.51E-05	1.80E-02	11.6	8.45E-06	8.45E-06	2.55E-05	2.58E-05
Ni-59	1.62E-06	1.16E-03	0.751	8.41E-07	8.41E-07	1.66E-06	1.70E-06
Ni-63	1.59E-04	0.114	73.6	8.19E-05	8.19E-05	1.63E-04	1.67E-04
Co-60	2.86E-05	2.04E-02	13.2	9.49E-06	9.49E-06	2.94E-05	3.03E-05
Se-79	2.63E-06	1.88E-03	1.22	1.57E-06	1.57E-06	3.02E-06	3.39E-06
Sr-90	9.03E-02	64.6	4.17E+04	8.44E-02	8.76E-02	9.30E-02	9.55E-02
Y-90	9.03E-02	64.6	4.17E+04	5.36E-02	5.36E-02	9.30E-02	9.56E-02
Zr-93	1.29E-05	9.25E-03	5.97	7.61E-06	7.61E-06	1.49E-05	1.67E-05
Nb-93m	9.36E-06	6.70E-03	4.32	5.64E-06	5.64E-06	1.07E-05	1.20E-05
Tc-99	1.79E-04	0.128	82.5	1.16E-04	1.47E-04	2.11E-04	2.41E-04
Ru-106	5.56E-09	3.97E-06	2.57E-03	3.09E-09	3.09E-09	6.11E-09	6.61E-09
Cd-113m	6.88E-05	4.92E-02	31.8	3.69E-05	3.69E-05	8.03E-05	9.14E-05
Sb-125	1.25E-04	8.95E-02	57.8	4.25E-05	4.25E-05	1.30E-04	1.35E-04
Sn-126	3.98E-06	2.85E-03	1.84	2.38E-06	2.38E-06	4.56E-06	5.11E-06
I-129	3.44E-07	2.46E-04	0.159	2.24E-07	2.83E-07	4.06E-07	4.66E-07
Cs-134	2.70E-06	1.93E-03	1.25	1.58E-06	2.12E-06	3.28E-06	3.84E-06
Cs-137	0.209	149	9.63E+04	0.188	0.198	0.219	0.229
Ba-137m	0.197	141	9.11E+04	0.163	0.163	0.207	0.217
Sm-151	9.27E-03	6.63	4.28E+03	5.55E-03	5.55E-03	1.06E-02	1.19E-02
Eu-152	3.48E-06	2.49E-03	1.61	2.16E-06	2.16E-06	3.89E-06	4.29E-06
Eu-154	4.84E-04	0.346	224	2.18E-04	2.18E-04	5.80E-04	6.19E-04
Eu-155	2.08E-04	0.149	96.0	1.29E-04	1.29E-04	2.33E-04	2.58E-04
Ra-226	1.09E-10	7.78E-08	5.02E-05	7.58E-11	7.58E-11	1.21E-10	1.32E-10
Ra-228	9.63E-08	6.89E-05	4.45E-02	4.09E-08	6.80E-08	1.29E-07	1.64E-07
Ac-227	6.84E-10	4.89E-07	3.16E-04	4.92E-10	4.92E-10	7.53E-10	8.20E-10
Pa-231	3.17E-09	2.27E-06	1.47E-03	2.11E-09	2.11E-09	3.56E-09	3.93E-09
Th-229	2.26E-09	1.62E-06	1.05E-03	1.05E-09	1.64E-09	2.98E-09	3.75E-09
Th-232	6.50E-09	4.65E-06	3.00E-03	3.43E-09	4.93E-09	8.06E-09	9.57E-09
U-232	4.98E-07	3.56E-04	0.230	2.76E-07	3.84E-07	6.30E-07	7.70E-07
U-233	1.91E-06	1.37E-03	0.882	1.06E-06	1.47E-06	2.41E-06	2.95E-06
U-234	5.63E-07	4.03E-04	0.260	5.42E-07	5.53E-07	5.74E-07	5.81E-07
U-235	2.28E-08	1.63E-05	1.05E-02	2.20E-08	2.24E-08	2.33E-08	2.36E-08
U-236	1.77E-08	1.27E-05	8.19E-03	1.71E-08	1.75E-08	1.80E-08	1.83E-08
U-238	6.53E-07	4.67E-04	0.302	6.33E-07	6.43E-07	6.64E-07	6.70E-07
Np-237	6.43E-07	4.60E-04	0.297	4.40E-07	5.39E-07	7.47E-07	8.48E-07
Pu-238	1.18E-06	8.46E-04	0.546	9.44E-07	1.06E-06	1.30E-06	1.42E-06
Pu-239	4.00E-05	2.86E-02	18.5	3.39E-05	3.69E-05	4.31E-05	4.61E-05
Pu-240	6.85E-06	4.90E-03	3.16	5.71E-06	6.27E-06	7.42E-06	7.98E-06
Pu-241	8.10E-05	5.80E-02	37.4	6.48E-05	7.27E-05	8.93E-05	9.73E-05
Pu-242	4.45E-10	3.19E-07	2.06E-04	3.48E-10	3.96E-10	4.95E-10	5.43E-10
Am-241	4.46E-05	3.19E-02	20.6	3.33E-05	3.89E-05	5.04E-05	5.60E-05
Am-243	1.64E-09	1.18E-06	7.59E-04	1.26E-09	1.44E-09	1.88E-09	2.09E-09
Cm-242	1.32E-07	9.46E-05	6.11E-02	7.81E-08	7.81E-08	1.48E-07	1.63E-07
Cm-243	1.22E-08	8.71E-06	5.62E-03	7.01E-09	7.01E-09	1.36E-08	1.50E-08
Cm-244	1.12E-07	8.02E-05	5.18E-02	5.89E-08	5.89E-08	1.30E-07	1.42E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.60E-04 (g/L)	----	0.212	3.44E-04	4.01E-04	5.18E-04	5.75E-04
U	6.45E-03	1.10E+03	709	6.20E-03	6.32E-03	6.59E-03	6.66E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.29E+06 (kg)	(376 kgal)	----	----	----	----	----
Heat Load	3.19 (kW)	(1.09E+04 BTU/hr)	----	2.55	2.92	3.36	3.43
Bulk Density†	1.61 (g/cc)	----	----	1.54	1.55	1.70	1.73
Water wt%†	36.7	----	----	28.4	30.9	42.0	44.2
TOC wt% C (wet)†	0.253	----	----	0.131	0.191	0.316	0.377
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.02E-05	4.36E-02	99.9	4.43E-05	4.43E-05	7.40E-05	7.87E-05
C-14	9.17E-06	5.70E-03	13.1	3.76E-06	3.76E-06	9.37E-06	9.40E-06
Ni-59	4.41E-06	2.74E-03	6.28	3.40E-06	3.97E-06	4.75E-06	4.68E-06
Ni-63	4.15E-04	0.258	591	3.21E-04	3.74E-04	4.47E-04	4.40E-04
Co-60	9.94E-06	6.18E-03	14.2	3.75E-06	3.75E-06	1.02E-05	1.05E-05
Se-79	1.23E-06	7.62E-04	1.74	8.80E-07	8.80E-07	1.35E-06	2.83E-06
Sr-90	0.267	166	3.80E+05	0.202	0.238	0.289	0.292
Y-90	0.267	166	3.80E+05	0.202	0.239	0.289	0.292
Zr-93	5.95E-06	3.70E-03	8.47	4.23E-06	4.23E-06	6.58E-06	1.27E-05
Nb-93m	4.46E-06	2.77E-03	6.35	3.25E-06	3.25E-06	4.90E-06	1.17E-05
Tc-99	6.53E-05	4.06E-02	93.0	4.52E-05	5.50E-05	7.57E-05	8.58E-05
Ru-106	2.53E-09	1.57E-06	3.60E-03	1.73E-09	1.73E-09	3.26E-09	3.96E-09
Cd-113m	2.59E-05	1.61E-02	36.9	1.55E-05	1.55E-05	2.96E-05	3.32E-05
Sb-125	4.26E-05	2.65E-02	60.6	1.57E-05	1.57E-05	4.41E-05	4.56E-05
Sn-126	1.86E-06	1.16E-03	2.65	1.34E-06	1.34E-06	2.05E-06	4.43E-06
I-129	1.26E-07	7.83E-05	0.179	8.69E-08	1.06E-07	1.46E-07	1.65E-07
Cs-134	1.03E-06	6.39E-04	1.46	6.63E-07	8.42E-07	1.22E-06	1.40E-06
Cs-137	9.41E-02	58.5	1.34E+05	8.42E-02	8.91E-02	9.81E-02	0.101
Ba-137m	8.90E-02	55.3	1.27E+05	6.72E-02	6.72E-02	9.28E-02	9.54E-02
Sm-151	4.33E-03	2.69	6.16E+03	3.12E-03	3.12E-03	4.77E-03	1.02E-02
Eu-152	3.45E-06	2.15E-03	4.91	3.02E-06	3.02E-06	3.58E-06	3.71E-06
Eu-154	1.73E-04	0.108	247	8.70E-05	8.70E-05	2.05E-04	2.17E-04
Eu-155	1.77E-04	0.110	252	1.52E-04	1.52E-04	1.85E-04	1.93E-04
Ra-226	3.17E-10	1.97E-07	4.51E-04	9.31E-11	2.03E-10	4.31E-10	5.41E-10
Ra-228	3.18E-08	1.98E-05	4.53E-02	1.38E-08	2.26E-08	4.25E-08	5.38E-08
Ac-227	1.49E-09	9.25E-07	2.12E-03	4.18E-10	8.24E-10	2.15E-09	2.79E-09
Pa-231	1.58E-09	9.80E-07	2.24E-03	1.15E-09	1.15E-09	1.89E-09	5.43E-09
Th-229	7.48E-10	4.65E-07	1.06E-03	3.53E-10	5.46E-10	9.82E-10	1.23E-09
Th-232	2.12E-09	1.32E-06	3.01E-03	1.12E-09	1.61E-09	2.62E-09	3.11E-09
U-232	1.65E-07	1.02E-04	0.235	9.27E-08	1.28E-07	2.08E-07	2.53E-07
U-233	6.29E-07	3.91E-04	0.895	3.53E-07	4.88E-07	7.93E-07	9.67E-07
U-234	1.04E-05	6.49E-03	14.9	9.98E-06	1.02E-05	1.06E-05	1.07E-05
U-235	4.12E-07	2.56E-04	0.587	3.93E-07	4.04E-07	4.18E-07	4.22E-07
U-236	5.39E-07	3.35E-04	0.767	4.97E-07	5.27E-07	5.44E-07	5.50E-07
U-238	8.33E-06	5.18E-03	11.9	7.88E-06	8.14E-06	8.46E-06	8.56E-06
Np-237	2.52E-07	1.56E-04	0.358	1.86E-07	2.18E-07	2.86E-07	3.19E-07
Pu-238	5.03E-05	3.13E-02	71.6	4.85E-05	4.99E-05	5.07E-05	5.11E-05
Pu-239	1.20E-03	0.748	1.71E+03	1.17E-03	1.19E-03	1.22E-03	1.24E-03
Pu-240	2.15E-04	0.134	307	2.11E-04	2.13E-04	2.18E-04	2.20E-04
Pu-241	2.75E-03	1.71	3.91E+03	2.62E-03	2.72E-03	2.76E-03	2.78E-03
Pu-242	1.57E-08	9.73E-06	2.23E-02	1.47E-08	1.54E-08	1.58E-08	1.59E-08
Am-241	2.17E-05	1.35E-02	30.9	1.81E-05	1.99E-05	2.43E-05	5.41E-05
Am-243	8.38E-10	5.21E-07	1.19E-03	7.14E-10	7.71E-10	1.22E-09	1.84E-09
Cm-242	1.06E-07	6.61E-05	0.151	8.88E-08	8.88E-08	1.11E-07	1.16E-07
Cm-243	7.70E-09	4.79E-06	1.10E-02	6.03E-09	6.03E-09	8.16E-09	8.61E-09
Cm-244	1.07E-07	6.64E-05	0.152	4.01E-08	8.06E-08	1.21E-07	1.35E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.03E-02 (g/L)	----	28.8	1.97E-02	2.00E-02	2.05E-02	2.08E-02
U	0.104	1.54E+04	3.54E+04	9.87E-02	0.102	0.106	0.107

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.32E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.123 (kW)	(421 BTU/hr)	----	8.94E-02	0.109	0.132	0.136
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.13	1.06E+05	3.53E+03	3.05	3.56	14.7	18.2
Al^{3+}	6.99	1.07E+05	3.56E+03	6.58	6.74	7.15	7.15
Fe^{3+} (total Fe)	1.01	3.22E+04	1.07E+03	0.994	1.00	1.02	1.03
Cr^{3+}	6.19E-02	1.83E+03	60.8	7.08E-03	3.39E-02	0.522	1.06
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.07E-02	1.69E+03	56.3	3.66E-02	4.45E-02	5.54E-02	5.45E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.220	5.02E+03	167	0.146	0.182	0.258	0.294
K^{+}	1.12E-02	250	8.30	1.28E-03	5.25E-03	1.52E-02	1.52E-02
OH^{-}	25.6	2.48E+05	8.23E+03	23.1	24.3	26.9	28.4
$NO3^{-}$	5.29	1.87E+05	6.20E+03	6.03E-02	6.03E-02	13.5	17.9
$NO2^{-}$	1.46	3.82E+04	1.27E+03	0.132	0.595	2.15	2.15
$CO3^{2-}$	0.220	7.51E+03	249	0.146	0.182	0.258	0.294
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.04E-02	569	18.9	1.19E-03	4.87E-03	1.41E-02	1.41E-02
Si (as SiO_x^{2-})	8.06E-03	129	4.28	9.21E-04	3.77E-03	1.09E-02	1.09E-02
F^{-}	0	0	0	0	0	0	0
Cl^{-}	5.16E-02	1.04E+03	34.6	5.91E-03	2.42E-02	7.00E-02	0.157
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.256	2.47E+03	82.1	6.55E-02	9.25E-02	0.270	0.284
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.14E+06 (kg)	(497 kgal)	----	----	----	----	----
Heat Load	3.98 (kW)	(1.36E+04 BTU/hr)	----	3.73	3.85	4.12	4.14
Bulk Density*	1.67 (g/cc)	----	----	1.60	1.64	1.70	1.70
Water wt%	30.0	----	----	27.8	28.7	31.5	34.0
TOC wt% C (wet)	0.321	----	----	0.286	0.303	0.338	0.355

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.4	2.13E+05	6.68E+05	13.9	14.8	15.9	16.3
Al^{3+}	2.15	3.47E+04	1.09E+05	1.86	2.00	2.31	2.22
Fe^{3+} (total Fe)	9.59E-03	320	1.01E+03	7.88E-03	8.72E-03	1.05E-02	1.13E-02
Cr^{3+}	0.221	6.87E+03	2.16E+04	0.163	0.194	0.226	0.231
Bi^{3+}	8.02E-04	100	315	7.21E-04	7.61E-04	8.43E-04	8.82E-04
La^{3+}	1.17E-09	9.74E-05	3.06E-04	8.91E-10	1.03E-09	1.32E-09	1.45E-09
Hg^{2+}	6.71E-06	0.806	2.53	6.29E-06	6.53E-06	6.80E-06	6.89E-06
Zr (as $ZrO(OH)_2$)	1.66E-04	9.06	28.5	1.51E-04	1.56E-04	1.72E-04	1.80E-04
Pb^{2+}	7.92E-04	98.3	309	6.64E-04	7.27E-04	8.58E-04	9.21E-04
Ni^{2+}	6.26E-03	220	691	6.04E-03	6.15E-03	6.37E-03	6.48E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.01E-03	98.8	311	2.18E-03	2.59E-03	3.42E-03	3.83E-03
Ca^{2+}	3.20E-02	767	2.41E+03	2.77E-02	2.98E-02	3.41E-02	3.62E-02
K^{+}	6.48E-02	1.52E+03	4.77E+03	5.79E-02	6.11E-02	6.88E-02	7.01E-02
OH^{-}	13.0	1.32E+05	4.16E+05	11.2	12.1	14.0	13.5
$NO3^{-}$	5.17	1.92E+05	6.03E+05	4.72	4.94	5.35	5.35
$NO2^{-}$	2.92	8.03E+04	2.53E+05	2.55	2.73	3.10	3.27
$CO3^{2-}$	0.284	1.02E+04	3.21E+04	0.256	0.268	0.304	0.307
$PO4^{3-}$	6.33E-02	3.60E+03	1.13E+04	5.64E-02	5.88E-02	6.48E-02	6.62E-02
$SO4^{2-}$	0.188	1.08E+04	3.40E+04	0.143	0.165	0.213	0.234
Si (as SiO_x^{2-})	7.18E-02	1.21E+03	3.79E+03	6.00E-02	6.58E-02	7.78E-02	8.35E-02
F^{-}	3.83E-02	436	1.37E+03	3.13E-02	3.43E-02	4.18E-02	4.45E-02
Cl^{-}	0.261	5.54E+03	1.74E+04	0.229	0.244	0.279	0.278
$C_6H_5O_7^{3-}$	2.20E-02	2.48E+03	7.81E+03	2.03E-02	2.11E-02	2.28E-02	2.36E-02
$EDTA^{4-}$	2.37E-03	409	1.29E+03	1.15E-03	1.75E-03	3.00E-03	3.61E-03
$HEDTA^{3-}$	3.90E-03	640	2.01E+03	1.46E-03	2.65E-03	5.15E-03	6.38E-03
$glycolate^{-}$	3.44E-02	1.55E+03	4.86E+03	1.99E-02	2.70E-02	4.19E-02	4.90E-02
$acetate^{-}$	2.73E-03	96.3	303	2.21E-03	2.46E-03	2.99E-03	3.24E-03
$oxalate^{2-}$	1.54E-09	8.09E-05	2.54E-04	1.38E-09	1.46E-09	1.61E-09	1.69E-09
DBP	1.48E-02	1.87E+03	5.87E+03	1.19E-02	1.34E-02	1.63E-02	1.77E-02
butanol	1.48E-02	658	2.07E+03	1.19E-02	1.34E-02	1.63E-02	1.77E-02
NH_3	7.75E-02	789	2.48E+03	6.43E-02	6.95E-02	8.78E-02	9.97E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.18E+06 (kg)	(502 kgal)	----	----	----	----	----
Heat Load	4.10 (kW)	(1.40E+04 BTU/hr)	----	3.82	3.95	4.26	4.26
Bulk Density†	1.67 (g/cc)	----	----	1.60	1.64	1.70	1.71
Water wt%†	29.9	----	----	27.8	28.7	31.6	34.1
TOC wt% C (wet)†	0.318	----	----	0.283	0.300	0.335	0.351

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.4	2.11E+05	6.72E+05	13.8	14.7	15.9	16.2
Al^{3+}	2.19	3.54E+04	1.13E+05	1.92	2.05	2.35	2.26
Fe^{3+} (total Fe)	1.96E-02	654	2.08E+03	1.79E-02	1.87E-02	2.04E-02	2.13E-02
Cr^{3+}	0.219	6.81E+03	2.16E+04	0.172	0.197	0.227	0.229
Bi^{3+}	7.94E-04	99.2	315	7.14E-04	7.53E-04	8.34E-04	8.73E-04
La^{3+}	1.16E-09	9.64E-05	3.06E-04	8.82E-10	1.02E-09	1.30E-09	1.44E-09
Hg^{2+}	6.64E-06	0.797	2.53	6.23E-06	6.46E-06	6.73E-06	6.82E-06
Zr (as $ZrO(OH)_2$)	1.64E-04	8.96	28.5	1.50E-04	1.55E-04	1.70E-04	1.79E-04
Pb^{2+}	7.85E-04	97.2	309	6.57E-04	7.19E-04	8.50E-04	9.12E-04
Ni^{2+}	6.70E-03	235	748	6.52E-03	6.61E-03	6.79E-03	6.88E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.98E-03	97.8	311	2.16E-03	2.56E-03	3.39E-03	3.79E-03
Ca^{2+}	3.38E-02	811	2.58E+03	3.03E-02	3.20E-02	3.56E-02	3.73E-02
K^{+}	6.43E-02	1.50E+03	4.77E+03	5.74E-02	6.07E-02	6.81E-02	6.95E-02
OH^{-}	13.1	1.34E+05	4.24E+05	11.4	12.2	14.1	13.6
$NO3^{-}$	5.17	1.92E+05	6.09E+05	4.78	5.00	5.30	5.30
$NO2^{-}$	2.90	7.99E+04	2.54E+05	2.54	2.72	3.08	3.26
$CO3^{2-}$	0.284	1.02E+04	3.23E+04	0.256	0.268	0.303	0.306
$PO4^{3-}$	6.27E-02	3.56E+03	1.13E+04	5.58E-02	5.82E-02	6.41E-02	6.56E-02
$SO4^{2-}$	0.187	1.07E+04	3.41E+04	0.142	0.163	0.211	0.232
Si (as SiO_x^{2-})	7.11E-02	1.20E+03	3.80E+03	5.95E-02	6.52E-02	7.71E-02	8.28E-02
F^{-}	3.79E-02	431	1.37E+03	3.10E-02	3.39E-02	4.13E-02	4.40E-02
Cl^{-}	0.259	5.49E+03	1.74E+04	0.228	0.243	0.277	0.276
$C_6H_5O_7^{3-}$	2.17E-02	2.46E+03	7.81E+03	2.01E-02	2.09E-02	2.26E-02	2.34E-02
$EDTA^{4-}$	2.35E-03	405	1.29E+03	1.14E-03	1.73E-03	2.97E-03	3.58E-03
$HEDTA^{3-}$	3.86E-03	633	2.01E+03	1.45E-03	2.63E-03	5.10E-03	6.31E-03
$glycolate^{-}$	3.41E-02	1.53E+03	4.86E+03	1.97E-02	2.67E-02	4.15E-02	4.86E-02
$acetate^{-}$	2.70E-03	95.3	303	2.19E-03	2.44E-03	2.96E-03	3.21E-03
$oxalate^{2-}$	1.52E-09	8.00E-05	2.54E-04	1.37E-09	1.44E-09	1.60E-09	1.67E-09
DBP	1.47E-02	1.85E+03	5.87E+03	1.18E-02	1.32E-02	1.61E-02	1.75E-02
butanol	1.47E-02	651	2.07E+03	1.18E-02	1.32E-02	1.61E-02	1.75E-02
NH_3	7.93E-02	807	2.56E+03	6.62E-02	7.14E-02	8.94E-02	0.101
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.32E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	0.123 (kW)	(421 BTU/hr)	----	8.94E-02	0.109	0.132	0.136
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.92E-05	1.67E-02	0.553	3.05E-06	1.47E-05	4.10E-05	4.10E-05
C-14	2.26E-06	1.29E-03	4.28E-02	2.59E-07	1.06E-06	3.07E-06	3.07E-06
Ni-59	1.49E-05	8.46E-03	0.281	1.07E-05	1.31E-05	1.62E-05	1.60E-05
Ni-63	1.39E-03	0.790	26.2	1.00E-03	1.22E-03	1.52E-03	1.49E-03
Co-60	8.94E-07	5.09E-04	1.69E-02	1.02E-07	4.18E-07	1.21E-06	1.21E-06
Se-79	4.81E-07	2.74E-04	9.09E-03	5.50E-08	2.25E-07	6.51E-07	7.15E-06
Sr-90	0.928	529	1.76E+04	0.662	0.812	1.02	1.03
Y-90	0.929	529	1.76E+04	0.662	0.812	1.02	1.03
Zr-93	2.27E-06	1.29E-03	4.29E-02	2.59E-07	1.06E-06	3.08E-06	3.03E-05
Nb-93m	1.85E-06	1.06E-03	3.51E-02	2.12E-07	8.68E-07	2.51E-06	3.21E-05
Tc-99	1.58E-05	9.02E-03	0.300	1.81E-06	7.42E-06	2.15E-05	2.15E-05
Ru-106	2.50E-12	1.42E-09	4.72E-08	2.86E-13	1.17E-12	3.38E-12	3.38E-12
Cd-113m	6.99E-06	3.98E-03	0.132	8.00E-07	3.27E-06	9.48E-06	9.48E-06
Sb-125	1.31E-06	7.47E-04	2.48E-02	1.50E-07	6.14E-07	1.78E-06	1.78E-06
Sn-126	7.39E-07	4.21E-04	1.40E-02	8.45E-08	3.46E-07	1.00E-06	1.14E-05
I-129	3.04E-08	1.73E-05	5.76E-04	3.48E-09	1.42E-08	4.13E-08	4.13E-08
Cs-134	2.72E-08	1.55E-05	5.14E-04	7.19E-09	1.52E-08	3.52E-08	3.52E-08
Cs-137	5.60E-02	31.9	1.06E+03	1.48E-02	3.13E-02	7.26E-02	7.26E-02
Ba-137m	5.30E-02	30.2	1.00E+03	1.40E-02	2.96E-02	6.87E-02	6.87E-02
Sm-151	1.71E-03	0.976	32.4	1.96E-04	8.03E-04	2.33E-03	2.64E-02
Eu-152	7.00E-06	3.98E-03	0.132	6.85E-06	6.91E-06	7.06E-06	7.06E-06
Eu-154	2.16E-05	1.23E-02	0.408	2.47E-06	1.01E-05	2.93E-05	2.93E-05
Eu-155	3.30E-04	0.188	6.25	3.23E-04	3.26E-04	3.33E-04	3.33E-04
Ra-226	1.08E-09	6.15E-07	2.04E-05	1.48E-10	6.04E-10	1.56E-09	2.01E-09
Ra-228	9.26E-15	5.28E-12	1.75E-10	9.07E-15	9.15E-15	9.34E-15	9.34E-15
Ac-227	4.76E-09	2.71E-06	9.00E-05	3.06E-10	2.00E-09	7.52E-09	1.02E-08
Pa-231	7.18E-10	4.09E-07	1.36E-05	8.21E-11	3.36E-10	2.04E-09	1.68E-08
Th-229	1.77E-12	1.01E-09	3.34E-08	1.73E-12	1.75E-12	1.78E-12	1.78E-12
Th-232	5.91E-16	3.36E-13	1.12E-11	6.76E-17	2.77E-16	8.01E-16	8.01E-16
U-232	5.24E-12	2.98E-09	9.90E-08	5.99E-13	2.45E-12	7.10E-12	7.10E-12
U-233	2.00E-13	1.14E-10	3.77E-09	2.28E-14	9.34E-14	2.71E-13	2.71E-13
U-234	1.19E-07	6.78E-05	2.25E-03	1.36E-08	5.58E-08	1.62E-07	1.62E-07
U-235	5.13E-09	2.92E-06	9.69E-05	5.86E-10	2.40E-09	6.95E-09	6.95E-09
U-236	1.88E-09	1.07E-06	3.56E-05	2.16E-10	8.82E-10	2.56E-09	2.56E-09
U-238	1.22E-07	6.92E-05	2.30E-03	1.39E-08	5.69E-08	1.65E-07	1.65E-07
Np-237	1.03E-07	5.86E-05	1.94E-03	1.18E-08	4.81E-08	1.39E-07	1.39E-07
Pu-238	6.61E-06	3.77E-03	0.125	4.75E-06	5.66E-06	7.57E-06	8.48E-06
Pu-239	4.72E-04	0.269	8.92	3.39E-04	4.04E-04	5.40E-04	6.05E-04
Pu-240	6.76E-05	3.85E-02	1.28	4.85E-05	5.78E-05	7.73E-05	8.66E-05
Pu-241	3.97E-04	0.226	7.51	2.85E-04	3.40E-04	4.55E-04	5.09E-04
Pu-242	1.82E-09	1.04E-06	3.45E-05	1.31E-09	1.56E-09	2.08E-09	2.34E-09
Am-241	8.09E-06	4.61E-03	0.153	9.26E-07	3.79E-06	1.10E-05	1.43E-04
Am-243	7.57E-11	4.31E-08	1.43E-06	8.66E-12	3.54E-11	1.03E-10	1.34E-09
Cm-242	1.61E-07	9.16E-05	3.04E-03	1.58E-07	1.59E-07	1.62E-07	1.62E-07
Cm-243	3.69E-09	2.10E-06	6.98E-05	3.61E-09	3.64E-09	3.72E-09	3.72E-09
Cm-244	2.70E-09	1.54E-06	5.11E-05	3.09E-10	1.27E-09	3.67E-09	3.67E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.89E-03 (g/L)	----	0.149	5.67E-03	6.76E-03	9.03E-03	1.01E-02
U	1.53E-03	207	6.89	1.75E-04	7.16E-04	2.07E-03	2.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.14E+06 (kg)	(497 kgal)	----	----	----	----	----
Heat Load	3.98 (kW)	(1.36E+04 BTU/hr)	----	3.73	3.85	4.12	4.14
Bulk Density*	1.67 (g/cc)	----	----	1.60	1.64	1.70	1.70
Water wt%†	30.0	----	----	27.8	28.7	31.5	34.0
TOC wt% C (wet)	0.321	----	----	0.286	0.303	0.338	0.355
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.62E-04	0.157	494	1.58E-04	1.58E-04	2.78E-04	2.72E-04
C-14	3.34E-05	2.00E-02	62.9	1.15E-05	1.15E-05	3.42E-05	3.41E-05
Ni-59	2.29E-06	1.37E-03	4.30	1.26E-06	1.26E-06	2.34E-06	2.39E-06
Ni-63	2.22E-04	0.133	418	1.20E-04	1.20E-04	2.27E-04	2.32E-04
Co-60	3.37E-05	2.02E-02	63.5	8.66E-06	8.66E-06	3.42E-05	3.47E-05
Se-79	3.49E-06	2.09E-03	6.57	2.09E-06	2.09E-06	4.00E-06	4.48E-06
Sr-90	0.114	68.5	2.15E+05	0.108	0.111	0.118	0.121
Y-90	0.114	68.5	2.15E+05	6.62E-02	6.62E-02	0.118	0.121
Zr-93	1.71E-05	1.02E-02	32.1	1.01E-05	1.01E-05	1.96E-05	2.20E-05
Nb-93m	1.27E-05	7.57E-03	23.8	7.76E-06	7.76E-06	1.44E-05	1.61E-05
Tc-99	2.38E-04	0.143	448	1.57E-04	1.96E-04	2.80E-04	3.21E-04
Ru-106	5.19E-09	3.11E-06	9.76E-03	1.95E-09	1.95E-09	5.91E-09	6.57E-09
Cd-113m	8.33E-05	4.98E-02	157	4.13E-05	4.13E-05	9.85E-05	1.13E-04
Sb-125	1.38E-04	8.28E-02	260	2.97E-05	2.97E-05	1.40E-04	1.43E-04
Sn-126	5.29E-06	3.17E-03	9.96	3.19E-06	3.19E-06	6.05E-06	6.78E-06
I-129	4.59E-07	2.75E-04	0.863	3.01E-07	3.78E-07	5.40E-07	6.19E-07
Cs-134	1.56E-06	9.31E-04	2.93	1.04E-06	1.04E-06	1.67E-06	1.79E-06
Cs-137	0.287	172	5.40E+05	0.258	0.272	0.303	0.305
Ba-137m	0.271	162	5.10E+05	0.203	0.203	0.287	0.289
Sm-151	1.23E-02	7.38	2.32E+04	7.43E-03	7.43E-03	1.41E-02	1.58E-02
Eu-152	3.05E-06	1.83E-03	5.74	1.32E-06	1.32E-06	3.11E-06	3.17E-06
Eu-154	5.42E-04	0.325	1.02E+03	1.93E-04	1.93E-04	6.69E-04	7.19E-04
Eu-155	1.75E-04	0.105	330	7.20E-05	7.20E-05	1.80E-04	1.84E-04
Ra-226	1.63E-10	9.78E-08	3.07E-04	1.10E-10	1.20E-10	1.91E-10	2.17E-10
Ra-228	5.84E-08	3.50E-05	0.110	2.28E-08	4.02E-08	7.96E-08	1.02E-07
Ac-227	9.86E-10	5.90E-07	1.85E-03	6.74E-10	7.34E-10	1.15E-09	1.24E-09
Pa-231	4.35E-09	2.60E-06	8.18E-03	2.95E-09	2.95E-09	4.86E-09	5.34E-09
Th-229	1.39E-09	8.33E-07	2.62E-03	6.10E-10	9.92E-10	1.86E-09	2.35E-09
Th-232	3.93E-09	2.35E-06	7.40E-03	1.96E-09	2.93E-09	4.94E-09	5.91E-09
U-232	3.53E-07	2.11E-04	0.664	2.10E-07	2.80E-07	4.38E-07	5.28E-07
U-233	1.35E-06	8.10E-04	2.55	8.07E-07	1.07E-06	1.68E-06	2.02E-06
U-234	8.55E-07	5.12E-04	1.61	7.82E-07	8.17E-07	8.98E-07	8.79E-07
U-235	3.54E-08	2.12E-05	6.66E-02	3.22E-08	3.37E-08	3.72E-08	3.64E-08
U-236	2.42E-08	1.45E-05	4.56E-02	2.31E-08	2.36E-08	2.49E-08	2.49E-08
U-238	8.89E-07	5.32E-04	1.67	8.14E-07	8.50E-07	9.33E-07	9.12E-07
Np-237	9.44E-07	5.65E-04	1.78	6.77E-07	8.08E-07	1.08E-06	1.21E-06
Pu-238	1.16E-06	6.94E-04	2.18	8.47E-07	1.00E-06	1.32E-06	1.47E-06
Pu-239	4.36E-05	2.61E-02	82.1	3.56E-05	3.95E-05	4.77E-05	5.16E-05
Pu-240	7.14E-06	4.27E-03	13.4	5.64E-06	6.37E-06	7.90E-06	8.63E-06
Pu-241	7.65E-05	4.58E-02	144	5.52E-05	6.56E-05	8.75E-05	9.80E-05
Pu-242	4.13E-10	2.47E-07	7.77E-04	2.86E-10	3.48E-10	4.79E-10	5.41E-10
Am-241	5.64E-05	3.38E-02	106	4.16E-05	4.88E-05	6.40E-05	7.13E-05
Am-243	1.57E-09	9.41E-07	2.96E-03	1.11E-09	1.33E-09	1.82E-09	2.06E-09
Cm-242	1.08E-07	6.49E-05	0.204	3.73E-08	3.73E-08	1.10E-07	1.12E-07
Cm-243	9.64E-09	5.77E-06	1.81E-02	2.86E-09	2.86E-09	9.86E-09	1.01E-08
Cm-244	1.06E-07	6.35E-05	0.200	3.63E-08	3.63E-08	1.30E-07	1.45E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.71E-04 (g/L)	----	1.07	4.19E-04	4.94E-04	6.48E-04	7.22E-04
U	1.01E-02	1.44E+03	4.52E+03	9.16E-03	9.60E-03	1.06E-02	1.04E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.18E+06 (kg)	(502 kgal)	----	----	----	----	----
Heat Load	4.10 (kW)	(1.40E+04 BTU/hr)	----	3.82	3.95	4.26	4.26
Bulk Density†	1.67 (g/cc)	----	----	1.60	1.64	1.70	1.71
Water wt%†	29.9	----	----	27.8	28.7	31.6	34.1
TOC wt% C (wet)†	0.318	----	----	0.283	0.300	0.335	0.351
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.60E-04	0.156	494	1.56E-04	1.56E-04	2.76E-04	2.70E-04
C-14	3.31E-05	1.98E-02	62.9	1.14E-05	1.14E-05	3.39E-05	3.38E-05
Ni-59	2.41E-06	1.44E-03	4.58	1.39E-06	1.39E-06	2.46E-06	2.51E-06
Ni-63	2.34E-04	0.140	444	1.33E-04	1.33E-04	2.39E-04	2.44E-04
Co-60	3.34E-05	2.00E-02	63.5	8.58E-06	8.58E-06	3.39E-05	3.44E-05
Se-79	3.46E-06	2.07E-03	6.58	2.08E-06	2.08E-06	3.96E-06	4.44E-06
Sr-90	0.123	73.3	2.33E+05	0.116	0.119	0.126	0.129
Y-90	0.123	73.3	2.33E+05	7.47E-02	7.47E-02	0.126	0.129
Zr-93	1.69E-05	1.01E-02	32.1	9.99E-06	9.99E-06	1.94E-05	2.18E-05
Nb-93m	1.25E-05	7.51E-03	23.8	7.70E-06	7.70E-06	1.43E-05	1.60E-05
Tc-99	2.36E-04	0.141	448	1.55E-04	1.95E-04	2.78E-04	3.18E-04
Ru-106	5.14E-09	3.07E-06	9.76E-03	1.93E-09	1.93E-09	5.86E-09	6.51E-09
Cd-113m	8.25E-05	4.94E-02	157	4.10E-05	4.10E-05	9.76E-05	1.12E-04
Sb-125	1.37E-04	8.19E-02	260	2.94E-05	2.94E-05	1.39E-04	1.41E-04
Sn-126	5.25E-06	3.14E-03	9.97	3.17E-06	3.17E-06	6.00E-06	6.72E-06
I-129	4.55E-07	2.72E-04	0.864	2.98E-07	3.74E-07	5.35E-07	6.13E-07
Cs-134	1.54E-06	9.21E-04	2.93	1.03E-06	1.03E-06	1.66E-06	1.77E-06
Cs-137	0.285	170	5.41E+05	0.256	0.270	0.301	0.303
Ba-137m	0.269	161	5.11E+05	0.201	0.201	0.284	0.286
Sm-151	1.22E-02	7.31	2.32E+04	7.37E-03	7.37E-03	1.40E-02	1.57E-02
Eu-152	3.09E-06	1.85E-03	5.87	1.37E-06	1.37E-06	3.15E-06	3.20E-06
Eu-154	5.37E-04	0.321	1.02E+03	1.91E-04	1.91E-04	6.62E-04	7.12E-04
Eu-155	1.77E-04	0.106	336	7.46E-05	7.46E-05	1.81E-04	1.85E-04
Ra-226	1.73E-10	1.03E-07	3.28E-04	1.29E-10	1.30E-10	1.95E-10	2.17E-10
Ra-228	5.79E-08	3.46E-05	0.110	2.26E-08	3.98E-08	7.88E-08	1.01E-07
Ac-227	1.02E-09	6.12E-07	1.94E-03	7.68E-10	7.74E-10	1.15E-09	1.23E-09
Pa-231	4.31E-09	2.58E-06	8.19E-03	2.93E-09	2.93E-09	4.81E-09	5.30E-09
Th-229	1.38E-09	8.24E-07	2.62E-03	6.04E-10	9.83E-10	1.84E-09	2.33E-09
Th-232	3.90E-09	2.33E-06	7.40E-03	1.94E-09	2.90E-09	4.89E-09	5.85E-09
U-232	3.49E-07	2.09E-04	0.664	2.08E-07	2.77E-07	4.33E-07	5.22E-07
U-233	1.34E-06	8.02E-04	2.55	7.99E-07	1.06E-06	1.66E-06	2.00E-06
U-234	8.48E-07	5.07E-04	1.61	7.75E-07	8.10E-07	8.89E-07	8.71E-07
U-235	3.51E-08	2.10E-05	6.67E-02	3.20E-08	3.34E-08	3.69E-08	3.60E-08
U-236	2.40E-08	1.44E-05	4.56E-02	2.29E-08	2.34E-08	2.47E-08	2.47E-08
U-238	8.82E-07	5.27E-04	1.68	8.08E-07	8.43E-07	9.24E-07	9.04E-07
Np-237	9.36E-07	5.60E-04	1.78	6.72E-07	8.01E-07	1.07E-06	1.20E-06
Pu-238	1.21E-06	7.26E-04	2.31	9.04E-07	1.06E-06	1.37E-06	1.53E-06
Pu-239	4.79E-05	2.86E-02	91.0	3.99E-05	4.38E-05	5.19E-05	5.58E-05
Pu-240	7.74E-06	4.63E-03	14.7	6.26E-06	6.98E-06	8.49E-06	9.21E-06
Pu-241	7.97E-05	4.77E-02	151	5.86E-05	6.89E-05	9.05E-05	1.01E-04
Pu-242	4.27E-10	2.56E-07	8.12E-04	3.01E-10	3.63E-10	4.92E-10	5.54E-10
Am-241	5.60E-05	3.35E-02	106	4.12E-05	4.84E-05	6.35E-05	7.07E-05
Am-243	1.56E-09	9.32E-07	2.96E-03	1.10E-09	1.32E-09	1.80E-09	2.04E-09
Cm-242	1.09E-07	6.51E-05	0.207	3.85E-08	3.85E-08	1.11E-07	1.13E-07
Cm-243	9.58E-09	5.73E-06	1.82E-02	2.87E-09	2.87E-09	9.80E-09	1.00E-08
Cm-244	1.05E-07	6.29E-05	0.200	3.59E-08	3.59E-08	1.29E-07	1.44E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.44E-04 (g/L)	----	1.22	4.94E-04	5.68E-04	7.21E-04	7.94E-04
U	1.00E-02	1.43E+03	4.53E+03	9.08E-03	9.53E-03	1.05E-02	1.03E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.71E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	1.22E-03 (kW)	(4.17 BTU/hr)	----	1.02E-03	1.18E-03	1.26E-03	1.30E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	8.89E+03	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	1.49E+04	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	453	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	5.21	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	40.3	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	1.20E+03	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	2.94	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	238	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	2.95	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	3.49E+04	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	1.75E+03	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	2.17E+03	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	356	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	39.6	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	27.8	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	12.3	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	0.171	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.10E+06 (kg)	(494 kgal)	----	----	----	----	----
Heat Load	3.87 (kW)	(1.32E+04 BTU/hr)	----	3.64	3.75	4.00	4.02
Bulk Density*	1.66 (g/cc)	----	----	1.59	1.63	1.68	1.69
Water wt%	30.9	----	----	28.6	29.6	32.3	34.7
TOC wt% C (wet)	0.340	----	----	0.304	0.321	0.358	0.375

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.1	2.10E+05	6.51E+05	13.7	14.5	15.6	16.0
Al^{3+}	2.08	3.38E+04	1.05E+05	1.81	1.94	2.23	2.15
Fe^{3+} (total Fe)	9.65E-03	325	1.01E+03	7.85E-03	8.73E-03	1.06E-02	1.14E-02
Cr^{3+}	0.213	6.68E+03	2.07E+04	0.159	0.188	0.218	0.223
Bi^{3+}	7.78E-04	98.2	304	7.01E-04	7.39E-04	8.17E-04	8.55E-04
La^{3+}	1.75E-08	1.47E-03	4.54E-03	1.29E-08	1.52E-08	1.98E-08	2.20E-08
Hg^{2+}	6.58E-06	0.797	2.47	6.17E-06	6.40E-06	6.66E-06	6.74E-06
Zr (as $ZrO(OH)_2$)	1.60E-04	8.82	27.3	1.46E-04	1.51E-04	1.66E-04	1.74E-04
Pb^{2+}	7.81E-04	97.7	303	6.60E-04	7.19E-04	8.43E-04	9.02E-04
Ni^{2+}	6.20E-03	220	681	6.00E-03	6.10E-03	6.31E-03	6.41E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.14E-03	104	322	2.27E-03	2.70E-03	3.58E-03	4.00E-03
Ca^{2+}	3.17E-02	767	2.37E+03	2.77E-02	2.96E-02	3.37E-02	3.57E-02
K^+	6.37E-02	1.50E+03	4.65E+03	5.72E-02	6.03E-02	6.74E-02	6.93E-02
OH^-	12.6	1.30E+05	4.01E+05	11.0	11.7	13.5	13.2
$NO3^-$	5.04	1.89E+05	5.85E+05	4.62	4.83	5.21	5.21
$NO2^-$	2.85	7.93E+04	2.45E+05	2.48	2.65	3.05	3.23
$CO3^{2-}$	0.295	1.07E+04	3.32E+04	0.266	0.280	0.315	0.317
$PO4^{3-}$	6.49E-02	3.72E+03	1.15E+04	5.83E-02	6.06E-02	6.64E-02	6.79E-02
$SO4^{2-}$	0.190	1.10E+04	3.42E+04	0.143	0.165	0.216	0.239
Si (as SiO_x^{2-})	7.16E-02	1.21E+03	3.76E+03	5.92E-02	6.53E-02	7.79E-02	8.40E-02
F^-	3.72E-02	427	1.32E+03	3.05E-02	3.33E-02	4.05E-02	4.31E-02
Cl^-	0.256	5.47E+03	1.69E+04	0.226	0.240	0.273	0.274
$C_6H_5O_7^{3-}$	2.33E-02	2.66E+03	8.23E+03	2.15E-02	2.24E-02	2.42E-02	2.50E-02
$EDTA^{4-}$	2.32E-03	403	1.25E+03	1.15E-03	1.72E-03	2.92E-03	3.50E-03
$HEDTA^{3-}$	3.80E-03	629	1.95E+03	1.47E-03	2.60E-03	5.00E-03	6.17E-03
$glycolate^-$	3.85E-02	1.74E+03	5.40E+03	2.17E-02	2.99E-02	4.71E-02	5.52E-02
$acetate^-$	2.70E-03	96.3	298	2.19E-03	2.44E-03	2.96E-03	3.21E-03
$oxalate^{2-}$	2.29E-08	1.22E-03	3.77E-03	2.04E-08	2.16E-08	2.41E-08	2.53E-08
DBP	1.55E-02	1.97E+03	6.08E+03	1.24E-02	1.39E-02	1.70E-02	1.85E-02
butanol	1.55E-02	693	2.15E+03	1.24E-02	1.39E-02	1.70E-02	1.85E-02
NH_3	7.63E-02	783	2.42E+03	6.23E-02	6.78E-02	8.70E-02	9.96E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.18E+06 (kg)	(507 kgal)	----	----	----	----	----
Heat Load	3.87 (kW)	(1.32E+04 BTU/hr)	----	3.64	3.75	4.01	4.03
Bulk Density†	1.66 (g/cc)	----	----	1.60	1.63	1.68	1.69
Water wt%†	30.7	----	----	28.4	29.4	32.1	34.4
TOC wt% C (wet)†	0.331	----	----	0.295	0.313	0.348	0.365

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.9	2.07E+05	6.60E+05	13.5	14.3	15.4	15.8
Al^{3+}	2.31	3.76E+04	1.20E+05	2.05	2.18	2.46	2.41
Fe^{3+} (total Fe)	1.36E-02	459	1.46E+03	1.19E-02	1.27E-02	1.45E-02	1.54E-02
Cr^{3+}	0.207	6.49E+03	2.07E+04	0.155	0.183	0.212	0.217
Bi^{3+}	7.58E-04	95.5	304	6.83E-04	7.20E-04	7.96E-04	8.33E-04
La^{3+}	1.70E-08	1.43E-03	4.54E-03	1.26E-08	1.48E-08	1.93E-08	2.15E-08
Hg^{2+}	1.11E-04	13.4	42.7	1.09E-04	1.10E-04	1.11E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	1.56E-04	8.57	27.3	1.42E-04	1.47E-04	1.62E-04	1.69E-04
Pb^{2+}	3.78E-03	472	1.50E+03	3.53E-03	3.68E-03	3.85E-03	3.90E-03
Ni^{2+}	6.07E-03	215	684	5.87E-03	5.97E-03	6.17E-03	6.27E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.06E-03	101	322	2.21E-03	2.63E-03	3.49E-03	3.90E-03
Ca^{2+}	3.40E-02	820	2.61E+03	3.00E-02	3.20E-02	3.59E-02	3.78E-02
K^+	6.21E-02	1.46E+03	4.66E+03	5.58E-02	5.88E-02	6.57E-02	6.75E-02
OH^-	13.4	1.37E+05	4.36E+05	11.8	12.5	14.2	13.9
$NO3^-$	4.93	1.84E+05	5.86E+05	4.52	4.72	5.10	5.10
$NO2^-$	2.80	7.78E+04	2.48E+05	2.44	2.61	2.99	3.17
$CO3^{2-}$	0.291	1.05E+04	3.35E+04	0.262	0.276	0.310	0.312
$PO4^{3-}$	6.32E-02	3.62E+03	1.15E+04	5.68E-02	5.90E-02	6.47E-02	6.61E-02
$SO4^{2-}$	0.186	1.08E+04	3.42E+04	0.139	0.161	0.211	0.233
Si (as SiO_x^{2-})	7.03E-02	1.19E+03	3.79E+03	5.82E-02	6.41E-02	7.64E-02	8.24E-02
F^-	3.63E-02	415	1.32E+03	2.97E-02	3.25E-02	3.95E-02	4.20E-02
Cl^-	0.249	5.32E+03	1.69E+04	0.220	0.234	0.266	0.267
$C_6H_5O_7^{3-}$	2.27E-02	2.59E+03	8.23E+03	2.10E-02	2.18E-02	2.36E-02	2.44E-02
$EDTA^{4-}$	2.26E-03	392	1.25E+03	1.12E-03	1.68E-03	2.84E-03	3.41E-03
$HEDTA^{3-}$	3.70E-03	611	1.95E+03	1.43E-03	2.54E-03	4.87E-03	6.01E-03
$glycolate^-$	3.75E-02	1.70E+03	5.40E+03	2.12E-02	2.92E-02	4.58E-02	5.38E-02
$acetate^-$	2.63E-03	93.6	298	2.13E-03	2.38E-03	2.89E-03	3.13E-03
$oxalate^{2-}$	2.23E-08	1.18E-03	3.77E-03	1.99E-08	2.11E-08	2.35E-08	2.47E-08
DBP	1.51E-02	1.91E+03	6.08E+03	1.21E-02	1.36E-02	1.66E-02	1.80E-02
butanol	1.51E-02	674	2.15E+03	1.21E-02	1.36E-02	1.66E-02	1.80E-02
NH_3	7.43E-02	762	2.42E+03	6.07E-02	6.61E-02	8.48E-02	9.70E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.71E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	1.22E-03 (kW)	(4.17 BTU/hr)	----	1.02E-03	1.18E-03	1.26E-03	1.30E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	4.98E-02	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	5.37E-03	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	1.52E-03	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	0.143	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	2.32E-03	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	1.17E-03	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	101	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	101	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	5.52E-03	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	4.49E-03	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	3.85E-02	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	1.36E-08	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	1.73E-02	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	3.88E-03	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	1.78E-03	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	7.38E-05	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	8.14E-05	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	116	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	109	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	4.17	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	8.62E-03	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	5.65E-02	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	0.410	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	1.39E-07	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	1.44E-11	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	7.13E-07	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	1.69E-06	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	2.03E-09	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	1.99E-12	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	3.18E-05	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	1.18E-06	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	0.728	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	3.09E-02	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	1.60E-02	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	0.709	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	2.70E-04	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	1.23	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	79.1	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	11.2	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	68.2	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	2.89E-04	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	2.01E-02	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	1.83E-07	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	1.80E-04	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	4.10E-06	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	6.39E-06	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	1.32	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	2.12E+03	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.10E+06 (kg)	(494 kgal)	----	----	----	----	----
Heat Load	3.87 (kW)	(1.32E+04 BTU/hr)	----	3.64	3.75	4.00	4.02
Bulk Density*	1.66 (g/cc)	----	----	1.59	1.63	1.68	1.69
Water wt%†	30.9	----	----	28.6	29.6	32.3	34.7
TOC wt% C (wet)	0.340	----	----	0.304	0.321	0.358	0.375

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.62E-04	0.158	490	1.52E-04	1.52E-04	2.77E-04	2.71E-04
C-14	3.41E-05	2.06E-02	63.8	1.10E-05	1.10E-05	3.48E-05	3.48E-05
Ni-59	2.29E-06	1.38E-03	4.28	1.20E-06	1.20E-06	2.34E-06	2.40E-06
Ni-63	2.23E-04	0.134	416	1.15E-04	1.15E-04	2.28E-04	2.33E-04
Co-60	3.49E-05	2.10E-02	65.2	8.45E-06	8.45E-06	3.53E-05	3.58E-05
Se-79	3.50E-06	2.11E-03	6.54	2.02E-06	2.02E-06	4.03E-06	4.54E-06
Sr-90	0.114	69.0	2.14E+05	0.107	0.111	0.118	0.122
Y-90	0.114	69.0	2.14E+05	6.35E-02	6.35E-02	0.118	0.122
Zr-93	1.71E-05	1.03E-02	31.9	9.72E-06	9.72E-06	1.97E-05	2.23E-05
Nb-93m	1.26E-05	7.63E-03	23.6	7.48E-06	7.48E-06	1.45E-05	1.63E-05
Tc-99	2.43E-04	0.147	454	1.57E-04	1.99E-04	2.87E-04	3.30E-04
Ru-106	5.43E-09	3.28E-06	1.02E-02	2.02E-09	2.02E-09	6.19E-09	6.89E-09
Cd-113m	8.42E-05	5.08E-02	157	4.00E-05	4.00E-05	1.00E-04	1.16E-04
Sb-125	1.44E-04	8.68E-02	269	2.95E-05	2.95E-05	1.46E-04	1.48E-04
Sn-126	5.29E-06	3.20E-03	9.90	3.09E-06	3.09E-06	6.09E-06	6.86E-06
I-129	4.68E-07	2.83E-04	0.875	3.02E-07	3.83E-07	5.54E-07	6.36E-07
Cs-134	1.53E-06	9.25E-04	2.86	1.03E-06	1.03E-06	1.64E-06	1.75E-06
Cs-137	0.277	167	5.19E+05	0.251	0.263	0.293	0.295
Ba-137m	0.262	158	4.91E+05	0.196	0.196	0.277	0.279
Sm-151	1.23E-02	7.45	2.31E+04	7.18E-03	7.18E-03	1.42E-02	1.60E-02
Eu-152	3.12E-06	1.88E-03	5.83	1.29E-06	1.29E-06	3.18E-06	3.23E-06
Eu-154	5.57E-04	0.336	1.04E+03	1.89E-04	1.89E-04	6.90E-04	7.43E-04
Eu-155	1.79E-04	0.108	336	7.09E-05	7.09E-05	1.84E-04	1.88E-04
Ra-226	1.61E-10	9.72E-08	3.01E-04	1.11E-10	1.15E-10	1.86E-10	2.11E-10
Ra-228	5.94E-08	3.59E-05	0.111	2.33E-08	4.09E-08	8.08E-08	1.04E-07
Ac-227	9.72E-10	5.87E-07	1.82E-03	6.81E-10	7.07E-10	1.12E-09	1.21E-09
Pa-231	4.31E-09	2.61E-06	8.07E-03	2.84E-09	2.84E-09	4.85E-09	5.36E-09
Th-229	1.42E-09	8.55E-07	2.65E-03	6.24E-10	1.01E-09	1.88E-09	2.38E-09
Th-232	4.02E-09	2.43E-06	7.51E-03	2.02E-09	3.00E-09	5.03E-09	6.01E-09
U-232	3.61E-07	2.18E-04	0.676	2.17E-07	2.87E-07	4.47E-07	5.38E-07
U-233	1.39E-06	8.37E-04	2.59	8.33E-07	1.10E-06	1.71E-06	2.06E-06
U-234	8.42E-07	5.08E-04	1.57	7.73E-07	8.05E-07	8.81E-07	8.66E-07
U-235	3.48E-08	2.10E-05	6.50E-02	3.18E-08	3.32E-08	3.65E-08	3.58E-08
U-236	2.41E-08	1.46E-05	4.51E-02	2.30E-08	2.35E-08	2.47E-08	2.49E-08
U-238	8.77E-07	5.30E-04	1.64	8.07E-07	8.40E-07	9.17E-07	9.01E-07
Np-237	9.52E-07	5.75E-04	1.78	6.71E-07	8.08E-07	1.10E-06	1.24E-06
Pu-238	1.19E-06	7.19E-04	2.23	8.61E-07	1.02E-06	1.36E-06	1.52E-06
Pu-239	4.40E-05	2.66E-02	82.3	3.55E-05	3.97E-05	4.83E-05	5.24E-05
Pu-240	7.24E-06	4.37E-03	13.5	5.66E-06	6.44E-06	8.04E-06	8.81E-06
Pu-241	7.89E-05	4.76E-02	147	5.64E-05	6.74E-05	9.04E-05	1.01E-04
Pu-242	4.28E-10	2.58E-07	7.99E-04	2.93E-10	3.59E-10	4.96E-10	5.62E-10
Am-241	5.66E-05	3.42E-02	106	4.09E-05	4.86E-05	6.46E-05	7.22E-05
Am-243	1.63E-09	9.85E-07	3.05E-03	1.14E-09	1.37E-09	1.89E-09	2.14E-09
Cm-242	1.12E-07	6.78E-05	0.210	3.74E-08	3.74E-08	1.15E-07	1.17E-07
Cm-243	1.01E-08	6.09E-06	1.89E-02	2.94E-09	2.94E-09	1.03E-08	1.06E-08
Cm-244	1.11E-07	6.71E-05	0.208	3.76E-08	3.76E-08	1.36E-07	1.52E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.69E-04 (g/L)	----	1.06	4.09E-04	4.88E-04	6.50E-04	7.28E-04
U	9.92E-03	1.43E+03	4.41E+03	9.04E-03	9.45E-03	1.04E-02	1.02E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.18E+06 (kg)	(507 kgal)	----	----	----	----	----
Heat Load	3.87 (kW)	(1.32E+04 BTU/hr)	----	3.64	3.75	4.01	4.03
Bulk Density†	1.66 (g/cc)	----	----	1.60	1.63	1.68	1.69
Water wt%†	30.7	----	----	28.4	29.4	32.1	34.4
TOC wt% C (wet)†	0.331	----	----	0.295	0.313	0.348	0.365

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.55E-04	0.154	490	1.48E-04	1.48E-04	2.70E-04	2.64E-04
C-14	3.32E-05	2.00E-02	63.8	1.08E-05	1.08E-05	3.40E-05	3.39E-05
Ni-59	2.23E-06	1.34E-03	4.28	1.17E-06	1.17E-06	2.28E-06	2.34E-06
Ni-63	2.17E-04	0.131	416	1.12E-04	1.12E-04	2.22E-04	2.27E-04
Co-60	3.40E-05	2.05E-02	65.2	8.24E-06	8.24E-06	3.44E-05	3.49E-05
Se-79	3.41E-06	2.05E-03	6.54	1.97E-06	1.97E-06	3.93E-06	4.42E-06
Sr-90	0.111	67.2	2.14E+05	0.104	0.108	0.115	0.118
Y-90	0.111	67.2	2.14E+05	6.19E-02	6.19E-02	0.115	0.119
Zr-93	1.66E-05	1.00E-02	31.9	9.48E-06	9.48E-06	1.92E-05	2.17E-05
Nb-93m	1.23E-05	7.42E-03	23.6	7.29E-06	7.29E-06	1.41E-05	1.59E-05
Tc-99	2.37E-04	0.143	454	1.53E-04	1.94E-04	2.80E-04	3.22E-04
Ru-106	5.29E-09	3.19E-06	1.02E-02	1.97E-09	1.97E-09	6.04E-09	6.71E-09
Cd-113m	8.21E-05	4.95E-02	157	3.90E-05	3.90E-05	9.76E-05	1.13E-04
Sb-125	1.40E-04	8.44E-02	269	2.87E-05	2.87E-05	1.42E-04	1.44E-04
Sn-126	5.16E-06	3.11E-03	9.90	3.01E-06	3.01E-06	5.94E-06	6.68E-06
I-129	4.56E-07	2.75E-04	0.875	2.94E-07	3.73E-07	5.40E-07	6.20E-07
Cs-134	1.49E-06	8.99E-04	2.86	1.00E-06	1.00E-06	1.60E-06	1.71E-06
Cs-137	0.270	163	5.19E+05	0.244	0.257	0.285	0.288
Ba-137m	0.256	154	4.91E+05	0.191	0.191	0.270	0.272
Sm-151	1.20E-02	7.24	2.31E+04	6.99E-03	6.99E-03	1.38E-02	1.56E-02
Eu-152	3.04E-06	1.83E-03	5.84	1.27E-06	1.27E-06	3.10E-06	3.15E-06
Eu-154	5.42E-04	0.327	1.04E+03	1.84E-04	1.84E-04	6.72E-04	7.24E-04
Eu-155	1.75E-04	0.106	336	6.93E-05	6.93E-05	1.79E-04	1.83E-04
Ra-226	1.57E-10	9.45E-08	3.01E-04	1.08E-10	1.12E-10	1.82E-10	2.06E-10
Ra-228	5.79E-08	3.49E-05	0.111	2.27E-08	3.99E-08	7.87E-08	1.01E-07
Ac-227	9.48E-10	5.71E-07	1.82E-03	6.64E-10	6.89E-10	1.09E-09	1.18E-09
Pa-231	4.20E-09	2.53E-06	8.07E-03	2.77E-09	2.77E-09	4.72E-09	5.22E-09
Th-229	1.38E-09	8.31E-07	2.65E-03	6.08E-10	9.85E-10	1.84E-09	2.32E-09
Th-232	3.91E-09	2.36E-06	7.51E-03	1.97E-09	2.92E-09	4.91E-09	5.86E-09
U-232	3.52E-07	2.12E-04	0.676	2.11E-07	2.80E-07	4.36E-07	5.24E-07
U-233	1.35E-06	8.14E-04	2.59	8.12E-07	1.08E-06	1.67E-06	2.01E-06
U-234	1.20E-06	7.23E-04	2.30	1.13E-06	1.16E-06	1.24E-06	1.22E-06
U-235	5.00E-08	3.01E-05	9.60E-02	4.71E-08	4.85E-08	5.17E-08	5.11E-08
U-236	3.19E-08	1.92E-05	6.11E-02	3.08E-08	3.13E-08	3.25E-08	3.26E-08
U-238	1.22E-06	7.38E-04	2.35	1.16E-06	1.19E-06	1.26E-06	1.25E-06
Np-237	9.28E-07	5.59E-04	1.78	6.54E-07	7.88E-07	1.07E-06	1.21E-06
Pu-238	1.80E-06	1.09E-03	3.46	1.48E-06	1.64E-06	1.97E-06	2.13E-06
Pu-239	8.41E-05	5.07E-02	161	7.58E-05	7.99E-05	8.83E-05	9.23E-05
Pu-240	1.29E-05	7.76E-03	24.7	1.13E-05	1.21E-05	1.37E-05	1.44E-05
Pu-241	1.12E-04	6.77E-02	216	9.05E-05	1.01E-04	1.24E-04	1.34E-04
Pu-242	5.67E-10	3.42E-07	1.09E-03	4.36E-10	5.00E-10	6.34E-10	6.98E-10
Am-241	5.51E-05	3.32E-02	106	3.99E-05	4.74E-05	6.29E-05	7.04E-05
Am-243	1.59E-09	9.58E-07	3.05E-03	1.11E-09	1.34E-09	1.84E-09	2.09E-09
Cm-242	1.10E-07	6.60E-05	0.210	3.66E-08	3.66E-08	1.12E-07	1.14E-07
Cm-243	9.83E-09	5.92E-06	1.89E-02	2.87E-09	2.87E-09	1.01E-08	1.03E-08
Cm-244	1.08E-07	6.53E-05	0.208	3.66E-08	3.66E-08	1.33E-07	1.48E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.24E-03 (g/L)	----	2.39	1.09E-03	1.16E-03	1.32E-03	1.40E-03
U	1.43E-02	2.05E+03	6.54E+03	1.35E-02	1.39E-02	1.48E-02	1.46E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.53E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	2.20 (kW)	(7.50E+03 BTU/hr)	----	1.59	1.95	2.36	2.43
Bulk Density	1.76 (g/cc)	----	----	1.56	1.58	2.04	2.14
Void Fraction	0.560	----	----	0.185	0.309	0.719	0.723
Water wt%	26.5	----	----	6.48	12.7	38.3	39.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.07	1.05E+05	7.93E+04	4.07	4.47	13.2	16.0
Al^{3+}	7.88	1.21E+05	9.10E+04	6.74	7.05	8.48	8.91
Fe^{3+} (total Fe)	0.833	2.64E+04	1.99E+04	0.818	0.825	0.841	0.848
Cr^{3+}	4.92E-02	1.45E+03	1.09E+03	6.01E-03	2.71E-02	0.411	0.835
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	8.66E-04	98.8	74.3	8.54E-04	8.61E-04	8.70E-04	8.73E-04
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	2.50E-02	2.94E+03	2.21E+03	2.30E-02	2.41E-02	2.59E-02	2.67E-02
Ni^{2+}	4.01E-02	1.34E+03	1.01E+03	2.90E-02	3.53E-02	4.38E-02	4.32E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.199	4.53E+03	3.41E+03	0.140	0.169	0.229	0.258
K^{+}	9.17E-03	204	153	1.34E-03	4.47E-03	1.23E-02	1.23E-02
OH^{-}	29.0	2.80E+05	2.11E+05	24.4	25.7	31.4	33.2
$NO3^{-}$	4.29	1.51E+05	1.14E+05	0.169	0.169	10.7	14.2
$NO2^{-}$	1.35	3.53E+04	2.66E+04	0.307	0.672	1.90	1.90
$CO3^{2-}$	0.199	6.78E+03	5.10E+03	0.140	0.169	0.229	0.258
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	9.98E-03	545	410	2.72E-03	5.62E-03	1.29E-02	1.29E-02
Si (as SiO_x^{2-})	1.06E-02	169	127	4.99E-03	7.24E-03	2.37E-02	4.35E-02
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.22E-02	849	639	6.15E-03	2.05E-02	5.66E-02	0.125
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.201	1.95E+03	1.46E+03	5.17E-02	7.29E-02	0.213	0.224
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.67E+06 (kg)	(277 kgal)	----	----	----	----	----
Heat Load	2.09 (kW)	(7.14E+03 BTU/hr)	----	1.96	2.03	2.14	2.18
Bulk Density*	1.59 (g/cc)	----	----	1.54	1.57	1.62	1.63
Water wt%	34.6	----	----	31.8	33.0	36.2	38.1
TOC wt% C (wet)	0.569	----	----	0.441	0.503	0.634	0.698

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.9	2.00E+05	3.34E+05	12.6	13.2	14.4	14.9
Al^{3+}	1.76	2.98E+04	4.98E+04	1.61	1.68	1.85	1.86
Fe^{3+} (total Fe)	9.82E-03	344	575	7.75E-03	8.77E-03	1.09E-02	1.19E-02
Cr^{3+}	0.163	5.33E+03	8.91E+03	0.134	0.150	0.170	0.176
Bi^{3+}	8.12E-04	107	178	7.49E-04	7.80E-04	8.45E-04	8.76E-04
La^{3+}	7.38E-06	0.643	1.08	5.35E-06	6.34E-06	8.43E-06	9.44E-06
Hg^{2+}	7.06E-06	0.889	1.49	6.73E-06	6.92E-06	7.17E-06	7.28E-06
Zr (as $ZrO(OH)_2$)	1.42E-04	8.13	13.6	1.30E-04	1.35E-04	1.47E-04	1.54E-04
Pb^{2+}	8.62E-04	112	187	7.03E-04	7.81E-04	9.44E-04	1.02E-03
Ni^{2+}	5.77E-03	212	355	5.53E-03	5.65E-03	5.85E-03	5.92E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.58E-03	123	206	2.59E-03	3.07E-03	4.09E-03	4.58E-03
Ca^{2+}	2.98E-02	750	1.25E+03	2.68E-02	2.83E-02	3.13E-02	3.28E-02
K^{+}	6.00E-02	1.47E+03	2.46E+03	5.39E-02	5.68E-02	6.33E-02	6.64E-02
OH^{-}	10.8	1.15E+05	1.92E+05	9.84	10.3	11.3	11.4
$NO3^{-}$	4.56	1.77E+05	2.97E+05	4.30	4.44	4.66	4.69
$NO2^{-}$	2.55	7.36E+04	1.23E+05	2.13	2.32	2.77	2.98
$CO3^{2-}$	0.365	1.38E+04	2.30E+04	0.328	0.347	0.384	0.397
$PO4^{3-}$	6.36E-02	3.79E+03	6.33E+03	5.69E-02	5.93E-02	6.48E-02	6.59E-02
$SO4^{2-}$	0.209	1.26E+04	2.10E+04	0.154	0.180	0.239	0.265
Si (as SiO_x^{2-})	7.24E-02	1.28E+03	2.13E+03	5.82E-02	6.52E-02	7.97E-02	8.67E-02
F^{-}	3.95E-02	471	786	3.39E-02	3.63E-02	4.22E-02	4.43E-02
Cl^{-}	0.235	5.22E+03	8.72E+03	0.210	0.223	0.246	0.255
$C_6H_5O_7^{3-}$	2.82E-02	3.34E+03	5.59E+03	2.61E-02	2.71E-02	2.93E-02	3.03E-02
$EDTA^{4-}$	7.79E-03	1.41E+03	2.35E+03	2.75E-03	5.21E-03	1.04E-02	1.29E-02
$HEDTA^{3-}$	1.40E-02	2.41E+03	4.03E+03	3.96E-03	8.88E-03	1.92E-02	2.43E-02
$glycolate^{-}$	6.95E-02	3.27E+03	5.47E+03	4.18E-02	5.53E-02	8.38E-02	9.73E-02
$acetate^{-}$	4.96E-03	184	307	4.03E-03	4.48E-03	5.43E-03	5.89E-03
$oxalate^{2-}$	9.67E-06	0.534	0.893	8.57E-06	9.11E-06	1.02E-05	1.08E-05
DBP	1.83E-02	2.41E+03	4.02E+03	1.48E-02	1.65E-02	2.00E-02	2.17E-02
butanol	1.83E-02	849	1.42E+03	1.48E-02	1.65E-02	2.00E-02	2.17E-02
NH_3	7.24E-02	772	1.29E+03	5.63E-02	6.27E-02	8.48E-02	9.92E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.42E+06 (kg)	(390 kgal)	----	----	----	----	----
Heat Load	4.29 (kW)	(1.46E+04 BTU/hr)	----	3.61	4.00	4.49	4.50
Bulk Density†	1.64 (g/cc)	----	----	1.56	1.58	1.73	1.75
Water wt%†	32.1	----	----	25.2	26.7	36.3	37.6
TOC wt% C (wet)†	0.392	----	----	0.304	0.347	0.438	0.482

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	12.2	1.71E+05	4.13E+05	10.4	10.9	13.9	14.3
Al^{3+}	3.53	5.81E+04	1.41E+05	3.20	3.30	3.70	3.82
Fe^{3+} (total Fe)	0.248	8.45E+03	2.05E+04	0.244	0.246	0.250	0.252
Cr^{3+}	0.130	4.13E+03	1.00E+04	0.116	0.125	0.225	0.337
Bi^{3+}	5.77E-04	73.4	178	5.32E-04	5.54E-04	6.00E-04	6.22E-04
La^{3+}	5.25E-06	0.444	1.08	3.80E-06	4.51E-06	5.99E-06	6.70E-06
Hg^{2+}	2.56E-04	31.3	75.8	2.52E-04	2.55E-04	2.57E-04	2.58E-04
Zr (as $ZrO(OH)_2$)	1.01E-04	5.61	13.6	9.26E-05	9.56E-05	1.04E-04	1.09E-04
Pb^{2+}	7.85E-03	991	2.40E+03	7.26E-03	7.61E-03	8.09E-03	8.31E-03
Ni^{2+}	1.57E-02	562	1.36E+03	1.25E-02	1.43E-02	1.68E-02	1.65E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.54E-03	85.1	206	1.84E-03	2.18E-03	2.91E-03	3.25E-03
Ca^{2+}	7.88E-02	1.92E+03	4.66E+03	6.27E-02	7.09E-02	8.66E-02	9.42E-02
K^{+}	4.53E-02	1.08E+03	2.61E+03	4.09E-02	4.30E-02	4.76E-02	4.99E-02
OH^{-}	16.1	1.66E+05	4.03E+05	14.7	15.1	16.7	17.2
$NO3^{-}$	4.48	1.69E+05	4.10E+05	3.18	3.27	6.31	7.19
$NO2^{-}$	2.20	6.17E+04	1.50E+05	1.83	2.00	2.39	2.51
$CO3^{2-}$	0.317	1.16E+04	2.81E+04	0.291	0.304	0.330	0.339
$PO4^{3-}$	4.52E-02	2.61E+03	6.33E+03	4.04E-02	4.21E-02	4.60E-02	4.68E-02
$SO4^{2-}$	0.151	8.85E+03	2.15E+04	0.112	0.131	0.172	0.191
Si (as SiO_x^{2-})	5.45E-02	932	2.26E+03	4.44E-02	4.94E-02	5.97E-02	6.46E-02
F^{-}	2.80E-02	324	786	2.41E-02	2.58E-02	3.00E-02	3.15E-02
Cl^{-}	0.179	3.86E+03	9.36E+03	0.162	0.170	0.187	0.201
$C_6H_5O_7^{3-}$	2.00E-02	2.31E+03	5.59E+03	1.86E-02	1.93E-02	2.08E-02	2.15E-02
$EDTA^{4-}$	5.53E-03	971	2.35E+03	1.95E-03	3.70E-03	7.37E-03	9.17E-03
$HEDTA^{3-}$	9.97E-03	1.66E+03	4.03E+03	2.81E-03	6.31E-03	1.37E-02	1.72E-02
$glycolate^{-}$	4.94E-02	2.26E+03	5.47E+03	2.97E-02	3.93E-02	5.95E-02	6.91E-02
$acetate^{-}$	3.52E-03	127	307	2.86E-03	3.18E-03	3.86E-03	4.18E-03
$oxalate^{2-}$	6.87E-06	0.368	0.893	6.09E-06	6.47E-06	7.27E-06	7.65E-06
DBP	1.30E-02	1.66E+03	4.02E+03	1.05E-02	1.17E-02	1.42E-02	1.54E-02
butanol	1.30E-02	585	1.42E+03	1.05E-02	1.17E-02	1.42E-02	1.54E-02
NH_3	0.110	1.14E+03	2.75E+03	6.34E-02	7.10E-02	0.119	0.129
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.53E+05 (kg)	(113 kgal)	----	----	----	----	----
Heat Load	2.20 (kW)	(7.50E+03 BTU/hr)	----	1.59	1.95	2.36	2.43
Bulk Density	1.76 (g/cc)	----	----	1.56	1.58	2.04	2.14
Void Fraction	0.560	----	----	0.185	0.309	0.719	0.723
Water wt%	26.5	----	----	6.48	12.7	38.3	39.4
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.32E-05	1.32E-02	9.94	2.62E-06	1.18E-05	3.25E-05	3.25E-05
C-14	1.81E-06	1.03E-03	0.772	2.27E-07	8.58E-07	2.44E-06	2.44E-06
Ni-59	1.17E-05	6.65E-03	5.01	8.45E-06	1.03E-05	1.28E-05	1.26E-05
Ni-63	1.09E-03	0.621	468	7.89E-04	9.61E-04	1.19E-03	1.18E-03
Co-60	7.14E-07	4.06E-04	0.305	9.05E-08	3.39E-07	9.64E-07	9.64E-07
Se-79	3.84E-07	2.18E-04	0.164	4.83E-08	1.82E-07	5.18E-07	5.64E-06
Sr-90	0.732	416	3.13E+05	0.522	0.640	0.802	0.814
Y-90	0.732	416	3.13E+05	0.522	0.640	0.802	0.814
Zr-93	1.81E-06	1.03E-03	0.774	2.28E-07	8.60E-07	2.45E-06	2.39E-05
Nb-93m	1.48E-06	8.41E-04	0.633	1.86E-07	7.03E-07	2.00E-06	2.53E-05
Tc-99	1.26E-05	7.19E-03	5.41	1.59E-06	6.01E-06	1.71E-05	1.71E-05
Ru-106	2.02E-12	1.15E-09	8.66E-07	2.83E-13	9.79E-13	2.72E-12	2.72E-12
Cd-113m	5.58E-06	3.17E-03	2.39	7.04E-07	2.65E-06	7.54E-06	7.54E-06
Sb-125	1.05E-06	5.97E-04	0.449	1.35E-07	5.01E-07	1.42E-06	1.42E-06
Sn-126	5.89E-07	3.35E-04	0.252	7.42E-08	2.80E-07	7.96E-07	9.03E-06
I-129	2.43E-08	1.38E-05	1.04E-02	3.06E-09	1.15E-08	3.28E-08	3.28E-08
Cs-134	2.18E-08	1.24E-05	9.31E-03	6.01E-09	1.23E-08	2.81E-08	2.81E-08
Cs-137	4.46E-02	25.4	1.91E+04	1.22E-02	2.51E-02	5.77E-02	5.77E-02
Ba-137m	4.22E-02	24.0	1.81E+04	1.15E-02	2.38E-02	5.45E-02	5.45E-02
Sm-151	1.37E-03	0.778	585	1.72E-04	6.50E-04	1.85E-03	2.08E-02
Eu-152	5.55E-06	3.15E-03	2.37	5.43E-06	5.48E-06	5.60E-06	5.60E-06
Eu-154	1.72E-05	9.80E-03	7.38	2.19E-06	8.20E-06	2.33E-05	2.33E-05
Eu-155	2.62E-04	0.149	112	2.56E-04	2.59E-04	2.64E-04	2.64E-04
Ra-226	8.52E-10	4.84E-07	3.64E-04	1.17E-10	4.77E-10	1.23E-09	1.59E-09
Ra-228	7.36E-15	4.18E-12	3.15E-09	7.20E-15	7.27E-15	7.42E-15	7.42E-15
Ac-227	3.75E-09	2.13E-06	1.61E-03	2.44E-10	1.58E-09	5.93E-09	8.02E-09
Pa-231	5.73E-10	3.25E-07	2.45E-04	7.20E-11	2.72E-10	1.62E-09	1.32E-08
Th-229	1.40E-12	7.96E-10	5.99E-07	1.37E-12	1.38E-12	1.41E-12	1.41E-12
Th-232	4.74E-16	2.69E-13	2.03E-10	6.18E-17	2.26E-16	6.39E-16	6.39E-16
U-232	1.41E-10	8.04E-08	6.05E-05	1.23E-10	1.34E-10	1.47E-10	1.51E-10
U-233	5.24E-12	2.98E-09	2.24E-06	4.57E-12	4.96E-12	5.44E-12	5.58E-12
U-234	3.24E-06	1.84E-03	1.38	2.83E-06	3.07E-06	3.36E-06	3.45E-06
U-235	1.38E-07	7.82E-05	5.88E-02	1.20E-07	1.30E-07	1.43E-07	1.46E-07
U-236	7.07E-08	4.02E-05	3.02E-02	6.16E-08	6.69E-08	7.34E-08	7.53E-08
U-238	3.16E-06	1.79E-03	1.35	2.75E-06	2.99E-06	3.28E-06	3.36E-06
Np-237	8.22E-08	4.67E-05	3.51E-02	1.04E-08	3.91E-08	1.11E-07	1.11E-07
Pu-238	1.05E-05	5.99E-03	4.51	9.07E-06	9.79E-06	1.13E-05	1.20E-05
Pu-239	7.13E-04	0.405	305	6.08E-04	6.60E-04	7.67E-04	8.18E-04
Pu-240	1.01E-04	5.76E-02	43.4	8.64E-05	9.37E-05	1.09E-04	1.16E-04
Pu-241	6.07E-04	0.345	260	5.19E-04	5.62E-04	6.52E-04	6.96E-04
Pu-242	2.68E-09	1.53E-06	1.15E-03	2.28E-09	2.48E-09	2.89E-09	3.09E-09
Am-241	6.46E-06	3.67E-03	2.76	8.16E-07	3.07E-06	8.73E-06	1.13E-04
Am-243	6.04E-11	3.43E-08	2.58E-05	7.61E-12	2.87E-11	8.16E-11	1.06E-09
Cm-242	1.28E-07	7.25E-05	5.45E-02	1.25E-07	1.26E-07	1.29E-07	1.29E-07
Cm-243	2.92E-09	1.66E-06	1.25E-03	2.86E-09	2.89E-09	2.95E-09	2.95E-09
Cm-244	2.16E-09	1.23E-06	9.23E-04	2.71E-10	1.02E-09	2.92E-09	2.92E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.19E-02 (g/L)	----	5.10	1.02E-02	1.10E-02	1.28E-02	1.37E-02
U	3.97E-02	5.37E+03	4.04E+03	3.47E-02	3.76E-02	4.12E-02	4.23E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.67E+06 (kg)	(277 kgal)	----	----	----	----	----
Heat Load	2.09 (kW)	(7.14E+03 BTU/hr)	----	1.96	2.03	2.14	2.18
Bulk Density*	1.59 (g/cc)	----	----	1.54	1.57	1.62	1.63
Water wt%†	34.6	----	----	31.8	33.0	36.2	38.1
TOC wt% C (wet)	0.569	----	----	0.441	0.503	0.634	0.698
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.65E-04	0.166	278	1.38E-04	1.38E-04	2.73E-04	2.75E-04
C-14	3.67E-05	2.30E-02	38.5	1.02E-05	1.02E-05	3.71E-05	3.74E-05
Ni-59	2.28E-06	1.43E-03	2.39	1.03E-06	1.03E-06	2.34E-06	2.40E-06
Ni-63	2.23E-04	0.140	234	9.95E-05	9.95E-05	2.29E-04	2.35E-04
Co-60	3.98E-05	2.49E-02	41.7	9.37E-06	9.37E-06	4.03E-05	4.07E-05
Se-79	3.55E-06	2.23E-03	3.72	1.86E-06	1.86E-06	4.16E-06	4.75E-06
Sr-90	0.115	71.9	1.20E+05	0.106	0.110	0.119	0.123
Y-90	0.115	72.0	1.20E+05	5.62E-02	5.62E-02	0.119	0.123
Zr-93	1.74E-05	1.09E-02	18.3	8.94E-06	8.94E-06	2.05E-05	2.34E-05
Nb-93m	1.27E-05	7.95E-03	13.3	6.74E-06	6.74E-06	1.48E-05	1.69E-05
Tc-99	2.62E-04	0.164	274	1.63E-04	2.11E-04	3.12E-04	3.62E-04
Ru-106	6.78E-09	4.25E-06	7.10E-03	2.85E-09	2.85E-09	7.65E-09	8.45E-09
Cd-113m	9.11E-05	5.71E-02	95.5	4.03E-05	4.03E-05	1.09E-04	1.27E-04
Sb-125	1.69E-04	0.106	177	3.73E-05	3.73E-05	1.71E-04	1.73E-04
Sn-126	5.37E-06	3.37E-03	5.63	2.83E-06	2.83E-06	6.29E-06	7.17E-06
I-129	5.04E-07	3.16E-04	0.528	3.13E-07	4.06E-07	6.03E-07	6.98E-07
Cs-134	2.03E-06	1.27E-03	2.12	1.42E-06	1.42E-06	2.22E-06	2.41E-06
Cs-137	0.261	164	2.73E+05	0.241	0.248	0.270	0.279
Ba-137m	0.247	155	2.59E+05	0.166	0.166	0.256	0.264
Sm-151	1.25E-02	7.84	1.31E+04	6.57E-03	6.57E-03	1.46E-02	1.67E-02
Eu-152	3.69E-06	2.31E-03	3.87	1.59E-06	1.59E-06	3.83E-06	3.97E-06
Eu-154	6.36E-04	0.399	667	2.12E-04	2.12E-04	7.89E-04	8.50E-04
Eu-155	2.16E-04	0.135	226	9.05E-05	9.05E-05	2.24E-04	2.32E-04
Ra-226	1.49E-10	9.33E-08	1.56E-04	9.62E-11	9.62E-11	1.68E-10	1.86E-10
Ra-228	1.18E-07	7.38E-05	0.123	4.88E-08	8.25E-08	1.59E-07	2.02E-07
Ac-227	9.33E-10	5.85E-07	9.78E-04	6.28E-10	6.28E-10	1.04E-09	1.15E-09
Pa-231	4.32E-09	2.71E-06	4.53E-03	2.63E-09	2.63E-09	4.94E-09	5.53E-09
Th-229	2.78E-09	1.74E-06	2.91E-03	1.26E-09	2.00E-09	3.67E-09	4.63E-09
Th-232	7.86E-09	4.93E-06	8.25E-03	4.05E-09	5.92E-09	9.81E-09	1.17E-08
U-232	6.26E-07	3.92E-04	0.656	3.49E-07	4.84E-07	7.89E-07	9.64E-07
U-233	2.40E-06	1.51E-03	2.52	1.34E-06	1.86E-06	3.03E-06	3.69E-06
U-234	8.08E-07	5.07E-04	0.847	7.70E-07	7.88E-07	8.30E-07	8.36E-07
U-235	3.29E-08	2.06E-05	3.45E-02	3.12E-08	3.20E-08	3.38E-08	3.41E-08
U-236	2.49E-08	1.56E-05	2.61E-02	2.40E-08	2.44E-08	2.53E-08	2.57E-08
U-238	8.99E-07	5.64E-04	0.943	8.60E-07	8.79E-07	9.22E-07	9.26E-07
Np-237	9.73E-07	6.10E-04	1.02	6.49E-07	8.07E-07	1.14E-06	1.30E-06
Pu-238	1.36E-06	8.52E-04	1.42	9.78E-07	1.16E-06	1.55E-06	1.74E-06
Pu-239	4.64E-05	2.91E-02	48.6	3.66E-05	4.14E-05	5.13E-05	5.61E-05
Pu-240	7.86E-06	4.93E-03	8.24	6.05E-06	6.94E-06	8.79E-06	9.67E-06
Pu-241	9.18E-05	5.76E-02	96.2	6.59E-05	7.85E-05	1.05E-04	1.18E-04
Pu-242	5.03E-10	3.15E-07	5.27E-04	3.48E-10	4.24E-10	5.82E-10	6.58E-10
Am-241	5.83E-05	3.66E-02	61.2	4.03E-05	4.92E-05	6.76E-05	7.64E-05
Am-243	1.98E-09	1.24E-06	2.07E-03	1.41E-09	1.68E-09	2.28E-09	2.57E-09
Cm-242	1.37E-07	8.60E-05	0.144	5.09E-08	5.09E-08	1.42E-07	1.48E-07
Cm-243	1.27E-08	7.98E-06	1.33E-02	4.50E-09	4.50E-09	1.32E-08	1.37E-08
Cm-244	1.33E-07	8.32E-05	0.139	4.79E-08	4.79E-08	1.61E-07	1.80E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.77E-04 (g/L)	----	0.605	3.93E-04	4.84E-04	6.71E-04	7.60E-04
U	9.33E-03	1.39E+03	2.33E+03	8.83E-03	9.07E-03	9.61E-03	9.66E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.42E+06 (kg)	(390 kgal)	----	----	----	----	----
Heat Load	4.29 (kW)	(1.46E+04 BTU/hr)	----	3.61	4.00	4.49	4.50
Bulk Density†	1.64 (g/cc)	----	----	1.56	1.58	1.73	1.75
Water wt%†	32.1	----	----	25.2	26.7	36.3	37.6
TOC wt% C (wet)†	0.392	----	----	0.304	0.347	0.438	0.482
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.95E-04	0.119	288	1.05E-04	1.05E-04	1.98E-04	2.02E-04
C-14	2.66E-05	1.62E-02	39.3	7.73E-06	7.73E-06	2.68E-05	2.71E-05
Ni-59	5.01E-06	3.05E-03	7.40	4.07E-06	4.12E-06	5.33E-06	5.24E-06
Ni-63	4.75E-04	0.289	701	3.87E-04	3.87E-04	5.05E-04	4.97E-04
Co-60	2.84E-05	1.73E-02	42.0	6.86E-06	6.86E-06	2.88E-05	2.91E-05
Se-79	2.63E-06	1.60E-03	3.89	1.43E-06	1.43E-06	3.07E-06	4.01E-06
Sr-90	0.293	179	4.33E+05	0.233	0.267	0.314	0.315
Y-90	0.293	179	4.33E+05	0.233	0.252	0.314	0.315
Zr-93	1.29E-05	7.85E-03	19.0	6.88E-06	6.88E-06	1.51E-05	1.87E-05
Nb-93m	9.43E-06	5.74E-03	13.9	5.22E-06	5.22E-06	1.10E-05	1.57E-05
Tc-99	1.89E-04	0.115	280	1.19E-04	1.53E-04	2.26E-04	2.61E-04
Ru-106	4.81E-09	2.93E-06	7.10E-03	2.02E-09	2.02E-09	5.44E-09	6.00E-09
Cd-113m	6.63E-05	4.04E-02	97.9	3.02E-05	3.02E-05	7.94E-05	9.19E-05
Sb-125	1.20E-04	7.32E-02	177	2.68E-05	2.68E-05	1.22E-04	1.23E-04
Sn-126	3.98E-06	2.43E-03	5.88	2.18E-06	2.18E-06	4.64E-06	6.20E-06
I-129	3.65E-07	2.22E-04	0.539	2.29E-07	2.95E-07	4.35E-07	5.03E-07
Cs-134	1.44E-06	8.80E-04	2.13	1.01E-06	1.01E-06	1.58E-06	1.72E-06
Cs-137	0.198	121	2.93E+05	0.184	0.189	0.205	0.211
Ba-137m	0.188	114	2.77E+05	0.130	0.130	0.194	0.200
Sm-151	9.27E-03	5.65	1.37E+04	5.06E-03	5.06E-03	1.08E-02	1.44E-02
Eu-152	4.23E-06	2.58E-03	6.24	2.74E-06	2.74E-06	4.33E-06	4.42E-06
Eu-154	4.57E-04	0.278	674	1.56E-04	1.56E-04	5.65E-04	6.09E-04
Eu-155	2.29E-04	0.139	338	1.40E-04	1.40E-04	2.35E-04	2.41E-04
Ra-226	3.52E-10	2.15E-07	5.20E-04	1.59E-10	2.54E-10	4.51E-10	5.45E-10
Ra-228	8.36E-08	5.09E-05	0.123	3.46E-08	5.86E-08	1.13E-07	1.44E-07
Ac-227	1.75E-09	1.07E-06	2.58E-03	8.28E-10	1.18E-09	2.32E-09	2.87E-09
Pa-231	3.24E-09	1.97E-06	4.78E-03	2.03E-09	2.03E-09	3.67E-09	6.56E-09
Th-229	1.97E-09	1.20E-06	2.91E-03	8.97E-10	1.42E-09	2.61E-09	3.29E-09
Th-232	5.59E-09	3.40E-06	8.25E-03	2.88E-09	4.20E-09	6.97E-09	8.30E-09
U-232	4.44E-07	2.71E-04	0.656	2.48E-07	3.44E-07	5.61E-07	6.85E-07
U-233	1.70E-06	1.04E-03	2.52	9.53E-07	1.32E-06	2.15E-06	2.62E-06
U-234	1.51E-06	9.21E-04	2.23	1.39E-06	1.46E-06	1.55E-06	1.57E-06
U-235	6.32E-08	3.85E-05	9.33E-02	5.81E-08	6.11E-08	6.47E-08	6.58E-08
U-236	3.82E-08	2.32E-05	5.63E-02	3.55E-08	3.71E-08	3.89E-08	3.95E-08
U-238	1.55E-06	9.46E-04	2.29	1.44E-06	1.51E-06	1.59E-06	1.61E-06
Np-237	7.15E-07	4.35E-04	1.05	4.85E-07	5.97E-07	8.33E-07	9.47E-07
Pu-238	4.02E-06	2.45E-03	5.93	3.63E-06	3.82E-06	4.22E-06	4.40E-06
Pu-239	2.40E-04	0.146	354	2.12E-04	2.26E-04	2.54E-04	2.67E-04
Pu-240	3.50E-05	2.13E-02	51.6	3.10E-05	3.29E-05	3.70E-05	3.89E-05
Pu-241	2.41E-04	0.147	356	2.18E-04	2.29E-04	2.53E-04	2.64E-04
Pu-242	1.13E-09	6.91E-07	1.67E-03	1.02E-09	1.08E-09	1.19E-09	1.24E-09
Am-241	4.33E-05	2.64E-02	63.9	3.05E-05	3.68E-05	4.99E-05	7.12E-05
Am-243	1.42E-09	8.65E-07	2.10E-03	1.02E-09	1.21E-09	1.63E-09	1.84E-09
Cm-242	1.34E-07	8.18E-05	0.198	7.31E-08	7.31E-08	1.38E-07	1.42E-07
Cm-243	9.88E-09	6.02E-06	1.46E-02	4.04E-09	4.04E-09	1.02E-08	1.05E-08
Cm-244	9.48E-08	5.78E-05	0.140	3.47E-08	3.47E-08	1.15E-07	1.28E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.87E-03 (g/L)	----	5.71	3.40E-03	3.63E-03	4.10E-03	4.33E-03
U	1.81E-02	2.63E+03	6.37E+03	1.67E-02	1.75E-02	1.86E-02	1.89E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.19E+05 (kg)	(78.0 kgal)	----	----	----	----	----
Heat Load	1.63 (kW)	(5.56E+03 BTU/hr)	----	1.18	1.44	1.75	1.80
Bulk Density	1.76 (g/cc)	----	----	1.55	1.57	2.06	2.17
Void Fraction	0.554	----	----	0.151	0.284	0.724	0.728
Water wt%	26.6	----	----	5.39	12.0	39.4	40.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.09	1.06E+05	5.49E+04	3.79	4.22	13.6	16.6
Al^{3+}	7.64	1.17E+05	6.08E+04	6.81	7.03	8.07	8.38
Fe^{3+} (total Fe)	0.883	2.80E+04	1.46E+04	0.867	0.874	0.891	0.899
Cr^{3+}	5.27E-02	1.56E+03	809	6.30E-03	2.90E-02	0.442	0.896
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	6.28E-04	71.6	37.2	6.18E-04	6.24E-04	6.30E-04	6.32E-04
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	1.81E-02	2.13E+03	1.11E+03	1.66E-02	1.74E-02	1.87E-02	1.94E-02
Ni^{2+}	4.30E-02	1.44E+03	746	3.11E-02	3.78E-02	4.70E-02	4.63E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.205	4.66E+03	2.42E+03	0.142	0.173	0.237	0.268
K^{+}	9.73E-03	216	112	1.32E-03	4.68E-03	1.31E-02	1.31E-02
OH^{-}	28.1	2.71E+05	1.41E+05	24.7	25.7	29.8	31.1
$NO3^{-}$	4.56	1.61E+05	8.35E+04	0.139	0.139	11.5	15.2
$NO2^{-}$	1.38	3.61E+04	1.88E+04	0.259	0.650	1.97	1.97
$CO3^{2-}$	0.205	6.98E+03	3.62E+03	0.142	0.173	0.237	0.268
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.01E-02	551	286	2.30E-03	5.41E-03	1.32E-02	1.32E-02
Si (as SiO_x^{2-})	9.91E-03	158	82.2	3.87E-03	6.28E-03	1.94E-02	3.38E-02
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.48E-02	902	468	6.08E-03	2.15E-02	6.03E-02	0.134
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.216	2.09E+03	1.09E+03	5.55E-02	7.83E-02	0.229	0.240
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.01E+06 (kg)	(460 kgal)	----	----	----	----	----
Heat Load	4.23 (kW)	(1.44E+04 BTU/hr)	----	3.99	4.12	4.33	4.43
Bulk Density*	1.73 (g/cc)	----	----	1.67	1.70	1.75	1.77
Water wt%	26.4	----	----	23.9	25.0	27.8	29.5
TOC wt% C (wet)	0.503	----	----	0.407	0.454	0.551	0.599

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	16.9	2.25E+05	6.76E+05	15.6	16.2	17.5	18.0
Al^{3+}	2.23	3.48E+04	1.05E+05	2.00	2.11	2.36	2.31
Fe^{3+} (total Fe)	1.11E-02	357	1.07E+03	8.90E-03	9.95E-03	1.22E-02	1.32E-02
Cr^{3+}	0.217	6.52E+03	1.96E+04	0.171	0.196	0.225	0.233
Bi^{3+}	9.01E-04	109	328	8.21E-04	8.60E-04	9.42E-04	9.81E-04
La^{3+}	1.61E-05	1.29	3.88	1.16E-05	1.38E-05	1.83E-05	2.05E-05
Hg^{2+}	7.45E-06	0.865	2.60	7.03E-06	7.27E-06	7.54E-06	7.62E-06
Zr (as $ZrO(OH)_2$)	1.71E-04	9.02	27.1	1.56E-04	1.61E-04	1.77E-04	1.85E-04
Pb^{2+}	8.91E-04	107	321	7.64E-04	8.26E-04	9.56E-04	1.02E-03
Ni^{2+}	6.83E-03	232	698	6.64E-03	6.73E-03	6.92E-03	7.00E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.80E-03	121	363	2.76E-03	3.27E-03	4.32E-03	4.83E-03
Ca^{2+}	3.50E-02	813	2.45E+03	3.16E-02	3.33E-02	3.68E-02	3.84E-02
K^{+}	7.28E-02	1.65E+03	4.96E+03	6.65E-02	6.95E-02	7.63E-02	7.96E-02
OH^{-}	13.6	1.34E+05	4.04E+05	12.2	12.9	14.4	14.3
$NO3^{-}$	5.54	1.99E+05	5.98E+05	5.18	5.36	5.69	5.71
$NO2^{-}$	3.16	8.43E+04	2.53E+05	2.72	2.93	3.39	3.61
$CO3^{2-}$	0.378	1.31E+04	3.95E+04	0.341	0.359	0.397	0.408
$PO4^{3-}$	7.39E-02	4.07E+03	1.22E+04	6.64E-02	6.91E-02	7.55E-02	7.70E-02
$SO4^{2-}$	0.229	1.27E+04	3.82E+04	0.172	0.199	0.259	0.286
Si (as SiO_x^{2-})	8.35E-02	1.36E+03	4.08E+03	6.87E-02	7.59E-02	9.10E-02	9.83E-02
F^{-}	4.35E-02	479	1.44E+03	3.66E-02	3.95E-02	4.70E-02	4.97E-02
Cl^{-}	0.286	5.87E+03	1.77E+04	0.261	0.273	0.301	0.308
$C_6H_5O_7^{3-}$	2.91E-02	3.19E+03	9.59E+03	2.70E-02	2.81E-02	3.02E-02	3.12E-02
$EDTA^{4-}$	6.48E-03	1.08E+03	3.25E+03	2.42E-03	4.41E-03	8.57E-03	1.06E-02
$HEDTA^{3-}$	1.15E-02	1.83E+03	5.50E+03	3.40E-03	7.36E-03	1.57E-02	1.98E-02
$glycolate^{-}$	6.60E-02	2.87E+03	8.62E+03	3.90E-02	5.22E-02	7.99E-02	9.31E-02
$acetate^{-}$	4.65E-03	159	477	3.81E-03	4.22E-03	5.07E-03	5.48E-03
$oxalate^{2-}$	2.10E-05	1.07	3.22	1.86E-05	1.98E-05	2.23E-05	2.34E-05
DBP	1.89E-02	2.30E+03	6.92E+03	1.53E-02	1.71E-02	2.07E-02	2.25E-02
butanol	1.89E-02	812	2.44E+03	1.53E-02	1.71E-02	2.07E-02	2.25E-02
NH_3	8.63E-02	850	2.55E+03	6.96E-02	7.62E-02	9.92E-02	0.114
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.53E+06 (kg)	(538 kgal)	----	----	----	----	----
Heat Load	5.85 (kW)	(2.00E+04 BTU/hr)	----	5.22	5.57	6.08	6.06
Bulk Density†	1.73 (g/cc)	----	----	1.65	1.68	1.79	1.78
Water wt%†	26.4	----	----	23.7	23.3	29.1	30.8
TOC wt% C (wet)†	0.429	----	----	0.347	0.387	0.470	0.511

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.6	2.07E+05	7.31E+05	13.9	14.6	16.8	16.5
Al^{3+}	3.01	4.69E+04	1.65E+05	2.82	2.92	3.09	3.10
Fe^{3+} (total Fe)	0.137	4.43E+03	1.56E+04	0.135	0.136	0.138	0.139
Cr^{3+}	0.193	5.79E+03	2.04E+04	0.167	0.181	0.231	0.276
Bi^{3+}	7.70E-04	93.0	328	7.02E-04	7.36E-04	8.05E-04	8.39E-04
La^{3+}	1.37E-05	1.10	3.88	9.95E-06	1.18E-05	1.57E-05	1.75E-05
Hg^{2+}	9.73E-05	11.3	39.8	9.60E-05	9.68E-05	9.77E-05	9.80E-05
Zr (as $ZrO(OH)_2$)	1.46E-04	7.69	27.1	1.33E-04	1.38E-04	1.51E-04	1.58E-04
Pb^{2+}	3.38E-03	405	1.43E+03	3.17E-03	3.30E-03	3.45E-03	3.49E-03
Ni^{2+}	1.21E-02	410	1.44E+03	1.03E-02	1.13E-02	1.27E-02	1.24E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.25E-03	103	363	2.36E-03	2.79E-03	3.70E-03	4.13E-03
Ca^{2+}	5.96E-02	1.38E+03	4.87E+03	5.10E-02	5.59E-02	6.28E-02	6.59E-02
K^{+}	6.37E-02	1.44E+03	5.07E+03	5.83E-02	6.08E-02	6.66E-02	6.94E-02
OH^{-}	15.7	1.54E+05	5.45E+05	14.5	15.2	16.3	16.3
$NO3^{-}$	5.40	1.93E+05	6.82E+05	4.54	4.71	6.34	6.64
$NO2^{-}$	2.91	7.72E+04	2.72E+05	2.53	2.70	3.10	3.29
$CO3^{2-}$	0.353	1.22E+04	4.31E+04	0.322	0.336	0.369	0.379
$PO4^{3-}$	6.32E-02	3.47E+03	1.22E+04	5.68E-02	5.90E-02	6.45E-02	6.58E-02
$SO4^{2-}$	0.197	1.09E+04	3.85E+04	0.148	0.171	0.223	0.246
Si (as SiO_x^{2-})	7.28E-02	1.18E+03	4.16E+03	6.02E-02	6.64E-02	7.93E-02	8.55E-02
F^{-}	3.72E-02	409	1.44E+03	3.13E-02	3.38E-02	4.02E-02	4.25E-02
Cl^{-}	0.251	5.14E+03	1.81E+04	0.230	0.240	0.261	0.270
$C_6H_5O_7^{3-}$	2.49E-02	2.72E+03	9.59E+03	2.31E-02	2.40E-02	2.58E-02	2.67E-02
$EDTA^{4-}$	5.54E-03	922	3.25E+03	2.07E-03	3.77E-03	7.33E-03	9.07E-03
$HEDTA^{3-}$	9.85E-03	1.56E+03	5.50E+03	2.90E-03	6.30E-03	1.34E-02	1.69E-02
$glycolate^{-}$	5.64E-02	2.45E+03	8.62E+03	3.33E-02	4.46E-02	6.83E-02	7.96E-02
$acetate^{-}$	3.97E-03	135	477	3.26E-03	3.61E-03	4.34E-03	4.69E-03
$oxalate^{2-}$	1.80E-05	0.914	3.22	1.59E-05	1.69E-05	1.90E-05	2.00E-05
DBP	1.62E-02	1.96E+03	6.92E+03	1.31E-02	1.46E-02	1.77E-02	1.92E-02
butanol	1.62E-02	692	2.44E+03	1.31E-02	1.46E-02	1.77E-02	1.92E-02
NH_3	0.105	1.03E+03	3.64E+03	7.64E-02	8.24E-02	0.116	0.129
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.19E+05 (kg)	(78.0 kgal)	----	----	----	----	----
Heat Load	1.63 (kW)	(5.56E+03 BTU/hr)	----	1.18	1.44	1.75	1.80
Bulk Density	1.76 (g/cc)	----	----	1.55	1.57	2.06	2.17
Void Fraction	0.554	----	----	0.151	0.284	0.724	0.728
Water wt%	26.6	----	----	5.39	12.0	39.4	40.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.49E-05	1.42E-02	7.35	2.74E-06	1.26E-05	3.49E-05	3.49E-05
C-14	1.93E-06	1.10E-03	0.570	2.36E-07	9.13E-07	2.61E-06	2.61E-06
Ni-59	1.26E-05	7.15E-03	3.71	9.08E-06	1.11E-05	1.37E-05	1.35E-05
Ni-63	1.17E-03	0.668	347	8.48E-04	1.03E-03	1.28E-03	1.26E-03
Co-60	7.63E-07	4.34E-04	0.225	9.37E-08	3.61E-07	1.03E-06	1.03E-06
Se-79	4.10E-07	2.33E-04	0.121	5.02E-08	1.94E-07	5.55E-07	6.06E-06
Sr-90	0.786	447	2.32E+05	0.561	0.688	0.861	0.874
Y-90	0.786	447	2.32E+05	0.561	0.688	0.861	0.874
Zr-93	1.94E-06	1.10E-03	0.572	2.37E-07	9.16E-07	2.62E-06	2.57E-05
Nb-93m	1.58E-06	9.00E-04	0.467	1.94E-07	7.49E-07	2.14E-06	2.71E-05
Tc-99	1.35E-05	7.69E-03	3.99	1.65E-06	6.40E-06	1.83E-05	1.83E-05
Ru-106	2.15E-12	1.23E-09	6.36E-07	2.84E-13	1.03E-12	2.91E-12	2.91E-12
Cd-113m	5.97E-06	3.40E-03	1.76	7.31E-07	2.82E-06	8.08E-06	8.08E-06
Sb-125	1.12E-06	6.38E-04	0.331	1.39E-07	5.32E-07	1.52E-06	1.52E-06
Sn-126	6.31E-07	3.59E-04	0.186	7.70E-08	2.98E-07	8.53E-07	9.69E-06
I-129	2.60E-08	1.48E-05	7.67E-03	3.18E-09	1.23E-08	3.52E-08	3.52E-08
Cs-134	2.33E-08	1.32E-05	6.87E-03	6.34E-09	1.31E-08	3.01E-08	3.01E-08
Cs-137	4.78E-02	27.2	1.41E+04	1.29E-02	2.68E-02	6.18E-02	6.18E-02
Ba-137m	4.52E-02	25.7	1.33E+04	1.22E-02	2.54E-02	5.84E-02	5.84E-02
Sm-151	1.46E-03	0.833	432	1.79E-04	6.92E-04	1.98E-03	2.23E-02
Eu-152	5.95E-06	3.38E-03	1.76	5.82E-06	5.87E-06	6.00E-06	6.00E-06
Eu-154	1.84E-05	1.05E-02	5.44	2.27E-06	8.73E-06	2.49E-05	2.49E-05
Eu-155	2.81E-04	0.160	82.9	2.75E-04	2.77E-04	2.83E-04	2.83E-04
Ra-226	9.15E-10	5.20E-07	2.70E-04	1.25E-10	5.12E-10	1.32E-09	1.70E-09
Ra-228	7.88E-15	4.48E-12	2.33E-09	7.72E-15	7.78E-15	7.95E-15	7.95E-15
Ac-227	4.03E-09	2.29E-06	1.19E-03	2.61E-10	1.69E-09	6.37E-09	8.61E-09
Pa-231	6.13E-10	3.48E-07	1.81E-04	7.48E-11	2.90E-10	1.73E-09	1.42E-08
Th-229	1.50E-12	8.54E-10	4.43E-07	1.47E-12	1.48E-12	1.51E-12	1.51E-12
Th-232	5.06E-16	2.88E-13	1.49E-10	6.34E-17	2.40E-16	6.84E-16	6.84E-16
U-232	1.04E-10	5.91E-08	3.07E-05	9.08E-11	9.85E-11	1.08E-10	1.11E-10
U-233	3.85E-12	2.19E-09	1.14E-06	3.37E-12	3.65E-12	3.99E-12	4.10E-12
U-234	2.38E-06	1.35E-03	0.702	2.08E-06	2.25E-06	2.47E-06	2.53E-06
U-235	1.01E-07	5.75E-05	2.98E-02	8.84E-08	9.58E-08	1.05E-07	1.08E-07
U-236	5.17E-08	2.94E-05	1.53E-02	4.51E-08	4.90E-08	5.37E-08	5.51E-08
U-238	2.32E-06	1.32E-03	0.685	2.03E-06	2.20E-06	2.41E-06	2.47E-06
Np-237	8.79E-08	5.00E-05	2.59E-02	1.08E-08	4.16E-08	1.19E-07	1.19E-07
Pu-238	9.46E-06	5.38E-03	2.79	7.88E-06	8.65E-06	1.03E-05	1.10E-05
Pu-239	6.47E-04	0.368	191	5.34E-04	5.89E-04	7.04E-04	7.59E-04
Pu-240	9.21E-05	5.23E-02	27.2	7.59E-05	8.38E-05	1.00E-04	1.08E-04
Pu-241	5.49E-04	0.312	162	4.54E-04	5.01E-04	5.98E-04	6.44E-04
Pu-242	2.45E-09	1.39E-06	7.22E-04	2.01E-09	2.22E-09	2.67E-09	2.88E-09
Am-241	6.91E-06	3.93E-03	2.04	8.46E-07	3.27E-06	9.35E-06	1.21E-04
Am-243	6.46E-11	3.67E-08	1.91E-05	7.90E-12	3.06E-11	8.74E-11	1.13E-09
Cm-242	1.37E-07	7.78E-05	4.04E-02	1.34E-07	1.35E-07	1.38E-07	1.38E-07
Cm-243	3.13E-09	1.78E-06	9.25E-04	3.07E-09	3.09E-09	3.16E-09	3.16E-09
Cm-244	2.31E-09	1.31E-06	6.81E-04	2.82E-10	1.09E-09	3.12E-09	3.12E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.08E-02 (g/L)	----	3.19	8.93E-03	9.85E-03	1.18E-02	1.27E-02
U	2.92E-02	3.95E+03	2.05E+03	2.55E-02	2.77E-02	3.03E-02	3.11E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.01E+06 (kg)	(460 kgal)	----	----	----	----	----
Heat Load	4.23 (kW)	(1.44E+04 BTU/hr)	----	3.99	4.12	4.33	4.43
Bulk Density*	1.73 (g/cc)	----	----	1.67	1.70	1.75	1.77
Water wt%†	26.4	----	----	23.9	25.0	27.8	29.5
TOC wt% C (wet)	0.503	----	----	0.407	0.454	0.551	0.599

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.15E-04	0.182	548	1.83E-04	1.83E-04	3.28E-04	3.25E-04
C-14	4.07E-05	2.36E-02	70.9	1.31E-05	1.31E-05	4.14E-05	4.15E-05
Ni-59	2.62E-06	1.51E-03	4.55	1.32E-06	1.32E-06	2.68E-06	2.74E-06
Ni-63	2.55E-04	0.148	444	1.27E-04	1.27E-04	2.62E-04	2.68E-04
Co-60	4.29E-05	2.48E-02	74.7	1.13E-05	1.13E-05	4.34E-05	4.39E-05
Se-79	4.12E-06	2.38E-03	7.17	2.35E-06	2.35E-06	4.75E-06	5.37E-06
Sr-90	0.131	76.0	2.28E+05	0.122	0.127	0.136	0.140
Y-90	0.131	76.0	2.28E+05	7.03E-02	7.03E-02	0.136	0.140
Zr-93	2.02E-05	1.17E-02	35.1	1.14E-05	1.14E-05	2.34E-05	2.64E-05
Nb-93m	1.48E-05	8.55E-03	25.7	8.60E-06	8.60E-06	1.70E-05	1.91E-05
Tc-99	2.91E-04	0.169	507	1.88E-04	2.39E-04	3.44E-04	3.95E-04
Ru-106	7.19E-09	4.17E-06	1.25E-02	3.11E-09	3.11E-09	8.11E-09	8.94E-09
Cd-113m	1.03E-04	5.98E-02	180	5.04E-05	5.04E-05	1.22E-04	1.41E-04
Sb-125	1.79E-04	0.104	312	4.25E-05	4.25E-05	1.82E-04	1.84E-04
Sn-126	6.23E-06	3.61E-03	10.8	3.59E-06	3.59E-06	7.19E-06	8.10E-06
I-129	5.61E-07	3.25E-04	0.976	3.62E-07	4.59E-07	6.63E-07	7.62E-07
Cs-134	2.24E-06	1.30E-03	3.90	1.43E-06	1.43E-06	2.40E-06	2.56E-06
Cs-137	0.330	191	5.74E+05	0.306	0.316	0.343	0.354
Ba-137m	0.312	181	5.43E+05	0.204	0.204	0.324	0.330
Sm-151	1.45E-02	8.40	2.53E+04	8.34E-03	8.34E-03	1.67E-02	1.89E-02
Eu-152	3.96E-06	2.29E-03	6.89	1.77E-06	1.77E-06	4.07E-06	4.18E-06
Eu-154	6.96E-04	0.403	1.21E+03	2.55E-04	2.55E-04	8.55E-04	9.19E-04
Eu-155	2.29E-04	0.133	399	9.91E-05	9.91E-05	2.36E-04	2.43E-04
Ra-226	1.78E-10	1.03E-07	3.10E-04	1.23E-10	1.23E-10	2.00E-10	2.21E-10
Ra-228	8.85E-08	5.12E-05	0.154	3.78E-08	6.26E-08	1.19E-07	1.51E-07
Ac-227	1.09E-09	6.30E-07	1.89E-03	7.71E-10	7.71E-10	1.21E-09	1.31E-09
Pa-231	4.95E-09	2.87E-06	8.62E-03	3.19E-09	3.19E-09	5.59E-09	6.20E-09
Th-229	2.10E-09	1.22E-06	3.66E-03	9.88E-10	1.53E-09	2.76E-09	3.46E-09
Th-232	6.18E-09	3.58E-06	1.08E-02	3.37E-09	4.75E-09	7.61E-09	8.98E-09
U-232	4.99E-07	2.89E-04	0.869	2.96E-07	3.95E-07	6.19E-07	7.48E-07
U-233	1.91E-06	1.11E-03	3.33	1.14E-06	1.52E-06	2.38E-06	2.87E-06
U-234	9.31E-07	5.39E-04	1.62	8.73E-07	9.00E-07	9.65E-07	9.61E-07
U-235	3.82E-08	2.21E-05	6.65E-02	3.57E-08	3.69E-08	3.97E-08	3.94E-08
U-236	2.80E-08	1.62E-05	4.87E-02	2.71E-08	2.75E-08	2.85E-08	2.89E-08
U-238	9.94E-07	5.76E-04	1.73	9.35E-07	9.63E-07	1.03E-06	1.02E-06
Np-237	1.11E-06	6.45E-04	1.94	7.77E-07	9.41E-07	1.29E-06	1.45E-06
Pu-238	1.46E-06	8.46E-04	2.54	1.07E-06	1.26E-06	1.66E-06	1.86E-06
Pu-239	5.15E-05	2.98E-02	89.7	4.14E-05	4.64E-05	5.66E-05	6.16E-05
Pu-240	8.62E-06	4.99E-03	15.0	6.74E-06	7.66E-06	9.58E-06	1.05E-05
Pu-241	9.76E-05	5.65E-02	170	7.07E-05	8.39E-05	1.11E-04	1.25E-04
Pu-242	5.34E-10	3.09E-07	9.29E-04	3.73E-10	4.52E-10	6.16E-10	6.95E-10
Am-241	6.73E-05	3.89E-02	117	4.85E-05	5.77E-05	7.68E-05	8.60E-05
Am-243	2.14E-09	1.24E-06	3.73E-03	1.55E-09	1.83E-09	2.45E-09	2.75E-09
Cm-242	1.42E-07	8.20E-05	0.247	5.20E-08	5.20E-08	1.46E-07	1.50E-07
Cm-243	1.29E-08	7.49E-06	2.25E-02	4.39E-09	4.39E-09	1.33E-08	1.37E-08
Cm-244	1.39E-07	8.05E-05	0.242	5.08E-08	5.08E-08	1.69E-07	1.88E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.50E-04 (g/L)	----	1.13	4.59E-04	5.53E-04	7.48E-04	8.41E-04
U	1.09E-02	1.50E+03	4.50E+03	1.01E-02	1.05E-02	1.13E-02	1.12E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.53E+06 (kg)	(538 kgal)	----	----	----	----	----
Heat Load	5.85 (kW)	(2.00E+04 BTU/hr)	----	5.22	5.57	6.08	6.06
Bulk Density†	1.73 (g/cc)	----	----	1.65	1.68	1.79	1.78
Water wt%†	26.4	----	----	23.7	23.3	29.1	30.8
TOC wt% C (wet)†	0.429	----	----	0.347	0.387	0.470	0.511

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.73E-04	0.158	556	1.60E-04	1.60E-04	2.82E-04	2.82E-04
C-14	3.51E-05	2.03E-02	71.5	1.15E-05	1.15E-05	3.55E-05	3.57E-05
Ni-59	4.06E-06	2.34E-03	8.27	2.95E-06	2.95E-06	4.23E-06	4.17E-06
Ni-63	3.88E-04	0.224	791	2.79E-04	2.79E-04	4.04E-04	3.99E-04
Co-60	3.68E-05	2.12E-02	74.9	9.77E-06	9.77E-06	3.72E-05	3.77E-05
Se-79	3.58E-06	2.07E-03	7.29	2.07E-06	2.07E-06	4.12E-06	4.65E-06
Sr-90	0.226	131	4.60E+05	0.193	0.212	0.237	0.235
Y-90	0.226	131	4.60E+05	0.174	0.174	0.237	0.235
Zr-93	1.75E-05	1.01E-02	35.7	1.00E-05	1.00E-05	2.03E-05	2.29E-05
Nb-93m	1.29E-05	7.43E-03	26.2	7.58E-06	7.58E-06	1.48E-05	1.66E-05
Tc-99	2.51E-04	0.145	511	1.63E-04	2.06E-04	2.96E-04	3.40E-04
Ru-106	6.15E-09	3.55E-06	1.25E-02	2.66E-09	2.66E-09	6.93E-09	7.64E-09
Cd-113m	8.92E-05	5.15E-02	182	4.40E-05	4.40E-05	1.06E-04	1.21E-04
Sb-125	1.53E-04	8.86E-02	313	3.65E-05	3.65E-05	1.55E-04	1.57E-04
Sn-126	5.42E-06	3.13E-03	11.0	3.16E-06	3.16E-06	6.24E-06	7.02E-06
I-129	4.83E-07	2.79E-04	0.984	3.13E-07	3.96E-07	5.71E-07	6.56E-07
Cs-134	1.92E-06	1.11E-03	3.91	1.23E-06	1.23E-06	2.06E-06	2.19E-06
Cs-137	0.289	167	5.88E+05	0.269	0.277	0.299	0.310
Ba-137m	0.273	158	5.56E+05	0.181	0.181	0.281	0.289
Sm-151	1.26E-02	7.29	2.57E+04	7.34E-03	7.34E-03	1.45E-02	1.64E-02
Eu-152	4.24E-06	2.45E-03	8.64	2.38E-06	2.38E-06	4.34E-06	4.43E-06
Eu-154	5.98E-04	0.345	1.22E+03	2.21E-04	2.21E-04	7.34E-04	7.88E-04
Eu-155	2.37E-04	0.137	482	1.25E-04	1.25E-04	2.42E-04	2.48E-04
Ra-226	2.85E-10	1.65E-07	5.80E-04	2.07E-10	2.38E-10	3.25E-10	3.63E-10
Ra-228	7.57E-08	4.37E-05	0.154	3.23E-08	5.35E-08	1.01E-07	1.29E-07
Ac-227	1.51E-09	8.75E-07	3.08E-03	1.14E-09	1.24E-09	1.75E-09	1.97E-09
Pa-231	4.32E-09	2.50E-06	8.81E-03	2.82E-09	2.82E-09	4.87E-09	5.67E-09
Th-229	1.80E-09	1.04E-06	3.66E-03	8.45E-10	1.31E-09	2.36E-09	2.96E-09
Th-232	5.28E-09	3.05E-06	1.08E-02	2.89E-09	4.06E-09	6.51E-09	7.68E-09
U-232	4.27E-07	2.46E-04	0.869	2.53E-07	3.38E-07	5.30E-07	6.39E-07
U-233	1.64E-06	9.45E-04	3.33	9.72E-07	1.30E-06	2.03E-06	2.45E-06
U-234	1.14E-06	6.59E-04	2.32	1.09E-06	1.12E-06	1.16E-06	1.17E-06
U-235	4.73E-08	2.73E-05	9.64E-02	4.52E-08	4.63E-08	4.82E-08	4.84E-08
U-236	3.14E-08	1.82E-05	6.40E-02	3.05E-08	3.10E-08	3.18E-08	3.22E-08
U-238	1.19E-06	6.85E-04	2.42	1.14E-06	1.16E-06	1.21E-06	1.21E-06
Np-237	9.64E-07	5.57E-04	1.96	6.77E-07	8.17E-07	1.11E-06	1.26E-06
Pu-238	2.62E-06	1.51E-03	5.34	2.28E-06	2.45E-06	2.79E-06	2.96E-06
Pu-239	1.38E-04	7.96E-02	281	1.27E-04	1.32E-04	1.43E-04	1.49E-04
Pu-240	2.07E-05	1.20E-02	42.2	1.91E-05	1.99E-05	2.15E-05	2.23E-05
Pu-241	1.63E-04	9.42E-02	332	1.40E-04	1.51E-04	1.75E-04	1.86E-04
Pu-242	8.11E-10	4.68E-07	1.65E-03	6.73E-10	7.41E-10	8.81E-10	9.49E-10
Am-241	5.85E-05	3.38E-02	119	4.25E-05	5.03E-05	6.67E-05	7.45E-05
Am-243	1.84E-09	1.06E-06	3.75E-03	1.34E-09	1.58E-09	2.11E-09	2.36E-09
Cm-242	1.41E-07	8.14E-05	0.287	6.43E-08	6.43E-08	1.45E-07	1.48E-07
Cm-243	1.15E-08	6.65E-06	2.34E-02	4.21E-09	4.21E-09	1.19E-08	1.22E-08
Cm-244	1.19E-07	6.88E-05	0.243	4.38E-08	4.38E-08	1.45E-07	1.61E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.12E-03 (g/L)	----	4.33	1.94E-03	2.03E-03	2.22E-03	2.31E-03
U	1.35E-02	1.86E+03	6.55E+03	1.29E-02	1.32E-02	1.38E-02	1.38E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-S-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.00E+04 (kg)	(6.00 kgal)	----	----	----	----	----
Heat Load	7.43E-02 (kW)	(254 BTU/hr)	----	5.39E-02	6.58E-02	7.97E-02	8.22E-02
Bulk Density	1.76 (g/cc)	----	----	1.61	1.65	1.94	2.01
Void Fraction	0.593	----	----	0.355	0.434	0.694	0.697
Water wt%	25.8	----	----	12.3	16.7	35.7	39.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.99	1.04E+05	4.17E+03	5.18	5.71	11.3	13.0
Al^{3+}	9.10	1.39E+05	5.57E+03	6.41	7.13	10.5	11.5
Fe^{3+} (total Fe)	0.589	1.87E+04	747	0.580	0.584	0.594	0.599
Cr^{3+}	3.20E-02	942	37.7	4.56E-03	1.80E-02	0.262	0.531
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.04E-03	232	9.29	2.01E-03	2.03E-03	2.05E-03	2.05E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	5.88E-02	6.91E+03	277	5.40E-02	5.67E-02	6.09E-02	6.29E-02
Ni^{2+}	2.59E-02	861	34.5	1.88E-02	2.28E-02	2.82E-02	2.78E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.170	3.87E+03	155	0.133	0.151	0.189	0.208
K^{+}	6.38E-03	141	5.67	1.41E-03	3.40E-03	8.38E-03	8.38E-03
OH^{-}	33.7	3.24E+05	1.30E+04	22.8	25.8	39.3	43.4
$NO3^{-}$	2.93	1.03E+05	4.12E+03	0.316	0.316	7.02	9.24
$NO2^{-}$	1.21	3.15E+04	1.26E+03	0.545	0.776	1.55	1.55
$CO3^{2-}$	0.170	5.79E+03	232	0.133	0.151	0.189	0.208
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	9.40E-03	512	20.5	4.79E-03	6.63E-03	1.12E-02	1.12E-02
Si (as SiO_x^{2-})	1.41E-02	224	8.97	1.05E-02	1.19E-02	4.49E-02	9.16E-02
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.94E-02	590	23.6	6.49E-03	1.56E-02	3.85E-02	8.20E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.128	1.23E+03	49.4	3.29E-02	4.64E-02	0.135	0.142
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.29E+06 (kg)	(517 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.94	4.07	4.36	4.38
Bulk Density*	1.68 (g/cc)	----	----	1.61	1.65	1.71	1.72
Water wt%	29.3	----	----	27.1	28.0	30.8	33.3
TOC wt% C (wet)	0.328	----	----	0.293	0.310	0.346	0.362

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.7	2.15E+05	7.06E+05	14.1	15.0	16.2	16.6
Al^{3+}	2.18	3.50E+04	1.15E+05	1.89	2.03	2.34	2.25
Fe^{3+} (total Fe)	9.77E-03	325	1.07E+03	8.02E-03	8.88E-03	1.07E-02	1.15E-02
Cr^{3+}	0.224	6.92E+03	2.28E+04	0.166	0.197	0.229	0.234
Bi^{3+}	8.16E-04	101	334	7.35E-04	7.75E-04	8.58E-04	8.98E-04
La^{3+}	5.41E-07	4.47E-02	0.147	3.92E-07	4.65E-07	6.18E-07	6.91E-07
Hg^{2+}	6.84E-06	0.816	2.68	6.41E-06	6.65E-06	6.93E-06	7.02E-06
Zr (as $ZrO(OH)_2$)	1.68E-04	9.14	30.1	1.53E-04	1.59E-04	1.75E-04	1.83E-04
Pb^{2+}	8.08E-04	99.6	328	6.78E-04	7.42E-04	8.75E-04	9.39E-04
Ni^{2+}	6.37E-03	222	731	6.14E-03	6.25E-03	6.48E-03	6.59E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.08E-03	101	331	2.23E-03	2.65E-03	3.51E-03	3.92E-03
Ca^{2+}	3.25E-02	775	2.55E+03	2.82E-02	3.03E-02	3.47E-02	3.68E-02
K^{+}	6.59E-02	1.53E+03	5.04E+03	5.89E-02	6.22E-02	6.99E-02	7.14E-02
OH^{-}	13.2	1.33E+05	4.39E+05	11.4	12.3	14.2	13.7
$NO3^{-}$	5.25	1.94E+05	6.37E+05	4.79	5.02	5.44	5.44
$NO2^{-}$	2.97	8.11E+04	2.67E+05	2.59	2.77	3.15	3.33
$CO3^{2-}$	0.291	1.04E+04	3.42E+04	0.262	0.275	0.311	0.314
$PO4^{3-}$	6.46E-02	3.65E+03	1.20E+04	5.76E-02	6.00E-02	6.61E-02	6.76E-02
$SO4^{2-}$	0.192	1.10E+04	3.61E+04	0.146	0.168	0.217	0.239
Si (as SiO_x^{2-})	7.31E-02	1.22E+03	4.02E+03	6.10E-02	6.69E-02	7.92E-02	8.51E-02
F^{-}	3.90E-02	441	1.45E+03	3.19E-02	3.49E-02	4.25E-02	4.53E-02
Cl^{-}	0.265	5.59E+03	1.84E+04	0.233	0.248	0.284	0.283
$C_6H_5O_7^{3-}$	2.25E-02	2.53E+03	8.32E+03	2.08E-02	2.16E-02	2.34E-02	2.42E-02
$EDTA^{4-}$	2.49E-03	427	1.40E+03	1.21E-03	1.83E-03	3.15E-03	3.80E-03
$HEDTA^{3-}$	4.09E-03	667	2.19E+03	1.52E-03	2.78E-03	5.41E-03	6.70E-03
glycolate^{-}	3.54E-02	1.58E+03	5.20E+03	2.05E-02	2.78E-02	4.31E-02	5.04E-02
acetate^{-}	2.87E-03	101	332	2.33E-03	2.59E-03	3.15E-03	3.42E-03
oxalate^{2-}	7.09E-07	3.71E-02	0.122	6.28E-07	6.68E-07	7.50E-07	7.90E-07
DBP	1.52E-02	1.90E+03	6.25E+03	1.22E-02	1.37E-02	1.67E-02	1.81E-02
butanol	1.52E-02	669	2.20E+03	1.22E-02	1.37E-02	1.67E-02	1.81E-02
NH_3	7.89E-02	797	2.62E+03	6.53E-02	7.07E-02	8.93E-02	0.102
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.33E+06 (kg)	(523 kgal)	----	----	----	----	----
Heat Load	4.28 (kW)	(1.46E+04 BTU/hr)	----	4.00	4.13	4.44	4.45
Bulk Density†	1.68 (g/cc)	----	----	1.61	1.65	1.71	1.72
Water wt%†	29.2	----	----	27.1	28.0	30.8	33.3
TOC wt% C (wet)†	0.324	----	----	0.289	0.306	0.341	0.358

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.6	2.13E+05	7.11E+05	14.0	14.9	16.1	16.5
Al^{3+}	2.26	3.62E+04	1.21E+05	1.98	2.11	2.42	2.33
Fe^{3+} (total Fe)	1.64E-02	545	1.82E+03	1.47E-02	1.55E-02	1.73E-02	1.82E-02
Cr^{3+}	0.222	6.85E+03	2.28E+04	0.170	0.198	0.228	0.232
Bi^{3+}	8.07E-04	100	334	7.27E-04	7.66E-04	8.48E-04	8.88E-04
La^{3+}	5.35E-07	4.42E-02	0.147	3.88E-07	4.60E-07	6.11E-07	6.83E-07
Hg^{2+}	3.01E-05	3.59	12.0	2.97E-05	3.00E-05	3.02E-05	3.03E-05
Zr (as $ZrO(OH)_2$)	1.66E-04	9.03	30.1	1.52E-04	1.57E-04	1.73E-04	1.81E-04
Pb^{2+}	1.47E-03	181	604	1.38E-03	1.43E-03	1.52E-03	1.57E-03
Ni^{2+}	6.59E-03	230	766	6.39E-03	6.49E-03	6.69E-03	6.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.04E-03	99.3	331	2.21E-03	2.62E-03	3.47E-03	3.87E-03
Ca^{2+}	3.41E-02	812	2.71E+03	3.02E-02	3.21E-02	3.61E-02	3.80E-02
K^{+}	6.52E-02	1.52E+03	5.05E+03	5.83E-02	6.16E-02	6.92E-02	7.06E-02
OH^{-}	13.4	1.36E+05	4.52E+05	11.7	12.5	14.4	14.0
$NO3^{-}$	5.23	1.93E+05	6.41E+05	4.85	5.03	5.38	5.38
$NO2^{-}$	2.95	8.05E+04	2.68E+05	2.57	2.75	3.13	3.31
$CO3^{2-}$	0.289	1.03E+04	3.44E+04	0.261	0.274	0.309	0.312
$PO4^{3-}$	6.38E-02	3.60E+03	1.20E+04	5.69E-02	5.93E-02	6.54E-02	6.68E-02
$SO4^{2-}$	0.190	1.09E+04	3.62E+04	0.144	0.166	0.215	0.237
Si (as SiO_x^{2-})	7.24E-02	1.21E+03	4.03E+03	6.05E-02	6.63E-02	7.85E-02	8.43E-02
F^{-}	3.86E-02	436	1.45E+03	3.16E-02	3.45E-02	4.20E-02	4.48E-02
Cl^{-}	0.263	5.53E+03	1.84E+04	0.231	0.246	0.281	0.280
$C_6H_5O_7^{3-}$	2.22E-02	2.50E+03	8.32E+03	2.05E-02	2.14E-02	2.31E-02	2.39E-02
$EDTA^{4-}$	2.46E-03	422	1.40E+03	1.19E-03	1.81E-03	3.12E-03	3.75E-03
$HEDTA^{3-}$	4.04E-03	659	2.19E+03	1.50E-03	2.74E-03	5.35E-03	6.63E-03
glycolate^{-}	3.50E-02	1.56E+03	5.20E+03	2.02E-02	2.75E-02	4.26E-02	4.98E-02
acetate^{-}	2.84E-03	99.5	332	2.30E-03	2.56E-03	3.11E-03	3.38E-03
oxalate^{2-}	7.01E-07	3.67E-02	0.122	6.21E-07	6.60E-07	7.42E-07	7.81E-07
DBP	1.50E-02	1.88E+03	6.25E+03	1.21E-02	1.35E-02	1.65E-02	1.79E-02
butanol	1.50E-02	661	2.20E+03	1.21E-02	1.35E-02	1.65E-02	1.79E-02
NH_3	7.94E-02	802	2.67E+03	6.60E-02	7.13E-02	8.98E-02	0.102
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.00E+04 (kg)	(6.00 kgal)	----	----	----	----	----
Heat Load	7.43E-02 (kW)	(254 BTU/hr)	----	5.39E-02	6.58E-02	7.97E-02	8.22E-02
Bulk Density	1.76 (g/cc)	----	----	1.61	1.65	1.94	2.01
Void Fraction	0.593	----	----	0.355	0.434	0.694	0.697
Water wt%	25.8	----	----	12.3	16.7	35.7	39.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.51E-05	8.58E-03	0.344	2.03E-06	7.86E-06	2.10E-05	2.10E-05
C-14	1.19E-06	6.73E-04	2.69E-02	1.84E-07	5.85E-07	1.59E-06	1.59E-06
Ni-59	7.45E-06	4.22E-03	0.169	5.38E-06	6.55E-06	8.14E-06	8.01E-06
Ni-63	6.95E-04	0.394	15.8	5.02E-04	6.11E-04	7.60E-04	7.48E-04
Co-60	4.71E-07	2.67E-04	1.07E-02	7.47E-08	2.33E-07	6.30E-07	6.30E-07
Se-79	2.52E-07	1.43E-04	5.73E-03	3.94E-08	1.24E-07	3.38E-07	3.59E-06
Sr-90	0.465	264	1.06E+04	0.332	0.407	0.510	0.517
Y-90	0.465	264	1.06E+04	0.332	0.407	0.510	0.518
Zr-93	1.19E-06	6.75E-04	2.70E-02	1.86E-07	5.87E-07	1.59E-06	1.52E-05
Nb-93m	9.73E-07	5.52E-04	2.21E-02	1.52E-07	4.80E-07	1.30E-06	1.61E-05
Tc-99	8.32E-06	4.72E-03	0.189	1.30E-06	4.10E-06	1.11E-05	1.11E-05
Ru-106	1.39E-12	7.86E-10	3.15E-08	2.81E-13	7.22E-13	1.83E-12	1.83E-12
Cd-113m	3.67E-06	2.08E-03	8.34E-02	5.75E-07	1.81E-06	4.92E-06	4.92E-06
Sb-125	6.96E-07	3.94E-04	1.58E-02	1.15E-07	3.47E-07	9.29E-07	9.29E-07
Sn-126	3.87E-07	2.20E-04	8.80E-03	6.03E-08	1.91E-07	5.19E-07	5.74E-06
I-129	1.60E-08	9.06E-06	3.63E-04	2.49E-09	7.88E-09	2.14E-08	2.14E-08
Cs-134	1.44E-08	8.18E-06	3.27E-04	4.42E-09	8.42E-09	1.84E-08	1.84E-08
Cs-137	2.92E-02	16.6	663	8.58E-03	1.68E-02	3.75E-02	3.75E-02
Ba-137m	2.76E-02	15.7	627	8.12E-03	1.59E-02	3.54E-02	3.54E-02
Sm-151	9.00E-04	0.510	20.4	1.40E-04	4.44E-04	1.21E-03	1.32E-02
Eu-152	3.59E-06	2.03E-03	8.14E-02	3.51E-06	3.54E-06	3.62E-06	3.62E-06
Eu-154	1.14E-05	6.45E-03	0.258	1.81E-06	5.63E-06	1.52E-05	1.52E-05
Eu-155	1.69E-04	9.60E-02	3.85	1.66E-04	1.67E-04	1.71E-04	1.71E-04
Ra-226	5.42E-10	3.07E-07	1.23E-05	7.52E-11	3.04E-10	7.80E-10	1.01E-09
Ra-228	4.78E-15	2.71E-12	1.09E-10	4.68E-15	4.72E-15	4.82E-15	4.82E-15
Ac-227	2.39E-09	1.35E-06	5.42E-05	1.60E-10	1.01E-09	3.77E-09	5.10E-09
Pa-231	3.76E-10	2.13E-07	8.54E-06	5.83E-11	1.85E-10	1.04E-09	8.41E-09
Th-229	9.05E-13	5.13E-10	2.05E-08	8.86E-13	8.93E-13	9.12E-13	9.12E-13
Th-232	3.16E-16	1.79E-13	7.17E-12	5.40E-17	1.58E-16	4.21E-16	4.21E-16
U-232	3.26E-10	1.85E-07	7.40E-06	2.83E-10	3.08E-10	3.38E-10	3.47E-10
U-233	1.21E-11	6.84E-09	2.74E-07	1.05E-11	1.14E-11	1.25E-11	1.29E-11
U-234	7.46E-06	4.23E-03	0.169	6.49E-06	7.06E-06	7.75E-06	7.95E-06
U-235	3.17E-07	1.80E-04	7.19E-03	2.76E-07	3.00E-07	3.29E-07	3.38E-07
U-236	1.64E-07	9.29E-05	3.72E-03	1.42E-07	1.55E-07	1.70E-07	1.75E-07
U-238	7.27E-06	4.12E-03	0.165	6.32E-06	6.87E-06	7.54E-06	7.75E-06
Np-237	5.42E-08	3.07E-05	1.23E-03	8.62E-09	2.68E-08	7.25E-08	7.25E-08
Pu-238	1.59E-05	8.99E-03	0.360	1.49E-05	1.54E-05	1.63E-05	1.68E-05
Pu-239	1.04E-03	0.590	23.6	9.73E-04	1.01E-03	1.07E-03	1.11E-03
Pu-240	1.47E-04	8.34E-02	3.34	1.38E-04	1.42E-04	1.52E-04	1.57E-04
Pu-241	8.91E-04	0.505	20.2	8.35E-04	8.63E-04	9.20E-04	9.47E-04
Pu-242	3.85E-09	2.18E-06	8.74E-05	3.59E-09	3.72E-09	3.98E-09	4.11E-09
Am-241	4.25E-06	2.41E-03	9.65E-02	6.67E-07	2.10E-06	5.69E-06	7.18E-05
Am-243	3.97E-11	2.25E-08	9.02E-07	6.19E-12	1.96E-11	5.32E-11	6.71E-10
Cm-242	8.23E-08	4.67E-05	1.87E-03	8.06E-08	8.13E-08	8.30E-08	8.30E-08
Cm-243	1.89E-09	1.07E-06	4.28E-05	1.85E-09	1.86E-09	1.90E-09	1.90E-09
Cm-244	1.42E-09	8.04E-07	3.22E-05	2.20E-10	6.98E-10	1.90E-09	1.90E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.74E-02 (g/L)	----	0.395	1.63E-02	1.68E-02	1.80E-02	1.85E-02
U	9.14E-02	1.23E+04	494	7.95E-02	8.65E-02	9.50E-02	9.75E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-S-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.29E+06 (kg)	(517 kgal)	----	----	----	----	----
Heat Load	4.21 (kW)	(1.44E+04 BTU/hr)	----	3.94	4.07	4.36	4.38
Bulk Density*	1.68 (g/cc)	----	----	1.61	1.65	1.71	1.72
Water wt%†	29.3	----	----	27.1	28.0	30.8	33.3
TOC wt% C (wet)	0.328	----	----	0.293	0.310	0.346	0.362

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.67E-04	0.159	523	1.60E-04	1.60E-04	2.84E-04	2.77E-04
C-14	3.41E-05	2.03E-02	66.8	1.17E-05	1.17E-05	3.49E-05	3.48E-05
Ni-59	2.33E-06	1.38E-03	4.56	1.27E-06	1.27E-06	2.38E-06	2.43E-06
Ni-63	2.26E-04	0.134	443	1.22E-04	1.22E-04	2.31E-04	2.37E-04
Co-60	3.45E-05	2.05E-02	67.5	8.81E-06	8.81E-06	3.50E-05	3.55E-05
Se-79	3.56E-06	2.12E-03	6.96	2.13E-06	2.13E-06	4.08E-06	4.57E-06
Sr-90	0.117	69.3	2.28E+05	0.110	0.113	0.120	0.124
Y-90	0.117	69.3	2.28E+05	6.71E-02	6.71E-02	0.120	0.124
Zr-93	1.74E-05	1.03E-02	34.0	1.02E-05	1.02E-05	2.00E-05	2.25E-05
Nb-93m	1.29E-05	7.66E-03	25.2	7.87E-06	7.87E-06	1.47E-05	1.64E-05
Tc-99	2.43E-04	0.145	476	1.60E-04	2.00E-04	2.86E-04	3.28E-04
Ru-106	5.31E-09	3.16E-06	1.04E-02	1.99E-09	1.99E-09	6.05E-09	6.73E-09
Cd-113m	8.50E-05	5.05E-02	166	4.20E-05	4.20E-05	1.01E-04	1.15E-04
Sb-125	1.41E-04	8.41E-02	277	3.03E-05	3.03E-05	1.44E-04	1.46E-04
Sn-126	5.39E-06	3.21E-03	10.5	3.24E-06	3.24E-06	6.17E-06	6.91E-06
I-129	4.68E-07	2.79E-04	0.917	3.06E-07	3.86E-07	5.52E-07	6.32E-07
Cs-134	1.59E-06	9.44E-04	3.11	1.06E-06	1.06E-06	1.71E-06	1.82E-06
Cs-137	0.291	173	5.70E+05	0.262	0.276	0.308	0.310
Ba-137m	0.276	164	5.39E+05	0.206	0.206	0.291	0.293
Sm-151	1.26E-02	7.46	2.46E+04	7.54E-03	7.54E-03	1.44E-02	1.61E-02
Eu-152	3.12E-06	1.85E-03	6.10	1.34E-06	1.34E-06	3.18E-06	3.24E-06
Eu-154	5.54E-04	0.329	1.08E+03	1.96E-04	1.96E-04	6.84E-04	7.35E-04
Eu-155	1.79E-04	0.106	350	7.34E-05	7.34E-05	1.84E-04	1.88E-04
Ra-226	1.66E-10	9.88E-08	3.25E-04	1.12E-10	1.22E-10	1.94E-10	2.21E-10
Ra-228	6.02E-08	3.58E-05	0.118	2.35E-08	4.14E-08	8.19E-08	1.05E-07
Ac-227	1.00E-09	5.96E-07	1.96E-03	6.87E-10	7.45E-10	1.16E-09	1.26E-09
Pa-231	4.43E-09	2.63E-06	8.67E-03	3.00E-09	3.00E-09	4.95E-09	5.45E-09
Th-229	1.43E-09	8.52E-07	2.80E-03	6.29E-10	1.02E-09	1.91E-09	2.42E-09
Th-232	4.05E-09	2.41E-06	7.93E-03	2.03E-09	3.02E-09	5.09E-09	6.08E-09
U-232	3.63E-07	2.16E-04	0.710	2.16E-07	2.88E-07	4.50E-07	5.42E-07
U-233	1.39E-06	8.27E-04	2.72	8.29E-07	1.10E-06	1.72E-06	2.08E-06
U-234	8.70E-07	5.18E-04	1.70	7.96E-07	8.31E-07	9.13E-07	8.95E-07
U-235	3.60E-08	2.14E-05	7.05E-02	3.28E-08	3.43E-08	3.78E-08	3.70E-08
U-236	2.47E-08	1.47E-05	4.83E-02	2.35E-08	2.41E-08	2.54E-08	2.54E-08
U-238	9.06E-07	5.39E-04	1.77	8.31E-07	8.66E-07	9.50E-07	9.29E-07
Np-237	9.63E-07	5.72E-04	1.88	6.89E-07	8.23E-07	1.10E-06	1.24E-06
Pu-238	1.19E-06	7.05E-04	2.32	8.64E-07	1.02E-06	1.35E-06	1.51E-06
Pu-239	4.45E-05	2.65E-02	87.1	3.63E-05	4.03E-05	4.87E-05	5.27E-05
Pu-240	7.28E-06	4.33E-03	14.3	5.75E-06	6.50E-06	8.06E-06	8.81E-06
Pu-241	7.82E-05	4.65E-02	153	5.64E-05	6.71E-05	8.94E-05	1.00E-04
Pu-242	4.23E-10	2.51E-07	8.27E-04	2.92E-10	3.56E-10	4.89E-10	5.54E-10
Am-241	5.75E-05	3.42E-02	112	4.23E-05	4.97E-05	6.53E-05	7.27E-05
Am-243	1.61E-09	9.55E-07	3.14E-03	1.13E-09	1.36E-09	1.86E-09	2.11E-09
Cm-242	1.11E-07	6.59E-05	0.217	3.80E-08	3.80E-08	1.13E-07	1.15E-07
Cm-243	9.88E-09	5.87E-06	1.93E-02	2.93E-09	2.93E-09	1.01E-08	1.03E-08
Cm-244	1.09E-07	6.46E-05	0.213	3.70E-08	3.70E-08	1.33E-07	1.48E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.82E-04 (g/L)	----	1.14	4.26E-04	5.03E-04	6.61E-04	7.37E-04
U	1.03E-02	1.45E+03	4.79E+03	9.32E-03	9.77E-03	1.08E-02	1.06E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-S-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.33E+06 (kg)	(523 kgal)	----	----	----	----	----
Heat Load	4.28 (kW)	(1.46E+04 BTU/hr)	----	4.00	4.13	4.44	4.45
Bulk Density†	1.68 (g/cc)	----	----	1.61	1.65	1.71	1.72
Water wt%†	29.2	----	----	27.1	28.0	30.8	33.3
TOC wt% C (wet)†	0.324	----	----	0.289	0.306	0.341	0.358

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.64E-04	0.157	523	1.58E-04	1.58E-04	2.80E-04	2.74E-04
C-14	3.37E-05	2.00E-02	66.8	1.16E-05	1.16E-05	3.45E-05	3.44E-05
Ni-59	2.39E-06	1.42E-03	4.73	1.34E-06	1.34E-06	2.44E-06	2.49E-06
Ni-63	2.32E-04	0.138	458	1.28E-04	1.28E-04	2.37E-04	2.42E-04
Co-60	3.41E-05	2.03E-02	67.5	8.71E-06	8.71E-06	3.46E-05	3.51E-05
Se-79	3.52E-06	2.09E-03	6.97	2.10E-06	2.10E-06	4.03E-06	4.52E-06
Sr-90	0.121	71.7	2.39E+05	0.114	0.117	0.124	0.128
Y-90	0.121	71.7	2.39E+05	7.17E-02	7.17E-02	0.124	0.128
Zr-93	1.72E-05	1.02E-02	34.0	1.01E-05	1.01E-05	1.98E-05	2.22E-05
Nb-93m	1.28E-05	7.58E-03	25.2	7.80E-06	7.80E-06	1.45E-05	1.63E-05
Tc-99	2.41E-04	0.143	476	1.58E-04	1.98E-04	2.83E-04	3.24E-04
Ru-106	5.25E-09	3.12E-06	1.04E-02	1.97E-09	1.97E-09	5.98E-09	6.65E-09
Cd-113m	8.40E-05	4.99E-02	166	4.15E-05	4.15E-05	9.94E-05	1.14E-04
Sb-125	1.40E-04	8.31E-02	277	3.00E-05	3.00E-05	1.42E-04	1.44E-04
Sn-126	5.33E-06	3.17E-03	10.6	3.21E-06	3.21E-06	6.10E-06	6.84E-06
I-129	4.63E-07	2.75E-04	0.917	3.03E-07	3.81E-07	5.46E-07	6.25E-07
Cs-134	1.57E-06	9.33E-04	3.11	1.05E-06	1.05E-06	1.69E-06	1.80E-06
Cs-137	0.288	171	5.71E+05	0.260	0.273	0.305	0.307
Ba-137m	0.273	162	5.40E+05	0.204	0.204	0.288	0.290
Sm-151	1.24E-02	7.38	2.46E+04	7.46E-03	7.46E-03	1.42E-02	1.59E-02
Eu-152	3.12E-06	1.86E-03	6.18	1.37E-06	1.37E-06	3.18E-06	3.24E-06
Eu-154	5.48E-04	0.326	1.08E+03	1.94E-04	1.94E-04	6.76E-04	7.27E-04
Eu-155	1.79E-04	0.106	354	7.45E-05	7.45E-05	1.83E-04	1.88E-04
Ra-226	1.70E-10	1.01E-07	3.38E-04	1.22E-10	1.27E-10	1.95E-10	2.19E-10
Ra-228	5.95E-08	3.53E-05	0.118	2.33E-08	4.10E-08	8.09E-08	1.04E-07
Ac-227	1.02E-09	6.05E-07	2.02E-03	7.38E-10	7.64E-10	1.16E-09	1.25E-09
Pa-231	4.38E-09	2.60E-06	8.67E-03	2.97E-09	2.97E-09	4.89E-09	5.39E-09
Th-229	1.42E-09	8.42E-07	2.80E-03	6.22E-10	1.01E-09	1.89E-09	2.39E-09
Th-232	4.01E-09	2.38E-06	7.93E-03	2.00E-09	2.98E-09	5.03E-09	6.01E-09
U-232	3.58E-07	2.13E-04	0.710	2.13E-07	2.84E-07	4.44E-07	5.36E-07
U-233	1.38E-06	8.17E-04	2.72	8.20E-07	1.09E-06	1.70E-06	2.06E-06
U-234	9.46E-07	5.62E-04	1.87	8.73E-07	9.07E-07	9.88E-07	9.70E-07
U-235	3.92E-08	2.33E-05	7.76E-02	3.61E-08	3.76E-08	4.10E-08	4.02E-08
U-236	2.63E-08	1.56E-05	5.20E-02	2.51E-08	2.57E-08	2.69E-08	2.70E-08
U-238	9.79E-07	5.82E-04	1.94	9.04E-07	9.40E-07	1.02E-06	1.00E-06
Np-237	9.52E-07	5.66E-04	1.89	6.82E-07	8.14E-07	1.09E-06	1.23E-06
Pu-238	1.35E-06	8.04E-04	2.68	1.04E-06	1.19E-06	1.52E-06	1.67E-06
Pu-239	5.59E-05	3.32E-02	111	4.78E-05	5.18E-05	6.00E-05	6.40E-05
Pu-240	8.89E-06	5.28E-03	17.6	7.37E-06	8.12E-06	9.66E-06	1.04E-05
Pu-241	8.76E-05	5.20E-02	173	6.59E-05	7.65E-05	9.86E-05	1.09E-04
Pu-242	4.62E-10	2.74E-07	9.14E-04	3.33E-10	3.96E-10	5.28E-10	5.91E-10
Am-241	5.69E-05	3.38E-02	113	4.18E-05	4.92E-05	6.46E-05	7.19E-05
Am-243	1.59E-09	9.44E-07	3.15E-03	1.12E-09	1.34E-09	1.84E-09	2.08E-09
Cm-242	1.11E-07	6.57E-05	0.219	3.86E-08	3.86E-08	1.13E-07	1.15E-07
Cm-243	9.78E-09	5.81E-06	1.94E-02	2.92E-09	2.92E-09	1.00E-08	1.02E-08
Cm-244	1.07E-07	6.38E-05	0.213	3.66E-08	3.66E-08	1.31E-07	1.47E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.75E-04 (g/L)	----	1.53	6.21E-04	6.96E-04	8.53E-04	9.28E-04
U	1.12E-02	1.59E+03	5.28E+03	1.03E-02	1.07E-02	1.17E-02	1.15E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+06 (kg)	(310 kgal)	----	----	----	----	----
Heat Load	5.74 (kW)	(1.96E+04 BTU/hr)	----	4.70	5.31	6.02	6.15
Bulk Density	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Void Fraction	0.661	----	----	0.425	0.503	0.761	0.764
Water wt%	30.8	----	----	16.6	21.2	38.4	40.9
TOC wt% C (wet)	2.61E-03	----	----	2.29E-03	2.37E-03	2.81E-03	3.04E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.8	1.43E+05	2.92E+05	8.29	8.54	14.1	15.8
Al^{3+}	5.18	8.06E+04	1.64E+05	4.19	4.48	5.93	6.69
Fe^{3+} (total Fe)	0.512	1.65E+04	3.36E+04	0.503	0.507	0.517	0.521
Cr^{3+}	0.444	1.33E+04	2.71E+04	0.272	0.354	0.673	0.940
Bi^{3+}	3.46E-06	0.417	0.848	2.92E-06	3.18E-06	3.81E-06	4.19E-06
La^{3+}	8.52E-12	6.82E-07	1.39E-06	7.46E-12	8.06E-12	9.42E-12	1.03E-11
Hg^{2+}	5.43E-07	6.28E-02	0.128	4.81E-07	5.11E-07	5.98E-07	6.56E-07
Zr (as $ZrO(OH)_2$)	3.45E-07	1.82E-02	3.69E-02	3.17E-07	3.31E-07	3.62E-07	3.90E-07
Pb^{2+}	8.61E-05	10.3	20.9	4.61E-05	6.56E-05	1.07E-04	1.27E-04
Ni^{2+}	3.28E-02	1.11E+03	2.26E+03	2.58E-02	2.97E-02	3.51E-02	3.47E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.52E-05	0.797	1.62	1.80E-05	2.15E-05	2.89E-05	3.25E-05
Ca^{2+}	0.148	3.42E+03	6.95E+03	0.111	0.129	0.167	0.185
K^+	2.17E-02	489	995	1.67E-02	1.87E-02	2.37E-02	2.47E-02
OH^-	22.1	2.17E+05	4.41E+05	17.6	19.0	25.4	28.6
$NO3^-$	5.27	1.88E+05	3.83E+05	2.67	2.67	9.33	11.5
$NO2^-$	1.67	4.42E+04	8.99E+04	1.01	1.24	2.01	2.01
$CO3^{2-}$	0.150	5.20E+03	1.06E+04	0.113	0.132	0.169	0.187
$PO4^{3-}$	2.24E-04	12.3	24.9	2.08E-04	2.17E-04	2.33E-04	2.53E-04
$SO4^{2-}$	2.55E-02	1.41E+03	2.88E+03	2.09E-02	2.28E-02	2.74E-02	2.92E-02
Si (as SiO_x^{2-})	6.94E-02	1.12E+03	2.29E+03	4.54E-02	6.03E-02	7.86E-02	8.74E-02
F^-	1.78E-04	1.95	3.98	1.52E-04	1.68E-04	1.96E-04	2.11E-04
Cl^-	9.28E-02	1.90E+03	3.86E+03	6.18E-02	7.69E-02	0.102	0.145
$C_6H_5O_7^{3-}$	1.84E-04	20.1	40.9	1.78E-04	1.81E-04	1.92E-04	2.09E-04
$EDTA^{4-}$	7.18E-06	1.19	2.43	5.05E-06	6.21E-06	8.45E-06	9.72E-06
$HEDTA^{3-}$	5.96E-06	0.942	1.92	1.91E-06	4.10E-06	7.96E-06	9.90E-06
$glycolate^-$	2.60E-04	11.3	22.9	1.41E-04	2.06E-04	3.23E-04	3.84E-04
$acetate^-$	2.70E-05	0.919	1.87	2.61E-05	2.66E-05	2.87E-05	3.07E-05
$oxalate^{2-}$	1.12E-11	5.66E-07	1.15E-06	9.89E-12	1.05E-11	1.23E-11	1.35E-11
DBP	1.63E-04	19.8	40.3	1.53E-04	1.59E-04	1.77E-04	1.91E-04
butanol	1.63E-04	6.99	14.2	1.53E-04	1.59E-04	1.77E-04	1.91E-04
NH_3	0.145	1.42E+03	2.89E+03	5.07E-02	6.41E-02	0.152	0.159
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.16E+05 (kg)	(146 kgal)	----	----	----	----	----
Heat Load	0.567 (kW)	(1.94E+03 BTU/hr)	----	0.534	0.550	0.584	0.600
Bulk Density*	1.29 (g/cc)	----	----	1.27	1.28	1.30	1.31
Water wt%	59.6	----	----	57.7	58.6	60.8	62.0
TOC wt% C (wet)	0.437	----	----	0.287	0.360	0.513	0.587

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.89	1.22E+05	8.76E+04	6.32	6.61	7.14	7.37
Al^{3+}	0.827	1.72E+04	1.23E+04	0.763	0.793	0.864	0.881
Fe^{3+} (total Fe)	5.19E-03	224	160	4.24E-03	4.71E-03	5.67E-03	6.14E-03
Cr^{3+}	7.46E-02	3.00E+03	2.14E+03	6.15E-02	6.86E-02	7.69E-02	7.91E-02
Bi^{3+}	6.12E-04	98.8	70.7	5.56E-04	5.84E-04	6.41E-04	6.68E-04
La^{3+}	1.66E-05	1.78	1.27	1.20E-05	1.42E-05	1.89E-05	2.12E-05
Hg^{2+}	4.25E-06	0.659	0.471	3.96E-06	4.12E-06	4.31E-06	4.37E-06
Zr (as $ZrO(OH)_2$)	1.16E-04	8.16	5.84	1.06E-04	1.09E-04	1.20E-04	1.26E-04
Pb^{2+}	4.70E-04	75.2	53.8	3.84E-04	4.26E-04	5.14E-04	5.56E-04
Ni^{2+}	3.10E-03	140	100	2.97E-03	3.03E-03	3.13E-03	3.17E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.79E-03	76.1	54.5	1.34E-03	1.56E-03	2.03E-03	2.25E-03
Ca^{2+}	1.62E-02	502	359	1.49E-02	1.55E-02	1.69E-02	1.76E-02
K^+	3.15E-02	952	681	2.87E-02	3.00E-02	3.30E-02	3.45E-02
OH^-	4.98	6.54E+04	4.68E+04	4.58	4.77	5.20	5.27
$NO3^-$	2.40	1.15E+05	8.23E+04	2.22	2.33	2.44	2.46
$NO2^-$	1.21	4.29E+04	3.07E+04	1.01	1.10	1.31	1.40
$CO3^{2-}$	0.202	9.39E+03	6.72E+03	0.184	0.191	0.216	0.219
$PO4^{3-}$	4.20E-02	3.08E+03	2.20E+03	3.61E-02	3.82E-02	4.30E-02	4.40E-02
$SO4^{2-}$	0.115	8.53E+03	6.10E+03	8.99E-02	0.102	0.128	0.140
Si (as SiO_x^{2-})	3.74E-02	812	581	3.09E-02	3.41E-02	4.07E-02	4.39E-02
F^-	3.00E-02	440	315	2.51E-02	2.72E-02	3.24E-02	3.43E-02
Cl^-	0.119	3.25E+03	2.33E+03	0.108	0.112	0.124	0.128
$C_6H_5O_7^{3-}$	1.32E-02	1.93E+03	1.38E+03	1.21E-02	1.27E-02	1.37E-02	1.43E-02
$EDTA^{4-}$	6.87E-03	1.53E+03	1.09E+03	2.11E-03	4.44E-03	9.33E-03	1.17E-02
$HEDTA^{3-}$	1.29E-02	2.72E+03	1.95E+03	3.32E-03	7.98E-03	1.78E-02	2.25E-02
$glycolate^-$	4.10E-02	2.37E+03	1.70E+03	2.68E-02	3.37E-02	4.82E-02	5.52E-02
$acetate^-$	2.86E-03	131	93.4	2.34E-03	2.60E-03	3.13E-03	3.39E-03
$oxalate^{2-}$	2.17E-05	1.47	1.05	1.92E-05	2.04E-05	2.29E-05	2.42E-05
DBP	8.90E-03	1.45E+03	1.03E+03	7.30E-03	8.09E-03	9.70E-03	1.05E-02
butanol	8.90E-03	510	365	7.30E-03	8.09E-03	9.70E-03	1.05E-02
NH_3	4.09E-02	537	384	3.36E-02	3.65E-02	4.66E-02	5.32E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.75E+06 (kg)	(456 kgal)	----	----	----	----	----
Heat Load	6.30 (kW)	(2.15E+04 BTU/hr)	----	5.25	5.86	6.60	6.71
Bulk Density†	1.59 (g/cc)	----	----	1.50	1.52	1.71	1.76
Water wt%†	38.3	----	----	26.9	30.4	44.3	46.2
TOC wt% C (wet)†	0.115	----	----	7.65E-02	9.55E-02	0.136	0.155

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.56	1.38E+05	3.79E+05	7.73	7.96	11.8	12.9
Al^{3+}	3.78	6.41E+04	1.76E+05	3.11	3.31	4.30	4.82
Fe^{3+} (total Fe)	0.350	1.23E+04	3.37E+04	0.343	0.347	0.353	0.356
Cr^{3+}	0.326	1.06E+04	2.93E+04	0.209	0.265	0.479	0.658
Bi^{3+}	1.98E-04	26.0	71.6	1.80E-04	1.89E-04	2.08E-04	2.16E-04
La^{3+}	5.30E-06	0.462	1.27	3.84E-06	4.55E-06	6.05E-06	6.77E-06
Hg^{2+}	1.73E-06	0.218	0.599	1.64E-06	1.69E-06	1.77E-06	1.81E-06
Zr (as $ZrO(OH)_2$)	3.73E-05	2.14	5.87	3.40E-05	3.52E-05	3.87E-05	4.05E-05
Pb^{2+}	2.09E-04	27.2	74.8	1.79E-04	1.94E-04	2.25E-04	2.40E-04
Ni^{2+}	2.33E-02	858	2.36E+03	1.85E-02	2.12E-02	2.49E-02	2.46E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.91E-04	20.4	56.1	4.46E-04	5.17E-04	6.66E-04	7.37E-04
Ca^{2+}	0.106	2.66E+03	7.31E+03	8.09E-02	9.31E-02	0.118	0.131
K^+	2.48E-02	609	1.68E+03	2.15E-02	2.31E-02	2.62E-02	2.72E-02
OH^-	16.6	1.77E+05	4.88E+05	13.5	14.5	18.8	21.0
$NO3^-$	4.35	1.69E+05	4.66E+05	2.58	2.59	7.10	8.58
$NO2^-$	1.52	4.38E+04	1.21E+05	1.06	1.23	1.76	1.76
$CO3^{2-}$	0.167	6.29E+03	1.73E+04	0.142	0.154	0.180	0.192
$PO4^{3-}$	1.36E-02	810	2.23E+03	1.17E-02	1.24E-02	1.39E-02	1.42E-02
$SO4^{2-}$	5.42E-02	3.26E+03	8.98E+03	4.61E-02	5.00E-02	5.85E-02	6.23E-02
Si (as SiO_x^{2-})	5.92E-02	1.04E+03	2.87E+03	4.33E-02	5.30E-02	6.54E-02	7.14E-02
F^-	9.72E-03	116	319	8.16E-03	8.82E-03	1.05E-02	1.11E-02
Cl^-	0.101	2.25E+03	6.18E+03	7.78E-02	8.92E-02	0.107	0.136
$C_6H_5O_7^{3-}$	4.35E-03	516	1.42E+03	4.01E-03	4.18E-03	4.53E-03	4.69E-03
$EDTA^{4-}$	2.21E-03	399	1.10E+03	6.80E-04	1.42E-03	2.99E-03	3.76E-03
$HEDTA^{3-}$	4.12E-03	709	1.95E+03	1.07E-03	2.56E-03	5.69E-03	7.22E-03
$glycolate^-$	1.33E-02	626	1.72E+03	8.75E-03	1.10E-02	1.56E-02	1.78E-02
$acetate^-$	9.36E-04	34.7	95.3	7.69E-04	8.51E-04	1.02E-03	1.10E-03
$oxalate^{2-}$	6.94E-06	0.384	1.05	6.15E-06	6.54E-06	7.35E-06	7.74E-06
DBP	2.96E-03	391	1.07E+03	2.45E-03	2.70E-03	3.22E-03	3.46E-03
butanol	2.96E-03	138	379	2.45E-03	2.70E-03	3.22E-03	3.46E-03
NH_3	0.112	1.19E+03	3.28E+03	4.70E-02	5.64E-02	0.117	0.121
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+06 (kg)	(310 kgal)	----	----	----	----	----
Heat Load	5.74 (kW)	(1.96E+04 BTU/hr)	----	4.70	5.31	6.02	6.15
Bulk Density	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Void Fraction	0.661	----	----	0.425	0.503	0.761	0.764
Water wt%	30.8	----	----	16.6	21.2	38.4	40.9
TOC wt% C (wet)	2.61E-03	----	----	2.29E-03	2.37E-03	2.81E-03	3.04E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.27E-04	7.31E-02	149	1.45E-05	1.45E-05	1.33E-04	1.43E-04
C-14	6.88E-06	3.97E-03	8.07	1.12E-06	1.12E-06	7.28E-06	7.64E-06
Ni-59	1.08E-05	6.23E-03	12.7	7.38E-06	7.38E-06	1.15E-05	1.14E-05
Ni-63	1.02E-03	0.589	1.20E+03	6.89E-04	6.89E-04	1.09E-03	1.07E-03
Co-60	5.62E-06	3.24E-03	6.60	4.44E-07	4.44E-07	5.85E-06	6.32E-06
Se-79	3.74E-06	2.15E-03	4.38	2.39E-07	2.39E-07	3.82E-06	7.05E-06
Sr-90	0.593	342	6.96E+05	0.461	0.536	0.638	0.645
Y-90	0.594	342	6.96E+05	0.461	0.461	0.638	0.645
Zr-93	1.77E-05	1.02E-02	20.7	1.13E-06	1.13E-06	1.81E-05	3.16E-05
Nb-93m	1.44E-05	8.28E-03	16.8	9.21E-07	9.21E-07	1.47E-05	2.94E-05
Tc-99	5.26E-05	3.03E-02	61.7	4.56E-05	4.84E-05	5.60E-05	5.98E-05
Ru-106	1.20E-09	6.91E-07	1.41E-03	1.24E-12	1.24E-12	1.25E-09	1.36E-09
Cd-113m	2.68E-05	1.54E-02	31.4	3.47E-06	3.47E-06	5.52E-05	5.35E-05
Sb-125	1.92E-05	1.10E-02	22.5	6.52E-07	6.52E-07	2.00E-05	2.17E-05
Sn-126	5.73E-06	3.31E-03	6.73	3.67E-07	3.67E-07	5.86E-06	1.11E-05
I-129	1.00E-07	5.77E-05	0.117	8.66E-08	9.20E-08	1.06E-07	1.14E-07
Cs-134	1.17E-06	6.75E-04	1.37	1.35E-08	1.35E-08	1.22E-06	1.31E-06
Cs-137	0.191	110	2.24E+05	0.170	0.179	0.203	0.216
Ba-137m	0.180	104	2.12E+05	2.63E-02	2.63E-02	0.188	0.198
Sm-151	1.33E-02	7.68	1.56E+04	8.52E-04	8.52E-04	1.36E-02	2.56E-02
Eu-152	7.94E-06	4.58E-03	9.32	3.48E-06	3.48E-06	7.97E-06	8.02E-06
Eu-154	1.35E-04	7.76E-02	158	1.07E-05	1.07E-05	1.40E-04	1.74E-04
Eu-155	3.91E-04	0.225	458	1.64E-04	1.64E-04	3.92E-04	3.95E-04
Ra-226	7.73E-10	4.46E-07	9.07E-04	3.10E-10	5.37E-10	1.01E-09	1.24E-09
Ra-228	7.93E-09	4.57E-06	9.30E-03	4.60E-15	4.60E-15	8.00E-09	8.09E-09
Ac-227	3.75E-09	2.16E-06	4.40E-03	1.53E-09	2.37E-09	5.12E-09	6.44E-09
Pa-231	5.56E-09	3.21E-06	6.52E-03	3.57E-10	3.57E-10	6.22E-09	1.35E-08
Th-229	1.91E-10	1.10E-07	2.24E-04	8.78E-13	8.78E-13	1.93E-10	1.95E-10
Th-232	1.06E-10	6.13E-08	1.25E-04	2.93E-16	2.93E-16	1.34E-10	1.61E-10
U-232	3.54E-08	2.04E-05	4.16E-02	1.25E-08	2.31E-08	5.05E-08	6.72E-08
U-233	1.36E-07	7.82E-05	0.159	4.79E-08	8.84E-08	1.93E-07	2.57E-07
U-234	6.99E-07	4.03E-04	0.821	3.39E-07	5.15E-07	8.99E-07	1.10E-06
U-235	2.84E-08	1.64E-05	3.33E-02	1.38E-08	2.09E-08	3.65E-08	4.47E-08
U-236	2.74E-08	1.58E-05	3.22E-02	1.30E-08	2.02E-08	3.51E-08	4.26E-08
U-238	6.22E-07	3.58E-04	0.729	3.04E-07	4.58E-07	7.99E-07	9.79E-07
Np-237	2.46E-07	1.42E-04	0.289	2.01E-07	2.19E-07	2.64E-07	2.81E-07
Pu-238	4.47E-06	2.58E-03	5.25	3.54E-06	4.00E-06	4.94E-06	5.40E-06
Pu-239	2.73E-04	0.157	320	2.07E-04	2.39E-04	3.07E-04	3.39E-04
Pu-240	3.99E-05	2.30E-02	46.8	3.04E-05	3.51E-05	4.47E-05	4.94E-05
Pu-241	2.58E-04	0.149	303	2.03E-04	2.30E-04	2.87E-04	3.14E-04
Pu-242	1.23E-09	7.08E-07	1.44E-03	9.73E-10	1.10E-09	1.36E-09	1.48E-09
Am-241	6.27E-05	3.62E-02	73.6	3.74E-05	5.48E-05	7.13E-05	1.30E-04
Am-243	1.91E-09	1.10E-06	2.24E-03	9.00E-10	1.66E-09	2.10E-09	2.54E-09
Cm-242	8.07E-08	4.66E-05	9.47E-02	7.90E-08	7.97E-08	8.14E-08	8.14E-08
Cm-243	1.85E-09	1.07E-06	2.17E-03	1.81E-09	1.83E-09	1.86E-09	1.86E-09
Cm-244	1.44E-09	8.30E-07	1.69E-03	2.49E-10	7.24E-10	1.92E-09	1.92E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.56E-03 (g/L)	----	5.35	3.45E-03	4.00E-03	5.12E-03	5.67E-03
U	7.69E-03	1.06E+03	2.15E+03	3.76E-03	5.66E-03	9.90E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.16E+05 (kg)	(146 kgal)	----	----	----	----	----
Heat Load	0.567 (kW)	(1.94E+03 BTU/hr)	----	0.534	0.550	0.584	0.600
Bulk Density*	1.29 (g/cc)	----	----	1.27	1.28	1.30	1.31
Water wt%†	59.6	----	----	57.7	58.6	60.8	62.0
TOC wt% C (wet)	0.437	----	----	0.287	0.360	0.513	0.587
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.23E-04	9.54E-02	68.2	6.55E-05	6.55E-05	1.27E-04	1.32E-04
C-14	1.75E-05	1.35E-02	9.67	5.38E-06	5.38E-06	1.78E-05	1.80E-05
Ni-59	1.13E-06	8.74E-04	0.625	5.61E-07	5.61E-07	1.16E-06	1.19E-06
Ni-63	1.11E-04	8.56E-02	61.2	5.44E-05	5.44E-05	1.14E-04	1.16E-04
Co-60	1.92E-05	1.49E-02	10.6	5.37E-06	5.37E-06	1.96E-05	1.99E-05
Se-79	1.75E-06	1.35E-03	0.965	9.73E-07	9.73E-07	2.03E-06	2.29E-06
Sr-90	5.80E-02	44.8	3.20E+04	5.42E-02	5.60E-02	5.99E-02	6.18E-02
Y-90	5.80E-02	44.8	3.20E+04	3.13E-02	3.13E-02	5.99E-02	6.18E-02
Zr-93	8.57E-06	6.62E-03	4.74	4.70E-06	4.70E-06	9.97E-06	1.13E-05
Nb-93m	6.23E-06	4.81E-03	3.44	3.52E-06	3.52E-06	7.21E-06	8.15E-06
Tc-99	1.25E-04	9.63E-02	68.9	7.95E-05	1.02E-04	1.48E-04	1.70E-04
Ru-106	3.41E-09	2.63E-06	1.88E-03	1.61E-09	1.61E-09	3.81E-09	4.17E-09
Cd-113m	4.48E-05	3.46E-02	24.8	2.16E-05	2.16E-05	5.32E-05	6.13E-05
Sb-125	8.25E-05	6.37E-02	45.6	2.24E-05	2.24E-05	8.40E-05	8.55E-05
Sn-126	2.64E-06	2.04E-03	1.46	1.48E-06	1.48E-06	3.06E-06	3.46E-06
I-129	2.40E-07	1.86E-04	0.133	1.53E-07	1.96E-07	2.85E-07	3.29E-07
Cs-134	1.29E-06	9.95E-04	0.712	9.28E-07	1.06E-06	1.47E-06	1.65E-06
Cs-137	0.136	105	7.50E+04	0.123	0.129	0.142	0.148
Ba-137m	0.128	99.1	7.09E+04	9.84E-02	9.84E-02	0.135	0.140
Sm-151	6.15E-03	4.75	3.40E+03	3.44E-03	3.44E-03	7.13E-03	8.07E-03
Eu-152	1.98E-06	1.53E-03	1.09	1.02E-06	1.02E-06	2.11E-06	2.24E-06
Eu-154	3.13E-04	0.242	173	1.20E-04	1.20E-04	3.83E-04	4.11E-04
Eu-155	1.17E-04	9.02E-02	64.5	5.97E-05	5.97E-05	1.25E-04	1.33E-04
Ra-226	7.48E-11	5.78E-08	4.13E-05	5.08E-11	5.08E-11	8.35E-11	9.18E-11
Ra-228	6.65E-08	5.14E-05	3.68E-02	2.76E-08	4.67E-08	8.96E-08	1.14E-07
Ac-227	4.70E-10	3.63E-07	2.60E-04	3.31E-10	3.31E-10	5.21E-10	5.69E-10
Pa-231	2.16E-09	1.66E-06	1.19E-03	1.38E-09	1.38E-09	2.44E-09	2.70E-09
Th-229	1.56E-09	1.21E-06	8.63E-04	7.09E-10	1.13E-09	2.07E-09	2.61E-09
Th-232	4.43E-09	3.42E-06	2.45E-03	2.28E-09	3.33E-09	5.53E-09	6.58E-09
U-232	3.47E-07	2.68E-04	0.192	1.91E-07	2.67E-07	4.39E-07	5.38E-07
U-233	1.33E-06	1.03E-03	0.735	7.33E-07	1.02E-06	1.68E-06	2.06E-06
U-234	4.15E-07	3.21E-04	0.230	3.99E-07	4.07E-07	4.25E-07	4.28E-07
U-235	1.69E-08	1.30E-05	9.33E-03	1.62E-08	1.65E-08	1.73E-08	1.74E-08
U-236	1.29E-08	9.98E-06	7.14E-03	1.25E-08	1.27E-08	1.31E-08	1.33E-08
U-238	4.76E-07	3.67E-04	0.263	4.58E-07	4.66E-07	4.85E-07	4.88E-07
Np-237	4.58E-07	3.54E-04	0.253	3.11E-07	3.83E-07	5.35E-07	6.08E-07
Pu-238	7.03E-07	5.43E-04	0.388	5.29E-07	6.14E-07	7.91E-07	8.76E-07
Pu-239	2.42E-05	1.87E-02	13.4	1.97E-05	2.19E-05	2.64E-05	2.86E-05
Pu-240	4.09E-06	3.16E-03	2.26	3.27E-06	3.67E-06	4.52E-06	4.92E-06
Pu-241	4.74E-05	3.66E-02	26.2	3.56E-05	4.14E-05	5.35E-05	5.93E-05
Pu-242	2.60E-10	2.01E-07	1.44E-04	1.90E-10	2.24E-10	2.96E-10	3.31E-10
Am-241	2.95E-05	2.28E-02	16.3	2.13E-05	2.53E-05	3.37E-05	3.77E-05
Am-243	1.01E-09	7.83E-07	5.60E-04	7.55E-10	8.78E-10	1.15E-09	1.28E-09
Cm-242	7.46E-08	5.76E-05	4.12E-02	3.52E-08	3.52E-08	7.96E-08	8.45E-08
Cm-243	6.89E-09	5.32E-06	3.81E-03	3.14E-09	3.14E-09	7.34E-09	7.78E-09
Cm-244	6.85E-08	5.29E-05	3.78E-02	2.98E-08	2.98E-08	8.16E-08	8.99E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.03E-04 (g/L)	----	0.167	2.19E-04	2.60E-04	3.45E-04	3.86E-04
U	4.77E-03	877	627	4.56E-03	4.66E-03	4.89E-03	4.92E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.75E+06 (kg)	(456 kgal)	----	----	----	----	----
Heat Load	6.30 (kW)	(2.15E+04 BTU/hr)	----	5.25	5.86	6.60	6.71
Bulk Density†	1.59 (g/cc)	----	----	1.50	1.52	1.71	1.76
Water wt%†	38.3	----	----	26.9	30.4	44.3	46.2
TOC wt% C (wet)†	0.115	----	----	7.65E-02	9.55E-02	0.136	0.155
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.26E-04	7.89E-02	217	4.15E-05	4.15E-05	1.30E-04	1.36E-04
C-14	1.03E-05	6.45E-03	17.7	5.96E-06	5.96E-06	1.06E-05	1.08E-05
Ni-59	7.71E-06	4.84E-03	13.3	5.36E-06	5.36E-06	8.18E-06	8.09E-06
Ni-63	7.30E-04	0.458	1.26E+03	5.02E-04	5.02E-04	7.74E-04	7.65E-04
Co-60	9.99E-06	6.27E-03	17.2	5.54E-06	5.54E-06	1.01E-05	1.05E-05
Se-79	3.10E-06	1.94E-03	5.35	6.66E-07	6.66E-07	3.19E-06	5.32E-06
Sr-90	0.422	265	7.28E+05	0.332	0.383	0.452	0.457
Y-90	0.422	265	7.28E+05	0.331	0.331	0.452	0.457
Zr-93	1.48E-05	9.26E-03	25.5	3.23E-06	3.23E-06	1.52E-05	2.41E-05
Nb-93m	1.18E-05	7.37E-03	20.3	2.43E-06	2.43E-06	1.21E-05	2.18E-05
Tc-99	7.57E-05	4.75E-02	131	6.12E-05	6.83E-05	8.31E-05	9.03E-05
Ru-106	1.91E-09	1.20E-06	3.29E-03	1.01E-09	1.01E-09	2.03E-09	2.15E-09
Cd-113m	3.26E-05	2.04E-02	56.2	1.51E-05	1.51E-05	5.13E-05	4.95E-05
Sb-125	3.94E-05	2.47E-02	68.1	2.02E-05	2.02E-05	4.00E-05	4.11E-05
Sn-126	4.74E-06	2.98E-03	8.19	1.01E-06	1.01E-06	4.88E-06	8.32E-06
I-129	1.45E-07	9.10E-05	0.250	1.17E-07	1.31E-07	1.59E-07	1.73E-07
Cs-134	1.21E-06	7.58E-04	2.09	3.50E-07	3.50E-07	1.27E-06	1.33E-06
Cs-137	0.173	109	2.99E+05	0.159	0.166	0.182	0.192
Ba-137m	0.164	103	2.83E+05	4.94E-02	4.94E-02	0.169	0.176
Sm-151	1.10E-02	6.92	1.90E+04	2.35E-03	2.35E-03	1.13E-02	1.92E-02
Eu-152	6.03E-06	3.79E-03	10.4	2.97E-06	2.97E-06	6.07E-06	6.12E-06
Eu-154	1.92E-04	0.120	331	9.88E-05	9.88E-05	2.14E-04	2.23E-04
Eu-155	3.03E-04	0.190	523	1.47E-04	1.47E-04	3.05E-04	3.08E-04
Ra-226	5.49E-10	3.45E-07	9.48E-04	2.38E-10	3.87E-10	7.08E-10	8.61E-10
Ra-228	2.67E-08	1.68E-05	4.61E-02	1.42E-08	2.03E-08	3.41E-08	4.19E-08
Ac-227	2.70E-09	1.69E-06	4.66E-03	1.21E-09	1.75E-09	3.62E-09	4.50E-09
Pa-231	4.47E-09	2.81E-06	7.72E-03	8.77E-10	8.77E-10	4.91E-09	9.83E-09
Th-229	6.30E-10	3.95E-07	1.09E-03	3.57E-10	4.90E-10	7.92E-10	9.65E-10
Th-232	1.49E-09	9.35E-07	2.57E-03	8.01E-10	1.14E-09	1.84E-09	2.18E-09
U-232	1.35E-07	8.48E-05	0.233	8.52E-08	1.10E-07	1.65E-07	1.96E-07
U-233	5.18E-07	3.25E-04	0.894	3.27E-07	4.20E-07	6.31E-07	7.52E-07
U-234	6.08E-07	3.82E-04	1.05	3.64E-07	4.83E-07	7.44E-07	8.81E-07
U-235	2.47E-08	1.55E-05	4.27E-02	1.48E-08	1.96E-08	3.02E-08	3.58E-08
U-236	2.28E-08	1.43E-05	3.93E-02	1.30E-08	1.79E-08	2.80E-08	3.31E-08
U-238	5.75E-07	3.61E-04	0.992	3.59E-07	4.64E-07	6.96E-07	8.17E-07
Np-237	3.14E-07	1.97E-04	0.542	2.67E-07	2.90E-07	3.39E-07	3.62E-07
Pu-238	3.26E-06	2.05E-03	5.64	2.64E-06	2.95E-06	3.58E-06	3.89E-06
Pu-239	1.93E-04	0.121	333	1.49E-04	1.71E-04	2.16E-04	2.38E-04
Pu-240	2.84E-05	1.79E-02	49.1	2.21E-05	2.52E-05	3.17E-05	3.48E-05
Pu-241	1.91E-04	0.120	329	1.53E-04	1.72E-04	2.10E-04	2.28E-04
Pu-242	9.18E-10	5.76E-07	1.58E-03	7.47E-10	8.31E-10	1.01E-09	1.09E-09
Am-241	5.21E-05	3.27E-02	89.9	3.43E-05	4.67E-05	5.79E-05	9.71E-05
Am-243	1.62E-09	1.02E-06	2.80E-03	9.16E-10	1.44E-09	1.76E-09	2.05E-09
Cm-242	7.88E-08	4.94E-05	0.136	6.62E-08	6.62E-08	8.04E-08	8.19E-08
Cm-243	3.46E-09	2.17E-06	5.98E-03	2.26E-09	2.26E-09	3.61E-09	3.75E-09
Cm-244	2.29E-08	1.44E-05	3.95E-02	1.05E-08	1.05E-08	2.71E-08	2.98E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.20E-03 (g/L)	----	5.52	2.45E-03	2.82E-03	3.58E-03	3.94E-03
U	6.76E-03	1.01E+03	2.78E+03	4.08E-03	5.38E-03	8.26E-03	9.78E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.92E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.97E+03 BTU/hr)	----	1.06	1.29	1.56	1.61
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.13	1.06E+05	4.17E+04	3.05	3.56	14.7	18.2
Al^{3+}	6.99	1.07E+05	4.21E+04	6.58	6.74	7.15	7.15
Fe^{3+} (total Fe)	1.01	3.22E+04	1.26E+04	0.994	1.00	1.02	1.03
Cr^{3+}	6.19E-02	1.83E+03	718	7.08E-03	3.39E-02	0.522	1.06
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	5.07E-02	1.69E+03	665	3.66E-02	4.45E-02	5.54E-02	5.45E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.220	5.02E+03	1.97E+03	0.146	0.182	0.258	0.294
K^{+}	1.12E-02	250	98.0	1.28E-03	5.25E-03	1.52E-02	1.52E-02
OH^{-}	25.6	2.48E+05	9.72E+04	23.1	24.3	26.9	28.4
$NO3^{-}$	5.29	1.87E+05	7.32E+04	6.03E-02	6.03E-02	13.5	17.9
$NO2^{-}$	1.46	3.82E+04	1.50E+04	0.132	0.595	2.15	2.15
$CO3^{2-}$	0.220	7.51E+03	2.95E+03	0.146	0.182	0.258	0.294
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.04E-02	569	223	1.19E-03	4.87E-03	1.41E-02	1.41E-02
Si (as SiO_x^{2-})	8.06E-03	129	50.5	9.21E-04	3.77E-03	1.09E-02	1.09E-02
F^{-}	0	0	0	0	0	0	0
Cl^{-}	5.16E-02	1.04E+03	409	5.91E-03	2.42E-02	7.00E-02	0.157
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.256	2.47E+03	970	6.55E-02	9.25E-02	0.270	0.284
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.20E+06 (kg)	(484 kgal)	----	----	----	----	----
Heat Load	4.77 (kW)	(1.63E+04 BTU/hr)	----	4.46	4.62	4.92	5.07
Bulk Density*	1.75 (g/cc)	----	----	1.68	1.72	1.77	1.80
Water wt%	24.0	----	----	21.0	22.3	25.7	27.7
TOC wt% C (wet)	0.932	----	----	0.618	0.772	1.09	1.25

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	17.6	2.31E+05	7.39E+05	15.9	16.7	18.2	18.9
Al^{3+}	2.03	3.14E+04	1.00E+05	1.87	1.95	2.11	2.19
Fe^{3+} (total Fe)	1.39E-02	445	1.42E+03	1.12E-02	1.26E-02	1.53E-02	1.66E-02
Cr^{3+}	0.177	5.26E+03	1.68E+04	0.151	0.165	0.182	0.187
Bi^{3+}	1.72E-03	205	657	1.57E-03	1.64E-03	1.79E-03	1.86E-03
La^{3+}	6.94E-05	5.51	17.7	5.03E-05	5.96E-05	7.92E-05	8.86E-05
Hg^{2+}	1.17E-05	1.34	4.30	1.10E-05	1.14E-05	1.19E-05	1.21E-05
Zr (as $ZrO(OH)_2$)	3.04E-04	15.9	50.8	2.77E-04	2.87E-04	3.15E-04	3.30E-04
Pb^{2+}	1.31E-03	155	496	1.05E-03	1.18E-03	1.44E-03	1.56E-03
Ni^{2+}	8.08E-03	271	869	7.69E-03	7.88E-03	8.18E-03	8.27E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.05E-03	159	508	3.76E-03	4.39E-03	5.70E-03	6.33E-03
Ca^{2+}	4.24E-02	973	3.11E+03	3.86E-02	4.04E-02	4.44E-02	4.63E-02
K^{+}	8.30E-02	1.86E+03	5.95E+03	7.52E-02	7.89E-02	8.73E-02	9.14E-02
OH^{-}	12.2	1.19E+05	3.81E+05	11.4	11.8	12.7	13.0
$NO3^{-}$	6.10	2.16E+05	6.93E+05	5.64	5.91	6.19	6.27
$NO2^{-}$	3.03	7.97E+04	2.55E+05	2.48	2.73	3.32	3.59
$CO3^{2-}$	0.571	1.96E+04	6.28E+04	0.517	0.543	0.607	0.617
$PO4^{3-}$	0.117	6.35E+03	2.03E+04	0.101	0.107	0.119	0.122
$SO4^{2-}$	0.318	1.75E+04	5.60E+04	0.247	0.281	0.356	0.390
Si (as SiO_x^{2-})	9.87E-02	1.59E+03	5.08E+03	8.03E-02	8.93E-02	0.108	0.117
F^{-}	8.46E-02	920	2.94E+03	7.21E-02	7.73E-02	9.07E-02	9.56E-02
Cl^{-}	0.304	6.16E+03	1.97E+04	0.272	0.287	0.318	0.331
$C_6H_5O_7^{3-}$	3.81E-02	4.12E+03	1.32E+04	3.50E-02	3.65E-02	3.96E-02	4.11E-02
$EDTA^{4-}$	1.99E-02	3.28E+03	1.05E+04	6.30E-03	1.30E-02	2.69E-02	3.38E-02
$HEDTA^{3-}$	3.67E-02	5.76E+03	1.84E+04	9.50E-03	2.28E-02	5.07E-02	6.44E-02
$glycolate^{-}$	0.117	5.03E+03	1.61E+04	7.67E-02	9.65E-02	0.138	0.158
$acetate^{-}$	9.96E-03	336	1.08E+03	8.29E-03	9.11E-03	1.08E-02	1.16E-02
$oxalate^{2-}$	9.09E-05	4.58	14.7	8.05E-05	8.56E-05	9.62E-05	1.01E-04
DBP	2.57E-02	3.09E+03	9.89E+03	2.12E-02	2.34E-02	2.79E-02	3.01E-02
butanol	2.57E-02	1.09E+03	3.49E+03	2.12E-02	2.34E-02	2.79E-02	3.01E-02
NH_3	0.106	1.04E+03	3.31E+03	8.57E-02	9.39E-02	0.122	0.141
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.59E+06 (kg)	(543 kgal)	----	----	----	----	----
Heat Load	6.22 (kW)	(2.12E+04 BTU/hr)	----	5.71	6.00	6.40	6.52
Bulk Density†	1.75 (g/cc)	----	----	1.69	1.71	1.80	1.80
Water wt%†	24.3	----	----	21.6	21.7	26.2	27.6
TOC wt% C (wet)†	0.830	----	----	0.550	0.687	0.973	1.11

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	16.5	2.17E+05	7.81E+05	15.1	15.8	17.4	17.7
Al^{3+}	2.57	3.97E+04	1.43E+05	2.43	2.50	2.64	2.71
Fe^{3+} (total Fe)	0.122	3.91E+03	1.41E+04	0.120	0.121	0.124	0.125
Cr^{3+}	0.164	4.89E+03	1.76E+04	0.149	0.157	0.203	0.249
Bi^{3+}	1.53E-03	183	657	1.40E-03	1.46E-03	1.59E-03	1.66E-03
La^{3+}	6.18E-05	4.91	17.7	4.48E-05	5.31E-05	7.06E-05	7.90E-05
Hg^{2+}	1.04E-05	1.20	4.30	9.76E-06	1.01E-05	1.06E-05	1.07E-05
Zr (as $ZrO(OH)_2$)	2.71E-04	14.1	50.8	2.47E-04	2.56E-04	2.80E-04	2.94E-04
Pb^{2+}	1.16E-03	138	496	9.37E-04	1.05E-03	1.28E-03	1.39E-03
Ni^{2+}	1.27E-02	427	1.53E+03	1.12E-02	1.20E-02	1.32E-02	1.30E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.50E-03	141	508	3.35E-03	3.91E-03	5.08E-03	5.65E-03
Ca^{2+}	6.17E-02	1.41E+03	5.08E+03	5.40E-02	5.84E-02	6.49E-02	6.80E-02
K^{+}	7.52E-02	1.68E+03	6.05E+03	6.82E-02	7.15E-02	7.91E-02	8.27E-02
OH^{-}	13.7	1.33E+05	4.78E+05	12.9	13.3	14.1	14.4
$NO3^{-}$	6.01	2.13E+05	7.66E+05	5.31	5.42	6.86	7.20
$NO2^{-}$	2.86	7.52E+04	2.70E+05	2.37	2.60	3.11	3.36
$CO3^{2-}$	0.533	1.83E+04	6.58E+04	0.485	0.508	0.565	0.574
$PO4^{3-}$	0.104	5.65E+03	2.03E+04	9.04E-02	9.52E-02	0.107	0.109
$SO4^{2-}$	0.285	1.56E+04	5.62E+04	0.221	0.252	0.319	0.349
Si (as SiO_x^{2-})	8.88E-02	1.43E+03	5.13E+03	7.24E-02	8.05E-02	9.72E-02	0.105
F^{-}	7.54E-02	819	2.94E+03	6.42E-02	6.89E-02	8.09E-02	8.52E-02
Cl^{-}	0.276	5.60E+03	2.01E+04	0.248	0.262	0.289	0.300
$C_6H_5O_7^{3-}$	3.39E-02	3.67E+03	1.32E+04	3.12E-02	3.25E-02	3.53E-02	3.66E-02
$EDTA^{4-}$	1.78E-02	2.93E+03	1.05E+04	5.62E-03	1.15E-02	2.40E-02	3.01E-02
$HEDTA^{3-}$	3.27E-02	5.13E+03	1.84E+04	8.46E-03	2.03E-02	4.52E-02	5.74E-02
$glycolate^{-}$	0.104	4.48E+03	1.61E+04	6.84E-02	8.60E-02	0.123	0.140
$acetate^{-}$	8.88E-03	300	1.08E+03	7.39E-03	8.12E-03	9.64E-03	1.04E-02
$oxalate^{2-}$	8.10E-05	4.08	14.7	7.18E-05	7.63E-05	8.57E-05	9.02E-05
DBP	2.29E-02	2.75E+03	9.89E+03	1.89E-02	2.08E-02	2.49E-02	2.68E-02
butanol	2.29E-02	970	3.49E+03	1.89E-02	2.08E-02	2.49E-02	2.68E-02
NH_3	0.123	1.19E+03	4.28E+03	9.87E-02	0.103	0.137	0.154
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.92E+05 (kg)	(59.0 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.97E+03 BTU/hr)	----	1.06	1.29	1.56	1.61
Bulk Density	1.76 (g/cc)	----	----	1.51	1.53	2.11	2.24
Void Fraction	0.536	----	----	6.00E-02	0.217	0.737	0.743
Water wt%	27.0	----	----	2.64	10.0	42.6	44.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.92E-05	1.67E-02	6.53	3.05E-06	1.47E-05	4.10E-05	4.10E-05
C-14	2.26E-06	1.29E-03	0.505	2.59E-07	1.06E-06	3.07E-06	3.07E-06
Ni-59	1.49E-05	8.46E-03	3.32	1.07E-05	1.31E-05	1.62E-05	1.60E-05
Ni-63	1.39E-03	0.790	310	1.00E-03	1.22E-03	1.52E-03	1.49E-03
Co-60	8.94E-07	5.09E-04	0.200	1.02E-07	4.18E-07	1.21E-06	1.21E-06
Se-79	4.81E-07	2.74E-04	0.107	5.50E-08	2.25E-07	6.51E-07	7.15E-06
Sr-90	0.928	529	2.07E+05	0.662	0.812	1.02	1.03
Y-90	0.929	529	2.07E+05	0.662	0.812	1.02	1.03
Zr-93	2.27E-06	1.29E-03	0.507	2.59E-07	1.06E-06	3.08E-06	3.03E-05
Nb-93m	1.85E-06	1.06E-03	0.414	2.12E-07	8.68E-07	2.51E-06	3.21E-05
Tc-99	1.58E-05	9.02E-03	3.54	1.81E-06	7.42E-06	2.15E-05	2.15E-05
Ru-106	2.50E-12	1.42E-09	5.57E-07	2.86E-13	1.17E-12	3.38E-12	3.38E-12
Cd-113m	6.99E-06	3.98E-03	1.56	8.00E-07	3.27E-06	9.48E-06	9.48E-06
Sb-125	1.31E-06	7.47E-04	0.293	1.50E-07	6.14E-07	1.78E-06	1.78E-06
Sn-126	7.39E-07	4.21E-04	0.165	8.45E-08	3.46E-07	1.00E-06	1.14E-05
I-129	3.04E-08	1.73E-05	6.80E-03	3.48E-09	1.42E-08	4.13E-08	4.13E-08
Cs-134	2.72E-08	1.55E-05	6.07E-03	7.19E-09	1.52E-08	3.52E-08	3.52E-08
Cs-137	5.60E-02	31.9	1.25E+04	1.48E-02	3.13E-02	7.26E-02	7.26E-02
Ba-137m	5.30E-02	30.2	1.18E+04	1.40E-02	2.96E-02	6.87E-02	6.87E-02
Sm-151	1.71E-03	0.976	383	1.96E-04	8.03E-04	2.33E-03	2.64E-02
Eu-152	7.00E-06	3.98E-03	1.56	6.85E-06	6.91E-06	7.06E-06	7.06E-06
Eu-154	2.16E-05	1.23E-02	4.82	2.47E-06	1.01E-05	2.93E-05	2.93E-05
Eu-155	3.30E-04	0.188	73.8	3.23E-04	3.26E-04	3.33E-04	3.33E-04
Ra-226	1.08E-09	6.15E-07	2.41E-04	1.48E-10	6.04E-10	1.56E-09	2.01E-09
Ra-228	9.26E-15	5.28E-12	2.07E-09	9.07E-15	9.15E-15	9.34E-15	9.34E-15
Ac-227	4.76E-09	2.71E-06	1.06E-03	3.06E-10	2.00E-09	7.52E-09	1.02E-08
Pa-231	7.18E-10	4.09E-07	1.60E-04	8.21E-11	3.36E-10	2.04E-09	1.68E-08
Th-229	1.77E-12	1.01E-09	3.95E-07	1.73E-12	1.75E-12	1.78E-12	1.78E-12
Th-232	5.91E-16	3.36E-13	1.32E-10	6.76E-17	2.77E-16	8.01E-16	8.01E-16
U-232	5.24E-12	2.98E-09	1.17E-06	5.99E-13	2.45E-12	7.10E-12	7.10E-12
U-233	2.00E-13	1.14E-10	4.46E-08	2.28E-14	9.34E-14	2.71E-13	2.71E-13
U-234	1.19E-07	6.78E-05	2.66E-02	1.36E-08	5.58E-08	1.62E-07	1.62E-07
U-235	5.13E-09	2.92E-06	1.14E-03	5.86E-10	2.40E-09	6.95E-09	6.95E-09
U-236	1.88E-09	1.07E-06	4.21E-04	2.16E-10	8.82E-10	2.56E-09	2.56E-09
U-238	1.22E-07	6.92E-05	2.72E-02	1.39E-08	5.69E-08	1.65E-07	1.65E-07
Np-237	1.03E-07	5.86E-05	2.30E-02	1.18E-08	4.81E-08	1.39E-07	1.39E-07
Pu-238	6.61E-06	3.77E-03	1.48	4.75E-06	5.66E-06	7.57E-06	8.48E-06
Pu-239	4.72E-04	0.269	105	3.39E-04	4.04E-04	5.40E-04	6.05E-04
Pu-240	6.76E-05	3.85E-02	15.1	4.85E-05	5.78E-05	7.73E-05	8.66E-05
Pu-241	3.97E-04	0.226	88.7	2.85E-04	3.40E-04	4.55E-04	5.09E-04
Pu-242	1.82E-09	1.04E-06	4.07E-04	1.31E-09	1.56E-09	2.08E-09	2.34E-09
Am-241	8.09E-06	4.61E-03	1.81	9.26E-07	3.79E-06	1.10E-05	1.43E-04
Am-243	7.57E-11	4.31E-08	1.69E-05	8.66E-12	3.54E-11	1.03E-10	1.34E-09
Cm-242	1.61E-07	9.16E-05	3.59E-02	1.58E-07	1.59E-07	1.62E-07	1.62E-07
Cm-243	3.69E-09	2.10E-06	8.24E-04	3.61E-09	3.64E-09	3.72E-09	3.72E-09
Cm-244	2.70E-09	1.54E-06	6.04E-04	3.09E-10	1.27E-09	3.67E-09	3.67E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.89E-03 (g/L)	----	1.76	5.67E-03	6.76E-03	9.03E-03	1.01E-02
U	1.53E-03	207	81.3	1.75E-04	7.16E-04	2.07E-03	2.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.20E+06 (kg)	(484 kgal)	----	----	----	----	----
Heat Load	4.77 (kW)	(1.63E+04 BTU/hr)	----	4.46	4.62	4.92	5.07
Bulk Density*	1.75 (g/cc)	----	----	1.68	1.72	1.77	1.80
Water wt%†	24.0	----	----	21.0	22.3	25.7	27.7
TOC wt% C (wet)	0.932	----	----	0.618	0.772	1.09	1.25

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.20E-04	0.183	586	1.56E-04	1.56E-04	3.30E-04	3.44E-04
C-14	4.78E-05	2.74E-02	87.6	1.35E-05	1.35E-05	4.85E-05	4.92E-05
Ni-59	2.99E-06	1.71E-03	5.48	1.38E-06	1.38E-06	3.07E-06	3.15E-06
Ni-63	2.94E-04	0.168	538	1.34E-04	1.34E-04	3.02E-04	3.09E-04
Co-60	5.38E-05	3.08E-02	98.5	1.45E-05	1.45E-05	5.47E-05	5.56E-05
Se-79	4.60E-06	2.63E-03	8.44	2.42E-06	2.42E-06	5.40E-06	6.16E-06
Sr-90	0.154	88.0	2.82E+05	0.143	0.148	0.159	0.164
Y-90	0.154	88.0	2.82E+05	7.81E-02	7.81E-02	0.159	0.165
Zr-93	2.26E-05	1.29E-02	41.4	1.17E-05	1.17E-05	2.66E-05	3.04E-05
Nb-93m	1.64E-05	9.37E-03	30.0	8.71E-06	8.71E-06	1.91E-05	2.18E-05
Tc-99	3.41E-04	0.195	625	2.13E-04	2.76E-04	4.07E-04	4.71E-04
Ru-106	9.50E-09	5.44E-06	1.74E-02	4.43E-09	4.43E-09	1.06E-08	1.17E-08
Cd-113m	1.20E-04	6.87E-02	220	5.44E-05	5.44E-05	1.44E-04	1.67E-04
Sb-125	2.33E-04	0.133	426	6.26E-05	6.26E-05	2.37E-04	2.41E-04
Sn-126	6.96E-06	3.98E-03	12.7	3.67E-06	3.67E-06	8.15E-06	9.28E-06
I-129	6.58E-07	3.77E-04	1.21	4.11E-07	5.31E-07	7.85E-07	9.08E-07
Cs-134	3.44E-06	1.97E-03	6.31	2.41E-06	2.92E-06	3.97E-06	4.49E-06
Cs-137	0.334	191	6.13E+05	0.300	0.317	0.352	0.369
Ba-137m	0.316	181	5.80E+05	0.251	0.251	0.333	0.349
Sm-151	1.62E-02	9.27	2.97E+04	8.55E-03	8.55E-03	1.90E-02	2.16E-02
Eu-152	5.45E-06	3.12E-03	9.98	2.74E-06	2.74E-06	5.83E-06	6.19E-06
Eu-154	8.61E-04	0.492	1.58E+03	3.13E-04	3.13E-04	1.06E-03	1.14E-03
Eu-155	3.23E-04	0.185	591	1.61E-04	1.61E-04	3.46E-04	3.69E-04
Ra-226	1.93E-10	1.10E-07	3.53E-04	1.25E-10	1.25E-10	2.17E-10	2.41E-10
Ra-228	2.09E-07	1.20E-04	0.383	9.49E-08	1.51E-07	2.77E-07	3.49E-07
Ac-227	1.23E-09	7.02E-07	2.25E-03	8.32E-10	8.32E-10	1.37E-09	1.51E-09
Pa-231	5.69E-09	3.25E-06	1.04E-02	3.50E-09	3.50E-09	6.48E-09	7.24E-09
Th-229	4.91E-09	2.81E-06	8.99E-03	2.40E-09	3.63E-09	6.40E-09	7.98E-09
Th-232	1.47E-08	8.40E-06	2.69E-02	8.35E-09	1.14E-08	1.79E-08	2.10E-08
U-232	1.04E-06	5.95E-04	1.90	5.81E-07	8.05E-07	1.31E-06	1.60E-06
U-233	3.98E-06	2.28E-03	7.30	2.23E-06	3.09E-06	5.02E-06	6.13E-06
U-234	1.09E-06	6.23E-04	1.99	1.04E-06	1.07E-06	1.11E-06	1.13E-06
U-235	4.40E-08	2.52E-05	8.07E-02	4.23E-08	4.33E-08	4.49E-08	4.56E-08
U-236	3.43E-08	1.96E-05	6.28E-02	3.30E-08	3.37E-08	3.48E-08	3.54E-08
U-238	1.29E-06	7.36E-04	2.36	1.24E-06	1.27E-06	1.31E-06	1.32E-06
Np-237	1.23E-06	7.04E-04	2.25	8.12E-07	1.02E-06	1.44E-06	1.65E-06
Pu-238	1.93E-06	1.10E-03	3.53	1.44E-06	1.68E-06	2.18E-06	2.42E-06
Pu-239	6.52E-05	3.73E-02	119	5.26E-05	5.88E-05	7.16E-05	7.77E-05
Pu-240	1.11E-05	6.36E-03	20.4	8.77E-06	9.92E-06	1.23E-05	1.34E-05
Pu-241	1.31E-04	7.50E-02	240	9.76E-05	1.14E-04	1.48E-04	1.65E-04
Pu-242	7.21E-10	4.12E-07	1.32E-03	5.21E-10	6.19E-10	8.23E-10	9.21E-10
Am-241	7.79E-05	4.46E-02	143	5.46E-05	6.60E-05	8.98E-05	1.01E-04
Am-243	2.77E-09	1.59E-06	5.08E-03	2.04E-09	2.39E-09	3.16E-09	3.54E-09
Cm-242	2.08E-07	1.19E-04	0.381	9.65E-08	9.65E-08	2.22E-07	2.36E-07
Cm-243	1.93E-08	1.11E-05	3.54E-02	8.73E-09	8.73E-09	2.06E-08	2.19E-08
Cm-244	1.91E-07	1.09E-04	0.349	8.12E-08	8.12E-08	2.28E-07	2.51E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.05E-04 (g/L)	----	1.48	5.67E-04	6.85E-04	9.26E-04	1.04E-03
U	1.24E-02	1.69E+03	5.42E+03	1.19E-02	1.22E-02	1.27E-02	1.29E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.59E+06 (kg)	(543 kgal)	----	----	----	----	----
Heat Load	6.22 (kW)	(2.12E+04 BTU/hr)	----	5.71	6.00	6.40	6.52
Bulk Density†	1.75 (g/cc)	----	----	1.69	1.71	1.80	1.80
Water wt%†	24.3	----	----	21.6	21.7	26.2	27.6
TOC wt% C (wet)†	0.830	----	----	0.550	0.687	0.973	1.11

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.88E-04	0.165	592	1.42E-04	1.42E-04	2.98E-04	3.10E-04
C-14	4.29E-05	2.45E-02	88.1	1.23E-05	1.23E-05	4.35E-05	4.41E-05
Ni-59	4.28E-06	2.45E-03	8.80	2.84E-06	2.84E-06	4.43E-06	4.42E-06
Ni-63	4.12E-04	0.236	848	2.70E-04	2.70E-04	4.26E-04	4.27E-04
Co-60	4.80E-05	2.75E-02	98.7	1.30E-05	1.30E-05	4.88E-05	4.97E-05
Se-79	4.16E-06	2.38E-03	8.54	2.21E-06	2.21E-06	4.86E-06	5.54E-06
Sr-90	0.238	136	4.89E+05	0.209	0.225	0.248	0.247
Y-90	0.238	136	4.89E+05	0.171	0.171	0.248	0.248
Zr-93	2.04E-05	1.17E-02	41.9	1.07E-05	1.07E-05	2.39E-05	2.73E-05
Nb-93m	1.48E-05	8.46E-03	30.4	7.97E-06	7.97E-06	1.73E-05	1.96E-05
Tc-99	3.06E-04	0.175	629	1.92E-04	2.48E-04	3.65E-04	4.21E-04
Ru-106	8.47E-09	4.84E-06	1.74E-02	3.95E-09	3.95E-09	9.48E-09	1.04E-08
Cd-113m	1.08E-04	6.17E-02	222	4.93E-05	4.93E-05	1.29E-04	1.49E-04
Sb-125	2.07E-04	0.119	426	5.59E-05	5.59E-05	2.11E-04	2.15E-04
Sn-126	6.28E-06	3.59E-03	12.9	3.36E-06	3.36E-06	7.34E-06	8.36E-06
I-129	5.90E-07	3.37E-04	1.21	3.69E-07	4.77E-07	7.03E-07	8.13E-07
Cs-134	3.07E-06	1.76E-03	6.31	2.15E-06	2.60E-06	3.54E-06	4.01E-06
Cs-137	0.304	174	6.25E+05	0.274	0.289	0.320	0.335
Ba-137m	0.288	165	5.91E+05	0.230	0.230	0.303	0.317
Sm-151	1.46E-02	8.37	3.01E+04	7.80E-03	7.80E-03	1.71E-02	1.95E-02
Eu-152	5.62E-06	3.21E-03	11.5	3.20E-06	3.20E-06	5.95E-06	6.28E-06
Eu-154	7.69E-04	0.440	1.58E+03	2.82E-04	2.82E-04	9.46E-04	1.02E-03
Eu-155	3.24E-04	0.185	665	1.80E-04	1.80E-04	3.44E-04	3.64E-04
Ra-226	2.89E-10	1.65E-07	5.94E-04	2.10E-10	2.29E-10	3.30E-10	3.69E-10
Ra-228	1.86E-07	1.07E-04	0.383	8.46E-08	1.34E-07	2.47E-07	3.11E-07
Ac-227	1.61E-09	9.21E-07	3.31E-03	1.23E-09	1.26E-09	1.85E-09	2.07E-09
Pa-231	5.15E-09	2.94E-06	1.06E-02	3.20E-09	3.20E-09	5.85E-09	6.53E-09
Th-229	4.38E-09	2.50E-06	8.99E-03	2.14E-09	3.23E-09	5.70E-09	7.12E-09
Th-232	1.31E-08	7.48E-06	2.69E-02	7.44E-09	1.02E-08	1.60E-08	1.87E-08
U-232	9.26E-07	5.30E-04	1.90	5.18E-07	7.17E-07	1.17E-06	1.43E-06
U-233	3.55E-06	2.03E-03	7.30	1.99E-06	2.75E-06	4.48E-06	5.47E-06
U-234	9.83E-07	5.62E-04	2.02	9.44E-07	9.66E-07	9.99E-07	1.02E-06
U-235	3.98E-08	2.28E-05	8.18E-02	3.82E-08	3.91E-08	4.05E-08	4.12E-08
U-236	3.08E-08	1.76E-05	6.32E-02	2.96E-08	3.03E-08	3.12E-08	3.17E-08
U-238	1.16E-06	6.63E-04	2.38	1.12E-06	1.14E-06	1.17E-06	1.19E-06
Np-237	1.11E-06	6.33E-04	2.28	7.35E-07	9.17E-07	1.30E-06	1.48E-06
Pu-238	2.44E-06	1.39E-03	5.01	2.00E-06	2.21E-06	2.66E-06	2.88E-06
Pu-239	1.09E-04	6.26E-02	225	9.81E-05	1.04E-04	1.15E-04	1.21E-04
Pu-240	1.72E-05	9.86E-03	35.4	1.52E-05	1.62E-05	1.83E-05	1.93E-05
Pu-241	1.60E-04	9.15E-02	329	1.30E-04	1.45E-04	1.75E-04	1.90E-04
Pu-242	8.40E-10	4.81E-07	1.73E-03	6.62E-10	7.50E-10	9.31E-10	1.02E-09
Am-241	7.03E-05	4.02E-02	144	4.95E-05	5.97E-05	8.09E-05	9.10E-05
Am-243	2.48E-09	1.42E-06	5.10E-03	1.83E-09	2.14E-09	2.83E-09	3.16E-09
Cm-242	2.03E-07	1.16E-04	0.417	1.03E-07	1.03E-07	2.15E-07	2.28E-07
Cm-243	1.76E-08	1.01E-05	3.63E-02	8.18E-09	8.18E-09	1.88E-08	1.99E-08
Cm-244	1.70E-07	9.73E-05	0.350	7.26E-08	7.26E-08	2.03E-07	2.24E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.58E-03 (g/L)	----	3.24	1.36E-03	1.47E-03	1.68E-03	1.79E-03
U	1.13E-02	1.53E+03	5.50E+03	1.08E-02	1.11E-02	1.14E-02	1.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.28E+05 (kg)	(112 kgal)	----	----	----	----	----
Heat Load	1.52 (kW)	(5.18E+03 BTU/hr)	----	1.41	1.46	1.57	1.62
Bulk Density	1.72 (g/cc)	----	----	1.46	1.60	1.77	1.82
Void Fraction	0.763	----	----	0.720	0.734	0.846	0.938
Water wt%	34.0	----	----	24.5	28.8	43.8	54.3
TOC wt% C (wet)	4.77E-03	----	----	4.56E-03	4.66E-03	5.06E-03	5.68E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.0	1.74E+05	1.27E+05	8.51	10.9	14.1	15.0
Al^{3+}	3.71	5.84E+04	4.25E+04	1.93	2.45	5.07	6.46
Fe^{3+} (total Fe)	0.106	3.46E+03	2.52E+03	9.92E-02	0.103	0.110	0.113
Cr^{3+}	0.754	2.28E+04	1.66E+04	0.443	0.591	0.820	0.843
Bi^{3+}	6.26E-06	0.762	0.554	5.29E-06	5.76E-06	6.89E-06	7.58E-06
La^{3+}	1.54E-11	1.25E-06	9.08E-07	1.35E-11	1.46E-11	1.70E-11	1.87E-11
Hg^{2+}	9.83E-07	0.115	8.36E-02	8.71E-07	9.26E-07	1.08E-06	1.19E-06
Zr (as $ZrO(OH)_2$)	6.25E-07	3.32E-02	2.42E-02	5.74E-07	5.98E-07	6.55E-07	7.06E-07
Pb^{2+}	1.56E-04	18.8	13.7	8.35E-05	1.19E-04	1.93E-04	2.30E-04
Ni^{2+}	1.83E-02	625	455	1.70E-02	1.76E-02	1.89E-02	1.95E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.55E-05	1.46	1.06	3.26E-05	3.89E-05	5.22E-05	5.89E-05
Ca^{2+}	8.96E-02	2.09E+03	1.52E+03	6.23E-02	7.56E-02	0.103	0.117
K^{+}	3.01E-02	687	500	2.86E-02	2.94E-02	3.27E-02	3.56E-02
OH^{-}	19.3	1.91E+05	1.39E+05	11.1	13.7	25.2	31.0
$NO3^{-}$	5.26	1.90E+05	1.38E+05	2.94	4.57	5.98	6.38
$NO2^{-}$	1.83	4.92E+04	3.58E+04	1.58	1.71	1.96	2.12
$CO3^{2-}$	9.41E-02	3.29E+03	2.39E+03	6.68E-02	8.01E-02	0.108	0.121
$PO4^{3-}$	4.05E-04	22.4	16.3	3.76E-04	3.93E-04	4.22E-04	4.58E-04
$SO4^{2-}$	3.77E-02	2.11E+03	1.54E+03	3.58E-02	3.68E-02	4.10E-02	4.45E-02
Si (as SiO_x^{2-})	0.119	1.95E+03	1.42E+03	7.56E-02	0.103	0.136	0.152
F^{-}	3.23E-04	3.57	2.60	2.75E-04	3.04E-04	3.55E-04	3.82E-04
Cl^{-}	0.126	2.60E+03	1.89E+03	6.99E-02	9.74E-02	0.138	0.145
$C_6H_5O_7^{3-}$	3.33E-04	36.7	26.7	3.23E-04	3.28E-04	3.48E-04	3.79E-04
$EDTA^{4-}$	1.30E-05	2.18	1.59	9.14E-06	1.12E-05	1.53E-05	1.76E-05
$HEDTA^{3-}$	1.08E-05	1.72	1.25	3.46E-06	7.41E-06	1.44E-05	1.79E-05
$glycolate^{-}$	4.71E-04	20.6	15.0	2.55E-04	3.72E-04	5.85E-04	6.95E-04
$acetate^{-}$	4.89E-05	1.68	1.22	4.73E-05	4.81E-05	5.19E-05	5.55E-05
$oxalate^{2-}$	2.02E-11	1.04E-06	7.53E-07	1.79E-11	1.90E-11	2.22E-11	2.44E-11
DBP	2.96E-04	36.2	26.4	2.76E-04	2.88E-04	3.20E-04	3.45E-04
butanol	2.96E-04	12.8	9.29	2.76E-04	2.88E-04	3.20E-04	3.45E-04
NH_3	5.56E-02	551	401	3.87E-02	4.11E-02	6.02E-02	6.46E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.45E+06 (kg)	(540 kgal)	----	----	----	----	----
Heat Load	5.00 (kW)	(1.71E+04 BTU/hr)	----	4.67	4.83	5.17	5.34
Bulk Density*	1.69 (g/cc)	----	----	1.63	1.66	1.71	1.73
Water wt%	27.3	----	----	24.6	25.8	28.9	30.8
TOC wt% C (wet)	0.917	----	----	0.578	0.744	1.09	1.26

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	16.2	2.20E+05	7.59E+05	14.8	15.5	16.8	17.3
Al^{3+}	1.84	2.94E+04	1.01E+05	1.69	1.77	1.92	1.99
Fe^{3+} (total Fe)	1.29E-02	427	1.47E+03	1.06E-02	1.17E-02	1.41E-02	1.52E-02
Cr^{3+}	0.159	4.91E+03	1.69E+04	0.135	0.148	0.164	0.168
Bi^{3+}	1.73E-03	214	739	1.57E-03	1.65E-03	1.81E-03	1.89E-03
La^{3+}	6.48E-05	5.34	18.4	4.70E-05	5.57E-05	7.40E-05	8.28E-05
Hg^{2+}	1.12E-05	1.33	4.58	1.03E-05	1.08E-05	1.13E-05	1.15E-05
Zr (as $ZrO(OH)_2$)	3.23E-04	17.5	60.3	2.94E-04	3.05E-04	3.35E-04	3.52E-04
Pb^{2+}	1.20E-03	147	507	9.61E-04	1.08E-03	1.32E-03	1.44E-03
Ni^{2+}	7.62E-03	265	914	7.26E-03	7.43E-03	7.70E-03	7.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.40E-03	143	494	3.30E-03	3.84E-03	4.96E-03	5.50E-03
Ca^{2+}	4.01E-02	953	3.29E+03	3.68E-02	3.85E-02	4.18E-02	4.34E-02
K^{+}	7.69E-02	1.78E+03	6.15E+03	7.02E-02	7.34E-02	8.07E-02	8.41E-02
OH^{-}	11.1	1.11E+05	3.84E+05	10.3	10.7	11.5	11.8
$NO3^{-}$	5.73	2.11E+05	7.26E+05	5.22	5.52	5.81	5.89
$NO2^{-}$	2.73	7.43E+04	2.56E+05	2.26	2.47	2.97	3.21
$CO3^{2-}$	0.531	1.89E+04	6.52E+04	0.480	0.500	0.570	0.576
$PO4^{3-}$	0.112	6.33E+03	2.18E+04	9.57E-02	0.102	0.115	0.118
$SO4^{2-}$	0.295	1.68E+04	5.78E+04	0.234	0.263	0.328	0.356
Si (as SiO_x^{2-})	9.15E-02	1.52E+03	5.25E+03	7.57E-02	8.35E-02	9.95E-02	0.107
F^{-}	8.51E-02	958	3.30E+03	7.13E-02	7.71E-02	9.19E-02	9.72E-02
Cl^{-}	0.282	5.92E+03	2.04E+04	0.254	0.264	0.294	0.305
$C_6H_5O_7^{3-}$	3.27E-02	3.67E+03	1.26E+04	2.98E-02	3.13E-02	3.42E-02	3.56E-02
$EDTA^{4-}$	2.02E-02	3.45E+03	1.19E+04	6.04E-03	1.30E-02	2.75E-02	3.47E-02
$HEDTA^{3-}$	3.80E-02	6.18E+03	2.13E+04	9.67E-03	2.35E-02	5.26E-02	6.69E-02
$glycolate^{-}$	0.114	5.05E+03	1.74E+04	7.52E-02	9.39E-02	0.133	0.152
$acetate^{-}$	7.72E-03	270	932	6.34E-03	7.02E-03	8.43E-03	9.11E-03
$oxalate^{2-}$	8.49E-05	4.43	15.3	7.52E-05	8.00E-05	8.99E-05	9.46E-05
DBP	2.23E-02	2.77E+03	9.56E+03	1.84E-02	2.03E-02	2.42E-02	2.61E-02
butanol	2.23E-02	978	3.37E+03	1.84E-02	2.03E-02	2.42E-02	2.61E-02
NH_3	0.102	1.03E+03	3.56E+03	8.47E-02	9.17E-02	0.116	0.132
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.18E+06 (kg)	(652 kgal)	----	----	----	----	----
Heat Load	6.52 (kW)	(2.23E+04 BTU/hr)	----	6.18	6.35	6.69	6.85
Bulk Density†	1.69 (g/cc)	----	----	1.64	1.67	1.71	1.73
Water wt%†	28.5	----	----	26.2	27.2	30.1	31.8
TOC wt% C (wet)†	0.758	----	----	0.477	0.615	0.901	1.04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	15.6	2.12E+05	8.86E+05	14.5	15.0	16.1	16.6
Al^{3+}	2.16	3.45E+04	1.44E+05	1.84	1.95	2.40	2.63
Fe^{3+} (total Fe)	2.89E-02	955	3.99E+03	2.70E-02	2.80E-02	2.99E-02	3.08E-02
Cr^{3+}	0.261	8.03E+03	3.35E+04	0.206	0.233	0.273	0.273
Bi^{3+}	1.43E-03	177	739	1.30E-03	1.37E-03	1.50E-03	1.56E-03
La^{3+}	5.37E-05	4.41	18.4	3.89E-05	4.61E-05	6.13E-05	6.86E-05
Hg^{2+}	9.43E-06	1.12	4.67	8.74E-06	9.13E-06	9.57E-06	9.70E-06
Zr (as $ZrO(OH)_2$)	2.68E-04	14.4	60.3	2.44E-04	2.52E-04	2.78E-04	2.92E-04
Pb^{2+}	1.02E-03	125	521	8.23E-04	9.19E-04	1.12E-03	1.22E-03
Ni^{2+}	9.45E-03	328	1.37E+03	9.15E-03	9.30E-03	9.57E-03	9.69E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.65E-03	119	495	2.74E-03	3.19E-03	4.12E-03	4.57E-03
Ca^{2+}	4.86E-02	1.15E+03	4.81E+03	4.35E-02	4.60E-02	5.12E-02	5.38E-02
K^{+}	6.89E-02	1.59E+03	6.65E+03	6.33E-02	6.60E-02	7.20E-02	7.48E-02
OH^{-}	12.5	1.25E+05	5.23E+05	10.9	11.5	13.5	14.6
$NO3^{-}$	5.65	2.07E+05	8.65E+05	5.23	5.48	5.74	5.78
$NO2^{-}$	2.57	7.00E+04	2.92E+05	2.18	2.36	2.78	2.97
$CO3^{2-}$	0.456	1.62E+04	6.76E+04	0.414	0.430	0.489	0.493
$PO4^{3-}$	9.32E-02	5.23E+03	2.18E+04	7.94E-02	8.42E-02	9.57E-02	9.80E-02
$SO4^{2-}$	0.250	1.42E+04	5.94E+04	0.200	0.224	0.278	0.301
Si (as SiO_x^{2-})	9.62E-02	1.60E+03	6.67E+03	8.32E-02	8.96E-02	0.103	0.109
F^{-}	7.05E-02	792	3.31E+03	5.91E-02	6.39E-02	7.61E-02	8.06E-02
Cl^{-}	0.255	5.34E+03	2.23E+04	0.232	0.240	0.265	0.274
$C_6H_5O_7^{3-}$	2.72E-02	3.03E+03	1.27E+04	2.48E-02	2.59E-02	2.84E-02	2.95E-02
$EDTA^{4-}$	1.68E-02	2.85E+03	1.19E+04	5.01E-03	1.07E-02	2.28E-02	2.87E-02
$HEDTA^{3-}$	3.15E-02	5.10E+03	2.13E+04	8.01E-03	1.95E-02	4.36E-02	5.54E-02
$glycolate^{-}$	9.41E-02	4.17E+03	1.74E+04	6.23E-02	7.79E-02	0.110	0.126
$acetate^{-}$	6.41E-03	223	933	5.26E-03	5.82E-03	6.99E-03	7.55E-03
$oxalate^{2-}$	7.03E-05	3.66	15.3	6.23E-05	6.62E-05	7.44E-05	7.84E-05
DBP	1.85E-02	2.30E+03	9.59E+03	1.53E-02	1.69E-02	2.01E-02	2.16E-02
butanol	1.85E-02	810	3.38E+03	1.53E-02	1.69E-02	2.01E-02	2.16E-02
NH_3	9.44E-02	948	3.96E+03	7.97E-02	8.55E-02	0.106	0.119
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.28E+05 (kg)	(112 kgal)	----	----	----	----	----
Heat Load	1.52 (kW)	(5.18E+03 BTU/hr)	----	1.41	1.46	1.57	1.62
Bulk Density	1.72 (g/cc)	----	----	1.46	1.60	1.77	1.82
Void Fraction	0.763	----	----	0.720	0.734	0.846	0.938
Water wt%	34.0	----	----	24.5	28.8	43.8	54.3
TOC wt% C (wet)	4.77E-03	----	----	4.56E-03	4.66E-03	5.06E-03	5.68E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.06E-04	0.120	87.2	2.61E-06	2.61E-06	2.16E-04	2.34E-04
C-14	1.06E-05	6.19E-03	4.50	2.02E-07	2.02E-07	1.10E-05	1.20E-05
Ni-59	7.53E-06	4.39E-03	3.19	1.33E-06	1.33E-06	7.84E-06	8.13E-06
Ni-63	7.27E-04	0.423	308	1.24E-04	1.24E-04	7.56E-04	7.84E-04
Co-60	9.46E-06	5.51E-03	4.01	7.98E-08	7.98E-08	9.86E-06	1.07E-05
Se-79	6.37E-06	3.71E-03	2.70	4.29E-08	4.29E-08	6.45E-06	6.97E-06
Sr-90	0.322	188	1.37E+05	0.288	0.305	0.340	0.356
Y-90	0.322	188	1.37E+05	8.29E-02	8.29E-02	0.340	0.356
Zr-93	3.02E-05	1.76E-02	12.8	2.03E-07	2.03E-07	3.05E-05	3.27E-05
Nb-93m	2.45E-05	1.43E-02	10.4	1.66E-07	1.66E-07	2.48E-05	2.72E-05
Tc-99	8.24E-05	4.80E-02	34.9	7.98E-05	8.10E-05	8.85E-05	9.54E-05
Ru-106	2.17E-09	1.26E-06	9.19E-04	2.23E-13	2.23E-13	2.26E-09	2.46E-09
Cd-113m	4.28E-05	2.49E-02	18.2	6.24E-07	6.24E-07	9.43E-05	9.11E-05
Sb-125	3.36E-05	1.96E-02	14.3	1.17E-07	1.17E-07	3.51E-05	3.81E-05
Sn-126	9.78E-06	5.70E-03	4.15	6.59E-08	6.59E-08	9.90E-06	1.07E-05
I-129	1.56E-07	9.11E-05	6.63E-02	1.51E-07	1.54E-07	1.68E-07	1.81E-07
Cs-134	2.10E-06	1.22E-03	0.889	2.43E-09	2.43E-09	2.18E-06	2.35E-06
Cs-137	0.300	175	1.27E+05	0.290	0.296	0.321	0.346
Ba-137m	0.284	165	1.20E+05	4.73E-03	4.73E-03	0.294	0.316
Sm-151	2.27E-02	13.2	9.63E+03	1.53E-04	1.53E-04	2.30E-02	2.49E-02
Eu-152	8.70E-06	5.07E-03	3.69	6.25E-07	6.25E-07	8.76E-06	8.86E-06
Eu-154	2.26E-04	0.132	95.8	1.93E-06	1.93E-06	2.36E-04	2.97E-04
Eu-155	4.39E-04	0.256	186	2.95E-05	2.95E-05	4.42E-04	4.47E-04
Ra-226	5.24E-10	3.05E-07	2.22E-04	9.65E-11	9.65E-11	6.77E-10	8.24E-10
Ra-228	1.43E-08	8.36E-06	6.08E-03	8.27E-16	8.27E-16	1.45E-08	1.46E-08
Ac-227	2.93E-09	1.71E-06	1.24E-03	4.25E-10	4.25E-10	3.83E-09	4.38E-09
Pa-231	9.48E-09	5.52E-06	4.02E-03	6.41E-11	6.41E-11	9.60E-09	1.09E-08
Th-229	3.44E-10	2.00E-07	1.46E-04	1.58E-13	1.58E-13	3.47E-10	3.51E-10
Th-232	1.92E-10	1.12E-07	8.15E-05	5.27E-17	5.27E-17	2.42E-10	2.92E-10
U-232	6.41E-08	3.73E-05	2.72E-02	2.27E-08	4.18E-08	9.13E-08	1.22E-07
U-233	2.45E-07	1.43E-04	0.104	8.67E-08	1.60E-07	3.49E-07	4.65E-07
U-234	1.17E-06	6.81E-04	0.496	5.18E-07	8.35E-07	1.53E-06	1.89E-06
U-235	4.72E-08	2.75E-05	2.00E-02	2.09E-08	3.37E-08	6.20E-08	7.68E-08
U-236	4.81E-08	2.80E-05	2.04E-02	2.21E-08	3.50E-08	6.19E-08	7.55E-08
U-238	1.03E-06	5.98E-04	0.435	4.52E-07	7.30E-07	1.35E-06	1.67E-06
Np-237	3.62E-07	2.11E-04	0.154	3.47E-07	3.56E-07	3.92E-07	4.24E-07
Pu-238	2.74E-06	1.59E-03	1.16	1.23E-06	1.97E-06	3.51E-06	4.25E-06
Pu-239	1.12E-04	6.50E-02	47.3	6.29E-05	8.67E-05	1.36E-04	1.60E-04
Pu-240	1.75E-05	1.02E-02	7.43	9.48E-06	1.34E-05	2.16E-05	2.56E-05
Pu-241	1.46E-04	8.48E-02	61.7	6.85E-05	1.06E-04	1.85E-04	2.23E-04
Pu-242	7.47E-10	4.35E-07	3.17E-04	3.38E-10	5.38E-10	9.56E-10	1.16E-09
Am-241	1.07E-04	6.23E-02	45.4	6.11E-05	9.26E-05	1.23E-04	1.39E-04
Am-243	3.40E-09	1.98E-06	1.44E-03	1.57E-09	2.94E-09	3.74E-09	4.09E-09
Cm-242	1.58E-08	9.21E-06	6.70E-03	1.44E-08	1.44E-08	1.59E-08	1.59E-08
Cm-243	3.59E-10	2.09E-07	1.52E-04	3.29E-10	3.29E-10	3.62E-10	3.62E-10
Cm-244	4.14E-10	2.41E-07	1.75E-04	2.00E-10	2.41E-10	5.00E-10	5.00E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.86E-03 (g/L)	----	0.788	1.04E-03	1.44E-03	2.28E-03	2.68E-03
U	1.27E-02	1.76E+03	1.28E+03	5.56E-03	9.00E-03	1.67E-02	2.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.45E+06 (kg)	(540 kgal)	----	----	----	----	----
Heat Load	5.00 (kW)	(1.71E+04 BTU/hr)	----	4.67	4.83	5.17	5.34
Bulk Density*	1.69 (g/cc)	----	----	1.63	1.66	1.71	1.73
Water wt%†	27.3	----	----	24.6	25.8	28.9	30.8
TOC wt% C (wet)	0.917	----	----	0.578	0.744	1.09	1.26
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.86E-04	0.170	585	1.46E-04	1.46E-04	2.97E-04	3.11E-04
C-14	4.21E-05	2.50E-02	86.1	1.27E-05	1.27E-05	4.28E-05	4.35E-05
Ni-59	2.72E-06	1.61E-03	5.57	1.34E-06	1.34E-06	2.79E-06	2.86E-06
Ni-63	2.67E-04	0.158	546	1.30E-04	1.30E-04	2.74E-04	2.81E-04
Co-60	4.72E-05	2.80E-02	96.5	1.36E-05	1.36E-05	4.82E-05	4.91E-05
Se-79	4.18E-06	2.48E-03	8.55	2.31E-06	2.31E-06	4.86E-06	5.51E-06
Sr-90	0.141	83.3	2.87E+05	0.131	0.136	0.145	0.150
Y-90	0.141	83.4	2.88E+05	7.59E-02	7.59E-02	0.145	0.150
Zr-93	2.05E-05	1.22E-02	42.0	1.12E-05	1.12E-05	2.39E-05	2.72E-05
Nb-93m	1.49E-05	8.82E-03	30.4	8.31E-06	8.31E-06	1.73E-05	1.95E-05
Tc-99	3.00E-04	0.178	613	1.90E-04	2.44E-04	3.56E-04	4.11E-04
Ru-106	8.59E-09	5.09E-06	1.75E-02	4.24E-09	4.24E-09	9.56E-09	1.04E-08
Cd-113m	1.08E-04	6.42E-02	222	5.21E-05	5.21E-05	1.29E-04	1.48E-04
Sb-125	2.04E-04	0.121	418	5.88E-05	5.88E-05	2.09E-04	2.13E-04
Sn-126	6.32E-06	3.75E-03	12.9	3.51E-06	3.51E-06	7.34E-06	8.31E-06
I-129	5.78E-07	3.43E-04	1.18	3.66E-07	4.70E-07	6.87E-07	7.93E-07
Cs-134	3.41E-06	2.02E-03	6.97	2.33E-06	2.86E-06	3.96E-06	4.50E-06
Cs-137	0.320	190	6.54E+05	0.285	0.302	0.338	0.355
Ba-137m	0.303	179	6.19E+05	0.245	0.245	0.320	0.336
Sm-151	1.47E-02	8.72	3.01E+04	8.16E-03	8.16E-03	1.71E-02	1.94E-02
Eu-152	5.03E-06	2.98E-03	10.3	2.71E-06	2.71E-06	5.43E-06	5.81E-06
Eu-154	7.69E-04	0.456	1.57E+03	3.00E-04	3.00E-04	9.38E-04	1.01E-03
Eu-155	2.99E-04	0.177	610	1.60E-04	1.60E-04	3.23E-04	3.46E-04
Ra-226	1.78E-10	1.05E-07	3.64E-04	1.20E-10	1.20E-10	1.99E-10	2.19E-10
Ra-228	1.90E-07	1.13E-04	0.389	7.97E-08	1.34E-07	2.56E-07	3.26E-07
Ac-227	1.13E-09	6.71E-07	2.31E-03	7.94E-10	7.94E-10	1.25E-09	1.37E-09
Pa-231	5.20E-09	3.08E-06	1.06E-02	3.32E-09	3.32E-09	5.88E-09	6.53E-09
Th-229	4.46E-09	2.64E-06	9.11E-03	2.03E-09	3.22E-09	5.90E-09	7.43E-09
Th-232	1.26E-08	7.49E-06	2.59E-02	6.53E-09	9.52E-09	1.58E-08	1.88E-08
U-232	9.69E-07	5.74E-04	1.98	5.26E-07	7.42E-07	1.23E-06	1.51E-06
U-233	3.71E-06	2.20E-03	7.59	2.02E-06	2.85E-06	4.72E-06	5.79E-06
U-234	1.01E-06	5.97E-04	2.06	9.67E-07	9.91E-07	1.02E-06	1.04E-06
U-235	4.08E-08	2.42E-05	8.33E-02	3.91E-08	4.01E-08	4.15E-08	4.21E-08
U-236	3.19E-08	1.89E-05	6.51E-02	3.07E-08	3.14E-08	3.24E-08	3.28E-08
U-238	1.19E-06	7.03E-04	2.42	1.15E-06	1.17E-06	1.20E-06	1.22E-06
Np-237	1.08E-06	6.42E-04	2.21	7.25E-07	9.00E-07	1.27E-06	1.45E-06
Pu-238	1.76E-06	1.04E-03	3.60	1.34E-06	1.55E-06	1.97E-06	2.18E-06
Pu-239	5.98E-05	3.54E-02	122	4.90E-05	5.43E-05	6.53E-05	7.05E-05
Pu-240	1.02E-05	6.03E-03	20.8	8.17E-06	9.15E-06	1.12E-05	1.22E-05
Pu-241	1.19E-04	7.07E-02	244	9.06E-05	1.05E-04	1.34E-04	1.48E-04
Pu-242	6.57E-10	3.89E-07	1.34E-03	4.86E-10	5.70E-10	7.44E-10	8.28E-10
Am-241	7.17E-05	4.25E-02	147	5.18E-05	6.15E-05	8.19E-05	9.17E-05
Am-243	2.57E-09	1.52E-06	5.24E-03	1.94E-09	2.24E-09	2.93E-09	3.25E-09
Cm-242	1.93E-07	1.14E-04	0.394	9.73E-08	9.73E-08	2.08E-07	2.22E-07
Cm-243	1.79E-08	1.06E-05	3.66E-02	8.80E-09	8.80E-09	1.92E-08	2.05E-08
Cm-244	1.74E-07	1.03E-04	0.356	8.05E-08	8.05E-08	2.06E-07	2.26E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.47E-04 (g/L)	----	1.53	5.44E-04	6.44E-04	8.51E-04	9.50E-04
U	1.15E-02	1.62E+03	5.59E+03	1.10E-02	1.13E-02	1.17E-02	1.19E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.18E+06 (kg)	(652 kgal)	----	----	----	----	----
Heat Load	6.52 (kW)	(2.23E+04 BTU/hr)	----	6.18	6.35	6.69	6.85
Bulk Density†	1.69 (g/cc)	----	----	1.64	1.67	1.71	1.73
Water wt%†	28.5	----	----	26.2	27.2	30.1	31.8
TOC wt% C (wet)†	0.758	----	----	0.477	0.615	0.901	1.04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.72E-04	0.161	672	1.56E-04	1.56E-04	2.82E-04	2.93E-04
C-14	3.67E-05	2.17E-02	90.6	1.24E-05	1.24E-05	3.73E-05	3.78E-05
Ni-59	3.55E-06	2.10E-03	8.76	2.37E-06	2.37E-06	3.61E-06	3.66E-06
Ni-63	3.46E-04	0.204	854	2.31E-04	2.31E-04	3.52E-04	3.57E-04
Co-60	4.07E-05	2.41E-02	101	1.29E-05	1.29E-05	4.15E-05	4.23E-05
Se-79	4.56E-06	2.69E-03	11.2	3.00E-06	3.00E-06	5.12E-06	5.66E-06
Sr-90	0.172	102	4.24E+05	0.164	0.168	0.176	0.179
Y-90	0.172	102	4.24E+05	0.118	0.118	0.176	0.180
Zr-93	2.22E-05	1.31E-02	54.7	1.44E-05	1.44E-05	2.50E-05	2.77E-05
Nb-93m	1.65E-05	9.76E-03	40.8	1.11E-05	1.11E-05	1.85E-05	2.04E-05
Tc-99	2.63E-04	0.155	648	1.72E-04	2.16E-04	3.09E-04	3.54E-04
Ru-106	7.48E-09	4.42E-06	1.85E-02	3.88E-09	3.88E-09	8.29E-09	9.02E-09
Cd-113m	9.71E-05	5.74E-02	240	5.05E-05	5.05E-05	1.14E-04	1.30E-04
Sb-125	1.75E-04	0.103	432	5.45E-05	5.45E-05	1.79E-04	1.83E-04
Sn-126	6.91E-06	4.09E-03	17.1	4.58E-06	4.58E-06	7.76E-06	8.57E-06
I-129	5.06E-07	2.99E-04	1.25	3.30E-07	4.16E-07	5.96E-07	6.84E-07
Cs-134	3.18E-06	1.88E-03	7.85	2.29E-06	2.46E-06	3.64E-06	4.09E-06
Cs-137	0.317	187	7.81E+05	0.288	0.302	0.331	0.346
Ba-137m	0.299	177	7.39E+05	0.204	0.204	0.313	0.327
Sm-151	1.61E-02	9.51	3.97E+04	1.07E-02	1.07E-02	1.81E-02	2.00E-02
Eu-152	5.66E-06	3.35E-03	14.0	3.74E-06	3.74E-06	5.99E-06	6.31E-06
Eu-154	6.76E-04	0.399	1.67E+03	2.87E-04	2.87E-04	8.16E-04	8.72E-04
Eu-155	3.23E-04	0.191	797	2.08E-04	2.08E-04	3.43E-04	3.62E-04
Ra-226	2.37E-10	1.40E-07	5.86E-04	1.55E-10	1.55E-10	2.67E-10	2.95E-10
Ra-228	1.60E-07	9.46E-05	0.395	6.85E-08	1.13E-07	2.14E-07	2.72E-07
Ac-227	1.44E-09	8.51E-07	3.55E-03	9.60E-10	9.60E-10	1.61E-09	1.73E-09
Pa-231	5.94E-09	3.51E-06	1.46E-02	4.04E-09	4.04E-09	6.50E-09	7.04E-09
Th-229	3.75E-09	2.22E-06	9.26E-03	1.74E-09	2.72E-09	4.94E-09	6.21E-09
Th-232	1.05E-08	6.21E-06	2.59E-02	5.44E-09	7.92E-09	1.31E-08	1.56E-08
U-232	8.14E-07	4.81E-04	2.01	4.46E-07	6.26E-07	1.03E-06	1.26E-06
U-233	3.12E-06	1.84E-03	7.70	1.71E-06	2.40E-06	3.95E-06	4.84E-06
U-234	1.04E-06	6.12E-04	2.55	9.24E-07	9.78E-07	1.10E-06	1.16E-06
U-235	4.19E-08	2.47E-05	0.103	3.74E-08	3.95E-08	4.44E-08	4.69E-08
U-236	3.47E-08	2.05E-05	8.56E-02	3.03E-08	3.25E-08	3.70E-08	3.93E-08
U-238	1.16E-06	6.84E-04	2.86	1.06E-06	1.11E-06	1.21E-06	1.27E-06
Np-237	9.59E-07	5.67E-04	2.37	6.63E-07	8.07E-07	1.11E-06	1.26E-06
Pu-238	1.93E-06	1.14E-03	4.76	1.58E-06	1.75E-06	2.11E-06	2.28E-06
Pu-239	6.87E-05	4.06E-02	169	5.95E-05	6.40E-05	7.34E-05	7.79E-05
Pu-240	1.14E-05	6.76E-03	28.2	9.78E-06	1.06E-05	1.23E-05	1.31E-05
Pu-241	1.24E-04	7.32E-02	306	1.00E-04	1.12E-04	1.36E-04	1.48E-04
Pu-242	6.72E-10	3.97E-07	1.66E-03	5.31E-10	6.00E-10	7.45E-10	8.14E-10
Am-241	7.78E-05	4.59E-02	192	6.13E-05	6.93E-05	8.62E-05	9.43E-05
Am-243	2.71E-09	1.60E-06	6.69E-03	2.19E-09	2.44E-09	3.01E-09	3.28E-09
Cm-242	1.62E-07	9.59E-05	0.400	8.33E-08	8.33E-08	1.75E-07	1.87E-07
Cm-243	1.49E-08	8.79E-06	3.67E-02	7.35E-09	7.35E-09	1.60E-08	1.71E-08
Cm-244	1.44E-07	8.53E-05	0.356	6.68E-08	6.68E-08	1.71E-07	1.88E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.39E-04 (g/L)	----	2.32	7.70E-04	8.53E-04	1.02E-03	1.11E-03
U	1.17E-02	1.64E+03	6.87E+03	1.05E-02	1.11E-02	1.24E-02	1.31E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.11E+06 (kg)	(169 kgal)	----	----	----	----	----
Heat Load	3.31 (kW)	(1.13E+04 BTU/hr)	----	2.64	3.03	3.49	3.58
Bulk Density	1.74 (g/cc)	----	----	1.59	1.61	1.94	2.02
Void Fraction	0.639	----	----	0.360	0.452	0.757	0.760
Water wt%	30.1	----	----	13.9	19.1	39.1	40.0
TOC wt% C (wet)	2.14E-03	----	----	1.84E-03	1.92E-03	2.32E-03	2.50E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.3	1.37E+05	1.52E+05	7.36	7.66	14.2	16.2
Al^{3+}	5.50	8.53E+04	9.49E+04	4.69	4.93	6.12	6.75
Fe^{3+} (total Fe)	0.601	1.93E+04	2.15E+04	0.590	0.595	0.606	0.612
Cr^{3+}	0.377	1.13E+04	1.25E+04	0.235	0.303	0.646	0.961
Bi^{3+}	2.85E-06	0.342	0.380	2.40E-06	2.62E-06	3.14E-06	3.45E-06
La^{3+}	7.01E-12	5.60E-07	6.23E-07	6.14E-12	6.63E-12	7.75E-12	8.52E-12
Hg^{2+}	4.47E-07	5.16E-02	5.74E-02	3.96E-07	4.21E-07	4.92E-07	5.40E-07
Zr (as $ZrO(OH)_2$)	2.84E-07	1.49E-02	1.66E-02	2.61E-07	2.72E-07	2.98E-07	3.21E-07
Pb^{2+}	7.09E-05	8.45	9.39	3.80E-05	5.40E-05	8.79E-05	1.05E-04
Ni^{2+}	3.59E-02	1.21E+03	1.35E+03	2.77E-02	3.23E-02	3.87E-02	3.82E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.07E-05	0.655	0.728	1.48E-05	1.77E-05	2.38E-05	2.68E-05
Ca^{2+}	0.161	3.70E+03	4.12E+03	0.117	0.138	0.183	0.204
K^{+}	1.98E-02	446	496	1.40E-02	1.63E-02	2.22E-02	2.23E-02
OH^{-}	22.7	2.22E+05	2.47E+05	19.0	20.2	25.4	28.0
$NO3^{-}$	5.27	1.88E+05	2.09E+05	2.21	2.21	10.1	12.7
$NO2^{-}$	1.63	4.31E+04	4.79E+04	0.852	1.12	2.03	2.03
$CO3^{2-}$	0.163	5.62E+03	6.24E+03	0.119	0.140	0.185	0.206
$PO4^{3-}$	1.84E-04	10.1	11.2	1.71E-04	1.79E-04	1.92E-04	2.08E-04
$SO4^{2-}$	2.28E-02	1.26E+03	1.40E+03	1.74E-02	1.96E-02	2.50E-02	2.59E-02
Si (as SiO_x^{2-})	5.86E-02	947	1.05E+03	3.88E-02	5.11E-02	6.61E-02	7.34E-02
F^{-}	1.47E-04	1.60	1.78	1.25E-04	1.38E-04	1.61E-04	1.74E-04
Cl^{-}	8.55E-02	1.74E+03	1.94E+03	5.87E-02	6.94E-02	9.63E-02	0.147
$C_6H_5O_7^{3-}$	1.52E-04	16.5	18.3	1.47E-04	1.49E-04	1.58E-04	1.72E-04
$EDTA^{4-}$	5.91E-06	0.979	1.09	4.16E-06	5.11E-06	6.96E-06	8.00E-06
$HEDTA^{3-}$	4.91E-06	0.774	0.860	1.57E-06	3.37E-06	6.55E-06	8.15E-06
$glycolate^{-}$	2.14E-04	9.24	10.3	1.16E-04	1.69E-04	2.66E-04	3.16E-04
$acetate^{-}$	2.22E-05	0.755	0.839	2.15E-05	2.19E-05	2.36E-05	2.52E-05
$oxalate^{2-}$	9.18E-12	4.65E-07	5.17E-07	8.14E-12	8.65E-12	1.01E-11	1.11E-11
DBP	1.35E-04	16.3	18.1	1.26E-04	1.31E-04	1.45E-04	1.57E-04
butanol	1.35E-04	5.74	6.38	1.26E-04	1.31E-04	1.45E-04	1.57E-04
NH_3	0.165	1.61E+03	1.79E+03	5.33E-02	6.91E-02	0.173	0.181
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.85E+06 (kg)	(445 kgal)	----	----	----	----	----
Heat Load	4.05 (kW)	(1.38E+04 BTU/hr)	----	3.80	3.93	4.17	4.29
Bulk Density*	1.69 (g/cc)	----	----	1.64	1.67	1.72	1.74
Water wt%	27.3	----	----	24.5	25.7	29.0	31.0
TOC wt% C (wet)	0.859	----	----	0.568	0.711	1.01	1.15

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	16.3	2.21E+05	6.30E+05	14.8	15.5	16.9	17.5
Al^{3+}	1.92	3.06E+04	8.71E+04	1.78	1.85	2.00	2.06
Fe^{3+} (total Fe)	1.27E-02	418	1.19E+03	1.03E-02	1.14E-02	1.39E-02	1.51E-02
Cr^{3+}	0.170	5.22E+03	1.49E+04	0.143	0.157	0.175	0.180
Bi^{3+}	1.45E-03	178	509	1.32E-03	1.38E-03	1.51E-03	1.57E-03
La^{3+}	4.57E-05	3.75	10.7	3.31E-05	3.92E-05	5.21E-05	5.83E-05
Hg^{2+}	1.02E-05	1.21	3.46	9.58E-06	9.95E-06	1.04E-05	1.05E-05
Zr (as $ZrO(OH)_2$)	2.64E-04	14.2	40.6	2.41E-04	2.49E-04	2.74E-04	2.87E-04
Pb^{2+}	1.15E-03	141	403	9.34E-04	1.04E-03	1.27E-03	1.37E-03
Ni^{2+}	7.39E-03	256	731	7.06E-03	7.22E-03	7.48E-03	7.57E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.47E-03	145	413	3.31E-03	3.88E-03	5.06E-03	5.63E-03
Ca^{2+}	3.88E-02	917	2.62E+03	3.53E-02	3.70E-02	4.05E-02	4.22E-02
K^{+}	7.51E-02	1.73E+03	4.94E+03	6.80E-02	7.13E-02	7.89E-02	8.26E-02
OH^{-}	11.6	1.16E+05	3.32E+05	10.7	11.1	12.0	12.3
$NO3^{-}$	5.61	2.06E+05	5.86E+05	5.21	5.45	5.70	5.77
$NO2^{-}$	2.83	7.68E+04	2.19E+05	2.33	2.56	3.09	3.33
$CO3^{2-}$	0.506	1.79E+04	5.11E+04	0.456	0.480	0.537	0.548
$PO4^{3-}$	0.103	5.76E+03	1.64E+04	8.94E-02	9.41E-02	0.105	0.107
$SO4^{2-}$	0.281	1.60E+04	4.55E+04	0.217	0.248	0.316	0.346
Si (as SiO_x^{2-})	9.02E-02	1.50E+03	4.27E+03	7.36E-02	8.18E-02	9.87E-02	0.107
F^{-}	7.09E-02	796	2.27E+03	6.00E-02	6.46E-02	7.63E-02	8.06E-02
Cl^{-}	0.280	5.86E+03	1.67E+04	0.252	0.266	0.293	0.304
$C_6H_5O_7^{3-}$	3.40E-02	3.80E+03	1.08E+04	3.12E-02	3.26E-02	3.54E-02	3.68E-02
$EDTA^{4-}$	1.78E-02	3.03E+03	8.63E+03	5.58E-03	1.15E-02	2.41E-02	3.02E-02
$HEDTA^{3-}$	3.29E-02	5.33E+03	1.52E+04	8.51E-03	2.04E-02	4.55E-02	5.77E-02
$glycolate^{-}$	0.107	4.74E+03	1.35E+04	6.95E-02	8.78E-02	0.126	0.144
$acetate^{-}$	8.51E-03	296	846	6.97E-03	7.72E-03	9.29E-03	1.00E-02
$oxalate^{2-}$	5.98E-05	3.11	8.87	5.30E-05	5.63E-05	6.33E-05	6.66E-05
DBP	2.25E-02	2.80E+03	7.98E+03	1.85E-02	2.05E-02	2.46E-02	2.65E-02
butanol	2.25E-02	986	2.81E+03	1.85E-02	2.05E-02	2.46E-02	2.65E-02
NH_3	9.60E-02	963	2.75E+03	7.73E-02	8.46E-02	0.110	0.127
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.96E+06 (kg)	(614 kgal)	----	----	----	----	----
Heat Load	7.36 (kW)	(2.52E+04 BTU/hr)	----	6.59	7.03	7.61	7.60
Bulk Density†	1.71 (g/cc)	----	----	1.64	1.66	1.77	1.78
Water wt%†	28.1	----	----	23.6	24.4	30.9	32.0
TOC wt% C (wet)†	0.619	----	----	0.409	0.512	0.726	0.831

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	14.6	1.97E+05	7.82E+05	13.3	13.7	15.9	16.1
Al^{3+}	2.90	4.59E+04	1.82E+05	2.66	2.75	3.07	3.25
Fe^{3+} (total Fe)	0.175	5.71E+03	2.26E+04	0.172	0.173	0.176	0.177
Cr^{3+}	0.227	6.92E+03	2.74E+04	0.184	0.207	0.292	0.368
Bi^{3+}	1.05E-03	128	509	9.57E-04	1.00E-03	1.09E-03	1.14E-03
La^{3+}	3.31E-05	2.69	10.7	2.40E-05	2.84E-05	3.78E-05	4.23E-05
Hg^{2+}	7.54E-06	0.887	3.52	7.06E-06	7.34E-06	7.65E-06	7.76E-06
Zr (as $ZrO(OH)_2$)	1.91E-04	10.2	40.6	1.75E-04	1.81E-04	1.98E-04	2.08E-04
Pb^{2+}	8.56E-04	104	412	6.96E-04	7.74E-04	9.37E-04	1.01E-03
Ni^{2+}	1.53E-02	525	2.08E+03	1.30E-02	1.43E-02	1.60E-02	1.58E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.24E-03	104	414	2.40E-03	2.81E-03	3.67E-03	4.08E-03
Ca^{2+}	7.23E-02	1.70E+03	6.73E+03	6.09E-02	6.69E-02	7.77E-02	8.28E-02
K^{+}	5.99E-02	1.37E+03	5.44E+03	5.47E-02	5.71E-02	6.27E-02	6.53E-02
OH^{-}	14.7	1.46E+05	5.79E+05	13.5	13.9	15.4	16.2
$NO3^{-}$	5.52	2.01E+05	7.95E+05	4.57	4.66	6.80	7.40
$NO2^{-}$	2.50	6.73E+04	2.67E+05	2.14	2.30	2.68	2.86
$CO3^{2-}$	0.411	1.45E+04	5.74E+04	0.375	0.393	0.434	0.442
$PO4^{3-}$	7.46E-02	4.15E+03	1.65E+04	6.48E-02	6.82E-02	7.63E-02	7.79E-02
$SO4^{2-}$	0.210	1.18E+04	4.69E+04	0.164	0.186	0.235	0.257
Si (as SiO_x^{2-})	8.15E-02	1.34E+03	5.32E+03	6.95E-02	7.54E-02	8.77E-02	9.36E-02
F^{-}	5.15E-02	573	2.27E+03	4.35E-02	4.69E-02	5.53E-02	5.84E-02
Cl^{-}	0.227	4.70E+03	1.87E+04	0.206	0.216	0.236	0.244
$C_6H_5O_7^{3-}$	2.47E-02	2.74E+03	1.08E+04	2.27E-02	2.36E-02	2.57E-02	2.67E-02
$EDTA^{4-}$	1.29E-02	2.18E+03	8.63E+03	4.05E-03	8.37E-03	1.74E-02	2.19E-02
$HEDTA^{3-}$	2.39E-02	3.83E+03	1.52E+04	6.17E-03	1.48E-02	3.30E-02	4.19E-02
$glycolate^{-}$	7.76E-02	3.41E+03	1.35E+04	5.04E-02	6.37E-02	9.15E-02	0.105
$acetate^{-}$	6.17E-03	214	847	5.06E-03	5.60E-03	6.74E-03	7.29E-03
$oxalate^{2-}$	4.34E-05	2.24	8.87	3.84E-05	4.08E-05	4.59E-05	4.83E-05
DBP	1.64E-02	2.02E+03	8.00E+03	1.34E-02	1.49E-02	1.78E-02	1.93E-02
butanol	1.64E-02	711	2.82E+03	1.34E-02	1.49E-02	1.78E-02	1.93E-02
NH_3	0.115	1.14E+03	4.54E+03	8.14E-02	8.72E-02	0.125	0.138
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-104							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	1.11E+06 (kg)	(169 kgal)	----	----	----	----	----
Heat Load	3.31 (kW)	(1.13E+04 BTU/hr)	----	2.64	3.03	3.49	3.58
Bulk Density	1.74 (g/cc)	----	----	1.59	1.61	1.94	2.02
Void Fraction	0.639	----	----	0.360	0.452	0.757	0.760
Water wt%	30.1	----	----	13.9	19.1	39.1	40.0
TOC wt% C (wet)	2.14E-03	----	----	1.84E-03	1.92E-03	2.32E-03	2.50E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.09E-04	6.30E-02	70.0	1.71E-05	1.71E-05	1.16E-04	1.23E-04
C-14	6.06E-06	3.49E-03	3.88	1.33E-06	1.33E-06	6.54E-06	6.69E-06
Ni-59	1.15E-05	6.63E-03	7.37	8.70E-06	8.70E-06	1.23E-05	1.22E-05
Ni-63	1.09E-03	0.625	695	8.13E-04	8.13E-04	1.16E-03	1.15E-03
Co-60	4.79E-06	2.75E-03	3.06	5.23E-07	5.23E-07	4.97E-06	5.36E-06
Se-79	3.16E-06	1.82E-03	2.02	2.81E-07	2.81E-07	3.26E-06	7.07E-06
Sr-90	0.653	376	4.17E+05	0.497	0.585	0.705	0.714
Y-90	0.653	376	4.18E+05	0.497	0.544	0.705	0.714
Zr-93	1.50E-05	8.60E-03	9.56	1.33E-06	1.33E-06	1.54E-05	3.14E-05
Nb-93m	1.21E-05	6.99E-03	7.77	1.09E-06	1.09E-06	1.25E-05	2.98E-05
Tc-99	4.61E-05	2.65E-02	29.5	3.79E-05	4.12E-05	4.94E-05	5.20E-05
Ru-106	9.87E-10	5.68E-07	6.31E-04	1.46E-12	1.46E-12	1.03E-09	1.12E-09
Cd-113m	2.33E-05	1.34E-02	14.9	4.10E-06	4.10E-06	4.67E-05	4.52E-05
Sb-125	1.60E-05	9.21E-03	10.2	7.69E-07	7.69E-07	1.67E-05	1.81E-05
Sn-126	4.85E-06	2.79E-03	3.10	4.33E-07	4.33E-07	5.00E-06	1.11E-05
I-129	8.77E-08	5.05E-05	5.61E-02	7.19E-08	7.82E-08	9.40E-08	9.90E-08
Cs-134	9.69E-07	5.57E-04	0.620	1.59E-08	1.59E-08	1.01E-06	1.08E-06
Cs-137	0.167	96.1	1.07E+05	0.143	0.152	0.177	0.188
Ba-137m	0.158	90.9	1.01E+05	3.10E-02	3.10E-02	0.167	0.173
Sm-151	1.13E-02	6.48	7.21E+03	1.00E-03	1.00E-03	1.16E-02	2.57E-02
Eu-152	7.77E-06	4.47E-03	4.97	4.10E-06	4.10E-06	7.81E-06	7.84E-06
Eu-154	1.15E-04	6.59E-02	73.3	1.26E-05	1.26E-05	1.19E-04	1.47E-04
Eu-155	3.80E-04	0.219	243	1.94E-04	1.94E-04	3.82E-04	3.83E-04
Ra-226	8.27E-10	4.76E-07	5.29E-04	2.81E-10	5.49E-10	1.11E-09	1.37E-09
Ra-228	6.53E-09	3.75E-06	4.17E-03	5.43E-15	5.43E-15	6.59E-09	6.66E-09
Ac-227	3.93E-09	2.26E-06	2.51E-03	1.32E-09	2.31E-09	5.55E-09	7.10E-09
Pa-231	4.70E-09	2.71E-06	3.01E-03	4.20E-10	4.20E-10	5.48E-09	1.41E-08
Th-229	1.57E-10	9.06E-08	1.01E-04	1.04E-12	1.04E-12	1.59E-10	1.61E-10
Th-232	8.74E-11	5.03E-08	5.59E-05	3.46E-16	3.46E-16	1.10E-10	1.33E-10
U-232	2.92E-08	1.68E-05	1.86E-02	1.03E-08	1.90E-08	4.15E-08	5.53E-08
U-233	1.12E-07	6.42E-05	7.14E-02	3.94E-08	7.28E-08	1.59E-07	2.12E-07
U-234	5.97E-07	3.43E-04	0.382	3.01E-07	4.45E-07	7.61E-07	9.27E-07
U-235	2.43E-08	1.40E-05	1.55E-02	1.23E-08	1.81E-08	3.10E-08	3.77E-08
U-236	2.29E-08	1.32E-05	1.47E-02	1.11E-08	1.69E-08	2.92E-08	3.54E-08
U-238	5.33E-07	3.07E-04	0.341	2.72E-07	3.98E-07	6.79E-07	8.27E-07
Np-237	2.21E-07	1.27E-04	0.141	1.68E-07	1.89E-07	2.42E-07	2.49E-07
Pu-238	4.85E-06	2.79E-03	3.10	3.76E-06	4.29E-06	5.41E-06	5.94E-06
Pu-239	3.08E-04	0.177	197	2.30E-04	2.68E-04	3.48E-04	3.86E-04
Pu-240	4.48E-05	2.58E-02	28.7	3.36E-05	3.91E-05	5.05E-05	5.60E-05
Pu-241	2.83E-04	0.163	181	2.17E-04	2.49E-04	3.16E-04	3.49E-04
Pu-242	1.33E-09	7.67E-07	8.53E-04	1.03E-09	1.18E-09	1.49E-09	1.63E-09
Am-241	5.31E-05	3.05E-02	34.0	3.22E-05	4.65E-05	6.01E-05	1.32E-04
Am-243	1.59E-09	9.13E-07	1.02E-03	7.54E-10	1.38E-09	1.74E-09	2.33E-09
Cm-242	9.49E-08	5.46E-05	6.07E-02	9.29E-08	9.37E-08	9.57E-08	9.57E-08
Cm-243	2.17E-09	1.25E-06	1.39E-03	2.13E-09	2.15E-09	2.19E-09	2.19E-09
Cm-244	1.66E-09	9.57E-07	1.06E-03	2.60E-10	8.20E-10	2.23E-09	2.23E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.15E-03 (g/L)	----	3.29	3.84E-03	4.48E-03	5.82E-03	6.45E-03
U	6.60E-03	904	1.01E+03	3.36E-03	4.93E-03	8.42E-03	1.03E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-104							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	2.85E+06 (kg)	(445 kgal)	----	----	----	----	----
Heat Load	4.05 (kW)	(1.38E+04 BTU/hr)	----	3.80	3.93	4.17	4.29
Bulk Density*	1.69 (g/cc)	----	----	1.64	1.67	1.72	1.74
Water wt%†	27.3	----	----	24.5	25.7	29.0	31.0
TOC wt% C (wet)	0.859	----	----	0.568	0.711	1.01	1.15
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.96E-04	0.175	498	1.48E-04	1.48E-04	3.05E-04	3.17E-04
C-14	4.32E-05	2.55E-02	72.8	1.23E-05	1.23E-05	4.38E-05	4.44E-05
Ni-59	2.73E-06	1.61E-03	4.60	1.28E-06	1.28E-06	2.80E-06	2.88E-06
Ni-63	2.68E-04	0.158	451	1.24E-04	1.24E-04	2.75E-04	2.82E-04
Co-60	4.81E-05	2.84E-02	81.0	1.27E-05	1.27E-05	4.89E-05	4.97E-05
Se-79	4.23E-06	2.50E-03	7.12	2.25E-06	2.25E-06	4.94E-06	5.63E-06
Sr-90	0.141	83.4	2.38E+05	0.131	0.136	0.146	0.151
Y-90	0.141	83.4	2.38E+05	7.30E-02	7.30E-02	0.146	0.151
Zr-93	2.07E-05	1.22E-02	34.9	1.09E-05	1.09E-05	2.43E-05	2.77E-05
Nb-93m	1.50E-05	8.89E-03	25.3	8.14E-06	8.14E-06	1.76E-05	2.00E-05
Tc-99	3.08E-04	0.182	518	1.92E-04	2.49E-04	3.67E-04	4.24E-04
Ru-106	8.55E-09	5.05E-06	1.44E-02	3.98E-09	3.98E-09	9.58E-09	1.05E-08
Cd-113m	1.09E-04	6.45E-02	184	5.00E-05	5.00E-05	1.31E-04	1.51E-04
Sb-125	2.07E-04	0.122	349	5.40E-05	5.40E-05	2.11E-04	2.15E-04
Sn-126	6.39E-06	3.77E-03	10.8	3.43E-06	3.43E-06	7.46E-06	8.49E-06
I-129	5.93E-07	3.50E-04	0.999	3.70E-07	4.79E-07	7.08E-07	8.19E-07
Cs-134	3.10E-06	1.83E-03	5.22	2.18E-06	2.60E-06	3.57E-06	4.04E-06
Cs-137	0.311	183	5.23E+05	0.281	0.295	0.326	0.341
Ba-137m	0.294	174	4.95E+05	0.228	0.228	0.308	0.322
Sm-151	1.49E-02	8.79	2.51E+04	7.97E-03	7.97E-03	1.74E-02	1.98E-02
Eu-152	4.91E-06	2.90E-03	8.27	2.46E-06	2.46E-06	5.25E-06	5.58E-06
Eu-154	7.76E-04	0.458	1.31E+03	2.82E-04	2.82E-04	9.54E-04	1.03E-03
Eu-155	2.90E-04	0.171	489	1.45E-04	1.45E-04	3.11E-04	3.31E-04
Ra-226	1.78E-10	1.05E-07	3.00E-04	1.17E-10	1.17E-10	2.00E-10	2.22E-10
Ra-228	1.69E-07	9.98E-05	0.285	7.18E-08	1.19E-07	2.27E-07	2.88E-07
Ac-227	1.13E-09	6.66E-07	1.90E-03	7.72E-10	7.72E-10	1.26E-09	1.38E-09
Pa-231	5.20E-09	3.07E-06	8.76E-03	3.23E-09	3.23E-09	5.91E-09	6.60E-09
Th-229	3.97E-09	2.35E-06	6.69E-03	1.84E-09	2.88E-09	5.24E-09	6.59E-09
Th-232	1.14E-08	6.74E-06	1.92E-02	6.04E-09	8.67E-09	1.42E-08	1.68E-08
U-232	8.71E-07	5.14E-04	1.47	4.81E-07	6.72E-07	1.10E-06	1.35E-06
U-233	3.34E-06	1.97E-03	5.63	1.85E-06	2.58E-06	4.22E-06	5.17E-06
U-234	9.90E-07	5.84E-04	1.67	9.52E-07	9.71E-07	1.01E-06	1.02E-06
U-235	4.01E-08	2.37E-05	6.76E-02	3.86E-08	3.93E-08	4.10E-08	4.15E-08
U-236	3.09E-08	1.83E-05	5.21E-02	2.98E-08	3.04E-08	3.14E-08	3.19E-08
U-238	1.15E-06	6.80E-04	1.94	1.12E-06	1.13E-06	1.17E-06	1.18E-06
Np-237	1.12E-06	6.61E-04	1.88	7.42E-07	9.26E-07	1.31E-06	1.50E-06
Pu-238	1.74E-06	1.03E-03	2.93	1.30E-06	1.51E-06	1.97E-06	2.18E-06
Pu-239	5.90E-05	3.49E-02	99.4	4.77E-05	5.33E-05	6.48E-05	7.03E-05
Pu-240	1.00E-05	5.93E-03	16.9	7.94E-06	8.97E-06	1.11E-05	1.22E-05
Pu-241	1.18E-04	6.97E-02	199	8.79E-05	1.03E-04	1.33E-04	1.48E-04
Pu-242	6.50E-10	3.84E-07	1.09E-03	4.70E-10	5.58E-10	7.42E-10	8.30E-10
Am-241	7.14E-05	4.22E-02	120	5.04E-05	6.07E-05	8.22E-05	9.24E-05
Am-243	2.53E-09	1.49E-06	4.25E-03	1.87E-09	2.18E-09	2.88E-09	3.21E-09
Cm-242	1.87E-07	1.10E-04	0.315	8.66E-08	8.66E-08	2.00E-07	2.12E-07
Cm-243	1.74E-08	1.03E-05	2.93E-02	7.80E-09	7.80E-09	1.85E-08	1.97E-08
Cm-244	1.72E-07	1.02E-04	0.290	7.36E-08	7.36E-08	2.06E-07	2.27E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.35E-04 (g/L)	----	1.24	5.20E-04	6.26E-04	8.44E-04	9.48E-04
U	1.13E-02	1.59E+03	4.55E+03	1.09E-02	1.11E-02	1.16E-02	1.17E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-104							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	3.96E+06 (kg)	(614 kgal)	----	----	----	----	----
Heat Load	7.36 (kW)	(2.52E+04 BTU/hr)	----	6.59	7.03	7.61	7.60
Bulk Density†	1.71 (g/cc)	----	----	1.64	1.66	1.77	1.78
Water wt%†	28.1	----	----	23.6	24.4	30.9	32.0
TOC wt% C (wet)†	0.619	----	----	0.409	0.512	0.726	0.831
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.44E-04	0.143	568	1.37E-04	1.37E-04	2.51E-04	2.60E-04
C-14	3.30E-05	1.93E-02	76.7	1.06E-05	1.06E-05	3.34E-05	3.38E-05
Ni-59	5.15E-06	3.02E-03	12.0	4.10E-06	4.10E-06	5.37E-06	5.31E-06
Ni-63	4.93E-04	0.289	1.15E+03	3.89E-04	3.89E-04	5.14E-04	5.08E-04
Co-60	3.62E-05	2.12E-02	84.0	1.05E-05	1.05E-05	3.68E-05	3.73E-05
Se-79	3.93E-06	2.31E-03	9.14	2.50E-06	2.50E-06	4.45E-06	4.95E-06
Sr-90	0.282	165	6.55E+05	0.239	0.263	0.296	0.297
Y-90	0.282	165	6.55E+05	0.233	0.233	0.296	0.297
Zr-93	1.91E-05	1.12E-02	44.5	1.20E-05	1.20E-05	2.17E-05	2.42E-05
Nb-93m	1.42E-05	8.35E-03	33.1	9.24E-06	9.24E-06	1.61E-05	1.85E-05
Tc-99	2.36E-04	0.138	548	1.52E-04	1.93E-04	2.79E-04	3.20E-04
Ru-106	6.47E-09	3.79E-06	1.50E-02	3.15E-09	3.15E-09	7.21E-09	7.89E-09
Cd-113m	8.56E-05	5.02E-02	199	4.27E-05	4.27E-05	1.01E-04	1.16E-04
Sb-125	1.55E-04	9.06E-02	359	4.35E-05	4.35E-05	1.57E-04	1.60E-04
Sn-126	5.97E-06	3.50E-03	13.9	3.82E-06	3.82E-06	6.74E-06	7.49E-06
I-129	4.54E-07	2.66E-04	1.06	2.92E-07	3.71E-07	5.37E-07	6.18E-07
Cs-134	2.51E-06	1.47E-03	5.84	1.84E-06	1.89E-06	2.86E-06	3.19E-06
Cs-137	0.271	159	6.30E+05	0.249	0.260	0.282	0.293
Ba-137m	0.256	150	5.96E+05	0.174	0.174	0.267	0.277
Sm-151	1.39E-02	8.14	3.23E+04	8.88E-03	8.88E-03	1.57E-02	1.74E-02
Eu-152	5.70E-06	3.34E-03	13.2	3.93E-06	3.93E-06	5.94E-06	6.18E-06
Eu-154	5.94E-04	0.348	1.38E+03	2.36E-04	2.36E-04	7.23E-04	7.75E-04
Eu-155	3.15E-04	0.185	732	2.09E-04	2.09E-04	3.30E-04	3.45E-04
Ra-226	3.57E-10	2.09E-07	8.29E-04	2.25E-10	2.90E-10	4.24E-10	4.89E-10
Ra-228	1.24E-07	7.29E-05	0.289	5.39E-08	8.83E-08	1.66E-07	2.11E-07
Ac-227	1.90E-09	1.11E-06	4.41E-03	1.27E-09	1.51E-09	2.29E-09	2.66E-09
Pa-231	5.06E-09	2.97E-06	1.18E-02	3.61E-09	3.61E-09	5.58E-09	7.33E-09
Th-229	2.92E-09	1.71E-06	6.79E-03	1.38E-09	2.13E-09	3.84E-09	4.82E-09
Th-232	8.30E-09	4.87E-06	1.93E-02	4.40E-09	6.31E-09	1.03E-08	1.22E-08
U-232	6.39E-07	3.75E-04	1.49	3.57E-07	4.95E-07	8.07E-07	9.85E-07
U-233	2.45E-06	1.44E-03	5.70	1.37E-06	1.90E-06	3.09E-06	3.78E-06
U-234	8.81E-07	5.17E-04	2.05	8.01E-07	8.40E-07	9.26E-07	9.72E-07
U-235	3.58E-08	2.10E-05	8.32E-02	3.25E-08	3.41E-08	3.76E-08	3.95E-08
U-236	2.87E-08	1.68E-05	6.68E-02	2.56E-08	2.71E-08	3.04E-08	3.21E-08
U-238	9.81E-07	5.75E-04	2.28	9.10E-07	9.44E-07	1.02E-06	1.06E-06
Np-237	8.72E-07	5.11E-04	2.03	5.99E-07	7.32E-07	1.01E-06	1.15E-06
Pu-238	2.60E-06	1.52E-03	6.03	2.28E-06	2.43E-06	2.76E-06	2.92E-06
Pu-239	1.28E-04	7.48E-02	296	1.09E-04	1.18E-04	1.37E-04	1.46E-04
Pu-240	1.96E-05	1.15E-02	45.6	1.69E-05	1.82E-05	2.10E-05	2.23E-05
Pu-241	1.63E-04	9.58E-02	380	1.42E-04	1.52E-04	1.75E-04	1.85E-04
Pu-242	8.38E-10	4.91E-07	1.95E-03	7.07E-10	7.71E-10	9.04E-10	9.69E-10
Am-241	6.64E-05	3.89E-02	154	5.12E-05	5.86E-05	7.42E-05	8.54E-05
Am-243	2.27E-09	1.33E-06	5.27E-03	1.79E-09	2.02E-09	2.53E-09	2.77E-09
Cm-242	1.62E-07	9.48E-05	0.376	8.89E-08	8.89E-08	1.71E-07	1.80E-07
Cm-243	1.32E-08	7.73E-06	3.07E-02	6.25E-09	6.25E-09	1.40E-08	1.48E-08
Cm-244	1.25E-07	7.35E-05	0.291	5.38E-08	5.38E-08	1.50E-07	1.65E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.95E-03 (g/L)	----	4.53	1.64E-03	1.79E-03	2.11E-03	2.26E-03
U	1.00E-02	1.40E+03	5.55E+03	9.15E-03	9.58E-03	1.05E-02	1.10E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.60E+05 (kg)	(55.0 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.56	3.62	3.69	3.72
Bulk Density	1.73 (g/cc)	----	----	1.57	1.66	1.83	1.86
Void Fraction	0.685	----	----	0.555	0.598	0.739	0.793
Water wt%	32.1	----	----	23.7	26.5	37.9	43.6
TOC wt% C (wet)	2.93E-03	----	----	2.72E-03	2.78E-03	3.15E-03	3.42E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.5	1.39E+05	5.02E+04	7.71	9.18	12.3	13.2
Al^{3+}	5.18	8.08E+04	2.91E+04	4.08	4.40	6.02	6.88
Fe^{3+} (total Fe)	0.725	2.34E+04	8.43E+03	0.718	0.722	0.729	0.733
Cr^{3+}	0.491	1.48E+04	5.32E+03	0.298	0.390	0.661	0.875
Bi^{3+}	3.87E-06	0.468	0.168	3.27E-06	3.57E-06	4.27E-06	4.69E-06
La^{3+}	9.54E-12	7.66E-07	2.76E-07	8.36E-12	9.02E-12	1.05E-11	1.16E-11
Hg^{2+}	6.08E-07	7.05E-02	2.54E-02	5.39E-07	5.73E-07	6.70E-07	7.35E-07
Zr (as $ZrO(OH)_2$)	3.87E-07	2.04E-02	7.34E-03	3.55E-07	3.70E-07	4.05E-07	4.37E-07
Pb^{2+}	9.65E-05	11.6	4.16	5.17E-05	7.35E-05	1.20E-04	1.42E-04
Ni^{2+}	4.16E-02	1.41E+03	508	3.77E-02	3.99E-02	4.29E-02	4.31E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.82E-05	0.895	0.322	2.01E-05	2.41E-05	3.23E-05	3.64E-05
Ca^{2+}	0.186	4.32E+03	1.55E+03	0.157	0.171	0.201	0.216
K^+	2.30E-02	521	187	2.03E-02	2.14E-02	2.46E-02	2.64E-02
OH^-	23.2	2.28E+05	8.22E+04	18.2	19.8	26.9	30.4
$NO3^-$	4.40	1.58E+05	5.68E+04	2.97	2.98	6.63	7.84
$NO2^-$	1.71	4.55E+04	1.64E+04	1.35	1.48	1.90	1.90
$CO3^{2-}$	0.189	6.56E+03	2.36E+03	0.160	0.174	0.204	0.219
$PO4^{3-}$	2.51E-04	13.8	4.95	2.33E-04	2.43E-04	2.61E-04	2.84E-04
$SO4^{2-}$	2.85E-02	1.58E+03	570	2.60E-02	2.67E-02	3.05E-02	3.27E-02
Si (as SiO_x^{2-})	0.153	2.49E+03	897	7.98E-02	8.13E-02	0.226	0.295
F^-	2.00E-04	2.19	0.790	1.70E-04	1.88E-04	2.20E-04	2.37E-04
Cl^-	9.82E-02	2.01E+03	724	6.34E-02	8.04E-02	0.106	0.127
$C_6H_5O_7^{3-}$	2.06E-04	22.6	8.12	2.00E-04	2.03E-04	2.15E-04	2.34E-04
$EDTA^{4-}$	8.04E-06	1.34	0.482	5.65E-06	6.96E-06	9.47E-06	1.09E-05
$HEDTA^{3-}$	6.68E-06	1.06	0.381	2.14E-06	4.59E-06	8.91E-06	1.11E-05
$glycolate^-$	2.91E-04	12.6	4.55	1.58E-04	2.30E-04	3.62E-04	4.30E-04
$acetate^-$	3.02E-05	1.03	0.372	2.93E-05	2.97E-05	3.21E-05	3.43E-05
$oxalate^{2-}$	1.25E-11	6.36E-07	2.29E-07	1.11E-11	1.18E-11	1.38E-11	1.51E-11
DBP	1.83E-04	22.2	8.01	1.71E-04	1.78E-04	1.98E-04	2.14E-04
butanol	1.83E-04	7.84	2.82	1.71E-04	1.78E-04	1.98E-04	2.14E-04
NH_3	0.166	1.64E+03	589	0.115	0.122	0.288	0.174
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.06E+06 (kg)	(628 kgal)	----	----	----	----	----
Heat Load	5.83 (kW)	(1.99E+04 BTU/hr)	----	5.45	5.65	6.00	6.16
Bulk Density*	1.71 (g/cc)	----	----	1.65	1.68	1.73	1.76
Water wt%	26.5	----	----	23.5	24.9	28.3	30.3
TOC wt% C (wet)	0.887	----	----	0.590	0.736	1.04	1.19

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	16.6	2.23E+05	9.07E+05	15.0	15.8	17.3	17.9
Al^{3+}	1.95	3.08E+04	1.25E+05	1.81	1.88	2.03	2.09
Fe^{3+} (total Fe)	1.31E-02	427	1.73E+03	1.05E-02	1.18E-02	1.44E-02	1.56E-02
Cr^{3+}	0.173	5.28E+03	2.14E+04	0.146	0.161	0.179	0.184
Bi^{3+}	1.43E-03	176	712	1.31E-03	1.37E-03	1.50E-03	1.55E-03
La^{3+}	5.31E-05	4.32	17.5	3.85E-05	4.56E-05	6.06E-05	6.78E-05
Hg^{2+}	1.03E-05	1.21	4.90	9.63E-06	1.00E-05	1.04E-05	1.06E-05
Zr (as $ZrO(OH)_2$)	2.57E-04	13.8	55.8	2.35E-04	2.43E-04	2.66E-04	2.79E-04
Pb^{2+}	1.17E-03	142	576	9.46E-04	1.06E-03	1.28E-03	1.39E-03
Ni^{2+}	7.54E-03	259	1.05E+03	7.20E-03	7.36E-03	7.63E-03	7.72E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.68E-03	151	611	3.45E-03	4.05E-03	5.30E-03	5.91E-03
Ca^{2+}	3.95E-02	928	3.76E+03	3.58E-02	3.76E-02	4.14E-02	4.32E-02
K^+	7.69E-02	1.76E+03	7.15E+03	6.94E-02	7.29E-02	8.10E-02	8.49E-02
OH^-	11.8	1.18E+05	4.77E+05	11.0	11.4	12.3	12.6
$NO3^-$	5.68	2.07E+05	8.38E+05	5.29	5.52	5.77	5.85
$NO2^-$	2.89	7.79E+04	3.16E+05	2.37	2.61	3.16	3.42
$CO3^{2-}$	0.520	1.83E+04	7.42E+04	0.468	0.494	0.550	0.565
$PO4^{3-}$	0.104	5.81E+03	2.36E+04	9.13E-02	9.59E-02	0.107	0.109
$SO4^{2-}$	0.288	1.62E+04	6.58E+04	0.220	0.253	0.325	0.357
Si (as SiO_x^{2-})	9.25E-02	1.52E+03	6.18E+03	7.49E-02	8.35E-02	0.101	0.110
F^-	7.04E-02	784	3.18E+03	5.99E-02	6.43E-02	7.56E-02	7.97E-02
Cl^-	0.285	5.92E+03	2.40E+04	0.255	0.270	0.299	0.311
$C_6H_5O_7^{3-}$	3.59E-02	3.97E+03	1.61E+04	3.29E-02	3.44E-02	3.74E-02	3.88E-02
$EDTA^{4-}$	1.84E-02	3.11E+03	1.26E+04	5.83E-03	1.20E-02	2.49E-02	3.12E-02
$HEDTA^{3-}$	3.40E-02	5.46E+03	2.21E+04	8.80E-03	2.11E-02	4.69E-02	5.96E-02
$glycolate^-$	0.111	4.89E+03	1.98E+04	7.22E-02	9.12E-02	0.131	0.150
$acetate^-$	9.18E-03	317	1.29E+03	7.50E-03	8.32E-03	1.00E-02	1.09E-02
$oxalate^{2-}$	6.96E-05	3.59	14.6	6.16E-05	6.55E-05	7.36E-05	7.75E-05
DBP	2.35E-02	2.90E+03	1.18E+04	1.92E-02	2.13E-02	2.57E-02	2.77E-02
butanol	2.35E-02	1.02E+03	4.14E+03	1.92E-02	2.13E-02	2.57E-02	2.77E-02
NH_3	9.69E-02	965	3.91E+03	7.71E-02	8.49E-02	0.112	0.130
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.42E+06 (kg)	(683 kgal)	----	----	----	----	----
Heat Load	9.48 (kW)	(3.24E+04 BTU/hr)	----	9.11	9.31	9.66	9.82
Bulk Density†	1.71 (g/cc)	----	----	1.65	1.68	1.73	1.75
Water wt%†	27.0	----	----	24.2	25.5	28.6	30.5
TOC wt% C (wet)†	0.815	----	----	0.542	0.676	0.955	1.09

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	16.1	2.17E+05	9.57E+05	14.7	15.4	16.7	17.3
Al^{3+}	2.21	3.49E+04	1.54E+05	2.08	2.14	2.28	2.35
Fe^{3+} (total Fe)	7.04E-02	2.30E+03	1.02E+04	6.81E-02	6.92E-02	7.16E-02	7.28E-02
Cr^{3+}	0.199	6.06E+03	2.67E+04	0.176	0.189	0.211	0.226
Bi^{3+}	1.32E-03	161	712	1.21E-03	1.26E-03	1.38E-03	1.43E-03
La^{3+}	4.88E-05	3.97	17.5	3.54E-05	4.19E-05	5.57E-05	6.24E-05
Hg^{2+}	9.49E-06	1.11	4.92	8.91E-06	9.24E-06	9.64E-06	9.78E-06
Zr (as $ZrO(OH)_2$)	2.37E-04	12.6	55.8	2.16E-04	2.23E-04	2.45E-04	2.57E-04
Pb^{2+}	1.08E-03	131	580	8.77E-04	9.78E-04	1.19E-03	1.29E-03
Ni^{2+}	1.03E-02	353	1.56E+03	9.97E-03	1.01E-02	1.04E-02	1.04E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.30E-03	138	611	3.17E-03	3.73E-03	4.88E-03	5.43E-03
Ca^{2+}	5.13E-02	1.20E+03	5.32E+03	4.80E-02	4.96E-02	5.31E-02	5.47E-02
K^+	7.26E-02	1.66E+03	7.33E+03	6.56E-02	6.89E-02	7.63E-02	7.99E-02
OH^-	12.7	1.27E+05	5.60E+05	12.0	12.3	13.1	13.5
$NO3^-$	5.58	2.03E+05	8.95E+05	5.22	5.43	5.72	5.73
$NO2^-$	2.80	7.53E+04	3.33E+05	2.31	2.54	3.05	3.29
$CO3^{2-}$	0.494	1.73E+04	7.66E+04	0.446	0.469	0.521	0.534
$PO4^{3-}$	9.60E-02	5.34E+03	2.36E+04	8.40E-02	8.82E-02	9.81E-02	0.100
$SO4^{2-}$	0.267	1.50E+04	6.64E+04	0.205	0.235	0.301	0.330
Si (as SiO_x^{2-})	9.74E-02	1.60E+03	7.07E+03	8.13E-02	8.92E-02	0.106	0.114
F^-	6.47E-02	720	3.18E+03	5.50E-02	5.91E-02	6.95E-02	7.33E-02
Cl^-	0.270	5.60E+03	2.47E+04	0.242	0.256	0.283	0.294
$C_6H_5O_7^{3-}$	3.30E-02	3.65E+03	1.61E+04	3.03E-02	3.16E-02	3.44E-02	3.57E-02
$EDTA^{4-}$	1.69E-02	2.86E+03	1.26E+04	5.36E-03	1.10E-02	2.29E-02	2.87E-02
$HEDTA^{3-}$	3.12E-02	5.01E+03	2.21E+04	8.09E-03	1.94E-02	4.31E-02	5.48E-02
$glycolate^-$	0.102	4.49E+03	1.98E+04	6.64E-02	8.39E-02	0.121	0.138
$acetate^-$	8.44E-03	292	1.29E+03	6.90E-03	7.66E-03	9.23E-03	9.98E-03
$oxalate^{2-}$	6.40E-05	3.29	14.6	5.67E-05	6.02E-05	6.77E-05	7.12E-05
DBP	2.16E-02	2.66E+03	1.18E+04	1.77E-02	1.96E-02	2.36E-02	2.55E-02
butanol	2.16E-02	939	4.15E+03	1.77E-02	1.96E-02	2.36E-02	2.55E-02
NH_3	0.102	1.02E+03	4.50E+03	8.43E-02	9.15E-02	0.117	0.133
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-105							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	3.60E+05 (kg)	(55.0 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.56	3.62	3.69	3.72
Bulk Density	1.73 (g/cc)	----	----	1.57	1.66	1.83	1.86
Void Fraction	0.685	----	----	0.555	0.598	0.739	0.793
Water wt%	32.1	----	----	23.7	26.5	37.9	43.6
TOC wt% C (wet)	2.93E-03	----	----	2.72E-03	2.78E-03	3.15E-03	3.42E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.58E-04	9.12E-02	32.8	3.20E-05	3.20E-05	1.64E-04	1.75E-04
C-14	8.10E-06	4.68E-03	1.69	1.65E-06	1.65E-06	8.36E-06	8.95E-06
Ni-59	2.12E-05	1.22E-02	4.40	1.73E-05	1.73E-05	2.19E-05	2.22E-05
Ni-63	2.06E-03	1.19	429	1.69E-03	1.69E-03	2.14E-03	2.17E-03
Co-60	7.20E-06	4.16E-03	1.50	1.40E-06	1.40E-06	7.45E-06	7.98E-06
Se-79	9.75E-06	5.64E-03	2.03	4.30E-06	4.30E-06	1.59E-05	2.17E-05
Sr-90	2.44	1.41E+03	5.08E+05	2.37	2.41	2.47	2.48
Y-90	2.44	1.41E+03	5.08E+05	2.29	2.29	2.47	2.48
Zr-93	4.30E-05	2.49E-02	8.95	2.04E-05	2.04E-05	7.35E-05	1.03E-04
Nb-93m	3.82E-05	2.21E-02	7.94	1.65E-05	1.68E-05	5.96E-05	8.01E-05
Tc-99	6.29E-05	3.64E-02	13.1	5.91E-05	5.76E-05	6.67E-05	7.10E-05
Ru-106	1.66E-09	9.57E-07	3.45E-04	3.15E-10	3.15E-10	2.37E-09	1.70E-08
Cd-113m	3.28E-05	1.89E-02	6.82	6.66E-06	6.66E-06	1.28E-04	3.04E-04
Sb-125	2.56E-05	1.48E-02	5.32	4.83E-06	4.83E-06	2.65E-05	2.84E-05
Sn-126	1.34E-05	7.75E-03	2.79	6.58E-06	6.58E-06	2.26E-05	3.14E-05
I-129	1.19E-07	6.90E-05	2.48E-02	1.12E-07	1.09E-07	1.27E-07	1.35E-07
Cs-134	1.70E-06	9.84E-04	0.354	4.05E-07	4.05E-07	1.75E-06	1.86E-06
Cs-137	0.241	139	5.01E+04	0.229	0.222	0.254	0.269
Ba-137m	0.228	132	4.74E+04	5.50E-02	5.50E-02	0.234	0.248
Sm-151	3.49E-02	20.2	7.26E+03	1.53E-02	1.53E-02	5.63E-02	7.68E-02
Eu-152	2.52E-05	1.46E-02	5.25	2.02E-05	2.02E-05	2.53E-05	2.53E-05
Eu-154	1.73E-04	9.99E-02	36.0	3.41E-05	3.41E-05	1.79E-04	1.42E-03
Eu-155	1.28E-03	0.740	267	1.03E-03	1.03E-03	1.28E-03	1.29E-03
Ra-226	1.77E-09	1.02E-06	3.69E-04	1.40E-09	1.51E-09	1.96E-09	2.14E-09
Ra-228	8.88E-09	5.13E-06	1.85E-03	3.47E-14	3.47E-14	8.96E-09	9.07E-09
Ac-227	8.26E-09	4.77E-06	1.72E-03	6.10E-09	6.71E-09	9.36E-09	1.04E-08
Pa-231	1.20E-08	6.93E-06	2.50E-03	6.16E-09	6.16E-09	1.81E-08	2.40E-08
Th-229	2.15E-10	1.24E-07	4.48E-05	2.46E-12	2.46E-12	2.17E-10	2.19E-10
Th-232	1.19E-10	6.88E-08	2.48E-05	1.18E-15	1.18E-15	1.50E-10	1.81E-10
U-232	3.97E-08	2.29E-05	8.26E-03	1.40E-08	2.59E-08	5.65E-08	7.53E-08
U-233	1.52E-07	8.78E-05	3.16E-02	5.37E-08	9.90E-08	2.16E-07	2.88E-07
U-234	7.73E-07	4.47E-04	0.161	3.70E-07	5.66E-07	9.96E-07	1.22E-06
U-235	3.12E-08	1.81E-05	6.50E-03	1.49E-08	2.28E-08	4.03E-08	4.95E-08
U-236	3.18E-08	1.84E-05	6.61E-03	1.56E-08	2.36E-08	4.03E-08	4.87E-08
U-238	6.78E-07	3.92E-04	0.141	3.22E-07	4.95E-07	8.77E-07	1.08E-06
Np-237	2.77E-07	1.60E-04	5.76E-02	2.52E-07	2.58E-07	2.95E-07	3.15E-07
Pu-238	1.54E-05	8.93E-03	3.21	1.27E-05	1.41E-05	1.68E-05	1.81E-05
Pu-239	4.10E-04	0.237	85.3	3.58E-04	3.83E-04	4.37E-04	4.62E-04
Pu-240	7.17E-05	4.14E-02	14.9	6.16E-05	6.65E-05	7.68E-05	8.18E-05
Pu-241	7.67E-04	0.444	160	6.38E-04	7.01E-04	8.34E-04	8.97E-04
Pu-242	4.25E-09	2.46E-06	8.84E-04	3.50E-09	3.87E-09	4.63E-09	4.99E-09
Am-241	4.28E-04	0.247	89.1	2.48E-04	3.36E-04	5.20E-04	6.07E-04
Am-243	1.83E-08	1.06E-05	3.82E-03	1.02E-08	1.42E-08	2.25E-08	2.64E-08
Cm-242	9.12E-07	5.27E-04	0.190	9.11E-07	9.06E-07	9.13E-07	9.13E-07
Cm-243	8.89E-08	5.14E-05	1.85E-02	8.88E-08	8.83E-08	8.89E-08	8.89E-08
Cm-244	2.66E-06	1.54E-03	0.554	2.06E-06	2.36E-06	2.97E-06	3.26E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.91E-03 (g/L)	----	1.44	6.02E-03	6.46E-03	7.36E-03	7.80E-03
U	8.39E-03	1.15E+03	415	3.98E-03	6.11E-03	1.09E-02	1.34E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-105							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	4.06E+06 (kg)	(628 kgal)	----	----	----	----	----
Heat Load	5.83 (kW)	(1.99E+04 BTU/hr)	----	5.45	5.65	6.00	6.16
Bulk Density*	1.71 (g/cc)	----	----	1.65	1.68	1.73	1.76
Water wt%†	26.5	----	----	23.5	24.9	28.3	30.3
TOC wt% C (wet)	0.887	----	----	0.590	0.736	1.04	1.19
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.06E-04	0.179	726	1.49E-04	1.49E-04	3.15E-04	3.28E-04
C-14	4.50E-05	2.64E-02	107	1.23E-05	1.23E-05	4.56E-05	4.62E-05
Ni-59	2.82E-06	1.65E-03	6.69	1.28E-06	1.28E-06	2.89E-06	2.97E-06
Ni-63	2.76E-04	0.162	656	1.24E-04	1.24E-04	2.84E-04	2.91E-04
Co-60	5.02E-05	2.94E-02	119	1.27E-05	1.27E-05	5.10E-05	5.18E-05
Se-79	4.36E-06	2.56E-03	10.4	2.27E-06	2.27E-06	5.12E-06	5.84E-06
Sr-90	0.146	85.5	3.47E+05	0.136	0.141	0.151	0.156
Y-90	0.146	85.5	3.47E+05	7.37E-02	7.37E-02	0.151	0.156
Zr-93	2.14E-05	1.25E-02	50.9	1.10E-05	1.10E-05	2.52E-05	2.88E-05
Nb-93m	1.55E-05	9.10E-03	36.9	8.21E-06	8.21E-06	1.82E-05	2.07E-05
Tc-99	3.20E-04	0.188	762	1.98E-04	2.58E-04	3.83E-04	4.44E-04
Ru-106	8.91E-09	5.22E-06	2.12E-02	4.07E-09	4.07E-09	9.99E-09	1.10E-08
Cd-113m	1.13E-04	6.63E-02	269	5.05E-05	5.05E-05	1.36E-04	1.58E-04
Sb-125	2.17E-04	0.127	515	5.43E-05	5.43E-05	2.21E-04	2.25E-04
Sn-126	6.60E-06	3.86E-03	15.7	3.46E-06	3.46E-06	7.73E-06	8.82E-06
I-129	6.18E-07	3.62E-04	1.47	3.82E-07	4.97E-07	7.40E-07	8.57E-07
Cs-134	3.15E-06	1.85E-03	7.49	2.20E-06	2.64E-06	3.64E-06	4.12E-06
Cs-137	0.313	184	7.45E+05	0.284	0.298	0.329	0.343
Ba-137m	0.297	174	7.05E+05	0.229	0.229	0.311	0.325
Sm-151	1.54E-02	9.00	3.65E+04	8.05E-03	8.05E-03	1.80E-02	2.05E-02
Eu-152	5.09E-06	2.98E-03	12.1	2.50E-06	2.50E-06	5.44E-06	5.78E-06
Eu-154	8.08E-04	0.473	1.92E+03	2.85E-04	2.85E-04	9.97E-04	1.07E-03
Eu-155	3.01E-04	0.176	716	1.47E-04	1.47E-04	3.22E-04	3.43E-04
Ra-226	1.82E-10	1.07E-07	4.34E-04	1.18E-10	1.18E-10	2.06E-10	2.28E-10
Ra-228	1.69E-07	9.90E-05	0.402	7.14E-08	1.19E-07	2.27E-07	2.88E-07
Ac-227	1.15E-09	6.77E-07	2.74E-03	7.78E-10	7.78E-10	1.29E-09	1.42E-09
Pa-231	5.34E-09	3.13E-06	1.27E-02	3.25E-09	3.25E-09	6.10E-09	6.83E-09
Th-229	3.98E-09	2.33E-06	9.46E-03	1.84E-09	2.88E-09	5.25E-09	6.60E-09
Th-232	1.14E-08	6.68E-06	2.71E-02	6.01E-09	8.65E-09	1.42E-08	1.68E-08
U-232	8.77E-07	5.14E-04	2.09	4.86E-07	6.78E-07	1.11E-06	1.36E-06
U-233	3.36E-06	1.97E-03	8.00	1.87E-06	2.60E-06	4.25E-06	5.20E-06
U-234	1.01E-06	5.91E-04	2.40	9.70E-07	9.90E-07	1.03E-06	1.04E-06
U-235	4.09E-08	2.40E-05	9.72E-02	3.94E-08	4.01E-08	4.18E-08	4.24E-08
U-236	3.15E-08	1.85E-05	7.50E-02	3.04E-08	3.10E-08	3.21E-08	3.26E-08
U-238	1.17E-06	6.88E-04	2.79	1.14E-06	1.16E-06	1.20E-06	1.21E-06
Np-237	1.16E-06	6.81E-04	2.76	7.64E-07	9.59E-07	1.37E-06	1.57E-06
Pu-238	1.81E-06	1.06E-03	4.30	1.34E-06	1.57E-06	2.05E-06	2.28E-06
Pu-239	6.10E-05	3.57E-02	145	4.90E-05	5.49E-05	6.71E-05	7.29E-05
Pu-240	1.04E-05	6.10E-03	24.7	8.17E-06	9.27E-06	1.15E-05	1.26E-05
Pu-241	1.23E-04	7.20E-02	292	9.09E-05	1.07E-04	1.39E-04	1.55E-04
Pu-242	6.76E-10	3.96E-07	1.61E-03	4.86E-10	5.79E-10	7.74E-10	8.68E-10
Am-241	7.35E-05	4.31E-02	175	5.13E-05	6.22E-05	8.49E-05	9.57E-05
Am-243	2.61E-09	1.53E-06	6.21E-03	1.92E-09	2.25E-09	2.99E-09	3.34E-09
Cm-242	1.94E-07	1.14E-04	0.462	8.81E-08	8.81E-08	2.08E-07	2.21E-07
Cm-243	1.81E-08	1.06E-05	4.30E-02	7.95E-09	7.95E-09	1.93E-08	2.04E-08
Cm-244	1.80E-07	1.05E-04	0.427	7.51E-08	7.51E-08	2.15E-07	2.38E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.55E-04 (g/L)	----	1.80	5.28E-04	6.40E-04	8.71E-04	9.81E-04
U	1.16E-02	1.61E+03	6.54E+03	1.11E-02	1.13E-02	1.18E-02	1.20E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-105							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	4.42E+06 (kg)	(683 kgal)	----	----	----	----	----
Heat Load	9.48 (kW)	(3.24E+04 BTU/hr)	----	9.11	9.31	9.66	9.82
Bulk Density†	1.71 (g/cc)	----	----	1.65	1.68	1.73	1.75
Water wt%†	27.0	----	----	24.2	25.5	28.6	30.5
TOC wt% C (wet)†	0.815	----	----	0.542	0.676	0.955	1.09
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.94E-04	0.172	759	1.50E-04	1.50E-04	3.03E-04	3.14E-04
C-14	4.21E-05	2.46E-02	109	1.20E-05	1.20E-05	4.26E-05	4.31E-05
Ni-59	4.29E-06	2.51E-03	11.1	2.88E-06	2.88E-06	4.36E-06	4.43E-06
Ni-63	4.20E-04	0.246	1.09E+03	2.80E-04	2.80E-04	4.27E-04	4.34E-04
Co-60	4.67E-05	2.74E-02	121	1.23E-05	1.23E-05	4.75E-05	4.82E-05
Se-79	4.80E-06	2.81E-03	12.4	2.88E-06	2.88E-06	5.49E-06	6.16E-06
Sr-90	0.331	194	8.55E+05	0.321	0.326	0.336	0.340
Y-90	0.331	194	8.55E+05	0.264	0.264	0.336	0.340
Zr-93	2.32E-05	1.36E-02	59.9	1.35E-05	1.35E-05	2.66E-05	3.00E-05
Nb-93m	1.74E-05	1.02E-02	44.9	1.06E-05	1.06E-05	1.98E-05	2.21E-05
Tc-99	3.00E-04	0.175	775	1.87E-04	2.42E-04	3.58E-04	4.13E-04
Ru-106	8.33E-09	4.87E-06	2.15E-02	3.87E-09	3.87E-09	9.32E-09	1.02E-08
Cd-113m	1.07E-04	6.25E-02	276	4.90E-05	4.90E-05	1.28E-04	1.48E-04
Sb-125	2.01E-04	0.118	520	5.20E-05	5.20E-05	2.05E-04	2.09E-04
Sn-126	7.14E-06	4.18E-03	18.5	4.26E-06	4.26E-06	8.19E-06	9.19E-06
I-129	5.78E-07	3.38E-04	1.49	3.61E-07	4.67E-07	6.90E-07	7.98E-07
Cs-134	3.04E-06	1.78E-03	7.85	2.16E-06	2.46E-06	3.49E-06	3.93E-06
Cs-137	0.308	180	7.95E+05	0.280	0.293	0.322	0.335
Ba-137m	0.291	170	7.52E+05	0.215	0.215	0.304	0.317
Sm-151	1.69E-02	9.91	4.38E+04	1.02E-02	1.02E-02	1.94E-02	2.17E-02
Eu-152	6.71E-06	3.93E-03	17.4	4.33E-06	4.33E-06	7.03E-06	7.35E-06
Eu-154	7.57E-04	0.443	1.96E+03	2.76E-04	2.76E-04	9.30E-04	1.00E-03
Eu-155	3.80E-04	0.222	982	2.38E-04	2.38E-04	4.00E-04	4.19E-04
Ra-226	3.10E-10	1.82E-07	8.02E-04	2.51E-10	2.51E-10	3.32E-10	3.53E-10
Ra-228	1.56E-07	9.14E-05	0.404	6.64E-08	1.10E-07	2.09E-07	2.66E-07
Ac-227	1.73E-09	1.01E-06	4.46E-03	1.38E-09	1.38E-09	1.85E-09	1.97E-09
Pa-231	5.88E-09	3.44E-06	1.52E-02	3.96E-09	3.96E-09	6.58E-09	7.24E-09
Th-229	3.68E-09	2.15E-06	9.50E-03	1.71E-09	2.67E-09	4.84E-09	6.09E-09
Th-232	1.05E-08	6.14E-06	2.71E-02	5.53E-09	7.96E-09	1.30E-08	1.55E-08
U-232	8.10E-07	4.74E-04	2.09	4.50E-07	6.26E-07	1.02E-06	1.25E-06
U-233	3.11E-06	1.82E-03	8.03	1.73E-06	2.40E-06	3.92E-06	4.79E-06
U-234	9.89E-07	5.79E-04	2.56	9.54E-07	9.73E-07	1.01E-06	1.02E-06
U-235	4.01E-08	2.35E-05	0.104	3.87E-08	3.94E-08	4.09E-08	4.16E-08
U-236	3.16E-08	1.85E-05	8.16E-02	3.04E-08	3.10E-08	3.22E-08	3.28E-08
U-238	1.13E-06	6.64E-04	2.93	1.10E-06	1.12E-06	1.15E-06	1.17E-06
Np-237	1.09E-06	6.39E-04	2.82	7.25E-07	9.04E-07	1.28E-06	1.46E-06
Pu-238	2.91E-06	1.70E-03	7.51	2.48E-06	2.69E-06	3.13E-06	3.34E-06
Pu-239	8.91E-05	5.22E-02	230	7.80E-05	8.35E-05	9.47E-05	1.00E-04
Pu-240	1.53E-05	8.98E-03	39.6	1.33E-05	1.43E-05	1.64E-05	1.74E-05
Pu-241	1.75E-04	0.102	452	1.45E-04	1.60E-04	1.90E-04	2.04E-04
Pu-242	9.64E-10	5.64E-07	2.49E-03	7.89E-10	8.74E-10	1.05E-09	1.14E-09
Am-241	1.02E-04	5.97E-02	264	8.16E-05	9.16E-05	1.12E-04	1.22E-04
Am-243	3.88E-09	2.27E-06	1.00E-02	3.24E-09	3.55E-09	4.22E-09	4.55E-09
Cm-242	2.52E-07	1.48E-04	0.652	1.54E-07	1.54E-07	2.64E-07	2.76E-07
Cm-243	2.38E-08	1.39E-05	6.15E-02	1.45E-08	1.45E-08	2.49E-08	2.60E-08
Cm-244	3.79E-07	2.22E-04	0.981	2.83E-07	2.83E-07	4.12E-07	4.33E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.25E-03 (g/L)	----	3.23	1.04E-03	1.14E-03	1.36E-03	1.46E-03
U	1.13E-02	1.58E+03	6.96E+03	1.09E-02	1.11E-02	1.15E-02	1.17E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	1.24E-02 (kW)	(42.5 BTU/hr)	----	1.14E-02	1.19E-02	1.30E-02	1.35E-02
Bulk Density	1.71 (g/cc)	----	----	1.44	1.58	1.78	1.82
Void Fraction	0.785	----	----	0.741	0.757	0.876	0.978
Water wt%	34.7	----	----	24.3	29.0	45.7	57.6
TOC wt% C (wet)	5.25E-03	----	----	5.01E-03	5.13E-03	5.56E-03	6.28E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.5	1.81E+05	1.17E+03	8.55	11.2	14.6	15.6
Al^{3+}	3.39	5.34E+04	346	1.44	2.01	4.89	6.41
Fe^{3+} (total Fe)	1.74E-02	568	3.68	9.62E-03	1.34E-02	2.14E-02	2.52E-02
Cr^{3+}	0.822	2.50E+04	162	0.480	0.643	0.894	0.897
Bi^{3+}	6.87E-06	0.838	5.43E-03	5.80E-06	6.32E-06	7.57E-06	8.32E-06
La^{3+}	1.69E-11	1.37E-06	8.90E-09	1.48E-11	1.60E-11	1.87E-11	2.06E-11
Hg^{2+}	1.08E-06	0.126	8.19E-04	9.56E-07	1.02E-06	1.19E-06	1.30E-06
Zr (as $ZrO(OH)_2$)	6.86E-07	3.65E-02	2.37E-04	6.30E-07	6.57E-07	7.19E-07	7.75E-07
Pb^{2+}	1.71E-04	20.7	0.134	9.17E-05	1.30E-04	2.12E-04	2.53E-04
Ni^{2+}	1.51E-02	518	3.36	1.37E-02	1.44E-02	1.58E-02	1.65E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.00E-05	1.60	1.04E-02	3.57E-05	4.27E-05	5.74E-05	6.46E-05
Ca^{2+}	7.68E-02	1.80E+03	11.6	4.68E-02	6.15E-02	9.19E-02	0.106
K^+	3.20E-02	731	4.74	3.03E-02	3.12E-02	3.48E-02	3.80E-02
OH^-	18.7	1.86E+05	1.20E+03	9.70	12.6	25.1	31.5
$NO3^-$	5.25	1.90E+05	1.23E+03	2.71	4.50	5.40	5.56
$NO2^-$	1.87	5.03E+04	326	1.59	1.73	2.01	2.18
$CO3^{2-}$	8.17E-02	2.86E+03	18.6	5.18E-02	6.64E-02	9.69E-02	0.111
$PO4^{3-}$	4.45E-04	24.7	0.160	4.13E-04	4.31E-04	4.63E-04	5.03E-04
$SO4^{2-}$	4.04E-02	2.27E+03	14.7	3.83E-02	3.94E-02	4.40E-02	4.78E-02
Si (as SiO_x^{2-})	0.130	2.13E+03	13.8	8.22E-02	0.112	0.148	0.166
F^-	3.54E-04	3.93	2.55E-02	3.02E-04	3.34E-04	3.90E-04	4.20E-04
Cl^-	0.133	2.76E+03	17.9	7.17E-02	0.102	0.147	0.154
$C_6H_5O_7^{3-}$	3.66E-04	40.4	0.262	3.55E-04	3.60E-04	3.82E-04	4.16E-04
$EDTA^{4-}$	1.43E-05	2.40	1.56E-02	1.00E-05	1.23E-05	1.68E-05	1.93E-05
$HEDTA^{3-}$	1.18E-05	1.90	1.23E-02	3.80E-06	8.14E-06	1.58E-05	1.97E-05
$glycolate^-$	5.17E-04	22.6	0.147	2.80E-04	4.09E-04	6.43E-04	7.63E-04
$acetate^-$	5.36E-05	1.85	1.20E-02	5.19E-05	5.28E-05	5.70E-05	6.09E-05
$oxalate^{2-}$	2.22E-11	1.14E-06	7.39E-09	1.96E-11	2.09E-11	2.44E-11	2.68E-11
DBP	3.25E-04	39.9	0.258	3.03E-04	3.16E-04	3.51E-04	3.79E-04
butanol	3.25E-04	14.1	9.11E-02	3.03E-04	3.16E-04	3.51E-04	3.79E-04
NH_3	3.60E-02	358	2.32	2.78E-02	3.21E-02	4.11E-02	4.59E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.27E+06 (kg)	(537 kgal)	----	----	----	----	----
Heat Load	4.30 (kW)	(1.47E+04 BTU/hr)	----	4.03	4.16	4.44	4.57
Bulk Density*	1.61 (g/cc)	----	----	1.56	1.58	1.63	1.65
Water wt%	32.7	----	----	30.1	31.3	34.2	36.0
TOC wt% C (wet)	0.750	----	----	0.491	0.618	0.883	1.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.2	2.03E+05	6.64E+05	13.0	13.6	14.7	15.2
Al^{3+}	1.67	2.80E+04	9.16E+04	1.55	1.61	1.74	1.79
Fe^{3+} (total Fe)	1.09E-02	378	1.24E+03	8.93E-03	9.89E-03	1.19E-02	1.29E-02
Cr^{3+}	0.148	4.79E+03	1.56E+04	0.123	0.137	0.152	0.157
Bi^{3+}	1.38E-03	179	586	1.25E-03	1.32E-03	1.45E-03	1.51E-03
La^{3+}	4.14E-05	3.57	11.7	3.00E-05	3.55E-05	4.72E-05	5.29E-05
Hg^{2+}	9.27E-06	1.16	3.78	8.60E-06	8.98E-06	9.40E-06	9.53E-06
Zr (as $ZrO(OH)_2$)	2.60E-04	14.8	48.2	2.37E-04	2.45E-04	2.70E-04	2.83E-04
Pb^{2+}	1.01E-03	130	425	8.17E-04	9.11E-04	1.11E-03	1.20E-03
Ni^{2+}	6.50E-03	237	776	6.21E-03	6.35E-03	6.58E-03	6.65E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.89E-03	133	435	2.95E-03	3.41E-03	4.37E-03	4.84E-03
Ca^{2+}	3.41E-02	850	2.78E+03	3.13E-02	3.27E-02	3.55E-02	3.69E-02
K^+	6.60E-02	1.60E+03	5.24E+03	6.02E-02	6.29E-02	6.91E-02	7.21E-02
OH^-	9.97	1.05E+05	3.45E+05	9.21	9.57	10.4	10.6
$NO3^-$	5.09	1.96E+05	6.41E+05	4.68	4.92	5.17	5.22
$NO2^-$	2.45	7.00E+04	2.29E+05	2.04	2.23	2.66	2.86
$CO3^{2-}$	0.435	1.62E+04	5.31E+04	0.395	0.410	0.466	0.471
$PO4^{3-}$	9.16E-02	5.41E+03	1.77E+04	7.83E-02	8.30E-02	9.40E-02	9.62E-02
$SO4^{2-}$	0.245	1.47E+04	4.79E+04	0.193	0.218	0.273	0.298
Si (as SiO_x^{2-})	7.80E-02	1.36E+03	4.45E+03	6.45E-02	7.11E-02	8.49E-02	9.15E-02
F^-	6.78E-02	801	2.62E+03	5.67E-02	6.14E-02	7.32E-02	7.74E-02
Cl^-	0.246	5.42E+03	1.77E+04	0.223	0.231	0.257	0.265
$C_6H_5O_7^{3-}$	2.76E-02	3.24E+03	1.06E+04	2.53E-02	2.64E-02	2.87E-02	2.99E-02
$EDTA^{4-}$	1.49E-02	2.66E+03	8.70E+03	4.55E-03	9.59E-03	2.02E-02	2.54E-02
$HEDTA^{3-}$	2.78E-02	4.74E+03	1.55E+04	7.16E-03	1.72E-02	3.84E-02	4.88E-02
$glycolate^-$	8.75E-02	4.08E+03	1.33E+04	5.74E-02	7.21E-02	0.103	0.118
$acetate^-$	6.21E-03	228	745	5.09E-03	5.64E-03	6.78E-03	7.32E-03
$oxalate^{2-}$	5.42E-05	2.97	9.70	4.80E-05	5.10E-05	5.73E-05	6.04E-05
DBP	1.88E-02	2.46E+03	8.03E+03	1.55E-02	1.71E-02	2.05E-02	2.20E-02
butanol	1.88E-02	866	2.83E+03	1.55E-02	1.71E-02	2.05E-02	2.20E-02
NH_3	8.69E-02	919	3.00E+03	7.17E-02	7.77E-02	9.87E-02	0.112
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.27E+06 (kg)	(538 kgal)	----	----	----	----	----
Heat Load	4.31 (kW)	(1.47E+04 BTU/hr)	----	4.05	4.18	4.45	4.58
Bulk Density†	1.61 (g/cc)	----	----	1.56	1.58	1.63	1.65
Water wt%†	32.7	----	----	30.1	31.3	34.2	36.0
TOC wt% C (wet)†	0.749	----	----	0.490	0.617	0.881	1.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.2	2.03E+05	6.66E+05	13.0	13.6	14.7	15.2
Al^{3+}	1.67	2.81E+04	9.19E+04	1.55	1.61	1.74	1.79
Fe^{3+} (total Fe)	1.09E-02	379	1.24E+03	8.95E-03	9.91E-03	1.19E-02	1.29E-02
Cr^{3+}	0.149	4.83E+03	1.58E+04	0.125	0.138	0.153	0.157
Bi^{3+}	1.38E-03	179	586	1.25E-03	1.31E-03	1.44E-03	1.50E-03
La^{3+}	4.13E-05	3.57	11.7	2.99E-05	3.55E-05	4.71E-05	5.28E-05
Hg^{2+}	9.25E-06	1.15	3.78	8.59E-06	8.97E-06	9.39E-06	9.52E-06
Zr (as $ZrO(OH)_2$)	2.60E-04	14.7	48.2	2.36E-04	2.45E-04	2.69E-04	2.82E-04
Pb^{2+}	1.01E-03	130	425	8.16E-04	9.10E-04	1.10E-03	1.20E-03
Ni^{2+}	6.52E-03	238	779	6.23E-03	6.37E-03	6.59E-03	6.66E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.88E-03	133	435	2.94E-03	3.40E-03	4.36E-03	4.83E-03
Ca^{2+}	3.42E-02	852	2.79E+03	3.14E-02	3.27E-02	3.56E-02	3.70E-02
K^+	6.59E-02	1.60E+03	5.25E+03	6.02E-02	6.29E-02	6.91E-02	7.20E-02
OH^-	9.99	1.06E+05	3.46E+05	9.23	9.59	10.4	10.6
$NO3^-$	5.09	1.96E+05	6.42E+05	4.68	4.92	5.17	5.22
$NO2^-$	2.45	7.00E+04	2.29E+05	2.04	2.23	2.66	2.85
$CO3^{2-}$	0.434	1.62E+04	5.31E+04	0.394	0.409	0.466	0.470
$PO4^{3-}$	9.14E-02	5.40E+03	1.77E+04	7.82E-02	8.28E-02	9.38E-02	9.61E-02
$SO4^{2-}$	0.245	1.46E+04	4.79E+04	0.193	0.218	0.273	0.297
Si (as SiO_x^{2-})	7.81E-02	1.36E+03	4.47E+03	6.46E-02	7.12E-02	8.50E-02	9.16E-02
F^-	6.76E-02	799	2.62E+03	5.66E-02	6.12E-02	7.30E-02	7.73E-02
Cl^-	0.246	5.41E+03	1.77E+04	0.223	0.231	0.256	0.265
$C_6H_5O_7^{3-}$	2.75E-02	3.24E+03	1.06E+04	2.53E-02	2.64E-02	2.87E-02	2.98E-02
$EDTA^{4-}$	1.48E-02	2.66E+03	8.70E+03	4.54E-03	9.57E-03	2.01E-02	2.53E-02
$HEDTA^{3-}$	2.77E-02	4.73E+03	1.55E+04	7.14E-03	1.72E-02	3.83E-02	4.87E-02
$glycolate^-$	8.74E-02	4.08E+03	1.33E+04	5.72E-02	7.20E-02	0.103	0.118
$acetate^-$	6.20E-03	227	745	5.09E-03	5.63E-03	6.76E-03	7.31E-03
$oxalate^{2-}$	5.41E-05	2.96	9.70	4.79E-05	5.09E-05	5.72E-05	6.03E-05
DBP	1.88E-02	2.45E+03	8.03E+03	1.54E-02	1.71E-02	2.04E-02	2.20E-02
butanol	1.88E-02	865	2.83E+03	1.54E-02	1.71E-02	2.04E-02	2.20E-02
NH_3	8.69E-02	918	3.01E+03	7.17E-02	7.77E-02	9.86E-02	0.112
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-106							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	6.48E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	1.24E-02 (kW)	(42.5 BTU/hr)	----	1.14E-02	1.19E-02	1.30E-02	1.35E-02
Bulk Density	1.71 (g/cc)	----	----	1.44	1.58	1.78	1.82
Void Fraction	0.785	----	----	0.741	0.757	0.876	0.978
Water wt%	34.7	----	----	24.3	29.0	45.7	57.6
TOC wt% C (wet)	5.25E-03	----	----	5.01E-03	5.13E-03	5.56E-03	6.28E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.23E-04	0.130	0.844	0	0	2.34E-04	2.54E-04
C-14	1.14E-05	6.68E-03	4.33E-02	0	0	1.19E-05	1.29E-05
Ni-59	6.82E-06	3.98E-03	2.58E-02	0	0	7.15E-06	7.47E-06
Ni-63	6.62E-04	0.387	2.51	0	0	6.94E-04	7.25E-04
Co-60	1.03E-05	6.01E-03	3.90E-02	0	0	1.07E-05	1.17E-05
Se-79	6.95E-06	4.06E-03	2.63E-02	0	0	7.04E-06	7.11E-06
Sr-90	0.263	153	995	0.225	0.244	0.282	0.300
Y-90	0.263	153	995	0	0	0.282	0.300
Zr-93	3.29E-05	1.92E-02	0.124	0	0	3.33E-05	3.36E-05
Nb-93m	2.67E-05	1.56E-02	0.101	0	0	2.71E-05	2.73E-05
Tc-99	8.89E-05	5.19E-02	0.336	8.61E-05	8.74E-05	9.56E-05	1.03E-04
Ru-106	2.38E-09	1.39E-06	9.00E-06	0	0	2.48E-09	2.70E-09
Cd-113m	4.63E-05	2.71E-02	0.175	0	0	1.03E-04	9.93E-05
Sb-125	3.68E-05	2.15E-02	0.139	0	0	3.84E-05	4.17E-05
Sn-126	1.07E-05	6.23E-03	4.04E-02	0	0	1.08E-05	1.09E-05
I-129	1.69E-07	9.85E-05	6.38E-04	1.63E-07	1.66E-07	1.81E-07	1.96E-07
Cs-134	2.30E-06	1.34E-03	8.71E-03	0	0	2.39E-06	2.57E-06
Cs-137	0.324	189	1.23E+03	0.313	0.319	0.347	0.374
Ba-137m	0.306	179	1.16E+03	0	0	0.318	0.342
Sm-151	2.48E-02	14.5	93.8	0	0	2.51E-02	2.53E-02
Eu-152	8.87E-06	5.18E-03	3.36E-02	0	0	8.93E-06	9.04E-06
Eu-154	2.46E-04	0.144	0.931	0	0	2.57E-04	3.24E-04
Eu-155	4.50E-04	0.263	1.70	0	0	4.53E-04	4.58E-04
Ra-226	4.70E-10	2.74E-07	1.78E-06	0	0	6.38E-10	7.99E-10
Ra-228	1.58E-08	9.20E-06	5.96E-05	0	0	1.59E-08	1.61E-08
Ac-227	2.75E-09	1.60E-06	1.04E-05	0	0	3.73E-09	4.35E-09
Pa-231	1.03E-08	6.04E-06	3.91E-05	0	0	1.05E-08	1.06E-08
Th-229	3.78E-10	2.21E-07	1.43E-06	0	0	3.81E-10	3.85E-10
Th-232	2.11E-10	1.23E-07	7.99E-07	0	0	2.66E-10	3.20E-10
U-232	7.04E-08	4.11E-05	2.66E-04	2.49E-08	4.59E-08	1.00E-07	1.34E-07
U-233	2.69E-07	1.57E-04	1.02E-03	9.52E-08	1.76E-07	3.84E-07	5.11E-07
U-234	1.27E-06	7.43E-04	4.81E-03	5.57E-07	9.05E-07	1.67E-06	2.07E-06
U-235	5.14E-08	3.00E-05	1.94E-04	2.24E-08	3.65E-08	6.75E-08	8.38E-08
U-236	5.27E-08	3.08E-05	1.99E-04	2.41E-08	3.82E-08	6.78E-08	8.27E-08
U-238	1.12E-06	6.51E-04	4.22E-03	4.84E-07	7.90E-07	1.47E-06	1.82E-06
Np-237	3.88E-07	2.26E-04	1.47E-03	3.71E-07	3.81E-07	4.20E-07	4.56E-07
Pu-238	2.36E-06	1.38E-03	8.92E-03	7.01E-07	1.51E-06	3.20E-06	4.01E-06
Pu-239	7.62E-05	4.45E-02	0.288	2.28E-05	4.90E-05	1.03E-04	1.30E-04
Pu-240	1.26E-05	7.38E-03	4.78E-02	3.79E-06	8.12E-06	1.71E-05	2.15E-05
Pu-241	1.21E-04	7.06E-02	0.458	3.63E-05	7.78E-05	1.64E-04	2.06E-04
Pu-242	6.42E-10	3.75E-07	2.43E-06	1.92E-10	4.13E-10	8.71E-10	1.09E-09
Am-241	1.17E-04	6.82E-02	0.442	6.63E-05	1.01E-04	1.34E-04	1.51E-04
Am-243	3.72E-09	2.18E-06	1.41E-05	1.71E-09	3.22E-09	4.10E-09	4.48E-09
Cm-242	1.58E-09	9.24E-07	5.99E-06	0	0	1.60E-09	1.62E-09
Cm-243	3.23E-11	1.89E-08	1.22E-07	0	0	3.27E-11	3.31E-11
Cm-244	1.89E-10	1.11E-07	7.16E-07	0	0	1.95E-10	2.12E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.27E-03 (g/L)	----	4.80E-03	3.69E-04	8.10E-04	1.73E-03	2.17E-03
U	1.38E-02	1.91E+03	12.4	5.95E-03	9.74E-03	1.82E-02	2.26E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-106							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	3.27E+06 (kg)	(537 kgal)	----	----	----	----	----
Heat Load	4.30 (kW)	(1.47E+04 BTU/hr)	----	4.03	4.16	4.44	4.57
Bulk Density*	1.61 (g/cc)	----	----	1.56	1.58	1.63	1.65
Water wt%†	32.7	----	----	30.1	31.3	34.2	36.0
TOC wt% C (wet)	0.750	----	----	0.491	0.618	0.883	1.01
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.52E-04	0.157	512	1.32E-04	1.32E-04	2.60E-04	2.70E-04
C-14	3.63E-05	2.25E-02	73.7	1.11E-05	1.11E-05	3.68E-05	3.73E-05
Ni-59	2.35E-06	1.46E-03	4.77	1.17E-06	1.17E-06	2.41E-06	2.47E-06
Ni-63	2.30E-04	0.143	468	1.13E-04	1.13E-04	2.36E-04	2.42E-04
Co-60	4.01E-05	2.50E-02	81.6	1.13E-05	1.13E-05	4.09E-05	4.16E-05
Se-79	3.60E-06	2.24E-03	7.32	2.00E-06	2.00E-06	4.18E-06	4.74E-06
Sr-90	0.120	74.6	2.44E+05	0.112	0.116	0.124	0.128
Y-90	0.120	74.6	2.44E+05	6.45E-02	6.45E-02	0.124	0.128
Zr-93	1.77E-05	1.10E-02	35.9	9.65E-06	9.65E-06	2.06E-05	2.34E-05
Nb-93m	1.28E-05	7.98E-03	26.1	7.21E-06	7.21E-06	1.49E-05	1.68E-05
Tc-99	2.58E-04	0.161	525	1.64E-04	2.10E-04	3.07E-04	3.53E-04
Ru-106	7.14E-09	4.44E-06	1.45E-02	3.42E-09	3.42E-09	7.97E-09	8.73E-09
Cd-113m	9.28E-05	5.77E-02	189	4.46E-05	4.46E-05	1.10E-04	1.27E-04
Sb-125	1.73E-04	0.107	351	4.78E-05	4.78E-05	1.76E-04	1.79E-04
Sn-126	5.44E-06	3.39E-03	11.1	3.03E-06	3.03E-06	6.32E-06	7.15E-06
I-129	4.98E-07	3.10E-04	1.01	3.16E-07	4.05E-07	5.91E-07	6.82E-07
Cs-134	2.73E-06	1.70E-03	5.56	1.95E-06	2.31E-06	3.14E-06	3.53E-06
Cs-137	0.279	174	5.67E+05	0.251	0.265	0.293	0.307
Ba-137m	0.264	164	5.36E+05	0.207	0.207	0.278	0.291
Sm-151	1.27E-02	7.89	2.58E+04	7.06E-03	7.06E-03	1.47E-02	1.67E-02
Eu-152	4.16E-06	2.59E-03	8.45	2.17E-06	2.17E-06	4.44E-06	4.72E-06
Eu-154	6.51E-04	0.405	1.32E+03	2.50E-04	2.50E-04	7.97E-04	8.55E-04
Eu-155	2.46E-04	0.153	500	1.27E-04	1.27E-04	2.63E-04	2.80E-04
Ra-226	1.54E-10	9.59E-08	3.13E-04	1.04E-10	1.04E-10	1.72E-10	1.89E-10
Ra-228	1.51E-07	9.39E-05	0.307	6.32E-08	1.06E-07	2.03E-07	2.59E-07
Ac-227	9.75E-10	6.06E-07	1.98E-03	6.86E-10	6.86E-10	1.08E-09	1.18E-09
Pa-231	4.47E-09	2.78E-06	9.09E-03	2.87E-09	2.87E-09	5.05E-09	5.61E-09
Th-229	3.54E-09	2.20E-06	7.20E-03	1.61E-09	2.55E-09	4.68E-09	5.90E-09
Th-232	1.01E-08	6.25E-06	2.04E-02	5.20E-09	7.58E-09	1.25E-08	1.49E-08
U-232	7.76E-07	4.83E-04	1.58	4.24E-07	5.96E-07	9.85E-07	1.21E-06
U-233	2.98E-06	1.85E-03	6.05	1.63E-06	2.29E-06	3.78E-06	4.63E-06
U-234	8.69E-07	5.41E-04	1.77	8.37E-07	8.53E-07	8.87E-07	8.96E-07
U-235	3.53E-08	2.19E-05	7.17E-02	3.39E-08	3.45E-08	3.60E-08	3.64E-08
U-236	2.72E-08	1.69E-05	5.53E-02	2.62E-08	2.68E-08	2.76E-08	2.80E-08
U-238	1.01E-06	6.27E-04	2.05	9.75E-07	9.90E-07	1.03E-06	1.03E-06
Np-237	9.43E-07	5.87E-04	1.92	6.37E-07	7.86E-07	1.10E-06	1.25E-06
Pu-238	1.47E-06	9.15E-04	2.99	1.11E-06	1.29E-06	1.66E-06	1.83E-06
Pu-239	5.06E-05	3.14E-02	103	4.13E-05	4.59E-05	5.52E-05	5.97E-05
Pu-240	8.57E-06	5.33E-03	17.4	6.85E-06	7.70E-06	9.45E-06	1.03E-05
Pu-241	9.95E-05	6.19E-02	202	7.49E-05	8.69E-05	1.12E-04	1.24E-04
Pu-242	5.46E-10	3.40E-07	1.11E-03	4.00E-10	4.71E-10	6.21E-10	6.93E-10
Am-241	6.13E-05	3.81E-02	125	4.43E-05	5.26E-05	7.01E-05	7.84E-05
Am-243	2.13E-09	1.32E-06	4.32E-03	1.59E-09	1.85E-09	2.41E-09	2.69E-09
Cm-242	1.58E-07	9.80E-05	0.320	7.59E-08	7.59E-08	1.68E-07	1.79E-07
Cm-243	1.46E-08	9.08E-06	2.97E-02	6.80E-09	6.80E-09	1.56E-08	1.65E-08
Cm-244	1.44E-07	8.97E-05	0.293	6.39E-08	6.39E-08	1.71E-07	1.89E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.34E-04 (g/L)	----	1.29	4.59E-04	5.45E-04	7.22E-04	8.07E-04
U	9.95E-03	1.47E+03	4.81E+03	9.55E-03	9.74E-03	1.02E-02	1.03E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-106							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	3.27E+06 (kg)	(538 kgal)	----	----	----	----	----
Heat Load	4.31 (kW)	(1.47E+04 BTU/hr)	----	4.05	4.18	4.45	4.58
Bulk Density†	1.61 (g/cc)	----	----	1.56	1.58	1.63	1.65
Water wt%†	32.7	----	----	30.1	31.3	34.2	36.0
TOC wt% C (wet)†	0.749	----	----	0.490	0.617	0.881	1.01
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.52E-04	0.157	513	1.32E-04	1.32E-04	2.60E-04	2.70E-04
C-14	3.62E-05	2.25E-02	73.7	1.11E-05	1.11E-05	3.68E-05	3.73E-05
Ni-59	2.36E-06	1.47E-03	4.80	1.18E-06	1.18E-06	2.42E-06	2.47E-06
Ni-63	2.31E-04	0.144	470	1.14E-04	1.14E-04	2.37E-04	2.43E-04
Co-60	4.01E-05	2.49E-02	81.6	1.13E-05	1.13E-05	4.08E-05	4.16E-05
Se-79	3.61E-06	2.24E-03	7.35	2.00E-06	2.00E-06	4.19E-06	4.74E-06
Sr-90	0.120	74.8	2.45E+05	0.112	0.116	0.124	0.128
Y-90	0.120	74.8	2.45E+05	6.49E-02	6.49E-02	0.124	0.128
Zr-93	1.77E-05	1.10E-02	36.1	9.69E-06	9.69E-06	2.06E-05	2.34E-05
Nb-93m	1.29E-05	8.00E-03	26.2	7.25E-06	7.25E-06	1.49E-05	1.68E-05
Tc-99	2.58E-04	0.160	525	1.64E-04	2.10E-04	3.06E-04	3.53E-04
Ru-106	7.13E-09	4.44E-06	1.45E-02	3.42E-09	3.42E-09	7.96E-09	8.72E-09
Cd-113m	9.27E-05	5.76E-02	189	4.46E-05	4.46E-05	1.10E-04	1.27E-04
Sb-125	1.72E-04	0.107	351	4.78E-05	4.78E-05	1.76E-04	1.79E-04
Sn-126	5.45E-06	3.39E-03	11.1	3.05E-06	3.05E-06	6.32E-06	7.16E-06
I-129	4.97E-07	3.09E-04	1.01	3.16E-07	4.05E-07	5.91E-07	6.81E-07
Cs-134	2.73E-06	1.70E-03	5.57	1.95E-06	2.30E-06	3.13E-06	3.53E-06
Cs-137	0.279	174	5.68E+05	0.251	0.265	0.293	0.307
Ba-137m	0.264	164	5.38E+05	0.207	0.207	0.278	0.291
Sm-151	1.27E-02	7.90	2.59E+04	7.09E-03	7.09E-03	1.47E-02	1.67E-02
Eu-152	4.17E-06	2.59E-03	8.49	2.18E-06	2.18E-06	4.45E-06	4.73E-06
Eu-154	6.51E-04	0.405	1.33E+03	2.50E-04	2.50E-04	7.96E-04	8.53E-04
Eu-155	2.46E-04	0.153	501	1.28E-04	1.28E-04	2.64E-04	2.81E-04
Ra-226	1.55E-10	9.62E-08	3.15E-04	1.05E-10	1.05E-10	1.73E-10	1.90E-10
Ra-228	1.51E-07	9.37E-05	0.307	6.31E-08	1.06E-07	2.03E-07	2.58E-07
Ac-227	9.78E-10	6.08E-07	1.99E-03	6.90E-10	6.90E-10	1.08E-09	1.18E-09
Pa-231	4.48E-09	2.79E-06	9.13E-03	2.88E-09	2.88E-09	5.06E-09	5.62E-09
Th-229	3.53E-09	2.20E-06	7.20E-03	1.61E-09	2.55E-09	4.68E-09	5.89E-09
Th-232	1.00E-08	6.24E-06	2.04E-02	5.19E-09	7.56E-09	1.25E-08	1.49E-08
U-232	7.75E-07	4.82E-04	1.58	4.24E-07	5.95E-07	9.83E-07	1.21E-06
U-233	2.97E-06	1.85E-03	6.05	1.63E-06	2.28E-06	3.77E-06	4.62E-06
U-234	8.70E-07	5.41E-04	1.77	8.38E-07	8.53E-07	8.88E-07	8.97E-07
U-235	3.53E-08	2.19E-05	7.19E-02	3.39E-08	3.46E-08	3.61E-08	3.64E-08
U-236	2.73E-08	1.70E-05	5.55E-02	2.63E-08	2.68E-08	2.77E-08	2.81E-08
U-238	1.01E-06	6.27E-04	2.05	9.75E-07	9.91E-07	1.03E-06	1.03E-06
Np-237	9.42E-07	5.86E-04	1.92	6.36E-07	7.85E-07	1.10E-06	1.25E-06
Pu-238	1.47E-06	9.16E-04	3.00	1.11E-06	1.29E-06	1.66E-06	1.83E-06
Pu-239	5.06E-05	3.15E-02	103	4.14E-05	4.59E-05	5.53E-05	5.98E-05
Pu-240	8.58E-06	5.34E-03	17.5	6.86E-06	7.71E-06	9.45E-06	1.03E-05
Pu-241	9.95E-05	6.19E-02	203	7.50E-05	8.70E-05	1.12E-04	1.24E-04
Pu-242	5.46E-10	3.40E-07	1.11E-03	4.00E-10	4.72E-10	6.21E-10	6.93E-10
Am-241	6.14E-05	3.82E-02	125	4.44E-05	5.27E-05	7.01E-05	7.85E-05
Am-243	2.13E-09	1.32E-06	4.34E-03	1.59E-09	1.85E-09	2.42E-09	2.69E-09
Cm-242	1.57E-07	9.78E-05	0.320	7.58E-08	7.58E-08	1.68E-07	1.79E-07
Cm-243	1.46E-08	9.06E-06	2.97E-02	6.79E-09	6.79E-09	1.55E-08	1.65E-08
Cm-244	1.44E-07	8.95E-05	0.293	6.38E-08	6.38E-08	1.71E-07	1.88E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.35E-04 (g/L)	----	1.29	4.61E-04	5.46E-04	7.23E-04	8.08E-04
U	9.96E-03	1.47E+03	4.83E+03	9.55E-03	9.75E-03	1.02E-02	1.03E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.88E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	9.51 (kW)	(3.25E+04 BTU/hr)	----	9.08	9.33	9.63	9.68
Bulk Density	1.75 (g/cc)	----	----	1.59	1.61	1.96	2.04
Void Fraction	0.588	----	----	0.300	0.395	0.710	0.713
Water wt%	29.3	----	----	12.8	18.0	38.5	39.4
TOC wt% C (wet)	8.42E-04	----	----	7.20E-04	7.50E-04	9.17E-04	9.95E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.08	1.06E+05	7.31E+04	5.00	5.31	12.1	14.2
Al^{3+}	6.71	1.04E+05	7.12E+04	6.39	6.48	6.95	7.20
Fe^{3+} (total Fe)	1.24	3.95E+04	2.72E+04	1.22	1.23	1.24	1.25
Cr^{3+}	0.187	5.58E+03	3.83E+03	0.131	0.158	0.466	0.791
Bi^{3+}	1.12E-06	0.134	9.24E-02	9.49E-07	1.03E-06	1.24E-06	1.36E-06
La^{3+}	2.77E-12	2.20E-07	1.51E-07	2.42E-12	2.62E-12	3.06E-12	3.36E-12
Hg^{2+}	1.76E-07	2.03E-02	1.39E-02	1.56E-07	1.66E-07	1.94E-07	2.13E-07
Zr (as $ZrO(OH)_2$)	1.12E-07	5.86E-03	4.03E-03	1.03E-07	1.07E-07	1.18E-07	1.27E-07
Pb^{2+}	2.80E-05	3.32	2.28	1.50E-05	2.13E-05	3.47E-05	4.13E-05
Ni^{2+}	6.03E-02	2.03E+03	1.39E+03	5.18E-02	5.66E-02	6.32E-02	6.26E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.18E-06	0.257	0.177	5.84E-06	6.98E-06	9.38E-06	1.06E-05
Ca^{2+}	0.263	6.03E+03	4.15E+03	0.218	0.240	0.286	0.308
K^+	1.48E-02	330	227	8.74E-03	1.11E-02	1.72E-02	1.72E-02
OH^-	26.6	2.59E+05	1.78E+05	25.1	25.6	27.7	28.7
$NO3^-$	4.06	1.44E+05	9.91E+04	0.895	0.895	9.01	11.7
$NO2^-$	1.55	4.09E+04	2.81E+04	0.751	1.03	1.97	1.97
$CO3^{2-}$	0.264	9.06E+03	6.23E+03	0.219	0.241	0.287	0.309
$PO4^{3-}$	7.27E-05	3.95	2.72	6.75E-05	7.05E-05	7.57E-05	8.23E-05
$SO4^{2-}$	1.70E-02	935	643	1.14E-02	1.37E-02	1.92E-02	1.92E-02
Si (as SiO_x^{2-})	0.136	2.19E+03	1.50E+03	3.22E-02	3.43E-02	0.238	0.336
F^-	5.79E-05	0.630	0.433	4.93E-05	5.46E-05	6.37E-05	6.86E-05
Cl^-	6.56E-02	1.33E+03	915	3.79E-02	4.90E-02	7.68E-02	0.129
$C_6H_5O_7^{3-}$	5.99E-05	6.48	4.45	5.80E-05	5.89E-05	6.25E-05	6.80E-05
$EDTA^{4-}$	2.33E-06	0.385	0.264	1.64E-06	2.02E-06	2.75E-06	3.16E-06
$HEDTA^{3-}$	1.94E-06	0.304	0.209	6.21E-07	1.33E-06	2.58E-06	3.22E-06
$glycolate^-$	8.45E-05	3.63	2.49	4.58E-05	6.68E-05	1.05E-04	1.25E-04
$acetate^-$	8.77E-06	0.296	0.204	8.49E-06	8.63E-06	9.32E-06	9.96E-06
$oxalate^{2-}$	3.62E-12	1.83E-07	1.26E-07	3.21E-12	3.41E-12	3.99E-12	4.39E-12
DBP	5.31E-05	6.39	4.39	4.96E-05	5.16E-05	5.74E-05	6.20E-05
butanol	5.31E-05	2.25	1.55	4.96E-05	5.16E-05	5.74E-05	6.20E-05
NH_3	0.269	2.61E+03	1.80E+03	0.153	0.170	0.441	0.286
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.88E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	9.51 (kW)	(3.25E+04 BTU/hr)	----	9.08	9.33	9.63	9.68
Bulk Density†	1.75 (g/cc)	----	----	1.59	1.61	1.96	2.04
Water wt%†	29.3	----	----	12.8	18.0	38.5	39.4
TOC wt% C (wet)†	8.42E-04	----	----	7.20E-04	7.50E-04	9.17E-04	9.95E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.08	1.06E+05	7.31E+04	5.00	5.31	12.1	14.2
Al^{3+}	6.70	1.04E+05	7.12E+04	6.39	6.48	6.95	7.20
Fe^{3+} (total Fe)	1.24	3.95E+04	2.72E+04	1.22	1.23	1.24	1.25
Cr^{3+}	0.187	5.58E+03	3.83E+03	0.131	0.158	0.466	0.791
Bi^{3+}	1.12E-06	0.134	9.24E-02	9.49E-07	1.03E-06	1.24E-06	1.36E-06
La^{3+}	2.77E-12	2.20E-07	1.51E-07	2.42E-12	2.62E-12	3.06E-12	3.36E-12
Hg^{2+}	1.76E-07	2.03E-02	1.39E-02	1.56E-07	1.66E-07	1.94E-07	2.13E-07
Zr (as $ZrO(OH)_2$)	1.12E-07	5.86E-03	4.03E-03	1.03E-07	1.07E-07	1.18E-07	1.27E-07
Pb^{2+}	2.80E-05	3.32	2.28	1.50E-05	2.13E-05	3.47E-05	4.13E-05
Ni^{2+}	6.03E-02	2.03E+03	1.39E+03	5.18E-02	5.66E-02	6.32E-02	6.26E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.17E-06	0.257	0.177	5.84E-06	6.98E-06	9.38E-06	1.06E-05
Ca^{2+}	0.263	6.03E+03	4.15E+03	0.218	0.240	0.286	0.308
K^+	1.48E-02	330	227	8.74E-03	1.11E-02	1.72E-02	1.72E-02
OH^-	26.6	2.59E+05	1.78E+05	25.1	25.6	27.7	28.7
$NO3^-$	4.06	1.44E+05	9.91E+04	0.895	0.895	9.01	11.7
$NO2^-$	1.55	4.09E+04	2.81E+04	0.751	1.03	1.97	1.97
$CO3^{2-}$	0.264	9.06E+03	6.23E+03	0.219	0.241	0.287	0.309
$PO4^{3-}$	7.27E-05	3.95	2.72	6.75E-05	7.05E-05	7.57E-05	8.23E-05
$SO4^{2-}$	1.70E-02	935	643	1.14E-02	1.37E-02	1.92E-02	1.92E-02
Si (as SiO_x^{2-})	0.136	2.19E+03	1.50E+03	3.22E-02	3.43E-02	0.238	0.336
F^-	5.79E-05	0.630	0.433	4.93E-05	5.46E-05	6.37E-05	6.86E-05
Cl^-	6.56E-02	1.33E+03	915	3.79E-02	4.90E-02	7.68E-02	0.129
$C_6H_5O_7^{3-}$	5.99E-05	6.48	4.45	5.80E-05	5.89E-05	6.25E-05	6.80E-05
$EDTA^{4-}$	2.33E-06	0.385	0.264	1.64E-06	2.02E-06	2.75E-06	3.16E-06
$HEDTA^{3-}$	1.94E-06	0.304	0.209	6.21E-07	1.33E-06	2.58E-06	3.22E-06
$glycolate^-$	8.45E-05	3.63	2.49	4.58E-05	6.68E-05	1.05E-04	1.25E-04
$acetate^-$	8.77E-06	0.296	0.204	8.49E-06	8.63E-06	9.32E-06	9.96E-06
$oxalate^{2-}$	3.62E-12	1.83E-07	1.26E-07	3.21E-12	3.41E-12	3.99E-12	4.39E-12
DBP	5.31E-05	6.39	4.39	4.96E-05	5.16E-05	5.74E-05	6.20E-05
butanol	5.31E-05	2.25	1.55	4.96E-05	5.16E-05	5.74E-05	6.20E-05
NH_3	0.269	2.61E+03	1.80E+03	0.153	0.170	0.441	0.286
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.88E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	9.51 (kW)	(3.25E+04 BTU/hr)	----	9.08	9.33	9.63	9.68
Bulk Density	1.75 (g/cc)	----	----	1.59	1.61	1.96	2.04
Void Fraction	0.588	----	----	0.300	0.395	0.710	0.713
Water wt%	29.3	----	----	12.8	18.0	38.5	39.4
TOC wt% C (wet)	8.42E-04	----	----	7.20E-04	7.50E-04	9.17E-04	9.95E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.81E-05	5.04E-02	34.7	5.16E-05	5.16E-05	9.52E-05	9.52E-05
C-14	4.70E-06	2.69E-03	1.85	2.83E-06	2.83E-06	5.19E-06	5.19E-06
Ni-59	2.88E-05	1.65E-02	11.3	2.61E-05	2.75E-05	2.99E-05	3.03E-05
Ni-63	2.80E-03	1.60	1.10E+03	2.53E-03	2.67E-03	2.91E-03	2.94E-03
Co-60	3.86E-06	2.21E-03	1.52	2.17E-06	2.17E-06	4.05E-06	4.08E-06
Se-79	9.47E-06	5.42E-03	3.73	1.78E-06	1.78E-06	1.81E-05	2.64E-05
Sr-90	3.48	2.00E+03	1.37E+06	3.32	3.41	3.54	3.55
Y-90	3.49	2.00E+03	1.37E+06	3.32	3.41	3.54	3.55
Zr-93	4.04E-05	2.31E-02	15.9	8.47E-06	8.47E-06	8.35E-05	1.25E-04
Nb-93m	3.74E-05	2.14E-02	14.7	6.78E-06	7.22E-06	6.76E-05	9.65E-05
Tc-99	3.60E-05	2.06E-02	14.2	2.75E-05	2.86E-05	3.95E-05	3.95E-05
Ru-106	8.34E-10	4.77E-07	3.28E-04	4.45E-10	4.45E-10	1.85E-09	2.25E-08
Cd-113m	1.85E-05	1.06E-02	7.29	1.09E-05	1.09E-05	1.52E-04	4.00E-04
Sb-125	1.31E-05	7.51E-03	5.16	7.11E-06	7.11E-06	1.34E-05	1.39E-05
Sn-126	1.23E-05	7.06E-03	4.85	2.71E-06	2.71E-06	2.53E-05	3.77E-05
I-129	6.85E-08	3.92E-05	2.70E-02	5.22E-08	5.44E-08	7.51E-08	7.51E-08
Cs-134	9.53E-07	5.46E-04	0.375	5.77E-07	5.77E-07	9.68E-07	9.98E-07
Cs-137	0.147	84.4	5.80E+04	0.122	0.121	0.157	0.157
Ba-137m	0.139	79.8	5.49E+04	8.94E-02	8.94E-02	0.149	0.149
Sm-151	3.39E-02	19.4	1.34E+04	6.35E-03	6.35E-03	6.41E-02	9.31E-02
Eu-152	3.15E-05	1.81E-02	12.4	3.01E-05	3.01E-05	3.16E-05	3.16E-05
Eu-154	9.31E-05	5.33E-02	36.6	5.28E-05	5.28E-05	9.77E-05	1.86E-03
Eu-155	1.59E-03	0.913	628	1.52E-03	1.52E-03	1.60E-03	1.60E-03
Ra-226	2.44E-09	1.40E-06	9.61E-04	1.88E-09	2.15E-09	2.73E-09	3.01E-09
Ra-228	2.58E-09	1.47E-06	1.01E-03	5.10E-14	5.10E-14	2.60E-09	2.63E-09
Ac-227	1.10E-08	6.28E-06	4.32E-03	7.93E-09	9.29E-09	1.26E-08	1.42E-08
Pa-231	1.05E-08	6.04E-06	4.15E-03	2.49E-09	2.49E-09	1.92E-08	2.74E-08
Th-229	6.56E-11	3.76E-08	2.58E-05	3.87E-12	3.87E-12	6.61E-11	6.68E-11
Th-232	3.45E-11	1.98E-08	1.36E-05	1.79E-15	1.79E-15	4.35E-11	5.24E-11
U-232	1.15E-08	6.59E-06	4.53E-03	4.07E-09	7.51E-09	1.64E-08	2.18E-08
U-233	4.40E-08	2.52E-05	1.73E-02	1.56E-08	2.87E-08	6.27E-08	8.36E-08
U-234	3.13E-07	1.79E-04	0.123	1.96E-07	2.53E-07	3.78E-07	4.43E-07
U-235	1.27E-08	7.29E-06	5.01E-03	8.00E-09	1.03E-08	1.54E-08	1.80E-08
U-236	1.20E-08	6.85E-06	4.71E-03	7.28E-09	9.60E-09	1.44E-08	1.69E-08
U-238	2.79E-07	1.60E-04	0.110	1.76E-07	2.26E-07	3.37E-07	3.95E-07
Np-237	1.68E-07	9.63E-05	6.62E-02	1.13E-07	1.35E-07	1.90E-07	1.90E-07
Pu-238	2.18E-05	1.25E-02	8.56	1.79E-05	1.98E-05	2.37E-05	2.56E-05
Pu-239	6.34E-04	0.363	250	5.54E-04	5.93E-04	6.76E-04	7.15E-04
Pu-240	1.08E-04	6.19E-02	42.5	9.38E-05	1.01E-04	1.15E-04	1.22E-04
Pu-241	1.09E-03	0.626	431	9.11E-04	1.00E-03	1.19E-03	1.28E-03
Pu-242	5.99E-09	3.43E-06	2.36E-03	4.94E-09	5.45E-09	6.52E-09	7.04E-09
Am-241	5.32E-04	0.304	209	2.78E-04	4.02E-04	6.61E-04	7.85E-04
Am-243	2.35E-08	1.35E-05	9.27E-03	1.21E-08	1.77E-08	2.94E-08	3.50E-08
Cm-242	1.32E-06	7.57E-04	0.520	1.32E-06	1.31E-06	1.32E-06	1.32E-06
Cm-243	1.26E-07	7.23E-05	4.97E-02	1.26E-07	1.25E-07	1.26E-07	1.26E-07
Cm-244	3.75E-06	2.15E-03	1.48	2.91E-06	3.32E-06	4.18E-06	4.60E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.07E-02 (g/L)	----	4.21	9.34E-03	1.00E-02	1.14E-02	1.20E-02
U	3.47E-03	472	325	2.19E-03	2.81E-03	4.19E-03	4.91E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.88E+05 (kg)	(104 kgal)	----	----	----	----	----
Heat Load	9.51 (kW)	(3.25E+04 BTU/hr)	----	9.08	9.33	9.63	9.68
Bulk Density†	1.75 (g/cc)	----	----	1.59	1.61	1.96	2.04
Water wt%†	29.3	----	----	12.8	18.0	38.5	39.4
TOC wt% C (wet)†	8.42E-04	----	----	7.20E-04	7.50E-04	9.17E-04	9.95E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.81E-05	5.04E-02	34.7	5.16E-05	5.16E-05	9.52E-05	9.52E-05
C-14	4.70E-06	2.69E-03	1.85	2.83E-06	2.83E-06	5.19E-06	5.19E-06
Ni-59	2.88E-05	1.65E-02	11.3	2.61E-05	2.75E-05	2.99E-05	3.03E-05
Ni-63	2.80E-03	1.60	1.10E+03	2.53E-03	2.67E-03	2.91E-03	2.94E-03
Co-60	3.86E-06	2.21E-03	1.52	2.17E-06	2.17E-06	4.05E-06	4.08E-06
Se-79	9.47E-06	5.42E-03	3.73	1.78E-06	1.78E-06	1.81E-05	2.64E-05
Sr-90	3.48	2.00E+03	1.37E+06	3.32	3.41	3.54	3.55
Y-90	3.48	2.00E+03	1.37E+06	3.32	3.41	3.54	3.55
Zr-93	4.04E-05	2.31E-02	15.9	8.47E-06	8.47E-06	8.35E-05	1.25E-04
Nb-93m	3.74E-05	2.14E-02	14.7	6.78E-06	7.22E-06	6.76E-05	9.65E-05
Tc-99	3.60E-05	2.06E-02	14.2	2.75E-05	2.86E-05	3.95E-05	3.95E-05
Ru-106	8.34E-10	4.77E-07	3.28E-04	4.45E-10	4.45E-10	1.85E-09	2.25E-08
Cd-113m	1.85E-05	1.06E-02	7.29	1.09E-05	1.09E-05	1.52E-04	4.00E-04
Sb-125	1.31E-05	7.51E-03	5.16	7.11E-06	7.11E-06	1.34E-05	1.39E-05
Sn-126	1.23E-05	7.06E-03	4.85	2.71E-06	2.71E-06	2.53E-05	3.77E-05
I-129	6.85E-08	3.92E-05	2.70E-02	5.22E-08	5.44E-08	7.51E-08	7.51E-08
Cs-134	9.53E-07	5.46E-04	0.375	5.77E-07	5.77E-07	9.68E-07	9.98E-07
Cs-137	0.147	84.4	5.80E+04	0.122	0.121	0.157	0.157
Ba-137m	0.139	79.8	5.49E+04	8.94E-02	8.94E-02	0.149	0.149
Sm-151	3.39E-02	19.4	1.34E+04	6.35E-03	6.35E-03	6.41E-02	9.31E-02
Eu-152	3.15E-05	1.81E-02	12.4	3.01E-05	3.01E-05	3.16E-05	3.16E-05
Eu-154	9.30E-05	5.33E-02	36.6	5.28E-05	5.28E-05	9.77E-05	1.86E-03
Eu-155	1.59E-03	0.913	628	1.52E-03	1.52E-03	1.60E-03	1.60E-03
Ra-226	2.44E-09	1.40E-06	9.61E-04	1.88E-09	2.15E-09	2.73E-09	3.01E-09
Ra-228	2.58E-09	1.47E-06	1.01E-03	5.10E-14	5.10E-14	2.60E-09	2.63E-09
Ac-227	1.10E-08	6.28E-06	4.32E-03	7.93E-09	9.29E-09	1.26E-08	1.42E-08
Pa-231	1.05E-08	6.04E-06	4.15E-03	2.49E-09	2.49E-09	1.92E-08	2.74E-08
Th-229	6.56E-11	3.76E-08	2.58E-05	3.87E-12	3.87E-12	6.61E-11	6.68E-11
Th-232	3.45E-11	1.98E-08	1.36E-05	1.79E-15	1.79E-15	4.35E-11	5.24E-11
U-232	1.15E-08	6.59E-06	4.53E-03	4.07E-09	7.51E-09	1.64E-08	2.18E-08
U-233	4.40E-08	2.52E-05	1.73E-02	1.56E-08	2.87E-08	6.27E-08	8.36E-08
U-234	3.13E-07	1.79E-04	0.123	1.96E-07	2.53E-07	3.78E-07	4.43E-07
U-235	1.27E-08	7.29E-06	5.01E-03	8.00E-09	1.03E-08	1.54E-08	1.80E-08
U-236	1.20E-08	6.85E-06	4.71E-03	7.28E-09	9.60E-09	1.44E-08	1.69E-08
U-238	2.79E-07	1.60E-04	0.110	1.76E-07	2.26E-07	3.37E-07	3.95E-07
Np-237	1.68E-07	9.63E-05	6.62E-02	1.13E-07	1.35E-07	1.90E-07	1.90E-07
Pu-238	2.17E-05	1.25E-02	8.56	1.79E-05	1.98E-05	2.37E-05	2.56E-05
Pu-239	6.34E-04	0.363	250	5.54E-04	5.93E-04	6.76E-04	7.15E-04
Pu-240	1.08E-04	6.19E-02	42.5	9.38E-05	1.01E-04	1.15E-04	1.22E-04
Pu-241	1.09E-03	0.626	431	9.11E-04	1.00E-03	1.19E-03	1.28E-03
Pu-242	5.99E-09	3.43E-06	2.36E-03	4.94E-09	5.45E-09	6.52E-09	7.04E-09
Am-241	5.32E-04	0.304	209	2.78E-04	4.02E-04	6.61E-04	7.85E-04
Am-243	2.35E-08	1.35E-05	9.27E-03	1.21E-08	1.77E-08	2.94E-08	3.50E-08
Cm-242	1.32E-06	7.57E-04	0.520	1.32E-06	1.31E-06	1.32E-06	1.32E-06
Cm-243	1.26E-07	7.23E-05	4.97E-02	1.26E-07	1.25E-07	1.26E-07	1.26E-07
Cm-244	3.75E-06	2.15E-03	1.48	2.91E-06	3.32E-06	4.18E-06	4.60E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.07E-02 (g/L)	----	4.21	9.34E-03	1.00E-02	1.14E-02	1.20E-02
U	3.47E-03	472	325	2.19E-03	2.81E-03	4.19E-03	4.91E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.78E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	7.51 (kW)	(2.56E+04 BTU/hr)	----	7.04	7.32	7.64	7.69
Bulk Density	1.75 (g/cc)	----	----	1.56	1.58	2.03	2.14
Void Fraction	0.547	----	----	0.169	0.294	0.706	0.710
Water wt%	28.0	----	----	7.54	13.9	40.1	41.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.30	9.57E+04	5.53E+04	3.27	3.67	12.5	15.3
Al^{3+}	7.26	1.12E+05	6.45E+04	6.94	7.07	7.39	7.39
Fe^{3+} (total Fe)	1.36	4.33E+04	2.50E+04	1.34	1.35	1.37	1.37
Cr^{3+}	6.29E-02	1.86E+03	1.08E+03	1.94E-02	4.07E-02	0.428	0.854
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.45E-02	2.16E+03	1.25E+03	5.33E-02	5.97E-02	6.83E-02	6.76E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.279	6.38E+03	3.69E+03	0.220	0.249	0.310	0.339
K^{+}	1.13E-02	253	146	3.46E-03	6.61E-03	1.45E-02	1.45E-02
OH^{-}	27.5	2.67E+05	1.54E+05	25.5	26.5	28.6	29.8
$NO3^{-}$	4.19	1.48E+05	8.56E+04	4.78E-02	4.78E-02	10.7	14.2
$NO2^{-}$	1.48	3.89E+04	2.25E+04	0.432	0.799	2.03	2.03
$CO3^{2-}$	0.279	9.56E+03	5.52E+03	0.220	0.249	0.310	0.339
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.19E-02	653	377	4.61E-03	7.53E-03	1.49E-02	1.49E-02
Si (as SiO_x^{2-})	0.105	1.68E+03	971	1.18E-02	1.37E-02	0.197	0.284
F^{-}	0	0	0	0	0	0	0
Cl^{-}	5.22E-02	1.05E+03	609	1.59E-02	3.04E-02	6.68E-02	0.136
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.299	2.90E+03	1.68E+03	0.149	0.170	0.454	0.322
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.78E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	7.51 (kW)	(2.56E+04 BTU/hr)	----	7.04	7.32	7.64	7.69
Bulk Density†	1.75 (g/cc)	----	----	1.56	1.58	2.03	2.14
Water wt%†	28.0	----	----	7.54	13.9	40.1	41.3
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.30	9.57E+04	5.53E+04	3.27	3.67	12.5	15.3
Al^{3+}	7.26	1.12E+05	6.45E+04	6.94	7.07	7.39	7.39
Fe^{3+} (total Fe)	1.36	4.33E+04	2.50E+04	1.34	1.35	1.37	1.37
Cr^{3+}	6.29E-02	1.86E+03	1.08E+03	1.94E-02	4.07E-02	0.428	0.854
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.45E-02	2.16E+03	1.25E+03	5.33E-02	5.97E-02	6.83E-02	6.76E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.279	6.38E+03	3.69E+03	0.220	0.249	0.310	0.339
K^{+}	1.13E-02	253	146	3.46E-03	6.61E-03	1.45E-02	1.45E-02
OH^{-}	27.5	2.67E+05	1.54E+05	25.5	26.5	28.6	29.8
$NO3^{-}$	4.19	1.48E+05	8.56E+04	4.78E-02	4.78E-02	10.7	14.2
$NO2^{-}$	1.48	3.89E+04	2.25E+04	0.432	0.799	2.03	2.03
$CO3^{2-}$	0.279	9.56E+03	5.52E+03	0.220	0.249	0.310	0.339
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	1.19E-02	653	377	4.61E-03	7.53E-03	1.49E-02	1.49E-02
Si (as SiO_x^{2-})	0.105	1.68E+03	971	1.18E-02	1.37E-02	0.197	0.284
F^{-}	0	0	0	0	0	0	0
Cl^{-}	5.22E-02	1.05E+03	609	1.59E-02	3.04E-02	6.68E-02	0.136
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.299	2.90E+03	1.68E+03	0.149	0.170	0.454	0.322
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.78E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	7.51 (kW)	(2.56E+04 BTU/hr)	----	7.04	7.32	7.64	7.69
Bulk Density	1.75 (g/cc)	----	----	1.56	1.58	2.03	2.14
Void Fraction	0.547	----	----	0.169	0.294	0.706	0.710
Water wt%	28.0	----	----	7.54	13.9	40.1	41.3
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.36E-05	3.06E-02	17.7	3.28E-05	3.43E-05	6.30E-05	6.30E-05
C-14	3.10E-06	1.77E-03	1.02	1.51E-06	2.15E-06	3.74E-06	3.74E-06
Ni-59	2.86E-05	1.63E-02	9.40	2.53E-05	2.71E-05	2.96E-05	2.99E-05
Ni-63	2.76E-03	1.57	908	2.45E-03	2.63E-03	2.86E-03	2.89E-03
Co-60	2.17E-06	1.24E-03	0.715	1.54E-06	1.26E-06	2.42E-06	2.42E-06
Se-79	7.59E-06	4.33E-03	2.50	7.02E-07	7.02E-07	1.53E-05	2.27E-05
Sr-90	3.32	1.89E+03	1.09E+06	3.11	3.23	3.39	3.40
Y-90	3.32	1.89E+03	1.09E+06	3.11	3.23	3.39	3.40
Zr-93	3.19E-05	1.82E-02	10.5	3.34E-06	3.34E-06	7.06E-05	1.08E-04
Nb-93m	3.01E-05	1.71E-02	9.90	2.63E-06	3.02E-06	5.71E-05	8.31E-05
Tc-99	2.32E-05	1.33E-02	7.65	1.21E-05	1.66E-05	2.77E-05	2.77E-05
Ru-106	3.99E-10	2.28E-07	1.32E-04	3.53E-10	1.51E-10	1.31E-09	1.99E-08
Cd-113m	1.16E-05	6.59E-03	3.80	6.64E-06	7.79E-06	1.31E-04	3.54E-04
Sb-125	6.70E-06	3.82E-03	2.21	5.78E-06	3.16E-06	7.07E-06	7.07E-06
Sn-126	9.67E-06	5.52E-03	3.19	1.05E-06	1.05E-06	2.13E-05	3.24E-05
I-129	4.43E-08	2.53E-05	1.46E-02	2.29E-08	3.15E-08	5.29E-08	5.29E-08
Cs-134	5.24E-07	2.99E-04	0.173	4.84E-07	3.07E-07	5.38E-07	5.38E-07
Cs-137	9.87E-02	56.3	3.25E+04	6.60E-02	7.52E-02	0.112	0.112
Ba-137m	9.34E-02	53.2	3.07E+04	6.24E-02	7.12E-02	0.106	0.106
Sm-151	2.72E-02	15.5	8.96E+03	2.49E-03	2.49E-03	5.43E-02	8.02E-02
Eu-152	2.87E-05	1.64E-02	9.46	2.86E-05	2.86E-05	2.88E-05	2.88E-05
Eu-154	5.28E-05	3.01E-02	17.4	3.76E-05	3.04E-05	5.89E-05	1.64E-03
Eu-155	1.45E-03	0.825	476	1.44E-03	1.44E-03	1.45E-03	1.45E-03
Ra-226	2.39E-09	1.36E-06	7.87E-04	1.65E-09	2.01E-09	2.77E-09	3.13E-09
Ra-228	4.80E-14	2.74E-11	1.58E-08	4.78E-14	4.77E-14	4.81E-14	4.81E-14
Ac-227	1.06E-08	6.05E-06	3.50E-03	7.09E-09	8.43E-09	1.28E-08	1.49E-08
Pa-231	8.12E-09	4.63E-06	2.67E-03	8.94E-10	8.94E-10	1.58E-08	2.33E-08
Th-229	3.91E-12	2.23E-09	1.29E-06	3.88E-12	3.89E-12	3.92E-12	3.92E-12
Th-232	1.75E-15	9.99E-13	5.77E-10	1.34E-15	9.48E-16	1.92E-15	1.92E-15
U-232	7.05E-12	4.02E-09	2.32E-06	3.37E-12	4.84E-12	8.52E-12	8.52E-12
U-233	2.25E-13	1.28E-10	7.42E-08	8.52E-14	1.41E-13	2.82E-13	2.82E-13
U-234	1.24E-07	7.06E-05	4.08E-02	4.01E-08	7.35E-08	1.57E-07	1.57E-07
U-235	5.17E-09	2.95E-06	1.70E-03	1.57E-09	3.01E-09	6.62E-09	6.62E-09
U-236	3.47E-09	1.98E-06	1.14E-03	2.15E-09	2.24E-09	4.01E-09	4.01E-09
U-238	1.17E-07	6.67E-05	3.85E-02	3.15E-08	6.56E-08	1.51E-07	1.51E-07
Np-237	1.20E-07	6.82E-05	3.94E-02	4.74E-08	7.62E-08	1.49E-07	1.49E-07
Pu-238	2.08E-05	1.19E-02	6.85	1.74E-05	1.91E-05	2.25E-05	2.42E-05
Pu-239	6.76E-04	0.385	222	5.70E-04	6.22E-04	7.30E-04	7.81E-04
Pu-240	1.12E-04	6.38E-02	36.8	9.68E-05	1.04E-04	1.20E-04	1.27E-04
Pu-241	1.06E-03	0.606	350	8.99E-04	9.79E-04	1.15E-03	1.23E-03
Pu-242	5.73E-09	3.27E-06	1.89E-03	4.79E-09	5.25E-09	6.21E-09	6.67E-09
Am-241	4.62E-04	0.263	152	2.34E-04	3.46E-04	5.77E-04	6.89E-04
Am-243	2.06E-08	1.17E-05	6.78E-03	1.03E-08	1.54E-08	2.58E-08	3.08E-08
Cm-242	1.22E-06	6.98E-04	0.403	1.22E-06	1.22E-06	1.23E-06	1.23E-06
Cm-243	1.14E-07	6.50E-05	3.76E-02	1.14E-07	1.13E-07	1.14E-07	1.14E-07
Cm-244	3.37E-06	1.92E-03	1.11	2.61E-06	2.98E-06	3.75E-06	4.12E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.14E-02 (g/L)	----	3.74	9.61E-03	1.05E-02	1.23E-02	1.31E-02
U	1.47E-03	200	115	3.97E-04	8.26E-04	1.90E-03	1.90E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.78E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	7.51 (kW)	(2.56E+04 BTU/hr)	----	7.04	7.32	7.64	7.69
Bulk Density†	1.75 (g/cc)	----	----	1.56	1.58	2.03	2.14
Water wt%†	28.0	----	----	7.54	13.9	40.1	41.3
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.36E-05	3.06E-02	17.7	3.28E-05	3.43E-05	6.30E-05	6.30E-05
C-14	3.10E-06	1.77E-03	1.02	1.51E-06	2.15E-06	3.74E-06	3.74E-06
Ni-59	2.85E-05	1.63E-02	9.40	2.53E-05	2.71E-05	2.96E-05	2.99E-05
Ni-63	2.76E-03	1.57	908	2.45E-03	2.63E-03	2.86E-03	2.89E-03
Co-60	2.17E-06	1.24E-03	0.715	1.54E-06	1.26E-06	2.42E-06	2.42E-06
Se-79	7.59E-06	4.33E-03	2.50	7.02E-07	7.02E-07	1.53E-05	2.27E-05
Sr-90	3.32	1.89E+03	1.09E+06	3.11	3.23	3.39	3.40
Y-90	3.32	1.89E+03	1.09E+06	3.11	3.23	3.39	3.40
Zr-93	3.19E-05	1.82E-02	10.5	3.34E-06	3.34E-06	7.06E-05	1.08E-04
Nb-93m	3.01E-05	1.71E-02	9.90	2.63E-06	3.02E-06	5.71E-05	8.31E-05
Tc-99	2.32E-05	1.33E-02	7.65	1.21E-05	1.66E-05	2.77E-05	2.77E-05
Ru-106	3.99E-10	2.28E-07	1.32E-04	3.53E-10	1.51E-10	1.31E-09	1.99E-08
Cd-113m	1.16E-05	6.59E-03	3.80	6.64E-06	7.79E-06	1.31E-04	3.54E-04
Sb-125	6.70E-06	3.82E-03	2.21	5.78E-06	3.16E-06	7.07E-06	7.07E-06
Sn-126	9.67E-06	5.52E-03	3.19	1.05E-06	1.05E-06	2.13E-05	3.24E-05
I-129	4.43E-08	2.53E-05	1.46E-02	2.29E-08	3.15E-08	5.29E-08	5.29E-08
Cs-134	5.24E-07	2.99E-04	0.173	4.84E-07	3.07E-07	5.38E-07	5.38E-07
Cs-137	9.87E-02	56.3	3.25E+04	6.60E-02	7.52E-02	0.112	0.112
Ba-137m	9.33E-02	53.2	3.07E+04	6.24E-02	7.12E-02	0.106	0.106
Sm-151	2.72E-02	15.5	8.96E+03	2.49E-03	2.49E-03	5.43E-02	8.02E-02
Eu-152	2.87E-05	1.64E-02	9.46	2.86E-05	2.86E-05	2.88E-05	2.88E-05
Eu-154	5.28E-05	3.01E-02	17.4	3.76E-05	3.04E-05	5.89E-05	1.64E-03
Eu-155	1.45E-03	0.825	476	1.44E-03	1.44E-03	1.45E-03	1.45E-03
Ra-226	2.39E-09	1.36E-06	7.87E-04	1.65E-09	2.01E-09	2.77E-09	3.13E-09
Ra-228	4.80E-14	2.74E-11	1.58E-08	4.78E-14	4.77E-14	4.81E-14	4.81E-14
Ac-227	1.06E-08	6.05E-06	3.50E-03	7.09E-09	8.43E-09	1.28E-08	1.49E-08
Pa-231	8.12E-09	4.63E-06	2.67E-03	8.94E-10	8.94E-10	1.58E-08	2.33E-08
Th-229	3.91E-12	2.23E-09	1.29E-06	3.88E-12	3.89E-12	3.92E-12	3.92E-12
Th-232	1.75E-15	9.99E-13	5.77E-10	1.34E-15	9.48E-16	1.92E-15	1.92E-15
U-232	7.05E-12	4.02E-09	2.32E-06	3.37E-12	4.84E-12	8.52E-12	8.52E-12
U-233	2.25E-13	1.28E-10	7.42E-08	8.52E-14	1.41E-13	2.82E-13	2.82E-13
U-234	1.24E-07	7.06E-05	4.08E-02	4.01E-08	7.35E-08	1.57E-07	1.57E-07
U-235	5.17E-09	2.95E-06	1.70E-03	1.57E-09	3.01E-09	6.62E-09	6.62E-09
U-236	3.47E-09	1.98E-06	1.14E-03	2.15E-09	2.24E-09	4.01E-09	4.01E-09
U-238	1.17E-07	6.67E-05	3.85E-02	3.15E-08	6.56E-08	1.51E-07	1.51E-07
Np-237	1.20E-07	6.82E-05	3.94E-02	4.74E-08	7.62E-08	1.49E-07	1.49E-07
Pu-238	2.08E-05	1.19E-02	6.85	1.74E-05	1.91E-05	2.25E-05	2.42E-05
Pu-239	6.76E-04	0.385	222	5.70E-04	6.22E-04	7.30E-04	7.81E-04
Pu-240	1.12E-04	6.38E-02	36.8	9.68E-05	1.04E-04	1.20E-04	1.27E-04
Pu-241	1.06E-03	0.606	350	8.99E-04	9.79E-04	1.15E-03	1.23E-03
Pu-242	5.73E-09	3.27E-06	1.89E-03	4.79E-09	5.25E-09	6.21E-09	6.67E-09
Am-241	4.61E-04	0.263	152	2.34E-04	3.46E-04	5.77E-04	6.89E-04
Am-243	2.06E-08	1.17E-05	6.78E-03	1.03E-08	1.54E-08	2.58E-08	3.08E-08
Cm-242	1.22E-06	6.98E-04	0.403	1.22E-06	1.22E-06	1.23E-06	1.23E-06
Cm-243	1.14E-07	6.50E-05	3.76E-02	1.14E-07	1.13E-07	1.14E-07	1.14E-07
Cm-244	3.37E-06	1.92E-03	1.11	2.61E-06	2.98E-06	3.75E-06	4.12E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.14E-02 (g/L)	----	3.74	9.61E-03	1.05E-02	1.23E-02	1.31E-02
U	1.47E-03	200	115	3.97E-04	8.26E-04	1.90E-03	1.90E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.63E+06 (kg)	(250 kgal)	----	----	----	----	----
Heat Load	8.61 (kW)	(2.94E+04 BTU/hr)	----	8.32	8.49	8.71	8.81
Bulk Density	1.72 (g/cc)	----	----	1.51	1.62	1.78	1.81
Void Fraction	0.728	----	----	0.645	0.672	0.798	0.875
Water wt%	33.1	----	----	25.2	28.8	41.2	49.4
TOC wt% C (wet)	3.97E-03	----	----	3.78E-03	3.83E-03	4.23E-03	4.69E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.9	1.59E+05	2.59E+05	8.19	10.2	13.1	13.7
Al^{3+}	4.34	6.80E+04	1.11E+05	2.86	3.29	5.48	6.63
Fe^{3+} (total Fe)	0.363	1.18E+04	1.92E+04	0.358	0.360	0.366	0.369
Cr^{3+}	0.640	1.93E+04	3.15E+04	0.380	0.504	0.721	0.815
Bi^{3+}	5.22E-06	0.634	1.03	4.41E-06	4.81E-06	5.75E-06	6.32E-06
La^{3+}	1.29E-11	1.04E-06	1.69E-06	1.13E-11	1.22E-11	1.42E-11	1.56E-11
Hg^{2+}	8.20E-07	9.55E-02	0.156	7.27E-07	7.72E-07	9.03E-07	9.91E-07
Zr (as $ZrO(OH)_2$)	5.21E-07	2.76E-02	4.50E-02	4.79E-07	4.99E-07	5.47E-07	5.89E-07
Pb^{2+}	1.30E-04	15.6	25.5	6.97E-05	9.91E-05	1.61E-04	1.92E-04
Ni^{2+}	2.79E-02	952	1.55E+03	2.54E-02	2.68E-02	2.88E-02	2.90E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.80E-05	1.21	1.98	2.72E-05	3.25E-05	4.36E-05	4.91E-05
Ca^{2+}	0.130	3.01E+03	4.91E+03	0.107	0.118	0.141	0.152
K^{+}	2.71E-02	614	1.00E+03	2.53E-02	2.60E-02	2.92E-02	3.16E-02
OH^{-}	21.0	2.07E+05	3.37E+05	14.1	16.3	25.8	30.7
$NO3^{-}$	4.92	1.77E+05	2.89E+05	2.99	4.00	6.36	7.14
$NO2^{-}$	1.78	4.75E+04	7.75E+04	1.55	1.63	1.90	2.02
$CO3^{2-}$	0.133	4.65E+03	7.57E+03	0.111	0.122	0.145	0.156
$PO4^{3-}$	3.38E-04	18.6	30.4	3.14E-04	3.28E-04	3.52E-04	3.83E-04
$SO4^{2-}$	3.37E-02	1.88E+03	3.06E+03	3.20E-02	3.27E-02	3.64E-02	3.93E-02
Si (as SiO_x^{2-})	0.131	2.13E+03	3.48E+03	9.44E-02	0.103	0.159	0.186
F^{-}	2.69E-04	2.97	4.84	2.29E-04	2.54E-04	2.96E-04	3.19E-04
Cl^{-}	0.114	2.34E+03	3.82E+03	6.71E-02	9.00E-02	0.124	0.133
$C_6H_5O_7^{3-}$	2.78E-04	30.5	49.8	2.69E-04	2.74E-04	2.91E-04	3.16E-04
$EDTA^{4-}$	1.08E-05	1.81	2.96	7.62E-06	9.38E-06	1.28E-05	1.47E-05
$HEDTA^{3-}$	9.00E-06	1.43	2.33	2.89E-06	6.19E-06	1.20E-05	1.50E-05
$glycolate^{-}$	3.93E-04	17.1	27.9	2.13E-04	3.11E-04	4.88E-04	5.80E-04
$acetate^{-}$	4.08E-05	1.40	2.28	3.95E-05	4.01E-05	4.33E-05	4.63E-05
$oxalate^{2-}$	1.68E-11	8.61E-07	1.40E-06	1.49E-11	1.59E-11	1.86E-11	2.04E-11
DBP	2.47E-04	30.1	49.1	2.30E-04	2.40E-04	2.67E-04	2.88E-04
butanol	2.47E-04	10.6	17.3	2.30E-04	2.40E-04	2.67E-04	2.88E-04
NH_3	0.102	1.01E+03	1.65E+03	6.88E-02	7.36E-02	0.150	0.110
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.63E+06 (kg)	(250 kgal)	----	----	----	----	----
Heat Load	8.61 (kW)	(2.94E+04 BTU/hr)	----	8.32	8.49	8.71	8.81
Bulk Density†	1.72 (g/cc)	----	----	1.51	1.62	1.78	1.81
Water wt%†	33.1	----	----	25.2	28.8	41.2	49.4
TOC wt% C (wet)†	3.97E-03	----	----	3.78E-03	3.83E-03	4.23E-03	4.69E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.9	1.59E+05	2.59E+05	8.19	10.2	13.1	13.7
Al^{3+}	4.34	6.80E+04	1.11E+05	2.86	3.29	5.48	6.63
Fe^{3+} (total Fe)	0.363	1.18E+04	1.92E+04	0.358	0.360	0.366	0.369
Cr^{3+}	0.640	1.93E+04	3.15E+04	0.380	0.504	0.721	0.815
Bi^{3+}	5.22E-06	0.634	1.03	4.41E-06	4.81E-06	5.75E-06	6.32E-06
La^{3+}	1.29E-11	1.04E-06	1.69E-06	1.13E-11	1.22E-11	1.42E-11	1.56E-11
Hg^{2+}	8.20E-07	9.55E-02	0.156	7.27E-07	7.72E-07	9.03E-07	9.91E-07
Zr (as $ZrO(OH)_2$)	5.21E-07	2.76E-02	4.50E-02	4.79E-07	4.99E-07	5.47E-07	5.89E-07
Pb^{2+}	1.30E-04	15.6	25.5	6.97E-05	9.91E-05	1.61E-04	1.92E-04
Ni^{2+}	2.79E-02	952	1.55E+03	2.54E-02	2.68E-02	2.88E-02	2.90E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.80E-05	1.21	1.98	2.72E-05	3.25E-05	4.36E-05	4.91E-05
Ca^{2+}	0.130	3.01E+03	4.91E+03	0.107	0.118	0.141	0.152
K^{+}	2.71E-02	614	1.00E+03	2.53E-02	2.60E-02	2.92E-02	3.16E-02
OH^{-}	21.0	2.07E+05	3.37E+05	14.1	16.3	25.8	30.7
$NO3^{-}$	4.92	1.77E+05	2.89E+05	2.99	4.00	6.36	7.14
$NO2^{-}$	1.78	4.75E+04	7.75E+04	1.55	1.63	1.90	2.02
$CO3^{2-}$	0.133	4.65E+03	7.57E+03	0.111	0.122	0.145	0.156
$PO4^{3-}$	3.38E-04	18.6	30.4	3.14E-04	3.28E-04	3.52E-04	3.83E-04
$SO4^{2-}$	3.37E-02	1.88E+03	3.06E+03	3.20E-02	3.27E-02	3.64E-02	3.93E-02
Si (as SiO_x^{2-})	0.131	2.13E+03	3.48E+03	9.44E-02	0.103	0.159	0.186
F^{-}	2.69E-04	2.97	4.84	2.29E-04	2.54E-04	2.96E-04	3.19E-04
Cl^{-}	0.114	2.34E+03	3.82E+03	6.71E-02	9.00E-02	0.124	0.133
$C_6H_5O_7^{3-}$	2.78E-04	30.5	49.8	2.69E-04	2.74E-04	2.91E-04	3.16E-04
$EDTA^{4-}$	1.08E-05	1.81	2.96	7.62E-06	9.38E-06	1.28E-05	1.47E-05
$HEDTA^{3-}$	9.00E-06	1.43	2.33	2.89E-06	6.19E-06	1.20E-05	1.50E-05
$glycolate^{-}$	3.93E-04	17.1	27.9	2.13E-04	3.11E-04	4.88E-04	5.80E-04
$acetate^{-}$	4.08E-05	1.40	2.28	3.95E-05	4.01E-05	4.33E-05	4.63E-05
$oxalate^{2-}$	1.68E-11	8.61E-07	1.40E-06	1.49E-11	1.59E-11	1.86E-11	2.04E-11
DBP	2.47E-04	30.1	49.1	2.30E-04	2.40E-04	2.67E-04	2.88E-04
butanol	2.47E-04	10.6	17.3	2.30E-04	2.40E-04	2.67E-04	2.88E-04
NH_3	0.102	1.01E+03	1.65E+03	6.88E-02	7.36E-02	0.150	0.110
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.63E+06 (kg)	(250 kgal)	----	----	----	----	----
Heat Load	8.61 (kW)	(2.94E+04 BTU/hr)	----	8.32	8.49	8.71	8.81
Bulk Density	1.72 (g/cc)	----	----	1.51	1.62	1.78	1.81
Void Fraction	0.728	----	----	0.645	0.672	0.798	0.875
Water wt%	33.1	----	----	25.2	28.8	41.2	49.4
TOC wt% C (wet)	3.97E-03	----	----	3.78E-03	3.83E-03	4.23E-03	4.69E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.84E-04	0.107	174	1.46E-05	1.46E-05	1.92E-04	2.08E-04
C-14	9.50E-06	5.51E-03	8.99	8.03E-07	8.03E-07	9.85E-06	1.06E-05
Ni-59	1.30E-05	7.54E-03	12.3	7.80E-06	7.80E-06	1.33E-05	1.35E-05
Ni-63	1.26E-03	0.732	1.19E+03	7.57E-04	7.57E-04	1.29E-03	1.31E-03
Co-60	8.43E-06	4.90E-03	7.98	6.10E-07	6.10E-07	8.77E-06	9.48E-06
Se-79	7.60E-06	4.41E-03	7.19	2.31E-06	2.31E-06	9.99E-06	1.23E-05
Sr-90	1.16	675	1.10E+06	1.11	1.14	1.18	1.19
Y-90	1.16	675	1.10E+06	0.962	0.962	1.18	1.19
Zr-93	3.47E-05	2.02E-02	32.9	9.73E-06	9.73E-06	4.67E-05	5.81E-05
Nb-93m	2.95E-05	1.71E-02	27.9	9.17E-06	9.17E-06	3.78E-05	4.59E-05
Tc-99	7.37E-05	4.28E-02	69.7	7.12E-05	7.16E-05	7.87E-05	8.45E-05
Ru-106	1.93E-09	1.12E-06	1.83E-03	1.23E-10	1.23E-10	2.21E-09	7.95E-09
Cd-113m	3.83E-05	2.22E-02	36.2	3.09E-06	3.09E-06	8.13E-05	1.44E-04
Sb-125	2.99E-05	1.74E-02	28.3	1.98E-06	1.98E-06	3.12E-05	3.37E-05
Sn-126	1.10E-05	6.41E-03	10.5	2.94E-06	2.94E-06	1.46E-05	1.81E-05
I-129	1.40E-07	8.12E-05	0.132	1.35E-07	1.36E-07	1.49E-07	1.61E-07
Cs-134	1.91E-06	1.11E-03	1.81	1.60E-07	1.60E-07	1.98E-06	2.12E-06
Cs-137	0.273	158	2.58E+05	0.265	0.266	0.291	0.311
Ba-137m	0.258	150	2.44E+05	2.52E-02	2.52E-02	0.267	0.285
Sm-151	2.71E-02	15.8	2.57E+04	8.30E-03	8.30E-03	3.55E-02	4.35E-02
Eu-152	1.51E-05	8.79E-03	14.3	8.40E-06	8.40E-06	1.52E-05	1.53E-05
Eu-154	2.02E-04	0.117	191	1.48E-05	1.48E-05	2.10E-04	6.92E-04
Eu-155	7.67E-04	0.445	725	4.25E-04	4.25E-04	7.69E-04	7.73E-04
Ra-226	1.02E-09	5.93E-07	9.67E-04	6.65E-10	6.65E-10	1.15E-09	1.27E-09
Ra-228	1.20E-08	6.95E-06	1.13E-02	1.42E-14	1.42E-14	1.21E-08	1.22E-08
Ac-227	5.04E-09	2.93E-06	4.77E-03	2.96E-09	2.96E-09	5.79E-09	6.26E-09
Pa-231	1.03E-08	5.99E-06	9.77E-03	2.46E-09	2.46E-09	1.27E-08	1.50E-08
Th-229	2.88E-10	1.67E-07	2.73E-04	1.09E-12	1.09E-12	2.91E-10	2.94E-10
Th-232	1.60E-10	9.32E-08	1.52E-04	5.01E-16	5.01E-16	2.02E-10	2.43E-10
U-232	5.35E-08	3.11E-05	5.06E-02	1.89E-08	3.49E-08	7.62E-08	1.01E-07
U-233	2.05E-07	1.19E-04	0.194	7.24E-08	1.34E-07	2.92E-07	3.88E-07
U-234	9.97E-07	5.79E-04	0.943	4.53E-07	7.18E-07	1.30E-06	1.60E-06
U-235	4.03E-08	2.34E-05	3.81E-02	1.83E-08	2.90E-08	5.26E-08	6.49E-08
U-236	4.10E-08	2.38E-05	3.88E-02	1.92E-08	3.00E-08	5.25E-08	6.38E-08
U-238	8.75E-07	5.08E-04	0.828	3.96E-07	6.28E-07	1.14E-06	1.41E-06
Np-237	3.25E-07	1.88E-04	0.307	3.09E-07	3.15E-07	3.49E-07	3.76E-07
Pu-238	7.77E-06	4.51E-03	7.35	6.51E-06	7.13E-06	8.41E-06	9.03E-06
Pu-239	2.34E-04	0.136	222	1.94E-04	2.14E-04	2.55E-04	2.75E-04
Pu-240	3.95E-05	2.30E-02	37.4	3.28E-05	3.61E-05	4.30E-05	4.63E-05
Pu-241	3.93E-04	0.228	372	3.29E-04	3.60E-04	4.26E-04	4.57E-04
Pu-242	2.13E-09	1.24E-06	2.02E-03	1.79E-09	1.96E-09	2.31E-09	2.48E-09
Am-241	2.31E-04	0.134	219	1.61E-04	1.95E-04	2.67E-04	3.01E-04
Am-243	9.19E-09	5.34E-06	8.70E-03	6.02E-09	7.58E-09	1.08E-08	1.24E-08
Cm-242	3.69E-07	2.14E-04	0.349	3.68E-07	3.67E-07	3.69E-07	3.69E-07
Cm-243	3.51E-08	2.04E-05	3.32E-02	3.50E-08	3.48E-08	3.51E-08	3.51E-08
Cm-244	1.04E-06	6.05E-04	0.985	8.07E-07	9.22E-07	1.16E-06	1.28E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.93E-03 (g/L)	----	3.72	3.25E-03	3.59E-03	4.28E-03	4.62E-03
U	1.08E-02	1.49E+03	2.44E+03	4.87E-03	7.75E-03	1.42E-02	1.75E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.63E+06 (kg)	(250 kgal)	----	----	----	----	----
Heat Load	8.61 (kW)	(2.94E+04 BTU/hr)	----	8.32	8.49	8.71	8.81
Bulk Density†	1.72 (g/cc)	----	----	1.51	1.62	1.78	1.81
Water wt%†	33.1	----	----	25.2	28.8	41.2	49.4
TOC wt% C (wet)†	3.97E-03	----	----	3.78E-03	3.83E-03	4.23E-03	4.69E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.84E-04	0.107	174	1.46E-05	1.46E-05	1.92E-04	2.08E-04
C-14	9.50E-06	5.51E-03	8.99	8.03E-07	8.03E-07	9.85E-06	1.06E-05
Ni-59	1.30E-05	7.54E-03	12.3	7.80E-06	7.80E-06	1.33E-05	1.35E-05
Ni-63	1.26E-03	0.732	1.19E+03	7.57E-04	7.57E-04	1.29E-03	1.31E-03
Co-60	8.43E-06	4.90E-03	7.98	6.10E-07	6.10E-07	8.77E-06	9.48E-06
Se-79	7.60E-06	4.41E-03	7.19	2.31E-06	2.31E-06	9.99E-06	1.23E-05
Sr-90	1.16	675	1.10E+06	1.11	1.14	1.18	1.19
Y-90	1.16	675	1.10E+06	0.962	0.962	1.18	1.19
Zr-93	3.47E-05	2.02E-02	32.9	9.73E-06	9.73E-06	4.67E-05	5.81E-05
Nb-93m	2.95E-05	1.71E-02	27.9	9.17E-06	9.17E-06	3.78E-05	4.59E-05
Tc-99	7.37E-05	4.28E-02	69.7	7.12E-05	7.16E-05	7.87E-05	8.45E-05
Ru-106	1.93E-09	1.12E-06	1.83E-03	1.23E-10	1.23E-10	2.21E-09	7.95E-09
Cd-113m	3.83E-05	2.22E-02	36.2	3.09E-06	3.09E-06	8.13E-05	1.44E-04
Sb-125	2.99E-05	1.74E-02	28.3	1.98E-06	1.98E-06	3.12E-05	3.37E-05
Sn-126	1.10E-05	6.41E-03	10.5	2.94E-06	2.94E-06	1.46E-05	1.81E-05
I-129	1.40E-07	8.12E-05	0.132	1.35E-07	1.36E-07	1.49E-07	1.61E-07
Cs-134	1.91E-06	1.11E-03	1.81	1.60E-07	1.60E-07	1.98E-06	2.12E-06
Cs-137	0.273	158	2.58E+05	0.265	0.266	0.291	0.311
Ba-137m	0.258	150	2.44E+05	2.52E-02	2.52E-02	0.267	0.285
Sm-151	2.71E-02	15.8	2.57E+04	8.30E-03	8.30E-03	3.55E-02	4.35E-02
Eu-152	1.51E-05	8.79E-03	14.3	8.40E-06	8.40E-06	1.52E-05	1.53E-05
Eu-154	2.02E-04	0.117	191	1.48E-05	1.48E-05	2.10E-04	6.92E-04
Eu-155	7.67E-04	0.445	725	4.25E-04	4.25E-04	7.69E-04	7.73E-04
Ra-226	1.02E-09	5.93E-07	9.67E-04	6.65E-10	6.65E-10	1.15E-09	1.27E-09
Ra-228	1.20E-08	6.95E-06	1.13E-02	1.42E-14	1.42E-14	1.21E-08	1.22E-08
Ac-227	5.04E-09	2.93E-06	4.77E-03	2.96E-09	2.96E-09	5.79E-09	6.26E-09
Pa-231	1.03E-08	5.99E-06	9.77E-03	2.46E-09	2.46E-09	1.27E-08	1.50E-08
Th-229	2.88E-10	1.67E-07	2.73E-04	1.09E-12	1.09E-12	2.91E-10	2.94E-10
Th-232	1.60E-10	9.32E-08	1.52E-04	5.01E-16	5.01E-16	2.02E-10	2.43E-10
U-232	5.35E-08	3.11E-05	5.06E-02	1.89E-08	3.49E-08	7.62E-08	1.01E-07
U-233	2.05E-07	1.19E-04	0.194	7.24E-08	1.34E-07	2.92E-07	3.88E-07
U-234	9.97E-07	5.79E-04	0.943	4.53E-07	7.18E-07	1.30E-06	1.60E-06
U-235	4.03E-08	2.34E-05	3.81E-02	1.83E-08	2.90E-08	5.26E-08	6.49E-08
U-236	4.10E-08	2.38E-05	3.88E-02	1.92E-08	3.00E-08	5.25E-08	6.38E-08
U-238	8.75E-07	5.08E-04	0.828	3.96E-07	6.28E-07	1.14E-06	1.41E-06
Np-237	3.25E-07	1.88E-04	0.307	3.09E-07	3.15E-07	3.49E-07	3.76E-07
Pu-238	7.77E-06	4.51E-03	7.35	6.51E-06	7.13E-06	8.41E-06	9.03E-06
Pu-239	2.34E-04	0.136	222	1.94E-04	2.14E-04	2.55E-04	2.75E-04
Pu-240	3.95E-05	2.30E-02	37.4	3.28E-05	3.61E-05	4.30E-05	4.63E-05
Pu-241	3.93E-04	0.228	372	3.29E-04	3.60E-04	4.26E-04	4.57E-04
Pu-242	2.13E-09	1.24E-06	2.02E-03	1.79E-09	1.96E-09	2.31E-09	2.48E-09
Am-241	2.31E-04	0.134	219	1.61E-04	1.95E-04	2.67E-04	3.01E-04
Am-243	9.19E-09	5.34E-06	8.70E-03	6.02E-09	7.58E-09	1.08E-08	1.24E-08
Cm-242	3.69E-07	2.14E-04	0.349	3.68E-07	3.67E-07	3.69E-07	3.69E-07
Cm-243	3.51E-08	2.04E-05	3.32E-02	3.50E-08	3.48E-08	3.51E-08	3.51E-08
Cm-244	1.04E-06	6.05E-04	0.985	8.07E-07	9.22E-07	1.16E-06	1.28E-06

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.93E-03 (g/L)	----	3.72	3.25E-03	3.59E-03	4.28E-03	4.62E-03
U	1.08E-02	1.49E+03	2.44E+03	4.87E-03	7.75E-03	1.42E-02	1.75E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.06E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	10.7 (kW)	(3.65E+04 BTU/hr)	----	10.4	10.6	10.8	10.9
Bulk Density	1.73 (g/cc)	----	----	1.60	1.67	1.92	1.87
Void Fraction	0.682	----	----	0.647	0.492	0.727	0.776
Water wt%	33.1	----	----	28.0	21.1	38.1	43.0
TOC wt% C (wet)	2.52E-03	----	----	2.33E-03	2.27E-03	2.71E-03	2.93E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.65	1.15E+05	4.66E+04	6.27	7.53	12.6	9.69
Al^{3+}	5.93	9.25E+04	3.76E+04	4.99	5.26	6.65	7.39
Fe^{3+} (total Fe)	1.39	4.50E+04	1.83E+04	1.37	1.38	1.41	1.42
Cr^{3+}	0.432	1.30E+04	5.27E+03	0.267	0.346	0.969	1.64
Bi^{3+}	3.32E-06	0.402	0.163	2.81E-06	3.06E-06	3.66E-06	4.03E-06
La^{3+}	8.19E-12	6.58E-07	2.67E-07	7.18E-12	7.75E-12	9.06E-12	9.95E-12
Hg^{2+}	5.22E-07	6.06E-02	2.46E-02	4.63E-07	4.92E-07	5.75E-07	6.31E-07
Zr (as $ZrO(OH)_2$)	3.32E-07	1.75E-02	7.10E-03	3.05E-07	3.18E-07	3.48E-07	3.75E-07
Pb^{2+}	8.28E-05	9.92	4.03	4.44E-05	6.31E-05	1.03E-04	1.22E-04
Ni^{2+}	6.80E-02	2.31E+03	937	5.90E-02	6.38E-02	7.16E-02	7.28E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.42E-05	0.769	0.312	1.73E-05	2.07E-05	2.78E-05	3.13E-05
Ca^{2+}	0.299	6.93E+03	2.81E+03	0.206	0.252	0.347	0.393
K^+	2.16E-02	488	198	2.08E-02	1.78E-02	2.30E-02	2.45E-02
OH^-	27.1	2.66E+05	1.08E+05	22.7	24.1	30.2	33.3
$NO3^-$	2.54	9.11E+04	3.70E+04	1.31	2.18	7.59	2.69
$NO2^-$	1.72	4.58E+04	1.86E+04	1.58	1.19	1.79	1.87
$CO3^{2-}$	0.302	1.05E+04	4.25E+03	0.208	0.254	0.349	0.395
$PO4^{3-}$	2.15E-04	11.8	4.79	2.00E-04	2.09E-04	2.24E-04	2.44E-04
$SO4^{2-}$	2.87E-02	1.60E+03	647	2.76E-02	2.30E-02	3.04E-02	3.23E-02
Si (as SiO_x^{2-})	0.309	5.02E+03	2.04E+03	7.64E-02	8.12E-02	0.537	0.757
F^-	1.71E-04	1.88	0.765	1.46E-04	1.62E-04	1.89E-04	2.03E-04
Cl^-	9.26E-02	1.90E+03	770	6.28E-02	7.51E-02	9.91E-02	0.130
$C_6H_5O_7^{3-}$	1.77E-04	19.4	7.86	1.72E-04	1.74E-04	1.85E-04	2.01E-04
$EDTA^{4-}$	6.90E-06	1.15	0.467	4.85E-06	5.97E-06	8.13E-06	9.35E-06
$HEDTA^{3-}$	5.73E-06	0.909	0.369	1.84E-06	3.94E-06	7.65E-06	9.52E-06
$glycolate^-$	2.50E-04	10.9	4.40	1.36E-04	1.98E-04	3.11E-04	3.69E-04
$acetate^-$	2.60E-05	0.886	0.360	2.51E-05	2.55E-05	2.76E-05	2.95E-05
$oxalate^{2-}$	1.07E-11	5.46E-07	2.22E-07	9.51E-12	1.01E-11	1.18E-11	1.30E-11
DBP	1.57E-04	19.1	7.75	1.47E-04	1.53E-04	1.70E-04	1.83E-04
butanol	1.57E-04	6.74	2.73	1.47E-04	1.53E-04	1.70E-04	1.83E-04
NH_3	0.259	2.54E+03	1.03E+03	0.205	0.234	0.644	0.278
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.06E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	10.7 (kW)	(3.65E+04 BTU/hr)	----	10.4	10.6	10.8	10.9
Bulk Density†	1.73 (g/cc)	----	----	1.60	1.67	1.92	1.87
Water wt%†	33.1	----	----	28.0	21.1	38.1	43.0
TOC wt% C (wet)†	2.52E-03	----	----	2.33E-03	2.27E-03	2.71E-03	2.93E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.65	1.15E+05	4.66E+04	6.27	7.53	12.6	9.69
Al^{3+}	5.93	9.25E+04	3.76E+04	4.99	5.26	6.65	7.39
Fe^{3+} (total Fe)	1.39	4.50E+04	1.83E+04	1.37	1.38	1.41	1.42
Cr^{3+}	0.432	1.30E+04	5.27E+03	0.267	0.346	0.969	1.64
Bi^{3+}	3.32E-06	0.402	0.163	2.81E-06	3.06E-06	3.66E-06	4.03E-06
La^{3+}	8.19E-12	6.58E-07	2.67E-07	7.18E-12	7.75E-12	9.06E-12	9.95E-12
Hg^{2+}	5.22E-07	6.06E-02	2.46E-02	4.63E-07	4.92E-07	5.75E-07	6.31E-07
Zr (as $ZrO(OH)_2$)	3.32E-07	1.75E-02	7.10E-03	3.05E-07	3.18E-07	3.48E-07	3.75E-07
Pb^{2+}	8.28E-05	9.92	4.03	4.44E-05	6.31E-05	1.03E-04	1.22E-04
Ni^{2+}	6.80E-02	2.31E+03	937	5.90E-02	6.38E-02	7.16E-02	7.28E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.42E-05	0.769	0.312	1.73E-05	2.07E-05	2.78E-05	3.13E-05
Ca^{2+}	0.299	6.93E+03	2.81E+03	0.206	0.252	0.347	0.393
K^+	2.16E-02	488	198	2.08E-02	1.78E-02	2.30E-02	2.45E-02
OH^-	27.1	2.66E+05	1.08E+05	22.7	24.1	30.2	33.3
$NO3^-$	2.54	9.11E+04	3.70E+04	1.31	2.18	7.59	2.69
$NO2^-$	1.72	4.58E+04	1.86E+04	1.58	1.19	1.79	1.87
$CO3^{2-}$	0.302	1.05E+04	4.25E+03	0.208	0.254	0.349	0.395
$PO4^{3-}$	2.15E-04	11.8	4.79	2.00E-04	2.09E-04	2.24E-04	2.44E-04
$SO4^{2-}$	2.87E-02	1.60E+03	647	2.76E-02	2.30E-02	3.04E-02	3.23E-02
Si (as SiO_x^{2-})	0.309	5.02E+03	2.04E+03	7.64E-02	8.12E-02	0.537	0.757
F^-	1.71E-04	1.88	0.765	1.46E-04	1.62E-04	1.89E-04	2.03E-04
Cl^-	9.26E-02	1.90E+03	770	6.28E-02	7.51E-02	9.91E-02	0.130
$C_6H_5O_7^{3-}$	1.77E-04	19.4	7.86	1.72E-04	1.74E-04	1.85E-04	2.01E-04
$EDTA^{4-}$	6.90E-06	1.15	0.467	4.85E-06	5.97E-06	8.13E-06	9.35E-06
$HEDTA^{3-}$	5.73E-06	0.909	0.369	1.84E-06	3.94E-06	7.65E-06	9.52E-06
$glycolate^-$	2.50E-04	10.9	4.40	1.36E-04	1.98E-04	3.11E-04	3.69E-04
$acetate^-$	2.60E-05	0.886	0.360	2.51E-05	2.55E-05	2.76E-05	2.95E-05
$oxalate^{2-}$	1.07E-11	5.46E-07	2.22E-07	9.51E-12	1.01E-11	1.18E-11	1.30E-11
DBP	1.57E-04	19.1	7.75	1.47E-04	1.53E-04	1.70E-04	1.83E-04
butanol	1.57E-04	6.74	2.73	1.47E-04	1.53E-04	1.70E-04	1.83E-04
NH_3	0.259	2.54E+03	1.03E+03	0.205	0.234	0.644	0.278
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.06E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	10.7 (kW)	(3.65E+04 BTU/hr)	----	10.4	10.6	10.8	10.9
Bulk Density	1.73 (g/cc)	----	----	1.60	1.67	1.92	1.87
Void Fraction	0.682	----	----	0.647	0.492	0.727	0.776
Water wt%	33.1	----	----	28.0	21.1	38.1	43.0
TOC wt% C (wet)	2.52E-03	----	----	2.33E-03	2.27E-03	2.71E-03	2.93E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.84E-04	0.106	43.1	7.59E-05	7.59E-05	1.89E-04	1.99E-04
C-14	8.80E-06	5.09E-03	2.06	3.27E-06	3.27E-06	9.03E-06	9.53E-06
Ni-59	4.51E-05	2.61E-02	10.6	3.90E-05	4.18E-05	4.76E-05	4.84E-05
Ni-63	4.46E-03	2.58	1.05E+03	3.85E-03	4.14E-03	4.71E-03	4.79E-03
Co-60	8.63E-06	4.99E-03	2.03	3.65E-06	3.65E-06	8.84E-06	9.30E-06
Se-79	2.13E-05	1.23E-02	5.01	4.16E-06	4.16E-06	4.06E-05	5.91E-05
Sr-90	6.57	3.80E+03	1.54E+06	6.40	6.49	6.64	6.70
Y-90	6.57	3.80E+03	1.54E+06	6.40	6.44	6.64	6.70
Zr-93	9.11E-05	5.27E-02	21.4	1.98E-05	1.98E-05	1.88E-04	2.80E-04
Nb-93m	8.43E-05	4.87E-02	19.8	1.58E-05	1.68E-05	1.52E-04	2.17E-04
Tc-99	6.97E-05	4.03E-02	16.3	6.65E-05	5.30E-05	7.29E-05	7.66E-05
Ru-106	2.14E-09	1.24E-06	5.03E-04	9.92E-10	9.92E-10	4.41E-09	5.07E-08
Cd-113m	3.74E-05	2.16E-02	8.78	1.50E-05	1.50E-05	3.37E-04	8.92E-04
Sb-125	3.19E-05	1.85E-02	7.49	1.41E-05	1.41E-05	3.27E-05	3.43E-05
Sn-126	2.78E-05	1.61E-02	6.53	6.31E-06	6.31E-06	5.68E-05	8.45E-05
I-129	1.32E-07	7.63E-05	3.10E-02	1.26E-07	1.00E-07	1.38E-07	1.45E-07
Cs-134	2.37E-06	1.37E-03	0.556	1.25E-06	1.25E-06	2.41E-06	2.50E-06
Cs-137	0.292	169	6.85E+04	0.281	0.234	0.303	0.316
Ba-137m	0.276	160	6.48E+04	0.128	0.128	0.282	0.294
Sm-151	7.65E-02	44.2	1.80E+04	1.48E-02	1.48E-02	0.144	0.209
Eu-152	6.21E-05	3.59E-02	14.6	5.78E-05	5.78E-05	6.21E-05	6.22E-05
Eu-154	2.08E-04	0.120	48.8	8.89E-05	8.89E-05	2.13E-04	4.16E-03
Eu-155	3.17E-03	1.83	745	2.96E-03	2.96E-03	3.17E-03	3.18E-03
Ra-226	4.05E-09	2.34E-06	9.51E-04	2.88E-09	3.46E-09	4.65E-09	5.22E-09
Ra-228	7.62E-09	4.41E-06	1.79E-03	1.01E-13	1.01E-13	7.69E-09	7.78E-09
Ac-227	1.84E-08	1.06E-05	4.32E-03	1.16E-08	1.49E-08	2.19E-08	2.52E-08
Pa-231	2.38E-08	1.38E-05	5.59E-03	5.81E-09	5.81E-09	4.31E-08	6.16E-08
Th-229	1.89E-10	1.09E-07	4.43E-05	6.25E-12	6.25E-12	1.91E-10	1.93E-10
Th-232	1.02E-10	5.91E-08	2.40E-05	3.20E-15	3.20E-15	1.29E-10	1.55E-10
U-232	3.41E-08	1.97E-05	7.99E-03	1.20E-08	2.22E-08	4.85E-08	6.46E-08
U-233	1.30E-07	7.54E-05	3.06E-02	4.61E-08	8.50E-08	1.86E-07	2.47E-07
U-234	6.89E-07	3.98E-04	0.162	3.43E-07	5.11E-07	8.81E-07	1.07E-06
U-235	2.76E-08	1.60E-05	6.48E-03	1.36E-08	2.04E-08	3.54E-08	4.33E-08
U-236	3.04E-08	1.76E-05	7.14E-03	1.66E-08	2.34E-08	3.77E-08	4.50E-08
U-238	5.91E-07	3.42E-04	0.139	2.86E-07	4.33E-07	7.62E-07	9.34E-07
Np-237	2.83E-07	1.63E-04	6.63E-02	2.71E-07	2.23E-07	2.98E-07	3.16E-07
Pu-238	4.00E-05	2.31E-02	9.38	3.15E-05	3.56E-05	4.43E-05	4.85E-05
Pu-239	7.89E-04	0.456	185	6.24E-04	7.05E-04	8.73E-04	9.53E-04
Pu-240	1.52E-04	8.77E-02	35.6	1.20E-04	1.35E-04	1.68E-04	1.84E-04
Pu-241	1.92E-03	1.11	451	1.51E-03	1.71E-03	2.13E-03	2.33E-03
Pu-242	1.10E-08	6.36E-06	2.58E-03	8.66E-09	9.81E-09	1.22E-08	1.33E-08
Am-241	1.19E-03	0.689	280	6.25E-04	9.03E-04	1.48E-03	1.76E-03
Am-243	5.30E-08	3.06E-05	1.24E-02	2.74E-08	4.00E-08	6.60E-08	7.86E-08
Cm-242	2.74E-06	1.58E-03	0.642	2.73E-06	2.72E-06	2.74E-06	2.74E-06
Cm-243	2.77E-07	1.60E-04	6.51E-02	2.77E-07	2.75E-07	2.77E-07	2.77E-07
Cm-244	8.39E-06	4.85E-03	1.97	6.50E-06	7.43E-06	9.36E-06	1.03E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.34E-02 (g/L)	----	3.14	1.06E-02	1.19E-02	1.48E-02	1.62E-02
U	7.31E-03	1.01E+03	408	3.53E-03	5.36E-03	9.44E-03	1.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(6.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.06E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	10.7 (kW)	(3.65E+04 BTU/hr)	----	10.4	10.6	10.8	10.9
Bulk Density†	1.73 (g/cc)	----	----	1.60	1.67	1.92	1.87
Water wt%†	33.1	----	----	28.0	21.1	38.1	43.0
TOC wt% C (wet)†	2.52E-03	----	----	2.33E-03	2.27E-03	2.71E-03	2.93E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.84E-04	0.106	43.1	7.59E-05	7.59E-05	1.89E-04	1.99E-04
C-14	8.80E-06	5.09E-03	2.06	3.27E-06	3.27E-06	9.03E-06	9.53E-06
Ni-59	4.51E-05	2.61E-02	10.6	3.90E-05	4.18E-05	4.76E-05	4.84E-05
Ni-63	4.46E-03	2.58	1.05E+03	3.85E-03	4.14E-03	4.71E-03	4.79E-03
Co-60	8.63E-06	4.99E-03	2.03	3.65E-06	3.65E-06	8.84E-06	9.30E-06
Se-79	2.13E-05	1.23E-02	5.01	4.16E-06	4.16E-06	4.06E-05	5.91E-05
Sr-90	6.57	3.80E+03	1.54E+06	6.40	6.49	6.64	6.70
Y-90	6.57	3.80E+03	1.54E+06	6.40	6.44	6.64	6.70
Zr-93	9.11E-05	5.27E-02	21.4	1.98E-05	1.98E-05	1.88E-04	2.80E-04
Nb-93m	8.43E-05	4.87E-02	19.8	1.58E-05	1.68E-05	1.52E-04	2.17E-04
Tc-99	6.97E-05	4.03E-02	16.3	6.65E-05	5.30E-05	7.29E-05	7.66E-05
Ru-106	2.14E-09	1.24E-06	5.03E-04	9.92E-10	9.92E-10	4.41E-09	5.07E-08
Cd-113m	3.74E-05	2.16E-02	8.78	1.50E-05	1.50E-05	3.37E-04	8.92E-04
Sb-125	3.19E-05	1.85E-02	7.49	1.41E-05	1.41E-05	3.27E-05	3.43E-05
Sn-126	2.78E-05	1.61E-02	6.53	6.31E-06	6.31E-06	5.68E-05	8.45E-05
I-129	1.32E-07	7.63E-05	3.10E-02	1.26E-07	1.00E-07	1.38E-07	1.45E-07
Cs-134	2.37E-06	1.37E-03	0.556	1.25E-06	1.25E-06	2.41E-06	2.50E-06
Cs-137	0.292	169	6.85E+04	0.281	0.234	0.303	0.316
Ba-137m	0.276	160	6.48E+04	0.128	0.128	0.282	0.294
Sm-151	7.65E-02	44.2	1.80E+04	1.48E-02	1.48E-02	0.144	0.209
Eu-152	6.21E-05	3.59E-02	14.6	5.78E-05	5.78E-05	6.21E-05	6.22E-05
Eu-154	2.08E-04	0.120	48.8	8.89E-05	8.89E-05	2.13E-04	4.16E-03
Eu-155	3.17E-03	1.83	745	2.96E-03	2.96E-03	3.17E-03	3.18E-03
Ra-226	4.05E-09	2.34E-06	9.51E-04	2.88E-09	3.46E-09	4.65E-09	5.22E-09
Ra-228	7.62E-09	4.41E-06	1.79E-03	1.01E-13	1.01E-13	7.69E-09	7.78E-09
Ac-227	1.84E-08	1.06E-05	4.32E-03	1.16E-08	1.49E-08	2.19E-08	2.52E-08
Pa-231	2.38E-08	1.38E-05	5.59E-03	5.81E-09	5.81E-09	4.31E-08	6.16E-08
Th-229	1.89E-10	1.09E-07	4.43E-05	6.25E-12	6.25E-12	1.91E-10	1.93E-10
Th-232	1.02E-10	5.91E-08	2.40E-05	3.20E-15	3.20E-15	1.29E-10	1.55E-10
U-232	3.41E-08	1.97E-05	7.99E-03	1.20E-08	2.22E-08	4.85E-08	6.46E-08
U-233	1.30E-07	7.54E-05	3.06E-02	4.61E-08	8.50E-08	1.86E-07	2.47E-07
U-234	6.89E-07	3.98E-04	0.162	3.43E-07	5.11E-07	8.81E-07	1.07E-06
U-235	2.76E-08	1.60E-05	6.48E-03	1.36E-08	2.04E-08	3.54E-08	4.33E-08
U-236	3.04E-08	1.76E-05	7.14E-03	1.66E-08	2.34E-08	3.77E-08	4.50E-08
U-238	5.91E-07	3.42E-04	0.139	2.86E-07	4.33E-07	7.62E-07	9.34E-07
Np-237	2.83E-07	1.63E-04	6.63E-02	2.71E-07	2.23E-07	2.98E-07	3.16E-07
Pu-238	4.00E-05	2.31E-02	9.38	3.15E-05	3.56E-05	4.43E-05	4.85E-05
Pu-239	7.89E-04	0.456	185	6.24E-04	7.05E-04	8.73E-04	9.53E-04
Pu-240	1.52E-04	8.77E-02	35.6	1.20E-04	1.35E-04	1.68E-04	1.84E-04
Pu-241	1.92E-03	1.11	451	1.51E-03	1.71E-03	2.13E-03	2.33E-03
Pu-242	1.10E-08	6.36E-06	2.58E-03	8.66E-09	9.81E-09	1.22E-08	1.33E-08
Am-241	1.19E-03	0.689	280	6.25E-04	9.03E-04	1.48E-03	1.76E-03
Am-243	5.30E-08	3.06E-05	1.24E-02	2.74E-08	4.00E-08	6.60E-08	7.86E-08
Cm-242	2.74E-06	1.58E-03	0.642	2.73E-06	2.72E-06	2.74E-06	2.74E-06
Cm-243	2.77E-07	1.60E-04	6.51E-02	2.77E-07	2.75E-07	2.77E-07	2.77E-07
Cm-244	8.39E-06	4.85E-03	1.97	6.50E-06	7.43E-06	9.36E-06	1.03E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.34E-02 (g/L)	----	3.14	1.06E-02	1.19E-02	1.48E-02	1.62E-02
U	7.31E-03	1.01E+03	408	3.53E-03	5.36E-03	9.44E-03	1.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.22E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.8 (kW)	(5.05E+04 BTU/hr)	----	14.4	14.6	14.9	15.1
Bulk Density	1.74 (g/cc)	----	----	1.65	1.66	1.86	1.90
Void Fraction	0.636	----	----	0.476	0.515	0.704	0.706
Water wt%	31.1	----	----	21.1	23.3	36.1	37.6
TOC wt% C (wet)	1.74E-03	----	----	1.59E-03	1.63E-03	1.88E-03	2.03E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.61	1.14E+05	9.36E+04	6.90	7.07	11.2	12.0
Al^{3+}	6.21	9.65E+04	7.93E+04	5.56	5.75	6.72	7.23
Fe^{3+} (total Fe)	1.23	3.94E+04	3.24E+04	1.21	1.22	1.23	1.24
Cr^{3+}	0.319	9.54E+03	7.84E+03	0.204	0.259	0.660	1.09
Bi^{3+}	2.31E-06	0.278	0.228	1.95E-06	2.13E-06	2.54E-06	2.80E-06
La^{3+}	5.69E-12	4.55E-07	3.74E-07	4.98E-12	5.38E-12	6.29E-12	6.91E-12
Hg^{2+}	3.63E-07	4.19E-02	3.44E-02	3.21E-07	3.42E-07	3.99E-07	4.38E-07
Zr (as $ZrO(OH)_2$)	2.30E-07	1.21E-02	9.94E-03	2.12E-07	2.21E-07	2.42E-07	2.60E-07
Pb^{2+}	5.75E-05	6.85	5.64	3.08E-05	4.38E-05	7.13E-05	8.49E-05
Ni^{2+}	6.07E-02	2.05E+03	1.69E+03	5.50E-02	5.80E-02	6.30E-02	6.37E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.68E-05	0.531	0.437	1.20E-05	1.43E-05	1.93E-05	2.17E-05
Ca^{2+}	0.266	6.14E+03	5.05E+03	0.207	0.236	0.297	0.326
K^+	1.84E-02	414	340	1.51E-02	1.60E-02	1.97E-02	2.04E-02
OH^-	26.3	2.58E+05	2.12E+05	23.3	24.3	28.5	30.6
$NO3^-$	3.54	1.26E+05	1.04E+05	1.79	1.79	6.75	7.78
$NO2^-$	1.64	4.33E+04	3.56E+04	1.19	1.30	1.87	1.87
$CO3^{2-}$	0.268	9.25E+03	7.60E+03	0.209	0.238	0.298	0.327
$PO4^{3-}$	1.49E-04	8.16	6.71	1.39E-04	1.45E-04	1.56E-04	1.69E-04
$SO4^{2-}$	2.29E-02	1.27E+03	1.04E+03	1.98E-02	1.93E-02	2.41E-02	2.54E-02
Si (as SiO_x^{2-})	0.203	3.28E+03	2.69E+03	5.49E-02	5.80E-02	0.348	0.487
F^-	1.19E-04	1.30	1.07	1.01E-04	1.12E-04	1.31E-04	1.41E-04
Cl^-	8.00E-02	1.63E+03	1.34E+03	5.93E-02	6.89E-02	8.62E-02	0.115
$C_6H_5O_7^{3-}$	1.23E-04	13.4	11.0	1.19E-04	1.21E-04	1.28E-04	1.40E-04
$EDTA^{4-}$	4.79E-06	0.795	0.653	3.37E-06	4.15E-06	5.64E-06	6.49E-06
$HEDTA^{3-}$	3.98E-06	0.628	0.516	1.28E-06	2.74E-06	5.31E-06	6.61E-06
$glycolate^-$	1.74E-04	7.50	6.16	9.42E-05	1.37E-04	2.16E-04	2.56E-04
$acetate^-$	1.80E-05	0.612	0.503	1.75E-05	1.77E-05	1.92E-05	2.05E-05
$oxalate^{2-}$	7.45E-12	3.77E-07	3.10E-07	6.60E-12	7.01E-12	8.21E-12	9.01E-12
DBP	1.09E-04	13.2	10.9	1.02E-04	1.06E-04	1.18E-04	1.27E-04
butanol	1.09E-04	4.65	3.83	1.02E-04	1.06E-04	1.18E-04	1.27E-04
NH_3	0.251	2.46E+03	2.02E+03	0.187	0.197	0.496	0.264
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.22E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.8 (kW)	(5.05E+04 BTU/hr)	----	14.4	14.6	14.9	15.1
Bulk Density†	1.74 (g/cc)	----	----	1.65	1.66	1.86	1.90
Water wt%†	31.1	----	----	21.1	23.3	36.1	37.6
TOC wt% C (wet)†	1.74E-03	----	----	1.59E-03	1.63E-03	1.88E-03	2.03E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.61	1.14E+05	9.36E+04	6.90	7.07	11.2	12.0
Al^{3+}	6.21	9.65E+04	7.93E+04	5.56	5.75	6.72	7.23
Fe^{3+} (total Fe)	1.23	3.94E+04	3.24E+04	1.21	1.22	1.23	1.24
Cr^{3+}	0.319	9.54E+03	7.84E+03	0.204	0.259	0.660	1.09
Bi^{3+}	2.31E-06	0.278	0.228	1.95E-06	2.13E-06	2.54E-06	2.80E-06
La^{3+}	5.69E-12	4.55E-07	3.74E-07	4.98E-12	5.38E-12	6.29E-12	6.91E-12
Hg^{2+}	3.63E-07	4.19E-02	3.44E-02	3.21E-07	3.42E-07	3.99E-07	4.38E-07
Zr (as $ZrO(OH)_2$)	2.30E-07	1.21E-02	9.94E-03	2.12E-07	2.21E-07	2.42E-07	2.60E-07
Pb^{2+}	5.75E-05	6.85	5.64	3.08E-05	4.38E-05	7.13E-05	8.49E-05
Ni^{2+}	6.07E-02	2.05E+03	1.69E+03	5.50E-02	5.80E-02	6.30E-02	6.37E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.68E-05	0.531	0.437	1.20E-05	1.43E-05	1.93E-05	2.17E-05
Ca^{2+}	0.266	6.14E+03	5.05E+03	0.207	0.236	0.297	0.326
K^+	1.84E-02	414	340	1.51E-02	1.60E-02	1.97E-02	2.04E-02
OH^-	26.3	2.58E+05	2.12E+05	23.3	24.3	28.5	30.6
$NO3^-$	3.54	1.26E+05	1.04E+05	1.79	1.79	6.75	7.78
$NO2^-$	1.64	4.33E+04	3.56E+04	1.19	1.30	1.87	1.87
$CO3^{2-}$	0.268	9.25E+03	7.60E+03	0.209	0.238	0.298	0.327
$PO4^{3-}$	1.49E-04	8.16	6.71	1.39E-04	1.45E-04	1.56E-04	1.69E-04
$SO4^{2-}$	2.29E-02	1.27E+03	1.04E+03	1.98E-02	1.93E-02	2.41E-02	2.54E-02
Si (as SiO_x^{2-})	0.203	3.28E+03	2.69E+03	5.49E-02	5.80E-02	0.348	0.487
F^-	1.19E-04	1.30	1.07	1.01E-04	1.12E-04	1.31E-04	1.41E-04
Cl^-	8.00E-02	1.63E+03	1.34E+03	5.93E-02	6.89E-02	8.62E-02	0.115
$C_6H_5O_7^{3-}$	1.23E-04	13.4	11.0	1.19E-04	1.21E-04	1.28E-04	1.40E-04
$EDTA^{4-}$	4.79E-06	0.795	0.653	3.37E-06	4.15E-06	5.64E-06	6.49E-06
$HEDTA^{3-}$	3.98E-06	0.628	0.516	1.28E-06	2.74E-06	5.31E-06	6.61E-06
$glycolate^-$	1.74E-04	7.50	6.16	9.42E-05	1.37E-04	2.16E-04	2.56E-04
$acetate^-$	1.80E-05	0.612	0.503	1.75E-05	1.77E-05	1.92E-05	2.05E-05
$oxalate^{2-}$	7.45E-12	3.77E-07	3.10E-07	6.60E-12	7.01E-12	8.21E-12	9.01E-12
DBP	1.09E-04	13.2	10.9	1.02E-04	1.06E-04	1.18E-04	1.27E-04
butanol	1.09E-04	4.65	3.83	1.02E-04	1.06E-04	1.18E-04	1.27E-04
NH_3	0.251	2.46E+03	2.02E+03	0.187	0.197	0.496	0.264
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.22E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.8 (kW)	(5.05E+04 BTU/hr)	----	14.4	14.6	14.9	15.1
Bulk Density	1.74 (g/cc)	----	----	1.65	1.66	1.86	1.90
Void Fraction	0.636	----	----	0.476	0.515	0.704	0.706
Water wt%	31.1	----	----	21.1	23.3	36.1	37.6
TOC wt% C (wet)	1.74E-03	----	----	1.59E-03	1.63E-03	1.88E-03	2.03E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.33E-04	7.65E-02	62.9	5.81E-05	5.81E-05	1.37E-04	1.44E-04
C-14	6.68E-06	3.84E-03	3.16	2.84E-06	2.84E-06	6.95E-06	7.19E-06
Ni-59	3.39E-05	1.95E-02	16.0	2.99E-05	3.16E-05	3.54E-05	3.60E-05
Ni-63	3.32E-03	1.91	1.57E+03	2.93E-03	3.10E-03	3.47E-03	3.53E-03
Co-60	6.08E-06	3.50E-03	2.88	2.62E-06	2.62E-06	6.23E-06	6.54E-06
Se-79	1.39E-05	8.01E-03	6.59	3.01E-06	3.01E-06	2.62E-05	3.79E-05
Sr-90	4.49	2.58E+03	2.13E+06	4.38	4.44	4.54	4.58
Y-90	4.49	2.59E+03	2.13E+06	4.39	4.41	4.54	4.58
Zr-93	5.96E-05	3.43E-02	28.2	1.43E-05	1.43E-05	1.21E-04	1.80E-04
Nb-93m	5.49E-05	3.16E-02	26.0	1.14E-05	1.21E-05	9.78E-05	1.39E-04
Tc-99	5.21E-05	3.00E-02	24.7	4.74E-05	4.15E-05	5.44E-05	5.69E-05
Ru-106	1.43E-09	8.23E-07	6.77E-04	6.31E-10	6.31E-10	2.87E-09	3.23E-08
Cd-113m	2.74E-05	1.58E-02	13.0	1.19E-05	1.19E-05	2.18E-04	5.70E-04
Sb-125	2.18E-05	1.25E-02	10.3	9.41E-06	9.41E-06	2.23E-05	2.34E-05
Sn-126	1.82E-05	1.05E-02	8.63	4.56E-06	4.56E-06	3.66E-05	5.43E-05
I-129	9.89E-08	5.69E-05	4.68E-02	8.98E-08	7.89E-08	1.03E-07	1.08E-07
Cs-134	1.58E-06	9.09E-04	0.747	8.06E-07	8.06E-07	1.61E-06	1.67E-06
Cs-137	0.214	123	1.01E+05	0.200	0.176	0.222	0.231
Ba-137m	0.202	116	9.56E+04	9.92E-02	9.92E-02	0.207	0.214
Sm-151	4.99E-02	28.7	2.36E+04	1.07E-02	1.07E-02	9.28E-02	0.134
Eu-152	4.21E-05	2.42E-02	19.9	3.91E-05	3.91E-05	4.21E-05	4.21E-05
Eu-154	1.46E-04	8.43E-02	69.3	6.38E-05	6.38E-05	1.50E-04	2.66E-03
Eu-155	2.14E-03	1.23	1.01E+03	1.99E-03	1.99E-03	2.14E-03	2.14E-03
Ra-226	2.95E-09	1.70E-06	1.40E-03	2.21E-09	2.57E-09	3.33E-09	3.70E-09
Ra-228	5.29E-09	3.05E-06	2.50E-03	6.76E-14	6.76E-14	5.34E-09	5.41E-09
Ac-227	1.34E-08	7.69E-06	6.33E-03	9.05E-09	1.12E-08	1.56E-08	1.77E-08
Pa-231	1.57E-08	9.02E-06	7.42E-03	4.23E-09	4.23E-09	2.79E-08	3.97E-08
Th-229	1.31E-10	7.56E-08	6.22E-05	4.57E-12	4.57E-12	1.33E-10	1.34E-10
Th-232	7.09E-11	4.08E-08	3.36E-05	2.23E-15	2.23E-15	8.94E-11	1.08E-10
U-232	2.37E-08	1.36E-05	1.12E-02	8.37E-09	1.54E-08	3.37E-08	4.49E-08
U-233	9.05E-08	5.21E-05	4.28E-02	3.20E-08	5.90E-08	1.29E-07	1.72E-07
U-234	5.14E-07	2.96E-04	0.243	2.74E-07	3.91E-07	6.47E-07	7.82E-07
U-235	2.07E-08	1.19E-05	9.81E-03	1.10E-08	1.57E-08	2.62E-08	3.16E-08
U-236	2.15E-08	1.24E-05	1.02E-02	1.19E-08	1.66E-08	2.66E-08	3.16E-08
U-238	4.48E-07	2.58E-04	0.212	2.36E-07	3.39E-07	5.67E-07	6.86E-07
Np-237	2.25E-07	1.30E-04	0.107	1.95E-07	1.87E-07	2.37E-07	2.48E-07
Pu-238	2.77E-05	1.59E-02	13.1	2.23E-05	2.49E-05	3.04E-05	3.31E-05
Pu-239	6.62E-04	0.381	313	5.57E-04	6.08E-04	7.15E-04	7.67E-04
Pu-240	1.19E-04	6.87E-02	56.5	9.92E-05	1.09E-04	1.30E-04	1.40E-04
Pu-241	1.36E-03	0.782	643	1.10E-03	1.23E-03	1.49E-03	1.62E-03
Pu-242	7.62E-09	4.39E-06	3.61E-03	6.13E-09	6.86E-09	8.38E-09	9.11E-09
Am-241	7.63E-04	0.439	361	4.03E-04	5.80E-04	9.47E-04	1.12E-03
Am-243	3.38E-08	1.95E-05	1.60E-02	1.76E-08	2.55E-08	4.21E-08	5.00E-08
Cm-242	1.79E-06	1.03E-03	0.849	1.79E-06	1.78E-06	1.79E-06	1.79E-06
Cm-243	1.77E-07	1.02E-04	8.39E-02	1.77E-07	1.76E-07	1.78E-07	1.78E-07
Cm-244	5.33E-06	3.07E-03	2.52	4.13E-06	4.72E-06	5.95E-06	6.53E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.12E-02 (g/L)	----	5.29	9.41E-03	1.03E-02	1.21E-02	1.30E-02
U	5.55E-03	760	625	2.92E-03	4.20E-03	7.03E-03	8.52E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.50E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.22E+05 (kg)	(125 kgal)	----	----	----	----	----
Heat Load	14.8 (kW)	(5.05E+04 BTU/hr)	----	14.4	14.6	14.9	15.1
Bulk Density†	1.74 (g/cc)	----	----	1.65	1.66	1.86	1.90
Water wt%†	31.1	----	----	21.1	23.3	36.1	37.6
TOC wt% C (wet)†	1.74E-03	----	----	1.59E-03	1.63E-03	1.88E-03	2.03E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.33E-04	7.65E-02	62.9	5.81E-05	5.81E-05	1.37E-04	1.44E-04
C-14	6.68E-06	3.84E-03	3.16	2.84E-06	2.84E-06	6.95E-06	7.19E-06
Ni-59	3.39E-05	1.95E-02	16.0	2.99E-05	3.16E-05	3.54E-05	3.60E-05
Ni-63	3.32E-03	1.91	1.57E+03	2.93E-03	3.10E-03	3.47E-03	3.53E-03
Co-60	6.08E-06	3.50E-03	2.88	2.62E-06	2.62E-06	6.23E-06	6.54E-06
Se-79	1.39E-05	8.01E-03	6.59	3.01E-06	3.01E-06	2.62E-05	3.79E-05
Sr-90	4.49	2.58E+03	2.13E+06	4.38	4.44	4.54	4.58
Y-90	4.49	2.59E+03	2.13E+06	4.39	4.41	4.54	4.58
Zr-93	5.96E-05	3.43E-02	28.2	1.43E-05	1.43E-05	1.21E-04	1.80E-04
Nb-93m	5.49E-05	3.16E-02	26.0	1.14E-05	1.21E-05	9.78E-05	1.39E-04
Tc-99	5.21E-05	3.00E-02	24.7	4.74E-05	4.15E-05	5.44E-05	5.69E-05
Ru-106	1.43E-09	8.23E-07	6.77E-04	6.31E-10	6.31E-10	2.87E-09	3.23E-08
Cd-113m	2.74E-05	1.58E-02	13.0	1.19E-05	1.19E-05	2.18E-04	5.70E-04
Sb-125	2.18E-05	1.25E-02	10.3	9.41E-06	9.41E-06	2.23E-05	2.34E-05
Sn-126	1.82E-05	1.05E-02	8.63	4.56E-06	4.56E-06	3.66E-05	5.43E-05
I-129	9.88E-08	5.69E-05	4.68E-02	8.98E-08	7.89E-08	1.03E-07	1.08E-07
Cs-134	1.58E-06	9.09E-04	0.747	8.06E-07	8.06E-07	1.61E-06	1.67E-06
Cs-137	0.214	123	1.01E+05	0.200	0.176	0.222	0.231
Ba-137m	0.202	116	9.56E+04	9.92E-02	9.92E-02	0.207	0.214
Sm-151	4.99E-02	28.7	2.36E+04	1.07E-02	1.07E-02	9.28E-02	0.134
Eu-152	4.21E-05	2.42E-02	19.9	3.91E-05	3.91E-05	4.21E-05	4.21E-05
Eu-154	1.46E-04	8.43E-02	69.3	6.38E-05	6.38E-05	1.50E-04	2.66E-03
Eu-155	2.14E-03	1.23	1.01E+03	1.99E-03	1.99E-03	2.14E-03	2.14E-03
Ra-226	2.95E-09	1.70E-06	1.40E-03	2.21E-09	2.57E-09	3.33E-09	3.70E-09
Ra-228	5.29E-09	3.05E-06	2.50E-03	6.76E-14	6.76E-14	5.34E-09	5.41E-09
Ac-227	1.34E-08	7.69E-06	6.33E-03	9.05E-09	1.12E-08	1.56E-08	1.77E-08
Pa-231	1.57E-08	9.02E-06	7.42E-03	4.23E-09	4.23E-09	2.79E-08	3.97E-08
Th-229	1.31E-10	7.56E-08	6.22E-05	4.57E-12	4.57E-12	1.33E-10	1.34E-10
Th-232	7.09E-11	4.08E-08	3.36E-05	2.23E-15	2.23E-15	8.94E-11	1.08E-10
U-232	2.37E-08	1.36E-05	1.12E-02	8.37E-09	1.54E-08	3.37E-08	4.49E-08
U-233	9.05E-08	5.21E-05	4.28E-02	3.20E-08	5.90E-08	1.29E-07	1.72E-07
U-234	5.14E-07	2.96E-04	0.243	2.74E-07	3.91E-07	6.47E-07	7.82E-07
U-235	2.07E-08	1.19E-05	9.81E-03	1.10E-08	1.57E-08	2.62E-08	3.16E-08
U-236	2.15E-08	1.24E-05	1.02E-02	1.19E-08	1.66E-08	2.66E-08	3.16E-08
U-238	4.48E-07	2.58E-04	0.212	2.36E-07	3.39E-07	5.67E-07	6.86E-07
Np-237	2.25E-07	1.30E-04	0.107	1.95E-07	1.87E-07	2.37E-07	2.48E-07
Pu-238	2.77E-05	1.59E-02	13.1	2.23E-05	2.49E-05	3.04E-05	3.31E-05
Pu-239	6.62E-04	0.381	313	5.57E-04	6.08E-04	7.15E-04	7.67E-04
Pu-240	1.19E-04	6.87E-02	56.5	9.92E-05	1.09E-04	1.30E-04	1.40E-04
Pu-241	1.36E-03	0.782	643	1.10E-03	1.23E-03	1.49E-03	1.62E-03
Pu-242	7.62E-09	4.39E-06	3.61E-03	6.13E-09	6.86E-09	8.38E-09	9.11E-09
Am-241	7.63E-04	0.439	361	4.03E-04	5.80E-04	9.47E-04	1.12E-03
Am-243	3.38E-08	1.95E-05	1.60E-02	1.76E-08	2.55E-08	4.21E-08	5.00E-08
Cm-242	1.79E-06	1.03E-03	0.849	1.79E-06	1.78E-06	1.79E-06	1.79E-06
Cm-243	1.77E-07	1.02E-04	8.39E-02	1.77E-07	1.76E-07	1.78E-07	1.78E-07
Cm-244	5.33E-06	3.07E-03	2.52	4.13E-06	4.72E-06	5.95E-06	6.53E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.12E-02 (g/L)	----	5.29	9.41E-03	1.03E-02	1.21E-02	1.30E-02
U	5.55E-03	760	625	2.92E-03	4.20E-03	7.03E-03	8.52E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.07E+05 (kg)	(92.0 kgal)	----	----	----	----	----
Heat Load	9.44 (kW)	(3.22E+04 BTU/hr)	----	9.14	9.32	9.52	9.60
Bulk Density	1.74 (g/cc)	----	----	1.62	1.64	1.91	1.98
Void Fraction	0.612	----	----	0.384	0.459	0.708	0.711
Water wt%	30.2	----	----	16.6	20.9	37.4	38.0
TOC wt% C (wet)	1.29E-03	----	----	1.14E-03	1.18E-03	1.40E-03	1.52E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.38	1.11E+05	6.70E+04	5.95	6.19	11.5	13.2
Al^{3+}	6.45	9.99E+04	6.06E+04	5.96	6.10	6.82	7.20
Fe^{3+} (total Fe)	1.22	3.91E+04	2.37E+04	1.21	1.21	1.23	1.23
Cr^{3+}	0.253	7.56E+03	4.59E+03	0.168	0.209	0.536	0.891
Bi^{3+}	1.72E-06	0.206	0.125	1.45E-06	1.58E-06	1.89E-06	2.08E-06
La^{3+}	4.23E-12	3.37E-07	2.05E-07	3.71E-12	4.00E-12	4.68E-12	5.14E-12
Hg^{2+}	2.70E-07	3.11E-02	1.88E-02	2.39E-07	2.54E-07	2.97E-07	3.26E-07
Zr (as $ZrO(OH)_2$)	1.71E-07	8.98E-03	5.45E-03	1.57E-07	1.64E-07	1.80E-07	1.94E-07
Pb^{2+}	4.28E-05	5.09	3.09	2.29E-05	3.26E-05	5.31E-05	6.32E-05
Ni^{2+}	6.00E-02	2.02E+03	1.23E+03	5.32E-02	5.70E-02	6.22E-02	6.25E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.25E-05	0.394	0.239	8.94E-06	1.07E-05	1.43E-05	1.62E-05
Ca^{2+}	0.262	6.03E+03	3.66E+03	0.213	0.237	0.287	0.312
K^+	1.66E-02	372	226	1.18E-02	1.37E-02	1.85E-02	1.85E-02
OH^-	26.4	2.58E+05	1.56E+05	24.2	24.9	28.0	29.6
$NO3^-$	3.84	1.37E+05	8.29E+04	1.34	1.34	7.75	9.87
$NO2^-$	1.60	4.21E+04	2.55E+04	0.961	1.18	1.93	1.93
$CO3^{2-}$	0.264	9.08E+03	5.51E+03	0.214	0.238	0.289	0.313
$PO4^{3-}$	1.11E-04	6.06	3.68	1.03E-04	1.08E-04	1.16E-04	1.26E-04
$SO4^{2-}$	1.99E-02	1.10E+03	666	1.55E-02	1.69E-02	2.17E-02	2.18E-02
Si (as SiO_x^{2-})	0.166	2.67E+03	1.62E+03	4.34E-02	4.60E-02	0.286	0.402
F^-	8.86E-05	0.966	0.586	7.54E-05	8.35E-05	9.74E-05	1.05E-04
Cl^-	7.28E-02	1.48E+03	899	5.10E-02	5.97E-02	8.16E-02	0.123
$C_6H_5O_7^{3-}$	9.16E-05	9.93	6.03	8.86E-05	9.00E-05	9.56E-05	1.04E-04
$EDTA^{4-}$	3.57E-06	0.590	0.358	2.51E-06	3.09E-06	4.20E-06	4.83E-06
$HEDTA^{3-}$	2.96E-06	0.466	0.283	9.50E-07	2.04E-06	3.95E-06	4.92E-06
$glycolate^-$	1.29E-04	5.56	3.38	7.01E-05	1.02E-04	1.61E-04	1.91E-04
$acetate^-$	1.34E-05	0.454	0.276	1.30E-05	1.32E-05	1.43E-05	1.52E-05
$oxalate^{2-}$	5.54E-12	2.80E-07	1.70E-07	4.91E-12	5.22E-12	6.11E-12	6.71E-12
DBP	8.12E-05	9.80	5.94	7.58E-05	7.90E-05	8.78E-05	9.48E-05
butanol	8.12E-05	3.45	2.10	7.58E-05	7.90E-05	8.78E-05	9.48E-05
NH_3	0.258	2.52E+03	1.53E+03	0.167	0.180	0.461	0.272
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.07E+05 (kg)	(92.0 kgal)	----	----	----	----	----
Heat Load	9.44 (kW)	(3.22E+04 BTU/hr)	----	9.14	9.32	9.52	9.60
Bulk Density†	1.74 (g/cc)	----	----	1.62	1.64	1.91	1.98
Water wt%†	30.2	----	----	16.6	20.9	37.4	38.0
TOC wt% C (wet)†	1.29E-03	----	----	1.14E-03	1.18E-03	1.40E-03	1.52E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.37	1.11E+05	6.70E+04	5.95	6.19	11.5	13.2
Al^{3+}	6.45	9.99E+04	6.06E+04	5.96	6.10	6.82	7.20
Fe^{3+} (total Fe)	1.22	3.91E+04	2.37E+04	1.21	1.21	1.23	1.23
Cr^{3+}	0.253	7.56E+03	4.59E+03	0.168	0.209	0.536	0.891
Bi^{3+}	1.72E-06	0.206	0.125	1.45E-06	1.58E-06	1.89E-06	2.08E-06
La^{3+}	4.23E-12	3.37E-07	2.05E-07	3.71E-12	4.00E-12	4.68E-12	5.14E-12
Hg^{2+}	2.70E-07	3.11E-02	1.88E-02	2.39E-07	2.54E-07	2.97E-07	3.26E-07
Zr (as $ZrO(OH)_2$)	1.71E-07	8.98E-03	5.45E-03	1.57E-07	1.64E-07	1.80E-07	1.94E-07
Pb^{2+}	4.28E-05	5.09	3.09	2.29E-05	3.26E-05	5.31E-05	6.32E-05
Ni^{2+}	6.00E-02	2.02E+03	1.23E+03	5.32E-02	5.70E-02	6.22E-02	6.25E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.25E-05	0.394	0.239	8.94E-06	1.07E-05	1.43E-05	1.62E-05
Ca^{2+}	0.262	6.03E+03	3.66E+03	0.213	0.237	0.287	0.312
K^+	1.66E-02	372	226	1.18E-02	1.37E-02	1.85E-02	1.85E-02
OH^-	26.4	2.58E+05	1.56E+05	24.2	24.9	28.0	29.6
$NO3^-$	3.84	1.37E+05	8.29E+04	1.34	1.34	7.75	9.87
$NO2^-$	1.59	4.21E+04	2.55E+04	0.961	1.18	1.93	1.93
$CO3^{2-}$	0.264	9.08E+03	5.51E+03	0.214	0.238	0.289	0.313
$PO4^{3-}$	1.11E-04	6.06	3.68	1.03E-04	1.08E-04	1.16E-04	1.26E-04
$SO4^{2-}$	1.99E-02	1.10E+03	666	1.55E-02	1.69E-02	2.17E-02	2.18E-02
Si (as SiO_x^{2-})	0.166	2.67E+03	1.62E+03	4.34E-02	4.60E-02	0.286	0.402
F^-	8.86E-05	0.966	0.586	7.54E-05	8.35E-05	9.74E-05	1.05E-04
Cl^-	7.28E-02	1.48E+03	899	5.10E-02	5.97E-02	8.16E-02	0.123
$C_6H_5O_7^{3-}$	9.15E-05	9.93	6.03	8.86E-05	9.00E-05	9.56E-05	1.04E-04
$EDTA^{4-}$	3.57E-06	0.590	0.358	2.51E-06	3.09E-06	4.20E-06	4.83E-06
$HEDTA^{3-}$	2.96E-06	0.466	0.283	9.50E-07	2.04E-06	3.95E-06	4.92E-06
$glycolate^-$	1.29E-04	5.56	3.38	7.01E-05	1.02E-04	1.61E-04	1.91E-04
$acetate^-$	1.34E-05	0.454	0.276	1.30E-05	1.32E-05	1.43E-05	1.52E-05
$oxalate^{2-}$	5.54E-12	2.80E-07	1.70E-07	4.91E-12	5.22E-12	6.11E-12	6.71E-12
DBP	8.12E-05	9.80	5.94	7.58E-05	7.90E-05	8.78E-05	9.48E-05
butanol	8.12E-05	3.45	2.10	7.58E-05	7.90E-05	8.78E-05	9.48E-05
NH_3	0.258	2.52E+03	1.53E+03	0.167	0.180	0.461	0.272
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.07E+05 (kg)	(92.0 kgal)	----	----	----	----	----
Heat Load	9.44 (kW)	(3.22E+04 BTU/hr)	----	9.14	9.32	9.52	9.60
Bulk Density	1.74 (g/cc)	----	----	1.62	1.64	1.91	1.98
Void Fraction	0.612	----	----	0.384	0.459	0.708	0.711
Water wt%	30.2	----	----	16.6	20.9	37.4	38.0
TOC wt% C (wet)	1.29E-03	----	----	1.14E-03	1.18E-03	1.40E-03	1.52E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.10E-04	6.29E-02	38.2	5.39E-05	5.39E-05	1.15E-04	1.18E-04
C-14	5.66E-06	3.25E-03	1.97	2.80E-06	2.80E-06	6.05E-06	6.05E-06
Ni-59	3.08E-05	1.77E-02	10.7	2.76E-05	2.91E-05	3.21E-05	3.26E-05
Ni-63	3.01E-03	1.73	1.05E+03	2.69E-03	2.84E-03	3.14E-03	3.18E-03
Co-60	4.92E-06	2.83E-03	1.71	2.35E-06	2.35E-06	5.07E-06	5.27E-06
Se-79	1.14E-05	6.56E-03	3.98	2.39E-06	2.39E-06	2.16E-05	3.13E-05
Sr-90	3.90	2.24E+03	1.36E+06	3.77	3.84	3.94	3.97
Y-90	3.90	2.24E+03	1.36E+06	3.77	3.84	3.94	3.97
Zr-93	4.89E-05	2.81E-02	17.0	1.13E-05	1.13E-05	9.97E-05	1.48E-04
Nb-93m	4.51E-05	2.59E-02	15.7	9.09E-06	9.60E-06	8.06E-05	1.15E-04
Tc-99	4.38E-05	2.52E-02	15.3	3.71E-05	3.51E-05	4.65E-05	4.74E-05
Ru-106	1.12E-09	6.42E-07	3.89E-04	5.23E-10	5.23E-10	2.31E-09	2.67E-08
Cd-113m	2.28E-05	1.31E-02	7.95	1.12E-05	1.12E-05	1.80E-04	4.73E-04
Sb-125	1.73E-05	9.90E-03	6.01	8.06E-06	8.06E-06	1.77E-05	1.85E-05
Sn-126	1.50E-05	8.59E-03	5.21	3.63E-06	3.63E-06	3.02E-05	4.48E-05
I-129	8.32E-08	4.78E-05	2.90E-02	7.03E-08	6.66E-08	8.84E-08	9.00E-08
Cs-134	1.25E-06	7.17E-04	0.435	6.73E-07	6.73E-07	1.27E-06	1.32E-06
Cs-137	0.179	103	6.23E+04	0.159	0.148	0.187	0.192
Ba-137m	0.169	97.2	5.90E+04	9.28E-02	9.28E-02	0.177	0.178
Sm-151	4.10E-02	23.5	1.43E+04	8.50E-03	8.50E-03	7.65E-02	0.111
Eu-152	3.60E-05	2.07E-02	12.5	3.38E-05	3.38E-05	3.60E-05	3.60E-05
Eu-154	1.19E-04	6.81E-02	41.3	5.71E-05	5.71E-05	1.22E-04	2.20E-03
Eu-155	1.83E-03	1.05	636	1.71E-03	1.71E-03	1.83E-03	1.83E-03
Ra-226	2.65E-09	1.52E-06	9.22E-04	2.03E-09	2.33E-09	2.96E-09	3.27E-09
Ra-228	3.94E-09	2.26E-06	1.37E-03	5.78E-14	5.78E-14	3.98E-09	4.02E-09
Ac-227	1.20E-08	6.86E-06	4.16E-03	8.37E-09	1.01E-08	1.38E-08	1.55E-08
Pa-231	1.28E-08	7.37E-06	4.47E-03	3.36E-09	3.36E-09	2.30E-08	3.27E-08
Th-229	9.85E-11	5.66E-08	3.43E-05	4.14E-12	4.14E-12	9.94E-11	1.00E-10
Th-232	5.28E-11	3.03E-08	1.84E-05	1.97E-15	1.97E-15	6.65E-11	8.01E-11
U-232	1.76E-08	1.01E-05	6.13E-03	6.23E-09	1.15E-08	2.51E-08	3.34E-08
U-233	6.73E-08	3.87E-05	2.34E-02	2.38E-08	4.39E-08	9.59E-08	1.28E-07
U-234	4.14E-07	2.37E-04	0.144	2.35E-07	3.22E-07	5.13E-07	6.13E-07
U-235	1.68E-08	9.62E-06	5.83E-03	9.51E-09	1.30E-08	2.08E-08	2.49E-08
U-236	1.67E-08	9.57E-06	5.80E-03	9.52E-09	1.31E-08	2.05E-08	2.42E-08
U-238	3.64E-07	2.09E-04	0.127	2.06E-07	2.83E-07	4.52E-07	5.41E-07
Np-237	1.96E-07	1.13E-04	6.83E-02	1.53E-07	1.65E-07	2.14E-07	2.14E-07
Pu-238	2.42E-05	1.39E-02	8.42	1.97E-05	2.19E-05	2.65E-05	2.87E-05
Pu-239	6.41E-04	0.368	223	5.54E-04	5.96E-04	6.85E-04	7.27E-04
Pu-240	1.12E-04	6.43E-02	39.0	9.53E-05	1.04E-04	1.21E-04	1.29E-04
Pu-241	1.20E-03	0.690	418	9.87E-04	1.09E-03	1.31E-03	1.42E-03
Pu-242	6.66E-09	3.82E-06	2.32E-03	5.43E-09	6.03E-09	7.29E-09	7.89E-09
Am-241	6.31E-04	0.362	220	3.32E-04	4.79E-04	7.83E-04	9.29E-04
Am-243	2.79E-08	1.60E-05	9.72E-03	1.45E-08	2.11E-08	3.48E-08	4.14E-08
Cm-242	1.52E-06	8.72E-04	0.529	1.52E-06	1.51E-06	1.52E-06	1.52E-06
Cm-243	1.48E-07	8.48E-05	5.14E-02	1.48E-07	1.47E-07	1.48E-07	1.48E-07
Cm-244	4.42E-06	2.54E-03	1.54	3.43E-06	3.91E-06	4.93E-06	5.41E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.08E-02 (g/L)	----	3.76	9.34E-03	1.01E-02	1.16E-02	1.23E-02
U	4.52E-03	617	374	2.56E-03	3.51E-03	5.61E-03	6.73E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.07E+05 (kg)	(92.0 kgal)	----	----	----	----	----
Heat Load	9.44 (kW)	(3.22E+04 BTU/hr)	----	9.14	9.32	9.52	9.60
Bulk Density†	1.74 (g/cc)	----	----	1.62	1.64	1.91	1.98
Water wt%†	30.2	----	----	16.6	20.9	37.4	38.0
TOC wt% C (wet)†	1.29E-03	----	----	1.14E-03	1.18E-03	1.40E-03	1.52E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.10E-04	6.29E-02	38.2	5.39E-05	5.39E-05	1.15E-04	1.18E-04
C-14	5.66E-06	3.25E-03	1.97	2.80E-06	2.80E-06	6.05E-06	6.05E-06
Ni-59	3.08E-05	1.77E-02	10.7	2.76E-05	2.91E-05	3.21E-05	3.26E-05
Ni-63	3.01E-03	1.73	1.05E+03	2.69E-03	2.84E-03	3.14E-03	3.18E-03
Co-60	4.92E-06	2.83E-03	1.71	2.35E-06	2.35E-06	5.07E-06	5.27E-06
Se-79	1.14E-05	6.56E-03	3.98	2.39E-06	2.39E-06	2.16E-05	3.13E-05
Sr-90	3.90	2.24E+03	1.36E+06	3.77	3.84	3.94	3.97
Y-90	3.90	2.24E+03	1.36E+06	3.77	3.84	3.94	3.97
Zr-93	4.89E-05	2.81E-02	17.0	1.13E-05	1.13E-05	9.97E-05	1.48E-04
Nb-93m	4.51E-05	2.59E-02	15.7	9.09E-06	9.60E-06	8.06E-05	1.15E-04
Tc-99	4.38E-05	2.52E-02	15.3	3.71E-05	3.51E-05	4.65E-05	4.74E-05
Ru-106	1.12E-09	6.42E-07	3.89E-04	5.23E-10	5.23E-10	2.31E-09	2.67E-08
Cd-113m	2.28E-05	1.31E-02	7.95	1.12E-05	1.12E-05	1.80E-04	4.73E-04
Sb-125	1.73E-05	9.90E-03	6.01	8.06E-06	8.06E-06	1.77E-05	1.85E-05
Sn-126	1.50E-05	8.59E-03	5.21	3.63E-06	3.63E-06	3.02E-05	4.48E-05
I-129	8.32E-08	4.78E-05	2.90E-02	7.03E-08	6.66E-08	8.84E-08	9.00E-08
Cs-134	1.25E-06	7.17E-04	0.435	6.73E-07	6.73E-07	1.27E-06	1.32E-06
Cs-137	0.179	103	6.23E+04	0.159	0.148	0.187	0.192
Ba-137m	0.169	97.2	5.90E+04	9.28E-02	9.28E-02	0.177	0.178
Sm-151	4.10E-02	23.5	1.43E+04	8.50E-03	8.50E-03	7.65E-02	0.111
Eu-152	3.60E-05	2.07E-02	12.5	3.38E-05	3.38E-05	3.60E-05	3.60E-05
Eu-154	1.19E-04	6.81E-02	41.3	5.71E-05	5.71E-05	1.22E-04	2.20E-03
Eu-155	1.83E-03	1.05	636	1.71E-03	1.71E-03	1.83E-03	1.83E-03
Ra-226	2.65E-09	1.52E-06	9.22E-04	2.03E-09	2.33E-09	2.96E-09	3.27E-09
Ra-228	3.94E-09	2.26E-06	1.37E-03	5.78E-14	5.78E-14	3.98E-09	4.02E-09
Ac-227	1.20E-08	6.86E-06	4.16E-03	8.37E-09	1.01E-08	1.38E-08	1.55E-08
Pa-231	1.28E-08	7.37E-06	4.47E-03	3.36E-09	3.36E-09	2.30E-08	3.27E-08
Th-229	9.85E-11	5.66E-08	3.43E-05	4.14E-12	4.14E-12	9.94E-11	1.00E-10
Th-232	5.28E-11	3.03E-08	1.84E-05	1.97E-15	1.97E-15	6.65E-11	8.01E-11
U-232	1.76E-08	1.01E-05	6.13E-03	6.23E-09	1.15E-08	2.51E-08	3.34E-08
U-233	6.73E-08	3.87E-05	2.34E-02	2.38E-08	4.39E-08	9.59E-08	1.28E-07
U-234	4.13E-07	2.37E-04	0.144	2.35E-07	3.22E-07	5.13E-07	6.13E-07
U-235	1.68E-08	9.62E-06	5.83E-03	9.51E-09	1.30E-08	2.08E-08	2.49E-08
U-236	1.67E-08	9.57E-06	5.80E-03	9.52E-09	1.31E-08	2.05E-08	2.42E-08
U-238	3.64E-07	2.09E-04	0.127	2.06E-07	2.83E-07	4.52E-07	5.41E-07
Np-237	1.96E-07	1.13E-04	6.83E-02	1.53E-07	1.65E-07	2.14E-07	2.14E-07
Pu-238	2.42E-05	1.39E-02	8.42	1.97E-05	2.19E-05	2.65E-05	2.87E-05
Pu-239	6.40E-04	0.368	223	5.54E-04	5.96E-04	6.85E-04	7.27E-04
Pu-240	1.12E-04	6.43E-02	39.0	9.53E-05	1.04E-04	1.21E-04	1.29E-04
Pu-241	1.20E-03	0.690	418	9.87E-04	1.09E-03	1.31E-03	1.42E-03
Pu-242	6.66E-09	3.82E-06	2.32E-03	5.43E-09	6.03E-09	7.29E-09	7.89E-09
Am-241	6.31E-04	0.362	220	3.32E-04	4.79E-04	7.83E-04	9.29E-04
Am-243	2.79E-08	1.60E-05	9.72E-03	1.45E-08	2.11E-08	3.48E-08	4.14E-08
Cm-242	1.52E-06	8.72E-04	0.529	1.52E-06	1.51E-06	1.52E-06	1.52E-06
Cm-243	1.48E-07	8.48E-05	5.14E-02	1.48E-07	1.47E-07	1.48E-07	1.48E-07
Cm-244	4.42E-06	2.54E-03	1.54	3.43E-06	3.91E-06	4.93E-06	5.41E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.08E-02 (g/L)	----	3.76	9.34E-03	1.01E-02	1.16E-02	1.23E-02
U	4.51E-03	617	374	2.56E-03	3.51E-03	5.61E-03	6.73E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.61E+04 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	4.92E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.36E-02	5.29E-02	5.46E-02
Bulk Density	0.478 (g/cc)	----	----	0.462	0.464	0.501	0.509
Void Fraction	3.45E-02	----	----	3.86E-03	1.40E-02	4.75E-02	4.78E-02
Water wt%	1.81	----	----	-3.55	-1.65	4.34	4.54
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.5	5.05E+05	2.83E+04	10.2	10.2	10.9	11.2
Al^{3+}	0.525	2.96E+04	1.66E+03	0.499	0.509	0.535	0.535
Fe^{3+} (total Fe)	0.149	1.75E+04	979	0.148	0.149	0.150	0.151
Cr^{3+}	3.99E-03	434	24.3	4.56E-04	2.19E-03	3.36E-02	6.82E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	3.27E-03	401	22.5	2.36E-03	2.87E-03	3.57E-03	3.51E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.90E-02	7.46E+03	419	8.42E-02	8.66E-02	9.15E-02	9.38E-02
K^+	7.23E-04	59.2	3.32	8.27E-05	3.39E-04	9.80E-04	9.80E-04
OH^-	1.65	5.87E+04	3.29E+03	1.49	1.57	1.73	1.83
$NO3^-$	0.341	4.42E+04	2.48E+03	3.89E-03	3.89E-03	0.867	1.15
$NO2^-$	9.39E-02	9.04E+03	507	8.48E-03	3.83E-02	0.139	0.139
$CO3^{2-}$	1.42E-02	1.78E+03	99.7	9.38E-03	1.17E-02	1.66E-02	1.90E-02
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	6.70E-04	135	7.55	7.67E-05	3.14E-04	9.09E-04	9.09E-04
Si (as SiO_x^{2-})	5.31	3.12E+05	1.75E+04	5.30	5.30	5.31	5.31
F^-	0	0	0	0	0	0	0
Cl^-	3.33E-03	247	13.8	3.80E-04	1.56E-03	4.51E-03	1.01E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.65E-02	585	32.8	4.22E-03	5.96E-03	1.74E-02	1.83E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.61E+04 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	4.92E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.36E-02	5.29E-02	5.46E-02
Bulk Density†	0.478 (g/cc)	----	----	0.462	0.464	0.501	0.509
Water wt%†	1.81	----	----	-3.55	-1.65	4.34	4.54
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.5	5.05E+05	2.83E+04	10.2	10.2	10.9	11.2
Al^{3+}	0.525	2.96E+04	1.66E+03	0.499	0.509	0.535	0.535
Fe^{3+} (total Fe)	0.149	1.75E+04	979	0.148	0.149	0.150	0.151
Cr^{3+}	3.99E-03	434	24.3	4.56E-04	2.19E-03	3.36E-02	6.82E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	3.27E-03	401	22.5	2.36E-03	2.87E-03	3.57E-03	3.51E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.90E-02	7.46E+03	419	8.42E-02	8.66E-02	9.15E-02	9.38E-02
K^+	7.23E-04	59.2	3.32	8.27E-05	3.39E-04	9.80E-04	9.80E-04
OH^-	1.65	5.87E+04	3.29E+03	1.49	1.57	1.73	1.83
$NO3^-$	0.341	4.42E+04	2.48E+03	3.89E-03	3.89E-03	0.867	1.15
$NO2^-$	9.39E-02	9.04E+03	507	8.48E-03	3.83E-02	0.139	0.139
$CO3^{2-}$	1.42E-02	1.78E+03	99.7	9.38E-03	1.17E-02	1.66E-02	1.90E-02
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	6.70E-04	135	7.55	7.67E-05	3.14E-04	9.09E-04	9.09E-04
Si (as SiO_x^{2-})	5.30	3.12E+05	1.75E+04	5.30	5.30	5.31	5.31
F^-	0	0	0	0	0	0	0
Cl^-	3.33E-03	247	13.8	3.80E-04	1.56E-03	4.51E-03	1.01E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.65E-02	585	32.8	4.22E-03	5.96E-03	1.74E-02	1.83E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.61E+04 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	4.92E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.36E-02	5.29E-02	5.46E-02
Bulk Density	0.478 (g/cc)	----	----	0.462	0.464	0.501	0.509
Void Fraction	3.45E-02	----	----	3.86E-03	1.40E-02	4.75E-02	4.78E-02
Water wt%	1.81	----	----	-3.55	-1.65	4.34	4.54
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.88E-06	3.94E-03	0.221	1.96E-07	9.48E-07	2.64E-06	2.64E-06
C-14	1.46E-07	3.05E-04	1.71E-02	1.67E-08	6.83E-08	1.98E-07	1.98E-07
Ni-59	9.57E-07	2.00E-03	0.112	6.91E-07	8.41E-07	1.05E-06	1.03E-06
Ni-63	8.94E-05	0.187	10.5	6.45E-05	7.85E-05	9.77E-05	9.61E-05
Co-60	5.76E-08	1.20E-04	6.75E-03	6.58E-09	2.70E-08	7.81E-08	7.81E-08
Se-79	3.10E-08	6.48E-05	3.63E-03	3.54E-09	1.45E-08	4.20E-08	4.61E-07
Sr-90	5.98E-02	125	7.02E+03	4.27E-02	5.23E-02	6.55E-02	6.65E-02
Y-90	5.98E-02	125	7.02E+03	4.27E-02	5.23E-02	6.55E-02	6.65E-02
Zr-93	1.46E-07	3.06E-04	1.71E-02	1.67E-08	6.84E-08	1.98E-07	1.95E-06
Nb-93m	1.19E-07	2.50E-04	1.40E-02	1.37E-08	5.59E-08	1.62E-07	2.07E-06
Tc-99	1.02E-06	2.14E-03	0.120	1.17E-07	4.78E-07	1.38E-06	1.38E-06
Ru-106	1.61E-13	3.36E-10	1.89E-08	1.84E-14	7.53E-14	2.18E-13	2.18E-13
Cd-113m	4.50E-07	9.42E-04	5.28E-02	5.15E-08	2.11E-07	6.11E-07	6.11E-07
Sb-125	8.45E-08	1.77E-04	9.92E-03	9.67E-09	3.96E-08	1.15E-07	1.15E-07
Sn-126	4.76E-08	9.95E-05	5.58E-03	5.44E-09	2.23E-08	6.45E-08	7.38E-07
I-129	1.96E-09	4.10E-06	2.30E-04	2.24E-10	9.18E-10	2.66E-09	2.66E-09
Cs-134	1.75E-09	3.66E-06	2.05E-04	4.63E-10	9.78E-10	2.27E-09	2.27E-09
Cs-137	3.61E-03	7.55	423	9.54E-04	2.01E-03	4.68E-03	4.68E-03
Ba-137m	3.41E-03	7.14	401	9.03E-04	1.91E-03	4.42E-03	4.42E-03
Sm-151	1.10E-04	0.231	13.0	1.26E-05	5.17E-05	1.50E-04	1.70E-03
Eu-152	4.51E-07	9.43E-04	5.29E-02	4.41E-07	4.45E-07	4.55E-07	4.55E-07
Eu-154	1.39E-06	2.91E-03	0.163	1.59E-07	6.51E-07	1.89E-06	1.89E-06
Eu-155	2.13E-05	4.45E-02	2.50	2.08E-05	2.10E-05	2.15E-05	2.15E-05
Ra-226	6.96E-11	1.46E-07	8.17E-06	9.50E-12	3.89E-11	1.00E-10	1.30E-10
Ra-228	5.97E-16	1.25E-12	7.00E-11	5.84E-16	5.89E-16	6.02E-16	6.02E-16
Ac-227	3.07E-10	6.42E-07	3.60E-05	1.97E-11	1.29E-10	4.85E-10	6.56E-10
Pa-231	4.62E-11	9.67E-08	5.43E-06	5.29E-12	2.16E-11	1.32E-10	1.08E-09
Th-229	1.14E-13	2.38E-10	1.34E-08	1.11E-13	1.12E-13	1.15E-13	1.15E-13
Th-232	3.81E-17	7.96E-14	4.47E-12	4.35E-18	1.78E-17	5.16E-17	5.16E-17
U-232	3.37E-13	7.06E-10	3.96E-08	3.86E-14	1.58E-13	4.57E-13	4.57E-13
U-233	1.29E-14	2.69E-11	1.51E-09	1.47E-15	6.02E-15	1.74E-14	1.74E-14
U-234	7.68E-09	1.61E-05	9.01E-04	8.78E-10	3.59E-09	1.04E-08	1.04E-08
U-235	3.30E-10	6.91E-07	3.88E-05	3.78E-11	1.55E-10	4.48E-10	4.48E-10
U-236	1.21E-10	2.54E-07	1.42E-05	1.39E-11	5.68E-11	1.65E-10	1.65E-10
U-238	7.83E-09	1.64E-05	9.19E-04	8.96E-10	3.67E-09	1.06E-08	1.06E-08
Np-237	6.63E-09	1.39E-05	7.77E-04	7.58E-10	3.10E-09	8.98E-09	8.98E-09
Pu-238	4.26E-07	8.91E-04	5.00E-02	3.06E-07	3.65E-07	4.87E-07	5.46E-07
Pu-239	3.04E-05	6.36E-02	3.57	2.18E-05	2.60E-05	3.48E-05	3.90E-05
Pu-240	4.35E-06	9.10E-03	0.511	3.12E-06	3.73E-06	4.98E-06	5.58E-06
Pu-241	2.56E-05	5.36E-02	3.00	1.84E-05	2.19E-05	2.93E-05	3.28E-05
Pu-242	1.17E-10	2.46E-07	1.38E-05	8.43E-11	1.00E-10	1.34E-10	1.51E-10
Am-241	5.21E-07	1.09E-03	6.12E-02	5.96E-08	2.44E-07	7.07E-07	9.22E-06
Am-243	4.88E-12	1.02E-08	5.72E-07	5.58E-13	2.28E-12	6.61E-12	8.63E-11
Cm-242	1.04E-08	2.17E-05	1.22E-03	1.01E-08	1.02E-08	1.05E-08	1.05E-08
Cm-243	2.38E-10	4.97E-07	2.79E-05	2.33E-10	2.35E-10	2.40E-10	2.40E-10
Cm-244	1.74E-10	3.64E-07	2.04E-05	1.99E-11	8.16E-11	2.36E-10	2.36E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.09E-04 (g/L)	----	5.97E-02	3.65E-04	4.35E-04	5.82E-04	6.52E-04
U	9.86E-05	49.1	2.75	1.13E-05	4.61E-05	1.34E-04	1.34E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-113

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.61E+04 (kg)	(31.0 kgal)	----	----	----	----	----
Heat Load	4.92E-02 (kW)	(168 BTU/hr)	----	3.57E-02	4.36E-02	5.29E-02	5.46E-02
Bulk Density†	0.478 (g/cc)	----	----	0.462	0.464	0.501	0.509
Water wt%†	1.81	----	----	-3.55	-1.65	4.34	4.54
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.88E-06	3.94E-03	0.221	1.96E-07	9.48E-07	2.64E-06	2.64E-06
C-14	1.46E-07	3.05E-04	1.71E-02	1.67E-08	6.83E-08	1.98E-07	1.98E-07
Ni-59	9.57E-07	2.00E-03	0.112	6.91E-07	8.41E-07	1.05E-06	1.03E-06
Ni-63	8.94E-05	0.187	10.5	6.45E-05	7.85E-05	9.77E-05	9.61E-05
Co-60	5.76E-08	1.20E-04	6.75E-03	6.58E-09	2.70E-08	7.81E-08	7.81E-08
Se-79	3.10E-08	6.48E-05	3.63E-03	3.54E-09	1.45E-08	4.20E-08	4.61E-07
Sr-90	5.98E-02	125	7.02E+03	4.27E-02	5.23E-02	6.55E-02	6.65E-02
Y-90	5.98E-02	125	7.02E+03	4.27E-02	5.23E-02	6.55E-02	6.65E-02
Zr-93	1.46E-07	3.06E-04	1.71E-02	1.67E-08	6.84E-08	1.98E-07	1.95E-06
Nb-93m	1.19E-07	2.50E-04	1.40E-02	1.37E-08	5.59E-08	1.62E-07	2.07E-06
Tc-99	1.02E-06	2.14E-03	0.120	1.17E-07	4.78E-07	1.38E-06	1.38E-06
Ru-106	1.61E-13	3.36E-10	1.89E-08	1.84E-14	7.53E-14	2.18E-13	2.18E-13
Cd-113m	4.50E-07	9.42E-04	5.28E-02	5.15E-08	2.11E-07	6.11E-07	6.11E-07
Sb-125	8.45E-08	1.77E-04	9.92E-03	9.67E-09	3.96E-08	1.15E-07	1.15E-07
Sn-126	4.76E-08	9.95E-05	5.58E-03	5.44E-09	2.23E-08	6.45E-08	7.38E-07
I-129	1.96E-09	4.10E-06	2.30E-04	2.24E-10	9.18E-10	2.66E-09	2.66E-09
Cs-134	1.75E-09	3.66E-06	2.05E-04	4.63E-10	9.78E-10	2.27E-09	2.27E-09
Cs-137	3.61E-03	7.55	423	9.54E-04	2.01E-03	4.68E-03	4.68E-03
Ba-137m	3.41E-03	7.14	401	9.03E-04	1.91E-03	4.42E-03	4.42E-03
Sm-151	1.10E-04	0.231	13.0	1.26E-05	5.17E-05	1.50E-04	1.70E-03
Eu-152	4.51E-07	9.43E-04	5.29E-02	4.41E-07	4.45E-07	4.55E-07	4.55E-07
Eu-154	1.39E-06	2.91E-03	0.163	1.59E-07	6.51E-07	1.89E-06	1.89E-06
Eu-155	2.13E-05	4.45E-02	2.50	2.08E-05	2.10E-05	2.15E-05	2.15E-05
Ra-226	6.96E-11	1.46E-07	8.17E-06	9.50E-12	3.89E-11	1.00E-10	1.30E-10
Ra-228	5.97E-16	1.25E-12	7.00E-11	5.84E-16	5.89E-16	6.02E-16	6.02E-16
Ac-227	3.07E-10	6.42E-07	3.60E-05	1.97E-11	1.29E-10	4.85E-10	6.56E-10
Pa-231	4.62E-11	9.67E-08	5.43E-06	5.29E-12	2.16E-11	1.32E-10	1.08E-09
Th-229	1.14E-13	2.38E-10	1.34E-08	1.11E-13	1.12E-13	1.15E-13	1.15E-13
Th-232	3.81E-17	7.96E-14	4.47E-12	4.35E-18	1.78E-17	5.16E-17	5.16E-17
U-232	3.37E-13	7.06E-10	3.96E-08	3.86E-14	1.58E-13	4.57E-13	4.57E-13
U-233	1.29E-14	2.69E-11	1.51E-09	1.47E-15	6.02E-15	1.74E-14	1.74E-14
U-234	7.68E-09	1.61E-05	9.01E-04	8.78E-10	3.59E-09	1.04E-08	1.04E-08
U-235	3.30E-10	6.91E-07	3.88E-05	3.78E-11	1.55E-10	4.48E-10	4.48E-10
U-236	1.21E-10	2.54E-07	1.42E-05	1.39E-11	5.68E-11	1.65E-10	1.65E-10
U-238	7.83E-09	1.64E-05	9.19E-04	8.96E-10	3.67E-09	1.06E-08	1.06E-08
Np-237	6.63E-09	1.39E-05	7.77E-04	7.58E-10	3.10E-09	8.98E-09	8.98E-09
Pu-238	4.26E-07	8.91E-04	5.00E-02	3.06E-07	3.65E-07	4.87E-07	5.46E-07
Pu-239	3.04E-05	6.36E-02	3.57	2.18E-05	2.60E-05	3.48E-05	3.90E-05
Pu-240	4.35E-06	9.10E-03	0.511	3.12E-06	3.73E-06	4.98E-06	5.58E-06
Pu-241	2.56E-05	5.36E-02	3.00	1.84E-05	2.19E-05	2.93E-05	3.28E-05
Pu-242	1.17E-10	2.46E-07	1.38E-05	8.43E-11	1.00E-10	1.34E-10	1.51E-10
Am-241	5.21E-07	1.09E-03	6.12E-02	5.96E-08	2.44E-07	7.07E-07	9.22E-06
Am-243	4.88E-12	1.02E-08	5.72E-07	5.58E-13	2.28E-12	6.61E-12	8.63E-11
Cm-242	1.04E-08	2.17E-05	1.22E-03	1.01E-08	1.02E-08	1.05E-08	1.05E-08
Cm-243	2.38E-10	4.97E-07	2.79E-05	2.33E-10	2.35E-10	2.40E-10	2.40E-10
Cm-244	1.74E-10	3.64E-07	2.04E-05	1.99E-11	8.16E-11	2.36E-10	2.36E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.09E-04 (g/L)	----	5.97E-02	3.65E-04	4.35E-04	5.82E-04	6.52E-04
U	9.86E-05	49.1	2.75	1.13E-05	4.61E-05	1.34E-04	1.34E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.18E+06 (kg)	(181 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.73E+04 BTU/hr)	----	13.5	13.7	14.0	14.1
Bulk Density	1.72 (g/cc)	----	----	1.52	1.63	1.80	1.80
Void Fraction	0.729	----	----	0.697	0.654	0.796	0.871
Water wt%	33.6	----	----	25.9	28.5	41.4	49.4
TOC wt% C (wet)	3.84E-03	----	----	3.68E-03	3.68E-03	4.09E-03	4.53E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.2	1.50E+05	1.77E+05	7.62	9.54	12.8	12.8
Al^{3+}	4.62	7.23E+04	8.53E+04	3.18	3.60	5.71	6.83
Fe^{3+} (total Fe)	0.623	2.02E+04	2.38E+04	0.614	0.619	0.628	0.633
Cr^{3+}	0.621	1.88E+04	2.21E+04	0.370	0.490	0.834	1.10
Bi^{3+}	5.05E-06	0.613	0.723	4.27E-06	4.65E-06	5.56E-06	6.12E-06
La^{3+}	1.24E-11	1.00E-06	1.18E-06	1.09E-11	1.18E-11	1.38E-11	1.51E-11
Hg^{2+}	7.93E-07	9.24E-02	0.109	7.03E-07	7.47E-07	8.73E-07	9.58E-07
Zr (as $ZrO(OH)_2$)	5.04E-07	2.67E-02	3.15E-02	4.63E-07	4.83E-07	5.29E-07	5.70E-07
Pb^{2+}	1.26E-04	15.1	17.8	6.74E-05	9.58E-05	1.56E-04	1.86E-04
Ni^{2+}	3.82E-02	1.30E+03	1.54E+03	3.47E-02	3.65E-02	3.96E-02	4.01E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.67E-05	1.17	1.38	2.63E-05	3.14E-05	4.21E-05	4.75E-05
Ca^{2+}	0.174	4.04E+03	4.76E+03	0.137	0.155	0.192	0.211
K^+	2.66E-02	604	713	2.54E-02	2.51E-02	2.87E-02	3.10E-02
OH^-	22.4	2.22E+05	2.61E+05	15.8	17.9	27.2	31.8
$NO3^-$	4.18	1.51E+05	1.78E+05	2.31	3.63	6.18	4.95
$NO2^-$	1.79	4.77E+04	5.63E+04	1.58	1.58	1.89	2.02
$CO3^{2-}$	0.177	6.18E+03	7.28E+03	0.140	0.158	0.196	0.214
$PO4^{3-}$	3.27E-04	18.0	21.3	3.03E-04	3.17E-04	3.40E-04	3.70E-04
$SO4^{2-}$	3.40E-02	1.89E+03	2.23E+03	3.24E-02	3.17E-02	3.66E-02	3.94E-02
Si (as SiO_x^{2-})	0.193	3.16E+03	3.72E+03	0.101	0.103	0.284	0.371
F^-	2.60E-04	2.87	3.39	2.22E-04	2.45E-04	2.86E-04	3.09E-04
Cl^-	0.112	2.31E+03	2.73E+03	6.70E-02	8.91E-02	0.122	0.127
$C_6H_5O_7^{3-}$	2.69E-04	29.5	34.8	2.61E-04	2.65E-04	2.81E-04	3.06E-04
$EDTA^{4-}$	1.05E-05	1.75	2.07	7.37E-06	9.07E-06	1.23E-05	1.42E-05
$HEDTA^{3-}$	8.70E-06	1.39	1.63	2.79E-06	5.98E-06	1.16E-05	1.45E-05
$glycolate^-$	3.80E-04	16.5	19.5	2.06E-04	3.00E-04	4.72E-04	5.61E-04
$acetate^-$	3.94E-05	1.35	1.59	3.82E-05	3.88E-05	4.19E-05	4.48E-05
$oxalate^{2-}$	1.63E-11	8.33E-07	9.82E-07	1.44E-11	1.53E-11	1.79E-11	1.97E-11
DBP	2.39E-04	29.1	34.4	2.23E-04	2.32E-04	2.58E-04	2.79E-04
butanol	2.39E-04	10.3	12.1	2.23E-04	2.32E-04	2.58E-04	2.79E-04
NH_3	0.138	1.36E+03	1.60E+03	0.116	0.128	0.290	0.145
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+06 (kg)	(181 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.73E+04 BTU/hr)	----	13.5	13.7	14.0	14.1
Bulk Density†	1.72 (g/cc)	----	----	1.52	1.63	1.80	1.80
Water wt%†	33.6	----	----	25.9	28.5	41.4	49.4
TOC wt% C (wet)†	3.84E-03	----	----	3.68E-03	3.68E-03	4.09E-03	4.53E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.2	1.50E+05	1.77E+05	7.62	9.54	12.8	12.8
Al^{3+}	4.62	7.23E+04	8.53E+04	3.18	3.60	5.71	6.83
Fe^{3+} (total Fe)	0.623	2.02E+04	2.38E+04	0.614	0.619	0.628	0.633
Cr^{3+}	0.621	1.88E+04	2.21E+04	0.370	0.490	0.834	1.10
Bi^{3+}	5.05E-06	0.613	0.723	4.27E-06	4.65E-06	5.56E-06	6.12E-06
La^{3+}	1.24E-11	1.00E-06	1.18E-06	1.09E-11	1.18E-11	1.38E-11	1.51E-11
Hg^{2+}	7.93E-07	9.24E-02	0.109	7.03E-07	7.47E-07	8.73E-07	9.58E-07
Zr (as $ZrO(OH)_2$)	5.04E-07	2.67E-02	3.15E-02	4.63E-07	4.83E-07	5.29E-07	5.70E-07
Pb^{2+}	1.26E-04	15.1	17.8	6.74E-05	9.58E-05	1.56E-04	1.86E-04
Ni^{2+}	3.82E-02	1.30E+03	1.54E+03	3.47E-02	3.65E-02	3.96E-02	4.01E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.67E-05	1.17	1.38	2.63E-05	3.14E-05	4.21E-05	4.75E-05
Ca^{2+}	0.174	4.04E+03	4.76E+03	0.137	0.155	0.192	0.211
K^+	2.66E-02	604	713	2.54E-02	2.51E-02	2.87E-02	3.10E-02
OH^-	22.4	2.22E+05	2.61E+05	15.8	17.9	27.2	31.8
$NO3^-$	4.18	1.51E+05	1.78E+05	2.31	3.63	6.18	4.95
$NO2^-$	1.79	4.77E+04	5.63E+04	1.58	1.58	1.89	2.02
$CO3^{2-}$	0.177	6.18E+03	7.28E+03	0.140	0.158	0.196	0.214
$PO4^{3-}$	3.27E-04	18.0	21.3	3.03E-04	3.17E-04	3.40E-04	3.70E-04
$SO4^{2-}$	3.40E-02	1.89E+03	2.23E+03	3.24E-02	3.17E-02	3.66E-02	3.94E-02
Si (as SiO_x^{2-})	0.193	3.16E+03	3.72E+03	0.101	0.103	0.284	0.371
F^-	2.60E-04	2.87	3.39	2.22E-04	2.45E-04	2.86E-04	3.09E-04
Cl^-	0.112	2.31E+03	2.73E+03	6.70E-02	8.91E-02	0.122	0.127
$C_6H_5O_7^{3-}$	2.69E-04	29.5	34.8	2.61E-04	2.65E-04	2.81E-04	3.06E-04
$EDTA^{4-}$	1.05E-05	1.75	2.07	7.37E-06	9.07E-06	1.23E-05	1.42E-05
$HEDTA^{3-}$	8.70E-06	1.39	1.63	2.79E-06	5.98E-06	1.16E-05	1.45E-05
$glycolate^-$	3.80E-04	16.5	19.5	2.06E-04	3.00E-04	4.72E-04	5.61E-04
$acetate^-$	3.94E-05	1.35	1.59	3.82E-05	3.88E-05	4.19E-05	4.48E-05
$oxalate^{2-}$	1.63E-11	8.33E-07	9.82E-07	1.44E-11	1.53E-11	1.79E-11	1.97E-11
DBP	2.39E-04	29.1	34.4	2.23E-04	2.32E-04	2.58E-04	2.79E-04
butanol	2.39E-04	10.3	12.1	2.23E-04	2.32E-04	2.58E-04	2.79E-04
NH_3	0.138	1.36E+03	1.60E+03	0.116	0.128	0.290	0.145
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.18E+06 (kg)	(181 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.73E+04 BTU/hr)	----	13.5	13.7	14.0	14.1
Bulk Density	1.72 (g/cc)	----	----	1.52	1.63	1.80	1.80
Void Fraction	0.729	----	----	0.697	0.654	0.796	0.871
Water wt%	33.6	----	----	25.9	28.5	41.4	49.4
TOC wt% C (wet)	3.84E-03	----	----	3.68E-03	3.68E-03	4.09E-03	4.53E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.96E-04	0.114	134	3.18E-05	3.18E-05	2.04E-04	2.19E-04
C-14	9.84E-06	5.71E-03	6.74	1.43E-06	1.43E-06	1.02E-05	1.09E-05
Ni-59	2.25E-05	1.31E-02	15.4	1.75E-05	1.75E-05	2.35E-05	2.38E-05
Ni-63	2.21E-03	1.28	1.51E+03	1.72E-03	1.72E-03	2.31E-03	2.34E-03
Co-60	9.07E-06	5.27E-03	6.21	1.50E-06	1.50E-06	9.39E-06	1.01E-05
Se-79	1.23E-05	7.12E-03	8.40	5.45E-06	5.45E-06	1.99E-05	2.72E-05
Sr-90	2.80	1.63E+03	1.92E+06	2.73	2.77	2.83	2.85
Y-90	2.80	1.63E+03	1.92E+06	2.61	2.61	2.83	2.85
Zr-93	5.41E-05	3.14E-02	37.1	2.58E-05	2.58E-05	9.23E-05	1.29E-04
Nb-93m	4.80E-05	2.79E-02	32.9	2.09E-05	2.13E-05	7.47E-05	1.00E-04
Tc-99	7.68E-05	4.46E-02	52.6	7.48E-05	7.02E-05	8.18E-05	8.74E-05
Ru-106	2.14E-09	1.24E-06	1.47E-03	3.93E-10	3.93E-10	3.04E-09	2.14E-08
Cd-113m	4.04E-05	2.35E-02	27.7	6.36E-06	6.36E-06	1.59E-04	3.79E-04
Sb-125	3.27E-05	1.90E-02	22.4	5.67E-06	5.67E-06	3.39E-05	3.63E-05
Sn-126	1.69E-05	9.79E-03	11.6	8.34E-06	8.34E-06	2.83E-05	3.93E-05
I-129	1.46E-07	8.46E-05	9.98E-02	1.42E-07	1.33E-07	1.55E-07	1.66E-07
Cs-134	2.19E-06	1.27E-03	1.50	4.98E-07	4.98E-07	2.25E-06	2.39E-06
Cs-137	0.295	171	2.02E+05	0.287	0.272	0.312	0.332
Ba-137m	0.279	162	1.91E+05	5.39E-02	5.39E-02	0.287	0.305
Sm-151	4.39E-02	25.5	3.00E+04	1.94E-02	1.94E-02	7.06E-02	9.62E-02
Eu-152	2.98E-05	1.73E-02	20.4	2.33E-05	2.33E-05	2.99E-05	3.00E-05
Eu-154	2.17E-04	0.126	149	3.65E-05	3.65E-05	2.25E-04	1.78E-03
Eu-155	1.52E-03	0.883	1.04E+03	1.19E-03	1.19E-03	1.52E-03	1.53E-03
Ra-226	1.93E-09	1.12E-06	1.32E-03	1.46E-09	1.58E-09	2.16E-09	2.39E-09
Ra-228	1.16E-08	6.72E-06	7.93E-03	4.07E-14	4.07E-14	1.17E-08	1.18E-08
Ac-227	9.07E-09	5.27E-06	6.21E-03	6.38E-09	7.05E-09	1.04E-08	1.18E-08
Pa-231	1.51E-08	8.77E-06	1.03E-02	7.50E-09	7.50E-09	2.27E-08	3.01E-08
Th-229	2.80E-10	1.63E-07	1.92E-04	2.58E-12	2.58E-12	2.82E-10	2.86E-10
Th-232	1.55E-10	9.01E-08	1.06E-04	1.30E-15	1.30E-15	1.96E-10	2.35E-10
U-232	5.17E-08	3.00E-05	3.54E-02	1.83E-08	3.37E-08	7.37E-08	9.81E-08
U-233	1.98E-07	1.15E-04	0.136	7.00E-08	1.29E-07	2.82E-07	3.76E-07
U-234	9.71E-07	5.64E-04	0.665	4.45E-07	7.01E-07	1.26E-06	1.56E-06
U-235	3.92E-08	2.27E-05	2.68E-02	1.79E-08	2.82E-08	5.10E-08	6.30E-08
U-236	4.08E-08	2.37E-05	2.79E-02	1.97E-08	3.02E-08	5.19E-08	6.29E-08
U-238	8.47E-07	4.92E-04	0.580	3.84E-07	6.08E-07	1.11E-06	1.37E-06
Np-237	3.29E-07	1.91E-04	0.225	3.17E-07	3.05E-07	3.52E-07	3.79E-07
Pu-238	1.75E-05	1.02E-02	12.0	1.41E-05	1.58E-05	1.92E-05	2.09E-05
Pu-239	3.82E-04	0.222	262	3.17E-04	3.49E-04	4.16E-04	4.48E-04
Pu-240	7.10E-05	4.13E-02	48.7	5.84E-05	6.46E-05	7.75E-05	8.37E-05
Pu-241	8.51E-04	0.494	583	6.89E-04	7.69E-04	9.34E-04	1.01E-03
Pu-242	4.82E-09	2.80E-06	3.30E-03	3.89E-09	4.34E-09	5.29E-09	5.74E-09
Am-241	5.36E-04	0.311	367	3.11E-04	4.21E-04	6.50E-04	7.60E-04
Am-243	2.30E-08	1.34E-05	1.58E-02	1.29E-08	1.79E-08	2.82E-08	3.31E-08
Cm-242	1.09E-06	6.36E-04	0.750	1.09E-06	1.09E-06	1.10E-06	1.10E-06
Cm-243	1.10E-07	6.39E-05	7.54E-02	1.10E-07	1.09E-07	1.10E-07	1.10E-07
Cm-244	3.32E-06	1.93E-03	2.28	2.58E-06	2.94E-06	3.71E-06	4.07E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.46E-03 (g/L)	----	4.43	5.36E-03	5.90E-03	7.03E-03	7.57E-03
U	1.05E-02	1.45E+03	1.71E+03	4.72E-03	7.50E-03	1.37E-02	1.70E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-114

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+06 (kg)	(181 kgal)	----	----	----	----	----
Heat Load	13.9 (kW)	(4.73E+04 BTU/hr)	----	13.5	13.7	14.0	14.1
Bulk Density†	1.72 (g/cc)	----	----	1.52	1.63	1.80	1.80
Water wt%†	33.6	----	----	25.9	28.5	41.4	49.4
TOC wt% C (wet)†	3.84E-03	----	----	3.68E-03	3.68E-03	4.09E-03	4.53E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.96E-04	0.114	134	3.18E-05	3.18E-05	2.04E-04	2.19E-04
C-14	9.83E-06	5.71E-03	6.74	1.43E-06	1.43E-06	1.02E-05	1.09E-05
Ni-59	2.25E-05	1.31E-02	15.4	1.75E-05	1.75E-05	2.35E-05	2.38E-05
Ni-63	2.21E-03	1.28	1.51E+03	1.72E-03	1.72E-03	2.31E-03	2.34E-03
Co-60	9.06E-06	5.27E-03	6.21	1.50E-06	1.50E-06	9.39E-06	1.01E-05
Se-79	1.23E-05	7.12E-03	8.40	5.45E-06	5.45E-06	1.99E-05	2.72E-05
Sr-90	2.80	1.63E+03	1.92E+06	2.73	2.77	2.83	2.85
Y-90	2.80	1.63E+03	1.92E+06	2.61	2.61	2.83	2.85
Zr-93	5.41E-05	3.14E-02	37.1	2.58E-05	2.58E-05	9.23E-05	1.29E-04
Nb-93m	4.80E-05	2.79E-02	32.9	2.09E-05	2.13E-05	7.47E-05	1.00E-04
Tc-99	7.68E-05	4.46E-02	52.6	7.48E-05	7.02E-05	8.18E-05	8.74E-05
Ru-106	2.14E-09	1.24E-06	1.47E-03	3.93E-10	3.93E-10	3.04E-09	2.14E-08
Cd-113m	4.04E-05	2.35E-02	27.7	6.36E-06	6.36E-06	1.59E-04	3.79E-04
Sb-125	3.27E-05	1.90E-02	22.4	5.67E-06	5.67E-06	3.39E-05	3.63E-05
Sn-126	1.69E-05	9.79E-03	11.6	8.34E-06	8.34E-06	2.83E-05	3.93E-05
I-129	1.46E-07	8.46E-05	9.98E-02	1.42E-07	1.33E-07	1.55E-07	1.66E-07
Cs-134	2.19E-06	1.27E-03	1.50	4.98E-07	4.98E-07	2.25E-06	2.39E-06
Cs-137	0.295	171	2.02E+05	0.287	0.272	0.312	0.332
Ba-137m	0.279	162	1.91E+05	5.39E-02	5.39E-02	0.287	0.305
Sm-151	4.39E-02	25.5	3.00E+04	1.94E-02	1.94E-02	7.06E-02	9.62E-02
Eu-152	2.98E-05	1.73E-02	20.4	2.33E-05	2.33E-05	2.99E-05	3.00E-05
Eu-154	2.17E-04	0.126	149	3.65E-05	3.65E-05	2.25E-04	1.78E-03
Eu-155	1.52E-03	0.883	1.04E+03	1.19E-03	1.19E-03	1.52E-03	1.53E-03
Ra-226	1.93E-09	1.12E-06	1.32E-03	1.46E-09	1.58E-09	2.16E-09	2.39E-09
Ra-228	1.16E-08	6.72E-06	7.93E-03	4.07E-14	4.07E-14	1.17E-08	1.18E-08
Ac-227	9.07E-09	5.27E-06	6.21E-03	6.38E-09	7.05E-09	1.04E-08	1.18E-08
Pa-231	1.51E-08	8.77E-06	1.03E-02	7.50E-09	7.50E-09	2.27E-08	3.01E-08
Th-229	2.80E-10	1.63E-07	1.92E-04	2.58E-12	2.58E-12	2.82E-10	2.86E-10
Th-232	1.55E-10	9.01E-08	1.06E-04	1.30E-15	1.30E-15	1.96E-10	2.35E-10
U-232	5.17E-08	3.00E-05	3.54E-02	1.83E-08	3.37E-08	7.37E-08	9.81E-08
U-233	1.98E-07	1.15E-04	0.136	7.00E-08	1.29E-07	2.82E-07	3.76E-07
U-234	9.71E-07	5.64E-04	0.665	4.45E-07	7.01E-07	1.26E-06	1.56E-06
U-235	3.92E-08	2.27E-05	2.68E-02	1.79E-08	2.82E-08	5.10E-08	6.30E-08
U-236	4.08E-08	2.37E-05	2.79E-02	1.97E-08	3.02E-08	5.19E-08	6.29E-08
U-238	8.47E-07	4.92E-04	0.580	3.84E-07	6.08E-07	1.11E-06	1.37E-06
Np-237	3.29E-07	1.91E-04	0.225	3.17E-07	3.05E-07	3.52E-07	3.79E-07
Pu-238	1.75E-05	1.02E-02	12.0	1.41E-05	1.58E-05	1.92E-05	2.09E-05
Pu-239	3.82E-04	0.222	262	3.17E-04	3.49E-04	4.16E-04	4.48E-04
Pu-240	7.10E-05	4.13E-02	48.7	5.84E-05	6.46E-05	7.75E-05	8.37E-05
Pu-241	8.51E-04	0.494	583	6.89E-04	7.69E-04	9.34E-04	1.01E-03
Pu-242	4.82E-09	2.80E-06	3.30E-03	3.89E-09	4.34E-09	5.29E-09	5.74E-09
Am-241	5.36E-04	0.311	367	3.11E-04	4.21E-04	6.50E-04	7.60E-04
Am-243	2.30E-08	1.34E-05	1.58E-02	1.29E-08	1.79E-08	2.82E-08	3.31E-08
Cm-242	1.09E-06	6.36E-04	0.750	1.09E-06	1.09E-06	1.10E-06	1.10E-06
Cm-243	1.10E-07	6.39E-05	7.54E-02	1.10E-07	1.09E-07	1.10E-07	1.10E-07
Cm-244	3.32E-06	1.93E-03	2.28	2.58E-06	2.94E-06	3.71E-06	4.07E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.46E-03 (g/L)	----	4.43	5.36E-03	5.90E-03	7.03E-03	7.57E-03
U	1.05E-02	1.45E+03	1.71E+03	4.72E-03	7.50E-03	1.37E-02	1.70E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.88E+04 (kg)	(12.0 kgal)	----	----	----	----	----
Heat Load	0.223 (kW)	(760 BTU/hr)	----	0.182	0.206	0.234	0.239
Bulk Density	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Void Fraction	0.660	----	----	0.422	0.501	0.761	0.764
Water wt%	30.8	----	----	16.5	21.1	38.4	40.8
TOC wt% C (wet)	2.59E-03	----	----	2.27E-03	2.35E-03	2.79E-03	3.02E-03
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	10.8	1.43E+05	1.13E+04	8.26	8.51	14.1	15.8
Al^{3+}	5.19	8.07E+04	6.36E+03	4.21	4.50	5.94	6.70
Fe^{3+} (total Fe)	0.515	1.66E+04	1.31E+03	0.506	0.510	0.520	0.525
Cr^{3+}	0.442	1.32E+04	1.04E+03	0.271	0.353	0.672	0.940
Bi^{3+}	3.44E-06	0.414	3.26E-02	2.90E-06	3.16E-06	3.78E-06	4.16E-06
La^{3+}	8.46E-12	6.78E-07	5.34E-08	7.42E-12	8.01E-12	9.36E-12	1.03E-11
Hg^{2+}	5.40E-07	6.24E-02	4.92E-03	4.78E-07	5.08E-07	5.94E-07	6.52E-07
Zr (as $ZrO(OH)_2$)	3.43E-07	1.80E-02	1.42E-03	3.15E-07	3.29E-07	3.60E-07	3.88E-07
Pb^{2+}	8.56E-05	10.2	0.805	4.58E-05	6.52E-05	1.06E-04	1.26E-04
Ni^{2+}	3.29E-02	1.11E+03	87.7	2.58E-02	2.98E-02	3.52E-02	3.48E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.50E-05	0.792	6.24E-02	1.79E-05	2.14E-05	2.87E-05	3.23E-05
Ca^{2+}	0.148	3.43E+03	270	0.111	0.129	0.167	0.186
K^+	2.16E-02	487	38.4	1.66E-02	1.86E-02	2.36E-02	2.46E-02
OH^-	22.1	2.17E+05	1.71E+04	17.6	19.1	25.4	28.5
$NO3^-$	5.27	1.88E+05	1.48E+04	2.66	2.66	9.35	11.6
$NO2^-$	1.66	4.41E+04	3.48E+03	1.00	1.23	2.01	2.01
$CO3^{2-}$	0.151	5.22E+03	411	0.114	0.132	0.170	0.188
$PO4^{3-}$	2.22E-04	12.2	0.959	2.06E-04	2.16E-04	2.31E-04	2.52E-04
$SO4^{2-}$	2.54E-02	1.41E+03	111	2.08E-02	2.26E-02	2.73E-02	2.91E-02
Si (as SiO_x^{2-})	6.90E-02	1.12E+03	88.1	4.52E-02	6.00E-02	7.81E-02	8.69E-02
F^-	1.77E-04	1.94	0.153	1.51E-04	1.67E-04	1.95E-04	2.10E-04
Cl^-	9.25E-02	1.89E+03	149	6.17E-02	7.68E-02	0.102	0.145
$C_6H_5O_7^{3-}$	1.83E-04	20.0	1.57	1.77E-04	1.80E-04	1.91E-04	2.08E-04
$EDTA^{4-}$	7.13E-06	1.18	9.33E-02	5.02E-06	6.17E-06	8.40E-06	9.66E-06
$HEDTA^{3-}$	5.92E-06	0.936	7.37E-02	1.90E-06	4.07E-06	7.91E-06	9.84E-06
$glycolate^-$	2.58E-04	11.2	0.881	1.40E-04	2.04E-04	3.21E-04	3.82E-04
$acetate^-$	2.68E-05	0.913	7.19E-02	2.60E-05	2.64E-05	2.85E-05	3.05E-05
$oxalate^{2-}$	1.11E-11	5.63E-07	4.43E-08	9.82E-12	1.04E-11	1.22E-11	1.34E-11
DBP	1.62E-04	19.7	1.55	1.52E-04	1.58E-04	1.76E-04	1.90E-04
butanol	1.62E-04	6.94	0.547	1.52E-04	1.58E-04	1.76E-04	1.90E-04
NH_3	0.146	1.43E+03	113	5.08E-02	6.43E-02	0.153	0.160
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.88E+04 (kg)	(12.0 kgal)	----	----	----	----	----
Heat Load	0.223 (kW)	(760 BTU/hr)	----	0.182	0.206	0.234	0.239
Bulk Density†	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Water wt%†	30.8	----	----	16.5	21.1	38.4	40.8
TOC wt% C (wet)†	2.59E-03	----	----	2.27E-03	2.35E-03	2.79E-03	3.02E-03
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	10.8	1.43E+05	1.13E+04	8.26	8.51	14.1	15.8
Al^{3+}	5.19	8.07E+04	6.36E+03	4.21	4.50	5.94	6.70
Fe^{3+} (total Fe)	0.515	1.66E+04	1.31E+03	0.506	0.510	0.520	0.525
Cr^{3+}	0.442	1.32E+04	1.04E+03	0.271	0.353	0.672	0.940
Bi^{3+}	3.44E-06	0.414	3.26E-02	2.90E-06	3.16E-06	3.78E-06	4.16E-06
La^{3+}	8.46E-12	6.78E-07	5.34E-08	7.42E-12	8.01E-12	9.36E-12	1.03E-11
Hg^{2+}	5.40E-07	6.24E-02	4.92E-03	4.78E-07	5.08E-07	5.94E-07	6.52E-07
Zr (as $ZrO(OH)_2$)	3.43E-07	1.80E-02	1.42E-03	3.15E-07	3.29E-07	3.60E-07	3.88E-07
Pb^{2+}	8.56E-05	10.2	0.805	4.58E-05	6.52E-05	1.06E-04	1.26E-04
Ni^{2+}	3.29E-02	1.11E+03	87.7	2.58E-02	2.98E-02	3.52E-02	3.48E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.50E-05	0.792	6.24E-02	1.79E-05	2.14E-05	2.87E-05	3.23E-05
Ca^{2+}	0.148	3.43E+03	270	0.111	0.129	0.167	0.186
K^+	2.16E-02	487	38.4	1.66E-02	1.86E-02	2.36E-02	2.46E-02
OH^-	22.1	2.17E+05	1.71E+04	17.6	19.1	25.4	28.5
$NO3^-$	5.27	1.88E+05	1.48E+04	2.66	2.66	9.35	11.6
$NO2^-$	1.66	4.41E+04	3.48E+03	1.00	1.23	2.01	2.01
$CO3^{2-}$	0.151	5.22E+03	411	0.114	0.132	0.170	0.188
$PO4^{3-}$	2.22E-04	12.2	0.959	2.06E-04	2.16E-04	2.31E-04	2.52E-04
$SO4^{2-}$	2.54E-02	1.41E+03	111	2.08E-02	2.26E-02	2.73E-02	2.91E-02
Si (as SiO_x^{2-})	6.90E-02	1.12E+03	88.1	4.52E-02	6.00E-02	7.81E-02	8.69E-02
F^-	1.77E-04	1.94	0.153	1.51E-04	1.67E-04	1.95E-04	2.10E-04
Cl^-	9.25E-02	1.89E+03	149	6.17E-02	7.68E-02	0.102	0.145
$C_6H_5O_7^{3-}$	1.83E-04	20.0	1.57	1.77E-04	1.80E-04	1.91E-04	2.08E-04
$EDTA^{4-}$	7.13E-06	1.18	9.33E-02	5.02E-06	6.17E-06	8.40E-06	9.66E-06
$HEDTA^{3-}$	5.92E-06	0.936	7.37E-02	1.90E-06	4.07E-06	7.91E-06	9.84E-06
$glycolate^-$	2.58E-04	11.2	0.881	1.40E-04	2.04E-04	3.21E-04	3.82E-04
$acetate^-$	2.68E-05	0.913	7.19E-02	2.60E-05	2.64E-05	2.85E-05	3.05E-05
$oxalate^{2-}$	1.11E-11	5.63E-07	4.43E-08	9.82E-12	1.04E-11	1.22E-11	1.34E-11
DBP	1.62E-04	19.7	1.55	1.52E-04	1.58E-04	1.76E-04	1.90E-04
butanol	1.62E-04	6.94	0.547	1.52E-04	1.58E-04	1.76E-04	1.90E-04
NH_3	0.146	1.43E+03	113	5.08E-02	6.43E-02	0.153	0.160
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	7.88E+04 (kg)	(12.0 kgal)	----	----	----	----	----
Heat Load	0.223 (kW)	(760 BTU/hr)	----	0.182	0.206	0.234	0.239
Bulk Density	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Void Fraction	0.660	----	----	0.422	0.501	0.761	0.764
Water wt%	30.8	----	----	16.5	21.1	38.4	40.8
TOC wt% C (wet)	2.59E-03	----	----	2.27E-03	2.35E-03	2.79E-03	3.02E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.26E-04	7.27E-02	5.73	1.46E-05	1.46E-05	1.32E-04	1.42E-04
C-14	6.85E-06	3.95E-03	0.311	1.13E-06	1.13E-06	7.25E-06	7.61E-06
Ni-59	1.08E-05	6.25E-03	0.492	7.43E-06	7.43E-06	1.15E-05	1.14E-05
Ni-63	1.02E-03	0.591	46.5	6.94E-04	6.94E-04	1.09E-03	1.08E-03
Co-60	5.59E-06	3.23E-03	0.254	4.47E-07	4.47E-07	5.81E-06	6.28E-06
Se-79	3.71E-06	2.14E-03	0.169	2.40E-07	2.40E-07	3.80E-06	7.05E-06
Sr-90	0.596	343	2.70E+04	0.462	0.538	0.640	0.648
Y-90	0.596	343	2.71E+04	0.463	0.464	0.640	0.648
Zr-93	1.76E-05	1.01E-02	0.798	1.13E-06	1.13E-06	1.80E-05	3.16E-05
Nb-93m	1.43E-05	8.23E-03	0.648	9.27E-07	9.27E-07	1.46E-05	2.94E-05
Tc-99	5.24E-05	3.02E-02	2.38	4.54E-05	4.82E-05	5.57E-05	5.95E-05
Ru-106	1.19E-09	6.87E-07	5.41E-05	1.25E-12	1.25E-12	1.24E-09	1.35E-09
Cd-113m	2.67E-05	1.54E-02	1.21	3.50E-06	3.50E-06	5.49E-05	5.32E-05
Sb-125	1.90E-05	1.10E-02	0.865	6.56E-07	6.56E-07	1.98E-05	2.15E-05
Sn-126	5.70E-06	3.29E-03	0.259	3.69E-07	3.69E-07	5.83E-06	1.11E-05
I-129	9.96E-08	5.74E-05	4.52E-03	8.61E-08	9.15E-08	1.06E-07	1.13E-07
Cs-134	1.16E-06	6.71E-04	5.29E-02	1.36E-08	1.36E-08	1.21E-06	1.30E-06
Cs-137	0.190	110	8.63E+03	0.169	0.178	0.202	0.215
Ba-137m	0.180	104	8.16E+03	2.65E-02	2.65E-02	0.188	0.198
Sm-151	1.32E-02	7.64	602	8.57E-04	8.57E-04	1.36E-02	2.56E-02
Eu-152	7.93E-06	4.58E-03	0.360	3.50E-06	3.50E-06	7.97E-06	8.02E-06
Eu-154	1.34E-04	7.72E-02	6.08	1.08E-05	1.08E-05	1.39E-04	1.73E-04
Eu-155	3.90E-04	0.225	17.7	1.65E-04	1.65E-04	3.92E-04	3.94E-04
Ra-226	7.75E-10	4.47E-07	3.52E-05	3.09E-10	5.37E-10	1.01E-09	1.24E-09
Ra-228	7.88E-09	4.54E-06	3.58E-04	4.63E-15	4.63E-15	7.95E-09	8.04E-09
Ac-227	3.75E-09	2.16E-06	1.71E-04	1.53E-09	2.37E-09	5.14E-09	6.46E-09
Pa-231	5.53E-09	3.19E-06	2.51E-04	3.59E-10	3.59E-10	6.19E-09	1.36E-08
Th-229	1.90E-10	1.09E-07	8.62E-06	8.84E-13	8.84E-13	1.91E-10	1.93E-10
Th-232	1.06E-10	6.09E-08	4.79E-06	2.95E-16	2.95E-16	1.33E-10	1.60E-10
U-232	3.52E-08	2.03E-05	1.60E-03	1.24E-08	2.30E-08	5.01E-08	6.68E-08
U-233	1.35E-07	7.77E-05	6.12E-03	4.76E-08	8.79E-08	1.92E-07	2.56E-07
U-234	6.96E-07	4.01E-04	3.16E-02	3.38E-07	5.12E-07	8.94E-07	1.09E-06
U-235	2.83E-08	1.63E-05	1.28E-03	1.38E-08	2.08E-08	3.63E-08	4.45E-08
U-236	2.73E-08	1.57E-05	1.24E-03	1.30E-08	2.01E-08	3.48E-08	4.23E-08
U-238	6.18E-07	3.57E-04	2.81E-02	3.03E-07	4.56E-07	7.95E-07	9.73E-07
Np-237	2.45E-07	1.41E-04	1.11E-02	2.00E-07	2.18E-07	2.64E-07	2.79E-07
Pu-238	4.49E-06	2.59E-03	0.204	3.55E-06	4.01E-06	4.96E-06	5.42E-06
Pu-239	2.74E-04	0.158	12.4	2.07E-04	2.40E-04	3.08E-04	3.41E-04
Pu-240	4.01E-05	2.31E-02	1.82	3.06E-05	3.52E-05	4.50E-05	4.96E-05
Pu-241	2.59E-04	0.149	11.8	2.03E-04	2.31E-04	2.88E-04	3.15E-04
Pu-242	1.23E-09	7.10E-07	5.59E-05	9.75E-10	1.10E-09	1.36E-09	1.49E-09
Am-241	6.24E-05	3.60E-02	2.83	3.72E-05	5.45E-05	7.09E-05	1.30E-04
Am-243	1.90E-09	1.10E-06	8.63E-05	8.94E-10	1.65E-09	2.09E-09	2.53E-09
Cm-242	8.13E-08	4.69E-05	3.69E-03	7.95E-08	8.02E-08	8.19E-08	8.19E-08
Cm-243	1.86E-09	1.07E-06	8.45E-05	1.82E-09	1.84E-09	1.88E-09	1.88E-09
Cm-244	1.45E-09	8.34E-07	6.57E-05	2.49E-10	7.28E-10	1.93E-09	1.93E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.58E-03 (g/L)	----	0.208	3.47E-03	4.01E-03	5.15E-03	5.69E-03
U	7.65E-03	1.05E+03	82.7	3.74E-03	5.63E-03	9.85E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-SX-115

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.88E+04 (kg)	(12.0 kgal)	----	----	----	----	----
Heat Load	0.223 (kW)	(760 BTU/hr)	----	0.182	0.206	0.234	0.239
Bulk Density†	1.73 (g/cc)	----	----	1.60	1.62	1.91	1.98
Water wt%†	30.8	----	----	16.5	21.1	38.4	40.8
TOC wt% C (wet)†	2.59E-03	----	----	2.27E-03	2.35E-03	2.79E-03	3.02E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.26E-04	7.27E-02	5.73	1.46E-05	1.46E-05	1.32E-04	1.42E-04
C-14	6.85E-06	3.95E-03	0.311	1.13E-06	1.13E-06	7.25E-06	7.61E-06
Ni-59	1.08E-05	6.25E-03	0.492	7.43E-06	7.43E-06	1.15E-05	1.14E-05
Ni-63	1.02E-03	0.591	46.5	6.94E-04	6.94E-04	1.09E-03	1.08E-03
Co-60	5.59E-06	3.23E-03	0.254	4.47E-07	4.47E-07	5.81E-06	6.28E-06
Se-79	3.71E-06	2.14E-03	0.169	2.40E-07	2.40E-07	3.80E-06	7.05E-06
Sr-90	0.596	343	2.70E+04	0.462	0.538	0.640	0.648
Y-90	0.596	343	2.71E+04	0.463	0.464	0.640	0.648
Zr-93	1.76E-05	1.01E-02	0.798	1.13E-06	1.13E-06	1.80E-05	3.16E-05
Nb-93m	1.43E-05	8.23E-03	0.648	9.27E-07	9.27E-07	1.46E-05	2.94E-05
Tc-99	5.24E-05	3.02E-02	2.38	4.54E-05	4.82E-05	5.57E-05	5.95E-05
Ru-106	1.19E-09	6.87E-07	5.41E-05	1.25E-12	1.25E-12	1.24E-09	1.35E-09
Cd-113m	2.67E-05	1.54E-02	1.21	3.50E-06	3.50E-06	5.49E-05	5.32E-05
Sb-125	1.90E-05	1.10E-02	0.865	6.56E-07	6.56E-07	1.98E-05	2.15E-05
Sn-126	5.70E-06	3.29E-03	0.259	3.69E-07	3.69E-07	5.83E-06	1.11E-05
I-129	9.96E-08	5.74E-05	4.52E-03	8.61E-08	9.15E-08	1.06E-07	1.13E-07
Cs-134	1.16E-06	6.71E-04	5.29E-02	1.36E-08	1.36E-08	1.21E-06	1.30E-06
Cs-137	0.190	110	8.63E+03	0.169	0.178	0.202	0.215
Ba-137m	0.180	104	8.16E+03	2.65E-02	2.65E-02	0.188	0.198
Sm-151	1.32E-02	7.64	602	8.57E-04	8.57E-04	1.36E-02	2.56E-02
Eu-152	7.93E-06	4.58E-03	0.360	3.50E-06	3.50E-06	7.97E-06	8.02E-06
Eu-154	1.34E-04	7.72E-02	6.08	1.08E-05	1.08E-05	1.39E-04	1.73E-04
Eu-155	3.90E-04	0.225	17.7	1.65E-04	1.65E-04	3.92E-04	3.94E-04
Ra-226	7.75E-10	4.47E-07	3.52E-05	3.09E-10	5.37E-10	1.01E-09	1.24E-09
Ra-228	7.88E-09	4.54E-06	3.58E-04	4.63E-15	4.63E-15	7.95E-09	8.04E-09
Ac-227	3.75E-09	2.16E-06	1.71E-04	1.53E-09	2.37E-09	5.14E-09	6.46E-09
Pa-231	5.53E-09	3.19E-06	2.51E-04	3.59E-10	3.59E-10	6.19E-09	1.36E-08
Th-229	1.90E-10	1.09E-07	8.62E-06	8.84E-13	8.84E-13	1.91E-10	1.93E-10
Th-232	1.06E-10	6.09E-08	4.79E-06	2.95E-16	2.95E-16	1.33E-10	1.60E-10
U-232	3.52E-08	2.03E-05	1.60E-03	1.24E-08	2.30E-08	5.01E-08	6.68E-08
U-233	1.35E-07	7.77E-05	6.12E-03	4.76E-08	8.79E-08	1.92E-07	2.56E-07
U-234	6.96E-07	4.01E-04	3.16E-02	3.38E-07	5.12E-07	8.94E-07	1.09E-06
U-235	2.83E-08	1.63E-05	1.28E-03	1.38E-08	2.08E-08	3.63E-08	4.45E-08
U-236	2.73E-08	1.57E-05	1.24E-03	1.30E-08	2.01E-08	3.48E-08	4.23E-08
U-238	6.18E-07	3.57E-04	2.81E-02	3.03E-07	4.56E-07	7.95E-07	9.73E-07
Np-237	2.45E-07	1.41E-04	1.11E-02	2.00E-07	2.18E-07	2.64E-07	2.79E-07
Pu-238	4.49E-06	2.59E-03	0.204	3.55E-06	4.01E-06	4.96E-06	5.42E-06
Pu-239	2.74E-04	0.158	12.4	2.07E-04	2.40E-04	3.08E-04	3.41E-04
Pu-240	4.01E-05	2.31E-02	1.82	3.06E-05	3.52E-05	4.50E-05	4.96E-05
Pu-241	2.59E-04	0.149	11.8	2.03E-04	2.31E-04	2.88E-04	3.15E-04
Pu-242	1.23E-09	7.10E-07	5.59E-05	9.75E-10	1.10E-09	1.36E-09	1.49E-09
Am-241	6.24E-05	3.60E-02	2.83	3.72E-05	5.45E-05	7.09E-05	1.30E-04
Am-243	1.90E-09	1.10E-06	8.63E-05	8.94E-10	1.65E-09	2.09E-09	2.53E-09
Cm-242	8.13E-08	4.69E-05	3.69E-03	7.95E-08	8.02E-08	8.19E-08	8.19E-08
Cm-243	1.86E-09	1.07E-06	8.45E-05	1.82E-09	1.84E-09	1.88E-09	1.88E-09
Cm-244	1.45E-09	8.34E-07	6.57E-05	2.49E-10	7.28E-10	1.93E-09	1.93E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.58E-03 (g/L)	----	0.208	3.47E-03	4.01E-03	5.15E-03	5.69E-03
U	7.65E-03	1.05E+03	82.7	3.74E-03	5.63E-03	9.85E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.40E+05 (kg)	(22.0 kgal)	----	----	----	----	----
Heat Load	2.00E-03 (kW)	(6.83 BTU/hr)	----	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	9.71E+03	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	552	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	5.91	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	3.34	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	281	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	0.981	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	1.54E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	381	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	19.3	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	9.44E+03	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	3.16E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	722	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	3.99	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	4.09	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	1.61E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.14E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.52E+05 (kg)	(25.0 kgal)	----	----	----	----	----
Heat Load	2.00E-03 (kW)	(6.83 BTU/hr)	----	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Bulk Density†	1.60 (g/cc)	----	----	1.54	1.57	1.63	1.65
Water wt%†	50.9	----	----	48.8	49.7	52.4	54.1
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.46	6.40E+04	9.71E+03	2.98	3.77	5.06	5.55
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.104	3.64E+03	552	9.87E-02	0.101	0.107	0.110
Cr^{3+}	1.20E-03	39.0	5.91	1.03E-03	1.11E-03	1.29E-03	1.36E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.01E-04	22.0	3.34	5.24E-04	5.61E-04	1.09E-03	1.88E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.41E-02	1.85E+03	281	5.14E-02	6.24E-02	8.56E-02	9.67E-02
K^+	2.65E-04	6.47	0.981	2.26E-04	2.46E-04	2.84E-04	3.00E-04
OH^-	9.56	1.01E+05	1.54E+04	9.52	9.55	9.58	9.60
$NO3^-$	6.49E-02	2.51E+03	381	5.51E-02	6.00E-02	6.97E-02	7.40E-02
$NO2^-$	4.43E-03	127	19.3	3.75E-03	4.08E-03	4.80E-03	5.15E-03
$CO3^{2-}$	1.66	6.22E+04	9.44E+03	1.20	1.44	1.85	2.01
$PO4^{3-}$	0.352	2.09E+04	3.16E+03	0.151	0.257	0.433	0.499
$SO4^{2-}$	7.94E-02	4.76E+03	722	6.79E-02	7.36E-02	8.50E-02	9.00E-02
Si (as SiO_x^{2-})	1.50E-03	26.3	3.99	1.28E-03	1.39E-03	1.61E-03	1.70E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.22E-03	27.0	4.09	1.04E-03	1.13E-03	1.30E-03	1.38E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.00E-06	1.06E-02	1.61E-03	5.46E-07	7.43E-07	1.33E-06	1.71E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.40E+05 (kg)	(22.0 kgal)	----	----	----	----	----
Heat Load	2.00E-03 (kW)	(6.83 BTU/hr)	----	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	7.91E-02	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.227	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	8.01E-03	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	0.703	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	3.92E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	5.92E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	166	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	167	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	2.82E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	2.43E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.194	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	9.24E-11	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	5.73E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	2.12E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	8.79E-03	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	3.62E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	2.26E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	188	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	178	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	22.4	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	5.23E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	5.27E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	0.791	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	1.14E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	7.13E-11	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	2.86E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	2.65E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	1.37E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	8.74E-12	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.36E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	8.12E-06	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	11.4	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.515	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	7.31E-02	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	11.6	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	1.17E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	8.81E-04	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.276	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	1.63E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	1.04E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	3.18E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	9.77E-03	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	2.73E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	2.10E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	3.12E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	4.18E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	4.51E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	3.47E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.14E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.52E+05 (kg)	(25.0 kgal)	----	----	----	----	----
Heat Load	2.00E-03 (kW)	(6.83 BTU/hr)	----	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Bulk Density†	1.60 (g/cc)	----	----	1.54	1.57	1.63	1.65
Water wt%†	50.9	----	----	48.8	49.7	52.4	54.1
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.35E-07	5.21E-04	7.91E-02	6.94E-07	7.62E-07	9.12E-07	9.87E-07
C-14	2.40E-06	1.50E-03	0.227	1.69E-06	2.07E-06	2.68E-06	2.92E-06
Ni-59	8.46E-08	5.28E-05	8.01E-03	7.38E-08	7.91E-08	1.54E-07	2.65E-07
Ni-63	7.43E-06	4.64E-03	0.703	6.48E-06	6.95E-06	1.35E-05	2.33E-05
Co-60	4.14E-08	2.58E-05	3.92E-03	3.54E-08	3.84E-08	4.43E-08	4.69E-08
Se-79	6.25E-08	3.90E-05	5.92E-03	5.34E-08	5.80E-08	6.69E-08	7.09E-08
Sr-90	1.76E-03	1.10	166	1.50E-03	1.63E-03	1.88E-03	1.99E-03
Y-90	1.76E-03	1.10	167	1.50E-03	1.63E-03	1.88E-03	1.99E-03
Zr-93	2.98E-07	1.86E-04	2.82E-02	2.55E-07	2.76E-07	3.19E-07	3.38E-07
Nb-93m	2.57E-07	1.60E-04	2.43E-02	2.19E-07	2.38E-07	2.75E-07	2.91E-07
Tc-99	2.06E-06	1.28E-03	0.194	1.76E-06	1.90E-06	2.20E-06	2.33E-06
Ru-106	9.76E-16	6.09E-13	9.24E-11	8.34E-16	9.05E-16	1.04E-15	1.11E-15
Cd-113m	6.06E-07	3.78E-04	5.73E-02	5.17E-07	5.61E-07	6.48E-07	6.86E-07
Sb-125	2.24E-08	1.39E-05	2.12E-03	1.91E-08	2.07E-08	2.39E-08	2.53E-08
Sn-126	9.29E-08	5.79E-05	8.79E-03	7.93E-08	8.61E-08	9.94E-08	1.05E-07
I-129	3.83E-09	2.39E-06	3.62E-04	3.27E-09	3.55E-09	4.10E-09	4.34E-09
Cs-134	2.39E-11	1.49E-08	2.26E-06	2.04E-11	2.22E-11	2.56E-11	2.71E-11
Cs-137	1.98E-03	1.24	188	1.69E-03	1.84E-03	2.12E-03	2.25E-03
Ba-137m	1.88E-03	1.17	178	1.60E-03	1.74E-03	2.01E-03	2.13E-03
Sm-151	2.36E-04	0.147	22.4	2.02E-04	2.19E-04	2.53E-04	2.68E-04
Eu-152	5.53E-08	3.45E-05	5.23E-03	5.49E-08	5.51E-08	5.55E-08	5.57E-08
Eu-154	5.57E-07	3.47E-04	5.27E-02	4.76E-07	5.16E-07	5.96E-07	6.31E-07
Eu-155	8.36E-06	5.22E-03	0.791	8.30E-06	8.33E-06	8.39E-06	8.42E-06
Ra-226	1.21E-10	7.54E-08	1.14E-05	2.67E-11	2.67E-11	2.66E-10	4.04E-10
Ra-228	7.53E-16	4.70E-13	7.13E-11	7.48E-16	7.50E-16	7.56E-16	7.58E-16
Ac-227	3.02E-10	1.88E-07	2.86E-05	1.34E-10	1.34E-10	1.14E-09	1.95E-09
Pa-231	2.80E-10	1.75E-07	2.65E-05	2.39E-10	2.59E-10	3.00E-10	1.71E-09
Th-229	1.45E-13	9.06E-11	1.37E-08	1.44E-13	1.45E-13	1.46E-13	1.46E-13
Th-232	9.23E-17	5.76E-14	8.74E-12	7.89E-17	8.56E-17	9.88E-17	1.05E-16
U-232	1.43E-09	8.95E-07	1.36E-04	1.43E-09	1.43E-09	1.44E-09	1.44E-09
U-233	8.58E-11	5.35E-08	8.12E-06	8.55E-11	8.57E-11	8.59E-11	8.60E-11
U-234	1.21E-04	7.55E-02	11.4	1.21E-04	1.21E-04	1.21E-04	1.21E-04
U-235	5.44E-06	3.39E-03	0.515	5.42E-06	5.43E-06	5.45E-06	5.45E-06
U-236	7.72E-07	4.82E-04	7.31E-02	7.70E-07	7.71E-07	7.73E-07	7.74E-07
U-238	1.22E-04	7.64E-02	11.6	1.22E-04	1.22E-04	1.23E-04	1.23E-04
Np-237	1.23E-08	7.70E-06	1.17E-03	1.05E-08	1.14E-08	1.32E-08	1.40E-08
Pu-238	9.31E-09	5.81E-06	8.81E-04	8.12E-09	8.70E-09	6.28E-08	1.28E-07
Pu-239	2.92E-06	1.82E-03	0.276	2.54E-06	2.73E-06	1.97E-05	3.99E-05
Pu-240	1.72E-07	1.07E-04	1.63E-02	1.50E-07	1.61E-07	1.16E-06	2.35E-06
Pu-241	1.10E-07	6.86E-05	1.04E-02	9.59E-08	1.03E-07	7.42E-07	1.51E-06
Pu-242	3.36E-13	2.10E-10	3.18E-08	2.93E-13	3.14E-13	2.27E-12	4.61E-12
Am-241	1.03E-07	6.44E-05	9.77E-03	8.82E-08	9.57E-08	1.10E-07	1.17E-07
Am-243	2.89E-13	1.80E-10	2.73E-08	2.47E-13	2.68E-13	3.09E-13	3.27E-13
Cm-242	2.22E-10	1.38E-07	2.10E-05	2.20E-10	2.21E-10	2.23E-10	2.23E-10
Cm-243	3.29E-12	2.06E-09	3.12E-07	3.27E-12	3.28E-12	3.31E-12	3.32E-12
Cm-244	4.42E-12	2.76E-09	4.18E-07	3.77E-12	4.09E-12	4.73E-12	5.01E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.77E-05 (g/L)	----	4.51E-03	4.16E-05	4.45E-05	3.21E-04	6.53E-04
U	1.54	2.29E+05	3.47E+04	1.54	1.54	1.54	1.55

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.74E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	3.91E-03 (kW)	(13.4 BTU/hr)	----	3.34E-03	3.62E-03	4.18E-03	4.43E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	1.90E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	1.08E+03	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	11.6	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	6.52	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	549	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	1.92	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	3.01E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	744	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	37.7	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.84E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	6.18E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	1.41E+03	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	7.80	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	7.99	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	3.15E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.07E+06 (kg)	(331 kgal)	----	----	----	----	----
Heat Load	2.92 (kW)	(9.98E+03 BTU/hr)	----	2.72	2.82	3.03	3.13
Bulk Density*	1.65 (g/cc)	----	----	1.60	1.63	1.67	1.69
Water wt%	29.5	----	----	26.9	28.1	31.0	32.8
TOC wt% C (wet)	0.868	----	----	0.545	0.703	1.03	1.19

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.3	2.13E+05	4.41E+05	14.0	14.7	15.9	16.4
Al^{3+}	1.75	2.86E+04	5.93E+04	1.61	1.68	1.83	1.90
Fe^{3+} (total Fe)	1.22E-02	412	854	1.01E-02	1.11E-02	1.33E-02	1.43E-02
Cr^{3+}	0.150	4.71E+03	9.76E+03	0.127	0.139	0.154	0.158
Bi^{3+}	1.69E-03	214	443	1.53E-03	1.61E-03	1.77E-03	1.85E-03
La^{3+}	5.12E-05	4.30	8.92	3.71E-05	4.40E-05	5.85E-05	6.55E-05
Hg^{2+}	1.11E-05	1.34	2.78	1.02E-05	1.07E-05	1.12E-05	1.14E-05
Zr (as $ZrO(OH)_2$)	3.26E-04	18.0	37.3	2.97E-04	3.08E-04	3.38E-04	3.55E-04
Pb^{2+}	1.18E-03	148	307	9.50E-04	1.06E-03	1.30E-03	1.42E-03
Ni^{2+}	7.30E-03	259	537	6.95E-03	7.12E-03	7.39E-03	7.46E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.13E-03	137	284	3.13E-03	3.62E-03	4.65E-03	5.14E-03
Ca^{2+}	3.85E-02	933	1.93E+03	3.55E-02	3.70E-02	4.00E-02	4.15E-02
K^+	7.26E-02	1.72E+03	3.56E+03	6.65E-02	6.94E-02	7.64E-02	7.92E-02
OH^-	10.4	1.07E+05	2.22E+05	9.74	10.1	10.8	11.1
$NO3^-$	5.50	2.06E+05	4.27E+05	4.99	5.29	5.58	5.66
$NO2^-$	2.58	7.19E+04	1.49E+05	2.15	2.35	2.81	3.02
$CO3^{2-}$	0.501	1.82E+04	3.77E+04	0.454	0.470	0.540	0.546
$PO4^{3-}$	0.108	6.21E+03	1.29E+04	9.16E-02	9.74E-02	0.111	0.114
$SO4^{2-}$	0.280	1.62E+04	3.36E+04	0.224	0.251	0.313	0.336
Si (as SiO_x^{2-})	8.66E-02	1.47E+03	3.05E+03	7.22E-02	7.93E-02	9.40E-02	0.101
F^-	8.33E-02	958	1.98E+03	6.95E-02	7.53E-02	9.01E-02	9.55E-02
Cl^-	0.267	5.72E+03	1.18E+04	0.239	0.249	0.278	0.288
$C_6H_5O_7^{3-}$	2.99E-02	3.42E+03	7.08E+03	2.73E-02	2.86E-02	3.13E-02	3.25E-02
$EDTA^{4-}$	1.88E-02	3.28E+03	6.80E+03	5.62E-03	1.21E-02	2.56E-02	3.23E-02
$HEDTA^{3-}$	3.54E-02	5.88E+03	1.22E+04	9.00E-03	2.19E-02	4.91E-02	6.23E-02
glycolate$^-$	0.104	4.74E+03	9.82E+03	6.94E-02	8.65E-02	0.122	0.140
acetate$^-$	7.17E-03	256	530	5.89E-03	6.52E-03	7.83E-03	8.46E-03
oxalate^{2-}	6.71E-05	3.57	7.40	5.95E-05	6.32E-05	7.10E-05	7.48E-05
DBP	2.08E-02	2.65E+03	5.48E+03	1.73E-02	1.90E-02	2.26E-02	2.43E-02
butanol	2.08E-02	934	1.93E+03	1.73E-02	1.90E-02	2.26E-02	2.43E-02
NH_3	9.96E-02	1.02E+03	2.12E+03	8.26E-02	8.98E-02	0.112	0.127
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.35E+06 (kg)	(374 kgal)	----	----	----	----	----
Heat Load	2.93 (kW)	(1.00E+04 BTU/hr)	----	2.72	2.82	3.03	3.14
Bulk Density†	1.66 (g/cc)	----	----	1.61	1.64	1.68	1.69
Water wt%†	31.6	----	----	29.2	30.3	32.9	34.5
TOC wt% C (wet)†	0.766	----	----	0.481	0.621	0.912	1.05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.1	1.96E+05	4.60E+05	13.0	13.6	14.6	15.1
Al^{3+}	1.55	2.53E+04	5.93E+04	1.43	1.49	1.62	1.68
Fe^{3+} (total Fe)	2.44E-02	824	1.93E+03	2.26E-02	2.35E-02	2.54E-02	2.63E-02
Cr^{3+}	0.133	4.17E+03	9.77E+03	0.113	0.123	0.136	0.140
Bi^{3+}	1.50E-03	189	443	1.36E-03	1.42E-03	1.57E-03	1.64E-03
La^{3+}	4.53E-05	3.80	8.92	3.28E-05	3.89E-05	5.18E-05	5.79E-05
Hg^{2+}	9.79E-06	1.19	2.78	9.05E-06	9.48E-06	9.94E-06	1.01E-05
Zr (as $ZrO(OH)_2$)	2.89E-04	15.9	37.3	2.63E-04	2.72E-04	3.00E-04	3.14E-04
Pb^{2+}	1.05E-03	131	307	8.41E-04	9.42E-04	1.15E-03	1.25E-03
Ni^{2+}	6.54E-03	232	544	6.23E-03	6.38E-03	6.62E-03	6.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.66E-03	121	284	2.77E-03	3.20E-03	4.11E-03	4.55E-03
Ca^{2+}	4.38E-02	1.06E+03	2.48E+03	4.08E-02	4.22E-02	4.53E-02	4.67E-02
K^+	6.43E-02	1.52E+03	3.56E+03	5.89E-02	6.14E-02	6.76E-02	7.01E-02
OH^-	10.5	1.08E+05	2.52E+05	9.87	10.2	10.8	11.1
$NO3^-$	4.88	1.82E+05	4.28E+05	4.42	4.69	4.95	5.01
$NO2^-$	2.29	6.35E+04	1.49E+05	1.91	2.08	2.48	2.67
$CO3^{2-}$	0.661	2.39E+04	5.61E+04	0.600	0.632	0.695	0.706
$PO4^{3-}$	0.142	8.12E+03	1.91E+04	0.115	0.129	0.152	0.161
$SO4^{2-}$	0.258	1.49E+04	3.51E+04	0.209	0.232	0.287	0.308
Si (as SiO_x^{2-})	7.69E-02	1.30E+03	3.06E+03	6.41E-02	7.04E-02	8.34E-02	8.96E-02
F^-	7.38E-02	846	1.98E+03	6.15E-02	6.67E-02	7.98E-02	8.45E-02
Cl^-	0.236	5.05E+03	1.18E+04	0.212	0.220	0.246	0.255
$C_6H_5O_7^{3-}$	2.65E-02	3.02E+03	7.08E+03	2.41E-02	2.53E-02	2.77E-02	2.88E-02
$EDTA^{4-}$	1.67E-02	2.90E+03	6.80E+03	4.97E-03	1.07E-02	2.27E-02	2.86E-02
$HEDTA^{3-}$	3.14E-02	5.19E+03	1.22E+04	7.96E-03	1.94E-02	4.34E-02	5.52E-02
glycolate$^-$	9.24E-02	4.18E+03	9.82E+03	6.14E-02	7.66E-02	0.108	0.124
acetate$^-$	6.35E-03	226	530	5.21E-03	5.77E-03	6.93E-03	7.49E-03
oxalate^{2-}	5.94E-05	3.16	7.40	5.26E-05	5.59E-05	6.28E-05	6.62E-05
DBP	1.84E-02	2.34E+03	5.48E+03	1.53E-02	1.68E-02	2.00E-02	2.15E-02
butanol	1.84E-02	825	1.93E+03	1.53E-02	1.68E-02	2.00E-02	2.15E-02
NH_3	8.82E-02	905	2.12E+03	7.31E-02	7.95E-02	9.92E-02	0.112
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.74E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	3.91E-03 (kW)	(13.4 BTU/hr)	----	3.34E-03	3.62E-03	4.18E-03	4.43E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	0.155	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.444	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	1.57E-02	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	1.37	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	7.66E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	1.16E-02	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	325	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	325	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	5.51E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	4.75E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.380	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.81E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	0.112	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	4.13E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.72E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	7.08E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	4.42E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	367	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	347	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	43.7	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	1.02E-02	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	0.103	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	1.55	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	2.23E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	1.39E-10	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	5.58E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	5.18E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	2.69E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.71E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	2.65E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	1.59E-05	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	22.4	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	1.01	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	0.143	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	22.7	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	2.28E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.72E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.539	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	3.18E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	2.03E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	6.22E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	1.91E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	5.34E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	4.10E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	6.09E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	8.17E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	8.81E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	6.78E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.07E+06 (kg)	(331 kgal)	----	----	----	----	----
Heat Load	2.92 (kW)	(9.98E+03 BTU/hr)	----	2.72	2.82	3.03	3.13
Bulk Density*	1.65 (g/cc)	----	----	1.60	1.63	1.67	1.69
Water wt%†	29.5	----	----	26.9	28.1	31.0	32.8
TOC wt% C (wet)	0.868	----	----	0.545	0.703	1.03	1.19

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.67E-04	0.162	335	1.39E-04	1.39E-04	2.78E-04	2.91E-04
C-14	3.92E-05	2.37E-02	49.1	1.23E-05	1.23E-05	3.99E-05	4.05E-05
Ni-59	2.57E-06	1.56E-03	3.22	1.31E-06	1.31E-06	2.64E-06	2.70E-06
Ni-63	2.52E-04	0.153	316	1.28E-04	1.28E-04	2.59E-04	2.65E-04
Co-60	4.38E-05	2.65E-02	54.9	1.31E-05	1.31E-05	4.48E-05	4.57E-05
Se-79	3.92E-06	2.37E-03	4.91	2.20E-06	2.20E-06	4.54E-06	5.13E-06
Sr-90	0.131	79.5	1.65E+05	0.123	0.127	0.136	0.140
Y-90	0.131	79.5	1.65E+05	7.23E-02	7.23E-02	0.136	0.140
Zr-93	1.92E-05	1.16E-02	24.1	1.07E-05	1.07E-05	2.23E-05	2.53E-05
Nb-93m	1.39E-05	8.43E-03	17.5	7.94E-06	7.94E-06	1.61E-05	1.82E-05
Tc-99	2.79E-04	0.169	349	1.79E-04	2.28E-04	3.30E-04	3.80E-04
Ru-106	7.96E-09	4.82E-06	9.97E-03	3.99E-09	3.99E-09	8.85E-09	9.66E-09
Cd-113m	1.01E-04	6.13E-02	127	5.00E-05	5.00E-05	1.20E-04	1.38E-04
Sb-125	1.89E-04	0.115	237	5.63E-05	5.63E-05	1.94E-04	1.98E-04
Sn-126	5.92E-06	3.58E-03	7.42	3.35E-06	3.35E-06	6.85E-06	7.74E-06
I-129	5.38E-07	3.25E-04	0.674	3.44E-07	4.39E-07	6.37E-07	7.34E-07
Cs-134	3.26E-06	1.97E-03	4.09	2.26E-06	2.75E-06	3.78E-06	4.28E-06
Cs-137	0.309	187	3.87E+05	0.274	0.291	0.327	0.345
Ba-137m	0.292	177	3.66E+05	0.239	0.239	0.310	0.326
Sm-151	1.38E-02	8.34	1.73E+04	7.80E-03	7.80E-03	1.60E-02	1.80E-02
Eu-152	4.71E-06	2.85E-03	5.90	2.59E-06	2.59E-06	5.08E-06	5.43E-06
Eu-154	7.15E-04	0.432	896	2.87E-04	2.87E-04	8.70E-04	9.32E-04
Eu-155	2.80E-04	0.169	350	1.53E-04	1.53E-04	3.02E-04	3.24E-04
Ra-226	1.68E-10	1.01E-07	2.10E-04	1.15E-10	1.15E-10	1.87E-10	2.05E-10
Ra-228	1.80E-07	1.09E-04	0.226	7.53E-08	1.27E-07	2.42E-07	3.09E-07
Ac-227	1.07E-09	6.48E-07	1.34E-03	7.63E-10	7.63E-10	1.18E-09	1.29E-09
Pa-231	4.91E-09	2.97E-06	6.15E-03	3.20E-09	3.20E-09	5.53E-09	6.13E-09
Th-229	4.23E-09	2.56E-06	5.30E-03	1.93E-09	3.05E-09	5.59E-09	7.05E-09
Th-232	1.20E-08	7.25E-06	1.50E-02	6.18E-09	9.02E-09	1.49E-08	1.78E-08
U-232	9.25E-07	5.59E-04	1.16	5.04E-07	7.10E-07	1.17E-06	1.44E-06
U-233	3.55E-06	2.14E-03	4.44	1.94E-06	2.72E-06	4.50E-06	5.52E-06
U-234	9.68E-07	5.86E-04	1.21	9.29E-07	9.53E-07	9.85E-07	9.97E-07
U-235	3.92E-08	2.37E-05	4.91E-02	3.76E-08	3.85E-08	3.99E-08	4.04E-08
U-236	3.08E-08	1.86E-05	3.86E-02	2.96E-08	3.04E-08	3.13E-08	3.17E-08
U-238	1.13E-06	6.86E-04	1.42	1.10E-06	1.12E-06	1.15E-06	1.16E-06
Np-237	1.01E-06	6.10E-04	1.26	6.81E-07	8.40E-07	1.18E-06	1.34E-06
Pu-238	1.64E-06	9.94E-04	2.06	1.26E-06	1.45E-06	1.84E-06	2.03E-06
Pu-239	5.61E-05	3.39E-02	70.2	4.62E-05	5.11E-05	6.11E-05	6.59E-05
Pu-240	9.52E-06	5.76E-03	11.9	7.69E-06	8.59E-06	1.05E-05	1.13E-05
Pu-241	1.11E-04	6.72E-02	139	8.50E-05	9.78E-05	1.25E-04	1.37E-04
Pu-242	6.11E-10	3.70E-07	7.65E-04	4.55E-10	5.31E-10	6.91E-10	7.68E-10
Am-241	6.73E-05	4.07E-02	84.3	4.91E-05	5.80E-05	7.66E-05	8.55E-05
Am-243	2.39E-09	1.45E-06	3.00E-03	1.82E-09	2.09E-09	2.73E-09	3.02E-09
Cm-242	1.80E-07	1.09E-04	0.225	9.26E-08	9.26E-08	1.94E-07	2.07E-07
Cm-243	1.67E-08	1.01E-05	2.09E-02	8.35E-09	8.35E-09	1.79E-08	1.91E-08
Cm-244	1.62E-07	9.81E-05	0.203	7.65E-08	7.65E-08	1.91E-07	2.10E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.07E-04 (g/L)	----	0.886	5.21E-04	6.12E-04	8.01E-04	8.92E-04
U	1.10E-02	1.59E+03	3.29E+03	1.06E-02	1.08E-02	1.12E-02	1.14E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.35E+06 (kg)	(374 kgal)	----	----	----	----	----
Heat Load	2.93 (kW)	(1.00E+04 BTU/hr)	----	2.72	2.82	3.03	3.14
Bulk Density†	1.66 (g/cc)	----	----	1.61	1.64	1.68	1.69
Water wt%†	31.6	----	----	29.2	30.3	32.9	34.5
TOC wt% C (wet)†	0.766	----	----	0.481	0.621	0.912	1.05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.37E-04	0.143	335	1.23E-04	1.23E-04	2.46E-04	2.57E-04
C-14	3.50E-05	2.11E-02	49.5	1.12E-05	1.12E-05	3.56E-05	3.62E-05
Ni-59	2.29E-06	1.38E-03	3.24	1.17E-06	1.17E-06	2.35E-06	2.40E-06
Ni-63	2.24E-04	0.135	318	1.14E-04	1.14E-04	2.30E-04	2.35E-04
Co-60	3.88E-05	2.34E-02	54.9	1.16E-05	1.16E-05	3.96E-05	4.05E-05
Se-79	3.48E-06	2.10E-03	4.92	1.96E-06	1.96E-06	4.02E-06	4.55E-06
Sr-90	0.117	70.3	1.65E+05	0.109	0.113	0.120	0.124
Y-90	0.117	70.4	1.65E+05	6.42E-02	6.42E-02	0.120	0.124
Zr-93	1.71E-05	1.03E-02	24.1	9.48E-06	9.48E-06	1.98E-05	2.24E-05
Nb-93m	1.24E-05	7.46E-03	17.5	7.06E-06	7.06E-06	1.43E-05	1.61E-05
Tc-99	2.47E-04	0.149	350	1.59E-04	2.02E-04	2.93E-04	3.37E-04
Ru-106	7.05E-09	4.25E-06	9.97E-03	3.53E-09	3.53E-09	7.83E-09	8.55E-09
Cd-113m	8.98E-05	5.42E-02	127	4.43E-05	4.43E-05	1.06E-04	1.22E-04
Sb-125	1.68E-04	0.101	237	4.99E-05	4.99E-05	1.71E-04	1.75E-04
Sn-126	5.25E-06	3.17E-03	7.43	2.98E-06	2.98E-06	6.07E-06	6.86E-06
I-129	4.76E-07	2.88E-04	0.674	3.05E-07	3.89E-07	5.65E-07	6.50E-07
Cs-134	2.89E-06	1.74E-03	4.09	2.00E-06	2.43E-06	3.34E-06	3.79E-06
Cs-137	0.274	165	3.88E+05	0.243	0.258	0.290	0.306
Ba-137m	0.259	156	3.67E+05	0.212	0.212	0.274	0.289
Sm-151	1.22E-02	7.38	1.73E+04	6.93E-03	6.93E-03	1.42E-02	1.60E-02
Eu-152	4.18E-06	2.52E-03	5.91	2.30E-06	2.30E-06	4.50E-06	4.82E-06
Eu-154	6.33E-04	0.382	896	2.54E-04	2.54E-04	7.70E-04	8.25E-04
Eu-155	2.49E-04	0.150	352	1.37E-04	1.37E-04	2.68E-04	2.88E-04
Ra-226	1.64E-10	9.91E-08	2.33E-04	1.17E-10	1.17E-10	1.83E-10	2.01E-10
Ra-228	1.60E-07	9.63E-05	0.226	6.67E-08	1.12E-07	2.15E-07	2.73E-07
Ac-227	9.87E-10	5.96E-07	1.40E-03	7.14E-10	7.14E-10	1.10E-09	1.20E-09
Pa-231	4.38E-09	2.65E-06	6.21E-03	2.87E-09	2.87E-09	4.93E-09	5.46E-09
Th-229	3.74E-09	2.26E-06	5.30E-03	1.70E-09	2.70E-09	4.95E-09	6.24E-09
Th-232	1.06E-08	6.40E-06	1.50E-02	5.47E-09	7.98E-09	1.32E-08	1.57E-08
U-232	8.19E-07	4.94E-04	1.16	4.46E-07	6.28E-07	1.04E-06	1.27E-06
U-233	3.14E-06	1.89E-03	4.44	1.71E-06	2.41E-06	3.98E-06	4.88E-06
U-234	1.67E-05	1.01E-02	23.6	1.66E-05	1.66E-05	1.67E-05	1.67E-05
U-235	7.45E-07	4.50E-04	1.06	7.43E-07	7.44E-07	7.46E-07	7.47E-07
U-236	1.28E-07	7.73E-05	0.181	1.27E-07	1.28E-07	1.29E-07	1.29E-07
U-238	1.70E-05	1.03E-02	24.1	1.69E-05	1.70E-05	1.70E-05	1.70E-05
Np-237	8.94E-07	5.39E-04	1.26	6.04E-07	7.45E-07	1.04E-06	1.19E-06
Pu-238	1.46E-06	8.78E-04	2.06	1.12E-06	1.28E-06	1.63E-06	1.80E-06
Pu-239	5.00E-05	3.02E-02	70.8	4.13E-05	4.56E-05	5.44E-05	5.87E-05
Pu-240	8.45E-06	5.10E-03	12.0	6.83E-06	7.62E-06	9.27E-06	1.01E-05
Pu-241	9.84E-05	5.94E-02	139	7.52E-05	8.66E-05	1.10E-04	1.22E-04
Pu-242	5.41E-10	3.26E-07	7.65E-04	4.02E-10	4.70E-10	6.11E-10	6.79E-10
Am-241	5.95E-05	3.59E-02	84.3	4.34E-05	5.13E-05	6.78E-05	7.57E-05
Am-243	2.12E-09	1.28E-06	3.00E-03	1.61E-09	1.85E-09	2.41E-09	2.67E-09
Cm-242	1.59E-07	9.60E-05	0.225	8.20E-08	8.20E-08	1.71E-07	1.83E-07
Cm-243	1.47E-08	8.90E-06	2.09E-02	7.39E-09	7.39E-09	1.58E-08	1.69E-08
Cm-244	1.44E-07	8.66E-05	0.203	6.77E-08	6.77E-08	1.69E-07	1.86E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.32E-04 (g/L)	----	0.894	4.67E-04	5.48E-04	7.15E-04	7.96E-04
U	0.211	3.03E+04	7.11E+04	0.210	0.211	0.211	0.212

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	2.91E-03 (kW)	(9.94 BTU/hr)	----	2.49E-03	2.70E-03	3.11E-03	3.30E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	1.41E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	803	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	8.60	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	4.85	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	408	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	1.43	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	2.24E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	554	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	28.1	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.37E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	4.60E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	1.05E+03	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	5.81	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	5.95	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	2.35E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.70E+06 (kg)	(436 kgal)	----	----	----	----	----
Heat Load	3.68 (kW)	(1.26E+04 BTU/hr)	----	3.43	3.55	3.81	3.94
Bulk Density*	1.64 (g/cc)	----	----	1.59	1.61	1.66	1.68
Water wt%	30.8	----	----	28.2	29.3	32.3	34.0
TOC wt% C (wet)	0.841	----	----	0.530	0.682	1.000	1.15

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.9	2.09E+05	5.64E+05	13.6	14.3	15.4	15.9
Al^{3+}	1.71	2.83E+04	7.62E+04	1.58	1.64	1.78	1.85
Fe^{3+} (total Fe)	1.18E-02	402	1.08E+03	9.73E-03	1.07E-02	1.28E-02	1.38E-02
Cr^{3+}	0.146	4.66E+03	1.26E+04	0.124	0.136	0.150	0.154
Bi^{3+}	1.61E-03	206	555	1.46E-03	1.53E-03	1.69E-03	1.76E-03
La^{3+}	4.24E-05	3.60	9.72	3.07E-05	3.64E-05	4.84E-05	5.42E-05
Hg^{2+}	1.06E-05	1.30	3.52	9.82E-06	1.03E-05	1.08E-05	1.09E-05
Zr (as $ZrO(OH)_2$)	3.08E-04	17.2	46.4	2.80E-04	2.90E-04	3.20E-04	3.35E-04
Pb^{2+}	1.14E-03	144	389	9.16E-04	1.02E-03	1.25E-03	1.36E-03
Ni^{2+}	7.02E-03	252	680	6.69E-03	6.85E-03	7.10E-03	7.17E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.95E-03	133	358	2.97E-03	3.45E-03	4.45E-03	4.93E-03
Ca^{2+}	3.70E-02	907	2.45E+03	3.41E-02	3.55E-02	3.85E-02	3.99E-02
K^+	6.96E-02	1.67E+03	4.49E+03	6.36E-02	6.65E-02	7.32E-02	7.60E-02
OH^-	10.2	1.06E+05	2.86E+05	9.49	9.82	10.6	10.8
$NO3^-$	5.34	2.03E+05	5.46E+05	4.85	5.14	5.42	5.49
$NO2^-$	2.52	7.08E+04	1.91E+05	2.10	2.29	2.73	2.94
$CO3^{2-}$	0.481	1.77E+04	4.77E+04	0.436	0.451	0.519	0.524
$PO4^{3-}$	0.104	6.04E+03	1.63E+04	8.79E-02	9.35E-02	0.107	0.110
$SO4^{2-}$	0.269	1.58E+04	4.26E+04	0.215	0.240	0.301	0.323
Si (as SiO_x^{2-})	8.36E-02	1.44E+03	3.88E+03	6.96E-02	7.65E-02	9.08E-02	9.76E-02
F^-	7.92E-02	920	2.48E+03	6.60E-02	7.15E-02	8.56E-02	9.07E-02
Cl^-	0.259	5.61E+03	1.51E+04	0.233	0.242	0.270	0.279
$C_6H_5O_7^{3-}$	2.90E-02	3.35E+03	9.04E+03	2.64E-02	2.77E-02	3.03E-02	3.15E-02
$EDTA^{4-}$	1.80E-02	3.17E+03	8.56E+03	5.39E-03	1.16E-02	2.45E-02	3.08E-02
$HEDTA^{3-}$	3.38E-02	5.67E+03	1.53E+04	8.60E-03	2.09E-02	4.68E-02	5.95E-02
$glycolate^-$	1.00E-01	4.59E+03	1.24E+04	6.64E-02	8.28E-02	0.117	0.134
$acetate^-$	6.98E-03	252	680	5.71E-03	6.33E-03	7.63E-03	8.25E-03
$oxalate^{2-}$	5.55E-05	2.99	8.07	4.92E-05	5.23E-05	5.88E-05	6.19E-05
DBP	2.00E-02	2.57E+03	6.93E+03	1.65E-02	1.82E-02	2.17E-02	2.34E-02
butanol	2.00E-02	906	2.44E+03	1.65E-02	1.82E-02	2.17E-02	2.34E-02
NH_3	9.51E-02	989	2.67E+03	7.93E-02	8.56E-02	0.107	0.122
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.90E+06 (kg)	(468 kgal)	----	----	----	----	----
Heat Load	3.68 (kW)	(1.26E+04 BTU/hr)	----	3.43	3.56	3.82	3.94
Bulk Density†	1.64 (g/cc)	----	----	1.59	1.62	1.66	1.68
Water wt%†	31.9	----	----	29.5	30.6	33.3	35.0
TOC wt% C (wet)†	0.782	----	----	0.492	0.634	0.930	1.07

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.2	1.99E+05	5.79E+05	13.1	13.6	14.7	15.2
Al^{3+}	1.60	2.63E+04	7.62E+04	1.47	1.53	1.66	1.72
Fe^{3+} (total Fe)	1.91E-02	650	1.89E+03	1.72E-02	1.81E-02	2.00E-02	2.10E-02
Cr^{3+}	0.137	4.33E+03	1.26E+04	0.115	0.127	0.140	0.144
Bi^{3+}	1.50E-03	191	555	1.36E-03	1.43E-03	1.57E-03	1.64E-03
La^{3+}	3.95E-05	3.35	9.72	2.86E-05	3.39E-05	4.51E-05	5.05E-05
Hg^{2+}	9.89E-06	1.21	3.52	9.15E-06	9.57E-06	1.00E-05	1.02E-05
Zr (as $ZrO(OH)_2$)	2.87E-04	16.0	46.4	2.61E-04	2.71E-04	2.98E-04	3.13E-04
Pb^{2+}	1.06E-03	134	389	8.54E-04	9.54E-04	1.16E-03	1.27E-03
Ni^{2+}	6.59E-03	236	685	6.28E-03	6.43E-03	6.66E-03	6.73E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.68E-03	123	358	2.77E-03	3.21E-03	4.14E-03	4.59E-03
Ca^{2+}	4.02E-02	984	2.86E+03	3.75E-02	3.88E-02	4.16E-02	4.30E-02
K^+	6.49E-02	1.55E+03	4.49E+03	5.93E-02	6.20E-02	6.82E-02	7.08E-02
OH^-	10.2	1.06E+05	3.08E+05	9.59	9.90	10.6	10.8
$NO3^-$	4.98	1.88E+05	5.47E+05	4.53	4.79	5.05	5.12
$NO2^-$	2.34	6.58E+04	1.91E+05	1.95	2.13	2.55	2.74
$CO3^{2-}$	0.577	2.12E+04	6.14E+04	0.535	0.550	0.612	0.618
$PO4^{3-}$	0.124	7.20E+03	2.09E+04	0.109	0.114	0.130	0.136
$SO4^{2-}$	0.257	1.50E+04	4.36E+04	0.206	0.230	0.286	0.307
Si (as SiO_x^{2-})	7.80E-02	1.34E+03	3.88E+03	6.50E-02	7.13E-02	8.47E-02	9.11E-02
F^-	7.37E-02	855	2.48E+03	6.15E-02	6.66E-02	7.98E-02	8.45E-02
Cl^-	0.241	5.22E+03	1.51E+04	0.217	0.225	0.252	0.260
$C_6H_5O_7^{3-}$	2.70E-02	3.11E+03	9.04E+03	2.46E-02	2.58E-02	2.82E-02	2.93E-02
$EDTA^{4-}$	1.68E-02	2.95E+03	8.56E+03	5.02E-03	1.08E-02	2.28E-02	2.87E-02
$HEDTA^{3-}$	3.15E-02	5.27E+03	1.53E+04	8.01E-03	1.95E-02	4.36E-02	5.54E-02
$glycolate^-$	9.32E-02	4.27E+03	1.24E+04	6.18E-02	7.72E-02	0.109	0.125
$acetate^-$	6.50E-03	234	680	5.32E-03	5.90E-03	7.10E-03	7.68E-03
$oxalate^{2-}$	5.17E-05	2.78	8.07	4.58E-05	4.87E-05	5.48E-05	5.77E-05
DBP	1.86E-02	2.39E+03	6.93E+03	1.54E-02	1.70E-02	2.02E-02	2.18E-02
butanol	1.86E-02	842	2.44E+03	1.54E-02	1.70E-02	2.02E-02	2.18E-02
NH_3	8.86E-02	920	2.67E+03	7.39E-02	7.97E-02	1.00E-01	0.113
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	2.91E-03 (kW)	(9.94 BTU/hr)	----	2.49E-03	2.70E-03	3.11E-03	3.30E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	0.115	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.330	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	1.16E-02	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	1.02	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	5.70E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	8.61E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	242	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	242	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	4.10E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	3.53E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.283	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.34E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	8.34E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	3.08E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.28E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	5.27E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	3.29E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	273	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	258	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	32.5	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	7.61E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	7.66E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	1.15	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	1.66E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	1.04E-10	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	4.16E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	3.85E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	2.00E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.27E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.97E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	1.18E-05	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	16.6	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.749	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	0.106	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	16.9	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	1.70E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.28E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.401	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	2.36E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	1.51E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	4.63E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	1.42E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	3.97E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	3.05E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	4.53E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	6.08E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	6.56E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	5.05E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.70E+06 (kg)	(436 kgal)	----	----	----	----	----
Heat Load	3.68 (kW)	(1.26E+04 BTU/hr)	----	3.43	3.55	3.81	3.94
Bulk Density*	1.64 (g/cc)	----	----	1.59	1.61	1.66	1.68
Water wt%†	30.8	----	----	28.2	29.3	32.3	34.0
TOC wt% C (wet)	0.841	----	----	0.530	0.682	1.000	1.15

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.59E-04	0.158	427	1.34E-04	1.34E-04	2.69E-04	2.81E-04
C-14	3.78E-05	2.31E-02	62.3	1.17E-05	1.17E-05	3.84E-05	3.90E-05
Ni-59	2.47E-06	1.51E-03	4.08	1.24E-06	1.24E-06	2.53E-06	2.59E-06
Ni-63	2.42E-04	0.148	400	1.21E-04	1.21E-04	2.48E-04	2.54E-04
Co-60	4.22E-05	2.58E-02	69.6	1.23E-05	1.23E-05	4.31E-05	4.39E-05
Se-79	3.77E-06	2.31E-03	6.22	2.10E-06	2.10E-06	4.37E-06	4.95E-06
Sr-90	0.127	77.7	2.10E+05	0.119	0.123	0.131	0.135
Y-90	0.127	77.7	2.10E+05	6.95E-02	6.95E-02	0.131	0.135
Zr-93	1.85E-05	1.13E-02	30.5	1.02E-05	1.02E-05	2.15E-05	2.44E-05
Nb-93m	1.34E-05	8.21E-03	22.2	7.59E-06	7.59E-06	1.55E-05	1.76E-05
Tc-99	2.69E-04	0.164	444	1.72E-04	2.19E-04	3.19E-04	3.67E-04
Ru-106	7.64E-09	4.67E-06	1.26E-02	3.77E-09	3.77E-09	8.50E-09	9.29E-09
Cd-113m	9.74E-05	5.95E-02	161	4.74E-05	4.74E-05	1.15E-04	1.33E-04
Sb-125	1.82E-04	0.112	301	5.29E-05	5.29E-05	1.86E-04	1.90E-04
Sn-126	5.70E-06	3.49E-03	9.40	3.20E-06	3.20E-06	6.60E-06	7.47E-06
I-129	5.18E-07	3.17E-04	0.856	3.30E-07	4.22E-07	6.15E-07	7.09E-07
Cs-134	3.09E-06	1.89E-03	5.09	2.13E-06	2.60E-06	3.58E-06	4.06E-06
Cs-137	0.294	180	4.84E+05	0.261	0.277	0.310	0.327
Ba-137m	0.278	170	4.58E+05	0.226	0.226	0.294	0.309
Sm-151	1.33E-02	8.12	2.19E+04	7.44E-03	7.44E-03	1.54E-02	1.74E-02
Eu-152	4.51E-06	2.76E-03	7.45	2.45E-06	2.45E-06	4.86E-06	5.20E-06
Eu-154	6.88E-04	0.421	1.13E+03	2.71E-04	2.71E-04	8.38E-04	8.98E-04
Eu-155	2.68E-04	0.164	442	1.45E-04	1.45E-04	2.89E-04	3.10E-04
Ra-226	1.62E-10	9.91E-08	2.67E-04	1.10E-10	1.10E-10	1.81E-10	1.99E-10
Ra-228	1.77E-07	1.08E-04	0.292	7.30E-08	1.24E-07	2.38E-07	3.04E-07
Ac-227	1.03E-09	6.32E-07	1.70E-03	7.33E-10	7.33E-10	1.14E-09	1.25E-09
Pa-231	4.73E-09	2.89E-06	7.80E-03	3.06E-09	3.06E-09	5.33E-09	5.91E-09
Th-229	4.14E-09	2.53E-06	6.83E-03	1.86E-09	2.97E-09	5.49E-09	6.93E-09
Th-232	1.16E-08	7.11E-06	1.92E-02	5.87E-09	8.69E-09	1.46E-08	1.74E-08
U-232	9.02E-07	5.52E-04	1.49	4.85E-07	6.89E-07	1.15E-06	1.41E-06
U-233	3.46E-06	2.11E-03	5.71	1.86E-06	2.64E-06	4.40E-06	5.41E-06
U-234	9.33E-07	5.71E-04	1.54	8.96E-07	9.18E-07	9.50E-07	9.61E-07
U-235	3.78E-08	2.31E-05	6.23E-02	3.62E-08	3.71E-08	3.85E-08	3.89E-08
U-236	2.94E-08	1.80E-05	4.86E-02	2.83E-08	2.90E-08	2.99E-08	3.03E-08
U-238	1.10E-06	6.73E-04	1.82	1.06E-06	1.08E-06	1.12E-06	1.13E-06
Np-237	9.74E-07	5.96E-04	1.61	6.56E-07	8.11E-07	1.14E-06	1.30E-06
Pu-238	1.57E-06	9.63E-04	2.60	1.20E-06	1.38E-06	1.77E-06	1.95E-06
Pu-239	5.39E-05	3.30E-02	88.9	4.43E-05	4.90E-05	5.87E-05	6.34E-05
Pu-240	9.15E-06	5.59E-03	15.1	7.36E-06	8.24E-06	1.01E-05	1.09E-05
Pu-241	1.06E-04	6.51E-02	176	8.10E-05	9.35E-05	1.20E-04	1.32E-04
Pu-242	5.86E-10	3.58E-07	9.67E-04	4.34E-10	5.08E-10	6.63E-10	7.38E-10
Am-241	6.49E-05	3.97E-02	107	4.72E-05	5.58E-05	7.39E-05	8.26E-05
Am-243	2.29E-09	1.40E-06	3.79E-03	1.74E-09	2.00E-09	2.62E-09	2.89E-09
Cm-242	1.73E-07	1.06E-04	0.285	8.78E-08	8.78E-08	1.86E-07	1.99E-07
Cm-243	1.60E-08	9.79E-06	2.64E-02	7.93E-09	7.93E-09	1.72E-08	1.84E-08
Cm-244	1.56E-07	9.52E-05	0.257	7.23E-08	7.23E-08	1.84E-07	2.02E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.83E-04 (g/L)	----	1.13	5.02E-04	5.91E-04	7.75E-04	8.63E-04
U	1.06E-02	1.55E+03	4.18E+03	1.02E-02	1.04E-02	1.09E-02	1.10E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.90E+06 (kg)	(468 kgal)	----	----	----	----	----
Heat Load	3.68 (kW)	(1.26E+04 BTU/hr)	----	3.43	3.56	3.82	3.94
Bulk Density†	1.64 (g/cc)	----	----	1.59	1.62	1.66	1.68
Water wt%†	31.9	----	----	29.5	30.6	33.3	35.0
TOC wt% C (wet)†	0.782	----	----	0.492	0.634	0.930	1.07

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.41E-04	0.147	427	1.25E-04	1.25E-04	2.50E-04	2.62E-04
C-14	3.54E-05	2.16E-02	62.7	1.10E-05	1.10E-05	3.60E-05	3.66E-05
Ni-59	2.31E-06	1.41E-03	4.09	1.16E-06	1.16E-06	2.37E-06	2.42E-06
Ni-63	2.26E-04	0.138	401	1.13E-04	1.13E-04	2.32E-04	2.37E-04
Co-60	3.93E-05	2.40E-02	69.6	1.15E-05	1.15E-05	4.01E-05	4.09E-05
Se-79	3.52E-06	2.15E-03	6.23	1.97E-06	1.97E-06	4.08E-06	4.62E-06
Sr-90	0.118	72.3	2.10E+05	0.111	0.115	0.122	0.126
Y-90	0.119	72.3	2.10E+05	6.49E-02	6.49E-02	0.122	0.126
Zr-93	1.73E-05	1.05E-02	30.6	9.50E-06	9.50E-06	2.01E-05	2.28E-05
Nb-93m	1.25E-05	7.64E-03	22.2	7.09E-06	7.09E-06	1.45E-05	1.64E-05
Tc-99	2.51E-04	0.153	444	1.60E-04	2.04E-04	2.97E-04	3.42E-04
Ru-106	7.11E-09	4.34E-06	1.26E-02	3.51E-09	3.51E-09	7.92E-09	8.65E-09
Cd-113m	9.07E-05	5.54E-02	161	4.42E-05	4.42E-05	1.08E-04	1.24E-04
Sb-125	1.70E-04	0.104	301	4.93E-05	4.93E-05	1.74E-04	1.77E-04
Sn-126	5.32E-06	3.24E-03	9.42	2.99E-06	2.99E-06	6.16E-06	6.97E-06
I-129	4.83E-07	2.95E-04	0.856	3.08E-07	3.94E-07	5.74E-07	6.61E-07
Cs-134	2.87E-06	1.75E-03	5.09	1.98E-06	2.42E-06	3.33E-06	3.78E-06
Cs-137	0.274	167	4.85E+05	0.243	0.258	0.289	0.305
Ba-137m	0.259	158	4.59E+05	0.211	0.211	0.274	0.288
Sm-151	1.24E-02	7.56	2.19E+04	6.95E-03	6.95E-03	1.44E-02	1.62E-02
Eu-152	4.21E-06	2.57E-03	7.46	2.28E-06	2.28E-06	4.53E-06	4.85E-06
Eu-154	6.41E-04	0.391	1.13E+03	2.53E-04	2.53E-04	7.81E-04	8.37E-04
Eu-155	2.50E-04	0.153	443	1.35E-04	1.35E-04	2.70E-04	2.89E-04
Ra-226	1.60E-10	9.79E-08	2.84E-04	1.12E-10	1.12E-10	1.78E-10	1.95E-10
Ra-228	1.65E-07	1.01E-04	0.292	6.80E-08	1.15E-07	2.22E-07	2.83E-07
Ac-227	9.86E-10	6.02E-07	1.75E-03	7.06E-10	7.06E-10	1.09E-09	1.18E-09
Pa-231	4.43E-09	2.70E-06	7.84E-03	2.87E-09	2.87E-09	4.99E-09	5.53E-09
Th-229	3.86E-09	2.35E-06	6.83E-03	1.73E-09	2.77E-09	5.12E-09	6.46E-09
Th-232	1.08E-08	6.61E-06	1.92E-02	5.47E-09	8.10E-09	1.36E-08	1.62E-08
U-232	8.40E-07	5.13E-04	1.49	4.52E-07	6.42E-07	1.07E-06	1.32E-06
U-233	3.22E-06	1.97E-03	5.71	1.74E-06	2.46E-06	4.10E-06	5.04E-06
U-234	1.03E-05	6.27E-03	18.2	1.02E-05	1.03E-05	1.03E-05	1.03E-05
U-235	4.58E-07	2.79E-04	0.811	4.56E-07	4.57E-07	4.59E-07	4.59E-07
U-236	8.74E-08	5.34E-05	0.155	8.64E-08	8.70E-08	8.78E-08	8.82E-08
U-238	1.05E-05	6.43E-03	18.7	1.05E-05	1.05E-05	1.06E-05	1.06E-05
Np-237	9.08E-07	5.54E-04	1.61	6.12E-07	7.56E-07	1.06E-06	1.21E-06
Pu-238	1.47E-06	8.96E-04	2.60	1.12E-06	1.29E-06	1.65E-06	1.82E-06
Pu-239	5.04E-05	3.08E-02	89.3	4.15E-05	4.59E-05	5.50E-05	5.93E-05
Pu-240	8.53E-06	5.21E-03	15.1	6.87E-06	7.69E-06	9.38E-06	1.02E-05
Pu-241	9.92E-05	6.06E-02	176	7.55E-05	8.71E-05	1.11E-04	1.23E-04
Pu-242	5.46E-10	3.33E-07	9.67E-04	4.04E-10	4.73E-10	6.18E-10	6.88E-10
Am-241	6.05E-05	3.69E-02	107	4.40E-05	5.20E-05	6.89E-05	7.70E-05
Am-243	2.14E-09	1.30E-06	3.79E-03	1.62E-09	1.87E-09	2.44E-09	2.70E-09
Cm-242	1.61E-07	9.82E-05	0.285	8.19E-08	8.19E-08	1.73E-07	1.85E-07
Cm-243	1.49E-08	9.10E-06	2.64E-02	7.39E-09	7.39E-09	1.60E-08	1.71E-08
Cm-244	1.45E-07	8.85E-05	0.257	6.73E-08	6.73E-08	1.71E-07	1.88E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.40E-04 (g/L)	----	1.13	4.72E-04	5.55E-04	7.26E-04	8.08E-04
U	0.130	1.88E+04	5.47E+04	0.129	0.129	0.130	0.130

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.13E+05 (kg)	(79.0 kgal)	----	----	----	----	----
Heat Load	3.64E-03 (kW)	(12.4 BTU/hr)	----	3.11E-03	3.37E-03	3.89E-03	4.12E-03
Bulk Density	1.05 (g/cc)	----	----	1.01	1.03	1.06	1.07
Void Fraction	0.200	----	----	0.144	0.170	0.236	0.276
Water wt%	37.2	----	----	35.7	36.4	38.3	39.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.83	1.72E+05	5.39E+04	6.98	7.43	8.18	8.46
Al^{3+}	3.95E-02	1.02E+03	319	3.95E-02	3.95E-02	3.95E-02	3.95E-02
Fe^{3+} (total Fe)	0.105	5.58E+03	1.75E+03	0.101	0.103	0.106	0.108
Cr^{3+}	6.91E-04	34.4	10.7	5.90E-04	6.41E-04	7.40E-04	7.83E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	3.46E-04	19.4	6.07	3.01E-04	3.23E-04	6.27E-04	1.08E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.21E-02	3.15E+03	984	6.91E-02	7.54E-02	8.88E-02	9.51E-02
K^+	1.52E-04	5.70	1.78	1.30E-04	1.41E-04	1.63E-04	1.73E-04
OH^-	5.50	8.95E+04	2.80E+04	5.48	5.49	5.51	5.52
$NO3^-$	3.74E-02	2.21E+03	692	3.17E-02	3.45E-02	4.01E-02	4.26E-02
$NO2^-$	2.55E-03	112	35.1	2.16E-03	2.35E-03	2.76E-03	2.96E-03
$CO3^{2-}$	0.956	5.49E+04	1.72E+04	0.688	0.830	1.07	1.16
$PO4^{3-}$	0.203	1.84E+04	5.75E+03	8.70E-02	0.148	0.249	0.287
$SO4^{2-}$	4.57E-02	4.20E+03	1.31E+03	3.90E-02	4.24E-02	4.89E-02	5.18E-02
Si (as SiO_x^{2-})	2.80	7.52E+04	2.35E+04	2.80	2.80	2.80	2.80
F^-	0	0	0	0	0	0	0
Cl^-	7.01E-04	23.8	7.43	5.99E-04	6.50E-04	7.51E-04	7.95E-04
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.77E-07	9.38E-03	2.93E-03	3.14E-07	4.28E-07	7.63E-07	9.81E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.95E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	0.620 (kW)	(2.12E+03 BTU/hr)	----	0.504	0.560	0.680	0.738
Bulk Density*	1.81 (g/cc)	----	----	1.73	1.77	1.84	1.88
Water wt%	22.1	----	----	19.6	20.7	24.8	28.1
TOC wt% C (wet)	0.170	----	----	0.152	0.161	0.179	0.187

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	17.7	2.24E+05	6.62E+04	15.4	16.5	18.3	18.7
Al^{3+}	2.58	3.84E+04	1.13E+04	2.21	2.39	2.77	2.96
Fe^{3+} (total Fe)	1.48E-02	455	134	1.36E-02	1.42E-02	1.53E-02	1.59E-02
Cr^{3+}	0.158	4.53E+03	1.34E+03	0.132	0.146	0.161	0.164
Bi^{3+}	3.64E-03	419	124	3.19E-03	3.41E-03	3.86E-03	4.08E-03
La^{3+}	1.48E-09	1.13E-04	3.34E-05	1.07E-09	1.27E-09	1.69E-09	1.89E-09
Hg^{2+}	2.94E-05	3.26	0.960	2.71E-05	2.84E-05	2.98E-05	3.02E-05
Zr (as $ZrO(OH)_2$)	1.10E-03	55.1	16.3	1.01E-03	1.04E-03	1.13E-03	1.17E-03
Pb^{2+}	3.24E-03	371	109	2.64E-03	2.94E-03	3.55E-03	3.85E-03
Ni^{2+}	1.27E-02	410	121	1.17E-02	1.22E-02	1.29E-02	1.29E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.14E-03	95.2	28.1	2.27E-03	2.70E-03	3.58E-03	4.01E-03
Ca^{2+}	6.64E-02	1.47E+03	433	6.19E-02	6.41E-02	6.87E-02	7.09E-02
K^+	9.85E-02	2.13E+03	627	7.27E-02	8.52E-02	0.112	0.125
OH^-	13.1	1.22E+05	3.61E+04	11.6	12.3	13.8	14.6
$NO3^-$	7.20	2.46E+05	7.26E+04	5.78	6.61	7.40	7.60
$NO2^-$	3.27	8.29E+04	2.44E+04	3.02	3.10	3.42	3.56
$CO3^{2-}$	0.490	1.62E+04	4.78E+03	0.358	0.402	0.599	0.615
$PO4^{3-}$	0.165	8.66E+03	2.56E+03	0.135	0.146	0.174	0.182
$SO4^{2-}$	0.338	1.79E+04	5.28E+03	0.221	0.261	0.431	0.440
Si (as SiO_x^{2-})	0.104	1.61E+03	474	9.19E-02	9.77E-02	0.109	0.112
F^-	0.193	2.03E+03	598	0.155	0.171	0.212	0.227
Cl^-	0.288	5.64E+03	1.66E+03	0.211	0.238	0.317	0.317
$C_6H_5O_7^{3-}$	2.46E-04	25.7	7.58	2.15E-04	2.30E-04	2.62E-04	2.78E-04
$EDTA^{4-}$	3.30E-04	52.4	15.5	2.67E-04	2.98E-04	3.61E-04	3.92E-04
$HEDTA^{3-}$	2.39E-06	0.361	0.106	1.13E-06	1.74E-06	3.04E-06	3.67E-06
$glycolate^-$	7.82E-05	3.24	0.955	3.65E-05	5.67E-05	9.95E-05	1.20E-04
$acetate^-$	2.09E-03	68.2	20.1	1.70E-03	1.89E-03	2.30E-03	2.49E-03
$oxalate^{2-}$	1.93E-09	9.40E-05	2.77E-05	1.71E-09	1.82E-09	2.05E-09	2.15E-09
DBP	2.06E-02	2.39E+03	704	1.84E-02	1.95E-02	2.17E-02	2.28E-02
butanol	2.06E-02	842	248	1.84E-02	1.95E-02	2.17E-02	2.28E-02
NH_3	0.224	2.10E+03	619	0.134	0.178	0.271	0.317
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.08E+05 (kg)	(122 kgal)	----	----	----	----	----
Heat Load	0.623 (kW)	(2.13E+03 BTU/hr)	----	0.507	0.564	0.684	0.742
Bulk Density†	1.32 (g/cc)	----	----	1.29	1.30	1.33	1.34
Water wt%†	29.9	----	----	28.5	29.1	31.3	32.9
TOC wt% C (wet)†	8.23E-02	----	----	7.38E-02	7.80E-02	8.67E-02	9.09E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.3	1.98E+05	1.20E+05	10.5	10.9	11.5	11.7
Al^{3+}	0.936	1.92E+04	1.17E+04	0.804	0.869	1.00	1.07
Fe^{3+} (total Fe)	7.29E-02	3.09E+03	1.88E+03	7.07E-02	7.18E-02	7.40E-02	7.50E-02
Cr^{3+}	5.61E-02	2.22E+03	1.35E+03	4.69E-02	5.19E-02	5.71E-02	5.81E-02
Bi^{3+}	1.28E-03	204	124	1.13E-03	1.20E-03	1.36E-03	1.44E-03
La^{3+}	5.20E-10	5.49E-05	3.34E-05	3.77E-10	4.47E-10	5.94E-10	6.65E-10
Hg^{2+}	1.04E-05	1.58	0.960	9.55E-06	1.00E-05	1.05E-05	1.07E-05
Zr (as $ZrO(OH)_2$)	3.86E-04	26.8	16.3	3.57E-04	3.68E-04	3.98E-04	4.14E-04
Pb^{2+}	1.14E-03	180	109	9.30E-04	1.03E-03	1.25E-03	1.36E-03
Ni^{2+}	4.68E-03	209	127	4.37E-03	4.52E-03	4.87E-03	5.16E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.11E-03	46.2	28.1	8.00E-04	9.50E-04	1.26E-03	1.41E-03
Ca^{2+}	7.66E-02	2.33E+03	1.42E+03	6.81E-02	7.22E-02	8.09E-02	8.50E-02
K^+	3.48E-02	1.03E+03	629	2.57E-02	3.01E-02	3.96E-02	4.42E-02
OH^-	8.16	1.05E+05	6.41E+04	7.64	7.90	8.43	8.69
$NO3^-$	2.56	1.21E+05	7.33E+04	2.06	2.36	2.63	2.70
$NO2^-$	1.15	4.03E+04	2.45E+04	1.07	1.09	1.21	1.26
$CO3^{2-}$	0.792	3.61E+04	2.19E+04	0.618	0.710	0.862	0.922
$PO4^{3-}$	0.189	1.37E+04	8.31E+03	0.115	0.154	0.220	0.244
$SO4^{2-}$	0.149	1.09E+04	6.60E+03	0.107	0.122	0.181	0.185
Si (as SiO_x^{2-})	1.85	3.95E+04	2.40E+04	1.85	1.85	1.85	1.85
F^-	6.82E-02	984	598	5.46E-02	6.03E-02	7.48E-02	8.01E-02
Cl^-	0.102	2.75E+03	1.67E+03	7.50E-02	8.43E-02	0.112	0.112
$C_6H_5O_7^{3-}$	8.68E-05	12.5	7.58	7.59E-05	8.12E-05	9.24E-05	9.78E-05
$EDTA^{4-}$	1.16E-04	25.4	15.5	9.42E-05	1.05E-04	1.27E-04	1.38E-04
$HEDTA^{3-}$	8.41E-07	0.175	0.106	3.99E-07	6.12E-07	1.07E-06	1.29E-06
$glycolate^-$	2.76E-05	1.57	0.955	1.29E-05	2.00E-05	3.51E-05	4.22E-05
$acetate^-$	7.38E-04	33.1	20.1	5.98E-04	6.66E-04	8.09E-04	8.78E-04
$oxalate^{2-}$	6.82E-10	4.56E-05	2.77E-05	6.04E-10	6.42E-10	7.21E-10	7.59E-10
DBP	7.25E-03	1.16E+03	704	6.47E-03	6.86E-03	7.65E-03	8.04E-03
butanol	7.25E-03	409	248	6.47E-03	6.86E-03	7.65E-03	8.04E-03
NH_3	7.89E-02	1.02E+03	619	4.71E-02	6.26E-02	9.55E-02	0.112
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.13E+05 (kg)	(79.0 kgal)	----	----	----	----	----
Heat Load	3.64E-03 (kW)	(12.4 BTU/hr)	----	3.11E-03	3.37E-03	3.89E-03	4.12E-03
Bulk Density	1.05 (g/cc)	----	----	1.01	1.03	1.06	1.07
Void Fraction	0.200	----	----	0.144	0.170	0.236	0.276
Water wt%	37.2	----	----	35.7	36.4	38.3	39.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.81E-07	4.60E-04	0.144	3.99E-07	4.39E-07	5.25E-07	5.68E-07
C-14	1.38E-06	1.32E-03	0.413	9.72E-07	1.19E-06	1.54E-06	1.68E-06
Ni-59	4.87E-08	4.66E-05	1.46E-02	4.25E-08	4.55E-08	8.83E-08	1.53E-07
Ni-63	4.27E-06	4.09E-03	1.28	3.73E-06	4.00E-06	7.76E-06	1.34E-05
Co-60	2.38E-08	2.28E-05	7.13E-03	2.04E-08	2.21E-08	2.55E-08	2.70E-08
Se-79	3.60E-08	3.44E-05	1.08E-02	3.07E-08	3.33E-08	3.85E-08	4.08E-08
Sr-90	1.01E-03	0.968	303	8.65E-04	9.38E-04	1.08E-03	1.15E-03
Y-90	1.01E-03	0.968	303	8.65E-04	9.38E-04	1.08E-03	1.15E-03
Zr-93	1.71E-07	1.64E-04	5.13E-02	1.47E-07	1.59E-07	1.84E-07	1.94E-07
Nb-93m	1.48E-07	1.41E-04	4.42E-02	1.26E-07	1.37E-07	1.58E-07	1.67E-07
Tc-99	1.18E-06	1.13E-03	0.354	1.01E-06	1.10E-06	1.27E-06	1.34E-06
Ru-106	5.62E-16	5.37E-13	1.68E-10	4.80E-16	5.21E-16	6.01E-16	6.37E-16
Cd-113m	3.49E-07	3.33E-04	0.104	2.98E-07	3.23E-07	3.73E-07	3.95E-07
Sb-125	1.29E-08	1.23E-05	3.85E-03	1.10E-08	1.19E-08	1.38E-08	1.46E-08
Sn-126	5.34E-08	5.11E-05	1.60E-02	4.56E-08	4.95E-08	5.72E-08	6.05E-08
I-129	2.20E-09	2.11E-06	6.58E-04	1.88E-09	2.04E-09	2.36E-09	2.50E-09
Cs-134	1.38E-11	1.32E-08	4.11E-06	1.18E-11	1.28E-11	1.47E-11	1.56E-11
Cs-137	1.14E-03	1.09	341	9.75E-04	1.06E-03	1.22E-03	1.29E-03
Ba-137m	1.08E-03	1.03	323	9.22E-04	1.00E-03	1.15E-03	1.22E-03
Sm-151	1.36E-04	0.130	40.7	1.16E-04	1.26E-04	1.45E-04	1.54E-04
Eu-152	3.18E-08	3.04E-05	9.52E-03	3.16E-08	3.17E-08	3.19E-08	3.20E-08
Eu-154	3.20E-07	3.06E-04	9.58E-02	2.74E-07	2.97E-07	3.43E-07	3.63E-07
Eu-155	4.81E-06	4.60E-03	1.44	4.78E-06	4.79E-06	4.83E-06	4.84E-06
Ra-226	6.95E-11	6.65E-08	2.08E-05	1.53E-11	1.53E-11	1.53E-10	2.33E-10
Ra-228	4.33E-16	4.14E-13	1.30E-10	4.30E-16	4.32E-16	4.35E-16	4.36E-16
Ac-227	1.74E-10	1.66E-07	5.19E-05	7.73E-11	7.73E-11	6.57E-10	1.12E-09
Pa-231	1.61E-10	1.54E-07	4.82E-05	1.38E-10	1.49E-10	1.72E-10	9.86E-10
Th-229	8.35E-14	7.99E-11	2.50E-08	8.29E-14	8.32E-14	8.38E-14	8.41E-14
Th-232	5.31E-17	5.08E-14	1.59E-11	4.54E-17	4.92E-17	5.69E-17	6.02E-17
U-232	8.25E-10	7.89E-07	2.47E-04	8.22E-10	8.24E-10	8.26E-10	8.27E-10
U-233	4.94E-11	4.72E-08	1.48E-05	4.92E-11	4.93E-11	4.94E-11	4.95E-11
U-234	6.96E-05	6.65E-02	20.8	6.93E-05	6.95E-05	6.97E-05	6.98E-05
U-235	3.13E-06	2.99E-03	0.936	3.12E-06	3.12E-06	3.13E-06	3.14E-06
U-236	4.44E-07	4.25E-04	0.133	4.43E-07	4.44E-07	4.45E-07	4.45E-07
U-238	7.05E-05	6.74E-02	21.1	7.02E-05	7.03E-05	7.06E-05	7.06E-05
Np-237	7.10E-09	6.79E-06	2.12E-03	6.07E-09	6.58E-09	7.60E-09	8.05E-09
Pu-238	5.36E-09	5.12E-06	1.60E-03	4.67E-09	5.01E-09	3.61E-08	7.34E-08
Pu-239	1.68E-06	1.60E-03	0.502	1.46E-06	1.57E-06	1.13E-05	2.30E-05
Pu-240	9.89E-08	9.45E-05	2.96E-02	8.62E-08	9.24E-08	6.67E-07	1.35E-06
Pu-241	6.33E-08	6.05E-05	1.89E-02	5.52E-08	5.92E-08	4.27E-07	8.67E-07
Pu-242	1.93E-13	1.85E-10	5.78E-08	1.69E-13	1.81E-13	1.30E-12	2.65E-12
Am-241	5.94E-08	5.68E-05	1.78E-02	5.07E-08	5.51E-08	6.35E-08	6.73E-08
Am-243	1.66E-13	1.59E-10	4.97E-08	1.42E-13	1.54E-13	1.78E-13	1.88E-13
Cm-242	1.28E-10	1.22E-07	3.82E-05	1.27E-10	1.27E-10	1.28E-10	1.29E-10
Cm-243	1.90E-12	1.81E-09	5.67E-07	1.88E-12	1.89E-12	1.90E-12	1.91E-12
Cm-244	2.54E-12	2.43E-09	7.60E-07	2.17E-12	2.36E-12	2.72E-12	2.88E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.74E-05 (g/L)	----	8.20E-03	2.39E-05	2.56E-05	1.85E-04	3.76E-04
U	0.887	2.02E+05	6.31E+04	0.884	0.885	0.888	0.889

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.95E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	0.620 (kW)	(2.12E+03 BTU/hr)	----	0.504	0.560	0.680	0.738
Bulk Density*	1.81 (g/cc)	----	----	1.73	1.77	1.84	1.88
Water wt%†	22.1	----	----	19.6	20.7	24.8	28.1
TOC wt% C (wet)	0.170	----	----	0.152	0.161	0.179	0.187

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.32E-04	0.128	37.8	1.91E-04	2.01E-04	2.69E-04	3.15E-04
C-14	2.75E-05	1.52E-02	4.47	2.16E-05	2.45E-05	3.05E-05	3.34E-05
Ni-59	3.38E-06	1.87E-03	0.551	3.11E-06	3.29E-06	3.45E-06	3.50E-06
Ni-63	3.30E-04	0.182	53.8	3.03E-04	3.21E-04	3.36E-04	3.42E-04
Co-60	2.64E-05	1.46E-02	4.29	1.83E-05	2.23E-05	3.05E-05	3.45E-05
Se-79	3.65E-06	2.01E-03	0.594	2.71E-06	3.17E-06	4.13E-06	4.34E-06
Sr-90	9.56E-02	52.7	1.56E+04	8.49E-02	8.87E-02	0.104	0.105
Y-90	9.56E-02	52.8	1.56E+04	8.05E-02	8.05E-02	9.73E-02	9.89E-02
Zr-93	1.80E-05	9.95E-03	2.93	1.33E-05	1.56E-05	2.04E-05	2.09E-05
Nb-93m	1.30E-05	7.20E-03	2.12	9.77E-06	1.14E-05	1.47E-05	1.58E-05
Tc-99	1.99E-04	0.110	32.4	1.58E-04	1.78E-04	2.20E-04	2.41E-04
Ru-106	4.31E-09	2.38E-06	7.02E-04	3.26E-09	3.77E-09	4.85E-09	5.37E-09
Cd-113m	9.02E-05	4.98E-02	14.7	6.54E-05	7.92E-05	9.66E-05	1.03E-04
Sb-125	9.75E-05	5.38E-02	15.9	6.13E-05	7.90E-05	1.16E-04	1.34E-04
Sn-126	5.49E-06	3.03E-03	0.894	4.09E-06	4.77E-06	6.21E-06	6.62E-06
I-129	3.82E-07	2.11E-04	6.22E-02	3.02E-07	3.41E-07	4.24E-07	4.64E-07
Cs-134	5.06E-06	2.79E-03	0.824	3.15E-06	4.08E-06	6.05E-06	7.01E-06
Cs-137	0.676	373	1.10E+05	0.523	0.597	0.754	0.830
Ba-137m	0.639	353	1.04E+05	0.495	0.565	0.714	0.786
Sm-151	1.28E-02	7.08	2.09E+03	9.56E-03	1.12E-02	1.45E-02	1.54E-02
Eu-152	3.67E-06	2.02E-03	0.597	2.71E-06	3.18E-06	4.16E-06	4.64E-06
Eu-154	4.79E-04	0.264	78.0	3.74E-04	4.25E-04	5.33E-04	5.60E-04
Eu-155	2.26E-04	0.124	36.7	1.54E-04	1.89E-04	2.62E-04	2.98E-04
Ra-226	1.80E-10	9.94E-08	2.93E-05	1.44E-10	1.44E-10	1.95E-10	2.09E-10
Ra-228	1.60E-08	8.84E-06	2.61E-03	6.36E-09	1.11E-08	2.18E-08	2.79E-08
Ac-227	1.30E-09	7.17E-07	2.11E-04	1.09E-09	1.11E-09	1.41E-09	1.51E-09
Pa-231	5.91E-09	3.26E-06	9.62E-04	4.74E-09	5.31E-09	6.51E-09	7.09E-09
Th-229	9.31E-10	5.14E-07	1.52E-04	5.18E-10	7.20E-10	1.14E-09	1.35E-09
Th-232	4.28E-09	2.36E-06	6.97E-04	2.33E-09	3.28E-09	5.28E-09	6.25E-09
U-232	6.35E-07	3.51E-04	0.103	5.80E-07	6.07E-07	6.64E-07	6.91E-07
U-233	2.44E-06	1.35E-03	0.397	2.23E-06	2.33E-06	2.55E-06	2.65E-06
U-234	1.73E-06	9.56E-04	0.282	1.63E-06	1.72E-06	1.75E-06	1.76E-06
U-235	7.03E-08	3.88E-05	1.14E-02	6.61E-08	6.95E-08	7.11E-08	7.15E-08
U-236	6.73E-08	3.71E-05	1.10E-02	6.42E-08	6.63E-08	6.83E-08	6.92E-08
U-238	1.57E-06	8.69E-04	0.256	1.48E-06	1.56E-06	1.59E-06	1.60E-06
Np-237	7.40E-07	4.08E-04	0.120	6.00E-07	6.68E-07	8.11E-07	8.81E-07
Pu-238	1.22E-06	6.75E-04	0.199	1.04E-06	1.13E-06	1.32E-06	1.40E-06
Pu-239	4.60E-05	2.54E-02	7.49	4.09E-05	4.34E-05	4.86E-05	5.12E-05
Pu-240	7.12E-06	3.93E-03	1.16	6.20E-06	6.65E-06	7.58E-06	8.03E-06
Pu-241	7.34E-05	4.05E-02	12.0	6.13E-05	6.72E-05	7.96E-05	8.56E-05
Pu-242	3.65E-10	2.02E-07	5.94E-05	2.69E-10	3.16E-10	4.14E-10	4.62E-10
Am-241	5.89E-05	3.25E-02	9.58	4.48E-05	5.17E-05	6.60E-05	7.29E-05
Am-243	1.80E-09	9.91E-07	2.92E-04	1.36E-09	1.57E-09	1.98E-09	2.15E-09
Cm-242	1.10E-07	6.08E-05	1.79E-02	8.36E-08	9.65E-08	1.24E-07	1.37E-07
Cm-243	8.43E-09	4.65E-06	1.37E-03	6.40E-09	7.39E-09	9.48E-09	1.05E-08
Cm-244	1.04E-07	5.72E-05	1.69E-02	7.75E-08	9.03E-08	1.17E-07	1.30E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.72E-04 (g/L)	----	0.126	6.85E-04	7.28E-04	8.16E-04	8.59E-04
U	1.92E-02	2.52E+03	743	1.80E-02	1.90E-02	1.94E-02	1.95E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.08E+05 (kg)	(122 kgal)	----	----	----	----	----
Heat Load	0.623 (kW)	(2.13E+03 BTU/hr)	----	0.507	0.564	0.684	0.742
Bulk Density†	1.32 (g/cc)	----	----	1.29	1.30	1.33	1.34
Water wt%†	29.9	----	----	28.5	29.1	31.3	32.9
TOC wt% C (wet)†	8.23E-02	----	----	7.38E-02	7.80E-02	8.67E-02	9.09E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.22E-05	6.25E-02	38.0	6.77E-05	7.10E-05	9.52E-05	1.11E-04
C-14	1.06E-05	8.04E-03	4.88	8.52E-06	9.52E-06	1.16E-05	1.27E-05
Ni-59	1.22E-06	9.30E-04	0.565	1.13E-06	1.19E-06	1.25E-06	1.29E-06
Ni-63	1.19E-04	9.06E-02	55.0	1.09E-04	1.16E-04	1.21E-04	1.25E-04
Co-60	9.31E-06	7.08E-03	4.30	6.47E-06	7.86E-06	1.08E-05	1.22E-05
Se-79	1.31E-06	9.95E-04	0.605	9.79E-07	1.14E-06	1.48E-06	1.55E-06
Sr-90	3.43E-02	26.1	1.59E+04	3.06E-02	3.19E-02	3.72E-02	3.75E-02
Y-90	3.44E-02	26.1	1.59E+04	2.90E-02	2.90E-02	3.49E-02	3.55E-02
Zr-93	6.47E-06	4.91E-03	2.99	4.82E-06	5.62E-06	7.31E-06	7.47E-06
Nb-93m	4.69E-06	3.57E-03	2.17	3.54E-06	4.10E-06	5.28E-06	5.68E-06
Tc-99	7.09E-05	5.39E-02	32.7	5.63E-05	6.34E-05	7.84E-05	8.57E-05
Ru-106	1.52E-09	1.16E-06	7.02E-04	1.15E-09	1.33E-09	1.71E-09	1.89E-09
Cd-113m	3.20E-05	2.43E-02	14.8	2.33E-05	2.81E-05	3.43E-05	3.65E-05
Sb-125	3.44E-05	2.61E-02	15.9	2.16E-05	2.78E-05	4.10E-05	4.73E-05
Sn-126	1.97E-06	1.50E-03	0.910	1.47E-06	1.72E-06	2.22E-06	2.37E-06
I-129	1.36E-07	1.03E-04	6.29E-02	1.08E-07	1.22E-07	1.51E-07	1.65E-07
Cs-134	1.79E-06	1.36E-03	0.824	1.11E-06	1.44E-06	2.13E-06	2.47E-06
Cs-137	0.239	182	1.10E+05	0.185	0.211	0.267	0.293
Ba-137m	0.226	172	1.04E+05	0.175	0.200	0.252	0.278
Sm-151	4.61E-03	3.51	2.13E+03	3.46E-03	4.02E-03	5.20E-03	5.53E-03
Eu-152	1.31E-06	9.98E-04	0.607	9.76E-07	1.14E-06	1.49E-06	1.66E-06
Eu-154	1.69E-04	0.129	78.1	1.32E-04	1.50E-04	1.88E-04	1.98E-04
Eu-155	8.26E-05	6.28E-02	38.2	5.75E-05	6.97E-05	9.56E-05	1.08E-04
Ra-226	1.08E-10	8.25E-08	5.01E-05	7.34E-11	7.34E-11	1.62E-10	2.14E-10
Ra-228	5.65E-09	4.29E-06	2.61E-03	2.24E-09	3.91E-09	7.67E-09	9.82E-09
Ac-227	5.70E-10	4.33E-07	2.63E-04	4.96E-10	5.04E-10	8.83E-10	1.18E-09
Pa-231	2.19E-09	1.66E-06	1.01E-03	1.78E-09	1.98E-09	2.40E-09	2.72E-09
Th-229	3.28E-10	2.49E-07	1.52E-04	1.83E-10	2.54E-10	4.03E-10	4.75E-10
Th-232	1.51E-09	1.15E-06	6.97E-04	8.22E-10	1.16E-09	1.86E-09	2.20E-09
U-232	2.25E-07	1.71E-04	0.104	2.05E-07	2.15E-07	2.34E-07	2.44E-07
U-233	8.60E-07	6.53E-04	0.397	7.85E-07	8.22E-07	8.98E-07	9.34E-07
U-234	4.57E-05	3.47E-02	21.1	4.55E-05	4.56E-05	4.57E-05	4.58E-05
U-235	2.05E-06	1.56E-03	0.947	2.04E-06	2.05E-06	2.05E-06	2.06E-06
U-236	3.11E-07	2.37E-04	0.144	3.10E-07	3.11E-07	3.12E-07	3.12E-07
U-238	4.62E-05	3.51E-02	21.3	4.60E-05	4.61E-05	4.62E-05	4.63E-05
Np-237	2.65E-07	2.02E-04	0.123	2.16E-07	2.40E-07	2.91E-07	3.15E-07
Pu-238	4.35E-07	3.30E-04	0.201	3.71E-07	4.02E-07	4.67E-07	4.98E-07
Pu-239	1.73E-05	1.32E-02	7.99	1.55E-05	1.64E-05	2.35E-05	3.11E-05
Pu-240	2.57E-06	1.95E-03	1.19	2.25E-06	2.41E-06	2.94E-06	3.38E-06
Pu-241	2.59E-05	1.97E-02	12.0	2.16E-05	2.37E-05	2.81E-05	3.02E-05
Pu-242	1.29E-10	9.79E-08	5.95E-05	9.49E-11	1.12E-10	1.46E-10	1.63E-10
Am-241	2.08E-05	1.58E-02	9.60	1.58E-05	1.83E-05	2.33E-05	2.57E-05
Am-243	6.33E-10	4.81E-07	2.92E-04	4.79E-10	5.54E-10	6.97E-10	7.58E-10
Cm-242	3.89E-08	2.96E-05	1.80E-02	2.95E-08	3.41E-08	4.37E-08	4.84E-08
Cm-243	2.97E-09	2.26E-06	1.37E-03	2.26E-09	2.61E-09	3.34E-09	3.70E-09
Cm-244	3.65E-08	2.78E-05	1.69E-02	2.73E-08	3.18E-08	4.12E-08	4.58E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.90E-04 (g/L)	----	0.134	2.59E-04	2.74E-04	3.92E-04	5.15E-04
U	0.581	1.05E+05	6.39E+04	0.579	0.580	0.582	0.583

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	2.91E-03 (kW)	(9.94 BTU/hr)	----	2.49E-03	2.70E-03	3.11E-03	3.30E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	1.41E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	803	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	8.60	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	4.85	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	408	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	1.43	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	2.24E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	554	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	28.1	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.37E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	4.60E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	1.05E+03	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	5.81	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	5.95	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	2.35E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.50E+06 (kg)	(386 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.42	3.54	3.79	3.91
Bulk Density*	1.71 (g/cc)	----	----	1.66	1.68	1.74	1.76
Water wt%	25.9	----	----	23.2	24.4	27.5	29.3
TOC wt% C (wet)	0.921	----	----	0.580	0.747	1.10	1.26

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	16.7	2.24E+05	5.61E+05	15.3	16.0	17.3	17.9
Al^{3+}	1.92	3.02E+04	7.56E+04	1.76	1.84	2.00	2.07
Fe^{3+} (total Fe)	1.33E-02	432	1.08E+03	1.09E-02	1.21E-02	1.44E-02	1.56E-02
Cr^{3+}	0.164	4.99E+03	1.25E+04	0.139	0.153	0.169	0.173
Bi^{3+}	1.78E-03	218	544	1.62E-03	1.70E-03	1.87E-03	1.95E-03
La^{3+}	5.25E-05	4.26	10.7	3.80E-05	4.51E-05	5.99E-05	6.71E-05
Hg^{2+}	1.18E-05	1.38	3.45	1.09E-05	1.14E-05	1.19E-05	1.21E-05
Zr (as $ZrO(OH)_2$)	3.37E-04	18.0	44.9	3.07E-04	3.18E-04	3.50E-04	3.67E-04
Pb^{2+}	1.27E-03	153	383	1.02E-03	1.14E-03	1.39E-03	1.51E-03
Ni^{2+}	7.86E-03	270	674	7.49E-03	7.67E-03	7.95E-03	8.03E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.45E-03	143	357	3.33E-03	3.88E-03	5.02E-03	5.56E-03
Ca^{2+}	4.15E-02	971	2.43E+03	3.81E-02	3.98E-02	4.32E-02	4.48E-02
K^+	7.84E-02	1.79E+03	4.48E+03	7.16E-02	7.48E-02	8.23E-02	8.56E-02
OH^-	11.5	1.14E+05	2.85E+05	10.7	11.1	11.9	12.2
$NO3^-$	5.94	2.15E+05	5.38E+05	5.41	5.72	6.02	6.10
$NO2^-$	2.82	7.58E+04	1.90E+05	2.35	2.57	3.07	3.31
$CO3^{2-}$	0.544	1.91E+04	4.77E+04	0.492	0.512	0.585	0.591
$PO4^{3-}$	0.116	6.44E+03	1.61E+04	9.85E-02	0.105	0.119	0.122
$SO4^{2-}$	0.302	1.70E+04	4.24E+04	0.241	0.270	0.337	0.365
Si (as SiO_x^{2-})	9.42E-02	1.55E+03	3.86E+03	7.82E-02	8.60E-02	0.102	0.110
F^-	8.76E-02	973	2.43E+03	7.33E-02	7.93E-02	9.47E-02	0.100
Cl^-	0.291	6.02E+03	1.50E+04	0.262	0.272	0.303	0.314
$C_6H_5O_7^{3-}$	3.32E-02	3.67E+03	9.17E+03	3.03E-02	3.17E-02	3.47E-02	3.61E-02
$EDTA^{4-}$	2.07E-02	3.48E+03	8.71E+03	6.20E-03	1.33E-02	2.81E-02	3.54E-02
$HEDTA^{3-}$	3.89E-02	6.22E+03	1.56E+04	9.87E-03	2.40E-02	5.38E-02	6.83E-02
$glycolate^-$	0.116	5.06E+03	1.27E+04	7.66E-02	9.56E-02	0.136	0.155
$acetate^-$	8.08E-03	279	697	6.63E-03	7.34E-03	8.82E-03	9.53E-03
$oxalate^{2-}$	6.88E-05	3.54	8.84	6.09E-05	6.47E-05	7.28E-05	7.66E-05
DBP	2.27E-02	2.79E+03	6.97E+03	1.88E-02	2.07E-02	2.47E-02	2.65E-02
butanol	2.27E-02	983	2.46E+03	1.88E-02	2.07E-02	2.47E-02	2.65E-02
NH_3	0.106	1.05E+03	2.63E+03	8.78E-02	9.49E-02	0.120	0.136
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.71E+06 (kg)	(418 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.42	3.54	3.79	3.92
Bulk Density†	1.71 (g/cc)	----	----	1.66	1.68	1.73	1.75
Water wt%†	27.5	----	----	25.0	26.1	29.0	30.7
TOC wt% C (wet)†	0.852	----	----	0.536	0.691	1.01	1.17

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.8	2.13E+05	5.75E+05	14.5	15.2	16.4	16.9
Al^{3+}	1.77	2.79E+04	7.56E+04	1.63	1.70	1.84	1.91
Fe^{3+} (total Fe)	2.13E-02	697	1.88E+03	1.92E-02	2.02E-02	2.24E-02	2.35E-02
Cr^{3+}	0.152	4.62E+03	1.25E+04	0.129	0.141	0.156	0.160
Bi^{3+}	1.65E-03	201	544	1.49E-03	1.57E-03	1.72E-03	1.80E-03
La^{3+}	4.85E-05	3.94	10.7	3.51E-05	4.16E-05	5.53E-05	6.19E-05
Hg^{2+}	1.09E-05	1.27	3.45	1.01E-05	1.05E-05	1.10E-05	1.12E-05
Zr (as $ZrO(OH)_2$)	3.11E-04	16.6	44.9	2.83E-04	2.93E-04	3.23E-04	3.39E-04
Pb^{2+}	1.17E-03	142	383	9.41E-04	1.05E-03	1.29E-03	1.40E-03
Ni^{2+}	7.31E-03	251	679	6.97E-03	7.14E-03	7.40E-03	7.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.11E-03	132	357	3.07E-03	3.58E-03	4.63E-03	5.14E-03
Ca^{2+}	4.47E-02	1.05E+03	2.84E+03	4.16E-02	4.32E-02	4.63E-02	4.78E-02
K^+	7.24E-02	1.66E+03	4.48E+03	6.61E-02	6.91E-02	7.60E-02	7.91E-02
OH^-	11.4	1.14E+05	3.07E+05	10.7	11.0	11.8	12.1
$NO3^-$	5.49	1.99E+05	5.38E+05	5.00	5.29	5.57	5.64
$NO2^-$	2.61	7.01E+04	1.90E+05	2.17	2.37	2.84	3.05
$CO3^{2-}$	0.647	2.27E+04	6.14E+04	0.599	0.617	0.685	0.690
$PO4^{3-}$	0.138	7.65E+03	2.07E+04	0.120	0.127	0.145	0.151
$SO4^{2-}$	0.286	1.61E+04	4.35E+04	0.229	0.256	0.318	0.344
Si (as SiO_x^{2-})	8.71E-02	1.43E+03	3.87E+03	7.23E-02	7.96E-02	9.46E-02	0.102
F^-	8.09E-02	900	2.43E+03	6.77E-02	7.32E-02	8.74E-02	9.26E-02
Cl^-	0.268	5.56E+03	1.50E+04	0.242	0.251	0.280	0.290
$C_6H_5O_7^{3-}$	3.06E-02	3.39E+03	9.17E+03	2.79E-02	2.93E-02	3.20E-02	3.33E-02
$EDTA^{4-}$	1.91E-02	3.22E+03	8.71E+03	5.72E-03	1.23E-02	2.60E-02	3.27E-02
$HEDTA^{3-}$	3.59E-02	5.75E+03	1.56E+04	9.12E-03	2.22E-02	4.97E-02	6.31E-02
$glycolate^-$	0.107	4.68E+03	1.27E+04	7.07E-02	8.83E-02	0.125	0.143
$acetate^-$	7.46E-03	258	697	6.13E-03	6.78E-03	8.14E-03	8.80E-03
$oxalate^{2-}$	6.35E-05	3.27	8.84	5.62E-05	5.98E-05	6.72E-05	7.07E-05
DBP	2.10E-02	2.58E+03	6.97E+03	1.73E-02	1.91E-02	2.28E-02	2.45E-02
butanol	2.10E-02	909	2.46E+03	1.73E-02	1.91E-02	2.28E-02	2.45E-02
NH_3	9.77E-02	971	2.63E+03	8.11E-02	8.76E-02	0.110	0.125
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.04E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	2.91E-03 (kW)	(9.94 BTU/hr)	----	2.49E-03	2.70E-03	3.11E-03	3.30E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	0.115	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.330	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	1.16E-02	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	1.02	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	5.70E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	8.61E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	242	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	242	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	4.10E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	3.53E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.283	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.34E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	8.34E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	3.08E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.28E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	5.27E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	3.29E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	273	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	258	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	32.5	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	7.61E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	7.66E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	1.15	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	1.66E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	1.04E-10	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	4.16E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	3.85E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	2.00E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.27E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.97E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	1.18E-05	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	16.6	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.749	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	0.106	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	16.9	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	1.70E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.28E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.401	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	2.36E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	1.51E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	4.63E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	1.42E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	3.97E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	3.05E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	4.53E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	6.08E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	6.56E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	5.05E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.50E+06 (kg)	(386 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.42	3.54	3.79	3.91
Bulk Density*	1.71 (g/cc)	----	----	1.66	1.68	1.74	1.76
Water wt%†	25.9	----	----	23.2	24.4	27.5	29.3
TOC wt% C (wet)	0.921	----	----	0.580	0.747	1.10	1.26

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.92E-04	0.171	427	1.50E-04	1.50E-04	3.04E-04	3.18E-04
C-14	4.28E-05	2.50E-02	62.6	1.31E-05	1.31E-05	4.36E-05	4.42E-05
Ni-59	2.78E-06	1.63E-03	4.07	1.38E-06	1.38E-06	2.85E-06	2.92E-06
Ni-63	2.73E-04	0.159	399	1.34E-04	1.34E-04	2.80E-04	2.87E-04
Co-60	4.80E-05	2.80E-02	70.1	1.39E-05	1.39E-05	4.90E-05	4.99E-05
Se-79	4.27E-06	2.49E-03	6.24	2.37E-06	2.37E-06	4.96E-06	5.62E-06
Sr-90	0.144	84.0	2.10E+05	0.134	0.139	0.149	0.153
Y-90	0.144	84.1	2.10E+05	7.83E-02	7.83E-02	0.149	0.153
Zr-93	2.10E-05	1.22E-02	30.6	1.15E-05	1.15E-05	2.44E-05	2.77E-05
Nb-93m	1.52E-05	8.88E-03	22.2	8.54E-06	8.54E-06	1.76E-05	1.99E-05
Tc-99	3.05E-04	0.178	446	1.94E-04	2.48E-04	3.62E-04	4.17E-04
Ru-106	8.71E-09	5.09E-06	1.27E-02	4.31E-09	4.31E-09	9.69E-09	1.06E-08
Cd-113m	1.10E-04	6.45E-02	161	5.33E-05	5.33E-05	1.31E-04	1.51E-04
Sb-125	2.08E-04	0.121	303	6.01E-05	6.01E-05	2.12E-04	2.17E-04
Sn-126	6.45E-06	3.77E-03	9.43	3.60E-06	3.60E-06	7.48E-06	8.47E-06
I-129	5.88E-07	3.44E-04	0.860	3.74E-07	4.78E-07	6.99E-07	8.06E-07
Cs-134	3.48E-06	2.04E-03	5.09	2.39E-06	2.92E-06	4.05E-06	4.60E-06
Cs-137	0.328	192	4.80E+05	0.292	0.310	0.347	0.365
Ba-137m	0.311	181	4.54E+05	0.252	0.252	0.328	0.345
Sm-151	1.50E-02	8.78	2.20E+04	8.38E-03	8.38E-03	1.74E-02	1.97E-02
Eu-152	5.13E-06	3.00E-03	7.49	2.77E-06	2.77E-06	5.53E-06	5.92E-06
Eu-154	7.81E-04	0.456	1.14E+03	3.07E-04	3.07E-04	9.53E-04	1.02E-03
Eu-155	3.04E-04	0.178	444	1.64E-04	1.64E-04	3.29E-04	3.53E-04
Ra-226	1.83E-10	1.07E-07	2.67E-04	1.24E-10	1.24E-10	2.04E-10	2.24E-10
Ra-228	1.98E-07	1.16E-04	0.290	8.30E-08	1.39E-07	2.67E-07	3.40E-07
Ac-227	1.16E-09	6.80E-07	1.70E-03	8.22E-10	8.22E-10	1.29E-09	1.41E-09
Pa-231	5.33E-09	3.12E-06	7.79E-03	3.43E-09	3.43E-09	6.02E-09	6.68E-09
Th-229	4.65E-09	2.71E-06	6.79E-03	2.11E-09	3.35E-09	6.15E-09	7.75E-09
Th-232	1.32E-08	7.69E-06	1.92E-02	6.78E-09	9.91E-09	1.64E-08	1.96E-08
U-232	1.01E-06	5.89E-04	1.47	5.46E-07	7.72E-07	1.28E-06	1.57E-06
U-233	3.86E-06	2.26E-03	5.65	2.09E-06	2.96E-06	4.92E-06	6.03E-06
U-234	1.04E-06	6.10E-04	1.52	1.00E-06	1.03E-06	1.06E-06	1.08E-06
U-235	4.22E-08	2.47E-05	6.17E-02	4.05E-08	4.15E-08	4.30E-08	4.35E-08
U-236	3.29E-08	1.92E-05	4.81E-02	3.17E-08	3.24E-08	3.34E-08	3.39E-08
U-238	1.23E-06	7.19E-04	1.80	1.19E-06	1.21E-06	1.25E-06	1.26E-06
Np-237	1.10E-06	6.45E-04	1.61	7.41E-07	9.18E-07	1.29E-06	1.47E-06
Pu-238	1.79E-06	1.04E-03	2.61	1.36E-06	1.57E-06	2.01E-06	2.21E-06
Pu-239	6.10E-05	3.56E-02	89.1	5.00E-05	5.54E-05	6.65E-05	7.18E-05
Pu-240	1.04E-05	6.05E-03	15.1	8.33E-06	9.33E-06	1.14E-05	1.24E-05
Pu-241	1.21E-04	7.07E-02	177	9.21E-05	1.06E-04	1.36E-04	1.50E-04
Pu-242	6.66E-10	3.89E-07	9.74E-04	4.93E-10	5.78E-10	7.55E-10	8.40E-10
Am-241	7.34E-05	4.29E-02	107	5.32E-05	6.31E-05	8.37E-05	9.36E-05
Am-243	2.61E-09	1.53E-06	3.82E-03	1.98E-09	2.28E-09	2.99E-09	3.31E-09
Cm-242	1.96E-07	1.15E-04	0.287	9.96E-08	9.96E-08	2.11E-07	2.26E-07
Cm-243	1.82E-08	1.06E-05	2.66E-02	9.00E-09	9.00E-09	1.96E-08	2.09E-08
Cm-244	1.77E-07	1.03E-04	0.259	8.21E-08	8.21E-08	2.09E-07	2.30E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.70E-04 (g/L)	----	1.12	5.63E-04	6.65E-04	8.74E-04	9.75E-04
U	1.19E-02	1.65E+03	4.14E+03	1.14E-02	1.17E-02	1.21E-02	1.23E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.71E+06 (kg)	(418 kgal)	----	----	----	----	----
Heat Load	3.66 (kW)	(1.25E+04 BTU/hr)	----	3.42	3.54	3.79	3.92
Bulk Density†	1.71 (g/cc)	----	----	1.66	1.68	1.73	1.75
Water wt%†	27.5	----	----	25.0	26.1	29.0	30.7
TOC wt% C (wet)†	0.852	----	----	0.536	0.691	1.01	1.17

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.70E-04	0.158	427	1.39E-04	1.39E-04	2.80E-04	2.93E-04
C-14	3.98E-05	2.33E-02	62.9	1.23E-05	1.23E-05	4.04E-05	4.11E-05
Ni-59	2.58E-06	1.51E-03	4.08	1.29E-06	1.29E-06	2.64E-06	2.71E-06
Ni-63	2.53E-04	0.148	400	1.25E-04	1.25E-04	2.59E-04	2.65E-04
Co-60	4.43E-05	2.59E-02	70.1	1.29E-05	1.29E-05	4.52E-05	4.61E-05
Se-79	3.95E-06	2.31E-03	6.25	2.19E-06	2.19E-06	4.58E-06	5.19E-06
Sr-90	0.133	77.8	2.10E+05	0.124	0.129	0.137	0.142
Y-90	0.133	77.8	2.10E+05	7.24E-02	7.24E-02	0.137	0.142
Zr-93	1.94E-05	1.13E-02	30.7	1.06E-05	1.06E-05	2.25E-05	2.56E-05
Nb-93m	1.41E-05	8.22E-03	22.2	7.91E-06	7.91E-06	1.63E-05	1.84E-05
Tc-99	2.82E-04	0.165	446	1.79E-04	2.29E-04	3.35E-04	3.86E-04
Ru-106	8.04E-09	4.71E-06	1.27E-02	3.98E-09	3.98E-09	8.95E-09	9.78E-09
Cd-113m	1.02E-04	5.96E-02	161	4.93E-05	4.93E-05	1.21E-04	1.39E-04
Sb-125	1.92E-04	0.112	303	5.55E-05	5.55E-05	1.96E-04	2.00E-04
Sn-126	5.97E-06	3.49E-03	9.44	3.33E-06	3.33E-06	6.92E-06	7.83E-06
I-129	5.44E-07	3.18E-04	0.860	3.45E-07	4.42E-07	6.46E-07	7.44E-07
Cs-134	3.22E-06	1.88E-03	5.09	2.20E-06	2.70E-06	3.74E-06	4.25E-06
Cs-137	0.303	177	4.80E+05	0.270	0.286	0.320	0.337
Ba-137m	0.287	168	4.54E+05	0.233	0.233	0.303	0.319
Sm-151	1.39E-02	8.13	2.20E+04	7.76E-03	7.76E-03	1.61E-02	1.83E-02
Eu-152	4.74E-06	2.77E-03	7.50	2.56E-06	2.56E-06	5.11E-06	5.47E-06
Eu-154	7.22E-04	0.422	1.14E+03	2.83E-04	2.83E-04	8.80E-04	9.43E-04
Eu-155	2.82E-04	0.165	445	1.52E-04	1.52E-04	3.04E-04	3.26E-04
Ra-226	1.79E-10	1.05E-07	2.84E-04	1.25E-10	1.25E-10	1.99E-10	2.18E-10
Ra-228	1.83E-07	1.07E-04	0.290	7.67E-08	1.29E-07	2.46E-07	3.14E-07
Ac-227	1.10E-09	6.44E-07	1.74E-03	7.85E-10	7.85E-10	1.22E-09	1.32E-09
Pa-231	4.95E-09	2.90E-06	7.83E-03	3.20E-09	3.20E-09	5.58E-09	6.19E-09
Th-229	4.29E-09	2.51E-06	6.79E-03	1.95E-09	3.10E-09	5.68E-09	7.16E-09
Th-232	1.22E-08	7.11E-06	1.92E-02	6.26E-09	9.15E-09	1.52E-08	1.81E-08
U-232	9.31E-07	5.45E-04	1.47	5.04E-07	7.13E-07	1.18E-06	1.45E-06
U-233	3.57E-06	2.09E-03	5.65	1.93E-06	2.73E-06	4.54E-06	5.57E-06
U-234	1.15E-05	6.72E-03	18.2	1.14E-05	1.15E-05	1.15E-05	1.15E-05
U-235	5.12E-07	3.00E-04	0.810	5.11E-07	5.11E-07	5.13E-07	5.13E-07
U-236	9.76E-08	5.71E-05	0.154	9.64E-08	9.71E-08	9.80E-08	9.85E-08
U-238	1.18E-05	6.90E-03	18.7	1.18E-05	1.18E-05	1.18E-05	1.18E-05
Np-237	1.02E-06	5.97E-04	1.61	6.85E-07	8.49E-07	1.19E-06	1.36E-06
Pu-238	1.65E-06	9.67E-04	2.61	1.26E-06	1.45E-06	1.85E-06	2.05E-06
Pu-239	5.65E-05	3.31E-02	89.5	4.64E-05	5.14E-05	6.17E-05	6.66E-05
Pu-240	9.58E-06	5.60E-03	15.2	7.71E-06	8.63E-06	1.05E-05	1.15E-05
Pu-241	1.12E-04	6.54E-02	177	8.50E-05	9.82E-05	1.26E-04	1.39E-04
Pu-242	6.15E-10	3.60E-07	9.74E-04	4.56E-10	5.34E-10	6.97E-10	7.76E-10
Am-241	6.78E-05	3.96E-02	107	4.91E-05	5.82E-05	7.73E-05	8.64E-05
Am-243	2.41E-09	1.41E-06	3.82E-03	1.83E-09	2.11E-09	2.76E-09	3.05E-09
Cm-242	1.81E-07	1.06E-04	0.287	9.20E-08	9.20E-08	1.95E-07	2.09E-07
Cm-243	1.68E-08	9.84E-06	2.66E-02	8.31E-09	8.31E-09	1.81E-08	1.93E-08
Cm-244	1.64E-07	9.57E-05	0.259	7.58E-08	7.58E-08	1.93E-07	2.12E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.15E-04 (g/L)	----	1.13	5.24E-04	6.18E-04	8.12E-04	9.04E-04
U	0.145	2.02E+04	5.46E+04	0.145	0.145	0.145	0.145

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.66E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	2.36E-03 (kW)	(8.07 BTU/hr)	----	2.02E-03	2.19E-03	2.53E-03	2.68E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	1.15E+04	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	652	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	6.99	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	3.94	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	332	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	1.16	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	1.82E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	450	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	22.8	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	1.12E+04	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	3.74E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	853	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	4.72	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	4.83	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	1.91E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.40E+06 (kg)	(200 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.59E+03 BTU/hr)	----	2.07	2.15	2.28	2.35
Bulk Density*	1.85 (g/cc)	----	----	1.77	1.81	1.88	1.91
Water wt%	18.5	----	----	15.4	16.8	20.3	22.5
TOC wt% C (wet)	1.10	----	----	0.719	0.907	1.30	1.48

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	20.0	2.48E+05	3.48E+05	18.1	19.0	20.8	21.5
Al^{3+}	2.31	3.37E+04	4.72E+04	2.14	2.22	2.40	2.48
Fe^{3+} (total Fe)	1.59E-02	482	674	1.28E-02	1.43E-02	1.75E-02	1.91E-02
Cr^{3+}	0.202	5.68E+03	7.95E+03	0.171	0.188	0.208	0.213
Bi^{3+}	1.71E-03	193	270	1.58E-03	1.64E-03	1.78E-03	1.84E-03
La^{3+}	8.47E-05	6.36	8.90	6.13E-05	7.27E-05	9.67E-05	1.08E-04
Hg^{2+}	1.22E-05	1.33	1.86	1.15E-05	1.19E-05	1.24E-05	1.26E-05
Zr (as $ZrO(OH)_2$)	2.87E-04	14.2	19.8	2.63E-04	2.72E-04	2.97E-04	3.11E-04
Pb^{2+}	1.42E-03	159	222	1.14E-03	1.28E-03	1.56E-03	1.69E-03
Ni^{2+}	9.05E-03	287	402	8.63E-03	8.84E-03	9.17E-03	9.28E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.79E-03	172	241	4.28E-03	5.02E-03	6.56E-03	7.29E-03
Ca^{2+}	4.76E-02	1.03E+03	1.44E+03	4.31E-02	4.53E-02	4.99E-02	5.21E-02
K^+	9.39E-02	1.99E+03	2.78E+03	8.47E-02	8.90E-02	9.89E-02	0.104
OH^-	14.1	1.29E+05	1.81E+05	13.1	13.6	14.6	15.0
$NO3^-$	6.77	2.27E+05	3.18E+05	6.34	6.59	6.89	7.00
$NO2^-$	3.42	8.52E+04	1.19E+05	2.78	3.08	3.76	4.08
$CO3^{2-}$	0.661	2.14E+04	3.00E+04	0.585	0.622	0.698	0.725
$PO4^{3-}$	0.126	6.47E+03	9.05E+03	0.111	0.116	0.128	0.131
$SO4^{2-}$	0.355	1.84E+04	2.58E+04	0.272	0.311	0.399	0.439
Si (as SiO_x^{2-})	0.114	1.73E+03	2.41E+03	9.20E-02	0.103	0.125	0.135
F^-	8.43E-02	866	1.21E+03	7.28E-02	7.76E-02	8.99E-02	9.44E-02
Cl^-	0.344	6.59E+03	9.22E+03	0.307	0.325	0.361	0.375
$C_6H_5O_7^{3-}$	4.58E-02	4.69E+03	6.56E+03	4.16E-02	4.37E-02	4.80E-02	5.01E-02
$EDTA^{4-}$	2.56E-02	3.99E+03	5.58E+03	7.99E-03	1.66E-02	3.46E-02	4.34E-02
$HEDTA^{3-}$	4.73E-02	7.01E+03	9.81E+03	1.21E-02	2.93E-02	6.54E-02	8.30E-02
$glycolate^-$	0.158	6.43E+03	9.00E+03	0.102	0.129	0.187	0.215
$acetate^-$	1.24E-02	395	553	1.03E-02	1.13E-02	1.35E-02	1.45E-02
$oxalate^{2-}$	1.11E-04	5.28	7.39	9.83E-05	1.04E-04	1.17E-04	1.24E-04
DBP	2.93E-02	3.33E+03	4.66E+03	2.40E-02	2.66E-02	3.19E-02	3.45E-02
butanol	2.93E-02	1.17E+03	1.64E+03	2.40E-02	2.66E-02	3.19E-02	3.45E-02
NH_3	0.113	1.04E+03	1.45E+03	8.85E-02	9.81E-02	0.132	0.153
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.57E+06 (kg)	(226 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.59E+03 BTU/hr)	----	2.08	2.15	2.29	2.35
Bulk Density†	1.83 (g/cc)	----	----	1.76	1.80	1.86	1.88
Water wt%†	21.5	----	----	18.6	19.9	23.2	25.2
TOC wt% C (wet)†	0.985	----	----	0.642	0.810	1.16	1.33

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	18.3	2.29E+05	3.59E+05	16.6	17.4	19.0	19.6
Al^{3+}	2.04	3.02E+04	4.72E+04	1.89	1.97	2.12	2.20
Fe^{3+} (total Fe)	2.78E-02	847	1.33E+03	2.50E-02	2.63E-02	2.92E-02	3.05E-02
Cr^{3+}	0.179	5.08E+03	7.95E+03	0.152	0.166	0.184	0.189
Bi^{3+}	1.51E-03	173	270	1.40E-03	1.45E-03	1.57E-03	1.63E-03
La^{3+}	7.49E-05	5.69	8.90	5.43E-05	6.44E-05	8.55E-05	9.57E-05
Hg^{2+}	1.08E-05	1.19	1.86	1.02E-05	1.06E-05	1.10E-05	1.12E-05
Zr (as $ZrO(OH)_2$)	2.54E-04	12.7	19.8	2.33E-04	2.41E-04	2.63E-04	2.75E-04
Pb^{2+}	1.25E-03	142	222	1.01E-03	1.13E-03	1.38E-03	1.50E-03
Ni^{2+}	8.09E-03	260	406	7.72E-03	7.90E-03	8.19E-03	8.29E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.12E-03	154	241	3.79E-03	4.44E-03	5.80E-03	6.46E-03
Ca^{2+}	5.18E-02	1.14E+03	1.78E+03	4.78E-02	4.98E-02	5.38E-02	5.58E-02
K^+	8.31E-02	1.78E+03	2.78E+03	7.49E-02	7.88E-02	8.76E-02	9.18E-02
OH^-	13.7	1.27E+05	1.99E+05	12.8	13.3	14.2	14.5
$NO3^-$	6.00	2.03E+05	3.18E+05	5.62	5.84	6.10	6.21
$NO2^-$	3.03	7.62E+04	1.19E+05	2.46	2.73	3.33	3.61
$CO3^{2-}$	0.802	2.63E+04	4.12E+04	0.735	0.768	0.835	0.858
$PO4^{3-}$	0.157	8.17E+03	1.28E+04	0.131	0.145	0.168	0.177
$SO4^{2-}$	0.324	1.70E+04	2.66E+04	0.251	0.286	0.364	0.399
Si (as SiO_x^{2-})	0.101	1.55E+03	2.42E+03	8.16E-02	9.10E-02	0.110	0.120
F^-	7.46E-02	774	1.21E+03	6.44E-02	6.87E-02	7.96E-02	8.35E-02
Cl^-	0.304	5.89E+03	9.22E+03	0.272	0.288	0.319	0.332
$C_6H_5O_7^{3-}$	4.06E-02	4.19E+03	6.56E+03	3.68E-02	3.86E-02	4.25E-02	4.43E-02
$EDTA^{4-}$	2.26E-02	3.56E+03	5.58E+03	7.07E-03	1.47E-02	3.06E-02	3.84E-02
$HEDTA^{3-}$	4.18E-02	6.27E+03	9.81E+03	1.07E-02	2.59E-02	5.78E-02	7.35E-02
$glycolate^-$	0.140	5.75E+03	9.00E+03	9.01E-02	0.115	0.166	0.190
$acetate^-$	1.10E-02	353	553	9.09E-03	1.00E-02	1.19E-02	1.28E-02
$oxalate^{2-}$	9.82E-05	4.72	7.39	8.70E-05	9.25E-05	1.04E-04	1.09E-04
DBP	2.59E-02	2.98E+03	4.66E+03	2.12E-02	2.35E-02	2.82E-02	3.05E-02
butanol	2.59E-02	1.05E+03	1.64E+03	2.12E-02	2.35E-02	2.82E-02	3.05E-02
NH_3	9.98E-02	928	1.45E+03	7.83E-02	8.68E-02	0.116	0.136
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.66E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	2.36E-03 (kW)	(8.07 BTU/hr)	----	2.02E-03	2.19E-03	2.53E-03	2.68E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	9.34E-02	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.268	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	9.46E-03	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	0.831	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	4.63E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	6.99E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	197	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	197	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	3.33E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	2.87E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.230	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	1.09E-10	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	6.77E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	2.50E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	1.04E-02	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	4.28E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	2.67E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	222	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	210	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	26.4	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	6.19E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	6.23E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	0.935	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	1.35E-05	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	8.42E-11	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	3.38E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	3.13E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	1.62E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	1.03E-11	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.60E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	9.60E-06	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	13.5	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.608	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	8.64E-02	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	13.7	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	1.38E-03	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	1.04E-03	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.326	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	1.92E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	1.23E-02	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	3.76E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	1.15E-02	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	3.23E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	2.48E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	3.68E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	4.94E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	5.33E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	4.10E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.40E+06 (kg)	(200 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.59E+03 BTU/hr)	----	2.07	2.15	2.28	2.35
Bulk Density*	1.85 (g/cc)	----	----	1.77	1.81	1.88	1.91
Water wt%†	18.5	----	----	15.4	16.8	20.3	22.5
TOC wt% C (wet)	1.10	----	----	0.719	0.907	1.30	1.48

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.68E-04	0.199	279	1.76E-04	1.76E-04	3.82E-04	3.99E-04
C-14	5.51E-05	2.98E-02	41.7	1.49E-05	1.49E-05	5.58E-05	5.64E-05
Ni-59	3.38E-06	1.83E-03	2.56	1.50E-06	1.50E-06	3.48E-06	3.57E-06
Ni-63	3.32E-04	0.180	251	1.45E-04	1.45E-04	3.42E-04	3.51E-04
Co-60	6.22E-05	3.37E-02	47.1	1.63E-05	1.63E-05	6.32E-05	6.42E-05
Se-79	5.36E-06	2.90E-03	4.06	2.80E-06	2.80E-06	6.29E-06	7.18E-06
Sr-90	0.180	97.6	1.37E+05	0.168	0.174	0.187	0.193
Y-90	0.180	97.6	1.37E+05	9.18E-02	9.18E-02	0.187	0.193
Zr-93	2.63E-05	1.42E-02	19.9	1.35E-05	1.35E-05	3.09E-05	3.54E-05
Nb-93m	1.91E-05	1.03E-02	14.4	1.01E-05	1.01E-05	2.23E-05	2.54E-05
Tc-99	3.93E-04	0.212	297	2.43E-04	3.16E-04	4.70E-04	5.44E-04
Ru-106	1.14E-08	6.17E-06	8.63E-03	5.45E-09	5.45E-09	1.27E-08	1.39E-08
Cd-113m	1.39E-04	7.52E-02	105	6.21E-05	6.21E-05	1.67E-04	1.94E-04
Sb-125	2.71E-04	0.146	205	7.14E-05	7.14E-05	2.76E-04	2.82E-04
Sn-126	8.11E-06	4.39E-03	6.14	4.27E-06	4.27E-06	9.50E-06	1.08E-05
I-129	7.57E-07	4.10E-04	0.573	4.68E-07	6.09E-07	9.07E-07	1.05E-06
Cs-134	3.97E-06	2.15E-03	3.00	2.64E-06	3.29E-06	4.65E-06	5.32E-06
Cs-137	0.367	199	2.78E+05	0.333	0.348	0.385	0.402
Ba-137m	0.347	188	2.63E+05	0.271	0.271	0.364	0.380
Sm-151	1.89E-02	10.2	1.43E+04	9.91E-03	9.91E-03	2.21E-02	2.53E-02
Eu-152	6.41E-06	3.47E-03	4.85	3.23E-06	3.23E-06	6.90E-06	7.37E-06
Eu-154	1.00E-03	0.543	759	3.62E-04	3.62E-04	1.23E-03	1.33E-03
Eu-155	3.80E-04	0.206	288	1.91E-04	1.91E-04	4.10E-04	4.39E-04
Ra-226	2.23E-10	1.20E-07	1.69E-04	1.43E-10	1.43E-10	2.51E-10	2.79E-10
Ra-228	2.19E-07	1.19E-04	0.166	1.01E-07	1.59E-07	2.90E-07	3.64E-07
Ac-227	1.41E-09	7.64E-07	1.07E-03	9.50E-10	9.50E-10	1.58E-09	1.74E-09
Pa-231	6.52E-09	3.53E-06	4.93E-03	3.95E-09	3.95E-09	7.45E-09	8.34E-09
Th-229	5.16E-09	2.79E-06	3.91E-03	2.56E-09	3.83E-09	6.70E-09	8.35E-09
Th-232	1.56E-08	8.44E-06	1.18E-02	9.04E-09	1.23E-08	1.89E-08	2.22E-08
U-232	1.10E-06	5.93E-04	0.829	6.21E-07	8.53E-07	1.38E-06	1.68E-06
U-233	4.20E-06	2.27E-03	3.18	2.38E-06	3.27E-06	5.28E-06	6.43E-06
U-234	1.20E-06	6.47E-04	0.906	1.15E-06	1.17E-06	1.22E-06	1.24E-06
U-235	4.85E-08	2.62E-05	3.67E-02	4.66E-08	4.76E-08	4.94E-08	5.03E-08
U-236	3.75E-08	2.03E-05	2.84E-02	3.61E-08	3.69E-08	3.82E-08	3.88E-08
U-238	1.41E-06	7.62E-04	1.07	1.37E-06	1.39E-06	1.43E-06	1.45E-06
Np-237	1.42E-06	7.66E-04	1.07	9.26E-07	1.16E-06	1.67E-06	1.91E-06
Pu-238	2.26E-06	1.22E-03	1.71	1.68E-06	1.96E-06	2.55E-06	2.83E-06
Pu-239	7.49E-05	4.05E-02	56.7	6.01E-05	6.74E-05	8.24E-05	8.95E-05
Pu-240	1.28E-05	6.95E-03	9.72	1.01E-05	1.14E-05	1.42E-05	1.56E-05
Pu-241	1.54E-04	8.33E-02	117	1.15E-04	1.34E-04	1.74E-04	1.93E-04
Pu-242	8.51E-10	4.61E-07	6.44E-04	6.17E-10	7.32E-10	9.71E-10	1.09E-09
Am-241	9.10E-05	4.92E-02	68.9	6.37E-05	7.70E-05	1.05E-04	1.18E-04
Am-243	3.38E-09	1.83E-06	2.56E-03	2.51E-09	2.91E-09	3.92E-09	4.39E-09
Cm-242	2.46E-07	1.33E-04	0.186	1.16E-07	1.16E-07	2.65E-07	2.83E-07
Cm-243	2.30E-08	1.24E-05	1.74E-02	1.06E-08	1.06E-08	2.47E-08	2.63E-08
Cm-244	2.28E-07	1.23E-04	0.172	9.96E-08	9.96E-08	2.71E-07	2.99E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.25E-04 (g/L)	----	0.700	6.46E-04	7.83E-04	1.07E-03	1.20E-03
U	1.37E-02	1.77E+03	2.47E+03	1.32E-02	1.34E-02	1.40E-02	1.42E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.57E+06 (kg)	(226 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.59E+03 BTU/hr)	----	2.08	2.15	2.29	2.35
Bulk Density†	1.83 (g/cc)	----	----	1.76	1.80	1.86	1.88
Water wt%†	21.5	----	----	18.6	19.9	23.2	25.2
TOC wt% C (wet)†	0.985	----	----	0.642	0.810	1.16	1.33

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.26E-04	0.178	279	1.56E-04	1.56E-04	3.38E-04	3.53E-04
C-14	4.91E-05	2.68E-02	42.0	1.35E-05	1.35E-05	4.97E-05	5.03E-05
Ni-59	3.01E-06	1.64E-03	2.57	1.33E-06	1.33E-06	3.09E-06	3.17E-06
Ni-63	2.95E-04	0.161	252	1.29E-04	1.29E-04	3.03E-04	3.11E-04
Co-60	5.51E-05	3.01E-02	47.1	1.44E-05	1.44E-05	5.59E-05	5.69E-05
Se-79	4.75E-06	2.60E-03	4.07	2.49E-06	2.49E-06	5.58E-06	6.36E-06
Sr-90	0.160	87.4	1.37E+05	0.149	0.154	0.166	0.171
Y-90	0.160	87.4	1.37E+05	8.15E-02	8.15E-02	0.166	0.171
Zr-93	2.33E-05	1.27E-02	19.9	1.20E-05	1.20E-05	2.74E-05	3.14E-05
Nb-93m	1.69E-05	9.25E-03	14.5	8.97E-06	8.97E-06	1.98E-05	2.26E-05
Tc-99	3.48E-04	0.190	297	2.15E-04	2.80E-04	4.16E-04	4.82E-04
Ru-106	1.01E-08	5.51E-06	8.63E-03	4.82E-09	4.82E-09	1.13E-08	1.23E-08
Cd-113m	1.23E-04	6.73E-02	105	5.51E-05	5.51E-05	1.48E-04	1.71E-04
Sb-125	2.39E-04	0.131	205	6.32E-05	6.32E-05	2.44E-04	2.49E-04
Sn-126	7.19E-06	3.93E-03	6.15	3.79E-06	3.79E-06	8.42E-06	9.60E-06
I-129	6.71E-07	3.67E-04	0.574	4.14E-07	5.40E-07	8.03E-07	9.30E-07
Cs-134	3.51E-06	1.92E-03	3.00	2.33E-06	2.91E-06	4.12E-06	4.71E-06
Cs-137	0.325	178	2.78E+05	0.295	0.308	0.341	0.356
Ba-137m	0.307	168	2.63E+05	0.240	0.240	0.322	0.337
Sm-151	1.67E-02	9.15	1.43E+04	8.80E-03	8.80E-03	1.96E-02	2.24E-02
Eu-152	5.68E-06	3.11E-03	4.86	2.87E-06	2.87E-06	6.11E-06	6.53E-06
Eu-154	8.87E-04	0.485	759	3.20E-04	3.20E-04	1.09E-03	1.17E-03
Eu-155	3.37E-04	0.184	288	1.70E-04	1.70E-04	3.64E-04	3.89E-04
Ra-226	2.13E-10	1.16E-07	1.82E-04	1.43E-10	1.43E-10	2.38E-10	2.63E-10
Ra-228	1.94E-07	1.06E-04	0.166	8.93E-08	1.41E-07	2.56E-07	3.23E-07
Ac-227	1.29E-09	7.04E-07	1.10E-03	8.80E-10	8.80E-10	1.44E-09	1.58E-09
Pa-231	5.81E-09	3.17E-06	4.97E-03	3.54E-09	3.54E-09	6.63E-09	7.42E-09
Th-229	4.57E-09	2.50E-06	3.91E-03	2.27E-09	3.39E-09	5.93E-09	7.39E-09
Th-232	1.38E-08	7.54E-06	1.18E-02	8.00E-09	1.08E-08	1.68E-08	1.96E-08
U-232	9.70E-07	5.30E-04	0.830	5.49E-07	7.55E-07	1.22E-06	1.48E-06
U-233	3.72E-06	2.03E-03	3.18	2.11E-06	2.90E-06	4.67E-06	5.69E-06
U-234	1.69E-05	9.22E-03	14.4	1.68E-05	1.68E-05	1.69E-05	1.69E-05
U-235	7.54E-07	4.12E-04	0.645	7.52E-07	7.53E-07	7.55E-07	7.56E-07
U-236	1.34E-07	7.33E-05	0.115	1.33E-07	1.34E-07	1.35E-07	1.35E-07
U-238	1.73E-05	9.43E-03	14.8	1.72E-05	1.72E-05	1.73E-05	1.73E-05
Np-237	1.25E-06	6.85E-04	1.07	8.21E-07	1.03E-06	1.48E-06	1.69E-06
Pu-238	2.00E-06	1.09E-03	1.71	1.49E-06	1.74E-06	2.26E-06	2.51E-06
Pu-239	6.66E-05	3.64E-02	57.0	5.36E-05	6.00E-05	7.33E-05	7.96E-05
Pu-240	1.14E-05	6.22E-03	9.74	8.96E-06	1.02E-05	1.26E-05	1.38E-05
Pu-241	1.36E-04	7.45E-02	117	1.02E-04	1.19E-04	1.54E-04	1.71E-04
Pu-242	7.53E-10	4.12E-07	6.44E-04	5.46E-10	6.48E-10	8.59E-10	9.61E-10
Am-241	8.05E-05	4.40E-02	68.9	5.64E-05	6.82E-05	9.28E-05	1.05E-04
Am-243	2.99E-09	1.63E-06	2.56E-03	2.22E-09	2.57E-09	3.47E-09	3.88E-09
Cm-242	2.18E-07	1.19E-04	0.186	1.02E-07	1.02E-07	2.34E-07	2.50E-07
Cm-243	2.03E-08	1.11E-05	1.74E-02	9.34E-09	9.34E-09	2.18E-08	2.33E-08
Cm-244	2.02E-07	1.10E-04	0.172	8.81E-08	8.81E-08	2.40E-07	2.65E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.25E-04 (g/L)	----	0.706	5.78E-04	7.00E-04	9.50E-04	1.07E-03
U	0.214	2.78E+04	4.35E+04	0.213	0.213	0.214	0.214

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+05 (kg)	(76.0 kgal)	----	----	----	----	----
Heat Load	7.13E-03 (kW)	(24.4 BTU/hr)	----	5.99E-03	6.90E-03	7.38E-03	7.61E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	5.20E+04	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	8.70E+04	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	2.65E+03	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	30.5	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	235	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	7.01E+03	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	17.2	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	1.39E+03	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	17.3	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	2.04E+05	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	1.02E+04	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	1.27E+04	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	2.08E+03	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	232	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	162	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	72.0	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	1.00	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.06E+06 (kg)	(330 kgal)	----	----	----	----	----
Heat Load	2.81 (kW)	(9.60E+03 BTU/hr)	----	2.64	2.72	2.90	2.99
Bulk Density*	1.65 (g/cc)	----	----	1.60	1.62	1.67	1.69
Water wt%	30.2	----	----	27.6	28.7	31.7	33.5
TOC wt% C (wet)	0.786	----	----	0.513	0.647	0.925	1.06

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	15.1	2.11E+05	4.34E+05	13.8	14.5	15.7	16.2
Al^{3+}	1.77	2.91E+04	5.98E+04	1.65	1.71	1.85	1.90
Fe^{3+} (total Fe)	1.16E-02	394	810	9.51E-03	1.05E-02	1.27E-02	1.37E-02
Cr^{3+}	0.157	4.96E+03	1.02E+04	0.131	0.145	0.162	0.166
Bi^{3+}	1.47E-03	186	383	1.33E-03	1.40E-03	1.54E-03	1.60E-03
La^{3+}	4.44E-05	3.75	7.71	3.22E-05	3.82E-05	5.07E-05	5.68E-05
Hg^{2+}	9.86E-06	1.20	2.47	9.15E-06	9.56E-06	1.00E-05	1.01E-05
Zr (as $ZrO(OH)_2$)	2.76E-04	15.3	31.4	2.51E-04	2.60E-04	2.86E-04	3.00E-04
Pb^{2+}	1.07E-03	135	278	8.70E-04	9.70E-04	1.18E-03	1.28E-03
Ni^{2+}	6.91E-03	247	507	6.61E-03	6.76E-03	6.99E-03	7.07E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.12E-03	138	283	3.11E-03	3.61E-03	4.63E-03	5.13E-03
Ca^{2+}	3.63E-02	884	1.82E+03	3.33E-02	3.47E-02	3.78E-02	3.93E-02
K^+	7.02E-02	1.67E+03	3.43E+03	6.40E-02	6.69E-02	7.35E-02	7.67E-02
OH^-	10.6	1.10E+05	2.25E+05	9.80	10.2	11.0	11.2
$NO3^-$	5.39	2.03E+05	4.17E+05	4.96	5.21	5.47	5.52
$NO2^-$	2.60	7.27E+04	1.49E+05	2.17	2.37	2.82	3.04
$CO3^{2-}$	0.464	1.69E+04	3.48E+04	0.421	0.438	0.497	0.502
$PO4^{3-}$	9.75E-02	5.63E+03	1.16E+04	8.35E-02	8.84E-02	0.100	0.102
$SO4^{2-}$	0.261	1.53E+04	3.14E+04	0.206	0.232	0.291	0.318
Si (as SiO_x^{2-})	8.31E-02	1.42E+03	2.91E+03	6.87E-02	7.57E-02	9.04E-02	9.75E-02
F^-	7.20E-02	832	1.71E+03	6.04E-02	6.53E-02	7.78E-02	8.23E-02
Cl^-	0.261	5.63E+03	1.16E+04	0.237	0.246	0.273	0.282
$C_6H_5O_7^{3-}$	2.95E-02	3.38E+03	6.96E+03	2.70E-02	2.82E-02	3.07E-02	3.19E-02
$EDTA^{4-}$	1.60E-02	2.80E+03	5.76E+03	4.89E-03	1.03E-02	2.17E-02	2.73E-02
$HEDTA^{3-}$	2.99E-02	4.98E+03	1.02E+04	7.70E-03	1.86E-02	4.14E-02	5.25E-02
$glycolate^-$	9.38E-02	4.27E+03	8.79E+03	6.15E-02	7.73E-02	0.110	0.126
$acetate^-$	6.68E-03	239	492	5.48E-03	6.07E-03	7.29E-03	7.87E-03
$oxalate^{2-}$	5.82E-05	3.11	6.40	5.16E-05	5.48E-05	6.16E-05	6.49E-05
DBP	2.01E-02	2.56E+03	5.27E+03	1.65E-02	1.83E-02	2.18E-02	2.35E-02
butanol	2.01E-02	903	1.86E+03	1.65E-02	1.83E-02	2.18E-02	2.35E-02
NH_3	9.24E-02	955	1.96E+03	7.62E-02	8.26E-02	0.105	0.120
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.57E+06 (kg)	(406 kgal)	----	----	----	----	----
Heat Load	2.82 (kW)	(9.63E+03 BTU/hr)	----	2.65	2.73	2.91	3.00
Bulk Density†	1.67 (g/cc)	----	----	1.61	1.63	1.70	1.72
Water wt%†	29.1	----	----	24.2	26.2	32.9	34.6
TOC wt% C (wet)†	0.630	----	----	0.411	0.518	0.742	0.851

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.8	1.89E+05	4.86E+05	12.6	13.0	14.3	14.8
Al^{3+}	3.54	5.72E+04	1.47E+05	2.53	2.81	4.06	4.43
Fe^{3+} (total Fe)	4.03E-02	1.35E+03	3.46E+03	3.81E-02	3.94E-02	4.12E-02	4.21E-02
Cr^{3+}	0.128	3.99E+03	1.02E+04	0.107	0.118	0.132	0.135
Bi^{3+}	1.19E-03	149	383	1.08E-03	1.14E-03	1.25E-03	1.30E-03
La^{3+}	3.61E-05	3.01	7.71	2.62E-05	3.10E-05	4.12E-05	4.62E-05
Hg^{2+}	7.72E-04	92.7	238	7.61E-04	7.67E-04	7.75E-04	7.77E-04
Zr (as $ZrO(OH)_2$)	2.24E-04	12.3	31.4	2.04E-04	2.12E-04	2.33E-04	2.44E-04
Pb^{2+}	2.29E-02	2.84E+03	7.29E+03	2.11E-02	2.21E-02	2.37E-02	2.44E-02
Ni^{2+}	5.81E-03	204	524	5.56E-03	5.68E-03	5.92E-03	6.35E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.35E-03	110	283	2.53E-03	2.93E-03	3.77E-03	4.17E-03
Ca^{2+}	5.21E-02	1.25E+03	3.21E+03	4.21E-02	4.80E-02	5.57E-02	5.92E-02
K^+	5.73E-02	1.34E+03	3.44E+03	5.23E-02	5.47E-02	6.00E-02	6.26E-02
OH^-	16.4	1.67E+05	4.29E+05	12.3	13.5	18.5	20.0
$NO3^-$	4.49	1.67E+05	4.27E+05	4.13	4.34	4.55	4.60
$NO2^-$	2.29	6.32E+04	1.62E+05	1.94	2.11	2.48	2.65
$CO3^{2-}$	0.400	1.44E+04	3.69E+04	0.365	0.378	0.427	0.431
$PO4^{3-}$	7.93E-02	4.51E+03	1.16E+04	6.78E-02	7.18E-02	8.13E-02	8.33E-02
$SO4^{2-}$	0.214	1.23E+04	3.16E+04	0.169	0.190	0.238	0.260
Si (as SiO_x^{2-})	7.13E-02	1.20E+03	3.08E+03	5.96E-02	6.53E-02	8.23E-02	9.91E-02
F^-	5.86E-02	666	1.71E+03	4.91E-02	5.30E-02	6.32E-02	6.69E-02
Cl^-	0.214	4.54E+03	1.16E+04	0.194	0.201	0.223	0.231
$C_6H_5O_7^{3-}$	2.39E-02	2.71E+03	6.96E+03	2.20E-02	2.29E-02	2.50E-02	2.59E-02
$EDTA^{4-}$	1.30E-02	2.25E+03	5.76E+03	3.98E-03	8.39E-03	1.77E-02	2.22E-02
$HEDTA^{3-}$	2.43E-02	3.99E+03	1.02E+04	6.26E-03	1.51E-02	3.36E-02	4.27E-02
$glycolate^-$	7.62E-02	3.43E+03	8.79E+03	5.00E-02	6.28E-02	8.97E-02	0.102
$acetate^-$	5.43E-03	192	492	4.45E-03	4.93E-03	5.92E-03	6.40E-03
$oxalate^{2-}$	4.73E-05	2.50	6.40	4.19E-05	4.46E-05	5.01E-05	5.27E-05
DBP	1.63E-02	2.05E+03	5.27E+03	1.34E-02	1.48E-02	1.77E-02	1.91E-02
butanol	1.63E-02	724	1.86E+03	1.34E-02	1.48E-02	1.77E-02	1.91E-02
NH_3	7.51E-02	765	1.96E+03	6.19E-02	6.72E-02	8.53E-02	9.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+05 (kg)	(76.0 kgal)	----	----	----	----	----
Heat Load	7.13E-03 (kW)	(24.4 BTU/hr)	----	5.99E-03	6.90E-03	7.38E-03	7.61E-03
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	0.291	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	3.14E-02	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	8.90E-03	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	0.834	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	1.36E-02	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	6.83E-03	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	589	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	589	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	3.23E-02	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	2.63E-02	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	0.225	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	7.93E-08	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	0.101	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	2.27E-02	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	1.04E-02	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	4.32E-04	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	4.76E-04	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	676	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	640	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	24.4	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	5.04E-02	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	0.330	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	2.40	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	8.13E-07	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	8.40E-11	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	4.17E-06	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	9.89E-06	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	1.19E-08	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	1.16E-11	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	1.86E-04	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	6.88E-06	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	4.26	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	0.181	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	9.37E-02	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	4.15	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	1.58E-03	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	7.22	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	463	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	65.3	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	399	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	1.69E-03	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	0.118	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	1.07E-06	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	1.05E-03	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	2.40E-05	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	3.74E-05	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	7.73	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	1.24E+04	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.06E+06 (kg)	(330 kgal)	----	----	----	----	----
Heat Load	2.81 (kW)	(9.60E+03 BTU/hr)	----	2.64	2.72	2.90	2.99
Bulk Density*	1.65 (g/cc)	----	----	1.60	1.62	1.67	1.69
Water wt%†	30.2	----	----	27.6	28.7	31.7	33.5
TOC wt% C (wet)	0.786	----	----	0.513	0.647	0.925	1.06

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.68E-04	0.163	335	1.40E-04	1.40E-04	2.77E-04	2.88E-04
C-14	3.87E-05	2.35E-02	48.3	1.18E-05	1.18E-05	3.92E-05	3.98E-05
Ni-59	2.50E-06	1.52E-03	3.12	1.24E-06	1.24E-06	2.56E-06	2.63E-06
Ni-63	2.45E-04	0.149	306	1.20E-04	1.20E-04	2.51E-04	2.57E-04
Co-60	4.28E-05	2.60E-02	53.5	1.21E-05	1.21E-05	4.36E-05	4.44E-05
Se-79	3.84E-06	2.33E-03	4.79	2.12E-06	2.12E-06	4.46E-06	5.05E-06
Sr-90	0.128	77.7	1.60E+05	0.119	0.124	0.132	0.136
Y-90	0.128	77.7	1.60E+05	6.87E-02	6.87E-02	0.132	0.136
Zr-93	1.88E-05	1.14E-02	23.5	1.03E-05	1.03E-05	2.19E-05	2.49E-05
Nb-93m	1.37E-05	8.31E-03	17.1	7.67E-06	7.67E-06	1.58E-05	1.79E-05
Tc-99	2.75E-04	0.167	344	1.75E-04	2.24E-04	3.27E-04	3.77E-04
Ru-106	7.62E-09	4.63E-06	9.52E-03	3.65E-09	3.65E-09	8.51E-09	9.32E-09
Cd-113m	9.89E-05	6.01E-02	124	4.75E-05	4.75E-05	1.17E-04	1.35E-04
Sb-125	1.84E-04	0.112	230	5.11E-05	5.11E-05	1.88E-04	1.91E-04
Sn-126	5.80E-06	3.52E-03	7.24	3.23E-06	3.23E-06	6.73E-06	7.62E-06
I-129	5.31E-07	3.23E-04	0.663	3.37E-07	4.32E-07	6.31E-07	7.27E-07
Cs-134	2.92E-06	1.78E-03	3.65	2.08E-06	2.47E-06	3.35E-06	3.78E-06
Cs-137	0.297	180	3.71E+05	0.267	0.281	0.312	0.327
Ba-137m	0.281	171	3.51E+05	0.221	0.221	0.295	0.309
Sm-151	1.35E-02	8.21	1.69E+04	7.51E-03	7.51E-03	1.57E-02	1.78E-02
Eu-152	4.44E-06	2.70E-03	5.55	2.32E-06	2.32E-06	4.75E-06	5.05E-06
Eu-154	6.95E-04	0.422	868	2.67E-04	2.67E-04	8.50E-04	9.12E-04
Eu-155	2.63E-04	0.160	328	1.36E-04	1.36E-04	2.81E-04	3.00E-04
Ra-226	1.64E-10	9.97E-08	2.05E-04	1.11E-10	1.11E-10	1.83E-10	2.02E-10
Ra-228	1.61E-07	9.79E-05	0.201	6.76E-08	1.13E-07	2.17E-07	2.76E-07
Ac-227	1.04E-09	6.30E-07	1.30E-03	7.29E-10	7.29E-10	1.15E-09	1.26E-09
Pa-231	4.76E-09	2.89E-06	5.95E-03	3.05E-09	3.05E-09	5.38E-09	5.98E-09
Th-229	3.78E-09	2.30E-06	4.72E-03	1.73E-09	2.73E-09	5.00E-09	6.29E-09
Th-232	1.08E-08	6.53E-06	1.34E-02	5.57E-09	8.11E-09	1.34E-08	1.59E-08
U-232	8.28E-07	5.03E-04	1.03	4.53E-07	6.36E-07	1.05E-06	1.29E-06
U-233	3.17E-06	1.93E-03	3.96	1.74E-06	2.44E-06	4.02E-06	4.93E-06
U-234	9.24E-07	5.62E-04	1.15	8.90E-07	9.07E-07	9.44E-07	9.53E-07
U-235	3.75E-08	2.28E-05	4.68E-02	3.61E-08	3.67E-08	3.83E-08	3.87E-08
U-236	2.89E-08	1.76E-05	3.62E-02	2.79E-08	2.85E-08	2.94E-08	2.98E-08
U-238	1.07E-06	6.52E-04	1.34	1.04E-06	1.05E-06	1.09E-06	1.10E-06
Np-237	1.00E-06	6.11E-04	1.26	6.78E-07	8.37E-07	1.17E-06	1.34E-06
Pu-238	1.57E-06	9.55E-04	1.96	1.19E-06	1.37E-06	1.77E-06	1.96E-06
Pu-239	5.39E-05	3.28E-02	67.4	4.41E-05	4.89E-05	5.89E-05	6.37E-05
Pu-240	9.14E-06	5.56E-03	11.4	7.31E-06	8.21E-06	1.01E-05	1.10E-05
Pu-241	1.06E-04	6.45E-02	133	8.00E-05	9.28E-05	1.20E-04	1.32E-04
Pu-242	5.83E-10	3.54E-07	7.28E-04	4.27E-10	5.03E-10	6.63E-10	7.40E-10
Am-241	6.53E-05	3.97E-02	81.6	4.71E-05	5.60E-05	7.46E-05	8.35E-05
Am-243	2.27E-09	1.38E-06	2.83E-03	1.70E-09	1.97E-09	2.58E-09	2.87E-09
Cm-242	1.68E-07	1.02E-04	0.210	8.12E-08	8.12E-08	1.80E-07	1.91E-07
Cm-243	1.56E-08	9.47E-06	1.95E-02	7.28E-09	7.28E-09	1.66E-08	1.77E-08
Cm-244	1.54E-07	9.35E-05	0.192	6.83E-08	6.83E-08	1.83E-07	2.01E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.75E-04 (g/L)	----	0.843	4.89E-04	5.80E-04	7.70E-04	8.60E-04
U	1.06E-02	1.53E+03	3.15E+03	1.02E-02	1.04E-02	1.08E-02	1.09E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.57E+06 (kg)	(406 kgal)	----	----	----	----	----
Heat Load	2.82 (kW)	(9.63E+03 BTU/hr)	----	2.65	2.73	2.91	3.00
Bulk Density†	1.67 (g/cc)	----	----	1.61	1.63	1.70	1.72
Water wt%†	29.1	----	----	24.2	26.2	32.9	34.6
TOC wt% C (wet)†	0.630	----	----	0.411	0.518	0.742	0.851

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.18E-04	0.131	335	1.14E-04	1.14E-04	2.25E-04	2.34E-04
C-14	3.14E-05	1.88E-02	48.3	9.61E-06	9.61E-06	3.19E-05	3.24E-05
Ni-59	2.04E-06	1.22E-03	3.13	1.01E-06	1.01E-06	2.09E-06	2.14E-06
Ni-63	2.00E-04	0.120	307	9.82E-05	9.82E-05	2.05E-04	2.10E-04
Co-60	3.48E-05	2.09E-02	53.5	9.84E-06	9.84E-06	3.55E-05	3.61E-05
Se-79	3.12E-06	1.87E-03	4.80	1.73E-06	1.73E-06	3.63E-06	4.11E-06
Sr-90	0.104	62.5	1.60E+05	9.75E-02	0.101	0.108	0.111
Y-90	0.104	62.5	1.60E+05	5.62E-02	5.62E-02	0.108	0.111
Zr-93	1.53E-05	9.18E-03	23.6	8.37E-06	8.37E-06	1.78E-05	2.03E-05
Nb-93m	1.11E-05	6.67E-03	17.1	6.26E-06	6.26E-06	1.29E-05	1.46E-05
Tc-99	2.24E-04	0.134	344	1.43E-04	1.82E-04	2.66E-04	3.06E-04
Ru-106	6.20E-09	3.71E-06	9.52E-03	2.97E-09	2.97E-09	6.92E-09	7.58E-09
Cd-113m	8.04E-05	4.82E-02	124	3.87E-05	3.87E-05	9.56E-05	1.10E-04
Sb-125	1.50E-04	8.97E-02	230	4.16E-05	4.16E-05	1.53E-04	1.56E-04
Sn-126	4.72E-06	2.83E-03	7.25	2.63E-06	2.63E-06	5.48E-06	6.20E-06
I-129	4.32E-07	2.59E-04	0.664	2.74E-07	3.51E-07	5.13E-07	5.91E-07
Cs-134	2.38E-06	1.42E-03	3.65	1.69E-06	2.01E-06	2.73E-06	3.07E-06
Cs-137	0.242	145	3.71E+05	0.217	0.229	0.254	0.266
Ba-137m	0.229	137	3.51E+05	0.180	0.180	0.240	0.252
Sm-151	1.10E-02	6.59	1.69E+04	6.12E-03	6.12E-03	1.28E-02	1.45E-02
Eu-152	3.64E-06	2.18E-03	5.60	1.92E-06	1.92E-06	3.89E-06	4.14E-06
Eu-154	5.65E-04	0.339	869	2.17E-04	2.17E-04	6.91E-04	7.41E-04
Eu-155	2.15E-04	0.129	330	1.12E-04	1.12E-04	2.30E-04	2.45E-04
Ra-226	1.34E-10	8.02E-08	2.06E-04	9.07E-11	9.07E-11	1.49E-10	1.65E-10
Ra-228	1.31E-07	7.85E-05	0.201	5.49E-08	9.21E-08	1.76E-07	2.24E-07
Ac-227	8.46E-10	5.07E-07	1.30E-03	5.95E-10	5.95E-10	9.37E-10	1.02E-09
Pa-231	3.88E-09	2.32E-06	5.96E-03	2.48E-09	2.48E-09	4.38E-09	4.87E-09
Th-229	3.07E-09	1.84E-06	4.72E-03	1.40E-09	2.22E-09	4.06E-09	5.11E-09
Th-232	8.74E-09	5.24E-06	1.34E-02	4.53E-09	6.59E-09	1.09E-08	1.29E-08
U-232	6.73E-07	4.03E-04	1.03	3.68E-07	5.17E-07	8.54E-07	1.05E-06
U-233	2.58E-06	1.55E-03	3.96	1.41E-06	1.98E-06	3.27E-06	4.01E-06
U-234	3.52E-06	2.11E-03	5.41	3.16E-06	3.37E-06	3.63E-06	3.71E-06
U-235	1.48E-07	8.88E-05	0.228	1.33E-07	1.42E-07	1.53E-07	1.56E-07
U-236	8.45E-08	5.06E-05	0.130	7.65E-08	8.12E-08	8.69E-08	8.86E-08
U-238	3.57E-06	2.14E-03	5.49	3.22E-06	3.42E-06	3.67E-06	3.75E-06
Np-237	8.18E-07	4.90E-04	1.26	5.52E-07	6.82E-07	9.55E-07	1.09E-06
Pu-238	5.98E-06	3.58E-03	9.18	5.66E-06	5.82E-06	6.13E-06	6.29E-06
Pu-239	3.45E-04	0.207	530	3.32E-04	3.38E-04	3.51E-04	3.58E-04
Pu-240	4.99E-05	2.99E-02	76.7	4.81E-05	4.90E-05	5.08E-05	5.17E-05
Pu-241	3.46E-04	0.207	531	3.24E-04	3.35E-04	3.57E-04	3.67E-04
Pu-242	1.57E-09	9.43E-07	2.42E-03	1.45E-09	1.51E-09	1.64E-09	1.70E-09
Am-241	5.32E-05	3.19E-02	81.7	3.84E-05	4.56E-05	6.07E-05	6.80E-05
Am-243	1.84E-09	1.11E-06	2.83E-03	1.38E-09	1.60E-09	2.09E-09	2.33E-09
Cm-242	1.38E-07	8.24E-05	0.211	6.67E-08	6.67E-08	1.47E-07	1.56E-07
Cm-243	1.27E-08	7.60E-06	1.95E-02	5.93E-09	5.93E-09	1.35E-08	1.44E-08
Cm-244	1.25E-07	7.50E-05	0.192	5.55E-08	5.55E-08	1.49E-07	1.64E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.58E-03 (g/L)	----	8.58	5.37E-03	5.47E-03	5.69E-03	5.80E-03
U	4.26E-02	6.07E+03	1.56E+04	3.81E-02	4.07E-02	4.39E-02	4.48E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-108							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	1.82E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	5.08E-03 (kW)	(17.4 BTU/hr)	----	5.00E-03	5.04E-03	5.13E-03	5.17E-03
Bulk Density	1.66 (g/cc)	----	----	1.65	1.65	1.66	1.67
Void Fraction	0.725	----	----	0.712	0.718	0.732	0.740
Water wt%	47.8	----	----	47.6	47.7	48.0	48.2
TOC wt% C (wet)	0	----	----	0	0	0	0
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	1.77	2.46E+04	4.48E+03	1.60	1.69	1.84	1.90
Al^{3+}	5.25	8.54E+04	1.56E+04	5.24	5.25	5.26	5.26
Fe^{3+} (total Fe)	0.422	1.42E+04	2.59E+03	0.395	0.408	0.436	0.449
Cr^{3+}	2.23E-03	70.0	12.8	2.20E-03	2.22E-03	2.25E-03	2.27E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.88E-03	1.19E+03	218	9.85E-03	9.87E-03	9.90E-03	9.91E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.292	3.65E+04	6.64E+03	0.270	0.281	0.303	0.314
Ni^{2+}	1.12E-03	39.5	7.20	1.10E-03	1.11E-03	1.17E-03	1.27E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.297	7.19E+03	1.31E+03	0.192	0.244	0.351	0.403
K^+	2.44E-03	57.4	10.5	2.39E-03	2.41E-03	2.46E-03	2.48E-03
OH^-	21.8	2.23E+05	4.06E+04	21.7	21.7	21.8	21.9
$NO3^-$	0.592	2.21E+04	4.03E+03	0.581	0.586	0.597	0.602
$NO2^-$	0.219	6.09E+03	1.11E+03	0.215	0.217	0.222	0.224
$CO3^{2-}$	0.484	1.75E+04	3.19E+03	0.379	0.431	0.538	0.590
$PO4^{3-}$	4.14E-02	2.37E+03	431	1.78E-02	3.02E-02	5.09E-02	5.87E-02
$SO4^{2-}$	1.80E-02	1.04E+03	189	1.66E-02	1.73E-02	1.86E-02	1.92E-02
Si (as SiO_x^{2-})	1.77E-04	2.99	0.544	1.51E-04	1.64E-04	1.89E-04	2.00E-04
F^-	0	0	0	0	0	0	0
Cl^-	1.12E-02	239	43.6	1.10E-02	1.11E-02	1.13E-02	1.14E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.99E-05	0.818	0.149	7.54E-05	7.76E-05	8.22E-05	8.44E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-108							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	2.82E+06 (kg)	(439 kgal)	----	----	----	----	----
Heat Load	4.04 (kW)	(1.38E+04 BTU/hr)	----	3.77	3.91	4.15	4.26
Bulk Density*	1.70 (g/cc)	----	----	1.64	1.67	1.73	1.75
Water wt%	27.0	----	----	23.9	25.3	28.8	31.0
TOC wt% C (wet)	0.904	----	----	0.605	0.752	1.06	1.20
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	16.4	2.22E+05	6.28E+05	14.8	15.6	17.1	17.8
Al^{3+}	1.93	3.06E+04	8.65E+04	1.79	1.86	2.01	2.07
Fe^{3+} (total Fe)	1.32E-02	433	1.22E+03	1.05E-02	1.18E-02	1.45E-02	1.58E-02
Cr^{3+}	0.173	5.31E+03	1.50E+04	0.147	0.161	0.179	0.184
Bi^{3+}	1.32E-03	163	459	1.22E-03	1.27E-03	1.38E-03	1.43E-03
La^{3+}	5.28E-05	4.32	12.2	3.83E-05	4.54E-05	6.03E-05	6.75E-05
Hg^{2+}	9.82E-06	1.16	3.27	9.26E-06	9.58E-06	9.97E-06	1.01E-05
Zr (as $ZrO(OH)_2$)	2.31E-04	12.4	35.0	2.12E-04	2.19E-04	2.39E-04	2.50E-04
Pb^{2+}	1.14E-03	140	394	9.23E-04	1.03E-03	1.26E-03	1.37E-03
Ni^{2+}	7.54E-03	261	736	7.21E-03	7.37E-03	7.64E-03	7.74E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.77E-03	154	436	3.50E-03	4.12E-03	5.42E-03	6.04E-03
Ca^{2+}	3.95E-02	932	2.63E+03	3.57E-02	3.76E-02	4.14E-02	4.33E-02
K^+	7.60E-02	1.75E+03	4.94E+03	6.83E-02	7.19E-02	8.03E-02	8.43E-02
OH^-	11.8	1.18E+05	3.32E+05	10.9	11.3	12.2	12.6
$NO3^-$	5.56	2.03E+05	5.72E+05	5.21	5.41	5.64	5.72
$NO2^-$	2.88	7.81E+04	2.21E+05	2.34	2.59	3.17	3.44
$CO3^{2-}$	0.518	1.83E+04	5.16E+04	0.465	0.491	0.544	0.562
$PO4^{3-}$	0.105	5.85E+03	1.65E+04	9.30E-02	9.71E-02	0.107	0.109
$SO4^{2-}$	0.285	1.61E+04	4.56E+04	0.215	0.249	0.323	0.356
Si (as SiO_x^{2-})	9.20E-02	1.52E+03	4.29E+03	7.38E-02	8.27E-02	0.101	0.110
F^-	6.49E-02	726	2.05E+03	5.57E-02	5.96E-02	6.95E-02	7.31E-02
Cl^-	0.281	5.87E+03	1.66E+04	0.250	0.266	0.296	0.308
$C_6H_5O_7^{3-}$	3.70E-02	4.12E+03	1.16E+04	3.40E-02	3.55E-02	3.85E-02	4.00E-02
$EDTA^{4-}$	1.86E-02	3.15E+03	8.90E+03	5.99E-03	1.21E-02	2.51E-02	3.14E-02
$HEDTA^{3-}$	3.41E-02	5.49E+03	1.55E+04	8.85E-03	2.12E-02	4.70E-02	5.97E-02
$glycolate^-$	0.112	4.95E+03	1.40E+04	7.28E-02	9.21E-02	0.132	0.152
$acetate^-$	1.00E-02	347	981	8.17E-03	9.07E-03	1.09E-02	1.18E-02
$oxalate^{2-}$	6.92E-05	3.59	10.1	6.13E-05	6.52E-05	7.32E-05	7.71E-05
DBP	2.39E-02	2.96E+03	8.36E+03	1.95E-02	2.17E-02	2.62E-02	2.83E-02
butanol	2.39E-02	1.04E+03	2.95E+03	1.95E-02	2.17E-02	2.62E-02	2.83E-02
NH_3	9.37E-02	937	2.65E+03	7.32E-02	8.13E-02	0.109	0.128
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-108							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	3.01E+06 (kg)	(468 kgal)	----	----	----	----	----
Heat Load	4.04 (kW)	(1.38E+04 BTU/hr)	----	3.77	3.91	4.16	4.26
Bulk Density†	1.70 (g/cc)	----	----	1.64	1.67	1.72	1.75
Water wt%†	28.3	----	----	25.3	26.6	30.0	32.0
TOC wt% C (wet)†	0.849	----	----	0.568	0.706	0.993	1.13
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	15.5	2.10E+05	6.33E+05	14.0	14.8	16.2	16.8
Al^{3+}	2.14	3.40E+04	1.02E+05	2.01	2.07	2.21	2.27
Fe^{3+} (total Fe)	3.85E-02	1.27E+03	3.81E+03	3.60E-02	3.73E-02	3.98E-02	4.10E-02
Cr^{3+}	0.163	4.99E+03	1.50E+04	0.138	0.151	0.168	0.173
Bi^{3+}	1.24E-03	153	459	1.14E-03	1.19E-03	1.29E-03	1.34E-03
La^{3+}	4.96E-05	4.06	12.2	3.59E-05	4.26E-05	5.66E-05	6.33E-05
Hg^{2+}	6.21E-04	73.5	221	6.20E-04	6.21E-04	6.22E-04	6.23E-04
Zr (as $ZrO(OH)_2$)	2.17E-04	11.7	35.0	1.99E-04	2.05E-04	2.24E-04	2.35E-04
Pb^{2+}	1.92E-02	2.34E+03	7.04E+03	1.79E-02	1.85E-02	1.98E-02	2.05E-02
Ni^{2+}	7.15E-03	247	743	6.83E-03	6.99E-03	7.24E-03	7.33E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.48E-03	145	436	3.28E-03	3.87E-03	5.09E-03	5.67E-03
Ca^{2+}	5.55E-02	1.31E+03	3.94E+03	4.92E-02	5.23E-02	5.87E-02	6.18E-02
K^+	7.15E-02	1.65E+03	4.95E+03	6.42E-02	6.76E-02	7.55E-02	7.92E-02
OH^-	12.4	1.24E+05	3.73E+05	11.6	12.0	12.8	13.1
$NO3^-$	5.25	1.92E+05	5.76E+05	4.93	5.12	5.33	5.40
$NO2^-$	2.72	7.37E+04	2.22E+05	2.21	2.45	2.98	3.24
$CO3^{2-}$	0.515	1.82E+04	5.48E+04	0.466	0.490	0.540	0.557
$PO4^{3-}$	0.101	5.64E+03	1.70E+04	8.98E-02	9.36E-02	0.103	0.105
$SO4^{2-}$	0.269	1.52E+04	4.57E+04	0.203	0.234	0.304	0.335
Si (as SiO_x^{2-})	8.63E-02	1.43E+03	4.29E+03	6.92E-02	7.76E-02	9.50E-02	0.103
F^-	6.09E-02	682	2.05E+03	5.22E-02	5.59E-02	6.52E-02	6.86E-02
Cl^-	0.265	5.52E+03	1.66E+04	0.235	0.250	0.278	0.289
$C_6H_5O_7^{3-}$	3.47E-02	3.87E+03	1.16E+04	3.19E-02	3.33E-02	3.61E-02	3.75E-02
$EDTA^{4-}$	1.74E-02	2.96E+03	8.90E+03	5.61E-03	1.14E-02	2.35E-02	2.95E-02
$HEDTA^{3-}$	3.20E-02	5.16E+03	1.55E+04	8.30E-03	1.99E-02	4.41E-02	5.60E-02
$glycolate^-$	0.105	4.65E+03	1.40E+04	6.83E-02	8.64E-02	0.124	0.142
$acetate^-$	9.39E-03	326	981	7.66E-03	8.51E-03	1.03E-02	1.11E-02
$oxalate^{2-}$	6.49E-05	3.37	10.1	5.75E-05	6.11E-05	6.87E-05	7.23E-05
DBP	2.25E-02	2.78E+03	8.36E+03	1.83E-02	2.03E-02	2.46E-02	2.66E-02
butanol	2.25E-02	981	2.95E+03	1.83E-02	2.03E-02	2.46E-02	2.66E-02
NH_3	8.79E-02	880	2.65E+03	6.86E-02	7.62E-02	0.103	0.120
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.82E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	5.08E-03 (kW)	(17.4 BTU/hr)	----	5.00E-03	5.04E-03	5.13E-03	5.17E-03
Bulk Density	1.66 (g/cc)	----	----	1.65	1.65	1.66	1.67
Void Fraction	0.725	----	----	0.712	0.718	0.732	0.740
Water wt%	47.8	----	----	47.6	47.7	48.0	48.2
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.22E-06	7.33E-04	0.134	1.20E-06	1.21E-06	1.23E-06	1.24E-06
C-14	4.14E-07	2.49E-04	4.54E-02	3.31E-07	3.75E-07	4.47E-07	4.75E-07
Ni-59	4.73E-08	2.85E-05	5.19E-03	4.60E-08	4.66E-08	5.54E-08	6.85E-08
Ni-63	4.58E-06	2.76E-03	0.503	4.47E-06	4.53E-06	5.29E-06	6.44E-06
Co-60	1.56E-07	9.42E-05	1.71E-02	1.53E-07	1.55E-07	1.58E-07	1.59E-07
Se-79	4.21E-08	2.54E-05	4.62E-03	4.10E-08	4.15E-08	4.26E-08	4.31E-08
Sr-90	3.85E-03	2.32	422	3.78E-03	3.81E-03	3.88E-03	3.91E-03
Y-90	3.85E-03	2.32	422	3.78E-03	3.81E-03	3.88E-03	3.91E-03
Zr-93	2.02E-07	1.22E-04	2.21E-02	1.97E-07	1.99E-07	2.04E-07	2.06E-07
Nb-93m	1.55E-07	9.35E-05	1.70E-02	1.51E-07	1.53E-07	1.57E-07	1.59E-07
Tc-99	1.40E-06	8.43E-04	0.153	1.36E-06	1.38E-06	1.41E-06	1.43E-06
Ru-106	4.24E-11	2.56E-08	4.66E-06	4.17E-11	4.20E-11	4.28E-11	4.32E-11
Cd-113m	7.25E-07	4.37E-04	7.95E-02	7.13E-07	7.19E-07	7.31E-07	7.36E-07
Sb-125	6.48E-07	3.90E-04	7.11E-02	6.36E-07	6.42E-07	6.54E-07	6.59E-07
Sn-126	6.03E-08	3.64E-05	6.62E-03	5.87E-08	5.95E-08	6.11E-08	6.18E-08
I-129	2.62E-09	1.58E-06	2.87E-04	2.55E-09	2.58E-09	2.65E-09	2.68E-09
Cs-134	3.28E-08	1.98E-05	3.60E-03	3.22E-08	3.25E-08	3.31E-08	3.34E-08
Cs-137	4.35E-03	2.62	478	4.28E-03	4.32E-03	4.39E-03	4.43E-03
Ba-137m	4.12E-03	2.48	452	4.05E-03	4.08E-03	4.16E-03	4.19E-03
Sm-151	1.52E-04	9.19E-02	16.7	1.48E-04	1.50E-04	1.54E-04	1.56E-04
Eu-152	1.19E-06	7.15E-04	0.130	1.19E-06	1.19E-06	1.19E-06	1.19E-06
Eu-154	3.52E-06	2.12E-03	0.387	3.46E-06	3.49E-06	3.55E-06	3.58E-06
Eu-155	7.11E-05	4.28E-02	7.80	7.10E-05	7.10E-05	7.11E-05	7.11E-05
Ra-226	1.68E-11	1.01E-08	1.85E-06	5.77E-12	5.77E-12	3.38E-11	5.02E-11
Ra-228	2.37E-15	1.43E-12	2.60E-10	2.37E-15	2.37E-15	2.37E-15	2.37E-15
Ac-227	4.83E-11	2.91E-08	5.30E-06	2.86E-11	2.86E-11	1.47E-10	2.42E-10
Pa-231	6.81E-11	4.11E-08	7.48E-06	6.33E-11	6.57E-11	7.04E-11	2.37E-10
Th-229	1.51E-13	9.12E-11	1.66E-08	1.51E-13	1.51E-13	1.51E-13	1.51E-13
Th-232	1.53E-16	9.22E-14	1.68E-11	1.50E-16	1.52E-16	1.54E-16	1.56E-16
U-232	3.51E-09	2.12E-06	3.85E-04	3.42E-09	3.46E-09	3.56E-09	3.60E-09
U-233	1.09E-10	6.55E-08	1.19E-05	1.06E-10	1.07E-10	1.10E-10	1.11E-10
U-234	6.44E-05	3.88E-02	7.07	6.30E-05	6.37E-05	6.51E-05	6.58E-05
U-235	2.54E-06	1.53E-03	0.279	2.49E-06	2.51E-06	2.57E-06	2.59E-06
U-236	3.38E-06	2.04E-03	0.371	3.29E-06	3.33E-06	3.43E-06	3.47E-06
U-238	4.92E-05	2.97E-02	5.40	4.83E-05	4.87E-05	4.97E-05	5.02E-05
Np-237	1.36E-08	8.18E-06	1.49E-03	1.33E-08	1.35E-08	1.37E-08	1.38E-08
Pu-238	1.68E-04	0.101	18.5	1.62E-04	1.65E-04	1.72E-04	1.75E-04
Pu-239	4.67E-03	2.82	513	4.49E-03	4.58E-03	4.77E-03	4.86E-03
Pu-240	7.72E-04	0.466	84.8	7.41E-04	7.57E-04	7.88E-04	8.03E-04
Pu-241	6.87E-03	4.14	755	6.60E-03	6.73E-03	7.01E-03	7.15E-03
Pu-242	1.82E-08	1.09E-05	1.99E-03	1.74E-08	1.78E-08	1.85E-08	1.89E-08
Am-241	7.01E-07	4.23E-04	7.70E-02	6.89E-07	6.95E-07	7.08E-07	7.14E-07
Am-243	5.59E-12	3.37E-09	6.14E-07	5.49E-12	5.54E-12	5.65E-12	5.70E-12
Cm-242	1.19E-08	7.16E-06	1.30E-03	1.19E-08	1.19E-08	1.19E-08	1.19E-08
Cm-243	2.73E-10	1.65E-07	3.00E-05	2.73E-10	2.73E-10	2.73E-10	2.73E-10
Cm-244	1.74E-10	1.05E-07	1.91E-05	1.71E-10	1.73E-10	1.76E-10	1.77E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.87E-02 (g/L)	----	8.63	7.55E-02	7.71E-02	8.03E-02	8.18E-02
U	0.620	8.90E+04	1.62E+04	0.608	0.614	0.627	0.633

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.82E+06 (kg)	(439 kgal)	----	----	----	----	----
Heat Load	4.04 (kW)	(1.38E+04 BTU/hr)	----	3.77	3.91	4.15	4.26
Bulk Density*	1.70 (g/cc)	----	----	1.64	1.67	1.73	1.75
Water wt%†	27.0	----	----	23.9	25.3	28.8	31.0
TOC wt% C (wet)	0.904	----	----	0.605	0.752	1.06	1.20
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.08E-04	0.181	512	1.46E-04	1.46E-04	3.18E-04	3.31E-04
C-14	4.59E-05	2.70E-02	76.2	1.20E-05	1.20E-05	4.64E-05	4.70E-05
Ni-59	2.83E-06	1.66E-03	4.70	1.24E-06	1.24E-06	2.91E-06	2.99E-06
Ni-63	2.77E-04	0.163	461	1.20E-04	1.20E-04	2.85E-04	2.93E-04
Co-60	5.12E-05	3.01E-02	85.1	1.24E-05	1.24E-05	5.20E-05	5.27E-05
Se-79	4.40E-06	2.59E-03	7.31	2.24E-06	2.24E-06	5.18E-06	5.93E-06
Sr-90	0.147	86.5	2.44E+05	0.136	0.142	0.152	0.158
Y-90	0.147	86.5	2.44E+05	7.23E-02	7.23E-02	0.152	0.158
Zr-93	2.16E-05	1.27E-02	35.9	1.08E-05	1.08E-05	2.55E-05	2.93E-05
Nb-93m	1.56E-05	9.21E-03	26.0	8.08E-06	8.08E-06	1.84E-05	2.10E-05
Tc-99	3.26E-04	0.192	542	2.00E-04	2.62E-04	3.91E-04	4.54E-04
Ru-106	9.06E-09	5.33E-06	1.51E-02	4.05E-09	4.05E-09	1.02E-08	1.12E-08
Cd-113m	1.15E-04	6.74E-02	190	4.97E-05	4.97E-05	1.38E-04	1.61E-04
Sb-125	2.21E-04	0.130	368	5.33E-05	5.33E-05	2.25E-04	2.29E-04
Sn-126	6.65E-06	3.91E-03	11.0	3.40E-06	3.40E-06	7.82E-06	8.95E-06
I-129	6.29E-07	3.70E-04	1.05	3.85E-07	5.04E-07	7.55E-07	8.77E-07
Cs-134	3.11E-06	1.83E-03	5.17	2.16E-06	2.59E-06	3.60E-06	4.08E-06
Cs-137	0.308	181	5.11E+05	0.280	0.291	0.322	0.336
Ba-137m	0.291	171	4.84E+05	0.222	0.222	0.304	0.318
Sm-151	1.55E-02	9.11	2.57E+04	7.91E-03	7.91E-03	1.82E-02	2.09E-02
Eu-152	5.15E-06	3.03E-03	8.55	2.46E-06	2.46E-06	5.49E-06	5.84E-06
Eu-154	8.22E-04	0.484	1.37E+03	2.81E-04	2.81E-04	1.02E-03	1.10E-03
Eu-155	3.04E-04	0.179	506	1.45E-04	1.45E-04	3.26E-04	3.47E-04
Ra-226	1.82E-10	1.07E-07	3.02E-04	1.15E-10	1.15E-10	2.06E-10	2.29E-10
Ra-228	1.62E-07	9.51E-05	0.269	6.88E-08	1.14E-07	2.17E-07	2.75E-07
Ac-227	1.15E-09	6.77E-07	1.91E-03	7.60E-10	7.60E-10	1.29E-09	1.43E-09
Pa-231	5.35E-09	3.15E-06	8.89E-03	3.19E-09	3.19E-09	6.13E-09	6.89E-09
Th-229	3.81E-09	2.24E-06	6.34E-03	1.78E-09	2.77E-09	5.02E-09	6.31E-09
Th-232	1.10E-08	6.47E-06	1.83E-02	5.86E-09	8.38E-09	1.36E-08	1.61E-08
U-232	8.45E-07	4.97E-04	1.40	4.73E-07	6.55E-07	1.07E-06	1.30E-06
U-233	3.24E-06	1.91E-03	5.39	1.82E-06	2.51E-06	4.09E-06	4.99E-06
U-234	9.94E-07	5.85E-04	1.65	9.56E-07	9.75E-07	1.01E-06	1.03E-06
U-235	4.03E-08	2.37E-05	6.70E-02	3.88E-08	3.96E-08	4.12E-08	4.18E-08
U-236	3.11E-08	1.83E-05	5.17E-02	3.00E-08	3.05E-08	3.16E-08	3.22E-08
U-238	1.16E-06	6.82E-04	1.92	1.12E-06	1.14E-06	1.18E-06	1.19E-06
Np-237	1.18E-06	6.95E-04	1.96	7.69E-07	9.70E-07	1.39E-06	1.60E-06
Pu-238	1.83E-06	1.08E-03	3.05	1.35E-06	1.59E-06	2.08E-06	2.32E-06
Pu-239	6.15E-05	3.62E-02	102	4.91E-05	5.52E-05	6.78E-05	7.39E-05
Pu-240	1.05E-05	6.19E-03	17.5	8.20E-06	9.33E-06	1.17E-05	1.28E-05
Pu-241	1.25E-04	7.35E-02	208	9.18E-05	1.08E-04	1.42E-04	1.58E-04
Pu-242	6.88E-10	4.05E-07	1.14E-03	4.91E-10	5.87E-10	7.89E-10	8.86E-10
Am-241	7.36E-05	4.33E-02	122	5.06E-05	6.19E-05	8.54E-05	9.66E-05
Am-243	2.63E-09	1.55E-06	4.38E-03	1.91E-09	2.26E-09	3.02E-09	3.39E-09
Cm-242	1.97E-07	1.16E-04	0.327	8.66E-08	8.66E-08	2.10E-07	2.23E-07
Cm-243	1.83E-08	1.08E-05	3.04E-02	7.82E-09	7.82E-09	1.95E-08	2.07E-08
Cm-244	1.82E-07	1.07E-04	0.303	7.41E-08	7.41E-08	2.19E-07	2.42E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.52E-04 (g/L)	----	1.25	5.17E-04	6.33E-04	8.72E-04	9.86E-04
U	1.14E-02	1.60E+03	4.51E+03	1.10E-02	1.12E-02	1.17E-02	1.18E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.01E+06 (kg)	(468 kgal)	----	----	----	----	----
Heat Load	4.04 (kW)	(1.38E+04 BTU/hr)	----	3.77	3.91	4.16	4.26
Bulk Density†	1.70 (g/cc)	----	----	1.64	1.67	1.72	1.75
Water wt%†	28.3	----	----	25.3	26.6	30.0	32.0
TOC wt% C (wet)†	0.849	----	----	0.568	0.706	0.993	1.13
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.89E-04	0.171	513	1.37E-04	1.37E-04	2.99E-04	3.10E-04
C-14	4.31E-05	2.54E-02	76.3	1.13E-05	1.13E-05	4.36E-05	4.41E-05
Ni-59	2.66E-06	1.57E-03	4.70	1.16E-06	1.16E-06	2.73E-06	2.80E-06
Ni-63	2.61E-04	0.154	462	1.13E-04	1.13E-04	2.68E-04	2.75E-04
Co-60	4.81E-05	2.83E-02	85.1	1.17E-05	1.17E-05	4.88E-05	4.95E-05
Se-79	4.13E-06	2.43E-03	7.31	2.10E-06	2.10E-06	4.86E-06	5.57E-06
Sr-90	0.138	81.4	2.45E+05	0.128	0.133	0.143	0.148
Y-90	0.138	81.4	2.45E+05	6.80E-02	6.80E-02	0.143	0.148
Zr-93	2.03E-05	1.19E-02	35.9	1.01E-05	1.01E-05	2.39E-05	2.75E-05
Nb-93m	1.47E-05	8.66E-03	26.0	7.59E-06	7.59E-06	1.73E-05	1.97E-05
Tc-99	3.06E-04	0.180	542	1.88E-04	2.46E-04	3.67E-04	4.26E-04
Ru-106	8.51E-09	5.01E-06	1.51E-02	3.80E-09	3.80E-09	9.56E-09	1.05E-08
Cd-113m	1.07E-04	6.33E-02	190	4.66E-05	4.66E-05	1.30E-04	1.51E-04
Sb-125	2.08E-04	0.122	368	5.00E-05	5.00E-05	2.11E-04	2.15E-04
Sn-126	6.24E-06	3.68E-03	11.1	3.20E-06	3.20E-06	7.34E-06	8.40E-06
I-129	5.91E-07	3.48E-04	1.05	3.61E-07	4.73E-07	7.09E-07	8.23E-07
Cs-134	2.92E-06	1.72E-03	5.17	2.03E-06	2.43E-06	3.38E-06	3.83E-06
Cs-137	0.289	170	5.12E+05	0.263	0.274	0.302	0.315
Ba-137m	0.273	161	4.84E+05	0.208	0.208	0.286	0.298
Sm-151	1.45E-02	8.57	2.57E+04	7.43E-03	7.43E-03	1.71E-02	1.96E-02
Eu-152	4.90E-06	2.89E-03	8.68	2.38E-06	2.38E-06	5.23E-06	5.55E-06
Eu-154	7.71E-04	0.454	1.37E+03	2.64E-04	2.64E-04	9.54E-04	1.03E-03
Eu-155	2.90E-04	0.171	513	1.40E-04	1.40E-04	3.10E-04	3.30E-04
Ra-226	1.71E-10	1.01E-07	3.04E-04	1.09E-10	1.09E-10	1.94E-10	2.16E-10
Ra-228	1.52E-07	8.94E-05	0.269	6.45E-08	1.07E-07	2.03E-07	2.58E-07
Ac-227	1.08E-09	6.37E-07	1.92E-03	7.16E-10	7.16E-10	1.21E-09	1.34E-09
Pa-231	5.02E-09	2.96E-06	8.90E-03	2.99E-09	2.99E-09	5.76E-09	6.46E-09
Th-229	3.58E-09	2.11E-06	6.34E-03	1.67E-09	2.60E-09	4.71E-09	5.92E-09
Th-232	1.03E-08	6.08E-06	1.83E-02	5.50E-09	7.86E-09	1.28E-08	1.51E-08
U-232	7.93E-07	4.67E-04	1.40	4.44E-07	6.15E-07	1.00E-06	1.22E-06
U-233	3.04E-06	1.79E-03	5.39	1.70E-06	2.36E-06	3.83E-06	4.68E-06
U-234	4.92E-06	2.90E-03	8.72	4.84E-06	4.88E-06	4.96E-06	5.00E-06
U-235	1.95E-07	1.15E-04	0.346	1.92E-07	1.94E-07	1.97E-07	1.98E-07
U-236	2.39E-07	1.41E-04	0.423	2.33E-07	2.36E-07	2.41E-07	2.44E-07
U-238	4.14E-06	2.44E-03	7.33	4.08E-06	4.11E-06	4.17E-06	4.19E-06
Np-237	1.11E-06	6.54E-04	1.96	7.22E-07	9.11E-07	1.31E-06	1.50E-06
Pu-238	1.21E-05	7.16E-03	21.5	1.17E-05	1.19E-05	1.24E-05	1.26E-05
Pu-239	3.47E-04	0.205	615	3.36E-04	3.41E-04	3.53E-04	3.59E-04
Pu-240	5.77E-05	3.40E-02	102	5.55E-05	5.66E-05	5.88E-05	5.99E-05
Pu-241	5.43E-04	0.320	962	5.12E-04	5.27E-04	5.59E-04	5.74E-04
Pu-242	1.77E-09	1.04E-06	3.14E-03	1.58E-09	1.68E-09	1.86E-09	1.96E-09
Am-241	6.91E-05	4.07E-02	122	4.75E-05	5.81E-05	8.01E-05	9.07E-05
Am-243	2.47E-09	1.46E-06	4.38E-03	1.79E-09	2.12E-09	2.83E-09	3.18E-09
Cm-242	1.85E-07	1.09E-04	0.328	8.20E-08	8.20E-08	1.98E-07	2.10E-07
Cm-243	1.72E-08	1.01E-05	3.05E-02	7.35E-09	7.35E-09	1.83E-08	1.94E-08
Cm-244	1.71E-07	1.01E-04	0.303	6.95E-08	6.95E-08	2.05E-07	2.27E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.58E-03 (g/L)	----	9.88	5.36E-03	5.47E-03	5.69E-03	5.80E-03
U	4.92E-02	6.89E+03	2.07E+04	4.84E-02	4.88E-02	4.95E-02	4.99E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.14E+05 (kg)	(48.0 kgal)	----	----	----	----	----
Heat Load	4.43E-03 (kW)	(15.1 BTU/hr)	----	4.07E-03	4.28E-03	4.59E-03	4.73E-03
Bulk Density	1.73 (g/cc)	----	----	1.58	1.63	1.80	1.85
Void Fraction	0.523	----	----	0.442	0.477	0.588	0.610
Water wt%	35.5	----	----	23.7	28.5	46.3	50.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.46	8.60E+04	2.70E+04	3.65	4.49	7.90	8.97
Al^{3+}	5.60	8.75E+04	2.75E+04	2.92	3.64	7.01	8.03
Fe^{3+} (total Fe)	0.142	4.58E+03	1.44E+03	0.136	0.139	0.144	0.147
Cr^{3+}	1.70E-03	51.2	16.1	1.54E-03	1.65E-03	1.75E-03	1.79E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.04E-03	237	74.3	2.01E-03	2.03E-03	2.05E-03	2.06E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	5.88E-02	7.05E+03	2.21E+03	5.41E-02	5.67E-02	6.09E-02	6.30E-02
Ni^{2+}	8.50E-04	28.9	9.07	7.68E-04	8.28E-04	1.13E-03	2.24E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.102	2.38E+03	746	7.57E-02	9.14E-02	0.113	0.122
K^+	9.19E-04	20.8	6.53	7.95E-04	8.93E-04	9.44E-04	9.69E-04
OH^-	26.3	2.59E+05	8.12E+04	15.5	18.4	31.9	36.0
$NO3^-$	0.323	1.16E+04	3.64E+03	0.279	0.314	0.333	0.342
$NO2^-$	0.481	1.28E+04	4.02E+03	0.402	0.465	0.498	0.513
$CO3^{2-}$	1.00	3.49E+04	1.10E+04	0.740	0.880	1.11	1.20
$PO4^{3-}$	0.200	1.10E+04	3.45E+03	8.60E-02	0.146	0.246	0.284
$SO4^{2-}$	4.93E-02	2.74E+03	861	4.28E-02	4.60E-02	5.25E-02	5.53E-02
Si (as SiO_x^{2-})	1.09E-02	177	55.6	9.28E-03	1.06E-02	4.18E-02	8.84E-02
F^-	0	0	0	0	0	0	0
Cl^-	4.23E-03	86.6	27.2	3.66E-03	4.11E-03	4.34E-03	4.46E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.03E-04	1.01	0.318	8.12E-05	9.07E-05	1.19E-04	1.25E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.84E+06 (kg)	(415 kgal)	----	----	----	----	----
Heat Load	4.49 (kW)	(1.53E+04 BTU/hr)	----	4.20	4.35	4.62	4.74
Bulk Density*	1.81 (g/cc)	----	----	1.73	1.77	1.84	1.86
Water wt%	20.8	----	----	17.7	19.1	22.6	24.8
TOC wt% C (wet)	1.05	----	----	0.677	0.860	1.24	1.42

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	19.0	2.42E+05	6.85E+05	17.1	18.1	19.7	20.5
Al^{3+}	2.21	3.31E+04	9.38E+04	2.06	2.13	2.30	2.37
Fe^{3+} (total Fe)	1.51E-02	467	1.33E+03	1.21E-02	1.36E-02	1.66E-02	1.81E-02
Cr^{3+}	0.198	5.69E+03	1.61E+04	0.167	0.184	0.204	0.210
Bi^{3+}	1.52E-03	176	499	1.39E-03	1.46E-03	1.58E-03	1.64E-03
La^{3+}	5.77E-05	4.44	12.6	4.18E-05	4.96E-05	6.59E-05	7.37E-05
Hg^{2+}	1.12E-05	1.25	3.54	1.06E-05	1.10E-05	1.14E-05	1.16E-05
Zr (as $ZrO(OH)_2$)	2.73E-04	13.8	39.1	2.50E-04	2.58E-04	2.82E-04	2.95E-04
Pb^{2+}	1.30E-03	149	424	1.05E-03	1.17E-03	1.43E-03	1.56E-03
Ni^{2+}	8.55E-03	278	789	8.17E-03	8.36E-03	8.67E-03	8.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.41E-03	165	467	3.98E-03	4.68E-03	6.15E-03	6.85E-03
Ca^{2+}	4.50E-02	999	2.83E+03	4.07E-02	4.28E-02	4.72E-02	4.93E-02
K^+	8.78E-02	1.90E+03	5.39E+03	7.90E-02	8.31E-02	9.26E-02	9.71E-02
OH^-	13.5	1.27E+05	3.61E+05	12.6	13.0	14.0	14.4
$NO3^-$	6.39	2.19E+05	6.22E+05	5.99	6.22	6.49	6.59
$NO2^-$	3.30	8.40E+04	2.38E+05	2.68	2.97	3.62	3.92
$CO3^{2-}$	0.606	2.01E+04	5.72E+04	0.540	0.573	0.640	0.663
$PO4^{3-}$	0.116	6.09E+03	1.73E+04	0.102	0.107	0.118	0.120
$SO4^{2-}$	0.329	1.75E+04	4.97E+04	0.250	0.288	0.372	0.409
Si (as SiO_x^{2-})	0.108	1.67E+03	4.75E+03	8.70E-02	9.71E-02	0.118	0.128
F^-	7.47E-02	786	2.23E+03	6.39E-02	6.85E-02	8.00E-02	8.42E-02
Cl^-	0.325	6.38E+03	1.81E+04	0.290	0.308	0.341	0.355
$C_6H_5O_7^{3-}$	4.24E-02	4.44E+03	1.26E+04	3.87E-02	4.05E-02	4.43E-02	4.61E-02
$EDTA^{4-}$	2.43E-02	3.87E+03	1.10E+04	7.51E-03	1.57E-02	3.29E-02	4.13E-02
$HEDTA^{3-}$	4.50E-02	6.83E+03	1.94E+04	1.15E-02	2.79E-02	6.22E-02	7.91E-02
$glycolate^-$	0.143	5.93E+03	1.68E+04	9.30E-02	0.117	0.168	0.193
$acetate^-$	1.12E-02	367	1.04E+03	9.12E-03	1.01E-02	1.23E-02	1.33E-02
$oxalate^{2-}$	7.56E-05	3.68	10.5	6.70E-05	7.12E-05	8.00E-05	8.42E-05
DBP	2.71E-02	3.15E+03	8.95E+03	2.20E-02	2.45E-02	2.96E-02	3.21E-02
butanol	2.71E-02	1.11E+03	3.16E+03	2.20E-02	2.45E-02	2.96E-02	3.21E-02
NH_3	0.109	1.02E+03	2.91E+03	8.57E-02	9.48E-02	0.127	0.148
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.15E+06 (kg)	(463 kgal)	----	----	----	----	----
Heat Load	4.49 (kW)	(1.53E+04 BTU/hr)	----	4.20	4.36	4.62	4.74
Bulk Density†	1.80 (g/cc)	----	----	1.73	1.77	1.83	1.85
Water wt%†	22.2	----	----	19.4	20.7	23.9	25.9
TOC wt% C (wet)†	0.946	----	----	0.609	0.774	1.12	1.28

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	17.7	2.26E+05	7.12E+05	16.0	16.9	18.4	19.0
Al^{3+}	2.57	3.85E+04	1.21E+05	2.28	2.37	2.70	2.80
Fe^{3+} (total Fe)	2.83E-02	878	2.76E+03	2.56E-02	2.69E-02	2.96E-02	3.09E-02
Cr^{3+}	0.177	5.13E+03	1.62E+04	0.150	0.165	0.183	0.188
Bi^{3+}	1.36E-03	158	499	1.25E-03	1.30E-03	1.42E-03	1.47E-03
La^{3+}	5.17E-05	4.00	12.6	3.75E-05	4.44E-05	5.90E-05	6.61E-05
Hg^{2+}	2.22E-04	24.7	77.9	2.18E-04	2.20E-04	2.22E-04	2.23E-04
Zr (as $ZrO(OH)_2$)	2.44E-04	12.4	39.1	2.24E-04	2.31E-04	2.53E-04	2.64E-04
Pb^{2+}	7.27E-03	837	2.64E+03	6.77E-03	7.06E-03	7.45E-03	7.62E-03
Ni^{2+}	7.76E-03	253	798	7.41E-03	7.58E-03	7.86E-03	7.95E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.85E-03	148	467	3.56E-03	4.19E-03	5.51E-03	6.14E-03
Ca^{2+}	5.10E-02	1.14E+03	3.58E+03	4.71E-02	4.90E-02	5.29E-02	5.48E-02
K^+	7.88E-02	1.71E+03	5.40E+03	7.09E-02	7.46E-02	8.31E-02	8.71E-02
OH^-	14.8	1.40E+05	4.42E+05	13.7	14.1	15.4	15.8
$NO3^-$	5.76	1.99E+05	6.26E+05	5.40	5.61	5.85	5.94
$NO2^-$	3.01	7.69E+04	2.42E+05	2.46	2.71	3.29	3.57
$CO3^{2-}$	0.648	2.16E+04	6.81E+04	0.588	0.617	0.677	0.698
$PO4^{3-}$	0.124	6.58E+03	2.07E+04	0.112	0.117	0.129	0.133
$SO4^{2-}$	0.300	1.60E+04	5.05E+04	0.229	0.263	0.338	0.372
Si (as SiO_x^{2-})	9.75E-02	1.52E+03	4.80E+03	7.91E-02	8.81E-02	0.107	0.116
F^-	6.70E-02	708	2.23E+03	5.73E-02	6.14E-02	7.17E-02	7.55E-02
Cl^-	0.292	5.75E+03	1.81E+04	0.260	0.276	0.306	0.319
$C_6H_5O_7^{3-}$	3.80E-02	4.00E+03	1.26E+04	3.47E-02	3.63E-02	3.97E-02	4.14E-02
$EDTA^{4-}$	2.17E-02	3.48E+03	1.10E+04	6.74E-03	1.41E-02	2.95E-02	3.70E-02
$HEDTA^{3-}$	4.03E-02	6.15E+03	1.94E+04	1.03E-02	2.50E-02	5.58E-02	7.09E-02
$glycolate^-$	0.128	5.34E+03	1.68E+04	8.34E-02	0.105	0.151	0.173
$acetate^-$	1.01E-02	330	1.04E+03	8.17E-03	9.10E-03	1.10E-02	1.20E-02
$oxalate^{2-}$	6.77E-05	3.32	10.5	6.00E-05	6.38E-05	7.17E-05	7.55E-05
DBP	2.43E-02	2.84E+03	8.95E+03	1.98E-02	2.20E-02	2.66E-02	2.87E-02
butanol	2.43E-02	1.00E+03	3.16E+03	1.98E-02	2.20E-02	2.66E-02	2.87E-02
NH_3	9.76E-02	923	2.91E+03	7.68E-02	8.50E-02	0.114	0.132
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.14E+05 (kg)	(48.0 kgal)	----	----	----	----	----
Heat Load	4.43E-03 (kW)	(15.1 BTU/hr)	----	4.07E-03	4.28E-03	4.59E-03	4.73E-03
Bulk Density	1.73 (g/cc)	----	----	1.58	1.63	1.80	1.85
Void Fraction	0.523	----	----	0.442	0.477	0.588	0.610
Water wt%	35.5	----	----	23.7	28.5	46.3	50.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.80E-07	5.67E-04	0.178	7.91E-07	9.24E-07	1.04E-06	1.09E-06
C-14	1.42E-06	8.20E-04	0.258	1.01E-06	1.23E-06	1.58E-06	1.71E-06
Ni-59	6.36E-08	3.68E-05	1.15E-02	5.74E-08	6.04E-08	1.03E-07	1.66E-07
Ni-63	5.67E-06	3.28E-03	1.03	5.13E-06	5.40E-06	9.11E-06	1.47E-05
Co-60	4.71E-08	2.73E-05	8.56E-03	4.33E-08	4.54E-08	4.88E-08	5.02E-08
Se-79	4.74E-08	2.74E-05	8.61E-03	4.22E-08	4.48E-08	4.99E-08	5.21E-08
Sr-90	2.02E-03	1.17	368	1.86E-03	1.95E-03	2.09E-03	2.16E-03
Y-90	2.02E-03	1.17	368	1.86E-03	1.95E-03	2.09E-03	2.16E-03
Zr-93	2.26E-07	1.30E-04	4.10E-02	2.01E-07	2.13E-07	2.37E-07	2.48E-07
Nb-93m	1.92E-07	1.11E-04	3.48E-02	1.70E-07	1.81E-07	2.02E-07	2.11E-07
Tc-99	1.56E-06	9.02E-04	0.283	1.39E-06	1.47E-06	1.64E-06	1.71E-06
Ru-106	1.38E-13	8.01E-11	2.51E-08	1.16E-13	1.34E-13	1.43E-13	1.47E-13
Cd-113m	5.20E-07	3.01E-04	9.44E-02	4.69E-07	4.94E-07	5.44E-07	5.65E-07
Sb-125	5.22E-08	3.02E-05	9.48E-03	4.58E-08	5.08E-08	5.35E-08	5.48E-08
Sn-126	7.08E-08	4.10E-05	1.29E-02	6.31E-08	6.70E-08	7.45E-08	7.78E-08
I-129	2.92E-09	1.69E-06	5.31E-04	2.61E-09	2.77E-09	3.08E-09	3.21E-09
Cs-134	8.41E-10	4.86E-07	1.53E-04	7.07E-10	8.13E-10	8.68E-10	8.95E-10
Cs-137	2.30E-03	1.33	418	2.11E-03	2.22E-03	2.38E-03	2.45E-03
Ba-137m	2.18E-03	1.26	396	2.00E-03	2.10E-03	2.25E-03	2.32E-03
Sm-151	1.77E-04	0.102	32.1	1.57E-04	1.67E-04	1.86E-04	1.94E-04
Eu-152	1.19E-07	6.89E-05	2.16E-02	1.18E-07	1.19E-07	1.19E-07	1.19E-07
Eu-154	8.91E-07	5.15E-04	0.162	7.98E-07	8.67E-07	9.13E-07	9.33E-07
Eu-155	8.92E-06	5.16E-03	1.62	8.88E-06	8.90E-06	8.94E-06	8.95E-06
Ra-226	7.01E-11	4.05E-08	1.27E-05	1.66E-11	1.66E-11	1.52E-10	2.31E-10
Ra-228	5.74E-16	3.32E-13	1.04E-10	5.71E-16	5.72E-16	5.75E-16	5.77E-16
Ac-227	1.79E-10	1.03E-07	3.25E-05	8.36E-11	8.36E-11	6.56E-10	1.11E-09
Pa-231	1.76E-10	1.02E-07	3.20E-05	1.53E-10	1.65E-10	1.87E-10	9.90E-10
Th-229	1.03E-13	5.97E-11	1.87E-08	1.03E-13	1.03E-13	1.03E-13	1.04E-13
Th-232	7.26E-17	4.20E-14	1.32E-11	6.50E-17	6.88E-17	7.63E-17	7.96E-17
U-232	1.14E-09	6.58E-07	2.07E-04	1.10E-09	1.12E-09	1.15E-09	1.16E-09
U-233	6.07E-11	3.51E-08	1.10E-05	5.92E-11	6.01E-11	6.12E-11	6.15E-11
U-234	7.61E-05	4.40E-02	13.8	7.51E-05	7.57E-05	7.64E-05	7.66E-05
U-235	3.41E-06	1.97E-03	0.619	3.36E-06	3.39E-06	3.42E-06	3.43E-06
U-236	6.02E-07	3.48E-04	0.109	5.80E-07	5.93E-07	6.08E-07	6.13E-07
U-238	7.68E-05	4.44E-02	14.0	7.58E-05	7.64E-05	7.71E-05	7.73E-05
Np-237	9.75E-09	5.64E-06	1.77E-03	8.73E-09	9.24E-09	1.02E-08	1.07E-08
Pu-238	1.26E-05	7.27E-03	2.28	1.20E-05	1.23E-05	1.28E-05	1.31E-05
Pu-239	8.06E-04	0.466	146	7.70E-04	7.88E-04	8.24E-04	8.41E-04
Pu-240	1.14E-04	6.57E-02	20.6	1.09E-04	1.11E-04	1.16E-04	1.19E-04
Pu-241	6.93E-04	0.401	126	6.62E-04	6.77E-04	7.08E-04	7.23E-04
Pu-242	2.94E-09	1.70E-06	5.34E-04	2.81E-09	2.87E-09	3.01E-09	3.07E-09
Am-241	2.63E-07	1.52E-04	4.78E-02	2.30E-07	2.56E-07	2.70E-07	2.76E-07
Am-243	2.03E-12	1.17E-09	3.68E-07	1.73E-12	1.97E-12	2.09E-12	2.15E-12
Cm-242	1.95E-09	1.13E-06	3.55E-04	1.94E-09	1.95E-09	1.96E-09	1.96E-09
Cm-243	4.35E-11	2.52E-08	7.91E-06	4.32E-11	4.35E-11	4.36E-11	4.37E-11
Cm-244	6.74E-11	3.90E-08	1.23E-05	5.70E-11	6.53E-11	6.96E-11	7.17E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.35E-02 (g/L)	----	2.45	1.29E-02	1.32E-02	1.38E-02	1.41E-02
U	0.967	1.33E+05	4.18E+04	0.955	0.962	0.970	0.973

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.84E+06 (kg)	(415 kgal)	----	----	----	----	----
Heat Load	4.49 (kW)	(1.53E+04 BTU/hr)	----	4.20	4.35	4.62	4.74
Bulk Density*	1.81 (g/cc)	----	----	1.73	1.77	1.84	1.86
Water wt%†	20.8	----	----	17.7	19.1	22.6	24.8
TOC wt% C (wet)	1.05	----	----	0.677	0.860	1.24	1.42

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.56E-04	0.197	559	1.73E-04	1.73E-04	3.69E-04	3.85E-04
C-14	5.24E-05	2.90E-02	82.4	1.41E-05	1.41E-05	5.31E-05	5.37E-05
Ni-59	3.26E-06	1.81E-03	5.13	1.46E-06	1.46E-06	3.36E-06	3.44E-06
Ni-63	3.20E-04	0.177	503	1.42E-04	1.42E-04	3.29E-04	3.38E-04
Co-60	5.87E-05	3.25E-02	92.2	1.48E-05	1.48E-05	5.96E-05	6.06E-05
Se-79	5.12E-06	2.84E-03	8.05	2.68E-06	2.68E-06	6.01E-06	6.86E-06
Sr-90	0.172	95.2	2.70E+05	0.160	0.166	0.178	0.184
Y-90	0.172	95.3	2.70E+05	8.75E-02	8.75E-02	0.178	0.184
Zr-93	2.51E-05	1.39E-02	39.5	1.29E-05	1.29E-05	2.96E-05	3.38E-05
Nb-93m	1.82E-05	1.01E-02	28.6	9.66E-06	9.66E-06	2.13E-05	2.43E-05
Tc-99	3.73E-04	0.206	586	2.30E-04	3.00E-04	4.46E-04	5.17E-04
Ru-106	1.07E-08	5.90E-06	1.67E-02	4.98E-09	4.98E-09	1.19E-08	1.31E-08
Cd-113m	1.33E-04	7.36E-02	209	5.95E-05	5.95E-05	1.60E-04	1.85E-04
Sb-125	2.54E-04	0.141	399	6.39E-05	6.39E-05	2.59E-04	2.65E-04
Sn-126	7.75E-06	4.29E-03	12.2	4.08E-06	4.08E-06	9.08E-06	1.04E-05
I-129	7.19E-07	3.98E-04	1.13	4.42E-07	5.77E-07	8.61E-07	9.99E-07
Cs-134	3.85E-06	2.13E-03	6.04	2.58E-06	3.20E-06	4.50E-06	5.13E-06
Cs-137	0.363	201	5.70E+05	0.330	0.345	0.380	0.397
Ba-137m	0.343	190	5.39E+05	0.265	0.265	0.359	0.375
Sm-151	1.80E-02	9.99	2.83E+04	9.48E-03	9.48E-03	2.11E-02	2.41E-02
Eu-152	6.10E-06	3.38E-03	9.58	3.07E-06	3.07E-06	6.56E-06	7.02E-06
Eu-154	9.52E-04	0.527	1.49E+03	3.40E-04	3.40E-04	1.17E-03	1.26E-03
Eu-155	3.61E-04	0.200	567	1.80E-04	1.80E-04	3.89E-04	4.17E-04
Ra-226	2.12E-10	1.17E-07	3.33E-04	1.36E-10	1.36E-10	2.39E-10	2.66E-10
Ra-228	1.78E-07	9.88E-05	0.280	7.37E-08	1.25E-07	2.41E-07	3.07E-07
Ac-227	1.34E-09	7.42E-07	2.10E-03	8.99E-10	8.99E-10	1.50E-09	1.65E-09
Pa-231	6.21E-09	3.44E-06	9.76E-03	3.76E-09	3.76E-09	7.10E-09	7.95E-09
Th-229	4.22E-09	2.33E-06	6.62E-03	1.92E-09	3.04E-09	5.58E-09	7.03E-09
Th-232	1.19E-08	6.61E-06	1.88E-02	6.15E-09	8.98E-09	1.49E-08	1.77E-08
U-232	9.48E-07	5.25E-04	1.49	5.29E-07	7.34E-07	1.20E-06	1.46E-06
U-233	3.64E-06	2.01E-03	5.71	2.03E-06	2.82E-06	4.59E-06	5.60E-06
U-234	1.14E-06	6.31E-04	1.79	1.10E-06	1.12E-06	1.16E-06	1.18E-06
U-235	4.63E-08	2.56E-05	7.27E-02	4.45E-08	4.54E-08	4.72E-08	4.80E-08
U-236	3.59E-08	1.99E-05	5.63E-02	3.46E-08	3.52E-08	3.65E-08	3.71E-08
U-238	1.32E-06	7.33E-04	2.08	1.28E-06	1.30E-06	1.35E-06	1.36E-06
Np-237	1.35E-06	7.47E-04	2.12	8.82E-07	1.11E-06	1.59E-06	1.82E-06
Pu-238	2.14E-06	1.19E-03	3.37	1.60E-06	1.86E-06	2.42E-06	2.69E-06
Pu-239	7.14E-05	3.95E-02	112	5.73E-05	6.42E-05	7.85E-05	8.53E-05
Pu-240	1.22E-05	6.77E-03	19.2	9.60E-06	1.09E-05	1.36E-05	1.48E-05
Pu-241	1.46E-04	8.08E-02	229	1.09E-04	1.27E-04	1.65E-04	1.83E-04
Pu-242	8.06E-10	4.46E-07	1.27E-03	5.83E-10	6.92E-10	9.20E-10	1.03E-09
Am-241	8.62E-05	4.77E-02	135	6.02E-05	7.30E-05	9.95E-05	1.12E-04
Am-243	3.15E-09	1.74E-06	4.95E-03	2.33E-09	2.72E-09	3.62E-09	4.04E-09
Cm-242	2.34E-07	1.30E-04	0.368	1.09E-07	1.09E-07	2.52E-07	2.69E-07
Cm-243	2.18E-08	1.21E-05	3.42E-02	9.91E-09	9.91E-09	2.34E-08	2.49E-08
Cm-244	2.15E-07	1.19E-04	0.338	9.30E-08	9.30E-08	2.57E-07	2.83E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.79E-04 (g/L)	----	1.38	6.13E-04	7.44E-04	1.01E-03	1.14E-03
U	1.31E-02	1.72E+03	4.89E+03	1.26E-02	1.28E-02	1.34E-02	1.36E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.15E+06 (kg)	(463 kgal)	----	----	----	----	----
Heat Load	4.49 (kW)	(1.53E+04 BTU/hr)	----	4.20	4.36	4.62	4.74
Bulk Density†	1.80 (g/cc)	----	----	1.73	1.77	1.83	1.85
Water wt%†	22.2	----	----	19.4	20.7	23.9	25.9
TOC wt% C (wet)†	0.946	----	----	0.609	0.774	1.12	1.28

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.19E-04	0.178	559	1.55E-04	1.55E-04	3.31E-04	3.46E-04
C-14	4.72E-05	2.62E-02	82.6	1.28E-05	1.28E-05	4.77E-05	4.83E-05
Ni-59	2.93E-06	1.63E-03	5.14	1.32E-06	1.32E-06	3.01E-06	3.09E-06
Ni-63	2.88E-04	0.160	504	1.28E-04	1.28E-04	2.96E-04	3.03E-04
Co-60	5.26E-05	2.93E-02	92.2	1.33E-05	1.33E-05	5.34E-05	5.43E-05
Se-79	4.60E-06	2.56E-03	8.06	2.40E-06	2.40E-06	5.39E-06	6.15E-06
Sr-90	0.154	85.9	2.71E+05	0.144	0.149	0.160	0.165
Y-90	0.154	85.9	2.71E+05	7.86E-02	7.86E-02	0.160	0.165
Zr-93	2.26E-05	1.25E-02	39.5	1.16E-05	1.16E-05	2.65E-05	3.03E-05
Nb-93m	1.64E-05	9.10E-03	28.7	8.68E-06	8.68E-06	1.91E-05	2.18E-05
Tc-99	3.34E-04	0.186	586	2.06E-04	2.69E-04	4.00E-04	4.64E-04
Ru-106	9.55E-09	5.31E-06	1.67E-02	4.47E-09	4.47E-09	1.07E-08	1.17E-08
Cd-113m	1.19E-04	6.63E-02	209	5.34E-05	5.34E-05	1.43E-04	1.66E-04
Sb-125	2.28E-04	0.127	399	5.73E-05	5.73E-05	2.33E-04	2.37E-04
Sn-126	6.95E-06	3.87E-03	12.2	3.66E-06	3.66E-06	8.14E-06	9.29E-06
I-129	6.45E-07	3.59E-04	1.13	3.97E-07	5.18E-07	7.72E-07	8.96E-07
Cs-134	3.45E-06	1.92E-03	6.04	2.31E-06	2.87E-06	4.03E-06	4.60E-06
Cs-137	0.326	181	5.70E+05	0.296	0.309	0.341	0.356
Ba-137m	0.308	171	5.40E+05	0.237	0.237	0.322	0.336
Sm-151	1.62E-02	9.01	2.84E+04	8.51E-03	8.51E-03	1.90E-02	2.16E-02
Eu-152	5.48E-06	3.05E-03	9.60	2.76E-06	2.76E-06	5.90E-06	6.30E-06
Eu-154	8.53E-04	0.474	1.49E+03	3.04E-04	3.04E-04	1.05E-03	1.13E-03
Eu-155	3.24E-04	0.180	569	1.63E-04	1.63E-04	3.50E-04	3.75E-04
Ra-226	1.97E-10	1.10E-07	3.46E-04	1.29E-10	1.29E-10	2.22E-10	2.46E-10
Ra-228	1.60E-07	8.90E-05	0.280	6.60E-08	1.12E-07	2.16E-07	2.75E-07
Ac-227	1.22E-09	6.78E-07	2.14E-03	8.24E-10	8.24E-10	1.36E-09	1.50E-09
Pa-231	5.59E-09	3.11E-06	9.79E-03	3.39E-09	3.39E-09	6.38E-09	7.14E-09
Th-229	3.78E-09	2.10E-06	6.62E-03	1.72E-09	2.73E-09	5.00E-09	6.30E-09
Th-232	1.07E-08	5.95E-06	1.88E-02	5.51E-09	8.05E-09	1.34E-08	1.59E-08
U-232	8.50E-07	4.73E-04	1.49	4.74E-07	6.58E-07	1.07E-06	1.31E-06
U-233	3.26E-06	1.81E-03	5.71	1.82E-06	2.52E-06	4.11E-06	5.02E-06
U-234	8.91E-06	4.96E-03	15.6	8.81E-06	8.87E-06	8.94E-06	8.96E-06
U-235	3.94E-07	2.19E-04	0.691	3.90E-07	3.93E-07	3.96E-07	3.97E-07
U-236	9.45E-08	5.26E-05	0.166	9.23E-08	9.36E-08	9.52E-08	9.56E-08
U-238	9.15E-06	5.09E-03	16.0	9.05E-06	9.11E-06	9.18E-06	9.20E-06
Np-237	1.21E-06	6.73E-04	2.12	7.91E-07	9.96E-07	1.43E-06	1.63E-06
Pu-238	3.22E-06	1.79E-03	5.65	2.73E-06	2.97E-06	3.47E-06	3.72E-06
Pu-239	1.48E-04	8.20E-02	258	1.35E-04	1.41E-04	1.54E-04	1.60E-04
Pu-240	2.27E-05	1.26E-02	39.8	2.04E-05	2.15E-05	2.39E-05	2.51E-05
Pu-241	2.03E-04	0.113	355	1.69E-04	1.86E-04	2.20E-04	2.36E-04
Pu-242	1.03E-09	5.71E-07	1.80E-03	8.27E-10	9.25E-10	1.13E-09	1.23E-09
Am-241	7.73E-05	4.30E-02	135	5.40E-05	6.54E-05	8.92E-05	1.01E-04
Am-243	2.82E-09	1.57E-06	4.95E-03	2.09E-09	2.44E-09	3.25E-09	3.62E-09
Cm-242	2.10E-07	1.17E-04	0.368	9.83E-08	9.83E-08	2.26E-07	2.41E-07
Cm-243	1.95E-08	1.09E-05	3.42E-02	8.88E-09	8.88E-09	2.09E-08	2.23E-08
Cm-244	1.93E-07	1.07E-04	0.338	8.34E-08	8.34E-08	2.30E-07	2.54E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.18E-03 (g/L)	----	3.83	1.95E-03	2.06E-03	2.31E-03	2.42E-03
U	0.112	1.48E+04	4.67E+04	0.111	0.111	0.112	0.113

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.00E+06 (kg)	(186 kgal)	----	----	----	----	----
Heat Load	5.82E-02 (kW)	(199 BTU/hr)	----	4.67E-02	5.23E-02	6.43E-02	7.02E-02
Bulk Density	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Void Fraction	0.677	----	----	0.617	0.643	0.722	0.784
Water wt%	61.4	----	----	58.1	59.6	63.7	66.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.21	8.43E+04	8.42E+04	3.53	4.47	5.78	6.32
Al^{3+}	0.521	9.90E+03	9.90E+03	0.521	0.521	0.521	0.521
Fe^{3+} (total Fe)	0.322	1.27E+04	1.27E+04	0.317	0.320	0.325	0.327
Cr^{3+}	4.41E-03	161	161	3.54E-03	3.96E-03	4.86E-03	5.30E-03
Bi^{3+}	5.43E-02	8.00E+03	7.99E+03	4.32E-02	4.96E-02	5.78E-02	6.03E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.20E-05	13.0	13.0	6.41E-05	8.03E-05	1.01E-04	1.07E-04
Zr (as $ZrO(OH)_2$)	2.08E-04	13.4	13.4	1.65E-04	1.86E-04	2.31E-04	2.52E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.13E-03	46.7	46.7	9.15E-04	1.02E-03	1.93E-03	3.06E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.73E-02	2.18E+03	2.18E+03	5.21E-02	6.67E-02	8.71E-02	9.65E-02
K^+	5.90E-03	162	162	4.69E-03	5.28E-03	6.53E-03	7.14E-03
OH^-	4.94	5.92E+04	5.92E+04	4.86	4.91	4.97	4.99
$NO3^-$	0.911	3.98E+04	3.98E+04	0.760	0.836	0.985	1.05
$NO2^-$	0.206	6.67E+03	6.67E+03	0.130	0.165	0.253	0.302
$CO3^{2-}$	0.310	1.31E+04	1.31E+04	0.242	0.278	0.338	0.361
$PO4^{3-}$	1.05	7.05E+04	7.05E+04	0.637	0.878	1.18	1.28
$SO4^{2-}$	5.69E-02	3.85E+03	3.85E+03	4.76E-02	5.21E-02	6.18E-02	6.66E-02
Si (as SiO_x^{2-})	0.195	3.86E+03	3.86E+03	1.00E-01	0.148	0.242	0.287
F^-	0.121	1.62E+03	1.62E+03	9.61E-02	0.108	0.134	0.282
Cl^-	2.71E-02	677	676	2.16E-02	2.43E-02	3.00E-02	3.28E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.92E-02	828	828	5.62E-02	6.26E-02	7.57E-02	8.19E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.00E+06 (kg)	(186 kgal)	----	----	----	----	----
Heat Load	5.82E-02 (kW)	(199 BTU/hr)	----	4.67E-02	5.23E-02	6.43E-02	7.02E-02
Bulk Density†	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Water wt%†	61.4	----	----	58.1	59.6	63.7	66.7
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.21	8.43E+04	8.42E+04	3.53	4.47	5.78	6.32
Al^{3+}	0.521	9.90E+03	9.90E+03	0.521	0.521	0.521	0.521
Fe^{3+} (total Fe)	0.322	1.27E+04	1.27E+04	0.317	0.320	0.325	0.327
Cr^{3+}	4.41E-03	161	161	3.54E-03	3.96E-03	4.86E-03	5.30E-03
Bi^{3+}	5.43E-02	8.00E+03	7.99E+03	4.32E-02	4.96E-02	5.78E-02	6.03E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.20E-05	13.0	13.0	6.41E-05	8.03E-05	1.01E-04	1.07E-04
Zr (as $ZrO(OH)_2$)	2.08E-04	13.4	13.4	1.65E-04	1.86E-04	2.31E-04	2.52E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.13E-03	46.7	46.7	9.15E-04	1.02E-03	1.93E-03	3.06E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.73E-02	2.18E+03	2.18E+03	5.21E-02	6.67E-02	8.71E-02	9.65E-02
K^+	5.90E-03	162	162	4.69E-03	5.28E-03	6.53E-03	7.14E-03
OH^-	4.94	5.92E+04	5.92E+04	4.86	4.91	4.97	4.99
$NO3^-$	0.911	3.98E+04	3.98E+04	0.760	0.836	0.985	1.05
$NO2^-$	0.206	6.67E+03	6.67E+03	0.130	0.165	0.253	0.302
$CO3^{2-}$	0.310	1.31E+04	1.31E+04	0.242	0.278	0.338	0.361
$PO4^{3-}$	1.05	7.05E+04	7.05E+04	0.637	0.878	1.18	1.28
$SO4^{2-}$	5.69E-02	3.85E+03	3.85E+03	4.76E-02	5.21E-02	6.18E-02	6.66E-02
Si (as SiO_x^{2-})	0.195	3.86E+03	3.86E+03	1.00E-01	0.148	0.242	0.287
F^-	0.121	1.62E+03	1.62E+03	9.61E-02	0.108	0.134	0.282
Cl^-	2.71E-02	677	676	2.16E-02	2.43E-02	3.00E-02	3.28E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.91E-02	828	828	5.62E-02	6.26E-02	7.57E-02	8.19E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.00E+06 (kg)	(186 kgal)	----	----	----	----	----
Heat Load	5.82E-02 (kW)	(199 BTU/hr)	----	4.67E-02	5.23E-02	6.43E-02	7.02E-02
Bulk Density	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Void Fraction	0.677	----	----	0.617	0.643	0.722	0.784
Water wt%	61.4	----	----	58.1	59.6	63.7	66.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.17E-07	2.94E-04	0.294	2.96E-07	3.51E-07	4.94E-07	5.75E-07
C-14	4.27E-07	3.01E-04	0.301	3.23E-07	3.79E-07	4.69E-07	5.03E-07
Ni-59	3.39E-08	2.39E-05	2.39E-02	2.95E-08	3.16E-08	5.04E-08	7.38E-08
Ni-63	2.98E-06	2.10E-03	2.10	2.59E-06	2.78E-06	4.43E-06	6.48E-06
Co-60	1.66E-08	1.17E-05	1.17E-02	1.44E-08	1.55E-08	1.77E-08	1.88E-08
Se-79	2.50E-08	1.76E-05	1.76E-02	2.18E-08	2.34E-08	2.68E-08	2.84E-08
Sr-90	6.89E-03	4.85	4.85E+03	5.52E-03	6.18E-03	7.60E-03	8.29E-03
Y-90	6.89E-03	4.85	4.85E+03	5.52E-03	6.18E-03	7.60E-03	8.29E-03
Zr-93	1.19E-07	8.41E-05	8.41E-02	1.04E-07	1.11E-07	1.28E-07	1.35E-07
Nb-93m	1.03E-07	7.24E-05	7.24E-02	8.94E-08	9.59E-08	1.10E-07	1.17E-07
Tc-99	8.23E-07	5.80E-04	0.580	7.16E-07	7.68E-07	8.80E-07	9.34E-07
Ru-106	3.91E-16	2.75E-13	2.75E-10	3.40E-16	3.65E-16	4.18E-16	4.44E-16
Cd-113m	2.43E-07	1.71E-04	0.171	2.11E-07	2.26E-07	2.59E-07	2.75E-07
Sb-125	8.95E-09	6.31E-06	6.30E-03	7.79E-09	8.35E-09	9.57E-09	1.02E-08
Sn-126	3.72E-08	2.62E-05	2.62E-02	3.23E-08	3.47E-08	3.97E-08	4.22E-08
I-129	1.53E-09	1.08E-06	1.08E-03	1.33E-09	1.43E-09	1.64E-09	1.74E-09
Cs-134	9.36E-11	6.59E-08	6.59E-05	7.51E-11	8.41E-11	1.03E-10	1.13E-10
Cs-137	7.76E-03	5.47	5.46E+03	6.22E-03	6.97E-03	8.57E-03	9.35E-03
Ba-137m	7.34E-03	5.17	5.17E+03	5.89E-03	6.59E-03	8.11E-03	8.84E-03
Sm-151	9.47E-05	6.67E-02	66.6	8.23E-05	8.83E-05	1.01E-04	1.07E-04
Eu-152	1.55E-08	1.09E-05	1.09E-02	1.53E-08	1.54E-08	1.56E-08	1.56E-08
Eu-154	2.23E-07	1.57E-04	0.157	1.94E-07	2.08E-07	2.38E-07	2.53E-07
Eu-155	2.34E-06	1.65E-03	1.65	2.32E-06	2.33E-06	2.35E-06	2.36E-06
Ra-226	2.45E-11	1.72E-08	1.72E-05	1.07E-11	1.07E-11	4.57E-11	6.61E-11
Ra-228	2.11E-16	1.48E-13	1.48E-10	2.09E-16	2.10E-16	2.12E-16	2.13E-16
Ac-227	7.84E-11	5.52E-08	5.52E-05	5.38E-11	5.38E-11	2.02E-10	3.20E-10
Pa-231	1.12E-10	7.90E-08	7.89E-05	9.75E-11	1.05E-10	1.20E-10	3.22E-10
Th-229	4.06E-14	2.86E-11	2.86E-08	4.03E-14	4.04E-14	4.08E-14	4.10E-14
Th-232	3.70E-17	2.61E-14	2.60E-11	3.22E-17	3.45E-17	3.95E-17	4.20E-17
U-232	3.75E-10	2.64E-07	2.64E-04	3.65E-10	3.71E-10	3.78E-10	3.80E-10
U-233	2.24E-11	1.58E-08	1.58E-05	2.18E-11	2.22E-11	2.26E-11	2.28E-11
U-234	3.16E-05	2.23E-02	22.3	3.08E-05	3.13E-05	3.19E-05	3.21E-05
U-235	1.42E-06	1.00E-03	1.00	1.38E-06	1.41E-06	1.43E-06	1.44E-06
U-236	2.02E-07	1.42E-04	0.142	1.96E-07	2.00E-07	2.04E-07	2.05E-07
U-238	3.20E-05	2.26E-02	22.5	3.11E-05	3.17E-05	3.23E-05	3.25E-05
Np-237	4.94E-09	3.48E-06	3.48E-03	4.30E-09	4.61E-09	5.28E-09	5.61E-09
Pu-238	4.80E-08	3.38E-05	3.38E-02	1.81E-08	2.02E-08	1.05E-07	1.61E-07
Pu-239	1.50E-05	1.06E-02	10.6	5.66E-06	6.31E-06	3.30E-05	5.03E-05
Pu-240	8.87E-07	6.24E-04	0.624	3.33E-07	3.72E-07	1.95E-06	2.96E-06
Pu-241	5.68E-07	4.00E-04	0.400	2.13E-07	2.38E-07	1.25E-06	1.90E-06
Pu-242	1.73E-12	1.22E-09	1.22E-06	6.52E-13	7.28E-13	3.81E-12	5.80E-12
Am-241	4.14E-08	2.91E-05	2.91E-02	3.60E-08	3.86E-08	4.42E-08	4.69E-08
Am-243	1.16E-13	8.14E-11	8.14E-08	1.01E-13	1.08E-13	1.24E-13	1.31E-13
Cm-242	6.21E-11	4.37E-08	4.37E-05	6.15E-11	6.18E-11	6.24E-11	6.27E-11
Cm-243	9.22E-13	6.49E-10	6.49E-07	9.13E-13	9.17E-13	9.26E-13	9.30E-13
Cm-244	1.77E-12	1.25E-09	1.25E-06	1.54E-12	1.65E-12	1.89E-12	2.01E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.46E-04 (g/L)	----	0.173	9.24E-05	1.03E-04	5.40E-04	8.22E-04
U	0.403	6.76E+04	6.75E+04	0.392	0.398	0.407	0.409

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.10E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.00E+06 (kg)	(186 kgal)	----	----	----	----	----
Heat Load	5.82E-02 (kW)	(199 BTU/hr)	----	4.67E-02	5.23E-02	6.43E-02	7.02E-02
Bulk Density†	1.42 (g/cc)	----	----	1.33	1.38	1.45	1.47
Water wt%†	61.4	----	----	58.1	59.6	63.7	66.7
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.17E-07	2.94E-04	0.294	2.96E-07	3.51E-07	4.94E-07	5.75E-07
C-14	4.27E-07	3.01E-04	0.301	3.23E-07	3.79E-07	4.69E-07	5.03E-07
Ni-59	3.39E-08	2.39E-05	2.39E-02	2.95E-08	3.16E-08	5.04E-08	7.38E-08
Ni-63	2.98E-06	2.10E-03	2.10	2.59E-06	2.78E-06	4.43E-06	6.48E-06
Co-60	1.66E-08	1.17E-05	1.17E-02	1.44E-08	1.55E-08	1.77E-08	1.88E-08
Se-79	2.50E-08	1.76E-05	1.76E-02	2.18E-08	2.34E-08	2.68E-08	2.84E-08
Sr-90	6.88E-03	4.85	4.85E+03	5.52E-03	6.18E-03	7.60E-03	8.29E-03
Y-90	6.89E-03	4.85	4.85E+03	5.52E-03	6.18E-03	7.60E-03	8.29E-03
Zr-93	1.19E-07	8.41E-05	8.41E-02	1.04E-07	1.11E-07	1.28E-07	1.35E-07
Nb-93m	1.03E-07	7.24E-05	7.24E-02	8.94E-08	9.59E-08	1.10E-07	1.17E-07
Tc-99	8.23E-07	5.80E-04	0.580	7.16E-07	7.68E-07	8.80E-07	9.34E-07
Ru-106	3.91E-16	2.75E-13	2.75E-10	3.40E-16	3.65E-16	4.18E-16	4.44E-16
Cd-113m	2.43E-07	1.71E-04	0.171	2.11E-07	2.26E-07	2.59E-07	2.75E-07
Sb-125	8.95E-09	6.31E-06	6.30E-03	7.79E-09	8.35E-09	9.57E-09	1.02E-08
Sn-126	3.72E-08	2.62E-05	2.62E-02	3.23E-08	3.47E-08	3.97E-08	4.22E-08
I-129	1.53E-09	1.08E-06	1.08E-03	1.33E-09	1.43E-09	1.64E-09	1.74E-09
Cs-134	9.36E-11	6.59E-08	6.59E-05	7.51E-11	8.41E-11	1.03E-10	1.13E-10
Cs-137	7.76E-03	5.47	5.46E+03	6.22E-03	6.97E-03	8.57E-03	9.35E-03
Ba-137m	7.34E-03	5.17	5.17E+03	5.89E-03	6.59E-03	8.11E-03	8.84E-03
Sm-151	9.47E-05	6.67E-02	66.6	8.23E-05	8.83E-05	1.01E-04	1.07E-04
Eu-152	1.55E-08	1.09E-05	1.09E-02	1.53E-08	1.54E-08	1.56E-08	1.56E-08
Eu-154	2.23E-07	1.57E-04	0.157	1.94E-07	2.08E-07	2.38E-07	2.53E-07
Eu-155	2.34E-06	1.65E-03	1.65	2.32E-06	2.33E-06	2.35E-06	2.36E-06
Ra-226	2.45E-11	1.72E-08	1.72E-05	1.07E-11	1.07E-11	4.57E-11	6.61E-11
Ra-228	2.11E-16	1.48E-13	1.48E-10	2.09E-16	2.10E-16	2.12E-16	2.13E-16
Ac-227	7.84E-11	5.52E-08	5.52E-05	5.38E-11	5.38E-11	2.02E-10	3.20E-10
Pa-231	1.12E-10	7.90E-08	7.89E-05	9.75E-11	1.05E-10	1.20E-10	3.22E-10
Th-229	4.06E-14	2.86E-11	2.86E-08	4.03E-14	4.04E-14	4.08E-14	4.10E-14
Th-232	3.70E-17	2.61E-14	2.60E-11	3.22E-17	3.45E-17	3.95E-17	4.20E-17
U-232	3.75E-10	2.64E-07	2.64E-04	3.65E-10	3.71E-10	3.78E-10	3.80E-10
U-233	2.24E-11	1.58E-08	1.58E-05	2.18E-11	2.22E-11	2.26E-11	2.28E-11
U-234	3.16E-05	2.23E-02	22.3	3.08E-05	3.13E-05	3.19E-05	3.21E-05
U-235	1.42E-06	1.00E-03	1.00	1.38E-06	1.41E-06	1.43E-06	1.44E-06
U-236	2.02E-07	1.42E-04	0.142	1.96E-07	2.00E-07	2.04E-07	2.05E-07
U-238	3.20E-05	2.26E-02	22.5	3.11E-05	3.17E-05	3.23E-05	3.25E-05
Np-237	4.94E-09	3.48E-06	3.48E-03	4.30E-09	4.61E-09	5.28E-09	5.61E-09
Pu-238	4.80E-08	3.38E-05	3.38E-02	1.81E-08	2.02E-08	1.05E-07	1.61E-07
Pu-239	1.50E-05	1.06E-02	10.6	5.66E-06	6.31E-06	3.30E-05	5.03E-05
Pu-240	8.86E-07	6.24E-04	0.624	3.33E-07	3.72E-07	1.95E-06	2.96E-06
Pu-241	5.68E-07	4.00E-04	0.400	2.13E-07	2.38E-07	1.25E-06	1.90E-06
Pu-242	1.73E-12	1.22E-09	1.22E-06	6.52E-13	7.28E-13	3.81E-12	5.80E-12
Am-241	4.13E-08	2.91E-05	2.91E-02	3.60E-08	3.86E-08	4.42E-08	4.69E-08
Am-243	1.16E-13	8.14E-11	8.14E-08	1.01E-13	1.08E-13	1.24E-13	1.31E-13
Cm-242	6.21E-11	4.37E-08	4.37E-05	6.15E-11	6.18E-11	6.24E-11	6.27E-11
Cm-243	9.22E-13	6.49E-10	6.49E-07	9.13E-13	9.17E-13	9.26E-13	9.30E-13
Cm-244	1.77E-12	1.25E-09	1.25E-06	1.54E-12	1.65E-12	1.89E-12	2.01E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.46E-04 (g/L)	----	0.173	9.24E-05	1.03E-04	5.40E-04	8.22E-04
U	0.403	6.76E+04	6.75E+04	0.392	0.398	0.407	0.409

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.54E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	0.325 (kW)	(1.11E+03 BTU/hr)	----	0.237	0.289	0.349	0.360
Bulk Density	1.57 (g/cc)	----	----	1.44	1.46	1.74	1.81
Void Fraction	0.627	----	----	0.389	0.468	0.728	0.730
Water wt%	43.3	----	----	26.0	31.4	52.7	53.7
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.68	9.79E+04	1.51E+04	4.14	4.39	9.96	11.7
Al^{3+}	3.79	6.52E+04	1.01E+04	3.59	3.67	3.87	3.87
Fe^{3+} (total Fe)	0.683	2.43E+04	3.75E+03	0.673	0.678	0.688	0.692
Cr^{3+}	3.34E-02	1.11E+03	171	5.97E-03	1.94E-02	0.263	0.532
Bi^{3+}	3.12E-02	4.16E+03	641	2.48E-02	2.85E-02	3.32E-02	3.46E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.28E-05	6.76	1.04	3.68E-05	4.61E-05	5.78E-05	6.14E-05
Zr (as $ZrO(OH)_2$)	1.20E-04	6.95	1.07	9.49E-05	1.07E-04	1.32E-04	1.45E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.59E-02	971	150	1.89E-02	2.29E-02	2.83E-02	2.79E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.148	3.78E+03	584	0.111	0.129	0.167	0.185
K^+	8.98E-03	224	34.5	4.00E-03	5.99E-03	1.10E-02	1.10E-02
OH^-	14.8	1.61E+05	2.48E+04	13.6	14.2	15.5	16.2
$NO3^-$	3.16	1.25E+05	1.93E+04	0.548	0.548	7.25	9.47
$NO2^-$	0.847	2.48E+04	3.83E+03	0.184	0.415	1.19	1.19
$CO3^{2-}$	0.148	5.66E+03	874	0.111	0.129	0.167	0.185
$PO4^{3-}$	0.575	3.48E+04	5.38E+03	0.336	0.474	0.649	0.704
$SO4^{2-}$	3.12E-02	1.91E+03	295	2.59E-02	2.84E-02	3.40E-02	3.67E-02
Si (as SiO_x^{2-})	0.116	2.07E+03	320	6.13E-02	8.89E-02	0.143	0.169
F^-	6.95E-02	842	130	5.52E-02	6.21E-02	7.70E-02	0.162
Cl^-	4.13E-02	933	144	1.84E-02	2.76E-02	5.05E-02	9.39E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.167	1.82E+03	280	7.25E-02	8.59E-02	0.175	0.182
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.69E+06 (kg)	(303 kgal)	----	----	----	----	----
Heat Load	1.90 (kW)	(6.47E+03 BTU/hr)	----	1.78	1.84	1.96	2.01
Bulk Density*	1.47 (g/cc)	----	----	1.44	1.45	1.49	1.50
Water wt%	43.1	----	----	40.7	41.8	44.5	46.1
TOC wt% C (wet)	0.639	----	----	0.413	0.524	0.754	0.866

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.0	1.72E+05	2.91E+05	10.1	10.6	11.4	11.8
Al^{3+}	1.31	2.40E+04	4.05E+04	1.21	1.26	1.36	1.40
Fe^{3+} (total Fe)	8.41E-03	319	539	6.90E-03	7.64E-03	9.18E-03	9.92E-03
Cr^{3+}	0.117	4.13E+03	6.96E+03	9.68E-02	0.108	0.120	0.124
Bi^{3+}	1.03E-03	146	247	9.36E-04	9.83E-04	1.08E-03	1.13E-03
La^{3+}	2.92E-05	2.76	4.65	2.11E-05	2.51E-05	3.33E-05	3.73E-05
Hg^{2+}	7.03E-06	0.958	1.62	6.53E-06	6.81E-06	7.13E-06	7.23E-06
Zr (as $ZrO(OH)_2$)	1.95E-04	12.1	20.4	1.78E-04	1.84E-04	2.03E-04	2.13E-04
Pb^{2+}	7.70E-04	108	183	6.27E-04	6.97E-04	8.43E-04	9.13E-04
Ni^{2+}	5.01E-03	200	338	4.80E-03	4.90E-03	5.07E-03	5.12E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.91E-03	109	184	2.19E-03	2.54E-03	3.29E-03	3.64E-03
Ca^{2+}	2.63E-02	716	1.21E+03	2.41E-02	2.52E-02	2.74E-02	2.85E-02
K^+	5.08E-02	1.35E+03	2.28E+03	4.64E-02	4.85E-02	5.33E-02	5.55E-02
OH^-	7.85	9.07E+04	1.53E+05	7.24	7.53	8.19	8.32
$NO3^-$	3.88	1.63E+05	2.76E+05	3.57	3.75	3.94	3.98
$NO2^-$	1.91	5.98E+04	1.01E+05	1.60	1.75	2.08	2.23
$CO3^{2-}$	0.332	1.36E+04	2.29E+04	0.301	0.314	0.356	0.359
$PO4^{3-}$	6.94E-02	4.48E+03	7.56E+03	5.95E-02	6.30E-02	7.12E-02	7.29E-02
$SO4^{2-}$	0.188	1.23E+04	2.07E+04	0.148	0.167	0.209	0.228
Si (as SiO_x^{2-})	6.04E-02	1.15E+03	1.95E+03	5.01E-02	5.51E-02	6.58E-02	7.08E-02
F^-	5.06E-02	653	1.10E+03	4.23E-02	4.58E-02	5.46E-02	5.78E-02
Cl^-	0.191	4.59E+03	7.74E+03	0.173	0.180	0.199	0.206
$C_6H_5O_7^{3-}$	2.12E-02	2.72E+03	4.60E+03	1.95E-02	2.03E-02	2.21E-02	2.29E-02
$EDTA^{4-}$	1.18E-02	2.30E+03	3.88E+03	3.56E-03	7.56E-03	1.60E-02	2.01E-02
$HEDTA^{3-}$	2.21E-02	4.11E+03	6.93E+03	5.66E-03	1.37E-02	3.05E-02	3.87E-02
glycolate$^-$	6.80E-02	3.47E+03	5.85E+03	4.48E-02	5.61E-02	7.99E-02	9.12E-02
acetate$^-$	4.65E-03	187	315	3.81E-03	4.22E-03	5.08E-03	5.49E-03
oxalate^{2-}	3.82E-05	2.29	3.86	3.39E-05	3.60E-05	4.05E-05	4.26E-05
DBP	1.44E-02	2.05E+03	3.47E+03	1.18E-02	1.31E-02	1.57E-02	1.69E-02
butanol	1.44E-02	724	1.22E+03	1.18E-02	1.31E-02	1.57E-02	1.69E-02
NH_3	6.67E-02	771	1.30E+03	5.50E-02	5.96E-02	7.58E-02	8.63E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.84E+06 (kg)	(329 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.58E+03 BTU/hr)	----	2.08	2.16	2.28	2.34
Bulk Density†	1.48 (g/cc)	----	----	1.45	1.46	1.50	1.51
Water wt%†	43.1	----	----	40.9	41.5	44.4	45.8
TOC wt% C (wet)†	0.585	----	----	0.379	0.480	0.691	0.794

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.7	1.66E+05	3.06E+05	9.84	10.3	11.1	11.4
Al^{3+}	1.50	2.74E+04	5.05E+04	1.41	1.46	1.55	1.59
Fe^{3+} (total Fe)	6.17E-02	2.33E+03	4.29E+03	6.03E-02	6.10E-02	6.24E-02	6.31E-02
Cr^{3+}	0.110	3.87E+03	7.14E+03	9.81E-02	0.104	0.121	0.131
Bi^{3+}	3.41E-03	482	888	2.91E-03	3.20E-03	3.57E-03	3.68E-03
La^{3+}	2.69E-05	2.52	4.65	1.95E-05	2.31E-05	3.07E-05	3.44E-05
Hg^{2+}	1.06E-05	1.44	2.66	9.38E-06	1.01E-05	1.10E-05	1.13E-05
Zr (as $ZrO(OH)_2$)	1.89E-04	11.7	21.5	1.73E-04	1.79E-04	1.96E-04	2.05E-04
Pb^{2+}	7.09E-04	99.3	183	5.77E-04	6.42E-04	7.76E-04	8.41E-04
Ni^{2+}	6.67E-03	265	487	6.11E-03	6.42E-03	6.85E-03	6.77E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.68E-03	99.7	184	2.01E-03	2.34E-03	3.03E-03	3.35E-03
Ca^{2+}	3.59E-02	973	1.79E+03	3.31E-02	3.47E-02	3.69E-02	3.79E-02
K^+	4.75E-02	1.26E+03	2.31E+03	4.34E-02	4.54E-02	4.98E-02	5.19E-02
OH^-	8.41	9.66E+04	1.78E+05	7.84	8.13	8.69	8.83
$NO3^-$	3.82	1.60E+05	2.95E+05	3.51	3.59	4.11	4.18
$NO2^-$	1.83	5.69E+04	1.05E+05	1.54	1.68	1.98	2.12
$CO3^{2-}$	0.318	1.29E+04	2.37E+04	0.289	0.300	0.339	0.343
$PO4^{3-}$	0.109	7.02E+03	1.29E+04	9.05E-02	0.101	0.115	0.120
$SO4^{2-}$	0.175	1.14E+04	2.10E+04	0.139	0.156	0.195	0.213
Si (as SiO_x^{2-})	6.48E-02	1.23E+03	2.27E+03	5.52E-02	5.99E-02	6.97E-02	7.44E-02
F^-	5.21E-02	669	1.23E+03	4.44E-02	4.76E-02	5.58E-02	5.92E-02
Cl^-	0.179	4.28E+03	7.89E+03	0.162	0.169	0.186	0.193
$C_6H_5O_7^{3-}$	1.95E-02	2.50E+03	4.60E+03	1.79E-02	1.87E-02	2.04E-02	2.11E-02
$EDTA^{4-}$	1.08E-02	2.11E+03	3.88E+03	3.28E-03	6.96E-03	1.47E-02	1.85E-02
$HEDTA^{3-}$	2.03E-02	3.76E+03	6.93E+03	5.22E-03	1.26E-02	2.81E-02	3.57E-02
glycolate$^-$	6.26E-02	3.18E+03	5.85E+03	4.12E-02	5.17E-02	7.36E-02	8.40E-02
acetate$^-$	4.29E-03	171	315	3.51E-03	3.89E-03	4.68E-03	5.06E-03
oxalate^{2-}	3.52E-05	2.10	3.86	3.12E-05	3.32E-05	3.73E-05	3.92E-05
DBP	1.32E-02	1.88E+03	3.47E+03	1.09E-02	1.20E-02	1.44E-02	1.55E-02
butanol	1.32E-02	664	1.22E+03	1.09E-02	1.20E-02	1.44E-02	1.55E-02
NH_3	7.47E-02	858	1.58E+03	6.39E-02	6.70E-02	8.30E-02	9.27E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.54E+05 (kg)	(26.0 kgal)	----	----	----	----	----
Heat Load	0.325 (kW)	(1.11E+03 BTU/hr)	----	0.237	0.289	0.349	0.360
Bulk Density	1.57 (g/cc)	----	----	1.44	1.46	1.74	1.81
Void Fraction	0.627	----	----	0.389	0.468	0.728	0.730
Water wt%	43.3	----	----	26.0	31.4	52.7	53.7
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.48E-05	9.43E-03	1.46	1.69E-06	7.53E-06	2.07E-05	2.07E-05
C-14	1.18E-06	7.49E-04	0.116	1.73E-07	5.73E-07	1.58E-06	1.58E-06
Ni-59	7.44E-06	4.74E-03	0.732	5.38E-06	6.54E-06	8.13E-06	8.00E-06
Ni-63	6.95E-04	0.443	68.4	5.02E-04	6.11E-04	7.59E-04	7.47E-04
Co-60	4.53E-07	2.89E-04	4.46E-02	5.72E-08	2.15E-07	6.12E-07	6.12E-07
Se-79	2.49E-07	1.59E-04	2.45E-02	3.66E-08	1.22E-07	3.35E-07	3.59E-06
Sr-90	0.468	298	4.60E+04	0.335	0.410	0.512	0.520
Y-90	0.468	298	4.61E+04	0.335	0.410	0.513	0.520
Zr-93	1.18E-06	7.51E-04	0.116	1.73E-07	5.75E-07	1.58E-06	1.52E-05
Nb-93m	9.65E-07	6.15E-04	9.49E-02	1.44E-07	4.72E-07	1.30E-06	1.61E-05
Tc-99	8.22E-06	5.24E-03	0.809	1.21E-06	4.01E-06	1.10E-05	1.10E-05
Ru-106	1.25E-12	7.96E-10	1.23E-07	1.43E-13	5.85E-13	1.69E-12	1.69E-12
Cd-113m	3.58E-06	2.29E-03	0.353	4.88E-07	1.73E-06	4.83E-06	4.83E-06
Sb-125	6.59E-07	4.20E-04	6.49E-02	7.83E-08	3.10E-07	8.93E-07	8.93E-07
Sn-126	3.83E-07	2.44E-04	3.77E-02	5.58E-08	1.86E-07	5.14E-07	5.74E-06
I-129	1.58E-08	1.01E-05	1.55E-03	2.30E-09	7.68E-09	2.12E-08	2.12E-08
Cs-134	1.36E-08	8.70E-06	1.34E-03	3.65E-09	7.64E-09	1.77E-08	1.77E-08
Cs-137	3.23E-02	20.6	3.18E+03	1.17E-02	1.99E-02	4.06E-02	4.06E-02
Ba-137m	3.06E-02	19.5	3.01E+03	1.11E-02	1.89E-02	3.84E-02	3.84E-02
Sm-151	8.92E-04	0.569	87.8	1.33E-04	4.36E-04	1.20E-03	1.32E-02
Eu-152	3.50E-06	2.23E-03	0.345	3.43E-06	3.46E-06	3.53E-06	3.53E-06
Eu-154	1.09E-05	6.93E-03	1.07	1.32E-06	5.13E-06	1.47E-05	1.47E-05
Eu-155	1.66E-04	0.106	16.3	1.62E-04	1.64E-04	1.67E-04	1.67E-04
Ra-226	5.44E-10	3.47E-07	5.35E-05	7.77E-11	3.06E-10	7.82E-10	1.01E-09
Ra-228	4.69E-15	2.99E-12	4.61E-10	4.59E-15	4.63E-15	4.73E-15	4.73E-15
Ac-227	2.40E-09	1.53E-06	2.36E-04	1.72E-10	1.02E-09	3.78E-09	5.11E-09
Pa-231	4.00E-10	2.55E-07	3.93E-05	8.19E-11	2.09E-10	1.06E-09	8.43E-09
Th-229	8.95E-13	5.71E-10	8.81E-08	8.76E-13	8.84E-13	9.03E-13	9.03E-13
Th-232	3.09E-16	1.97E-13	3.04E-11	4.73E-17	1.52E-16	4.14E-16	4.14E-16
U-232	9.72E-11	6.19E-08	9.56E-06	9.12E-11	9.46E-11	9.90E-11	1.00E-10
U-233	5.76E-12	3.67E-09	5.67E-07	5.40E-12	5.61E-12	5.87E-12	5.95E-12
U-234	8.04E-06	5.12E-03	0.790	7.53E-06	7.82E-06	8.19E-06	8.30E-06
U-235	3.61E-07	2.30E-04	3.55E-02	3.39E-07	3.52E-07	3.68E-07	3.73E-07
U-236	5.19E-08	3.31E-05	5.10E-03	4.86E-08	5.05E-08	5.29E-08	5.36E-08
U-238	8.14E-06	5.19E-03	0.800	7.63E-06	7.92E-06	8.29E-06	8.41E-06
Np-237	5.32E-08	3.39E-05	5.24E-03	7.68E-09	2.59E-08	7.15E-08	7.15E-08
Pu-238	3.33E-06	2.13E-03	0.328	2.40E-06	2.86E-06	3.81E-06	4.27E-06
Pu-239	2.44E-04	0.156	24.0	1.78E-04	2.10E-04	2.78E-04	3.11E-04
Pu-240	3.43E-05	2.19E-02	3.37	2.47E-05	2.94E-05	3.91E-05	4.38E-05
Pu-241	1.99E-04	0.127	19.6	1.43E-04	1.70E-04	2.28E-04	2.55E-04
Pu-242	9.12E-10	5.82E-07	8.97E-05	6.55E-10	7.81E-10	1.04E-09	1.17E-09
Am-241	4.06E-06	2.59E-03	0.400	4.78E-07	1.91E-06	5.50E-06	7.16E-05
Am-243	3.79E-11	2.42E-08	3.73E-06	4.37E-12	1.78E-11	5.14E-11	6.70E-10
Cm-242	8.05E-08	5.13E-05	7.92E-03	7.88E-08	7.95E-08	8.12E-08	8.12E-08
Cm-243	1.85E-09	1.18E-06	1.82E-04	1.81E-09	1.82E-09	1.86E-09	1.86E-09
Cm-244	1.35E-09	8.63E-07	1.33E-04	1.55E-10	6.34E-10	1.83E-09	1.83E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.08E-03 (g/L)	----	0.402	2.97E-03	3.52E-03	4.65E-03	5.20E-03
U	0.102	1.55E+04	2.40E+03	9.60E-02	9.97E-02	0.104	0.106

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.69E+06 (kg)	(303 kgal)	----	----	----	----	----
Heat Load	1.90 (kW)	(6.47E+03 BTU/hr)	----	1.78	1.84	1.96	2.01
Bulk Density*	1.47 (g/cc)	----	----	1.44	1.45	1.49	1.50
Water wt%†	43.1	----	----	40.7	41.8	44.5	46.1
TOC wt% C (wet)	0.639	----	----	0.413	0.524	0.754	0.866
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.97E-04	0.134	225	1.04E-04	1.04E-04	2.03E-04	2.11E-04
C-14	2.81E-05	1.91E-02	32.2	8.69E-06	8.69E-06	2.85E-05	2.89E-05
Ni-59	1.82E-06	1.24E-03	2.09	9.09E-07	9.09E-07	1.87E-06	1.91E-06
Ni-63	1.78E-04	0.121	204	8.81E-05	8.81E-05	1.83E-04	1.87E-04
Co-60	3.10E-05	2.11E-02	35.5	8.81E-06	8.81E-06	3.16E-05	3.21E-05
Se-79	2.80E-06	1.91E-03	3.22	1.57E-06	1.57E-06	3.25E-06	3.68E-06
Sr-90	9.33E-02	63.4	1.07E+05	8.72E-02	9.02E-02	9.64E-02	9.94E-02
Y-90	9.34E-02	63.4	1.07E+05	5.06E-02	5.06E-02	9.65E-02	9.94E-02
Zr-93	1.38E-05	9.35E-03	15.8	7.58E-06	7.58E-06	1.60E-05	1.81E-05
Nb-93m	9.99E-06	6.79E-03	11.5	5.67E-06	5.67E-06	1.16E-05	1.31E-05
Tc-99	2.00E-04	0.136	229	1.28E-04	1.63E-04	2.37E-04	2.73E-04
Ru-106	5.52E-09	3.75E-06	6.33E-03	2.66E-09	2.66E-09	6.16E-09	6.75E-09
Cd-113m	7.21E-05	4.90E-02	82.7	3.50E-05	3.50E-05	8.55E-05	9.84E-05
Sb-125	1.33E-04	9.04E-02	153	3.71E-05	3.71E-05	1.36E-04	1.38E-04
Sn-126	4.24E-06	2.88E-03	4.86	2.38E-06	2.38E-06	4.91E-06	5.55E-06
I-129	3.85E-07	2.62E-04	0.442	2.46E-07	3.14E-07	4.57E-07	5.27E-07
Cs-134	2.14E-06	1.45E-03	2.45	1.52E-06	1.80E-06	2.46E-06	2.77E-06
Cs-137	0.219	149	2.51E+05	0.198	0.208	0.230	0.240
Ba-137m	0.207	141	2.37E+05	0.161	0.161	0.217	0.227
Sm-151	9.87E-03	6.71	1.13E+04	5.54E-03	5.54E-03	1.14E-02	1.29E-02
Eu-152	3.23E-06	2.19E-03	3.70	1.70E-06	1.70E-06	3.46E-06	3.68E-06
Eu-154	5.05E-04	0.343	579	1.96E-04	1.96E-04	6.17E-04	6.61E-04
Eu-155	1.91E-04	0.130	219	9.95E-05	9.95E-05	2.05E-04	2.18E-04
Ra-226	1.20E-10	8.15E-08	1.38E-04	8.16E-11	8.16E-11	1.34E-10	1.47E-10
Ra-228	1.12E-07	7.59E-05	0.128	4.65E-08	7.84E-08	1.50E-07	1.92E-07
Ac-227	7.56E-10	5.14E-07	8.67E-04	5.34E-10	5.34E-10	8.37E-10	9.14E-10
Pa-231	3.47E-09	2.36E-06	3.98E-03	2.23E-09	2.23E-09	3.92E-09	4.35E-09
Th-229	2.62E-09	1.78E-06	3.01E-03	1.19E-09	1.89E-09	3.47E-09	4.38E-09
Th-232	7.43E-09	5.05E-06	8.52E-03	3.81E-09	5.58E-09	9.27E-09	1.10E-08
U-232	5.79E-07	3.94E-04	0.664	3.17E-07	4.45E-07	7.34E-07	8.99E-07
U-233	2.22E-06	1.51E-03	2.55	1.22E-06	1.71E-06	2.81E-06	3.45E-06
U-234	6.70E-07	4.56E-04	0.769	6.45E-07	6.57E-07	6.85E-07	6.91E-07
U-235	2.72E-08	1.85E-05	3.12E-02	2.61E-08	2.66E-08	2.79E-08	2.81E-08
U-236	2.09E-08	1.42E-05	2.40E-02	2.02E-08	2.06E-08	2.13E-08	2.16E-08
U-238	7.72E-07	5.25E-04	0.885	7.46E-07	7.58E-07	7.87E-07	7.92E-07
Np-237	7.32E-07	4.98E-04	0.840	4.96E-07	6.11E-07	8.54E-07	9.71E-07
Pu-238	1.14E-06	7.75E-04	1.31	8.64E-07	9.99E-07	1.28E-06	1.42E-06
Pu-239	3.92E-05	2.67E-02	45.0	3.21E-05	3.56E-05	4.28E-05	4.63E-05
Pu-240	6.64E-06	4.52E-03	7.62	5.32E-06	5.97E-06	7.32E-06	7.96E-06
Pu-241	7.71E-05	5.24E-02	88.4	5.82E-05	6.74E-05	8.67E-05	9.60E-05
Pu-242	4.23E-10	2.88E-07	4.85E-04	3.10E-10	3.66E-10	4.81E-10	5.36E-10
Am-241	4.75E-05	3.23E-02	54.5	3.44E-05	4.08E-05	5.42E-05	6.07E-05
Am-243	1.65E-09	1.12E-06	1.89E-03	1.23E-09	1.43E-09	1.87E-09	2.08E-09
Cm-242	1.22E-07	8.29E-05	0.140	5.91E-08	5.91E-08	1.31E-07	1.39E-07
Cm-243	1.13E-08	7.66E-06	1.29E-02	5.28E-09	5.28E-09	1.21E-08	1.28E-08
Cm-244	1.11E-07	7.57E-05	0.128	4.95E-08	4.95E-08	1.32E-07	1.46E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.90E-04 (g/L)	----	0.562	3.56E-04	4.22E-04	5.58E-04	6.24E-04
U	7.69E-03	1.24E+03	2.10E+03	7.36E-03	7.51E-03	7.87E-03	7.93E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.84E+06 (kg)	(329 kgal)	----	----	----	----	----
Heat Load	2.22 (kW)	(7.58E+03 BTU/hr)	----	2.08	2.16	2.28	2.34
Bulk Density†	1.48 (g/cc)	----	----	1.45	1.46	1.50	1.51
Water wt%†	43.1	----	----	40.9	41.5	44.4	45.8
TOC wt% C (wet)†	0.585	----	----	0.379	0.480	0.691	0.794
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.82E-04	0.123	227	9.69E-05	9.69E-05	1.88E-04	1.95E-04
C-14	2.59E-05	1.75E-02	32.3	8.09E-06	8.09E-06	2.63E-05	2.67E-05
Ni-59	2.26E-06	1.53E-03	2.82	1.42E-06	1.42E-06	2.32E-06	2.35E-06
Ni-63	2.19E-04	0.148	273	1.36E-04	1.36E-04	2.24E-04	2.27E-04
Co-60	2.86E-05	1.93E-02	35.6	8.15E-06	8.15E-06	2.91E-05	2.96E-05
Se-79	2.60E-06	1.76E-03	3.24	1.46E-06	1.46E-06	3.01E-06	3.41E-06
Sr-90	0.123	83.1	1.53E+05	0.112	0.118	0.126	0.129
Y-90	0.123	83.1	1.53E+05	8.36E-02	8.36E-02	0.126	0.129
Zr-93	1.28E-05	8.63E-03	15.9	7.07E-06	7.07E-06	1.48E-05	1.68E-05
Nb-93m	9.28E-06	6.27E-03	11.6	5.30E-06	5.30E-06	1.07E-05	1.21E-05
Tc-99	1.85E-04	0.125	230	1.18E-04	1.51E-04	2.19E-04	2.52E-04
Ru-106	5.09E-09	3.44E-06	6.33E-03	2.45E-09	2.45E-09	5.68E-09	6.21E-09
Cd-113m	6.67E-05	4.51E-02	83.0	3.25E-05	3.25E-05	7.91E-05	9.09E-05
Sb-125	1.23E-04	8.29E-02	153	3.42E-05	3.42E-05	1.25E-04	1.27E-04
Sn-126	3.93E-06	2.66E-03	4.90	2.22E-06	2.22E-06	4.55E-06	5.14E-06
I-129	3.56E-07	2.41E-04	0.444	2.27E-07	2.90E-07	4.22E-07	4.86E-07
Cs-134	1.97E-06	1.33E-03	2.46	1.40E-06	1.66E-06	2.27E-06	2.55E-06
Cs-137	0.204	138	2.54E+05	0.184	0.194	0.214	0.224
Ba-137m	0.193	130	2.40E+05	0.151	0.151	0.202	0.212
Sm-151	9.16E-03	6.19	1.14E+04	5.18E-03	5.18E-03	1.06E-02	1.20E-02
Eu-152	3.25E-06	2.20E-03	4.05	1.84E-06	1.84E-06	3.46E-06	3.66E-06
Eu-154	4.66E-04	0.315	580	1.81E-04	1.81E-04	5.69E-04	6.10E-04
Eu-155	1.89E-04	0.128	235	1.05E-04	1.05E-04	2.02E-04	2.14E-04
Ra-226	1.53E-10	1.04E-07	1.91E-04	1.18E-10	1.18E-10	1.66E-10	1.79E-10
Ra-228	1.03E-07	6.96E-05	0.128	4.28E-08	7.22E-08	1.39E-07	1.77E-07
Ac-227	8.86E-10	5.99E-07	1.10E-03	6.81E-10	6.81E-10	9.60E-10	1.03E-09
Pa-231	3.23E-09	2.18E-06	4.02E-03	2.09E-09	2.09E-09	3.64E-09	4.03E-09
Th-229	2.41E-09	1.63E-06	3.01E-03	1.10E-09	1.74E-09	3.20E-09	4.03E-09
Th-232	6.84E-09	4.62E-06	8.52E-03	3.51E-09	5.14E-09	8.54E-09	1.02E-08
U-232	5.33E-07	3.61E-04	0.664	2.92E-07	4.10E-07	6.76E-07	8.28E-07
U-233	2.04E-06	1.38E-03	2.55	1.12E-06	1.57E-06	2.59E-06	3.17E-06
U-234	1.25E-06	8.47E-04	1.56	1.21E-06	1.24E-06	1.26E-06	1.27E-06
U-235	5.36E-08	3.62E-05	6.68E-02	5.18E-08	5.29E-08	5.42E-08	5.46E-08
U-236	2.34E-08	1.58E-05	2.91E-02	2.27E-08	2.31E-08	2.37E-08	2.40E-08
U-238	1.35E-06	9.15E-04	1.69	1.31E-06	1.34E-06	1.37E-06	1.38E-06
Np-237	6.78E-07	4.59E-04	0.845	4.61E-07	5.67E-07	7.91E-07	8.99E-07
Pu-238	1.31E-06	8.88E-04	1.64	1.06E-06	1.18E-06	1.44E-06	1.57E-06
Pu-239	5.54E-05	3.75E-02	69.0	4.89E-05	5.21E-05	5.88E-05	6.19E-05
Pu-240	8.83E-06	5.97E-03	11.0	7.61E-06	8.21E-06	9.45E-06	1.00E-05
Pu-241	8.67E-05	5.86E-02	108	6.93E-05	7.78E-05	9.56E-05	1.04E-04
Pu-242	4.62E-10	3.12E-07	5.75E-04	3.58E-10	4.09E-10	5.15E-10	5.66E-10
Am-241	4.41E-05	2.98E-02	54.9	3.20E-05	3.79E-05	5.03E-05	5.62E-05
Am-243	1.52E-09	1.03E-06	1.89E-03	1.14E-09	1.32E-09	1.72E-09	1.92E-09
Cm-242	1.19E-07	8.02E-05	0.148	6.08E-08	6.08E-08	1.27E-07	1.34E-07
Cm-243	1.05E-08	7.12E-06	1.31E-02	5.01E-09	5.01E-09	1.12E-08	1.19E-08
Cm-244	1.03E-07	6.94E-05	0.128	4.57E-08	4.57E-08	1.22E-07	1.34E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.74E-04 (g/L)	----	0.964	6.50E-04	7.11E-04	8.37E-04	8.97E-04
U	1.52E-02	2.44E+03	4.50E+03	1.47E-02	1.50E-02	1.53E-02	1.54E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.54E+05 (kg)	(45.0 kgal)	----	----	----	----	----
Heat Load	0.184 (kW)	(629 BTU/hr)	----	0.137	0.165	0.197	0.203
Bulk Density	1.49 (g/cc)	----	----	1.42	1.46	1.55	1.57
Void Fraction	0.681	----	----	0.607	0.631	0.718	0.769
Water wt%	51.0	----	----	44.4	46.5	54.5	55.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.03	9.29E+04	2.36E+04	4.66	5.32	7.05	7.59
Al^{3+}	3.01	5.44E+04	1.38E+04	2.29	2.48	3.38	3.65
Fe^{3+} (total Fe)	0.430	1.61E+04	4.09E+03	0.426	0.428	0.432	0.434
Cr^{3+}	1.33E-02	466	118	4.83E-03	9.00E-03	8.49E-02	0.168
Bi^{3+}	4.44E-02	6.22E+03	1.58E+03	3.52E-02	4.05E-02	4.72E-02	4.92E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	6.19E-04	83.3	21.2	5.96E-04	6.10E-04	6.26E-04	6.31E-04
Zr (as $ZrO(OH)_2$)	1.70E-04	10.4	2.64	1.35E-04	1.52E-04	1.88E-04	2.06E-04
Pb^{2+}	1.57E-02	2.18E+03	554	1.44E-02	1.51E-02	1.63E-02	1.68E-02
Ni^{2+}	8.87E-03	349	88.7	6.68E-03	7.91E-03	9.60E-03	1.04E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.105	2.81E+03	713	8.40E-02	9.59E-02	0.113	0.120
K^+	6.73E-03	177	44.8	5.19E-03	5.80E-03	7.35E-03	7.75E-03
OH^-	12.4	1.42E+05	3.60E+04	9.55	10.3	13.9	15.0
$NO3^-$	1.63	6.80E+04	1.73E+04	0.822	0.822	2.91	3.60
$NO2^-$	0.522	1.61E+04	4.09E+03	0.316	0.388	0.630	0.630
$CO3^{2-}$	0.105	4.21E+03	1.07E+03	8.40E-02	9.59E-02	0.113	0.120
$PO4^{3-}$	0.818	5.21E+04	1.32E+04	0.478	0.675	0.924	1.00
$SO4^{2-}$	3.97E-02	2.56E+03	650	3.21E-02	3.58E-02	4.37E-02	4.76E-02
Si (as SiO_x^{2-})	0.163	3.07E+03	779	8.54E-02	0.125	0.201	0.238
F^-	9.88E-02	1.26E+03	320	7.85E-02	8.84E-02	0.110	0.230
Cl^-	3.10E-02	736	187	2.39E-02	2.67E-02	3.38E-02	4.73E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	9.62E-02	1.10E+03	279	6.67E-02	7.09E-02	0.102	0.107
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+04 (kg)	(4.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.69E+05 (kg)	(49.0 kgal)	----	----	----	----	----
Heat Load	0.184 (kW)	(629 BTU/hr)	----	0.137	0.165	0.197	0.203
Bulk Density†	1.45 (g/cc)	----	----	1.39	1.42	1.50	1.52
Water wt%†	53.7	----	----	47.4	49.4	57.1	58.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.54	8.77E+04	2.36E+04	4.28	4.88	6.47	6.97
Al^{3+}	2.76	5.13E+04	1.38E+04	2.10	2.28	3.11	3.35
Fe^{3+} (total Fe)	0.395	1.52E+04	4.09E+03	0.391	0.393	0.397	0.399
Cr^{3+}	1.23E-02	439	118	4.43E-03	8.27E-03	7.79E-02	0.155
Bi^{3+}	4.07E-02	5.87E+03	1.58E+03	3.24E-02	3.72E-02	4.33E-02	4.52E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.69E-04	78.6	21.2	5.48E-04	5.60E-04	5.75E-04	5.80E-04
Zr (as $ZrO(OH)_2$)	1.56E-04	9.81	2.64	1.24E-04	1.40E-04	1.73E-04	1.89E-04
Pb^{2+}	1.44E-02	2.06E+03	554	1.32E-02	1.39E-02	1.49E-02	1.54E-02
Ni^{2+}	8.15E-03	330	88.7	6.13E-03	7.27E-03	8.82E-03	9.59E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.60E-02	2.65E+03	713	7.71E-02	8.80E-02	0.103	0.110
K^+	6.18E-03	167	44.8	4.76E-03	5.33E-03	6.75E-03	7.11E-03
OH^-	11.4	1.34E+05	3.60E+04	8.77	9.49	12.8	13.8
$NO3^-$	1.50	6.41E+04	1.73E+04	0.755	0.755	2.67	3.30
$NO2^-$	0.480	1.52E+04	4.09E+03	0.290	0.356	0.578	0.578
$CO3^{2-}$	9.60E-02	3.97E+03	1.07E+03	7.71E-02	8.80E-02	0.103	0.110
$PO4^{3-}$	0.752	4.92E+04	1.32E+04	0.439	0.620	0.848	0.919
$SO4^{2-}$	3.65E-02	2.41E+03	650	2.95E-02	3.29E-02	4.01E-02	4.37E-02
Si (as SiO_x^{2-})	0.150	2.90E+03	779	7.84E-02	0.115	0.185	0.219
F^-	9.07E-02	1.19E+03	320	7.21E-02	8.11E-02	0.101	0.211
Cl^-	2.84E-02	694	187	2.19E-02	2.45E-02	3.11E-02	4.35E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	8.84E-02	1.04E+03	279	6.12E-02	6.51E-02	9.33E-02	9.79E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.54E+05 (kg)	(45.0 kgal)	----	----	----	----	----
Heat Load	0.184 (kW)	(629 BTU/hr)	----	0.137	0.165	0.197	0.203
Bulk Density	1.49 (g/cc)	----	----	1.42	1.46	1.55	1.57
Void Fraction	0.681	----	----	0.607	0.631	0.718	0.769
Water wt%	51.0	----	----	44.4	46.5	54.5	55.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.92E-06	3.30E-03	0.839	8.50E-07	2.66E-06	6.76E-06	6.76E-06
C-14	4.28E-07	2.87E-04	7.29E-02	1.16E-07	2.41E-07	5.54E-07	5.54E-07
Ni-59	2.33E-06	1.56E-03	0.397	1.69E-06	2.05E-06	2.55E-06	2.51E-06
Ni-63	2.18E-04	0.146	37.1	1.58E-04	1.92E-04	2.38E-04	2.34E-04
Co-60	1.54E-07	1.03E-04	2.62E-02	3.08E-08	7.99E-08	2.03E-07	2.03E-07
Se-79	9.09E-08	6.09E-05	1.55E-02	2.47E-08	5.11E-08	1.17E-07	1.13E-06
Sr-90	0.150	101	2.56E+04	0.109	0.132	0.164	0.166
Y-90	0.150	101	2.56E+04	0.109	0.132	0.164	0.166
Zr-93	4.30E-07	2.88E-04	7.32E-02	1.17E-07	2.42E-07	5.55E-07	4.79E-06
Nb-93m	3.54E-07	2.37E-04	6.03E-02	9.84E-08	2.00E-07	4.57E-07	5.05E-06
Tc-99	3.00E-06	2.01E-03	0.510	8.13E-07	1.68E-06	3.87E-06	3.87E-06
Ru-106	4.25E-13	2.85E-10	7.24E-08	8.14E-14	2.19E-13	5.63E-13	5.63E-13
Cd-113m	1.26E-06	8.45E-04	0.215	2.97E-07	6.82E-07	1.65E-06	1.65E-06
Sb-125	2.19E-07	1.47E-04	3.73E-02	3.85E-08	1.11E-07	2.92E-07	2.92E-07
Sn-126	1.39E-07	9.32E-05	2.37E-02	3.72E-08	7.79E-08	1.80E-07	1.81E-06
I-129	5.73E-09	3.84E-06	9.76E-04	1.54E-09	3.21E-09	7.41E-09	7.41E-09
Cs-134	4.52E-09	3.03E-06	7.70E-04	1.41E-09	2.65E-09	5.77E-09	5.77E-09
Cs-137	1.51E-02	10.1	2.58E+03	8.72E-03	1.13E-02	1.77E-02	1.77E-02
Ba-137m	1.43E-02	9.60	2.44E+03	8.25E-03	1.07E-02	1.67E-02	1.67E-02
Sm-151	3.27E-04	0.219	55.7	9.08E-05	1.85E-04	4.22E-04	4.16E-03
Eu-152	1.12E-06	7.50E-04	0.190	1.09E-06	1.10E-06	1.13E-06	1.13E-06
Eu-154	3.63E-06	2.43E-03	0.618	6.53E-07	1.84E-06	4.82E-06	4.82E-06
Eu-155	5.34E-05	3.58E-02	9.10	5.23E-05	5.28E-05	5.38E-05	5.38E-05
Ra-226	1.74E-10	1.17E-07	2.96E-05	2.89E-11	9.99E-11	2.48E-10	3.19E-10
Ra-228	1.56E-15	1.05E-12	2.66E-10	1.53E-15	1.54E-15	1.57E-15	1.57E-15
Ac-227	7.70E-10	5.17E-07	1.31E-04	7.73E-11	3.40E-10	1.20E-09	1.61E-09
Pa-231	1.74E-10	1.17E-07	2.97E-05	7.54E-11	1.15E-10	3.80E-10	2.67E-09
Th-229	2.96E-13	1.99E-10	5.05E-08	2.90E-13	2.93E-13	2.99E-13	2.99E-13
Th-232	1.16E-16	7.81E-14	1.98E-11	3.50E-17	6.75E-17	1.49E-16	1.49E-16
U-232	2.22E-10	1.49E-07	3.77E-05	2.10E-10	2.17E-10	2.25E-10	2.27E-10
U-233	1.13E-11	7.56E-09	1.92E-06	1.08E-11	1.11E-11	1.14E-11	1.15E-11
U-234	1.33E-05	8.94E-03	2.27	1.26E-05	1.30E-05	1.36E-05	1.37E-05
U-235	5.95E-07	3.99E-04	0.101	5.63E-07	5.81E-07	6.05E-07	6.12E-07
U-236	1.16E-07	7.79E-05	1.98E-02	1.10E-07	1.14E-07	1.18E-07	1.19E-07
U-238	1.34E-05	9.00E-03	2.29	1.27E-05	1.31E-05	1.37E-05	1.38E-05
Np-237	1.93E-08	1.29E-05	3.28E-03	5.12E-09	1.08E-08	2.50E-08	2.50E-08
Pu-238	4.41E-06	2.96E-03	0.752	4.12E-06	4.27E-06	4.56E-06	4.70E-06
Pu-239	3.00E-04	0.201	51.1	2.79E-04	2.89E-04	3.15E-04	3.29E-04
Pu-240	4.15E-05	2.78E-02	7.06	3.85E-05	3.99E-05	4.30E-05	4.44E-05
Pu-241	2.47E-04	0.166	42.1	2.30E-04	2.38E-04	2.56E-04	2.64E-04
Pu-242	1.07E-09	7.17E-07	1.82E-04	9.89E-10	1.03E-09	1.11E-09	1.15E-09
Am-241	1.33E-06	8.95E-04	0.227	2.20E-07	6.65E-07	1.78E-06	2.23E-05
Am-243	1.23E-11	8.27E-09	2.10E-06	1.90E-12	6.07E-12	1.65E-11	2.09E-10
Cm-242	2.55E-08	1.71E-05	4.35E-03	2.50E-08	2.52E-08	2.58E-08	2.58E-08
Cm-243	5.85E-10	3.93E-07	9.97E-05	5.73E-10	5.78E-10	5.90E-10	5.90E-10
Cm-244	4.39E-10	2.94E-07	7.47E-05	6.63E-11	2.15E-10	5.89E-10	5.89E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.01E-03 (g/L)	----	0.853	4.66E-03	4.83E-03	5.25E-03	5.48E-03
U	0.169	2.70E+04	6.85E+03	0.160	0.165	0.172	0.174

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.52E+04 (kg)	(4.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.69E+05 (kg)	(49.0 kgal)	----	----	----	----	----
Heat Load	0.184 (kW)	(629 BTU/hr)	----	0.137	0.165	0.197	0.203
Bulk Density†	1.45 (g/cc)	----	----	1.39	1.42	1.50	1.52
Water wt%†	53.7	----	----	47.4	49.4	57.1	58.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.52E-06	3.12E-03	0.839	7.81E-07	2.45E-06	6.21E-06	6.21E-06
C-14	3.93E-07	2.71E-04	7.29E-02	1.07E-07	2.21E-07	5.08E-07	5.08E-07
Ni-59	2.14E-06	1.48E-03	0.397	1.55E-06	1.88E-06	2.34E-06	2.30E-06
Ni-63	2.00E-04	0.138	37.1	1.45E-04	1.76E-04	2.18E-04	2.15E-04
Co-60	1.41E-07	9.74E-05	2.62E-02	2.83E-08	7.34E-08	1.87E-07	1.87E-07
Se-79	8.34E-08	5.75E-05	1.55E-02	2.27E-08	4.69E-08	1.08E-07	1.04E-06
Sr-90	0.138	95.0	2.56E+04	9.98E-02	0.121	0.151	0.153
Y-90	0.138	95.0	2.56E+04	9.98E-02	0.121	0.151	0.153
Zr-93	3.95E-07	2.72E-04	7.32E-02	1.08E-07	2.22E-07	5.10E-07	4.40E-06
Nb-93m	3.25E-07	2.24E-04	6.03E-02	9.04E-08	1.84E-07	4.19E-07	4.64E-06
Tc-99	2.75E-06	1.90E-03	0.510	7.46E-07	1.55E-06	3.56E-06	3.56E-06
Ru-106	3.90E-13	2.69E-10	7.24E-08	7.47E-14	2.01E-13	5.17E-13	5.17E-13
Cd-113m	1.16E-06	7.97E-04	0.215	2.73E-07	6.26E-07	1.51E-06	1.51E-06
Sb-125	2.01E-07	1.39E-04	3.73E-02	3.54E-08	1.02E-07	2.68E-07	2.68E-07
Sn-126	1.28E-07	8.79E-05	2.37E-02	3.42E-08	7.15E-08	1.65E-07	1.66E-06
I-129	5.26E-09	3.62E-06	9.76E-04	1.41E-09	2.95E-09	6.81E-09	6.81E-09
Cs-134	4.15E-09	2.86E-06	7.70E-04	1.30E-09	2.44E-09	5.30E-09	5.30E-09
Cs-137	1.39E-02	9.57	2.58E+03	8.00E-03	1.04E-02	1.63E-02	1.63E-02
Ba-137m	1.31E-02	9.06	2.44E+03	7.57E-03	9.80E-03	1.54E-02	1.54E-02
Sm-151	3.00E-04	0.207	55.7	8.34E-05	1.70E-04	3.87E-04	3.82E-03
Eu-152	1.03E-06	7.07E-04	0.190	1.01E-06	1.01E-06	1.04E-06	1.04E-06
Eu-154	3.33E-06	2.29E-03	0.618	5.99E-07	1.69E-06	4.43E-06	4.43E-06
Eu-155	4.90E-05	3.38E-02	9.10	4.80E-05	4.84E-05	4.94E-05	4.94E-05
Ra-226	1.60E-10	1.10E-07	2.96E-05	2.65E-11	9.18E-11	2.28E-10	2.93E-10
Ra-228	1.43E-15	9.88E-13	2.66E-10	1.41E-15	1.42E-15	1.45E-15	1.45E-15
Ac-227	7.07E-10	4.87E-07	1.31E-04	7.10E-11	3.13E-10	1.10E-09	1.48E-09
Pa-231	1.60E-10	1.10E-07	2.97E-05	6.92E-11	1.06E-10	3.49E-10	2.45E-09
Th-229	2.72E-13	1.87E-10	5.05E-08	2.67E-13	2.69E-13	2.74E-13	2.74E-13
Th-232	1.07E-16	7.37E-14	1.98E-11	3.22E-17	6.20E-17	1.37E-16	1.37E-16
U-232	2.03E-10	1.40E-07	3.77E-05	1.93E-10	1.99E-10	2.06E-10	2.09E-10
U-233	1.04E-11	7.13E-09	1.92E-06	9.88E-12	1.02E-11	1.05E-11	1.06E-11
U-234	1.22E-05	8.44E-03	2.27	1.16E-05	1.20E-05	1.24E-05	1.26E-05
U-235	5.46E-07	3.76E-04	0.101	5.17E-07	5.34E-07	5.55E-07	5.62E-07
U-236	1.07E-07	7.35E-05	1.98E-02	1.01E-07	1.05E-07	1.08E-07	1.09E-07
U-238	1.23E-05	8.50E-03	2.29	1.17E-05	1.21E-05	1.25E-05	1.27E-05
Np-237	1.77E-08	1.22E-05	3.28E-03	4.70E-09	9.90E-09	2.29E-08	2.29E-08
Pu-238	4.05E-06	2.79E-03	0.752	3.79E-06	3.92E-06	4.19E-06	4.32E-06
Pu-239	2.75E-04	0.190	51.1	2.56E-04	2.66E-04	2.89E-04	3.02E-04
Pu-240	3.81E-05	2.62E-02	7.06	3.54E-05	3.67E-05	3.95E-05	4.08E-05
Pu-241	2.27E-04	0.156	42.1	2.11E-04	2.19E-04	2.35E-04	2.43E-04
Pu-242	9.81E-10	6.76E-07	1.82E-04	9.08E-10	9.44E-10	1.02E-09	1.05E-09
Am-241	1.23E-06	8.45E-04	0.227	2.02E-07	6.11E-07	1.64E-06	2.05E-05
Am-243	1.13E-11	7.80E-09	2.10E-06	1.75E-12	5.57E-12	1.52E-11	1.92E-10
Cm-242	2.35E-08	1.62E-05	4.35E-03	2.30E-08	2.32E-08	2.37E-08	2.37E-08
Cm-243	5.38E-10	3.70E-07	9.97E-05	5.26E-10	5.31E-10	5.42E-10	5.42E-10
Cm-244	4.03E-10	2.78E-07	7.47E-05	6.09E-11	1.98E-10	5.40E-10	5.40E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.60E-03 (g/L)	----	0.853	4.28E-03	4.44E-03	4.82E-03	5.03E-03
U	0.155	2.55E+04	6.85E+03	0.147	0.152	0.158	0.160

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.68E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	2.73E+03	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	4.58E+03	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	139	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	1.60	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	12.4	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	369	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	0.905	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	73.3	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	0.909	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	1.07E+04	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	537	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	667	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	110	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	12.2	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	8.54	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	3.79	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	5.27E-02	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	1.82E-06 (kW)	(6.21E-03 BTU/hr)	----	1.52E-06	1.66E-06	1.99E-06	1.91E-06
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100.0	----	----	100.0	100.0	100.0	100.0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.77E-03	133	0.502	4.86E-03	5.37E-03	6.05E-03	6.12E-03
Al^{3+}	1.19E-03	32.1	0.122	1.02E-03	1.10E-03	1.28E-03	1.25E-03
Fe^{3+} (total Fe)	2.53E-06	0.141	5.36E-04	1.89E-06	2.20E-06	2.86E-06	3.17E-06
Cr^{3+}	8.44E-05	4.39	1.66E-02	5.08E-05	6.89E-05	8.76E-05	8.62E-05
Bi^{3+}	1.97E-07	4.11E-02	1.56E-04	1.66E-07	1.81E-07	2.12E-07	2.27E-07
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.37E-09	1.08E-03	4.08E-06	4.88E-09	5.12E-09	5.62E-09	5.86E-09
Zr (as $ZrO(OH)_2$)	1.64E-08	1.49E-03	5.66E-06	1.11E-08	1.36E-08	1.92E-08	2.19E-08
Pb^{2+}	7.80E-07	0.162	6.12E-04	4.25E-07	5.99E-07	9.61E-07	1.14E-06
Ni^{2+}	2.16E-06	0.126	4.79E-04	1.90E-06	2.02E-06	2.27E-06	2.28E-06
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	1.14E-05	0.457	1.73E-03	8.88E-06	1.01E-05	1.27E-05	1.39E-05
K^+	1.66E-05	0.648	2.46E-03	1.25E-05	1.45E-05	1.89E-05	1.70E-05
OH^-	6.17E-03	105	0.398	5.14E-03	5.63E-03	6.74E-03	6.41E-03
$NO3^-$	1.87E-03	116	0.439	1.61E-03	1.74E-03	1.98E-03	2.02E-03
$NO2^-$	1.37E-03	62.8	0.238	1.12E-03	1.24E-03	1.50E-03	1.63E-03
$CO3^{2-}$	1.68E-05	1.01	3.83E-03	1.43E-05	1.55E-05	1.81E-05	1.93E-05
$PO4^{3-}$	9.49E-06	0.901	3.42E-03	8.37E-06	8.92E-06	1.01E-05	1.06E-05
$SO4^{2-}$	2.69E-05	2.59	9.80E-03	2.32E-05	2.50E-05	2.91E-05	2.92E-05
Si (as SiO_x^{2-})	2.75E-05	0.773	2.93E-03	2.09E-05	2.49E-05	2.92E-05	2.91E-05
F^-	9.51E-06	0.181	6.85E-04	6.45E-06	7.93E-06	1.11E-05	1.18E-05
Cl^-	7.63E-05	2.70	1.02E-02	5.77E-05	6.65E-05	8.70E-05	7.82E-05
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.63E-05	0.276	1.05E-03	1.16E-05	1.39E-05	1.84E-05	1.82E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.06E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.77E-04 (kW)	(1.29 BTU/hr)	----	3.17E-04	3.65E-04	3.90E-04	4.02E-04
Bulk Density†	1.62 (g/cc)	----	----	1.38	1.46	1.73	1.82
Water wt%†	33.9	----	----	14.9	22.4	53.0	61.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.28	8.94E+04	2.73E+03	1.78	3.12	8.59	10.3
Al^{3+}	8.96	1.50E+05	4.58E+03	4.67	5.82	11.2	12.8
Fe^{3+} (total Fe)	0.132	4.56E+03	139	0.122	0.128	0.136	0.140
Cr^{3+}	1.65E-03	52.9	1.62	1.38E-03	1.59E-03	1.70E-03	1.75E-03
Bi^{3+}	3.94E-08	5.09E-03	1.56E-04	3.33E-08	3.63E-08	4.25E-08	4.55E-08
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.26E-03	405	12.4	3.22E-03	3.24E-03	3.28E-03	3.29E-03
Zr (as $ZrO(OH)_2$)	3.28E-09	1.85E-04	5.66E-06	2.22E-09	2.73E-09	3.84E-09	4.39E-09
Pb^{2+}	9.41E-02	1.21E+04	369	8.65E-02	9.07E-02	9.75E-02	0.101
Ni^{2+}	8.15E-04	29.6	0.905	6.84E-04	7.87E-04	1.21E-03	3.03E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.66E-02	2.39E+03	73.3	5.38E-02	7.89E-02	0.113	0.128
K^+	1.23E-03	29.8	0.911	1.03E-03	1.19E-03	1.27E-03	1.31E-03
OH^-	33.4	3.51E+05	1.07E+04	16.0	20.7	42.4	49.0
$NO3^-$	0.458	1.76E+04	538	0.388	0.443	0.473	0.488
$NO2^-$	0.766	2.18E+04	667	0.639	0.740	0.792	0.817
$CO3^{2-}$	9.66E-02	3.58E+03	110	5.38E-02	7.89E-02	0.113	0.128
$PO4^{3-}$	1.90E-06	0.112	3.42E-03	1.68E-06	1.79E-06	2.01E-06	2.12E-06
$SO4^{2-}$	6.71E-03	399	12.2	5.63E-03	6.49E-03	6.94E-03	7.15E-03
Si (as SiO_x^{2-})	1.61E-02	279	8.55	1.35E-02	1.55E-02	6.55E-02	0.140
F^-	1.90E-06	2.24E-02	6.85E-04	1.29E-06	1.59E-06	2.23E-06	2.36E-06
Cl^-	5.67E-03	124	3.80	4.76E-03	5.48E-03	5.86E-03	6.04E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.67E-04	1.76	5.37E-02	1.32E-04	1.48E-04	1.93E-04	2.02E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.68E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	1.53E-02	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	1.65E-03	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	4.68E-04	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	4.39E-02	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	7.14E-04	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	3.59E-04	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	31.0	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	31.0	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	1.70E-03	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	1.38E-03	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	1.19E-02	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	4.17E-09	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	5.31E-03	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	1.19E-03	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	5.47E-04	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	2.27E-05	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	2.50E-05	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	35.6	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	33.7	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	1.28	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	2.65E-03	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	1.74E-02	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	0.126	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	4.28E-08	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	4.42E-12	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	2.19E-07	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	5.21E-07	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	6.24E-10	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	6.11E-13	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	9.79E-06	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	3.62E-07	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	0.224	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	9.52E-03	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	4.93E-03	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	0.218	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	8.30E-05	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	0.380	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	24.3	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	3.43	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	21.0	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	8.90E-05	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	6.19E-03	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	5.64E-08	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	5.53E-05	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	1.26E-06	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	1.97E-06	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	0.407	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	653	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	1.82E-06 (kW)	(6.21E-03 BTU/hr)	----	1.52E-06	1.66E-06	1.99E-06	1.91E-06
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100.0	----	----	100.0	100.0	100.0	100.0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.98E-08	3.98E-05	1.51E-04	2.25E-08	3.08E-08	4.92E-08	4.08E-08
C-14	3.11E-09	3.11E-06	1.18E-05	2.30E-09	2.68E-09	3.58E-09	3.18E-09
Ni-59	4.05E-10	4.05E-07	1.54E-06	3.68E-10	3.86E-10	4.25E-10	4.43E-10
Ni-63	3.78E-08	3.78E-05	1.43E-04	3.43E-08	3.60E-08	3.96E-08	4.13E-08
Co-60	1.23E-09	1.23E-06	4.66E-06	9.07E-10	1.06E-09	1.41E-09	1.26E-09
Se-79	6.62E-10	6.62E-07	2.51E-06	4.37E-10	5.71E-10	7.62E-10	6.76E-10
Sr-90	2.64E-05	2.64E-02	0.100	2.29E-05	2.46E-05	2.82E-05	2.99E-05
Y-90	2.64E-05	2.64E-02	0.100	2.29E-05	2.46E-05	2.82E-05	2.99E-05
Zr-93	3.13E-09	3.13E-06	1.18E-05	2.18E-09	2.70E-09	3.60E-09	3.19E-09
Nb-93m	2.56E-09	2.56E-06	9.68E-06	1.54E-09	2.20E-09	2.94E-09	2.61E-09
Tc-99	2.18E-08	2.18E-05	8.27E-05	1.61E-08	1.88E-08	2.51E-08	2.23E-08
Ru-106	3.53E-15	3.53E-12	1.34E-11	2.64E-15	3.06E-15	4.05E-15	3.61E-15
Cd-113m	9.62E-09	9.62E-06	3.64E-05	7.10E-09	8.29E-09	1.11E-08	9.83E-09
Sb-125	1.81E-09	1.81E-06	6.86E-06	1.34E-09	1.56E-09	2.08E-09	1.85E-09
Sn-126	1.02E-09	1.02E-06	3.85E-06	6.56E-10	8.77E-10	1.17E-09	1.04E-09
I-129	4.19E-11	4.19E-08	1.59E-07	3.10E-11	3.62E-11	4.82E-11	4.28E-11
Cs-134	3.13E-11	3.13E-08	1.19E-07	2.32E-11	2.71E-11	3.60E-11	3.20E-11
Cs-137	6.44E-05	6.44E-02	0.244	4.77E-05	5.56E-05	7.41E-05	6.58E-05
Ba-137m	6.10E-05	6.09E-02	0.231	4.51E-05	5.26E-05	7.01E-05	6.23E-05
Sm-151	2.36E-06	2.36E-03	8.95E-03	1.53E-06	2.04E-06	2.72E-06	2.41E-06
Eu-152	2.31E-10	2.31E-07	8.76E-07	1.71E-10	1.99E-10	2.66E-10	2.36E-10
Eu-154	2.97E-08	2.97E-05	1.12E-04	2.19E-08	2.56E-08	3.41E-08	3.03E-08
Eu-155	1.09E-08	1.09E-05	4.14E-05	8.08E-09	9.43E-09	1.26E-08	1.12E-08
Ra-226	4.78E-14	4.78E-11	1.81E-10	1.64E-14	3.18E-14	6.39E-14	7.92E-14
Ra-228	3.10E-19	3.10E-16	1.18E-15	2.30E-19	2.68E-19	3.57E-19	3.17E-19
Ac-227	2.76E-13	2.76E-10	1.05E-09	9.35E-14	1.83E-13	3.69E-13	4.26E-13
Pa-231	9.99E-13	9.99E-10	3.79E-09	4.59E-13	8.63E-13	1.15E-12	1.02E-12
Th-229	5.87E-17	5.87E-14	2.22E-13	4.34E-17	5.06E-17	6.75E-17	5.99E-17
Th-232	8.23E-19	8.23E-16	3.12E-15	6.11E-19	7.11E-19	9.46E-19	8.41E-19
U-232	1.42E-14	1.42E-11	5.37E-11	1.23E-14	1.32E-14	1.52E-14	1.49E-14
U-233	5.37E-16	5.37E-13	2.04E-12	4.66E-16	5.00E-16	5.79E-16	5.63E-16
U-234	3.38E-10	3.38E-07	1.28E-06	2.95E-10	3.15E-10	3.63E-10	3.54E-10
U-235	1.45E-11	1.45E-08	5.49E-08	1.26E-11	1.35E-11	1.55E-11	1.52E-11
U-236	6.14E-12	6.14E-09	2.33E-08	5.46E-12	5.79E-12	6.53E-12	6.49E-12
U-238	3.37E-10	3.37E-07	1.28E-06	2.93E-10	3.14E-10	3.62E-10	3.53E-10
Np-237	1.42E-10	1.42E-07	5.38E-07	1.05E-10	1.22E-10	1.63E-10	1.45E-10
Pu-238	1.58E-10	1.58E-07	5.98E-07	9.50E-11	1.26E-10	1.90E-10	2.21E-10
Pu-239	1.12E-08	1.12E-05	4.25E-05	6.72E-09	8.92E-09	1.35E-08	1.57E-08
Pu-240	1.55E-09	1.55E-06	5.86E-06	9.05E-10	1.22E-09	1.87E-09	2.19E-09
Pu-241	9.06E-09	9.06E-06	3.43E-05	5.29E-09	7.14E-09	1.10E-08	1.28E-08
Pu-242	4.03E-14	4.02E-11	1.53E-10	2.29E-14	3.14E-14	4.91E-14	5.76E-14
Am-241	1.11E-08	1.11E-05	4.20E-05	6.55E-09	9.56E-09	1.28E-08	1.13E-08
Am-243	1.04E-13	1.04E-10	3.93E-10	6.11E-14	8.93E-14	1.19E-13	1.06E-13
Cm-242	5.30E-12	5.30E-09	2.01E-08	3.91E-12	4.57E-12	6.10E-12	5.42E-12
Cm-243	1.21E-13	1.21E-10	4.60E-10	8.96E-14	1.05E-13	1.40E-13	1.24E-13
Cm-244	3.70E-12	3.70E-09	1.40E-08	2.73E-12	3.19E-12	4.26E-12	3.78E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.87E-07 (g/L)	----	7.09E-07	1.12E-07	1.49E-07	2.25E-07	2.62E-07
U	4.24E-06	1.01	3.83E-03	3.69E-06	3.95E-06	4.56E-06	4.44E-06

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.06E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.77E-04 (kW)	(1.29 BTU/hr)	----	3.17E-04	3.65E-04	3.90E-04	4.02E-04
Bulk Density†	1.62 (g/cc)	----	----	1.38	1.46	1.73	1.82
Water wt%†	33.9	----	----	14.9	22.4	53.0	61.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.17E-07	5.05E-04	1.55E-02	5.14E-07	7.26E-07	9.10E-07	9.99E-07
C-14	8.78E-08	5.43E-05	1.66E-03	7.38E-08	8.49E-08	9.08E-08	9.36E-08
Ni-59	2.48E-08	1.53E-05	4.70E-04	2.08E-08	2.40E-08	3.68E-08	9.22E-08
Ni-63	2.33E-06	1.44E-03	4.40E-02	1.95E-06	2.25E-06	3.46E-06	8.65E-06
Co-60	3.80E-08	2.35E-05	7.18E-04	3.19E-08	3.67E-08	3.92E-08	4.04E-08
Se-79	1.91E-08	1.18E-05	3.62E-04	1.61E-08	1.85E-08	1.98E-08	2.04E-08
Sr-90	1.64E-03	1.02	31.1	1.38E-03	1.59E-03	1.70E-03	1.75E-03
Y-90	1.64E-03	1.02	31.1	1.38E-03	1.59E-03	1.70E-03	1.75E-03
Zr-93	9.04E-08	5.59E-05	1.71E-03	7.60E-08	8.74E-08	9.35E-08	9.64E-08
Nb-93m	7.35E-08	4.55E-05	1.39E-03	6.17E-08	7.11E-08	7.60E-08	7.83E-08
Tc-99	6.31E-07	3.90E-04	1.19E-02	5.30E-07	6.10E-07	6.52E-07	6.72E-07
Ru-106	2.21E-13	1.37E-10	4.19E-09	1.86E-13	2.14E-13	2.29E-13	2.36E-13
Cd-113m	2.82E-07	1.75E-04	5.34E-03	2.37E-07	2.73E-07	2.92E-07	3.01E-07
Sb-125	6.35E-08	3.93E-05	1.20E-03	5.33E-08	6.14E-08	6.56E-08	6.76E-08
Sn-126	2.91E-08	1.80E-05	5.51E-04	2.44E-08	2.81E-08	3.01E-08	3.10E-08
I-129	1.21E-09	7.47E-07	2.29E-05	1.01E-09	1.17E-09	1.25E-09	1.29E-09
Cs-134	1.33E-09	8.22E-07	2.52E-05	1.12E-09	1.28E-09	1.37E-09	1.42E-09
Cs-137	1.89E-03	1.17	35.8	1.59E-03	1.83E-03	1.96E-03	2.02E-03
Ba-137m	1.79E-03	1.11	33.9	1.50E-03	1.73E-03	1.85E-03	1.91E-03
Sm-151	6.82E-05	4.22E-02	1.29	5.73E-05	6.59E-05	7.05E-05	7.26E-05
Eu-152	1.40E-07	8.67E-05	2.65E-03	1.39E-07	1.40E-07	1.40E-07	1.41E-07
Eu-154	9.24E-07	5.72E-04	1.75E-02	7.76E-07	8.94E-07	9.55E-07	9.85E-07
Eu-155	6.67E-06	4.12E-03	0.126	6.61E-06	6.66E-06	6.68E-06	6.69E-06
Ra-226	2.27E-12	1.40E-09	4.30E-08	1.91E-12	2.19E-12	2.35E-12	2.42E-12
Ra-228	2.34E-16	1.44E-13	4.42E-12	2.32E-16	2.33E-16	2.34E-16	2.34E-16
Ac-227	1.17E-11	7.21E-09	2.21E-07	9.78E-12	1.13E-11	1.20E-11	1.24E-11
Pa-231	2.77E-11	1.71E-08	5.24E-07	2.33E-11	2.68E-11	2.86E-11	2.95E-11
Th-229	3.30E-14	2.04E-11	6.25E-10	3.27E-14	3.29E-14	3.31E-14	3.31E-14
Th-232	3.24E-17	2.01E-14	6.14E-13	2.72E-17	3.14E-17	3.35E-17	3.46E-17
U-232	5.17E-10	3.20E-07	9.79E-06	4.49E-10	4.89E-10	5.37E-10	5.52E-10
U-233	1.91E-11	1.18E-08	3.62E-07	1.66E-11	1.81E-11	1.99E-11	2.04E-11
U-234	1.18E-05	7.32E-03	0.224	1.03E-05	1.12E-05	1.23E-05	1.26E-05
U-235	5.03E-07	3.11E-04	9.52E-03	4.37E-07	4.76E-07	5.22E-07	5.37E-07
U-236	2.61E-07	1.61E-04	4.93E-03	2.26E-07	2.47E-07	2.71E-07	2.78E-07
U-238	1.15E-05	7.13E-03	0.218	1.00E-05	1.09E-05	1.20E-05	1.23E-05
Np-237	4.41E-09	2.73E-06	8.35E-05	3.71E-09	4.27E-09	4.56E-09	4.70E-09
Pu-238	2.01E-05	1.24E-02	0.380	1.92E-05	1.96E-05	2.05E-05	2.10E-05
Pu-239	1.29E-03	0.796	24.3	1.23E-03	1.26E-03	1.32E-03	1.34E-03
Pu-240	1.81E-04	0.112	3.43	1.73E-04	1.77E-04	1.86E-04	1.89E-04
Pu-241	1.11E-03	0.685	21.0	1.06E-03	1.08E-03	1.13E-03	1.16E-03
Pu-242	4.70E-09	2.91E-06	8.90E-05	4.49E-09	4.60E-09	4.81E-09	4.91E-09
Am-241	3.29E-07	2.04E-04	6.23E-03	2.76E-07	3.18E-07	3.40E-07	3.51E-07
Am-243	3.00E-12	1.86E-09	5.68E-08	2.52E-12	2.90E-12	3.10E-12	3.20E-12
Cm-242	2.92E-09	1.81E-06	5.53E-05	2.90E-09	2.92E-09	2.93E-09	2.93E-09
Cm-243	6.67E-11	4.12E-08	1.26E-06	6.61E-11	6.66E-11	6.68E-11	6.69E-11
Cm-244	1.05E-10	6.47E-08	1.98E-06	8.79E-11	1.01E-10	1.08E-10	1.11E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.15E-02 (g/L)	----	0.407	2.06E-02	2.10E-02	2.20E-02	2.25E-02
U	0.145	2.14E+04	653	0.126	0.137	0.151	0.155

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.68E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	2.73E+03	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	4.58E+03	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	139	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	1.60	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	12.4	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	369	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	0.905	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	73.3	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	0.909	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	1.07E+04	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	537	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	667	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	110	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	12.2	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	8.55	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	3.79	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	5.27E-02	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.06E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density†	1.62 (g/cc)	----	----	1.38	1.46	1.73	1.82
Water wt%†	33.9	----	----	14.9	22.3	53.0	61.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.29	8.94E+04	2.73E+03	1.78	3.12	8.59	10.3
Al^{3+}	8.97	1.50E+05	4.58E+03	4.67	5.82	11.2	12.8
Fe^{3+} (total Fe)	0.132	4.56E+03	139	0.122	0.128	0.136	0.140
Cr^{3+}	1.63E-03	52.4	1.60	1.37E-03	1.57E-03	1.68E-03	1.74E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.26E-03	405	12.4	3.22E-03	3.24E-03	3.28E-03	3.29E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	9.41E-02	1.21E+04	369	8.65E-02	9.07E-02	9.75E-02	0.101
Ni^{2+}	8.14E-04	29.6	0.905	6.83E-04	7.87E-04	1.21E-03	3.03E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.66E-02	2.39E+03	73.3	5.38E-02	7.89E-02	0.113	0.128
K^+	1.23E-03	29.7	0.909	1.03E-03	1.19E-03	1.27E-03	1.31E-03
OH^-	33.4	3.51E+05	1.07E+04	16.0	20.7	42.4	49.0
$NO3^-$	0.458	1.76E+04	537	0.388	0.443	0.473	0.488
$NO2^-$	0.766	2.18E+04	667	0.639	0.740	0.792	0.817
$CO3^{2-}$	9.66E-02	3.58E+03	110	5.38E-02	7.89E-02	0.113	0.128
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	6.71E-03	399	12.2	5.63E-03	6.48E-03	6.93E-03	7.15E-03
Si (as SiO_x^{2-})	1.61E-02	279	8.55	1.35E-02	1.55E-02	6.55E-02	0.140
F^-	0	0	0	0	0	0	0
Cl^-	5.65E-03	124	3.79	4.74E-03	5.46E-03	5.84E-03	6.02E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.64E-04	1.72	5.27E-02	1.29E-04	1.44E-04	1.90E-04	1.99E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.68E+04 (kg)	(4.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	1.53E-02	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	1.65E-03	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	4.68E-04	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	4.39E-02	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	7.14E-04	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	3.59E-04	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	31.0	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	31.0	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	1.70E-03	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	1.38E-03	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	1.19E-02	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	4.17E-09	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	5.31E-03	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	1.19E-03	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	5.47E-04	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	2.27E-05	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	2.50E-05	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	35.6	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	33.7	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	1.28	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	2.65E-03	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	1.74E-02	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	0.126	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	4.28E-08	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	4.42E-12	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	2.20E-07	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	5.21E-07	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	6.25E-10	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	6.11E-13	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	9.79E-06	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	3.62E-07	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	0.224	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	9.52E-03	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	4.93E-03	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	0.218	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	8.30E-05	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	0.380	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	24.4	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	3.43	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	21.0	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	8.90E-05	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	6.19E-03	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	5.64E-08	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	5.53E-05	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	1.26E-06	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	1.97E-06	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	0.407	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	654	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.06E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	3.75E-04 (kW)	(1.28 BTU/hr)	----	3.15E-04	3.63E-04	3.88E-04	4.00E-04
Bulk Density†	1.62 (g/cc)	----	----	1.38	1.46	1.73	1.82
Water wt%†	33.9	----	----	14.9	22.3	53.0	61.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.09E-07	5.00E-04	1.53E-02	5.06E-07	7.18E-07	9.02E-07	9.91E-07
C-14	8.72E-08	5.40E-05	1.65E-03	7.32E-08	8.43E-08	9.02E-08	9.30E-08
Ni-59	2.47E-08	1.53E-05	4.68E-04	2.08E-08	2.39E-08	3.68E-08	9.22E-08
Ni-63	2.32E-06	1.44E-03	4.39E-02	1.95E-06	2.24E-06	3.45E-06	8.64E-06
Co-60	3.77E-08	2.33E-05	7.14E-04	3.16E-08	3.64E-08	3.90E-08	4.02E-08
Se-79	1.90E-08	1.17E-05	3.59E-04	1.59E-08	1.84E-08	1.96E-08	2.02E-08
Sr-90	1.64E-03	1.01	31.0	1.37E-03	1.58E-03	1.69E-03	1.75E-03
Y-90	1.64E-03	1.01	31.0	1.37E-03	1.58E-03	1.69E-03	1.75E-03
Zr-93	8.98E-08	5.56E-05	1.70E-03	7.54E-08	8.68E-08	9.29E-08	9.58E-08
Nb-93m	7.30E-08	4.52E-05	1.38E-03	6.13E-08	7.06E-08	7.55E-08	7.78E-08
Tc-99	6.27E-07	3.88E-04	1.19E-02	5.26E-07	6.06E-07	6.48E-07	6.68E-07
Ru-106	2.21E-13	1.36E-10	4.17E-09	1.85E-13	2.13E-13	2.28E-13	2.35E-13
Cd-113m	2.81E-07	1.73E-04	5.31E-03	2.35E-07	2.71E-07	2.90E-07	2.99E-07
Sb-125	6.31E-08	3.90E-05	1.19E-03	5.30E-08	6.10E-08	6.52E-08	6.73E-08
Sn-126	2.89E-08	1.79E-05	5.47E-04	2.42E-08	2.79E-08	2.99E-08	3.08E-08
I-129	1.20E-09	7.42E-07	2.27E-05	1.01E-09	1.16E-09	1.24E-09	1.28E-09
Cs-134	1.32E-09	8.18E-07	2.50E-05	1.11E-09	1.28E-09	1.37E-09	1.41E-09
Cs-137	1.88E-03	1.16	35.6	1.58E-03	1.82E-03	1.94E-03	2.00E-03
Ba-137m	1.78E-03	1.10	33.7	1.49E-03	1.72E-03	1.84E-03	1.90E-03
Sm-151	6.77E-05	4.19E-02	1.28	5.68E-05	6.55E-05	7.00E-05	7.22E-05
Eu-152	1.40E-07	8.67E-05	2.65E-03	1.39E-07	1.40E-07	1.40E-07	1.41E-07
Eu-154	9.19E-07	5.68E-04	1.74E-02	7.71E-07	8.88E-07	9.50E-07	9.79E-07
Eu-155	6.67E-06	4.12E-03	0.126	6.61E-06	6.66E-06	6.68E-06	6.69E-06
Ra-226	2.26E-12	1.40E-09	4.28E-08	1.90E-12	2.19E-12	2.34E-12	2.41E-12
Ra-228	2.34E-16	1.44E-13	4.42E-12	2.32E-16	2.33E-16	2.34E-16	2.34E-16
Ac-227	1.16E-11	7.17E-09	2.20E-07	9.73E-12	1.12E-11	1.20E-11	1.24E-11
Pa-231	2.75E-11	1.70E-08	5.21E-07	2.31E-11	2.66E-11	2.84E-11	2.93E-11
Th-229	3.30E-14	2.04E-11	6.25E-10	3.27E-14	3.29E-14	3.31E-14	3.31E-14
Th-232	3.23E-17	2.00E-14	6.11E-13	2.71E-17	3.12E-17	3.34E-17	3.44E-17
U-232	5.17E-10	3.20E-07	9.79E-06	4.49E-10	4.89E-10	5.37E-10	5.52E-10
U-233	1.91E-11	1.18E-08	3.62E-07	1.66E-11	1.81E-11	1.99E-11	2.04E-11
U-234	1.18E-05	7.32E-03	0.224	1.03E-05	1.12E-05	1.23E-05	1.26E-05
U-235	5.03E-07	3.11E-04	9.52E-03	4.37E-07	4.76E-07	5.23E-07	5.37E-07
U-236	2.61E-07	1.61E-04	4.93E-03	2.26E-07	2.47E-07	2.71E-07	2.78E-07
U-238	1.15E-05	7.13E-03	0.218	1.00E-05	1.09E-05	1.20E-05	1.23E-05
Np-237	4.39E-09	2.71E-06	8.30E-05	3.68E-09	4.24E-09	4.53E-09	4.67E-09
Pu-238	2.01E-05	1.24E-02	0.380	1.92E-05	1.96E-05	2.05E-05	2.10E-05
Pu-239	1.29E-03	0.796	24.4	1.23E-03	1.26E-03	1.32E-03	1.34E-03
Pu-240	1.81E-04	0.112	3.43	1.73E-04	1.77E-04	1.86E-04	1.90E-04
Pu-241	1.11E-03	0.685	21.0	1.06E-03	1.08E-03	1.13E-03	1.16E-03
Pu-242	4.70E-09	2.91E-06	8.90E-05	4.49E-09	4.60E-09	4.81E-09	4.91E-09
Am-241	3.27E-07	2.02E-04	6.19E-03	2.74E-07	3.16E-07	3.38E-07	3.48E-07
Am-243	2.98E-12	1.84E-09	5.64E-08	2.50E-12	2.88E-12	3.08E-12	3.18E-12
Cm-242	2.92E-09	1.81E-06	5.53E-05	2.90E-09	2.92E-09	2.93E-09	2.93E-09
Cm-243	6.67E-11	4.12E-08	1.26E-06	6.61E-11	6.66E-11	6.68E-11	6.69E-11
Cm-244	1.04E-10	6.42E-08	1.97E-06	8.71E-11	1.00E-10	1.07E-10	1.11E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.15E-02 (g/L)	----	0.407	2.06E-02	2.10E-02	2.20E-02	2.25E-02
U	0.145	2.14E+04	654	0.126	0.137	0.151	0.155

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.57E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	1.37E+03	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	2.29E+03	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	69.7	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	0.801	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	6.19	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	184	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	0.452	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	36.6	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	0.454	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	5.37E+03	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	269	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	333	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	54.8	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	6.09	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	4.27	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	1.89	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	2.63E-02	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.02E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	3.81E-03 (kW)	(13.0 BTU/hr)	----	3.19E-03	3.48E-03	4.17E-03	4.00E-03
Bulk Density*	1.59 (g/cc)	----	----	1.50	1.55	1.62	1.61
Water wt%	39.0	----	----	36.5	37.6	41.3	44.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.1	1.75E+05	1.05E+03	10.2	11.2	12.7	12.8
Al^{3+}	2.49	4.23E+04	255	2.15	2.31	2.69	2.61
Fe^{3+} (total Fe)	5.30E-03	186	1.12	3.96E-03	4.62E-03	5.99E-03	6.64E-03
Cr^{3+}	0.177	5.78E+03	34.8	0.106	0.144	0.184	0.181
Bi^{3+}	4.12E-04	54.2	0.326	3.48E-04	3.79E-04	4.45E-04	4.76E-04
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.12E-05	1.42	8.55E-03	1.02E-05	1.07E-05	1.18E-05	1.23E-05
Zr (as $ZrO(OH)_2$)	3.43E-05	1.97	1.18E-02	2.32E-05	2.86E-05	4.01E-05	4.59E-05
Pb^{2+}	1.63E-03	213	1.28	8.89E-04	1.25E-03	2.01E-03	2.38E-03
Ni^{2+}	4.52E-03	167	1.00	3.97E-03	4.23E-03	4.76E-03	4.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	2.39E-02	602	3.62	1.86E-02	2.12E-02	2.65E-02	2.91E-02
K^+	3.47E-02	855	5.15	2.63E-02	3.03E-02	3.96E-02	3.56E-02
OH^-	12.9	1.38E+05	833	10.8	11.8	14.1	13.4
$NO3^-$	3.92	1.53E+05	921	3.37	3.64	4.14	4.24
$NO2^-$	2.86	8.29E+04	499	2.35	2.60	3.14	3.41
$CO3^{2-}$	3.52E-02	1.33E+03	8.01	3.00E-02	3.26E-02	3.79E-02	4.05E-02
$PO4^{3-}$	1.99E-02	1.19E+03	7.16	1.75E-02	1.87E-02	2.11E-02	2.22E-02
$SO4^{2-}$	5.64E-02	3.41E+03	20.5	4.86E-02	5.23E-02	6.09E-02	6.12E-02
Si (as SiO_x^{2-})	5.77E-02	1.02E+03	6.14	4.37E-02	5.21E-02	6.12E-02	6.09E-02
F^-	1.99E-02	238	1.43	1.35E-02	1.66E-02	2.33E-02	2.47E-02
Cl^-	0.160	3.56E+03	21.5	0.121	0.139	0.182	0.164
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.41E-02	365	2.20	2.43E-02	2.91E-02	3.87E-02	3.82E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.94E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	4.00E-03 (kW)	(13.6 BTU/hr)	----	3.37E-03	3.67E-03	4.36E-03	4.18E-03
Bulk Density†	1.71 (g/cc)	----	----	1.50	1.57	1.81	1.88
Water wt%†	29.0	----	----	13.5	19.7	43.7	50.6
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.27	1.25E+05	2.42E+03	5.20	6.51	11.3	12.9
Al^{3+}	8.30	1.31E+05	2.54E+03	4.69	5.71	10.1	11.5
Fe^{3+} (total Fe)	0.112	3.65E+03	70.8	0.104	0.108	0.115	0.118
Cr^{3+}	6.03E-02	1.83E+03	35.6	3.69E-02	4.95E-02	6.26E-02	6.16E-02
Bi^{3+}	1.37E-04	16.8	0.326	1.16E-04	1.27E-04	1.48E-04	1.59E-04
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.72E-03	319	6.20	2.68E-03	2.71E-03	2.73E-03	2.74E-03
Zr (as $ZrO(OH)_2$)	1.14E-05	0.610	1.18E-02	7.75E-06	9.54E-06	1.34E-05	1.53E-05
Pb^{2+}	7.89E-02	9.56E+03	186	7.26E-02	7.63E-02	8.16E-02	8.42E-02
Ni^{2+}	2.18E-03	75.0	1.46	1.90E-03	2.08E-03	2.59E-03	4.11E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.84E-02	2.07E+03	40.2	5.27E-02	7.37E-02	0.101	0.114
K^+	1.26E-02	288	5.60	9.79E-03	1.11E-02	1.42E-02	1.29E-02
OH^-	32.1	3.19E+05	6.20E+03	17.5	21.7	39.5	44.9
$NO3^-$	1.69	6.12E+04	1.19E+03	1.50	1.59	1.76	1.80
$NO2^-$	1.59	4.28E+04	832	1.32	1.49	1.69	1.79
$CO3^{2-}$	9.22E-02	3.24E+03	62.8	5.65E-02	7.75E-02	0.105	0.118
$PO4^{3-}$	6.64E-03	368	7.16	5.85E-03	6.24E-03	7.04E-03	7.42E-03
$SO4^{2-}$	2.44E-02	1.37E+03	26.6	2.18E-02	2.30E-02	2.59E-02	2.61E-02
Si (as SiO_x^{2-})	3.26E-02	536	10.4	2.69E-02	3.06E-02	7.19E-02	0.131
F^-	6.65E-03	73.9	1.43	4.51E-03	5.54E-03	7.78E-03	8.25E-03
Cl^-	5.80E-02	1.20E+03	23.3	4.50E-02	5.12E-02	6.55E-02	5.95E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.15E-02	114	2.22	8.25E-03	9.86E-03	1.30E-02	1.29E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.57E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.01E-06	5.71E-04	7.65E-03	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	8.25E-04	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	2.34E-04	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	2.19E-02	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	3.57E-04	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	1.80E-04	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	15.5	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	15.5	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	8.50E-04	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	6.91E-04	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	5.93E-03	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	2.09E-09	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	2.65E-03	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	5.97E-04	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	2.73E-04	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	1.14E-05	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	1.25E-05	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	17.8	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	16.8	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	0.641	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	1.33E-03	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	8.69E-03	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	6.31E-02	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	2.14E-08	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	2.21E-12	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	1.10E-07	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	2.60E-07	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	3.12E-10	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	3.05E-13	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	4.89E-06	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	1.81E-07	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	0.112	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	4.76E-03	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	2.47E-03	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	0.109	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	4.15E-05	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	0.190	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	12.2	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	1.72	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	10.5	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	4.45E-05	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	3.09E-03	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	2.82E-08	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	2.76E-05	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	6.31E-07	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	9.82E-07	1.09E-10	1.25E-10	1.34E-10	1.38E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.69E-02 (g/L)	----	0.203	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	327	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.02E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	3.81E-03 (kW)	(13.0 BTU/hr)	----	3.19E-03	3.48E-03	4.17E-03	4.00E-03
Bulk Density*	1.59 (g/cc)	----	----	1.50	1.55	1.62	1.61
Water wt%†	39.0	----	----	36.5	37.6	41.3	44.9
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.34E-05	5.25E-02	0.316	4.72E-05	6.45E-05	1.03E-04	8.55E-05
C-14	6.52E-06	4.10E-03	2.47E-02	4.81E-06	5.62E-06	7.50E-06	6.66E-06
Ni-59	8.49E-07	5.34E-04	3.22E-03	7.70E-07	8.09E-07	8.89E-07	9.28E-07
Ni-63	7.92E-05	4.99E-02	0.300	7.19E-05	7.55E-05	8.30E-05	8.66E-05
Co-60	2.57E-06	1.62E-03	9.75E-03	1.90E-06	2.22E-06	2.96E-06	2.63E-06
Se-79	1.39E-06	8.73E-04	5.26E-03	9.16E-07	1.20E-06	1.60E-06	1.42E-06
Sr-90	5.54E-02	34.8	210	4.80E-02	5.16E-02	5.91E-02	6.27E-02
Y-90	5.54E-02	34.8	210	4.80E-02	5.16E-02	5.91E-02	6.27E-02
Zr-93	6.55E-06	4.12E-03	2.48E-02	4.57E-06	5.65E-06	7.53E-06	6.69E-06
Nb-93m	5.36E-06	3.37E-03	2.03E-02	3.22E-06	4.62E-06	6.16E-06	5.47E-06
Tc-99	4.57E-05	2.88E-02	0.173	3.38E-05	3.94E-05	5.26E-05	4.67E-05
Ru-106	7.40E-12	4.66E-09	2.80E-08	5.52E-12	6.41E-12	8.49E-12	7.56E-12
Cd-113m	2.02E-05	1.27E-02	7.63E-02	1.49E-05	1.74E-05	2.32E-05	2.06E-05
Sb-125	3.79E-06	2.39E-03	1.44E-02	2.80E-06	3.27E-06	4.36E-06	3.87E-06
Sn-126	2.13E-06	1.34E-03	8.07E-03	1.38E-06	1.84E-06	2.45E-06	2.18E-06
I-129	8.78E-08	5.53E-05	3.33E-04	6.49E-08	7.57E-08	1.01E-07	8.97E-08
Cs-134	6.57E-08	4.13E-05	2.49E-04	4.86E-08	5.67E-08	7.55E-08	6.71E-08
Cs-137	0.135	85.0	512	9.99E-02	0.117	0.155	0.138
Ba-137m	0.128	80.4	484	9.46E-02	0.110	0.147	0.130
Sm-151	4.95E-03	3.12	18.8	3.21E-03	4.27E-03	5.70E-03	5.06E-03
Eu-152	4.84E-07	3.05E-04	1.84E-03	3.58E-07	4.18E-07	5.57E-07	4.95E-07
Eu-154	6.22E-05	3.91E-02	0.235	4.59E-05	5.36E-05	7.15E-05	6.35E-05
Eu-155	2.29E-05	1.44E-02	8.68E-02	1.69E-05	1.98E-05	2.64E-05	2.34E-05
Ra-226	1.00E-10	6.31E-08	3.80E-07	3.44E-11	6.66E-11	1.34E-10	1.66E-10
Ra-228	6.50E-16	4.09E-13	2.46E-12	4.82E-16	5.62E-16	7.47E-16	6.64E-16
Ac-227	5.78E-10	3.64E-07	2.19E-06	1.96E-10	3.83E-10	7.73E-10	8.92E-10
Pa-231	2.09E-09	1.32E-06	7.93E-06	9.61E-10	1.81E-09	2.41E-09	2.14E-09
Th-229	1.23E-13	7.74E-11	4.66E-10	9.09E-14	1.06E-13	1.41E-13	1.26E-13
Th-232	1.72E-15	1.09E-12	6.53E-12	1.28E-15	1.49E-15	1.98E-15	1.76E-15
U-232	2.97E-11	1.87E-08	1.12E-07	2.57E-11	2.76E-11	3.19E-11	3.11E-11
U-233	1.13E-12	7.08E-10	4.27E-09	9.75E-13	1.05E-12	1.21E-12	1.18E-12
U-234	7.08E-07	4.45E-04	2.68E-03	6.18E-07	6.60E-07	7.60E-07	7.41E-07
U-235	3.04E-08	1.91E-05	1.15E-04	2.65E-08	2.83E-08	3.26E-08	3.18E-08
U-236	1.29E-08	8.10E-06	4.88E-05	1.14E-08	1.21E-08	1.37E-08	1.36E-08
U-238	7.06E-07	4.44E-04	2.68E-03	6.15E-07	6.58E-07	7.59E-07	7.39E-07
Np-237	2.97E-07	1.87E-04	1.13E-03	2.20E-07	2.56E-07	3.42E-07	3.04E-07
Pu-238	3.31E-07	2.08E-04	1.25E-03	1.99E-07	2.63E-07	3.98E-07	4.62E-07
Pu-239	2.35E-05	1.48E-02	8.89E-02	1.41E-05	1.87E-05	2.83E-05	3.29E-05
Pu-240	3.24E-06	2.04E-03	1.23E-02	1.90E-06	2.56E-06	3.93E-06	4.59E-06
Pu-241	1.90E-05	1.19E-02	7.19E-02	1.11E-05	1.50E-05	2.30E-05	2.69E-05
Pu-242	8.43E-11	5.31E-08	3.20E-07	4.81E-11	6.58E-11	1.03E-10	1.21E-10
Am-241	2.32E-05	1.46E-02	8.81E-02	1.37E-05	2.00E-05	2.68E-05	2.38E-05
Am-243	2.17E-10	1.37E-07	8.23E-07	1.28E-10	1.87E-10	2.50E-10	2.22E-10
Cm-242	1.11E-08	6.99E-06	4.21E-05	8.19E-09	9.57E-09	1.28E-08	1.13E-08
Cm-243	2.54E-10	1.60E-07	9.64E-07	1.88E-10	2.19E-10	2.93E-10	2.60E-10
Cm-244	7.76E-09	4.88E-06	2.94E-05	5.72E-09	6.68E-09	8.93E-09	7.92E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.92E-04 (g/L)	----	1.49E-03	2.35E-04	3.12E-04	4.72E-04	5.49E-04
U	8.89E-03	1.33E+03	8.02	7.74E-03	8.28E-03	9.55E-03	9.30E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.94E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	4.00E-03 (kW)	(13.6 BTU/hr)	----	3.37E-03	3.67E-03	4.36E-03	4.18E-03
Bulk Density†	1.71 (g/cc)	----	----	1.50	1.57	1.81	1.88
Water wt%†	29.0	----	----	13.5	19.7	43.7	50.6
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.85E-05	1.67E-02	0.323	1.64E-05	2.22E-05	3.51E-05	2.92E-05
C-14	2.25E-06	1.31E-03	2.55E-02	1.68E-06	1.95E-06	2.58E-06	2.30E-06
Ni-59	3.04E-07	1.78E-04	3.45E-03	2.78E-07	2.90E-07	3.17E-07	3.63E-07
Ni-63	2.84E-05	1.66E-02	0.322	2.59E-05	2.71E-05	2.96E-05	3.39E-05
Co-60	8.90E-07	5.21E-04	1.01E-02	6.66E-07	7.72E-07	1.02E-06	9.09E-07
Se-79	4.79E-07	2.80E-04	5.43E-03	3.22E-07	4.15E-07	5.48E-07	4.89E-07
Sr-90	1.98E-02	11.6	225	1.74E-02	1.86E-02	2.11E-02	2.23E-02
Y-90	1.98E-02	11.6	225	1.74E-02	1.86E-02	2.11E-02	2.23E-02
Zr-93	2.26E-06	1.32E-03	2.57E-02	1.60E-06	1.96E-06	2.59E-06	2.31E-06
Nb-93m	1.85E-06	1.08E-03	2.10E-02	1.14E-06	1.60E-06	2.12E-06	1.89E-06
Tc-99	1.58E-05	9.23E-03	0.179	1.18E-05	1.37E-05	1.81E-05	1.61E-05
Ru-106	2.65E-12	1.55E-09	3.01E-08	2.03E-12	2.32E-12	3.02E-12	2.71E-12
Cd-113m	6.96E-06	4.07E-03	7.90E-02	5.20E-06	6.03E-06	7.97E-06	7.10E-06
Sb-125	1.32E-06	7.70E-04	1.50E-02	9.87E-07	1.14E-06	1.51E-06	1.34E-06
Sn-126	7.35E-07	4.30E-04	8.35E-03	4.83E-07	6.37E-07	8.42E-07	7.50E-07
I-129	3.03E-08	1.77E-05	3.44E-04	2.27E-08	2.63E-08	3.47E-08	3.09E-08
Cs-134	2.30E-08	1.35E-05	2.61E-04	1.73E-08	2.00E-08	2.63E-08	2.35E-08
Cs-137	4.66E-02	27.3	529	3.49E-02	4.04E-02	5.34E-02	4.76E-02
Ba-137m	4.41E-02	25.8	501	3.30E-02	3.83E-02	5.05E-02	4.50E-02
Sm-151	1.71E-03	0.999	19.4	1.13E-03	1.48E-03	1.96E-03	1.74E-03
Eu-152	2.78E-07	1.63E-04	3.16E-03	2.36E-07	2.56E-07	3.03E-07	2.82E-07
Eu-154	2.15E-05	1.26E-02	0.244	1.61E-05	1.86E-05	2.46E-05	2.20E-05
Eu-155	1.32E-05	7.72E-03	0.150	1.12E-05	1.21E-05	1.43E-05	1.34E-05
Ra-226	3.53E-11	2.06E-08	4.01E-07	1.34E-11	2.41E-11	4.65E-11	5.73E-11
Ra-228	4.12E-16	2.41E-13	4.67E-12	3.56E-16	3.82E-16	4.44E-16	4.16E-16
Ac-227	2.03E-10	1.18E-07	2.30E-06	7.50E-11	1.37E-10	2.68E-10	3.07E-10
Pa-231	7.22E-10	4.22E-07	8.19E-06	3.43E-10	6.26E-10	8.26E-10	7.37E-10
Th-229	6.85E-14	4.01E-11	7.78E-10	5.78E-14	6.29E-14	7.47E-14	6.94E-14
Th-232	6.02E-16	3.52E-13	6.84E-12	4.54E-16	5.24E-16	6.88E-16	6.15E-16
U-232	4.41E-10	2.58E-07	5.00E-06	3.84E-10	4.17E-10	4.57E-10	4.70E-10
U-233	1.63E-11	9.54E-09	1.85E-07	1.42E-11	1.55E-11	1.69E-11	1.74E-11
U-234	1.01E-05	5.91E-03	0.115	8.81E-06	9.57E-06	1.05E-05	1.08E-05
U-235	4.29E-07	2.51E-04	4.87E-03	3.74E-07	4.06E-07	4.45E-07	4.57E-07
U-236	2.21E-07	1.29E-04	2.51E-03	1.93E-07	2.10E-07	2.30E-07	2.36E-07
U-238	9.84E-06	5.75E-03	0.112	8.58E-06	9.32E-06	1.02E-05	1.05E-05
Np-237	1.03E-07	6.01E-05	1.17E-03	7.70E-08	8.92E-08	1.18E-07	1.05E-07
Pu-238	1.68E-05	9.84E-03	0.191	1.61E-05	1.65E-05	1.72E-05	1.75E-05
Pu-239	1.08E-03	0.631	12.3	1.03E-03	1.06E-03	1.10E-03	1.12E-03
Pu-240	1.52E-04	8.90E-02	1.73	1.46E-04	1.49E-04	1.56E-04	1.59E-04
Pu-241	9.30E-04	0.543	10.6	8.91E-04	9.10E-04	9.49E-04	9.69E-04
Pu-242	3.94E-09	2.31E-06	4.48E-05	3.78E-09	3.86E-09	4.03E-09	4.11E-09
Am-241	8.03E-06	4.69E-03	9.12E-02	4.85E-06	6.96E-06	9.20E-06	8.20E-06
Am-243	7.50E-11	4.38E-08	8.51E-07	4.52E-11	6.49E-11	8.59E-11	7.65E-11
Cm-242	6.14E-09	3.59E-06	6.97E-05	5.17E-09	5.63E-09	6.70E-09	6.22E-09
Cm-243	1.40E-10	8.21E-08	1.59E-06	1.18E-10	1.29E-10	1.53E-10	1.42E-10
Cm-244	2.67E-09	1.56E-06	3.04E-05	1.99E-09	2.32E-09	3.07E-09	2.73E-09
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.80E-02 (g/L)	----	0.205	1.73E-02	1.77E-02	1.84E-02	1.88E-02
U	0.124	1.72E+04	335	0.108	0.117	0.129	0.132

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-U-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.58E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.86	1.02E+05	1.37E+03	2.23	3.91	10.7	12.9
Al^{3+}	11.2	1.71E+05	2.29E+03	5.84	7.28	14.0	16.1
Fe^{3+} (total Fe)	0.165	5.20E+03	69.7	0.153	0.160	0.170	0.175
Cr^{3+}	2.04E-03	59.8	0.802	1.71E-03	1.97E-03	2.10E-03	2.17E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.08E-03	462	6.20	4.02E-03	4.06E-03	4.10E-03	4.11E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.118	1.38E+04	185	0.108	0.113	0.122	0.126
Ni^{2+}	1.02E-03	33.7	0.452	8.54E-04	9.84E-04	1.51E-03	3.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.121	2.73E+03	36.6	6.72E-02	9.87E-02	0.141	0.161
K^+	1.54E-03	33.9	0.455	1.29E-03	1.48E-03	1.59E-03	1.64E-03
OH^-	41.7	4.00E+05	5.37E+03	20.0	25.9	53.0	61.2
$NO3^-$	0.572	2.00E+04	269	0.485	0.554	0.591	0.610
$NO2^-$	0.958	2.49E+04	334	0.799	0.925	0.990	1.02
$CO3^{2-}$	0.121	4.09E+03	54.9	6.72E-02	9.87E-02	0.141	0.161
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	8.39E-03	455	6.10	7.04E-03	8.10E-03	8.67E-03	8.94E-03
Si (as SiO_x^{2-})	2.01E-02	319	4.27	1.69E-02	1.94E-02	8.18E-02	0.175
F^-	0	0	0	0	0	0	0
Cl^-	7.07E-03	141	1.90	5.93E-03	6.83E-03	7.30E-03	7.53E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.05E-04	1.97	2.64E-02	1.61E-04	1.80E-04	2.38E-04	2.49E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.72E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.58E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density†	1.51 (g/cc)	----	----	1.32	1.38	1.61	1.68
Water wt%†	41.2	----	----	23.3	30.4	58.6	66.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.24	7.95E+04	1.37E+03	1.49	2.60	7.16	8.58
Al^{3+}	7.47	1.33E+05	2.29E+03	3.89	4.85	9.34	10.7
Fe^{3+} (total Fe)	0.110	4.06E+03	69.7	0.102	0.107	0.113	0.117
Cr^{3+}	1.36E-03	46.6	0.802	1.14E-03	1.31E-03	1.40E-03	1.45E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.72E-03	360	6.20	2.68E-03	2.70E-03	2.73E-03	2.74E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	7.84E-02	1.07E+04	185	7.21E-02	7.56E-02	8.12E-02	8.39E-02
Ni^{2+}	6.79E-04	26.3	0.452	5.69E-04	6.56E-04	1.01E-03	2.53E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.05E-02	2.13E+03	36.6	4.48E-02	6.58E-02	9.41E-02	0.107
K^+	1.02E-03	26.4	0.455	8.59E-04	9.90E-04	1.06E-03	1.09E-03
OH^-	27.8	3.12E+05	5.37E+03	13.4	17.3	35.3	40.8
$NO3^-$	0.382	1.56E+04	269	0.323	0.369	0.394	0.406
$NO2^-$	0.639	1.94E+04	334	0.533	0.617	0.660	0.681
$CO3^{2-}$	8.05E-02	3.19E+03	54.9	4.48E-02	6.58E-02	9.41E-02	0.107
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	5.59E-03	355	6.10	4.69E-03	5.40E-03	5.78E-03	5.96E-03
Si (as SiO_x^{2-})	1.34E-02	249	4.27	1.12E-02	1.29E-02	5.46E-02	0.117
F^-	0	0	0	0	0	0	0
Cl^-	4.71E-03	110	1.90	3.95E-03	4.55E-03	4.87E-03	5.02E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.37E-04	1.53	2.64E-02	1.08E-04	1.20E-04	1.58E-04	1.66E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.58E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density	1.77 (g/cc)	----	----	1.47	1.57	1.92	2.02
Void Fraction	0.651	----	----	0.488	0.557	0.780	0.825
Water wt%	24.5	----	----	4.37	12.2	45.5	55.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.01E-06	5.71E-04	7.66E-03	6.33E-07	8.98E-07	1.13E-06	1.24E-06
C-14	1.09E-07	6.16E-05	8.26E-04	9.15E-08	1.05E-07	1.13E-07	1.16E-07
Ni-59	3.09E-08	1.75E-05	2.34E-04	2.59E-08	2.99E-08	4.60E-08	1.15E-07
Ni-63	2.90E-06	1.64E-03	2.20E-02	2.43E-06	2.80E-06	4.31E-06	1.08E-05
Co-60	4.71E-08	2.66E-05	3.57E-04	3.96E-08	4.56E-08	4.87E-08	5.02E-08
Se-79	2.37E-08	1.34E-05	1.80E-04	1.99E-08	2.29E-08	2.45E-08	2.53E-08
Sr-90	2.05E-03	1.16	15.5	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Y-90	2.05E-03	1.16	15.5	1.72E-03	1.98E-03	2.12E-03	2.18E-03
Zr-93	1.12E-07	6.34E-05	8.50E-04	9.42E-08	1.09E-07	1.16E-07	1.20E-07
Nb-93m	9.13E-08	5.15E-05	6.91E-04	7.66E-08	8.82E-08	9.43E-08	9.73E-08
Tc-99	7.84E-07	4.42E-04	5.93E-03	6.57E-07	7.57E-07	8.10E-07	8.35E-07
Ru-106	2.76E-13	1.56E-10	2.09E-09	2.31E-13	2.66E-13	2.85E-13	2.94E-13
Cd-113m	3.51E-07	1.98E-04	2.65E-03	2.94E-07	3.39E-07	3.62E-07	3.74E-07
Sb-125	7.89E-08	4.46E-05	5.97E-04	6.62E-08	7.63E-08	8.16E-08	8.41E-08
Sn-126	3.61E-08	2.04E-05	2.73E-04	3.03E-08	3.49E-08	3.73E-08	3.85E-08
I-129	1.50E-09	8.47E-07	1.14E-05	1.26E-09	1.45E-09	1.55E-09	1.60E-09
Cs-134	1.65E-09	9.34E-07	1.25E-05	1.39E-09	1.60E-09	1.71E-09	1.76E-09
Cs-137	2.35E-03	1.33	17.8	1.97E-03	2.27E-03	2.43E-03	2.50E-03
Ba-137m	2.22E-03	1.26	16.8	1.87E-03	2.15E-03	2.30E-03	2.37E-03
Sm-151	8.47E-05	4.78E-02	0.641	7.10E-05	8.18E-05	8.75E-05	9.02E-05
Eu-152	1.75E-07	9.89E-05	1.33E-03	1.74E-07	1.75E-07	1.76E-07	1.76E-07
Eu-154	1.15E-06	6.48E-04	8.69E-03	9.63E-07	1.11E-06	1.19E-06	1.22E-06
Eu-155	8.33E-06	4.71E-03	6.31E-02	8.27E-06	8.32E-06	8.35E-06	8.36E-06
Ra-226	2.83E-12	1.60E-09	2.14E-08	2.37E-12	2.73E-12	2.92E-12	3.01E-12
Ra-228	2.92E-16	1.65E-13	2.21E-12	2.90E-16	2.91E-16	2.92E-16	2.93E-16
Ac-227	1.45E-11	8.19E-09	1.10E-07	1.22E-11	1.40E-11	1.50E-11	1.55E-11
Pa-231	3.44E-11	1.94E-08	2.60E-07	2.89E-11	3.32E-11	3.55E-11	3.67E-11
Th-229	4.13E-14	2.33E-11	3.12E-10	4.09E-14	4.12E-14	4.13E-14	4.14E-14
Th-232	4.04E-17	2.28E-14	3.05E-13	3.39E-17	3.90E-17	4.17E-17	4.30E-17
U-232	6.47E-10	3.65E-07	4.89E-06	5.62E-10	6.12E-10	6.72E-10	6.90E-10
U-233	2.39E-11	1.35E-08	1.81E-07	2.08E-11	2.26E-11	2.49E-11	2.55E-11
U-234	1.48E-05	8.36E-03	0.112	1.29E-05	1.40E-05	1.54E-05	1.58E-05
U-235	6.29E-07	3.55E-04	4.76E-03	5.46E-07	5.95E-07	6.53E-07	6.71E-07
U-236	3.26E-07	1.84E-04	2.47E-03	2.83E-07	3.08E-07	3.39E-07	3.48E-07
U-238	1.44E-05	8.14E-03	0.109	1.25E-05	1.36E-05	1.50E-05	1.54E-05
Np-237	5.48E-09	3.09E-06	4.15E-05	4.60E-09	5.30E-09	5.67E-09	5.84E-09
Pu-238	2.51E-05	1.42E-02	0.190	2.40E-05	2.45E-05	2.57E-05	2.62E-05
Pu-239	1.61E-03	0.908	12.2	1.54E-03	1.57E-03	1.64E-03	1.68E-03
Pu-240	2.27E-04	0.128	1.72	2.17E-04	2.22E-04	2.32E-04	2.37E-04
Pu-241	1.39E-03	0.782	10.5	1.32E-03	1.35E-03	1.42E-03	1.45E-03
Pu-242	5.88E-09	3.32E-06	4.45E-05	5.62E-09	5.75E-09	6.01E-09	6.14E-09
Am-241	4.09E-07	2.31E-04	3.09E-03	3.43E-07	3.95E-07	4.22E-07	4.36E-07
Am-243	3.73E-12	2.10E-09	2.82E-08	3.13E-12	3.60E-12	3.85E-12	3.97E-12
Cm-242	3.65E-09	2.06E-06	2.77E-05	3.62E-09	3.65E-09	3.66E-09	3.67E-09
Cm-243	8.34E-11	4.71E-08	6.31E-07	8.27E-11	8.32E-11	8.35E-11	8.36E-11
Cm-244	1.30E-10	7.33E-08	9.83E-07	1.09E-10	1.25E-10	1.34E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.69E-02 (g/L)	----	0.204	2.57E-02	2.63E-02	2.75E-02	2.81E-02
U	0.181	2.44E+04	327	0.158	0.172	0.188	0.194

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-U-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-U-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.72E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	1.88E-04 (kW)	(0.641 BTU/hr)	----	1.58E-04	1.81E-04	1.94E-04	2.00E-04
Bulk Density†	1.51 (g/cc)	----	----	1.32	1.38	1.61	1.68
Water wt%†	41.2	----	----	23.3	30.4	58.6	66.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.74E-07	4.45E-04	7.66E-03	4.22E-07	5.99E-07	7.52E-07	8.26E-07
C-14	7.27E-08	4.80E-05	8.26E-04	6.10E-08	7.03E-08	7.51E-08	7.75E-08
Ni-59	2.06E-08	1.36E-05	2.34E-04	1.73E-08	1.99E-08	3.06E-08	7.68E-08
Ni-63	1.93E-06	1.28E-03	2.20E-02	1.62E-06	1.87E-06	2.87E-06	7.20E-06
Co-60	3.14E-08	2.08E-05	3.57E-04	2.64E-08	3.04E-08	3.25E-08	3.35E-08
Se-79	1.58E-08	1.05E-05	1.80E-04	1.33E-08	1.53E-08	1.64E-08	1.69E-08
Sr-90	1.37E-03	0.902	15.5	1.15E-03	1.32E-03	1.41E-03	1.45E-03
Y-90	1.37E-03	0.902	15.5	1.15E-03	1.32E-03	1.41E-03	1.46E-03
Zr-93	7.49E-08	4.94E-05	8.50E-04	6.28E-08	7.24E-08	7.74E-08	7.98E-08
Nb-93m	6.08E-08	4.02E-05	6.91E-04	5.10E-08	5.88E-08	6.29E-08	6.48E-08
Tc-99	5.22E-07	3.45E-04	5.93E-03	4.38E-07	5.05E-07	5.40E-07	5.57E-07
Ru-106	1.84E-13	1.21E-10	2.09E-09	1.54E-13	1.78E-13	1.90E-13	1.96E-13
Cd-113m	2.34E-07	1.54E-04	2.65E-03	1.96E-07	2.26E-07	2.42E-07	2.49E-07
Sb-125	5.26E-08	3.47E-05	5.97E-04	4.41E-08	5.08E-08	5.44E-08	5.61E-08
Sn-126	2.41E-08	1.59E-05	2.73E-04	2.02E-08	2.33E-08	2.49E-08	2.57E-08
I-129	1.00E-09	6.60E-07	1.14E-05	8.39E-10	9.66E-10	1.03E-09	1.07E-09
Cs-134	1.10E-09	7.28E-07	1.25E-05	9.25E-10	1.07E-09	1.14E-09	1.18E-09
Cs-137	1.57E-03	1.03	17.8	1.31E-03	1.51E-03	1.62E-03	1.67E-03
Ba-137m	1.48E-03	0.979	16.8	1.24E-03	1.43E-03	1.53E-03	1.58E-03
Sm-151	5.64E-05	3.73E-02	0.641	4.74E-05	5.46E-05	5.83E-05	6.02E-05
Eu-152	1.17E-07	7.71E-05	1.33E-03	1.16E-07	1.17E-07	1.17E-07	1.17E-07
Eu-154	7.66E-07	5.06E-04	8.69E-03	6.42E-07	7.40E-07	7.91E-07	8.16E-07
Eu-155	5.56E-06	3.67E-03	6.31E-02	5.51E-06	5.55E-06	5.57E-06	5.58E-06
Ra-226	1.88E-12	1.24E-09	2.14E-08	1.58E-12	1.82E-12	1.95E-12	2.01E-12
Ra-228	1.95E-16	1.29E-13	2.21E-12	1.93E-16	1.94E-16	1.95E-16	1.95E-16
Ac-227	9.67E-12	6.38E-09	1.10E-07	8.11E-12	9.34E-12	9.99E-12	1.03E-11
Pa-231	2.29E-11	1.51E-08	2.60E-07	1.92E-11	2.22E-11	2.37E-11	2.44E-11
Th-229	2.75E-14	1.82E-11	3.12E-10	2.73E-14	2.75E-14	2.75E-14	2.76E-14
Th-232	2.69E-17	1.78E-14	3.05E-13	2.26E-17	2.60E-17	2.78E-17	2.87E-17
U-232	4.31E-10	2.85E-07	4.89E-06	3.74E-10	4.08E-10	4.48E-10	4.60E-10
U-233	1.60E-11	1.05E-08	1.81E-07	1.39E-11	1.51E-11	1.66E-11	1.70E-11
U-234	9.87E-06	6.52E-03	0.112	8.57E-06	9.33E-06	1.03E-05	1.05E-05
U-235	4.19E-07	2.77E-04	4.76E-03	3.64E-07	3.96E-07	4.36E-07	4.47E-07
U-236	2.17E-07	1.43E-04	2.47E-03	1.89E-07	2.05E-07	2.26E-07	2.32E-07
U-238	9.61E-06	6.35E-03	0.109	8.35E-06	9.09E-06	9.98E-06	1.03E-05
Np-237	3.65E-09	2.41E-06	4.15E-05	3.07E-09	3.53E-09	3.78E-09	3.90E-09
Pu-238	1.67E-05	1.11E-02	0.190	1.60E-05	1.64E-05	1.71E-05	1.75E-05
Pu-239	1.07E-03	0.708	12.2	1.02E-03	1.05E-03	1.10E-03	1.12E-03
Pu-240	1.51E-04	9.99E-02	1.72	1.45E-04	1.48E-04	1.55E-04	1.58E-04
Pu-241	9.24E-04	0.610	10.5	8.83E-04	9.03E-04	9.45E-04	9.65E-04
Pu-242	3.92E-09	2.59E-06	4.45E-05	3.75E-09	3.83E-09	4.01E-09	4.09E-09
Am-241	2.72E-07	1.80E-04	3.09E-03	2.29E-07	2.63E-07	2.82E-07	2.90E-07
Am-243	2.48E-12	1.64E-09	2.82E-08	2.08E-12	2.40E-12	2.57E-12	2.65E-12
Cm-242	2.44E-09	1.61E-06	2.77E-05	2.42E-09	2.43E-09	2.44E-09	2.44E-09
Cm-243	5.56E-11	3.67E-08	6.31E-07	5.51E-11	5.55E-11	5.57E-11	5.58E-11
Cm-244	8.66E-11	5.72E-08	9.83E-07	7.26E-11	8.37E-11	8.95E-11	9.23E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.79E-02 (g/L)	----	0.204	1.71E-02	1.75E-02	1.83E-02	1.87E-02
U	0.121	1.90E+04	327	0.105	0.114	0.126	0.129

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.32E+05 (kg)	(37.0 kgal)	----	----	----	----	----
Heat Load	6.66E-03 (kW)	(22.7 BTU/hr)	----	6.54E-03	6.60E-03	6.72E-03	6.77E-03
Bulk Density	1.66 (g/cc)	----	----	1.65	1.65	1.66	1.67
Void Fraction	0.743	----	----	0.730	0.736	0.750	0.756
Water wt%	47.9	----	----	47.6	47.8	48.0	48.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.59	2.21E+04	5.13E+03	1.50	1.55	1.63	1.66
Al^{3+}	5.54	9.02E+04	2.09E+04	5.53	5.54	5.55	5.55
Fe^{3+} (total Fe)	0.439	1.48E+04	3.43E+03	0.411	0.424	0.453	0.467
Cr^{3+}	2.28E-03	71.6	16.6	2.24E-03	2.26E-03	2.30E-03	2.32E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.04E-02	1.26E+03	293	1.04E-02	1.04E-02	1.04E-02	1.05E-02
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.308	3.85E+04	8.94E+03	0.285	0.296	0.320	0.331
Ni^{2+}	1.14E-03	40.4	9.38	1.12E-03	1.13E-03	1.17E-03	1.22E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.309	7.48E+03	1.74E+03	0.198	0.253	0.366	0.420
K^+	2.55E-03	60.3	14.0	2.51E-03	2.53E-03	2.58E-03	2.60E-03
OH^-	22.4	2.30E+05	5.33E+04	22.3	22.3	22.4	22.5
$NO3^-$	0.620	2.32E+04	5.38E+03	0.609	0.615	0.626	0.631
$NO2^-$	0.231	6.42E+03	1.49E+03	0.227	0.229	0.234	0.236
$CO3^{2-}$	0.407	1.47E+04	3.42E+03	0.296	0.350	0.464	0.518
$PO4^{3-}$	2.16E-02	1.24E+03	288	9.29E-03	1.58E-02	2.66E-02	3.07E-02
$SO4^{2-}$	1.40E-02	810	188	1.33E-02	1.36E-02	1.43E-02	1.46E-02
Si (as SiO_x^{2-})	9.22E-05	1.56	0.363	7.88E-05	8.55E-05	9.87E-05	1.05E-04
F^-	0	0	0	0	0	0	0
Cl^-	1.18E-02	251	58.3	1.15E-02	1.16E-02	1.19E-02	1.20E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	8.42E-05	0.863	0.200	7.95E-05	8.18E-05	8.66E-05	8.90E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+05 (kg)	(65.0 kgal)	----	----	----	----	----
Heat Load	2.96E-02 (kW)	(101 BTU/hr)	----	2.43E-02	2.71E-02	3.08E-02	3.20E-02
Bulk Density*	1.04 (g/cc)	----	----	1.03	1.04	1.05	1.05
Water wt%	92.5	----	----	91.4	91.9	93.2	93.9
TOC wt% C (wet)	9.14E-02	----	----	7.85E-02	8.48E-02	9.79E-02	0.104

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.06	2.33E+04	5.99E+03	0.847	0.954	1.15	1.23
Al^{3+}	9.11E-02	2.36E+03	605	7.57E-02	8.43E-02	9.82E-02	0.105
Fe^{3+} (total Fe)	1.03E-03	55.1	14.1	6.81E-04	8.51E-04	1.21E-03	1.38E-03
Cr^{3+}	9.53E-03	475	122	7.36E-03	8.49E-03	1.02E-02	1.07E-02
Bi^{3+}	2.79E-04	56.0	14.4	2.54E-04	2.66E-04	2.92E-04	3.04E-04
La^{3+}	1.55E-04	20.6	5.28	1.12E-04	1.33E-04	1.76E-04	1.97E-04
Hg^{2+}	3.82E-07	7.34E-02	1.88E-02	3.64E-07	3.72E-07	3.90E-07	3.98E-07
Zr (as $ZrO(OH)_2$)	8.87E-06	0.776	0.199	7.42E-06	8.11E-06	9.66E-06	1.05E-05
Pb^{2+}	3.50E-05	6.96	1.78	2.43E-05	2.95E-05	4.05E-05	4.57E-05
Ni^{2+}	4.69E-04	26.4	6.78	4.44E-04	4.56E-04	4.82E-04	4.95E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.55E-04	39.8	10.2	5.88E-04	6.70E-04	8.40E-04	9.22E-04
Ca^{2+}	2.41E-03	92.7	23.8	1.91E-03	2.16E-03	2.67E-03	2.91E-03
K^+	1.39E-02	521	134	1.13E-02	1.26E-02	1.52E-02	1.65E-02
OH^-	0.628	1.02E+04	2.63E+03	0.517	0.575	0.682	0.734
$NO3^-$	0.354	2.11E+04	5.40E+03	0.310	0.336	0.364	0.373
$NO2^-$	0.181	7.98E+03	2.05E+03	0.109	0.142	0.218	0.253
$CO3^{2-}$	4.54E-02	2.61E+03	670	3.93E-02	4.23E-02	4.85E-02	5.06E-02
$PO4^{3-}$	7.17E-03	653	167	6.71E-03	6.94E-03	7.35E-03	7.53E-03
$SO4^{2-}$	2.27E-02	2.10E+03	537	1.35E-02	1.79E-02	2.77E-02	3.21E-02
Si (as SiO_x^{2-})	7.26E-03	196	50.2	4.87E-03	6.05E-03	8.49E-03	9.66E-03
F^-	1.43E-02	261	67.0	1.12E-02	1.28E-02	1.56E-02	1.56E-02
Cl^-	1.81E-02	615	158	1.40E-02	1.61E-02	2.00E-02	2.16E-02
$C_6H_5O_7^{3-}$	4.62E-03	838	215	4.27E-03	4.44E-03	4.80E-03	4.97E-03
$EDTA^{4-}$	7.32E-05	20.2	5.19	1.96E-05	4.58E-05	1.01E-04	1.28E-04
$HEDTA^{3-}$	1.45E-04	38.0	9.75	3.83E-05	9.02E-05	1.99E-04	2.53E-04
$glycolate^-$	9.32E-03	670	172	4.72E-03	6.97E-03	1.17E-02	1.39E-02
$acetate^-$	1.13E-05	0.641	0.164	9.21E-06	1.02E-05	1.24E-05	1.34E-05
$oxalate^{2-}$	2.02E-04	17.1	4.38	1.79E-04	1.91E-04	2.14E-04	2.26E-04
DBP	2.54E-03	512	131	1.95E-03	2.24E-03	2.83E-03	3.11E-03
butanol	2.54E-03	180	46.3	1.95E-03	2.24E-03	2.83E-03	3.11E-03
NH_3	6.07E-03	99.0	25.4	3.38E-03	4.44E-03	8.15E-03	1.06E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.89E+05 (kg)	(102 kgal)	----	----	----	----	----
Heat Load	3.63E-02 (kW)	(124 BTU/hr)	----	3.10E-02	3.38E-02	3.75E-02	3.86E-02
Bulk Density†	1.27 (g/cc)	----	----	1.26	1.26	1.27	1.27
Water wt%†	71.3	----	----	70.8	71.1	71.6	72.0
TOC wt% C (wet)†	4.80E-02	----	----	4.10E-02	4.45E-02	5.15E-02	5.48E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.25	2.27E+04	1.11E+04	1.12	1.19	1.31	1.36
Al^{3+}	2.07	4.41E+04	2.15E+04	2.06	2.06	2.07	2.08
Fe^{3+} (total Fe)	0.160	7.05E+03	3.45E+03	0.150	0.155	0.165	0.170
Cr^{3+}	6.90E-03	283	138	5.52E-03	6.24E-03	7.32E-03	7.64E-03
Bi^{3+}	1.78E-04	29.4	14.4	1.62E-04	1.70E-04	1.86E-04	1.94E-04
La^{3+}	9.85E-05	10.8	5.28	7.13E-05	8.46E-05	1.12E-04	1.26E-04
Hg^{2+}	3.78E-03	599	293	3.77E-03	3.78E-03	3.79E-03	3.79E-03
Zr (as $ZrO(OH)_2$)	5.65E-06	0.408	0.199	4.73E-06	5.17E-06	6.16E-06	6.67E-06
Pb^{2+}	0.112	1.83E+04	8.94E+03	0.103	0.108	0.116	0.120
Ni^{2+}	7.13E-04	33.1	16.2	6.97E-04	7.05E-04	7.24E-04	7.42E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.81E-04	20.9	10.2	3.74E-04	4.27E-04	5.35E-04	5.87E-04
Ca^{2+}	0.114	3.60E+03	1.76E+03	7.35E-02	9.32E-02	0.134	0.154
K^+	9.78E-03	302	148	8.13E-03	8.94E-03	1.06E-02	1.14E-02
OH^-	8.52	1.14E+05	5.59E+04	8.45	8.49	8.55	8.59
$NO3^-$	0.451	2.21E+04	1.08E+04	0.423	0.439	0.457	0.463
$NO2^-$	0.199	7.24E+03	3.54E+03	0.154	0.175	0.223	0.245
$CO3^{2-}$	0.176	8.37E+03	4.09E+03	0.136	0.156	0.197	0.217
$PO4^{3-}$	1.24E-02	931	455	7.94E-03	1.03E-02	1.42E-02	1.57E-02
$SO4^{2-}$	1.96E-02	1.48E+03	725	1.37E-02	1.65E-02	2.27E-02	2.55E-02
Si (as SiO_x^{2-})	4.66E-03	103	50.6	3.14E-03	3.89E-03	5.44E-03	6.19E-03
F^-	9.13E-03	137	67.0	7.17E-03	8.13E-03	9.93E-03	9.93E-03
Cl^-	1.58E-02	442	216	1.32E-02	1.45E-02	1.70E-02	1.80E-02
$C_6H_5O_7^{3-}$	2.94E-03	440	215	2.72E-03	2.83E-03	3.06E-03	3.16E-03
$EDTA^{4-}$	4.66E-05	10.6	5.19	1.25E-05	2.92E-05	6.42E-05	8.13E-05
$HEDTA^{3-}$	9.21E-05	20.0	9.75	2.44E-05	5.75E-05	1.27E-04	1.61E-04
$glycolate^-$	5.94E-03	352	172	3.01E-03	4.44E-03	7.44E-03	8.87E-03
$acetate^-$	7.21E-06	0.336	0.164	5.87E-06	6.53E-06	7.90E-06	8.56E-06
$oxalate^{2-}$	1.29E-04	8.97	4.38	1.14E-04	1.21E-04	1.37E-04	1.44E-04
DBP	1.62E-03	269	131	1.24E-03	1.43E-03	1.80E-03	1.98E-03
butanol	1.62E-03	94.7	46.3	1.24E-03	1.43E-03	1.80E-03	1.98E-03
NH_3	3.90E-03	52.4	25.6	2.18E-03	2.86E-03	5.22E-03	6.77E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.32E+05 (kg)	(37.0 kgal)	----	----	----	----	----
Heat Load	6.66E-03 (kW)	(22.7 BTU/hr)	----	6.54E-03	6.60E-03	6.72E-03	6.77E-03
Bulk Density	1.66 (g/cc)	----	----	1.65	1.65	1.66	1.67
Void Fraction	0.743	----	----	0.730	0.736	0.750	0.756
Water wt%	47.9	----	----	47.6	47.8	48.0	48.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.23E-06	7.43E-04	0.172	1.21E-06	1.22E-06	1.24E-06	1.25E-06
C-14	2.87E-07	1.73E-04	4.01E-02	2.43E-07	2.66E-07	3.04E-07	3.18E-07
Ni-59	4.46E-08	2.69E-05	6.24E-03	4.39E-08	4.42E-08	4.88E-08	5.57E-08
Ni-63	4.37E-06	2.64E-03	0.612	4.30E-06	4.33E-06	4.74E-06	5.34E-06
Co-60	1.62E-07	9.79E-05	2.27E-02	1.59E-07	1.61E-07	1.64E-07	1.65E-07
Se-79	4.05E-08	2.44E-05	5.67E-03	3.98E-08	4.01E-08	4.08E-08	4.11E-08
Sr-90	3.95E-03	2.38	553	3.88E-03	3.91E-03	3.98E-03	4.02E-03
Y-90	3.95E-03	2.38	553	3.88E-03	3.91E-03	3.98E-03	4.02E-03
Zr-93	1.94E-07	1.17E-04	2.72E-02	1.91E-07	1.93E-07	1.96E-07	1.97E-07
Nb-93m	1.48E-07	8.91E-05	2.07E-02	1.45E-07	1.46E-07	1.49E-07	1.50E-07
Tc-99	1.35E-06	8.12E-04	0.189	1.32E-06	1.33E-06	1.36E-06	1.37E-06
Ru-106	4.48E-11	2.70E-08	6.27E-06	4.40E-11	4.44E-11	4.52E-11	4.56E-11
Cd-113m	7.27E-07	4.38E-04	0.102	7.14E-07	7.20E-07	7.33E-07	7.39E-07
Sb-125	6.82E-07	4.11E-04	9.55E-02	6.70E-07	6.76E-07	6.88E-07	6.94E-07
Sn-126	5.78E-08	3.49E-05	8.10E-03	5.69E-08	5.73E-08	5.83E-08	5.88E-08
I-129	2.52E-09	1.52E-06	3.53E-04	2.48E-09	2.50E-09	2.54E-09	2.56E-09
Cs-134	3.46E-08	2.09E-05	4.85E-03	3.40E-08	3.43E-08	3.49E-08	3.52E-08
Cs-137	4.47E-03	2.70	626	4.39E-03	4.43E-03	4.51E-03	4.55E-03
Ba-137m	4.23E-03	2.55	592	4.15E-03	4.19E-03	4.27E-03	4.30E-03
Sm-151	1.46E-04	8.81E-02	20.4	1.44E-04	1.45E-04	1.47E-04	1.48E-04
Eu-152	1.25E-06	7.53E-04	0.175	1.25E-06	1.25E-06	1.25E-06	1.25E-06
Eu-154	3.68E-06	2.22E-03	0.516	3.62E-06	3.65E-06	3.71E-06	3.75E-06
Eu-155	7.44E-05	4.49E-02	10.4	7.44E-05	7.44E-05	7.45E-05	7.45E-05
Ra-226	1.02E-11	6.15E-09	1.43E-06	4.41E-12	4.41E-12	1.91E-11	2.76E-11
Ra-228	2.45E-15	1.48E-12	3.44E-10	2.45E-15	2.45E-15	2.45E-15	2.45E-15
Ac-227	3.21E-11	1.94E-08	4.49E-06	2.18E-11	2.18E-11	8.37E-11	1.33E-10
Pa-231	5.44E-11	3.28E-08	7.61E-06	5.19E-11	5.31E-11	5.56E-11	1.42E-10
Th-229	1.51E-13	9.08E-11	2.11E-08	1.50E-13	1.51E-13	1.51E-13	1.51E-13
Th-232	1.56E-16	9.39E-14	2.18E-11	1.53E-16	1.54E-16	1.57E-16	1.58E-16
U-232	3.61E-09	2.18E-06	5.06E-04	3.52E-09	3.56E-09	3.66E-09	3.71E-09
U-233	1.09E-10	6.60E-08	1.53E-05	1.06E-10	1.08E-10	1.11E-10	1.12E-10
U-234	6.04E-05	3.64E-02	8.45	5.89E-05	5.96E-05	6.11E-05	6.18E-05
U-235	2.34E-06	1.41E-03	0.328	2.29E-06	2.31E-06	2.37E-06	2.40E-06
U-236	3.52E-06	2.12E-03	0.493	3.42E-06	3.47E-06	3.57E-06	3.61E-06
U-238	4.43E-05	2.67E-02	6.20	4.33E-05	4.38E-05	4.48E-05	4.53E-05
Np-237	1.35E-08	8.17E-06	1.90E-03	1.33E-08	1.34E-08	1.37E-08	1.38E-08
Pu-238	1.78E-04	0.107	24.9	1.70E-04	1.74E-04	1.81E-04	1.85E-04
Pu-239	4.93E-03	2.98	691	4.73E-03	4.83E-03	5.03E-03	5.13E-03
Pu-240	8.15E-04	0.492	114	7.82E-04	7.98E-04	8.32E-04	8.48E-04
Pu-241	7.25E-03	4.38	1.02E+03	6.96E-03	7.10E-03	7.40E-03	7.54E-03
Pu-242	1.92E-08	1.16E-05	2.68E-03	1.84E-08	1.88E-08	1.95E-08	1.99E-08
Am-241	7.34E-07	4.43E-04	0.103	7.20E-07	7.27E-07	7.40E-07	7.47E-07
Am-243	5.88E-12	3.55E-09	8.24E-07	5.78E-12	5.83E-12	5.94E-12	5.99E-12
Cm-242	1.25E-08	7.55E-06	1.75E-03	1.25E-08	1.25E-08	1.25E-08	1.25E-08
Cm-243	2.88E-10	1.74E-07	4.03E-05	2.88E-10	2.88E-10	2.88E-10	2.88E-10
Cm-244	1.83E-10	1.11E-07	2.57E-05	1.80E-10	1.82E-10	1.85E-10	1.87E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.30E-02 (g/L)	----	11.6	7.97E-02	8.13E-02	8.47E-02	8.63E-02
U	0.558	8.01E+04	1.86E+04	0.545	0.552	0.565	0.571

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+05 (kg)	(65.0 kgal)	----	----	----	----	----
Heat Load	2.96E-02 (kW)	(101 BTU/hr)	----	2.43E-02	2.71E-02	3.08E-02	3.20E-02
Bulk Density*	1.04 (g/cc)	----	----	1.03	1.04	1.05	1.05
Water wt%†	92.5	----	----	91.4	91.9	93.2	93.9
TOC wt% C (wet)	9.14E-02	----	----	7.85E-02	8.48E-02	9.79E-02	0.104

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.44E-05	2.34E-02	6.01	3.14E-06	3.14E-06	2.51E-05	2.58E-05
C-14	4.64E-06	4.45E-03	1.14	1.80E-07	1.80E-07	4.66E-06	4.67E-06
Ni-59	2.32E-07	2.23E-04	5.71E-02	2.26E-08	2.26E-08	2.43E-07	2.53E-07
Ni-63	2.29E-05	2.20E-02	5.64	2.21E-06	2.21E-06	2.40E-05	2.50E-05
Co-60	5.36E-06	5.14E-03	1.32	2.57E-07	2.57E-07	5.40E-06	5.44E-06
Se-79	3.50E-07	3.36E-04	8.62E-02	6.58E-08	6.58E-08	4.53E-07	5.52E-07
Sr-90	1.19E-02	11.4	2.93E+03	1.05E-02	1.12E-02	1.26E-02	1.33E-02
Y-90	1.19E-02	11.4	2.93E+03	2.07E-03	2.07E-03	1.26E-02	1.33E-02
Zr-93	1.73E-06	1.66E-03	0.425	3.04E-07	3.04E-07	2.24E-06	2.74E-06
Nb-93m	1.23E-06	1.18E-03	0.303	2.37E-07	2.37E-07	1.59E-06	1.94E-06
Tc-99	3.27E-05	3.14E-02	8.05	1.61E-05	2.42E-05	4.13E-05	4.95E-05
Ru-106	8.94E-10	8.57E-07	2.20E-04	2.35E-10	2.35E-10	1.04E-09	1.18E-09
Cd-113m	9.71E-06	9.31E-03	2.39	1.17E-06	1.17E-06	1.28E-05	1.58E-05
Sb-125	2.34E-05	2.24E-02	5.76	1.33E-06	1.33E-06	2.37E-05	2.39E-05
Sn-126	5.29E-07	5.08E-04	0.130	1.03E-07	1.03E-07	6.84E-07	8.32E-07
I-129	6.32E-08	6.06E-05	1.56E-02	3.11E-08	4.68E-08	7.98E-08	9.57E-08
Cs-134	6.20E-08	5.94E-05	1.52E-02	2.06E-08	2.06E-08	6.29E-08	6.21E-08
Cs-137	8.63E-03	8.27	2.12E+03	5.37E-03	6.50E-03	8.87E-03	1.00E-02
Ba-137m	8.16E-03	7.83	2.01E+03	2.81E-03	2.81E-03	8.26E-03	8.26E-03
Sm-151	1.23E-03	1.18	303	2.37E-04	2.37E-04	1.59E-03	1.94E-03
Eu-152	4.09E-07	3.92E-04	0.101	5.65E-08	5.65E-08	4.21E-07	4.33E-07
Eu-154	7.82E-05	7.50E-02	19.2	7.13E-06	7.13E-06	1.04E-04	1.14E-04
Eu-155	2.41E-05	2.31E-02	5.94	3.15E-06	3.15E-06	2.48E-05	2.55E-05
Ra-226	1.24E-11	1.19E-08	3.05E-06	3.58E-12	3.58E-12	1.56E-11	1.87E-11
Ra-228	2.64E-10	2.53E-07	6.48E-05	1.10E-10	1.10E-10	2.93E-10	3.25E-10
Ac-227	7.32E-11	7.02E-08	1.80E-05	2.20E-11	2.20E-11	9.17E-11	1.10E-10
Pa-231	3.57E-10	3.42E-07	8.78E-05	7.27E-11	7.27E-11	4.60E-10	5.59E-10
Th-229	1.23E-11	1.18E-08	3.03E-06	5.38E-12	5.38E-12	1.34E-11	1.44E-11
Th-232	8.73E-11	8.37E-08	2.15E-05	2.38E-11	2.38E-11	9.24E-11	9.73E-11
U-232	1.01E-08	9.65E-06	2.48E-03	8.83E-09	9.38E-09	1.09E-08	1.18E-08
U-233	3.90E-08	3.74E-05	9.59E-03	3.42E-08	3.63E-08	4.21E-08	4.58E-08
U-234	6.10E-08	5.85E-05	1.50E-02	5.62E-08	5.86E-08	6.34E-08	6.58E-08
U-235	2.53E-09	2.43E-06	6.23E-04	2.33E-09	2.43E-09	2.63E-09	2.73E-09
U-236	1.82E-09	1.75E-06	4.48E-04	1.68E-09	1.75E-09	1.89E-09	1.96E-09
U-238	5.86E-08	5.62E-05	1.44E-02	5.40E-08	5.63E-08	6.08E-08	6.31E-08
Np-237	1.12E-07	1.07E-04	2.75E-02	5.77E-08	8.42E-08	1.40E-07	1.67E-07
Pu-238	1.69E-07	1.62E-04	4.16E-02	1.05E-07	1.37E-07	2.02E-07	2.33E-07
Pu-239	5.30E-06	5.08E-03	1.30	3.66E-06	4.46E-06	6.13E-06	6.92E-06
Pu-240	9.22E-07	8.84E-04	0.227	6.18E-07	7.67E-07	1.08E-06	1.23E-06
Pu-241	1.17E-05	1.12E-02	2.88	7.34E-06	9.47E-06	1.39E-05	1.60E-05
Pu-242	6.60E-11	6.33E-08	1.62E-05	4.01E-11	5.28E-11	7.93E-11	9.20E-11
Am-241	5.80E-06	5.56E-03	1.43	2.78E-06	4.26E-06	7.35E-06	8.83E-06
Am-243	2.37E-10	2.27E-07	5.82E-05	1.42E-10	1.87E-10	2.87E-10	3.36E-10
Cm-242	1.72E-08	1.65E-05	4.23E-03	2.73E-09	2.73E-09	1.78E-08	1.84E-08
Cm-243	1.67E-09	1.60E-06	4.10E-04	2.87E-10	2.87E-10	1.73E-09	1.80E-09
Cm-244	1.88E-08	1.81E-05	4.64E-03	4.63E-09	4.63E-09	2.37E-08	2.67E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.64E-05 (g/L)	----	1.39E-02	2.55E-05	4.07E-05	7.21E-05	8.71E-05
U	7.23E-04	165	42.3	6.66E-04	6.94E-04	7.51E-04	7.80E-04

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.89E+05 (kg)	(102 kgal)	----	----	----	----	----
Heat Load	3.63E-02 (kW)	(124 BTU/hr)	----	3.10E-02	3.38E-02	3.75E-02	3.86E-02
Bulk Density†	1.27 (g/cc)	----	----	1.26	1.26	1.27	1.27
Water wt%†	71.3	----	----	70.8	71.1	71.6	72.0
TOC wt% C (wet)†	4.80E-02	----	----	4.10E-02	4.45E-02	5.15E-02	5.48E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.60E-05	1.27E-02	6.18	2.45E-06	2.45E-06	1.64E-05	1.69E-05
C-14	3.06E-06	2.42E-03	1.18	2.19E-07	2.19E-07	3.07E-06	3.08E-06
Ni-59	1.64E-07	1.30E-04	6.33E-02	3.06E-08	3.06E-08	1.71E-07	1.77E-07
Ni-63	1.62E-05	1.28E-02	6.26	3.00E-06	3.00E-06	1.69E-05	1.75E-05
Co-60	3.47E-06	2.74E-03	1.34	2.23E-07	2.23E-07	3.50E-06	3.53E-06
Se-79	2.38E-07	1.88E-04	9.18E-02	5.66E-08	5.66E-08	3.03E-07	3.66E-07
Sr-90	9.01E-03	7.12	3.48E+03	8.12E-03	8.55E-03	9.46E-03	9.90E-03
Y-90	9.01E-03	7.12	3.48E+03	2.75E-03	2.75E-03	9.47E-03	9.90E-03
Zr-93	1.17E-06	9.25E-04	0.452	2.64E-07	2.64E-07	1.50E-06	1.81E-06
Nb-93m	8.39E-07	6.63E-04	0.324	2.04E-07	2.04E-07	1.07E-06	1.29E-06
Tc-99	2.13E-05	1.69E-02	8.24	1.08E-05	1.59E-05	2.68E-05	3.21E-05
Ru-106	5.86E-10	4.63E-07	2.26E-04	1.66E-10	1.66E-10	6.80E-10	7.65E-10
Cd-113m	6.45E-06	5.09E-03	2.49	1.01E-06	1.01E-06	8.42E-06	1.03E-05
Sb-125	1.52E-05	1.20E-02	5.85	1.09E-06	1.09E-06	1.53E-05	1.55E-05
Sn-126	3.58E-07	2.83E-04	0.138	8.64E-08	8.64E-08	4.57E-07	5.51E-07
I-129	4.12E-08	3.25E-05	1.59E-02	2.07E-08	3.07E-08	5.17E-08	6.19E-08
Cs-134	5.21E-08	4.11E-05	2.01E-02	2.57E-08	2.57E-08	5.27E-08	5.23E-08
Cs-137	7.12E-03	5.62	2.75E+03	5.04E-03	5.76E-03	7.28E-03	8.01E-03
Ba-137m	6.73E-03	5.32	2.60E+03	3.32E-03	3.32E-03	6.80E-03	6.79E-03
Sm-151	8.38E-04	0.662	324	2.04E-04	2.04E-04	1.07E-03	1.29E-03
Eu-152	7.14E-07	5.64E-04	0.275	4.89E-07	4.89E-07	7.21E-07	7.29E-07
Eu-154	5.12E-05	4.04E-02	19.8	5.88E-06	5.88E-06	6.76E-05	7.41E-05
Eu-155	4.24E-05	3.35E-02	16.4	2.90E-05	2.90E-05	4.28E-05	4.32E-05
Ra-226	1.16E-11	9.16E-09	4.48E-06	5.98E-12	5.98E-12	1.48E-11	1.79E-11
Ra-228	1.68E-10	1.33E-07	6.48E-05	7.01E-11	7.01E-11	1.87E-10	2.07E-10
Ac-227	5.83E-11	4.61E-08	2.25E-05	2.57E-11	2.57E-11	7.70E-11	9.50E-11
Pa-231	2.47E-10	1.95E-07	9.55E-05	6.60E-11	6.60E-11	3.13E-10	3.76E-10
Th-229	7.90E-12	6.24E-09	3.05E-06	3.48E-12	3.48E-12	8.59E-12	9.26E-12
Th-232	5.56E-11	4.39E-08	2.15E-05	1.52E-11	1.52E-11	5.89E-11	6.20E-11
U-232	7.72E-09	6.10E-06	2.98E-03	6.94E-09	7.29E-09	8.24E-09	8.85E-09
U-233	2.49E-08	1.97E-05	9.60E-03	2.18E-08	2.32E-08	2.69E-08	2.92E-08
U-234	2.19E-05	1.73E-02	8.47	2.14E-05	2.17E-05	2.22E-05	2.25E-05
U-235	8.51E-07	6.72E-04	0.328	8.31E-07	8.40E-07	8.61E-07	8.70E-07
U-236	1.28E-06	1.01E-03	0.493	1.24E-06	1.26E-06	1.30E-06	1.31E-06
U-238	1.61E-05	1.27E-02	6.21	1.57E-05	1.59E-05	1.63E-05	1.65E-05
Np-237	7.63E-08	6.03E-05	2.94E-02	4.17E-08	5.86E-08	9.41E-08	1.11E-07
Pu-238	6.45E-05	5.10E-02	24.9	6.19E-05	6.32E-05	6.58E-05	6.71E-05
Pu-239	1.79E-03	1.42	692	1.72E-03	1.76E-03	1.83E-03	1.86E-03
Pu-240	2.96E-04	0.234	114	2.84E-04	2.90E-04	3.02E-04	3.08E-04
Pu-241	2.64E-03	2.08	1.02E+03	2.53E-03	2.58E-03	2.69E-03	2.74E-03
Pu-242	6.99E-09	5.52E-06	2.70E-03	6.71E-09	6.85E-09	7.13E-09	7.27E-09
Am-241	3.96E-06	3.13E-03	1.53	2.04E-06	2.98E-06	4.95E-06	5.89E-06
Am-243	1.53E-10	1.21E-07	5.90E-05	9.24E-11	1.21E-10	1.85E-10	2.16E-10
Cm-242	1.55E-08	1.22E-05	5.98E-03	6.28E-09	6.28E-09	1.59E-08	1.63E-08
Cm-243	1.17E-09	9.22E-07	4.50E-04	2.88E-10	2.88E-10	1.21E-09	1.25E-09
Cm-244	1.21E-08	9.54E-06	4.66E-03	3.02E-09	3.02E-09	1.51E-08	1.71E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.01E-02 (g/L)	----	11.6	2.89E-02	2.95E-02	3.08E-02	3.13E-02
U	0.203	3.82E+04	1.86E+04	0.198	0.201	0.205	0.208

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.10E+05 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	1.61E-03 (kW)	(5.51 BTU/hr)	----	6.13E-04	1.12E-03	2.11E-03	2.60E-03
Bulk Density	1.54 (g/cc)	----	----	1.36	1.46	1.59	1.62
Void Fraction	0.724	----	----	0.709	0.714	0.745	0.767
Water wt%	50.8	----	----	47.3	48.8	53.8	58.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.64	2.46E+04	2.71E+03	0.866	1.26	2.03	2.40
Al^{3+}	5.24	9.21E+04	1.02E+04	4.94	5.09	5.39	5.54
Fe^{3+} (total Fe)	0.422	1.53E+04	1.69E+03	0.266	0.386	0.438	0.448
Cr^{3+}	2.23E-03	75.6	8.35	7.72E-04	1.51E-03	2.96E-03	3.67E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.29E-03	691	76.3	4.52E-03	5.11E-03	5.37E-03	5.42E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.291	3.93E+04	4.34E+03	0.167	0.263	0.305	0.313
Ni^{2+}	1.12E-03	42.7	4.72	3.86E-04	7.54E-04	7.90E-03	1.62E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.296	7.73E+03	854	1.26E-02	0.137	0.371	0.412
K^{+}	1.75E-03	44.4	4.91	5.47E-04	1.15E-03	2.34E-03	2.92E-03
OH^{-}	20.0	2.22E+05	2.45E+04	17.2	18.9	20.9	21.7
$NO3^{-}$	0.470	1.90E+04	2.10E+03	0.149	0.311	0.628	0.778
$NO2^{-}$	0.201	6.03E+03	666	5.92E-02	0.130	0.275	0.349
$CO3^{2-}$	0.486	1.90E+04	2.10E+03	0.203	0.327	0.561	0.602
$PO4^{3-}$	4.21E-02	2.60E+03	288	1.81E-02	3.07E-02	5.18E-02	5.97E-02
$SO4^{2-}$	1.81E-02	1.13E+03	125	1.21E-02	1.51E-02	2.11E-02	2.40E-02
Si (as SiO_x^{2-})	1.80E-04	3.29	0.363	1.53E-04	1.66E-04	1.92E-04	2.04E-04
F^{-}	0	0	0	0	0	0	0
Cl^{-}	8.03E-03	185	20.5	2.52E-03	5.29E-03	1.08E-02	1.34E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.88E-05	0.319	3.52E-02	2.76E-06	1.24E-05	5.26E-05	8.29E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.92E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.60E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	1.61E-03 (kW)	(5.51 BTU/hr)	----	6.13E-04	1.12E-03	2.11E-03	2.60E-03
Bulk Density†	1.32 (g/cc)	----	----	1.22	1.27	1.35	1.37
Water wt%†	66.0	----	----	62.9	64.2	68.6	72.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.974	1.70E+04	2.71E+03	0.514	0.746	1.20	1.42
Al^{3+}	3.11	6.37E+04	1.02E+04	2.93	3.02	3.20	3.29
Fe^{3+} (total Fe)	0.250	1.06E+04	1.69E+03	0.158	0.229	0.260	0.266
Cr^{3+}	1.33E-03	52.3	8.35	4.59E-04	8.95E-04	1.76E-03	2.18E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	3.14E-03	478	76.3	2.68E-03	3.04E-03	3.19E-03	3.22E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.173	2.72E+04	4.34E+03	9.94E-02	0.156	0.181	0.186
Ni^{2+}	6.63E-04	29.5	4.72	2.29E-04	4.48E-04	4.69E-03	9.62E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.176	5.35E+03	854	7.48E-03	8.11E-02	0.220	0.245
K^{+}	1.04E-03	30.7	4.91	3.25E-04	6.83E-04	1.39E-03	1.73E-03
OH^{-}	11.9	1.53E+05	2.45E+04	10.2	11.2	12.4	12.9
$NO3^{-}$	0.279	1.31E+04	2.10E+03	8.82E-02	0.185	0.373	0.462
$NO2^{-}$	0.120	4.17E+03	666	3.51E-02	7.70E-02	0.163	0.207
$CO3^{2-}$	0.289	1.31E+04	2.10E+03	0.120	0.194	0.333	0.358
$PO4^{3-}$	2.50E-02	1.80E+03	288	1.07E-02	1.82E-02	3.08E-02	3.54E-02
$SO4^{2-}$	1.08E-02	784	125	7.18E-03	8.98E-03	1.25E-02	1.43E-02
Si (as SiO_x^{2-})	1.07E-04	2.27	0.363	9.11E-05	9.89E-05	1.14E-04	1.21E-04
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.77E-03	128	20.5	1.49E-03	3.14E-03	6.40E-03	7.98E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.71E-05	0.220	3.52E-02	1.64E-06	7.39E-06	3.12E-05	4.92E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.10E+05 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	1.61E-03 (kW)	(5.51 BTU/hr)	----	6.13E-04	1.12E-03	2.11E-03	2.60E-03
Bulk Density	1.54 (g/cc)	----	----	1.36	1.46	1.59	1.62
Void Fraction	0.724	----	----	0.709	0.714	0.745	0.767
Water wt%	50.8	----	----	47.3	48.8	53.8	58.5
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.95E-07	3.88E-04	4.28E-02	1.42E-07	3.05E-07	1.01E-06	1.54E-06
C-14	3.56E-07	2.32E-04	2.56E-02	2.71E-07	3.17E-07	3.90E-07	4.18E-07
Ni-59	2.97E-08	1.94E-05	2.14E-03	1.60E-08	2.29E-08	1.57E-07	3.13E-07
Ni-63	2.86E-06	1.86E-03	0.206	1.48E-06	2.18E-06	1.57E-05	3.13E-05
Co-60	1.06E-07	6.91E-05	7.63E-03	3.54E-08	7.10E-08	1.41E-07	1.76E-07
Se-79	2.29E-08	1.49E-05	1.65E-03	1.21E-08	1.75E-08	2.83E-08	3.35E-08
Sr-90	1.85E-03	1.21	133	7.04E-04	1.28E-03	2.43E-03	2.98E-03
Y-90	1.85E-03	1.21	133	7.05E-04	1.28E-03	2.43E-03	2.98E-03
Zr-93	1.08E-07	7.05E-05	7.79E-03	5.75E-08	8.31E-08	1.34E-07	1.58E-07
Nb-93m	8.38E-08	5.46E-05	6.03E-03	4.67E-08	6.53E-08	1.02E-07	1.20E-07
Tc-99	7.56E-07	4.93E-04	5.44E-02	3.99E-07	5.79E-07	9.35E-07	1.11E-06
Ru-106	1.67E-10	1.09E-07	1.20E-05	5.03E-11	1.09E-10	2.26E-10	2.82E-10
Cd-113m	4.25E-07	2.77E-04	3.06E-02	1.78E-07	3.02E-07	5.48E-07	6.67E-07
Sb-125	5.54E-07	3.61E-04	3.98E-02	1.68E-07	3.62E-07	7.46E-07	9.32E-07
Sn-126	3.47E-08	2.26E-05	2.50E-03	1.82E-08	2.65E-08	4.29E-08	5.09E-08
I-129	1.44E-09	9.39E-07	1.04E-04	7.54E-10	1.10E-09	1.79E-09	2.12E-09
Cs-134	3.66E-08	2.38E-05	2.63E-03	1.10E-08	2.39E-08	4.93E-08	6.16E-08
Cs-137	2.13E-03	1.39	153	8.06E-04	1.47E-03	2.79E-03	3.42E-03
Ba-137m	2.01E-03	1.31	145	7.62E-04	1.39E-03	2.64E-03	3.24E-03
Sm-151	8.39E-05	5.46E-02	6.04	4.50E-05	6.46E-05	1.03E-04	1.22E-04
Eu-152	5.93E-07	3.86E-04	4.26E-02	5.84E-07	5.88E-07	5.97E-07	6.02E-07
Eu-154	2.07E-06	1.35E-03	0.149	6.68E-07	1.37E-06	2.77E-06	3.44E-06
Eu-155	4.28E-05	2.79E-02	3.08	4.22E-05	4.25E-05	4.31E-05	4.34E-05
Ra-226	1.55E-11	1.01E-08	1.11E-06	4.20E-12	4.20E-12	3.28E-11	4.94E-11
Ra-228	4.82E-08	3.14E-05	3.46E-03	4.74E-08	4.78E-08	4.85E-08	4.89E-08
Ac-227	1.48E-07	9.61E-05	1.06E-02	1.20E-07	1.41E-07	1.51E-07	1.55E-07
Pa-231	2.18E-07	1.42E-04	1.57E-02	6.34E-08	1.83E-07	2.40E-07	2.61E-07
Th-229	2.18E-08	1.42E-05	1.57E-03	2.15E-08	2.16E-08	2.20E-08	2.21E-08
Th-232	2.24E-09	1.46E-06	1.61E-04	6.75E-10	1.46E-09	3.03E-09	3.78E-09
U-232	2.48E-06	1.62E-03	0.179	2.97E-08	1.34E-06	3.02E-06	3.31E-06
U-233	9.65E-06	6.28E-03	0.694	1.15E-07	5.20E-06	1.17E-05	1.29E-05
U-234	2.74E-05	1.79E-02	1.97	1.46E-05	2.15E-05	3.02E-05	3.18E-05
U-235	1.18E-06	7.70E-04	8.51E-02	6.57E-07	9.38E-07	1.30E-06	1.36E-06
U-236	4.82E-07	3.14E-04	3.47E-02	9.70E-08	3.03E-07	5.66E-07	6.12E-07
U-238	2.69E-05	1.75E-02	1.93	1.48E-05	2.13E-05	2.95E-05	3.10E-05
Np-237	5.28E-09	3.44E-06	3.80E-04	2.62E-09	3.96E-09	6.61E-09	7.89E-09
Pu-238	5.56E-05	3.62E-02	4.00	3.93E-05	5.18E-05	5.78E-05	6.00E-05
Pu-239	2.32E-03	1.51	167	1.64E-03	2.16E-03	2.41E-03	2.50E-03
Pu-240	4.12E-04	0.268	29.6	2.91E-04	3.84E-04	4.29E-04	4.45E-04
Pu-241	4.45E-03	2.90	320	3.14E-03	4.15E-03	4.63E-03	4.81E-03
Pu-242	1.25E-08	8.15E-06	9.01E-04	8.85E-09	1.17E-08	1.30E-08	1.35E-08
Am-241	4.46E-07	2.91E-04	3.21E-02	1.43E-07	2.95E-07	5.98E-07	7.44E-07
Am-243	4.62E-12	3.01E-09	3.32E-07	1.41E-12	3.02E-12	6.22E-12	7.76E-12
Cm-242	8.50E-09	5.53E-06	6.11E-04	8.37E-09	8.43E-09	8.56E-09	8.62E-09
Cm-243	2.34E-10	1.52E-07	1.68E-05	2.30E-10	2.32E-10	2.36E-10	2.37E-10
Cm-244	1.75E-10	1.14E-07	1.26E-05	5.30E-11	1.14E-10	2.36E-10	2.94E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.91E-02 (g/L)	----	2.81	2.76E-02	3.65E-02	4.07E-02	4.23E-02
U	0.339	5.25E+04	5.80E+03	0.186	0.268	0.372	0.390

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.92E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.60E+05 (kg)	(32.0 kgal)	----	----	----	----	----
Heat Load	1.61E-03 (kW)	(5.51 BTU/hr)	----	6.13E-04	1.12E-03	2.11E-03	2.60E-03
Bulk Density†	1.32 (g/cc)	----	----	1.22	1.27	1.35	1.37
Water wt%†	66.0	----	----	62.9	64.2	68.6	72.4
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.53E-07	2.68E-04	4.28E-02	8.44E-08	1.81E-07	6.02E-07	9.15E-07
C-14	2.12E-07	1.60E-04	2.56E-02	1.61E-07	1.88E-07	2.32E-07	2.48E-07
Ni-59	1.77E-08	1.34E-05	2.14E-03	9.51E-09	1.36E-08	9.33E-08	1.86E-07
Ni-63	1.70E-06	1.29E-03	0.206	8.80E-07	1.29E-06	9.30E-06	1.86E-05
Co-60	6.30E-08	4.78E-05	7.63E-03	2.10E-08	4.21E-08	8.40E-08	1.04E-07
Se-79	1.36E-08	1.03E-05	1.65E-03	7.19E-09	1.04E-08	1.68E-08	1.99E-08
Sr-90	1.10E-03	0.835	133	4.18E-04	7.61E-04	1.44E-03	1.77E-03
Y-90	1.10E-03	0.835	133	4.18E-04	7.62E-04	1.44E-03	1.77E-03
Zr-93	6.43E-08	4.88E-05	7.79E-03	3.41E-08	4.93E-08	7.94E-08	9.39E-08
Nb-93m	4.97E-08	3.77E-05	6.03E-03	2.77E-08	3.88E-08	6.07E-08	7.14E-08
Tc-99	4.49E-07	3.41E-04	5.44E-02	2.37E-07	3.44E-07	5.55E-07	6.57E-07
Ru-106	9.93E-11	7.54E-08	1.20E-05	2.99E-11	6.48E-11	1.34E-10	1.67E-10
Cd-113m	2.52E-07	1.91E-04	3.06E-02	1.06E-07	1.80E-07	3.25E-07	3.96E-07
Sb-125	3.29E-07	2.49E-04	3.98E-02	1.00E-07	2.15E-07	4.43E-07	5.53E-07
Sn-126	2.06E-08	1.56E-05	2.50E-03	1.08E-08	1.57E-08	2.55E-08	3.02E-08
I-129	8.56E-10	6.50E-07	1.04E-04	4.48E-10	6.53E-10	1.06E-09	1.26E-09
Cs-134	2.17E-08	1.65E-05	2.63E-03	6.53E-09	1.42E-08	2.93E-08	3.66E-08
Cs-137	1.26E-03	0.958	153	4.78E-04	8.73E-04	1.65E-03	2.03E-03
Ba-137m	1.19E-03	0.906	145	4.53E-04	8.26E-04	1.57E-03	1.92E-03
Sm-151	4.98E-05	3.78E-02	6.04	2.67E-05	3.83E-05	6.14E-05	7.25E-05
Eu-152	3.52E-07	2.67E-04	4.26E-02	3.47E-07	3.49E-07	3.55E-07	3.57E-07
Eu-154	1.23E-06	9.31E-04	0.149	3.97E-07	8.15E-07	1.64E-06	2.04E-06
Eu-155	2.54E-05	1.93E-02	3.08	2.50E-05	2.52E-05	2.56E-05	2.58E-05
Ra-226	9.18E-12	6.96E-09	1.11E-06	2.49E-12	2.49E-12	1.95E-11	2.93E-11
Ra-228	2.86E-08	2.17E-05	3.46E-03	2.82E-08	2.84E-08	2.88E-08	2.90E-08
Ac-227	8.76E-08	6.65E-05	1.06E-02	7.10E-08	8.38E-08	8.99E-08	9.21E-08
Pa-231	1.30E-07	9.84E-05	1.57E-02	3.76E-08	1.09E-07	1.43E-07	1.55E-07
Th-229	1.29E-08	9.82E-06	1.57E-03	1.27E-08	1.28E-08	1.30E-08	1.31E-08
Th-232	1.33E-09	1.01E-06	1.61E-04	4.01E-10	8.70E-10	1.80E-09	2.25E-09
U-232	1.47E-06	1.12E-03	0.179	1.77E-08	7.95E-07	1.79E-06	1.97E-06
U-233	5.73E-06	4.35E-03	0.694	6.82E-08	3.09E-06	6.96E-06	7.64E-06
U-234	1.63E-05	1.24E-02	1.97	8.68E-06	1.27E-05	1.79E-05	1.89E-05
U-235	7.02E-07	5.33E-04	8.51E-02	3.90E-07	5.57E-07	7.70E-07	8.08E-07
U-236	2.86E-07	2.17E-04	3.47E-02	5.76E-08	1.80E-07	3.36E-07	3.63E-07
U-238	1.60E-05	1.21E-02	1.93	8.78E-06	1.26E-05	1.75E-05	1.84E-05
Np-237	3.14E-09	2.38E-06	3.80E-04	1.56E-09	2.35E-09	3.92E-09	4.69E-09
Pu-238	3.30E-05	2.50E-02	4.00	2.33E-05	3.08E-05	3.43E-05	3.56E-05
Pu-239	1.37E-03	1.04	167	9.72E-04	1.28E-03	1.43E-03	1.49E-03
Pu-240	2.44E-04	0.185	29.6	1.73E-04	2.28E-04	2.54E-04	2.64E-04
Pu-241	2.64E-03	2.00	320	1.87E-03	2.46E-03	2.75E-03	2.85E-03
Pu-242	7.44E-09	5.64E-06	9.01E-04	5.25E-09	6.94E-09	7.74E-09	8.03E-09
Am-241	2.65E-07	2.01E-04	3.21E-02	8.48E-08	1.75E-07	3.55E-07	4.42E-07
Am-243	2.74E-12	2.08E-09	3.32E-07	8.39E-13	1.80E-12	3.69E-12	4.61E-12
Cm-242	5.04E-09	3.83E-06	6.11E-04	4.97E-09	5.01E-09	5.08E-09	5.12E-09
Cm-243	1.39E-10	1.05E-07	1.68E-05	1.37E-10	1.38E-10	1.40E-10	1.41E-10
Cm-244	1.04E-10	7.88E-08	1.26E-05	3.14E-11	6.79E-11	1.40E-10	1.75E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.32E-02 (g/L)	----	2.81	1.64E-02	2.17E-02	2.42E-02	2.51E-02
U	0.201	3.63E+04	5.80E+03	0.111	0.159	0.221	0.232

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.04E+05 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	1.52E-03 (kW)	(5.20 BTU/hr)	----	5.22E-04	1.03E-03	2.02E-03	2.51E-03
Bulk Density	1.53 (g/cc)	----	----	1.35	1.45	1.58	1.62
Void Fraction	0.743	----	----	0.726	0.732	0.765	0.788
Water wt%	51.0	----	----	47.3	48.9	54.3	59.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.45	2.18E+04	2.27E+03	0.633	1.04	1.86	2.25
Al^{3+}	5.53	9.77E+04	1.02E+04	5.22	5.38	5.69	5.84
Fe^{3+} (total Fe)	0.438	1.60E+04	1.67E+03	0.275	0.401	0.456	0.467
Cr^{3+}	2.28E-03	77.7	8.08	7.39E-04	1.52E-03	3.05E-03	3.80E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.58E-03	733	76.3	4.77E-03	5.40E-03	5.67E-03	5.72E-03
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0.308	4.17E+04	4.34E+03	0.177	0.278	0.322	0.331
Ni^{2+}	1.14E-03	43.9	4.56	3.70E-04	7.58E-04	8.31E-03	1.71E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.308	8.09E+03	841	8.61E-03	0.140	0.387	0.430
K^{+}	1.83E-03	46.7	4.86	5.61E-04	1.20E-03	2.46E-03	3.07E-03
OH^{-}	20.6	2.29E+05	2.38E+04	17.6	19.3	21.5	22.3
$NO3^{-}$	0.492	2.00E+04	2.08E+03	0.153	0.325	0.658	0.817
$NO2^{-}$	0.212	6.39E+03	665	6.22E-02	0.137	0.290	0.368
$CO3^{2-}$	0.408	1.60E+04	1.67E+03	0.109	0.240	0.487	0.531
$PO4^{3-}$	2.22E-02	1.38E+03	144	9.54E-03	1.62E-02	2.73E-02	3.15E-02
$SO4^{2-}$	1.41E-02	887	92.2	7.74E-03	1.09E-02	1.73E-02	2.03E-02
Si (as SiO_x^{2-})	9.47E-05	1.74	0.181	8.09E-05	8.78E-05	1.01E-04	1.07E-04
F^{-}	0	0	0	0	0	0	0
Cl^{-}	8.40E-03	195	20.3	2.58E-03	5.51E-03	1.13E-02	1.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.03E-05	0.338	3.51E-02	2.85E-06	1.31E-05	5.54E-05	8.74E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.68E+04 (kg)	(9.00 kgal)	----	----	----	----	----
Heat Load	8.37E-03 (kW)	(28.6 BTU/hr)	----	7.07E-03	7.75E-03	8.66E-03	8.94E-03
Bulk Density*	1.08 (g/cc)	----	----	1.06	1.07	1.09	1.09
Water wt%	87.2	----	----	85.4	86.2	88.3	89.5
TOC wt% C (wet)	0.155	----	----	0.134	0.144	0.166	0.176

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.89	4.04E+04	1.48E+03	1.52	1.71	2.05	2.20
Al^{3+}	0.213	5.31E+03	195	0.185	0.200	0.225	0.237
Fe^{3+} (total Fe)	1.68E-03	87.2	3.21	1.07E-03	1.37E-03	2.00E-03	2.30E-03
Cr^{3+}	1.85E-02	893	32.8	1.47E-02	1.67E-02	1.97E-02	2.06E-02
Bi^{3+}	3.11E-05	6.02	0.221	2.63E-05	2.87E-05	3.35E-05	3.58E-05
La^{3+}	3.67E-10	4.72E-05	1.74E-06	2.65E-10	3.15E-10	4.19E-10	4.68E-10
Hg^{2+}	7.66E-07	0.142	5.24E-03	7.35E-07	7.50E-07	7.81E-07	7.96E-07
Zr (as $ZrO(OH)_2$)	4.10E-06	0.347	1.27E-02	3.48E-06	3.72E-06	4.37E-06	4.72E-06
Pb^{2+}	1.14E-04	21.9	0.806	9.52E-05	1.04E-04	1.24E-04	1.33E-04
Ni^{2+}	7.19E-04	39.1	1.44	6.74E-04	6.96E-04	7.42E-04	7.65E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.73E-04	49.5	1.82	6.76E-04	8.22E-04	1.12E-03	1.27E-03
Ca^{2+}	3.65E-03	136	4.98	2.77E-03	3.20E-03	4.10E-03	4.54E-03
K^{+}	8.25E-03	299	11.0	6.43E-03	7.29E-03	9.23E-03	1.02E-02
OH^{-}	1.37	2.16E+04	794	1.17	1.28	1.47	1.56
$NO3^{-}$	0.534	3.07E+04	1.13E+03	0.455	0.501	0.550	0.566
$NO2^{-}$	0.373	1.59E+04	585	0.247	0.305	0.439	0.502
$CO3^{2-}$	7.78E-02	4.33E+03	159	6.73E-02	7.24E-02	8.30E-02	8.67E-02
$PO4^{3-}$	4.22E-03	371	13.7	3.41E-03	3.81E-03	4.42E-03	4.61E-03
$SO4^{2-}$	3.78E-02	3.36E+03	124	2.15E-02	2.92E-02	4.66E-02	5.43E-02
Si (as SiO_x^{2-})	1.25E-02	326	12.0	8.30E-03	1.04E-02	1.47E-02	1.68E-02
F^{-}	1.37E-03	24.2	0.889	1.01E-03	1.17E-03	1.55E-03	1.70E-03
Cl^{-}	3.11E-02	1.02E+03	37.5	2.38E-02	2.75E-02	3.44E-02	3.72E-02
$C_6H_5O_7^{3-}$	8.16E-03	1.43E+03	52.6	7.56E-03	7.86E-03	8.47E-03	8.76E-03
$EDTA^{4-}$	1.43E-04	38.1	1.40	4.78E-05	9.41E-05	1.91E-04	2.39E-04
$HEDTA^{3-}$	2.57E-04	65.2	2.40	6.81E-05	1.60E-04	3.53E-04	4.48E-04
$glycolate^{-}$	1.60E-02	1.11E+03	40.8	8.11E-03	1.19E-02	2.00E-02	2.38E-02
$acetate^{-}$	1.02E-04	5.59	0.205	8.29E-05	9.23E-05	1.12E-04	1.21E-04
$oxalate^{2-}$	4.80E-10	3.92E-05	1.44E-06	4.26E-10	4.52E-10	5.08E-10	5.35E-10
DBP	4.53E-03	882	32.4	3.49E-03	4.00E-03	5.05E-03	5.55E-03
butanol	4.53E-03	311	11.4	3.49E-03	4.00E-03	5.05E-03	5.55E-03
NH_3	9.60E-03	151	5.56	4.83E-03	6.71E-03	1.33E-02	1.76E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.41E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	9.90E-03 (kW)	(33.8 BTU/hr)	----	8.59E-03	9.27E-03	1.04E-02	1.09E-02
Bulk Density†	1.38 (g/cc)	----	----	1.26	1.32	1.41	1.44
Water wt%†	60.5	----	----	57.2	58.6	63.2	67.3
TOC wt% C (wet)†	4.05E-02	----	----	3.46E-02	3.75E-02	4.35E-02	4.63E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.60	2.67E+04	3.75E+03	1.04	1.32	1.87	2.14
Al^{3+}	3.76	7.36E+04	1.04E+04	3.55	3.65	3.87	3.97
Fe^{3+} (total Fe)	0.293	1.19E+04	1.67E+03	0.184	0.268	0.304	0.312
Cr^{3+}	7.70E-03	291	40.9	6.42E-03	7.09E-03	8.22E-03	8.72E-03
Bi^{3+}	1.04E-05	1.57	0.221	8.78E-06	9.56E-06	1.12E-05	1.19E-05
La^{3+}	1.22E-10	1.23E-05	1.74E-06	8.84E-11	1.05E-10	1.40E-10	1.56E-10
Hg^{2+}	3.72E-03	542	76.3	3.18E-03	3.60E-03	3.78E-03	3.81E-03
Zr (as $ZrO(OH)_2$)	1.37E-06	9.05E-02	1.27E-02	1.16E-06	1.24E-06	1.46E-06	1.57E-06
Pb^{2+}	0.205	3.08E+04	4.34E+03	0.118	0.185	0.214	0.220
Ni^{2+}	1.00E-03	42.6	6.00	4.78E-04	7.41E-04	5.78E-03	1.16E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.24E-04	12.9	1.82	2.26E-04	2.74E-04	3.75E-04	4.23E-04
Ca^{2+}	0.207	6.01E+03	846	6.93E-03	9.42E-02	0.259	0.288
K^{+}	3.97E-03	113	15.9	3.11E-03	3.54E-03	4.39E-03	4.81E-03
OH^{-}	14.2	1.75E+05	2.46E+04	12.2	13.3	14.8	15.3
$NO3^{-}$	0.506	2.28E+04	3.21E+03	0.276	0.393	0.619	0.726
$NO2^{-}$	0.266	8.88E+03	1.25E+03	0.164	0.215	0.319	0.371
$CO3^{2-}$	0.298	1.30E+04	1.83E+03	9.84E-02	0.186	0.350	0.380
$PO4^{3-}$	1.62E-02	1.12E+03	157	7.77E-03	1.22E-02	1.96E-02	2.24E-02
$SO4^{2-}$	2.20E-02	1.53E+03	216	1.65E-02	1.91E-02	2.49E-02	2.75E-02
Si (as SiO_x^{2-})	4.24E-03	86.5	12.2	2.83E-03	3.52E-03	4.96E-03	5.66E-03
F^{-}	4.58E-04	6.31	0.889	3.38E-04	3.90E-04	5.16E-04	5.66E-04
Cl^{-}	1.60E-02	410	57.8	1.20E-02	1.40E-02	1.79E-02	1.98E-02
$C_6H_5O_7^{3-}$	2.72E-03	373	52.6	2.52E-03	2.62E-03	2.82E-03	2.92E-03
$EDTA^{4-}$	4.76E-05	9.95	1.40	1.59E-05	3.14E-05	6.38E-05	7.97E-05
$HEDTA^{3-}$	8.55E-05	17.0	2.40	2.27E-05	5.34E-05	1.18E-04	1.49E-04
$glycolate^{-}$	5.32E-03	290	40.8	2.70E-03	3.98E-03	6.66E-03	7.94E-03
$acetate^{-}$	3.40E-05	1.46	0.205	2.76E-05	3.08E-05	3.73E-05	4.05E-05
$oxalate^{2-}$	1.60E-10	1.02E-05	1.44E-06	1.42E-10	1.51E-10	1.69E-10	1.78E-10
DBP	1.51E-03	230	32.4	1.16E-03	1.33E-03	1.68E-03	1.85E-03
butanol	1.51E-03	81.2	11.4	1.16E-03	1.33E-03	1.68E-03	1.85E-03
NH_3	3.22E-03	39.8	5.60	1.63E-03	2.26E-03	4.45E-03	5.88E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.04E+05 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	1.52E-03 (kW)	(5.20 BTU/hr)	----	5.22E-04	1.03E-03	2.02E-03	2.51E-03
Bulk Density	1.53 (g/cc)	----	----	1.35	1.45	1.58	1.62
Void Fraction	0.743	----	----	0.726	0.732	0.765	0.788
Water wt%	51.0	----	----	47.3	48.9	54.3	59.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.75E-07	3.77E-04	3.92E-02	9.72E-08	2.69E-07	1.02E-06	1.57E-06
C-14	2.24E-07	1.47E-04	1.53E-02	1.73E-07	1.99E-07	2.50E-07	2.75E-07
Ni-59	2.60E-08	1.71E-05	1.77E-03	1.16E-08	1.88E-08	1.61E-07	3.25E-07
Ni-63	2.55E-06	1.67E-03	0.174	1.09E-06	1.83E-06	1.61E-05	3.26E-05
Co-60	1.09E-07	7.16E-05	7.45E-03	3.47E-08	7.23E-08	1.47E-07	1.83E-07
Se-79	2.02E-08	1.32E-05	1.38E-03	8.84E-09	1.46E-08	2.59E-08	3.14E-08
Sr-90	1.84E-03	1.21	126	6.32E-04	1.24E-03	2.45E-03	3.03E-03
Y-90	1.85E-03	1.21	126	6.33E-04	1.24E-03	2.45E-03	3.03E-03
Zr-93	9.55E-08	6.25E-05	6.51E-03	4.19E-08	6.88E-08	1.22E-07	1.48E-07
Nb-93m	7.22E-08	4.73E-05	4.92E-03	3.30E-08	5.28E-08	9.18E-08	1.11E-07
Tc-99	6.69E-07	4.38E-04	4.55E-02	2.92E-07	4.81E-07	8.57E-07	1.04E-06
Ru-106	1.77E-10	1.16E-07	1.20E-05	5.31E-11	1.15E-10	2.38E-10	2.98E-10
Cd-113m	4.10E-07	2.69E-04	2.79E-02	1.50E-07	2.81E-07	5.40E-07	6.65E-07
Sb-125	5.83E-07	3.82E-04	3.97E-02	1.76E-07	3.81E-07	7.86E-07	9.82E-07
Sn-126	3.08E-08	2.01E-05	2.10E-03	1.33E-08	2.21E-08	3.95E-08	4.78E-08
I-129	1.28E-09	8.38E-07	8.72E-05	5.54E-10	9.20E-10	1.64E-09	1.99E-09
Cs-134	3.86E-08	2.53E-05	2.63E-03	1.16E-08	2.52E-08	5.21E-08	6.51E-08
Cs-137	2.12E-03	1.39	144	7.25E-04	1.43E-03	2.82E-03	3.49E-03
Ba-137m	2.01E-03	1.31	137	6.86E-04	1.35E-03	2.66E-03	3.30E-03
Sm-151	7.37E-05	4.82E-02	5.02	3.26E-05	5.32E-05	9.42E-05	1.14E-04
Eu-152	6.22E-07	4.07E-04	4.24E-02	6.13E-07	6.18E-07	6.27E-07	6.32E-07
Eu-154	2.15E-06	1.41E-03	0.146	6.70E-07	1.41E-06	2.89E-06	3.60E-06
Eu-155	4.47E-05	2.93E-02	3.04	4.40E-05	4.43E-05	4.50E-05	4.53E-05
Ra-226	8.68E-12	5.69E-09	5.92E-07	2.74E-12	2.74E-12	1.78E-11	2.66E-11
Ra-228	5.08E-08	3.33E-05	3.46E-03	5.01E-08	5.05E-08	5.12E-08	5.16E-08
Ac-227	1.56E-07	1.02E-04	1.06E-02	1.26E-07	1.49E-07	1.60E-07	1.64E-07
Pa-231	2.31E-07	1.51E-04	1.57E-02	6.69E-08	1.93E-07	2.53E-07	2.75E-07
Th-229	2.30E-08	1.51E-05	1.57E-03	2.27E-08	2.28E-08	2.32E-08	2.34E-08
Th-232	2.37E-09	1.55E-06	1.61E-04	7.13E-10	1.55E-09	3.20E-09	3.99E-09
U-232	2.62E-06	1.72E-03	0.179	3.13E-08	1.41E-06	3.18E-06	3.50E-06
U-233	1.02E-05	6.67E-03	0.694	1.21E-07	5.49E-06	1.24E-05	1.36E-05
U-234	2.13E-05	1.40E-02	1.45	7.79E-06	1.50E-05	2.43E-05	2.59E-05
U-235	9.05E-07	5.93E-04	6.17E-02	3.50E-07	6.46E-07	1.03E-06	1.09E-06
U-236	4.60E-07	3.01E-04	3.13E-02	5.36E-08	2.71E-07	5.48E-07	5.97E-07
U-238	2.07E-05	1.35E-02	1.41	7.88E-06	1.47E-05	2.34E-05	2.50E-05
Np-237	4.80E-09	3.14E-06	3.27E-04	1.99E-09	3.40E-09	6.20E-09	7.55E-09
Pu-238	5.87E-05	3.84E-02	4.00	4.14E-05	5.47E-05	6.11E-05	6.34E-05
Pu-239	2.44E-03	1.60	167	1.73E-03	2.28E-03	2.54E-03	2.64E-03
Pu-240	4.35E-04	0.285	29.6	3.07E-04	4.05E-04	4.52E-04	4.70E-04
Pu-241	4.70E-03	3.08	320	3.32E-03	4.38E-03	4.89E-03	5.08E-03
Pu-242	1.32E-08	8.65E-06	9.00E-04	9.34E-09	1.23E-08	1.38E-08	1.43E-08
Am-241	4.64E-07	3.04E-04	3.16E-02	1.44E-07	3.05E-07	6.24E-07	7.79E-07
Am-243	4.85E-12	3.18E-09	3.31E-07	1.47E-12	3.17E-12	6.54E-12	8.17E-12
Cm-242	8.96E-09	5.86E-06	6.10E-04	8.82E-09	8.89E-09	9.02E-09	9.09E-09
Cm-243	2.47E-10	1.62E-07	1.68E-05	2.43E-10	2.45E-10	2.49E-10	2.50E-10
Cm-244	1.84E-10	1.21E-07	1.26E-05	5.56E-11	1.20E-10	2.49E-10	3.11E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.13E-02 (g/L)	----	2.81	2.92E-02	3.85E-02	4.30E-02	4.46E-02
U	0.260	4.05E+04	4.22E+03	9.92E-02	0.185	0.295	0.314

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.68E+04 (kg)	(9.00 kgal)	----	----	----	----	----
Heat Load	8.37E-03 (kW)	(28.6 BTU/hr)	----	7.07E-03	7.75E-03	8.66E-03	8.94E-03
Bulk Density*	1.08 (g/cc)	----	----	1.06	1.07	1.09	1.09
Water wt%†	87.2	----	----	85.4	86.2	88.3	89.5
TOC wt% C (wet)	0.155	----	----	0.134	0.144	0.166	0.176

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.87E-05	4.51E-02	1.66	1.09E-05	1.09E-05	4.98E-05	5.11E-05
C-14	8.48E-06	7.86E-03	0.289	5.81E-07	5.81E-07	8.51E-06	8.54E-06
Ni-59	4.30E-07	3.98E-04	1.46E-02	5.85E-08	5.85E-08	4.49E-07	4.67E-07
Ni-63	4.25E-05	3.94E-02	1.45	5.76E-06	5.76E-06	4.44E-05	4.62E-05
Co-60	9.76E-06	9.04E-03	0.332	7.16E-07	7.16E-07	9.83E-06	9.90E-06
Se-79	6.57E-07	6.09E-04	2.24E-02	1.53E-07	1.53E-07	8.40E-07	1.01E-06
Sr-90	2.13E-02	19.7	725	1.88E-02	2.00E-02	2.25E-02	2.38E-02
Y-90	2.13E-02	19.7	725	3.86E-03	3.86E-03	2.25E-02	2.38E-02
Zr-93	3.24E-06	3.01E-03	0.111	7.24E-07	7.24E-07	4.16E-06	5.03E-06
Nb-93m	2.31E-06	2.14E-03	7.87E-02	5.46E-07	5.46E-07	2.95E-06	3.56E-06
Tc-99	6.01E-05	5.57E-02	2.05	3.06E-05	4.50E-05	7.53E-05	8.99E-05
Ru-106	1.64E-09	1.52E-06	5.58E-05	4.69E-10	4.69E-10	1.90E-09	2.14E-09
Cd-113m	1.83E-05	1.70E-02	0.623	3.17E-06	3.17E-06	2.38E-05	2.90E-05
Sb-125	4.25E-05	3.93E-02	1.45	3.32E-06	3.32E-06	4.29E-05	4.34E-05
Sn-126	9.92E-07	9.20E-04	3.38E-02	2.36E-07	2.36E-07	1.27E-06	1.53E-06
I-129	1.16E-07	1.07E-04	3.95E-03	5.90E-08	8.68E-08	1.45E-07	1.74E-07
Cs-134	1.65E-07	1.53E-04	5.63E-03	9.18E-08	9.18E-08	1.68E-07	1.66E-07
Cs-137	2.19E-02	20.3	745	1.61E-02	1.81E-02	2.26E-02	2.44E-02
Ba-137m	2.07E-02	19.2	705	1.12E-02	1.12E-02	2.10E-02	2.08E-02
Sm-151	2.31E-03	2.14	78.7	5.46E-04	5.46E-04	2.95E-03	3.56E-03
Eu-152	7.54E-07	6.99E-04	2.57E-02	1.29E-07	1.29E-07	7.74E-07	7.94E-07
Eu-154	1.45E-04	0.134	4.93	1.87E-05	1.87E-05	1.90E-04	2.08E-04
Eu-155	4.42E-05	4.10E-02	1.51	7.03E-06	7.03E-06	4.54E-05	4.65E-05
Ra-226	2.25E-11	2.09E-08	7.68E-07	6.91E-12	6.91E-12	2.82E-11	3.36E-11
Ra-228	5.10E-10	4.73E-07	1.74E-05	2.38E-10	2.38E-10	5.72E-10	6.38E-10
Ac-227	1.38E-10	1.28E-07	4.71E-06	4.75E-11	4.75E-11	1.71E-10	2.03E-10
Pa-231	6.92E-10	6.41E-07	2.36E-05	1.88E-10	1.88E-10	8.75E-10	1.05E-09
Th-229	3.16E-11	2.93E-08	1.08E-06	1.93E-11	1.93E-11	3.70E-11	4.23E-11
Th-232	1.96E-10	1.82E-07	6.69E-06	8.38E-11	8.38E-11	2.22E-10	2.47E-10
U-232	2.14E-08	1.99E-05	7.30E-04	1.92E-08	2.02E-08	2.29E-08	2.45E-08
U-233	8.28E-08	7.68E-05	2.82E-03	7.43E-08	7.82E-08	8.84E-08	9.49E-08
U-234	1.13E-07	1.05E-04	3.86E-03	1.05E-07	1.09E-07	1.18E-07	1.22E-07
U-235	4.64E-09	4.30E-06	1.58E-04	4.29E-09	4.47E-09	4.82E-09	4.99E-09
U-236	3.89E-09	3.60E-06	1.33E-04	3.63E-09	3.76E-09	4.02E-09	4.14E-09
U-238	1.06E-07	9.86E-05	3.63E-03	9.83E-08	1.02E-07	1.10E-07	1.15E-07
Np-237	2.07E-07	1.92E-04	7.05E-03	1.11E-07	1.58E-07	2.57E-07	3.05E-07
Pu-238	3.09E-07	2.86E-04	1.05E-02	1.96E-07	2.51E-07	3.66E-07	4.22E-07
Pu-239	9.37E-06	8.69E-03	0.319	6.47E-06	7.90E-06	1.08E-05	1.23E-05
Pu-240	1.66E-06	1.54E-03	5.67E-02	1.12E-06	1.39E-06	1.94E-06	2.20E-06
Pu-241	2.12E-05	1.97E-02	0.723	1.35E-05	1.73E-05	2.51E-05	2.89E-05
Pu-242	1.19E-10	1.10E-07	4.04E-06	7.27E-11	9.52E-11	1.42E-10	1.65E-10
Am-241	1.08E-05	1.00E-02	0.368	5.45E-06	8.07E-06	1.35E-05	1.62E-05
Am-243	4.35E-10	4.03E-07	1.48E-05	2.66E-10	3.47E-10	5.24E-10	6.11E-10
Cm-242	3.11E-08	2.88E-05	1.06E-03	5.48E-09	5.48E-09	3.22E-08	3.33E-08
Cm-243	3.02E-09	2.80E-06	1.03E-04	5.74E-10	5.74E-10	3.14E-09	3.25E-09
Cm-244	3.38E-08	3.13E-05	1.15E-03	8.60E-09	8.60E-09	4.23E-08	4.78E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.99E-05 (g/L)	----	3.40E-03	4.51E-05	7.20E-05	1.28E-04	1.54E-04
U	1.31E-03	289	10.6	1.21E-03	1.26E-03	1.36E-03	1.41E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.41E+05 (kg)	(27.0 kgal)	----	----	----	----	----
Heat Load	9.90E-03 (kW)	(33.8 BTU/hr)	----	8.59E-03	9.27E-03	1.04E-02	1.09E-02
Bulk Density†	1.38 (g/cc)	----	----	1.26	1.32	1.41	1.44
Water wt%†	60.5	----	----	57.2	58.6	63.2	67.3
TOC wt% C (wet)†	4.05E-02	----	----	3.46E-02	3.75E-02	4.35E-02	4.63E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.66E-05	1.21E-02	1.70	4.03E-06	4.03E-06	1.70E-05	1.74E-05
C-14	2.98E-06	2.16E-03	0.304	3.43E-07	3.43E-07	2.99E-06	3.01E-06
Ni-59	1.61E-07	1.17E-04	1.64E-02	3.69E-08	3.69E-08	2.50E-07	3.60E-07
Ni-63	1.59E-05	1.15E-02	1.62	3.62E-06	3.62E-06	2.49E-05	3.59E-05
Co-60	3.33E-06	2.41E-03	0.340	3.12E-07	3.12E-07	3.35E-06	3.38E-06
Se-79	2.33E-07	1.69E-04	2.38E-02	6.45E-08	6.45E-08	2.93E-07	3.52E-07
Sr-90	8.32E-03	6.04	850	7.49E-03	7.90E-03	8.74E-03	9.15E-03
Y-90	8.32E-03	6.04	851	2.52E-03	2.52E-03	8.75E-03	9.15E-03
Zr-93	1.15E-06	8.31E-04	0.117	3.05E-07	3.05E-07	1.45E-06	1.74E-06
Nb-93m	8.18E-07	5.94E-04	8.36E-02	2.30E-07	2.30E-07	1.03E-06	1.24E-06
Tc-99	2.05E-05	1.49E-02	2.09	1.07E-05	1.55E-05	2.55E-05	3.04E-05
Ru-106	6.64E-10	4.82E-07	6.78E-05	2.74E-10	2.74E-10	7.51E-10	8.30E-10
Cd-113m	6.37E-06	4.62E-03	0.651	1.33E-06	1.33E-06	8.20E-06	9.95E-06
Sb-125	1.45E-05	1.06E-02	1.49	1.49E-06	1.49E-06	1.47E-05	1.48E-05
Sn-126	3.51E-07	2.55E-04	3.59E-02	9.93E-08	9.93E-08	4.43E-07	5.30E-07
I-129	3.95E-08	2.87E-05	4.04E-03	2.05E-08	2.98E-08	4.93E-08	5.87E-08
Cs-134	8.08E-08	5.86E-05	8.26E-03	5.63E-08	5.63E-08	8.99E-08	9.87E-08
Cs-137	8.71E-03	6.32	890	6.78E-03	7.45E-03	9.18E-03	9.63E-03
Ba-137m	8.24E-03	5.98	842	5.07E-03	5.07E-03	8.68E-03	9.11E-03
Sm-151	8.20E-04	0.595	83.8	2.31E-04	2.31E-04	1.03E-03	1.24E-03
Eu-152	6.66E-07	4.83E-04	6.81E-02	4.58E-07	4.58E-07	6.73E-07	6.79E-07
Eu-154	4.97E-05	3.61E-02	5.08	7.66E-06	7.66E-06	6.49E-05	7.09E-05
Eu-155	4.45E-05	3.23E-02	4.55	3.21E-05	3.21E-05	4.49E-05	4.53E-05
Ra-226	1.33E-11	9.65E-09	1.36E-06	8.09E-12	8.09E-12	1.94E-11	2.52E-11
Ra-228	3.41E-08	2.47E-05	3.48E-03	3.35E-08	3.38E-08	3.43E-08	3.46E-08
Ac-227	1.04E-07	7.54E-05	1.06E-02	8.42E-08	9.93E-08	1.07E-07	1.09E-07
Pa-231	1.54E-07	1.12E-04	1.57E-02	4.48E-08	1.29E-07	1.69E-07	1.84E-07
Th-229	1.54E-08	1.11E-05	1.57E-03	1.51E-08	1.52E-08	1.55E-08	1.56E-08
Th-232	1.64E-09	1.19E-06	1.68E-04	5.24E-10	1.09E-09	2.20E-09	2.75E-09
U-232	1.75E-06	1.27E-03	0.179	2.78E-08	9.50E-07	2.13E-06	2.34E-06
U-233	6.82E-06	4.95E-03	0.697	1.08E-07	3.69E-06	8.27E-06	9.08E-06
U-234	1.43E-05	1.03E-02	1.46	5.23E-06	1.00E-05	1.62E-05	1.73E-05
U-235	6.05E-07	4.39E-04	6.18E-02	2.35E-07	4.32E-07	6.85E-07	7.30E-07
U-236	3.08E-07	2.24E-04	3.15E-02	3.70E-08	1.82E-07	3.67E-07	4.00E-07
U-238	1.38E-05	1.00E-02	1.41	5.29E-06	9.83E-06	1.57E-05	1.67E-05
Np-237	7.22E-08	5.24E-05	7.38E-03	4.01E-08	5.58E-08	8.88E-08	1.05E-07
Pu-238	3.92E-05	2.84E-02	4.01	2.77E-05	3.66E-05	4.08E-05	4.23E-05
Pu-239	1.63E-03	1.18	167	1.15E-03	1.52E-03	1.70E-03	1.76E-03
Pu-240	2.90E-04	0.211	29.7	2.05E-04	2.71E-04	3.02E-04	3.14E-04
Pu-241	3.14E-03	2.28	321	2.22E-03	2.93E-03	3.27E-03	3.39E-03
Pu-242	8.85E-09	6.42E-06	9.05E-04	6.27E-09	8.26E-09	9.21E-09	9.56E-09
Am-241	3.91E-06	2.84E-03	0.400	2.13E-06	3.00E-06	4.83E-06	5.70E-06
Am-243	1.48E-10	1.08E-07	1.51E-05	9.21E-11	1.19E-10	1.78E-10	2.07E-10
Cm-242	1.63E-08	1.19E-05	1.67E-03	7.80E-09	7.80E-09	1.67E-08	1.71E-08
Cm-243	1.17E-09	8.50E-07	1.20E-04	3.56E-10	3.56E-10	1.21E-09	1.25E-09
Cm-244	1.14E-08	8.27E-06	1.16E-03	2.99E-09	2.99E-09	1.42E-08	1.61E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.76E-02 (g/L)	----	2.82	1.95E-02	2.57E-02	2.87E-02	2.98E-02
U	0.174	3.00E+04	4.23E+03	6.65E-02	0.124	0.197	0.210

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.29E+06 (kg)	(442 kgal)	----	----	----	----	----
Heat Load	0.224 (kW)	(764 BTU/hr)	----	0.164	0.195	0.254	0.282
Bulk Density	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Void Fraction	0.729	----	----	0.673	0.696	0.784	0.867
Water wt%	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.10	8.59E+04	1.96E+05	3.01	4.22	5.72	6.26
Al^{3+}	0.503	9.94E+03	2.27E+04	0.503	0.503	0.503	0.503
Fe^{3+} (total Fe)	0.344	1.41E+04	3.21E+04	0.336	0.341	0.346	0.347
Cr^{3+}	4.93E-03	188	429	3.85E-03	4.40E-03	5.47E-03	5.99E-03
Bi^{3+}	6.10E-02	9.33E+03	2.13E+04	4.41E-02	5.53E-02	6.43E-02	6.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.87E-05	14.5	33.1	5.66E-05	8.44E-05	1.07E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	2.43E-04	16.2	37.0	1.89E-04	2.17E-04	2.69E-04	2.95E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	52.1	119	9.47E-04	1.08E-03	2.24E-03	3.20E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.46E-02	2.19E+03	5.00E+03	3.71E-02	6.18E-02	8.22E-02	8.69E-02
K^{+}	6.85E-03	196	448	5.34E-03	6.12E-03	7.60E-03	8.33E-03
OH^{-}	3.70	4.60E+04	1.05E+05	3.57	3.65	3.72	3.74
$NO3^{-}$	1.01	4.57E+04	1.04E+05	0.835	0.930	1.08	1.13
$NO2^{-}$	0.272	9.17E+03	2.10E+04	0.166	0.214	0.343	0.422
$CO3^{2-}$	7.46E-02	3.28E+03	7.49E+03	3.71E-02	6.18E-02	8.22E-02	8.69E-02
$PO4^{3-}$	1.13	7.83E+04	1.79E+05	0.579	0.914	1.25	1.33
$SO4^{2-}$	5.28E-02	3.71E+03	8.48E+03	4.12E-02	4.72E-02	5.86E-02	6.42E-02
Si (as SiO_x^{2-})	0.191	3.92E+03	8.96E+03	0.109	0.142	0.221	0.249
F^{-}	0.141	1.96E+03	4.48E+03	0.110	0.126	0.180	0.307
Cl^{-}	3.15E-02	817	1.87E+03	2.46E-02	2.81E-02	3.50E-02	3.83E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.80E-02	846	1.93E+03	5.57E-02	6.22E-02	7.38E-02	7.91E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.59E+04 (kg)	(3.01 kgal)	----	----	----	----	----
Heat Load	1.57E-02 (kW)	(53.7 BTU/hr)	----	1.47E-02	1.53E-02	1.61E-02	1.65E-02
Bulk Density*	1.40 (g/cc)	----	----	1.36	1.38	1.41	1.42
Water wt%	49.0	----	----	46.7	47.8	50.3	51.9
TOC wt% C (wet)	0.720	----	----	0.424	0.569	0.870	1.02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.44	1.55E+05	2.47E+03	8.64	9.04	9.78	10.1
Al^{3+}	0.978	1.89E+04	301	0.909	0.942	1.02	1.05
Fe^{3+} (total Fe)	7.61E-03	304	4.85	6.30E-03	6.94E-03	8.27E-03	8.91E-03
Cr^{3+}	8.90E-02	3.32E+03	52.8	7.51E-02	8.26E-02	9.15E-02	9.39E-02
Bi^{3+}	2.02E-03	302	4.80	1.80E-03	1.90E-03	2.13E-03	2.23E-03
La^{3+}	1.76E-05	1.75	2.78E-02	1.27E-05	1.51E-05	2.00E-05	2.24E-05
Hg^{2+}	8.33E-06	1.20	1.91E-02	7.98E-06	8.15E-06	8.51E-06	8.68E-06
Zr (as $ZrO(OH)_2$)	2.35E-04	15.3	0.244	1.74E-04	2.03E-04	2.68E-04	3.01E-04
Pb^{2+}	5.71E-04	84.8	1.35	4.59E-04	5.14E-04	6.28E-04	6.83E-04
Ni^{2+}	4.42E-03	186	2.96	4.11E-03	4.26E-03	4.47E-03	4.52E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.35E-03	92.5	1.47	1.72E-03	2.03E-03	2.67E-03	2.98E-03
Ca^{2+}	2.35E-02	676	10.8	2.17E-02	2.26E-02	2.45E-02	2.54E-02
K^{+}	4.22E-02	1.18E+03	18.8	3.83E-02	4.01E-02	4.42E-02	4.62E-02
OH^{-}	6.01	7.32E+04	1.17E+03	5.58	5.79	6.25	6.41
$NO3^{-}$	3.38	1.50E+05	2.39E+03	3.13	3.26	3.51	3.62
$NO2^{-}$	1.53	5.05E+04	803	1.26	1.39	1.67	1.80
$CO3^{2-}$	0.288	1.24E+04	197	0.253	0.271	0.306	0.318
$PO4^{3-}$	0.102	6.96E+03	111	9.44E-02	9.82E-02	0.106	0.110
$SO4^{2-}$	0.174	1.20E+04	190	0.139	0.156	0.192	0.209
Si (as SiO_x^{2-})	6.08E-02	1.22E+03	19.5	5.18E-02	5.62E-02	6.53E-02	6.97E-02
F^{-}	9.78E-02	1.33E+03	21.2	6.23E-02	7.93E-02	0.114	0.114
Cl^{-}	0.162	4.12E+03	65.6	0.147	0.155	0.169	0.175
$C_6H_5O_7^{3-}$	1.90E-02	2.58E+03	41.0	1.71E-02	1.80E-02	2.00E-02	2.10E-02
$EDTA^{4-}$	1.43E-02	2.96E+03	47.1	4.15E-03	9.13E-03	1.96E-02	2.47E-02
$HEDTA^{3-}$	2.72E-02	5.34E+03	85.0	6.80E-03	1.68E-02	3.77E-02	4.79E-02
$glycolate^{-}$	7.81E-02	4.20E+03	66.8	5.19E-02	6.47E-02	9.16E-02	0.104
$acetate^{-}$	4.80E-03	203	3.23	3.89E-03	4.33E-03	5.26E-03	5.71E-03
$oxalate^{2-}$	2.30E-05	1.45	2.31E-02	2.04E-05	2.17E-05	2.43E-05	2.56E-05
DBP	1.18E-02	1.77E+03	28.2	9.58E-03	1.07E-02	1.29E-02	1.39E-02
butanol	1.18E-02	626	9.96	9.58E-03	1.07E-02	1.29E-02	1.39E-02
NH_3	7.64E-02	930	14.8	6.06E-02	6.81E-02	8.52E-02	9.45E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.30E+06 (kg)	(445 kgal)	----	----	----	----	----
Heat Load	0.239 (kW)	(818 BTU/hr)	----	0.179	0.210	0.270	0.299
Bulk Density†	1.37 (g/cc)	----	----	1.26	1.32	1.40	1.42
Water wt%†	64.8	----	----	61.1	62.8	67.8	72.4
TOC wt% C (wet)†	4.98E-03	----	----	2.91E-03	3.92E-03	6.04E-03	7.07E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.13	8.64E+04	1.99E+05	3.05	4.26	5.74	6.28
Al^{3+}	0.506	1.00E+04	2.30E+04	0.506	0.506	0.507	0.507
Fe^{3+} (total Fe)	0.342	1.40E+04	3.21E+04	0.333	0.339	0.343	0.345
Cr^{3+}	5.50E-03	209	481	4.42E-03	4.97E-03	6.04E-03	6.56E-03
Bi^{3+}	6.06E-02	9.27E+03	2.13E+04	4.39E-02	5.49E-02	6.39E-02	6.60E-02
La^{3+}	1.19E-07	1.21E-02	2.78E-02	8.61E-08	1.02E-07	1.36E-07	1.52E-07
Hg^{2+}	9.80E-05	14.4	33.1	5.62E-05	8.39E-05	1.06E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	2.43E-04	16.2	37.3	1.89E-04	2.17E-04	2.69E-04	2.95E-04
Pb^{2+}	3.87E-06	0.586	1.35	3.10E-06	3.48E-06	4.25E-06	4.63E-06
Ni^{2+}	1.23E-03	53.1	122	9.69E-04	1.11E-03	2.26E-03	3.20E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.59E-05	0.640	1.47	1.17E-05	1.37E-05	1.81E-05	2.01E-05
Ca^{2+}	7.43E-02	2.18E+03	5.01E+03	3.70E-02	6.15E-02	8.18E-02	8.65E-02
K^{+}	7.08E-03	203	467	5.58E-03	6.35E-03	7.84E-03	8.57E-03
OH^{-}	3.71	4.62E+04	1.06E+05	3.59	3.67	3.74	3.75
$NO3^{-}$	1.02	4.64E+04	1.07E+05	0.850	0.946	1.09	1.15
$NO2^{-}$	0.281	9.46E+03	2.18E+04	0.175	0.223	0.352	0.430
$CO3^{2-}$	7.61E-02	3.34E+03	7.69E+03	3.88E-02	6.33E-02	8.36E-02	8.83E-02
$PO4^{3-}$	1.12	7.78E+04	1.79E+05	0.576	0.909	1.24	1.32
$SO4^{2-}$	5.36E-02	3.77E+03	8.67E+03	4.20E-02	4.80E-02	5.94E-02	6.50E-02
Si (as SiO_x^{2-})	0.190	3.90E+03	8.98E+03	0.108	0.142	0.219	0.248
F^{-}	0.141	1.96E+03	4.50E+03	0.110	0.126	0.179	0.305
Cl^{-}	3.24E-02	839	1.93E+03	2.54E-02	2.90E-02	3.58E-02	3.92E-02
$C_6H_5O_7^{3-}$	1.29E-04	17.8	41.0	1.16E-04	1.22E-04	1.36E-04	1.42E-04
$EDTA^{4-}$	9.71E-05	20.5	47.1	2.81E-05	6.18E-05	1.33E-04	1.67E-04
$HEDTA^{3-}$	1.84E-04	36.9	85.0	4.60E-05	1.13E-04	2.55E-04	3.24E-04
$glycolate^{-}$	5.29E-04	29.0	66.8	3.51E-04	4.38E-04	6.20E-04	7.07E-04
$acetate^{-}$	3.25E-05	1.40	3.23	2.63E-05	2.93E-05	3.56E-05	3.87E-05
$oxalate^{2-}$	1.56E-07	1.00E-02	2.31E-02	1.38E-07	1.47E-07	1.65E-07	1.73E-07
DBP	7.98E-05	12.3	28.2	6.49E-05	7.22E-05	8.72E-05	9.43E-05
butanol	7.98E-05	4.33	9.96	6.49E-05	7.22E-05	8.72E-05	9.43E-05
NH_3	6.80E-02	847	1.95E+03	5.57E-02	6.22E-02	7.38E-02	7.92E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.29E+06 (kg)	(442 kgal)	----	----	----	----	----
Heat Load	0.224 (kW)	(764 BTU/hr)	----	0.164	0.195	0.254	0.282
Bulk Density	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Void Fraction	0.729	----	----	0.673	0.696	0.784	0.867
Water wt%	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.59E-07	4.09E-04	0.936	2.88E-07	4.08E-07	7.50E-07	9.63E-07
C-14	1.17E-07	8.55E-05	0.195	8.67E-08	1.02E-07	1.32E-07	1.46E-07
Ni-59	3.32E-08	2.43E-05	5.56E-02	2.47E-08	2.91E-08	6.63E-08	9.70E-08
Ni-63	3.00E-06	2.19E-03	5.01	2.21E-06	2.62E-06	6.01E-06	8.81E-06
Co-60	2.67E-08	1.96E-05	4.47E-02	1.86E-08	2.28E-08	3.08E-08	3.47E-08
Se-79	2.46E-08	1.80E-05	4.12E-02	1.83E-08	2.16E-08	2.78E-08	3.09E-08
Sr-90	1.11E-02	8.12	1.86E+04	8.14E-03	9.66E-03	1.26E-02	1.40E-02
Y-90	1.11E-02	8.12	1.86E+04	8.14E-03	9.66E-03	1.26E-02	1.40E-02
Zr-93	1.17E-07	8.57E-05	0.196	8.69E-08	1.02E-07	1.32E-07	1.47E-07
Nb-93m	9.88E-08	7.23E-05	0.165	7.36E-08	8.65E-08	1.11E-07	1.24E-07
Tc-99	8.11E-07	5.94E-04	1.36	6.02E-07	7.09E-07	9.16E-07	1.02E-06
Ru-106	1.11E-14	8.15E-12	1.86E-08	7.01E-15	9.14E-15	1.32E-14	1.52E-14
Cd-113m	2.86E-07	2.09E-04	0.479	2.07E-07	2.48E-07	3.26E-07	3.64E-07
Sb-125	2.48E-08	1.81E-05	4.14E-02	1.65E-08	2.08E-08	2.89E-08	3.29E-08
Sn-126	3.71E-08	2.71E-05	6.20E-02	2.75E-08	3.24E-08	4.19E-08	4.65E-08
I-129	1.53E-09	1.12E-06	2.56E-03	1.13E-09	1.34E-09	1.73E-09	1.92E-09
Cs-134	1.03E-09	7.53E-07	1.72E-03	6.60E-10	8.50E-10	1.21E-09	1.39E-09
Cs-137	1.26E-02	9.22	2.11E+04	9.23E-03	1.10E-02	1.43E-02	1.59E-02
Ba-137m	1.19E-02	8.72	1.99E+04	8.73E-03	1.04E-02	1.35E-02	1.50E-02
Sm-151	9.17E-05	6.71E-02	153	6.82E-05	8.03E-05	1.03E-04	1.15E-04
Eu-152	3.46E-08	2.54E-05	5.80E-02	3.35E-08	3.41E-08	3.52E-08	3.58E-08
Eu-154	4.82E-07	3.53E-04	0.806	3.27E-07	4.07E-07	5.59E-07	6.34E-07
Eu-155	2.63E-06	1.92E-03	4.39	2.55E-06	2.59E-06	2.66E-06	2.70E-06
Ra-226	6.72E-12	4.92E-09	1.12E-05	5.43E-12	6.09E-12	7.36E-12	7.98E-12
Ra-228	1.34E-16	9.83E-14	2.25E-10	1.31E-16	1.33E-16	1.36E-16	1.37E-16
Ac-227	3.43E-11	2.51E-08	5.74E-05	2.76E-11	3.11E-11	3.76E-11	4.09E-11
Pa-231	7.45E-11	5.46E-08	1.25E-04	5.95E-11	6.72E-11	8.21E-11	8.93E-11
Th-229	2.61E-14	1.91E-11	4.36E-08	2.54E-14	2.58E-14	2.64E-14	2.67E-14
Th-232	3.33E-17	2.44E-14	5.57E-11	2.51E-17	2.93E-17	3.74E-17	4.14E-17
U-232	2.83E-10	2.07E-07	4.73E-04	2.51E-10	2.72E-10	2.89E-10	2.93E-10
U-233	1.41E-11	1.03E-08	2.35E-05	1.26E-11	1.36E-11	1.44E-11	1.45E-11
U-234	1.52E-05	1.11E-02	25.4	1.38E-05	1.47E-05	1.54E-05	1.56E-05
U-235	6.75E-07	4.94E-04	1.13	6.17E-07	6.56E-07	6.87E-07	6.94E-07
U-236	1.29E-07	9.48E-05	0.217	1.16E-07	1.25E-07	1.32E-07	1.34E-07
U-238	1.54E-05	1.13E-02	25.7	1.41E-05	1.49E-05	1.57E-05	1.58E-05
Np-237	5.00E-09	3.66E-06	8.37E-03	3.70E-09	4.37E-09	5.66E-09	6.29E-09
Pu-238	2.82E-07	2.06E-04	0.471	5.75E-08	1.79E-07	3.73E-07	4.60E-07
Pu-239	3.93E-05	2.87E-02	65.7	1.14E-05	2.65E-05	5.05E-05	6.13E-05
Pu-240	3.56E-06	2.61E-03	5.96	8.40E-07	2.31E-06	4.66E-06	5.71E-06
Pu-241	1.16E-05	8.52E-03	19.5	1.80E-06	7.13E-06	1.56E-05	1.94E-05
Pu-242	5.28E-11	3.87E-08	8.84E-05	7.82E-12	3.22E-11	7.10E-11	8.85E-11
Am-241	2.25E-07	1.65E-04	0.376	1.45E-07	1.86E-07	2.65E-07	3.03E-07
Am-243	1.57E-12	1.15E-09	2.63E-06	9.95E-13	1.29E-12	1.86E-12	2.14E-12
Cm-242	6.31E-10	4.62E-07	1.06E-03	6.09E-10	6.20E-10	6.43E-10	6.54E-10
Cm-243	1.29E-11	9.46E-09	2.16E-05	1.25E-11	1.27E-11	1.32E-11	1.34E-11
Cm-244	3.71E-11	2.72E-08	6.21E-05	2.34E-11	3.05E-11	4.40E-11	5.06E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.47E-04 (g/L)	----	1.08	1.87E-04	4.36E-04	8.33E-04	1.01E-03
U	0.194	3.37E+04	7.71E+04	0.177	0.188	0.197	0.199

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.59E+04 (kg)	(3.01 kgal)	----	----	----	----	----
Heat Load	1.57E-02 (kW)	(53.7 BTU/hr)	----	1.47E-02	1.53E-02	1.61E-02	1.65E-02
Bulk Density*	1.40 (g/cc)	----	----	1.36	1.38	1.41	1.42
Water wt%†	49.0	----	----	46.7	47.8	50.3	51.9
TOC wt% C (wet)	0.720	----	----	0.424	0.569	0.870	1.02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.57E-04	0.113	1.79	7.76E-05	7.76E-05	1.65E-04	1.75E-04
C-14	2.31E-05	1.66E-02	0.264	6.45E-06	6.45E-06	2.34E-05	2.37E-05
Ni-59	1.46E-06	1.05E-03	1.66E-02	6.74E-07	6.74E-07	1.50E-06	1.54E-06
Ni-63	1.43E-04	0.102	1.63	6.53E-05	6.53E-05	1.47E-04	1.51E-04
Co-60	2.61E-05	1.87E-02	0.297	6.96E-06	6.96E-06	2.66E-05	2.72E-05
Se-79	2.35E-06	1.68E-03	2.67E-02	1.28E-06	1.28E-06	2.73E-06	3.10E-06
Sr-90	8.63E-02	61.9	985	8.11E-02	8.37E-02	8.90E-02	9.16E-02
Y-90	8.64E-02	61.9	985	4.96E-02	4.96E-02	8.90E-02	9.16E-02
Zr-93	1.15E-05	8.23E-03	0.131	6.16E-06	6.16E-06	1.34E-05	1.53E-05
Nb-93m	8.35E-06	5.98E-03	9.52E-02	4.62E-06	4.62E-06	9.70E-06	1.10E-05
Tc-99	1.64E-04	0.118	1.87	1.02E-04	1.32E-04	1.96E-04	2.27E-04
Ru-106	4.97E-09	3.56E-06	5.66E-05	2.50E-09	2.50E-09	5.52E-09	6.02E-09
Cd-113m	6.02E-05	4.31E-02	0.687	2.82E-05	2.82E-05	7.18E-05	8.29E-05
Sb-125	1.14E-04	8.15E-02	1.30	3.10E-05	3.10E-05	1.17E-04	1.20E-04
Sn-126	3.55E-06	2.54E-03	4.05E-02	1.95E-06	1.95E-06	4.13E-06	4.68E-06
I-129	3.17E-07	2.27E-04	3.61E-03	1.96E-07	2.55E-07	3.79E-07	4.39E-07
Cs-134	1.95E-06	1.40E-03	2.23E-02	1.18E-06	1.56E-06	2.35E-06	2.74E-06
Cs-137	0.170	122	1.94E+03	0.155	0.162	0.178	0.185
Ba-137m	0.161	115	1.84E+03	0.128	0.128	0.168	0.175
Sm-151	8.26E-03	5.92	94.3	4.54E-03	4.54E-03	9.61E-03	1.09E-02
Eu-152	2.91E-06	2.08E-03	3.32E-02	1.59E-06	1.59E-06	3.19E-06	3.47E-06
Eu-154	4.31E-04	0.309	4.91	1.64E-04	1.64E-04	5.27E-04	5.66E-04
Eu-155	1.73E-04	0.124	1.97	9.40E-05	9.40E-05	1.90E-04	2.07E-04
Ra-226	1.00E-10	7.17E-08	1.14E-06	6.70E-11	6.70E-11	1.12E-10	1.23E-10
Ra-228	8.00E-08	5.73E-05	9.12E-04	3.22E-08	5.56E-08	1.08E-07	1.38E-07
Ac-227	6.27E-10	4.50E-07	7.15E-06	4.36E-10	4.36E-10	6.97E-10	7.63E-10
Pa-231	2.85E-09	2.04E-06	3.25E-05	1.78E-09	1.78E-09	3.23E-09	3.60E-09
Th-229	1.89E-09	1.35E-06	2.15E-05	8.39E-10	1.35E-09	2.51E-09	3.17E-09
Th-232	5.26E-09	3.77E-06	6.00E-05	2.62E-09	3.91E-09	6.61E-09	7.90E-09
U-232	4.26E-07	3.05E-04	4.86E-03	2.35E-07	3.28E-07	5.39E-07	6.60E-07
U-233	1.63E-06	1.17E-03	1.86E-02	9.01E-07	1.26E-06	2.07E-06	2.53E-06
U-234	6.07E-07	4.35E-04	6.93E-03	5.88E-07	5.98E-07	6.18E-07	6.25E-07
U-235	2.50E-08	1.79E-05	2.85E-04	2.42E-08	2.46E-08	2.55E-08	2.58E-08
U-236	1.68E-08	1.21E-05	1.92E-04	1.63E-08	1.66E-08	1.71E-08	1.74E-08
U-238	6.92E-07	4.96E-04	7.89E-03	6.74E-07	6.83E-07	7.03E-07	7.09E-07
Np-237	5.95E-07	4.27E-04	6.79E-03	3.92E-07	4.91E-07	7.00E-07	8.01E-07
Pu-238	1.02E-06	7.29E-04	1.16E-02	7.79E-07	8.96E-07	1.14E-06	1.26E-06
Pu-239	3.58E-05	2.56E-02	0.408	2.96E-05	3.27E-05	3.89E-05	4.19E-05
Pu-240	5.93E-06	4.25E-03	6.76E-02	4.79E-06	5.35E-06	6.51E-06	7.07E-06
Pu-241	6.89E-05	4.93E-02	0.785	5.26E-05	6.05E-05	7.72E-05	8.52E-05
Pu-242	3.81E-10	2.73E-07	4.35E-06	2.84E-10	3.32E-10	4.31E-10	4.79E-10
Am-241	4.01E-05	2.87E-02	0.457	2.88E-05	3.43E-05	4.59E-05	5.14E-05
Am-243	1.50E-09	1.08E-06	1.71E-05	1.10E-09	1.29E-09	1.75E-09	1.97E-09
Cm-242	1.12E-07	8.04E-05	1.28E-03	5.80E-08	5.80E-08	1.23E-07	1.33E-07
Cm-243	1.04E-08	7.48E-06	1.19E-04	5.27E-09	5.27E-09	1.14E-08	1.23E-08
Cm-244	1.01E-07	7.22E-05	1.15E-03	4.74E-08	4.74E-08	1.19E-07	1.30E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.58E-04 (g/L)	----	5.22E-03	3.42E-04	3.99E-04	5.16E-04	5.73E-04
U	7.11E-03	1.21E+03	19.3	6.88E-03	6.99E-03	7.24E-03	7.32E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.30E+06 (kg)	(445 kgal)	----	----	----	----	----
Heat Load	0.239 (kW)	(818 BTU/hr)	----	0.179	0.210	0.270	0.299
Bulk Density†	1.37 (g/cc)	----	----	1.26	1.32	1.40	1.42
Water wt%†	64.8	----	----	61.1	62.8	67.8	72.4
TOC wt% C (wet)†	4.98E-03	----	----	2.91E-03	3.92E-03	6.04E-03	7.07E-03

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.62E-06	1.19E-03	2.73	1.08E-06	1.08E-06	1.81E-06	2.02E-06
C-14	2.73E-07	2.00E-04	0.459	1.60E-07	1.60E-07	2.88E-07	3.02E-07
Ni-59	4.29E-08	3.14E-05	7.22E-02	3.43E-08	3.76E-08	7.57E-08	1.06E-07
Ni-63	3.94E-06	2.89E-03	6.64	3.16E-06	3.42E-06	6.94E-06	9.72E-06
Co-60	2.03E-07	1.49E-04	0.342	7.37E-08	7.37E-08	2.07E-07	2.11E-07
Se-79	4.04E-08	2.95E-05	6.80E-02	3.31E-08	3.31E-08	4.35E-08	4.66E-08
Sr-90	1.16E-02	8.49	1.95E+04	8.64E-03	1.02E-02	1.31E-02	1.45E-02
Y-90	1.16E-02	8.49	1.95E+04	8.64E-03	1.02E-02	1.31E-02	1.45E-02
Zr-93	1.94E-07	1.42E-04	0.327	1.58E-07	1.58E-07	2.09E-07	2.24E-07
Nb-93m	1.55E-07	1.13E-04	0.260	1.29E-07	1.29E-07	1.67E-07	1.79E-07
Tc-99	1.92E-06	1.40E-03	3.23	1.50E-06	1.70E-06	2.13E-06	2.34E-06
Ru-106	3.36E-11	2.46E-08	5.67E-05	1.69E-11	1.69E-11	3.74E-11	4.08E-11
Cd-113m	6.92E-07	5.06E-04	1.17	4.75E-07	4.75E-07	7.70E-07	8.45E-07
Sb-125	7.94E-07	5.81E-04	1.34	2.34E-07	2.34E-07	8.17E-07	8.38E-07
Sn-126	6.09E-08	4.45E-05	0.102	5.00E-08	5.00E-08	6.57E-08	7.03E-08
I-129	3.66E-09	2.68E-06	6.17E-03	2.85E-09	3.24E-09	4.08E-09	4.49E-09
Cs-134	1.43E-08	1.04E-05	2.40E-02	9.03E-09	1.16E-08	1.69E-08	1.96E-08
Cs-137	1.37E-02	10.00	2.30E+04	1.03E-02	1.20E-02	1.53E-02	1.70E-02
Ba-137m	1.29E-02	9.46	2.18E+04	9.73E-03	1.14E-02	1.45E-02	1.61E-02
Sm-151	1.47E-04	0.108	248	1.22E-04	1.22E-04	1.59E-04	1.70E-04
Eu-152	5.41E-08	3.96E-05	9.11E-02	4.52E-08	4.52E-08	5.60E-08	5.79E-08
Eu-154	3.40E-06	2.49E-03	5.72	1.59E-06	1.59E-06	4.05E-06	4.31E-06
Eu-155	3.78E-06	2.76E-03	6.36	3.24E-06	3.24E-06	3.89E-06	4.01E-06
Ra-226	7.35E-12	5.38E-09	1.24E-05	6.06E-12	6.72E-12	7.99E-12	8.62E-12
Ra-228	5.41E-10	3.96E-07	9.12E-04	2.18E-10	3.76E-10	7.33E-10	9.37E-10
Ac-227	3.83E-11	2.80E-08	6.45E-05	3.16E-11	3.51E-11	4.17E-11	4.49E-11
Pa-231	9.33E-11	6.83E-08	1.57E-04	7.82E-11	8.60E-11	1.01E-10	1.08E-10
Th-229	1.28E-11	9.37E-09	2.16E-05	5.71E-12	9.18E-12	1.70E-11	2.15E-11
Th-232	3.56E-11	2.61E-08	6.00E-05	1.77E-11	2.65E-11	4.47E-11	5.35E-11
U-232	3.17E-09	2.32E-06	5.33E-03	1.87E-09	2.50E-09	3.93E-09	4.75E-09
U-233	1.11E-08	8.11E-06	1.87E-02	6.12E-09	8.54E-09	1.40E-08	1.71E-08
U-234	1.51E-05	1.10E-02	25.4	1.38E-05	1.46E-05	1.53E-05	1.55E-05
U-235	6.71E-07	4.91E-04	1.13	6.13E-07	6.51E-07	6.82E-07	6.90E-07
U-236	1.29E-07	9.42E-05	0.217	1.15E-07	1.24E-07	1.31E-07	1.33E-07
U-238	1.53E-05	1.12E-02	25.8	1.40E-05	1.48E-05	1.56E-05	1.57E-05
Np-237	9.00E-09	6.59E-06	1.52E-02	7.62E-09	8.30E-09	9.71E-09	1.04E-08
Pu-238	2.87E-07	2.10E-04	0.483	6.39E-08	1.85E-07	3.77E-07	4.63E-07
Pu-239	3.92E-05	2.87E-02	66.1	1.16E-05	2.65E-05	5.04E-05	6.11E-05
Pu-240	3.58E-06	2.62E-03	6.02	8.74E-07	2.34E-06	4.67E-06	5.71E-06
Pu-241	1.20E-05	8.81E-03	20.3	2.25E-06	7.55E-06	1.60E-05	1.98E-05
Pu-242	5.50E-11	4.03E-08	9.27E-05	1.03E-11	3.46E-11	7.31E-11	9.04E-11
Am-241	4.95E-07	3.62E-04	0.833	4.15E-07	4.56E-07	5.35E-07	5.73E-07
Am-243	1.17E-11	8.59E-09	1.98E-05	9.01E-12	1.03E-11	1.34E-11	1.49E-11
Cm-242	1.39E-09	1.02E-06	2.34E-03	1.02E-09	1.02E-09	1.46E-09	1.53E-09
Cm-243	8.35E-11	6.11E-08	1.41E-04	4.85E-11	4.85E-11	9.01E-11	9.65E-11
Cm-244	7.19E-10	5.26E-07	1.21E-03	3.58E-10	3.58E-10	8.41E-10	9.19E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.46E-04 (g/L)	----	1.09	1.89E-04	4.36E-04	8.31E-04	1.01E-03
U	0.192	3.35E+04	7.71E+04	0.176	0.187	0.196	0.198

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.75E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	1.97E-02 (kW)	(67.3 BTU/hr)	----	1.36E-02	1.68E-02	2.27E-02	2.57E-02
Bulk Density	1.28 (g/cc)	----	----	1.18	1.23	1.33	1.36
Void Fraction	0.761	----	----	0.657	0.703	0.835	0.910
Water wt%	69.7	----	----	64.3	66.7	73.2	77.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.40	7.90E+04	3.75E+04	2.46	3.43	5.34	6.16
Al^{3+}	0.115	2.43E+03	1.15E+03	0.115	0.115	0.115	0.115
Fe^{3+} (total Fe)	0.502	2.19E+04	1.04E+04	0.492	0.497	0.506	0.511
Cr^{3+}	3.74E-03	152	72.0	3.24E-03	3.50E-03	3.98E-03	4.22E-03
Bi^{3+}	8.37E-02	1.37E+04	6.49E+03	6.50E-02	7.58E-02	8.94E-02	9.37E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.48E-05	3.89	1.85	5.54E-06	1.83E-05	2.87E-05	3.11E-05
Zr (as $ZrO(OH)_2$)	6.50E-05	4.63	2.20	4.07E-05	5.32E-05	7.72E-05	8.90E-05
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.24E-03	57.1	27.1	1.12E-03	1.19E-03	2.09E-03	3.99E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.125	3.91E+03	1.86E+03	8.30E-02	0.107	0.143	0.160
K^{+}	5.59E-03	171	81.1	4.90E-03	5.26E-03	5.94E-03	6.27E-03
OH^{-}	2.19	2.90E+04	1.38E+04	2.13	2.16	2.23	2.27
$NO3^{-}$	0.958	4.64E+04	2.20E+04	0.870	0.923	0.993	1.03
$NO2^{-}$	9.57E-02	3.44E+03	1.63E+03	4.69E-02	6.89E-02	0.128	0.164
$CO3^{2-}$	0.125	5.86E+03	2.78E+03	8.30E-02	0.107	0.143	0.160
$PO4^{3-}$	1.04	7.72E+04	3.67E+04	0.443	0.750	1.26	1.41
$SO4^{2-}$	4.27E-02	3.20E+03	1.52E+03	3.74E-02	4.01E-02	4.53E-02	4.79E-02
Si (as SiO_x^{2-})	0.102	2.23E+03	1.06E+03	6.27E-02	6.44E-02	0.188	0.271
F^{-}	0.164	2.44E+03	1.16E+03	0.148	0.157	0.387	0.760
Cl^{-}	2.57E-02	712	338	2.26E-02	2.42E-02	2.73E-02	2.88E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.58E-02	210	99.9	1.02E-02	1.32E-02	1.85E-02	2.09E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.70E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.75E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	1.97E-02 (kW)	(67.3 BTU/hr)	----	1.36E-02	1.68E-02	2.27E-02	2.57E-02
Bulk Density†	1.28 (g/cc)	----	----	1.18	1.23	1.33	1.36
Water wt%†	69.7	----	----	64.3	66.7	73.2	77.2
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.40	7.90E+04	3.75E+04	2.46	3.43	5.34	6.16
Al^{3+}	0.115	2.43E+03	1.15E+03	0.115	0.115	0.115	0.115
Fe^{3+} (total Fe)	0.502	2.19E+04	1.04E+04	0.492	0.497	0.506	0.511
Cr^{3+}	3.73E-03	152	72.0	3.24E-03	3.50E-03	3.98E-03	4.22E-03
Bi^{3+}	8.37E-02	1.37E+04	6.49E+03	6.50E-02	7.58E-02	8.94E-02	9.37E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.48E-05	3.89	1.85	5.54E-06	1.83E-05	2.87E-05	3.11E-05
Zr (as $ZrO(OH)_2$)	6.50E-05	4.63	2.20	4.07E-05	5.32E-05	7.72E-05	8.90E-05
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.24E-03	57.1	27.1	1.12E-03	1.19E-03	2.09E-03	3.99E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.125	3.91E+03	1.86E+03	8.30E-02	0.107	0.143	0.160
K^{+}	5.59E-03	171	81.1	4.90E-03	5.26E-03	5.94E-03	6.27E-03
OH^{-}	2.19	2.90E+04	1.38E+04	2.13	2.16	2.23	2.27
$NO3^{-}$	0.958	4.64E+04	2.20E+04	0.870	0.923	0.993	1.03
$NO2^{-}$	9.56E-02	3.44E+03	1.63E+03	4.69E-02	6.89E-02	0.128	0.164
$CO3^{2-}$	0.125	5.86E+03	2.78E+03	8.30E-02	0.107	0.143	0.160
$PO4^{3-}$	1.04	7.72E+04	3.67E+04	0.443	0.750	1.26	1.41
$SO4^{2-}$	4.26E-02	3.20E+03	1.52E+03	3.74E-02	4.01E-02	4.53E-02	4.79E-02
Si (as SiO_x^{2-})	0.102	2.23E+03	1.06E+03	6.27E-02	6.44E-02	0.188	0.271
F^{-}	0.164	2.44E+03	1.16E+03	0.148	0.157	0.387	0.760
Cl^{-}	2.57E-02	712	338	2.26E-02	2.42E-02	2.73E-02	2.88E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.58E-02	210	99.9	1.02E-02	1.32E-02	1.85E-02	2.09E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.75E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	1.97E-02 (kW)	(67.3 BTU/hr)	----	1.36E-02	1.68E-02	2.27E-02	2.57E-02
Bulk Density	1.28 (g/cc)	----	----	1.18	1.23	1.33	1.36
Void Fraction	0.761	----	----	0.657	0.703	0.835	0.910
Water wt%	69.7	----	----	64.3	66.7	73.2	77.2
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.19E-07	1.71E-04	8.11E-02	9.45E-08	1.50E-07	3.06E-07	4.04E-07
C-14	4.56E-08	3.56E-05	1.69E-02	3.18E-08	3.89E-08	5.25E-08	5.91E-08
Ni-59	1.30E-08	1.01E-05	4.80E-03	9.03E-09	1.11E-08	2.81E-08	4.22E-08
Ni-63	1.17E-06	9.17E-04	0.435	8.16E-07	1.00E-06	2.56E-06	3.84E-06
Co-60	1.11E-08	8.70E-06	4.13E-03	7.42E-09	9.34E-09	1.30E-08	1.48E-08
Se-79	9.61E-09	7.51E-06	3.57E-03	6.70E-09	8.20E-09	1.11E-08	1.25E-08
Sr-90	4.40E-03	3.44	1.63E+03	3.05E-03	3.75E-03	5.08E-03	5.74E-03
Y-90	4.40E-03	3.44	1.63E+03	3.05E-03	3.75E-03	5.08E-03	5.74E-03
Zr-93	4.56E-08	3.57E-05	1.69E-02	3.18E-08	3.89E-08	5.25E-08	5.92E-08
Nb-93m	3.84E-08	3.00E-05	1.42E-02	2.68E-08	3.28E-08	4.41E-08	4.97E-08
Tc-99	3.16E-07	2.47E-04	0.117	2.21E-07	2.70E-07	3.64E-07	4.11E-07
Ru-106	5.07E-15	3.96E-12	1.88E-09	3.18E-15	4.16E-15	6.02E-15	6.94E-15
Cd-113m	1.15E-07	8.97E-05	4.26E-02	7.85E-08	9.72E-08	1.33E-07	1.51E-07
Sb-125	1.07E-08	8.40E-06	3.99E-03	6.97E-09	8.92E-09	1.26E-08	1.45E-08
Sn-126	1.45E-08	1.13E-05	5.38E-03	1.01E-08	1.24E-08	1.67E-08	1.88E-08
I-129	5.97E-10	4.67E-07	2.22E-04	4.16E-10	5.09E-10	6.88E-10	7.76E-10
Cs-134	4.62E-10	3.61E-07	1.71E-04	2.93E-10	3.80E-10	5.47E-10	6.28E-10
Cs-137	5.00E-03	3.91	1.86E+03	3.46E-03	4.26E-03	5.78E-03	6.52E-03
Ba-137m	4.73E-03	3.70	1.76E+03	3.28E-03	4.03E-03	5.46E-03	6.17E-03
Sm-151	3.57E-05	2.79E-02	13.2	2.49E-05	3.05E-05	4.11E-05	4.63E-05
Eu-152	1.58E-08	1.23E-05	5.86E-03	1.53E-08	1.56E-08	1.61E-08	1.63E-08
Eu-154	2.06E-07	1.61E-04	7.63E-02	1.35E-07	1.71E-07	2.41E-07	2.76E-07
Eu-155	1.19E-06	9.32E-04	0.443	1.16E-06	1.18E-06	1.21E-06	1.23E-06
Ra-226	2.36E-12	1.85E-09	8.76E-07	1.77E-12	2.08E-12	2.66E-12	2.94E-12
Ra-228	6.07E-17	4.74E-14	2.25E-11	5.92E-17	6.00E-17	6.14E-17	6.21E-17
Ac-227	1.21E-11	9.47E-09	4.49E-06	9.06E-12	1.06E-11	1.36E-11	1.51E-11
Pa-231	2.66E-11	2.08E-08	9.88E-06	1.98E-11	2.33E-11	3.01E-11	3.34E-11
Th-229	1.18E-14	9.20E-12	4.37E-09	1.15E-14	1.16E-14	1.19E-14	1.21E-14
Th-232	1.28E-17	9.99E-15	4.74E-12	9.01E-18	1.10E-17	1.47E-17	1.65E-17
U-232	9.70E-11	7.58E-08	3.60E-05	8.25E-11	9.21E-11	1.02E-10	1.06E-10
U-233	4.50E-12	3.51E-09	1.67E-06	3.83E-12	4.27E-12	4.82E-12	5.05E-12
U-234	4.20E-06	3.28E-03	1.56	3.59E-06	3.99E-06	4.65E-06	4.98E-06
U-235	1.86E-07	1.45E-04	6.88E-02	1.59E-07	1.77E-07	2.06E-07	2.21E-07
U-236	4.17E-08	3.26E-05	1.55E-02	3.56E-08	3.96E-08	4.46E-08	4.68E-08
U-238	4.26E-06	3.33E-03	1.58	3.65E-06	4.06E-06	4.72E-06	5.06E-06
Np-237	1.96E-09	1.53E-06	7.28E-04	1.36E-09	1.67E-09	2.26E-09	2.55E-09
Pu-238	2.86E-07	2.23E-04	0.106	1.43E-07	1.80E-07	3.91E-07	4.92E-07
Pu-239	6.70E-05	5.24E-02	24.9	2.24E-05	3.41E-05	1.00E-04	1.32E-04
Pu-240	4.52E-06	3.53E-03	1.68	1.89E-06	2.58E-06	6.47E-06	8.33E-06
Pu-241	7.19E-06	5.61E-03	2.66	2.67E-06	5.12E-06	9.01E-06	1.08E-05
Pu-242	2.99E-11	2.33E-08	1.11E-05	9.24E-12	2.04E-11	3.82E-11	4.62E-11
Am-241	1.00E-07	7.83E-05	3.72E-02	6.38E-08	8.26E-08	1.18E-07	1.36E-07
Am-243	7.11E-13	5.56E-10	2.64E-07	4.48E-13	5.84E-13	8.43E-13	9.71E-13
Cm-242	2.89E-10	2.26E-07	1.07E-04	2.79E-10	2.84E-10	2.94E-10	2.99E-10
Cm-243	5.92E-12	4.62E-09	2.19E-06	5.70E-12	5.81E-12	6.03E-12	6.13E-12
Cm-244	1.69E-11	1.32E-08	6.26E-06	1.06E-11	1.38E-11	2.00E-11	2.31E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.10E-03 (g/L)	----	0.407	3.68E-04	5.60E-04	1.64E-03	2.16E-03
U	5.37E-02	9.98E+03	4.74E+03	4.60E-02	5.11E-02	5.94E-02	6.37E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.70E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.75E+05 (kg)	(98.0 kgal)	----	----	----	----	----
Heat Load	1.97E-02 (kW)	(67.3 BTU/hr)	----	1.36E-02	1.68E-02	2.27E-02	2.57E-02
Bulk Density†	1.28 (g/cc)	----	----	1.18	1.23	1.33	1.36
Water wt%†	69.7	----	----	64.3	66.7	73.2	77.2
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.19E-07	1.71E-04	8.11E-02	9.45E-08	1.50E-07	3.06E-07	4.04E-07
C-14	4.56E-08	3.56E-05	1.69E-02	3.18E-08	3.89E-08	5.25E-08	5.91E-08
Ni-59	1.30E-08	1.01E-05	4.80E-03	9.03E-09	1.11E-08	2.81E-08	4.22E-08
Ni-63	1.17E-06	9.17E-04	0.435	8.16E-07	1.00E-06	2.56E-06	3.84E-06
Co-60	1.11E-08	8.70E-06	4.13E-03	7.42E-09	9.34E-09	1.30E-08	1.48E-08
Se-79	9.61E-09	7.51E-06	3.57E-03	6.70E-09	8.20E-09	1.11E-08	1.25E-08
Sr-90	4.40E-03	3.44	1.63E+03	3.05E-03	3.75E-03	5.08E-03	5.74E-03
Y-90	4.40E-03	3.44	1.63E+03	3.05E-03	3.75E-03	5.08E-03	5.74E-03
Zr-93	4.56E-08	3.57E-05	1.69E-02	3.18E-08	3.89E-08	5.25E-08	5.92E-08
Nb-93m	3.84E-08	3.00E-05	1.42E-02	2.68E-08	3.28E-08	4.41E-08	4.97E-08
Tc-99	3.16E-07	2.47E-04	0.117	2.21E-07	2.70E-07	3.64E-07	4.11E-07
Ru-106	5.07E-15	3.96E-12	1.88E-09	3.18E-15	4.16E-15	6.02E-15	6.94E-15
Cd-113m	1.15E-07	8.97E-05	4.26E-02	7.85E-08	9.72E-08	1.33E-07	1.51E-07
Sb-125	1.07E-08	8.40E-06	3.99E-03	6.97E-09	8.92E-09	1.26E-08	1.45E-08
Sn-126	1.45E-08	1.13E-05	5.38E-03	1.01E-08	1.24E-08	1.67E-08	1.88E-08
I-129	5.97E-10	4.67E-07	2.22E-04	4.16E-10	5.09E-10	6.88E-10	7.76E-10
Cs-134	4.62E-10	3.61E-07	1.71E-04	2.93E-10	3.80E-10	5.47E-10	6.28E-10
Cs-137	5.00E-03	3.91	1.86E+03	3.46E-03	4.26E-03	5.78E-03	6.52E-03
Ba-137m	4.73E-03	3.70	1.76E+03	3.28E-03	4.03E-03	5.46E-03	6.17E-03
Sm-151	3.57E-05	2.79E-02	13.2	2.49E-05	3.05E-05	4.11E-05	4.63E-05
Eu-152	1.58E-08	1.23E-05	5.86E-03	1.53E-08	1.56E-08	1.61E-08	1.63E-08
Eu-154	2.06E-07	1.61E-04	7.63E-02	1.35E-07	1.71E-07	2.41E-07	2.76E-07
Eu-155	1.19E-06	9.32E-04	0.443	1.16E-06	1.18E-06	1.21E-06	1.23E-06
Ra-226	2.36E-12	1.85E-09	8.76E-07	1.77E-12	2.08E-12	2.66E-12	2.94E-12
Ra-228	6.07E-17	4.74E-14	2.25E-11	5.92E-17	6.00E-17	6.14E-17	6.21E-17
Ac-227	1.21E-11	9.47E-09	4.49E-06	9.06E-12	1.06E-11	1.36E-11	1.51E-11
Pa-231	2.66E-11	2.08E-08	9.88E-06	1.98E-11	2.33E-11	3.01E-11	3.34E-11
Th-229	1.18E-14	9.20E-12	4.37E-09	1.15E-14	1.16E-14	1.19E-14	1.21E-14
Th-232	1.28E-17	9.99E-15	4.74E-12	9.01E-18	1.10E-17	1.47E-17	1.65E-17
U-232	9.70E-11	7.58E-08	3.60E-05	8.25E-11	9.21E-11	1.02E-10	1.06E-10
U-233	4.49E-12	3.51E-09	1.67E-06	3.83E-12	4.27E-12	4.82E-12	5.05E-12
U-234	4.20E-06	3.28E-03	1.56	3.59E-06	3.99E-06	4.65E-06	4.98E-06
U-235	1.86E-07	1.45E-04	6.88E-02	1.59E-07	1.77E-07	2.06E-07	2.21E-07
U-236	4.17E-08	3.26E-05	1.55E-02	3.56E-08	3.96E-08	4.46E-08	4.68E-08
U-238	4.26E-06	3.33E-03	1.58	3.65E-06	4.06E-06	4.72E-06	5.06E-06
Np-237	1.96E-09	1.53E-06	7.28E-04	1.36E-09	1.67E-09	2.26E-09	2.55E-09
Pu-238	2.86E-07	2.23E-04	0.106	1.43E-07	1.80E-07	3.91E-07	4.92E-07
Pu-239	6.70E-05	5.24E-02	24.9	2.24E-05	3.41E-05	1.00E-04	1.32E-04
Pu-240	4.52E-06	3.53E-03	1.68	1.89E-06	2.58E-06	6.47E-06	8.33E-06
Pu-241	7.18E-06	5.61E-03	2.66	2.67E-06	5.12E-06	9.01E-06	1.08E-05
Pu-242	2.98E-11	2.33E-08	1.11E-05	9.24E-12	2.04E-11	3.82E-11	4.62E-11
Am-241	1.00E-07	7.83E-05	3.72E-02	6.38E-08	8.26E-08	1.18E-07	1.36E-07
Am-243	7.11E-13	5.56E-10	2.64E-07	4.48E-13	5.84E-13	8.43E-13	9.71E-13
Cm-242	2.89E-10	2.26E-07	1.07E-04	2.79E-10	2.84E-10	2.94E-10	2.99E-10
Cm-243	5.92E-12	4.62E-09	2.19E-06	5.70E-12	5.81E-12	6.03E-12	6.13E-12
Cm-244	1.69E-11	1.32E-08	6.26E-06	1.06E-11	1.38E-11	2.00E-11	2.31E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.10E-03 (g/L)	----	0.407	3.68E-04	5.60E-04	1.64E-03	2.16E-03
U	5.37E-02	9.98E+03	4.74E+03	4.60E-02	5.11E-02	5.94E-02	6.37E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.11E+05 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	7.25E-03 (kW)	(24.8 BTU/hr)	----	4.92E-03	6.12E-03	8.41E-03	9.54E-03
Bulk Density	1.54 (g/cc)	----	----	1.43	1.47	1.59	1.63
Void Fraction	0.708	----	----	0.648	0.674	0.758	0.833
Water wt%	46.2	----	----	35.8	40.0	55.6	59.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.68	8.48E+04	9.39E+03	3.61	4.22	6.74	7.53
Al^{3+}	4.97	8.71E+04	9.65E+03	3.00	3.53	6.01	6.76
Fe^{3+} (total Fe)	0.287	1.04E+04	1.15E+03	0.279	0.284	0.289	0.290
Cr^{3+}	3.62E-03	122	13.5	2.63E-03	3.14E-03	4.11E-03	4.58E-03
Bi^{3+}	3.16E-02	4.28E+03	474	1.63E-02	2.64E-02	3.46E-02	3.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.71E-03	353	39.1	2.67E-03	2.70E-03	2.72E-03	2.72E-03
Zr (as $ZrO(OH)_2$)	1.29E-04	7.64	0.846	8.07E-05	1.06E-04	1.53E-04	1.77E-04
Pb^{2+}	7.76E-02	1.04E+04	1.16E+03	7.41E-02	7.61E-02	7.92E-02	8.07E-02
Ni^{2+}	1.14E-03	43.6	4.83	9.01E-04	1.03E-03	2.08E-03	2.94E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.117	3.05E+03	337	8.30E-02	0.105	0.125	0.132
K^+	4.50E-03	114	12.6	3.13E-03	3.83E-03	5.18E-03	5.84E-03
OH^-	19.6	2.16E+05	2.40E+04	11.6	13.8	23.8	26.8
$NO3^-$	0.798	3.21E+04	3.56E+03	0.642	0.729	0.861	0.912
$NO2^-$	0.536	1.60E+04	1.77E+03	0.439	0.483	0.600	0.672
$CO3^{2-}$	0.117	4.56E+03	505	8.30E-02	0.105	0.125	0.132
$PO4^{3-}$	0.584	3.60E+04	3.99E+03	8.61E-02	0.391	0.698	0.771
$SO4^{2-}$	3.22E-02	2.01E+03	222	2.17E-02	2.71E-02	3.74E-02	4.25E-02
Si (as SiO_x^{2-})	9.52E-02	1.74E+03	192	2.08E-02	5.12E-02	0.122	0.152
F^-	7.50E-02	925	102	4.69E-02	6.14E-02	0.110	0.226
Cl^-	2.07E-02	476	52.7	1.44E-02	1.76E-02	2.38E-02	2.69E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.15E-02	348	38.5	2.03E-02	2.62E-02	3.67E-02	4.16E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.59E+03 (kg)	(2.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	7.25E-03 (kW)	(24.8 BTU/hr)	----	4.92E-03	6.12E-03	8.41E-03	9.54E-03
Bulk Density†	1.49 (g/cc)	----	----	1.39	1.42	1.54	1.57
Water wt%†	49.7	----	----	39.7	43.8	58.6	62.2
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.14	7.93E+04	9.39E+03	3.26	3.82	6.10	6.81
Al^{3+}	4.50	8.15E+04	9.65E+03	2.71	3.19	5.44	6.11
Fe^{3+} (total Fe)	0.259	9.73E+03	1.15E+03	0.252	0.257	0.261	0.263
Cr^{3+}	3.27E-03	114	13.5	2.38E-03	2.84E-03	3.72E-03	4.15E-03
Bi^{3+}	2.85E-02	4.01E+03	474	1.47E-02	2.39E-02	3.13E-02	3.30E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.45E-03	331	39.1	2.42E-03	2.44E-03	2.46E-03	2.46E-03
Zr (as $ZrO(OH)_2$)	1.17E-04	7.15	0.846	7.30E-05	9.55E-05	1.39E-04	1.60E-04
Pb^{2+}	7.02E-02	9.77E+03	1.16E+03	6.70E-02	6.88E-02	7.16E-02	7.30E-02
Ni^{2+}	1.03E-03	40.8	4.83	8.15E-04	9.28E-04	1.88E-03	2.66E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.106	2.85E+03	337	7.51E-02	9.53E-02	0.113	0.119
K^+	4.07E-03	107	12.6	2.83E-03	3.47E-03	4.69E-03	5.28E-03
OH^-	17.7	2.02E+05	2.40E+04	10.5	12.5	21.5	24.2
$NO3^-$	0.722	3.01E+04	3.56E+03	0.581	0.659	0.779	0.825
$NO2^-$	0.485	1.50E+04	1.77E+03	0.397	0.437	0.543	0.608
$CO3^{2-}$	0.106	4.27E+03	505	7.51E-02	9.53E-02	0.113	0.119
$PO4^{3-}$	0.528	3.37E+04	3.99E+03	7.79E-02	0.353	0.632	0.697
$SO4^{2-}$	2.91E-02	1.88E+03	222	1.96E-02	2.45E-02	3.39E-02	3.85E-02
Si (as SiO_x^{2-})	8.61E-02	1.62E+03	192	1.88E-02	4.63E-02	0.111	0.138
F^-	6.78E-02	866	102	4.24E-02	5.55E-02	9.95E-02	0.204
Cl^-	1.87E-02	445	52.7	1.30E-02	1.60E-02	2.16E-02	2.43E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.85E-02	325	38.5	1.84E-02	2.37E-02	3.32E-02	3.76E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.11E+05 (kg)	(19.0 kgal)	----	----	----	----	----
Heat Load	7.25E-03 (kW)	(24.8 BTU/hr)	----	4.92E-03	6.12E-03	8.41E-03	9.54E-03
Bulk Density	1.54 (g/cc)	----	----	1.43	1.47	1.59	1.63
Void Fraction	0.708	----	----	0.648	0.674	0.758	0.833
Water wt%	46.2	----	----	35.8	40.0	55.6	59.5
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.83E-07	5.73E-04	6.35E-02	6.36E-07	7.45E-07	1.06E-06	1.25E-06
C-14	1.29E-07	8.35E-05	9.25E-03	1.01E-07	1.15E-07	1.42E-07	1.56E-07
Ni-59	3.65E-08	2.37E-05	2.63E-03	2.88E-08	3.28E-08	6.66E-08	9.45E-08
Ni-63	3.40E-06	2.21E-03	0.244	2.69E-06	3.05E-06	6.14E-06	8.69E-06
Co-60	5.48E-08	3.56E-05	3.94E-03	4.74E-08	5.12E-08	5.85E-08	6.21E-08
Se-79	2.82E-08	1.83E-05	2.03E-03	2.25E-08	2.54E-08	3.11E-08	3.39E-08
Sr-90	8.35E-03	5.42	600	5.66E-03	7.05E-03	9.69E-03	1.10E-02
Y-90	8.35E-03	5.42	601	5.67E-03	7.05E-03	9.70E-03	1.10E-02
Zr-93	1.34E-07	8.70E-05	9.64E-03	1.07E-07	1.21E-07	1.48E-07	1.61E-07
Nb-93m	1.09E-07	7.10E-05	7.87E-03	8.65E-08	9.83E-08	1.21E-07	1.32E-07
Tc-99	9.32E-07	6.05E-04	6.70E-02	7.42E-07	8.40E-07	1.03E-06	1.12E-06
Ru-106	5.09E-12	3.31E-09	3.66E-07	5.00E-12	5.05E-12	5.14E-12	5.18E-12
Cd-113m	3.98E-07	2.59E-04	2.86E-02	3.26E-07	3.63E-07	4.34E-07	4.69E-07
Sb-125	1.25E-07	8.10E-05	8.97E-03	1.17E-07	1.21E-07	1.29E-07	1.32E-07
Sn-126	4.24E-08	2.76E-05	3.05E-03	3.37E-08	3.82E-08	4.68E-08	5.10E-08
I-129	1.77E-09	1.15E-06	1.27E-04	1.41E-09	1.59E-09	1.95E-09	2.12E-09
Cs-134	5.36E-09	3.48E-06	3.85E-04	5.02E-09	5.19E-09	5.52E-09	5.69E-09
Cs-137	9.51E-03	6.18	684	6.45E-03	8.03E-03	1.10E-02	1.25E-02
Ba-137m	9.00E-03	5.84	647	6.11E-03	7.60E-03	1.04E-02	1.18E-02
Sm-151	1.03E-04	6.68E-02	7.39	8.15E-05	9.25E-05	1.14E-04	1.24E-04
Eu-152	2.31E-07	1.50E-04	1.66E-02	2.30E-07	2.31E-07	2.32E-07	2.32E-07
Eu-154	1.20E-06	7.82E-04	8.66E-02	1.06E-06	1.14E-06	1.28E-06	1.34E-06
Eu-155	1.32E-05	8.56E-03	0.948	1.31E-05	1.32E-05	1.32E-05	1.33E-05
Ra-226	4.48E-12	2.91E-09	3.22E-07	3.31E-12	3.91E-12	5.07E-12	5.63E-12
Ra-228	4.53E-16	2.94E-13	3.26E-11	4.51E-16	4.52E-16	4.55E-16	4.56E-16
Ac-227	2.30E-11	1.50E-08	1.66E-06	1.70E-11	2.01E-11	2.61E-11	2.90E-11
Pa-231	5.33E-11	3.46E-08	3.83E-06	3.96E-11	4.67E-11	6.02E-11	6.68E-11
Th-229	4.61E-14	3.00E-11	3.32E-09	4.56E-14	4.59E-14	4.64E-14	4.67E-14
Th-232	5.15E-17	3.34E-14	3.70E-12	4.40E-17	4.79E-17	5.53E-17	5.89E-17
U-232	8.15E-10	5.29E-07	5.86E-05	7.84E-10	8.02E-10	8.25E-10	8.31E-10
U-233	2.89E-11	1.87E-08	2.07E-06	2.75E-11	2.84E-11	2.92E-11	2.94E-11
U-234	1.90E-05	1.24E-02	1.37	1.78E-05	1.86E-05	1.93E-05	1.94E-05
U-235	7.94E-07	5.16E-04	5.71E-02	7.41E-07	7.76E-07	8.05E-07	8.11E-07
U-236	5.85E-07	3.80E-04	4.21E-02	5.69E-07	5.78E-07	5.90E-07	5.96E-07
U-238	1.72E-05	1.12E-02	1.24	1.60E-05	1.68E-05	1.74E-05	1.76E-05
Np-237	6.61E-09	4.29E-06	4.75E-04	5.43E-09	6.04E-09	7.21E-09	7.78E-09
Pu-238	2.92E-05	1.90E-02	2.10	2.84E-05	2.88E-05	2.96E-05	3.00E-05
Pu-239	1.17E-03	0.760	84.2	1.14E-03	1.16E-03	1.18E-03	1.20E-03
Pu-240	1.77E-04	0.115	12.7	1.73E-04	1.75E-04	1.79E-04	1.81E-04
Pu-241	1.33E-03	0.862	95.5	1.30E-03	1.31E-03	1.34E-03	1.36E-03
Pu-242	4.34E-09	2.82E-06	3.12E-04	4.25E-09	4.30E-09	4.39E-09	4.44E-09
Am-241	4.24E-07	2.75E-04	3.05E-02	3.52E-07	3.89E-07	4.60E-07	4.95E-07
Am-243	3.42E-12	2.22E-09	2.46E-07	2.90E-12	3.17E-12	3.68E-12	3.93E-12
Cm-242	3.30E-09	2.14E-06	2.37E-04	3.28E-09	3.29E-09	3.31E-09	3.32E-09
Cm-243	7.43E-11	4.82E-08	5.34E-06	7.39E-11	7.41E-11	7.45E-11	7.47E-11
Cm-244	1.01E-10	6.59E-08	7.30E-06	8.90E-11	9.54E-11	1.08E-10	1.14E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.96E-02 (g/L)	----	1.41	1.92E-02	1.94E-02	1.98E-02	2.01E-02
U	0.217	3.35E+04	3.71E+03	0.201	0.211	0.220	0.222

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.59E+03 (kg)	(2.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	7.25E-03 (kW)	(24.8 BTU/hr)	----	4.92E-03	6.12E-03	8.41E-03	9.54E-03
Bulk Density†	1.49 (g/cc)	----	----	1.39	1.42	1.54	1.57
Water wt%†	49.7	----	----	39.7	43.8	58.6	62.2
TOC wt% C (wet)†	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.98E-07	5.36E-04	6.35E-02	5.75E-07	6.74E-07	9.55E-07	1.13E-06
C-14	1.16E-07	7.82E-05	9.25E-03	9.17E-08	1.04E-07	1.29E-07	1.41E-07
Ni-59	3.30E-08	2.22E-05	2.63E-03	2.60E-08	2.96E-08	6.02E-08	8.55E-08
Ni-63	3.07E-06	2.06E-03	0.244	2.43E-06	2.76E-06	5.55E-06	7.86E-06
Co-60	4.96E-08	3.33E-05	3.94E-03	4.29E-08	4.64E-08	5.29E-08	5.61E-08
Se-79	2.55E-08	1.72E-05	2.03E-03	2.03E-08	2.30E-08	2.82E-08	3.07E-08
Sr-90	7.55E-03	5.07	600	5.12E-03	6.38E-03	8.77E-03	9.94E-03
Y-90	7.56E-03	5.07	601	5.13E-03	6.38E-03	8.77E-03	9.95E-03
Zr-93	1.21E-07	8.15E-05	9.64E-03	9.65E-08	1.09E-07	1.34E-07	1.46E-07
Nb-93m	9.90E-08	6.65E-05	7.87E-03	7.83E-08	8.89E-08	1.09E-07	1.19E-07
Tc-99	8.43E-07	5.66E-04	6.70E-02	6.71E-07	7.60E-07	9.29E-07	1.01E-06
Ru-106	4.61E-12	3.09E-09	3.66E-07	4.52E-12	4.56E-12	4.65E-12	4.69E-12
Cd-113m	3.60E-07	2.42E-04	2.86E-02	2.95E-07	3.29E-07	3.93E-07	4.24E-07
Sb-125	1.13E-07	7.58E-05	8.97E-03	1.06E-07	1.10E-07	1.16E-07	1.20E-07
Sn-126	3.84E-08	2.58E-05	3.05E-03	3.05E-08	3.46E-08	4.23E-08	4.62E-08
I-129	1.60E-09	1.07E-06	1.27E-04	1.27E-09	1.44E-09	1.76E-09	1.92E-09
Cs-134	4.84E-09	3.25E-06	3.85E-04	4.54E-09	4.70E-09	5.00E-09	5.14E-09
Cs-137	8.60E-03	5.78	684	5.84E-03	7.26E-03	9.99E-03	1.13E-02
Ba-137m	8.14E-03	5.47	647	5.52E-03	6.87E-03	9.45E-03	1.07E-02
Sm-151	9.30E-05	6.25E-02	7.39	7.37E-05	8.36E-05	1.03E-04	1.12E-04
Eu-152	2.09E-07	1.41E-04	1.66E-02	2.08E-07	2.09E-07	2.10E-07	2.10E-07
Eu-154	1.09E-06	7.32E-04	8.66E-02	9.62E-07	1.03E-06	1.15E-06	1.21E-06
Eu-155	1.19E-05	8.02E-03	0.948	1.19E-05	1.19E-05	1.20E-05	1.20E-05
Ra-226	4.05E-12	2.72E-09	3.22E-07	2.99E-12	3.54E-12	4.58E-12	5.10E-12
Ra-228	4.10E-16	2.75E-13	3.26E-11	4.08E-16	4.09E-16	4.11E-16	4.13E-16
Ac-227	2.08E-11	1.40E-08	1.66E-06	1.54E-11	1.82E-11	2.36E-11	2.62E-11
Pa-231	4.82E-11	3.24E-08	3.83E-06	3.59E-11	4.22E-11	5.44E-11	6.04E-11
Th-229	4.17E-14	2.80E-11	3.32E-09	4.12E-14	4.15E-14	4.20E-14	4.22E-14
Th-232	4.66E-17	3.13E-14	3.70E-12	3.98E-17	4.33E-17	5.00E-17	5.33E-17
U-232	7.37E-10	4.95E-07	5.86E-05	7.09E-10	7.26E-10	7.46E-10	7.52E-10
U-233	2.61E-11	1.75E-08	2.07E-06	2.49E-11	2.57E-11	2.64E-11	2.66E-11
U-234	1.72E-05	1.16E-02	1.37	1.61E-05	1.68E-05	1.74E-05	1.76E-05
U-235	7.18E-07	4.82E-04	5.71E-02	6.70E-07	7.02E-07	7.28E-07	7.34E-07
U-236	5.29E-07	3.55E-04	4.21E-02	5.15E-07	5.23E-07	5.34E-07	5.39E-07
U-238	1.56E-05	1.05E-02	1.24	1.45E-05	1.52E-05	1.58E-05	1.59E-05
Np-237	5.98E-09	4.02E-06	4.75E-04	4.91E-09	5.46E-09	6.52E-09	7.04E-09
Pu-238	2.64E-05	1.78E-02	2.10	2.57E-05	2.61E-05	2.68E-05	2.72E-05
Pu-239	1.06E-03	0.711	84.2	1.04E-03	1.05E-03	1.07E-03	1.08E-03
Pu-240	1.60E-04	0.108	12.7	1.57E-04	1.58E-04	1.62E-04	1.64E-04
Pu-241	1.20E-03	0.807	95.5	1.17E-03	1.19E-03	1.22E-03	1.23E-03
Pu-242	3.93E-09	2.64E-06	3.12E-04	3.84E-09	3.88E-09	3.97E-09	4.02E-09
Am-241	3.84E-07	2.58E-04	3.05E-02	3.18E-07	3.52E-07	4.17E-07	4.48E-07
Am-243	3.09E-12	2.08E-09	2.46E-07	2.62E-12	2.86E-12	3.33E-12	3.56E-12
Cm-242	2.98E-09	2.00E-06	2.37E-04	2.96E-09	2.97E-09	2.99E-09	3.00E-09
Cm-243	6.72E-11	4.51E-08	5.34E-06	6.68E-11	6.70E-11	6.74E-11	6.76E-11
Cm-244	9.18E-11	6.16E-08	7.30E-06	8.05E-11	8.63E-11	9.74E-11	1.03E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.77E-02 (g/L)	----	1.41	1.74E-02	1.75E-02	1.80E-02	1.81E-02
U	0.196	3.13E+04	3.71E+03	0.182	0.191	0.199	0.200

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.94E+05 (kg)	(171 kgal)	----	----	----	----	----
Heat Load	5.92E-02 (kW)	(202 BTU/hr)	----	4.70E-02	5.29E-02	6.56E-02	7.17E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.23	8.70E+04	7.78E+04	3.30	4.38	5.89	6.50
Al^{3+}	0.599	1.17E+04	1.05E+04	0.599	0.599	0.599	0.599
Fe^{3+} (total Fe)	0.352	1.43E+04	1.27E+04	0.346	0.349	0.355	0.358
Cr^{3+}	4.86E-03	183	163	3.86E-03	4.34E-03	5.38E-03	5.89E-03
Bi^{3+}	6.24E-02	9.44E+03	8.44E+03	4.95E-02	5.70E-02	6.63E-02	6.92E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.06E-04	15.4	13.7	7.36E-05	9.22E-05	1.16E-04	1.23E-04
Zr (as $ZrO(OH)_2$)	2.39E-04	15.8	14.1	1.90E-04	2.14E-04	2.65E-04	2.90E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.20E-03	50.8	45.4	9.50E-04	1.07E-03	2.11E-03	3.41E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.62E-02	2.21E+03	1.98E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
K^+	6.72E-03	190	170	5.34E-03	6.01E-03	7.45E-03	8.15E-03
OH^-	4.06	5.00E+04	4.47E+04	3.97	4.03	4.10	4.12
$NO3^-$	1.04	4.65E+04	4.16E+04	0.862	0.948	1.12	1.20
$NO2^-$	0.236	7.86E+03	7.02E+03	0.148	0.188	0.289	0.346
$CO3^{2-}$	7.62E-02	3.31E+03	2.96E+03	4.74E-02	6.41E-02	8.75E-02	9.84E-02
$PO4^{3-}$	1.15	7.92E+04	7.07E+04	0.672	0.949	1.30	1.41
$SO4^{2-}$	5.20E-02	3.62E+03	3.23E+03	4.13E-02	4.65E-02	5.76E-02	6.30E-02
Si (as SiO_x^{2-})	0.224	4.55E+03	4.07E+03	0.115	0.170	0.278	0.330
F^-	0.139	1.91E+03	1.71E+03	0.110	0.124	0.154	0.323
Cl^-	3.09E-02	794	709	2.46E-02	2.77E-02	3.43E-02	3.75E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.94E-02	978	874	6.45E-02	7.18E-02	8.70E-02	9.40E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.41E+04 (kg)	(9.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.28E+05 (kg)	(180 kgal)	----	----	----	----	----
Heat Load	5.92E-02 (kW)	(202 BTU/hr)	----	4.70E-02	5.29E-02	6.56E-02	7.17E-02
Bulk Density†	1.36 (g/cc)	----	----	1.27	1.32	1.39	1.42
Water wt%†	65.3	----	----	61.4	63.2	68.1	71.8
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.96	8.38E+04	7.78E+04	3.13	4.16	5.59	6.18
Al^{3+}	0.569	1.13E+04	1.05E+04	0.569	0.569	0.569	0.569
Fe^{3+} (total Fe)	0.335	1.37E+04	1.27E+04	0.329	0.332	0.337	0.340
Cr^{3+}	4.61E-03	176	163	3.66E-03	4.13E-03	5.11E-03	5.59E-03
Bi^{3+}	5.93E-02	9.10E+03	8.44E+03	4.71E-02	5.41E-02	6.30E-02	6.58E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.00E-04	14.8	13.7	6.99E-05	8.76E-05	1.10E-04	1.17E-04
Zr (as $ZrO(OH)_2$)	2.27E-04	15.2	14.1	1.80E-04	2.03E-04	2.52E-04	2.75E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.14E-03	49.0	45.4	9.02E-04	1.02E-03	2.01E-03	3.24E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.24E-02	2.13E+03	1.98E+03	4.50E-02	6.09E-02	8.32E-02	9.35E-02
K^+	6.39E-03	183	170	5.07E-03	5.71E-03	7.08E-03	7.74E-03
OH^-	3.86	4.82E+04	4.47E+04	3.77	3.82	3.89	3.91
$NO3^-$	0.984	4.48E+04	4.16E+04	0.819	0.901	1.06	1.14
$NO2^-$	0.224	7.57E+03	7.02E+03	0.141	0.179	0.275	0.328
$CO3^{2-}$	7.24E-02	3.19E+03	2.96E+03	4.50E-02	6.09E-02	8.32E-02	9.35E-02
$PO4^{3-}$	1.09	7.63E+04	7.07E+04	0.639	0.901	1.23	1.34
$SO4^{2-}$	4.94E-02	3.48E+03	3.23E+03	3.92E-02	4.42E-02	5.48E-02	5.99E-02
Si (as SiO_x^{2-})	0.212	4.38E+03	4.07E+03	0.109	0.161	0.264	0.313
F^-	0.132	1.84E+03	1.71E+03	0.105	0.118	0.146	0.307
Cl^-	2.94E-02	765	709	2.33E-02	2.63E-02	3.26E-02	3.56E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	7.54E-02	942	874	6.13E-02	6.82E-02	8.26E-02	8.93E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	8.94E+05 (kg)	(171 kgal)	----	----	----	----	----
Heat Load	5.92E-02 (kW)	(202 BTU/hr)	----	4.70E-02	5.29E-02	6.56E-02	7.17E-02
Bulk Density	1.38 (g/cc)	----	----	1.28	1.34	1.41	1.44
Void Fraction	0.718	----	----	0.650	0.680	0.771	0.842
Water wt%	64.0	----	----	60.0	61.9	66.8	70.6
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.39E-07	2.45E-04	0.219	1.99E-07	2.62E-07	4.27E-07	5.20E-07
C-14	8.66E-08	6.27E-05	5.61E-02	6.88E-08	7.75E-08	9.60E-08	1.05E-07
Ni-59	2.47E-08	1.79E-05	1.60E-02	1.96E-08	2.21E-08	4.37E-08	7.05E-08
Ni-63	2.17E-06	1.57E-03	1.40	1.72E-06	1.94E-06	3.83E-06	6.19E-06
Co-60	1.21E-08	8.75E-06	7.82E-03	9.59E-09	1.08E-08	1.34E-08	1.46E-08
Se-79	1.82E-08	1.32E-05	1.18E-02	1.45E-08	1.63E-08	2.02E-08	2.21E-08
Sr-90	7.61E-03	5.51	4.92E+03	6.04E-03	6.80E-03	8.43E-03	9.22E-03
Y-90	7.61E-03	5.51	4.93E+03	6.04E-03	6.81E-03	8.44E-03	9.23E-03
Zr-93	8.69E-08	6.29E-05	5.62E-02	6.90E-08	7.77E-08	9.63E-08	1.05E-07
Nb-93m	7.49E-08	5.42E-05	4.85E-02	5.95E-08	6.69E-08	8.30E-08	9.07E-08
Tc-99	5.99E-07	4.34E-04	0.388	4.76E-07	5.36E-07	6.64E-07	7.26E-07
Ru-106	2.85E-16	2.06E-13	1.84E-10	2.26E-16	2.55E-16	3.15E-16	3.45E-16
Cd-113m	1.77E-07	1.28E-04	0.114	1.40E-07	1.58E-07	1.96E-07	2.14E-07
Sb-125	6.52E-09	4.72E-06	4.22E-03	5.18E-09	5.83E-09	7.22E-09	7.90E-09
Sn-126	2.71E-08	1.96E-05	1.75E-02	2.15E-08	2.42E-08	3.00E-08	3.28E-08
I-129	1.12E-09	8.08E-07	7.22E-04	8.86E-10	9.98E-10	1.24E-09	1.35E-09
Cs-134	1.03E-10	7.49E-08	6.69E-05	8.22E-11	9.25E-11	1.15E-10	1.25E-10
Cs-137	8.58E-03	6.21	5.55E+03	6.81E-03	7.67E-03	9.51E-03	1.04E-02
Ba-137m	8.11E-03	5.88	5.25E+03	6.44E-03	7.26E-03	8.99E-03	9.84E-03
Sm-151	6.89E-05	4.99E-02	44.6	5.47E-05	6.16E-05	7.64E-05	8.35E-05
Eu-152	8.46E-09	6.13E-06	5.47E-03	8.30E-09	8.37E-09	8.54E-09	8.62E-09
Eu-154	1.62E-07	1.18E-04	0.105	1.29E-07	1.45E-07	1.80E-07	1.97E-07
Eu-155	1.28E-06	9.26E-04	0.828	1.25E-06	1.27E-06	1.29E-06	1.30E-06
Ra-226	7.78E-12	5.63E-09	5.03E-06	6.18E-12	6.95E-12	8.62E-12	9.43E-12
Ra-228	1.15E-16	8.34E-14	7.45E-11	1.13E-16	1.14E-16	1.16E-16	1.17E-16
Ac-227	3.92E-11	2.84E-08	2.54E-05	3.11E-11	3.50E-11	4.34E-11	4.75E-11
Pa-231	8.16E-11	5.91E-08	5.28E-05	6.48E-11	7.30E-11	9.05E-11	9.89E-11
Th-229	2.22E-14	1.61E-11	1.44E-08	2.18E-14	2.20E-14	2.24E-14	2.26E-14
Th-232	2.69E-17	1.95E-14	1.74E-11	2.14E-17	2.41E-17	2.98E-17	3.26E-17
U-232	1.89E-10	1.37E-07	1.22E-04	1.77E-10	1.84E-10	1.93E-10	1.95E-10
U-233	1.13E-11	8.20E-09	7.33E-06	1.06E-11	1.10E-11	1.15E-11	1.17E-11
U-234	1.60E-05	1.16E-02	10.3	1.49E-05	1.55E-05	1.63E-05	1.65E-05
U-235	7.18E-07	5.20E-04	0.464	6.72E-07	6.98E-07	7.31E-07	7.42E-07
U-236	1.02E-07	7.38E-05	6.59E-02	9.54E-08	9.92E-08	1.04E-07	1.05E-07
U-238	1.62E-05	1.17E-02	10.5	1.51E-05	1.57E-05	1.65E-05	1.67E-05
Np-237	3.60E-09	2.61E-06	2.33E-03	2.86E-09	3.22E-09	3.99E-09	4.36E-09
Pu-238	5.36E-08	3.88E-05	3.47E-02	1.92E-08	2.16E-08	1.20E-07	1.83E-07
Pu-239	1.68E-05	1.22E-02	10.9	6.00E-06	6.76E-06	3.74E-05	5.72E-05
Pu-240	9.89E-07	7.16E-04	0.640	3.54E-07	3.98E-07	2.21E-06	3.37E-06
Pu-241	6.33E-07	4.59E-04	0.410	2.26E-07	2.55E-07	1.41E-06	2.16E-06
Pu-242	1.93E-12	1.40E-09	1.25E-06	6.92E-13	7.79E-13	4.31E-12	6.60E-12
Am-241	3.01E-08	2.18E-05	1.95E-02	2.39E-08	2.69E-08	3.34E-08	3.65E-08
Am-243	8.42E-14	6.09E-11	5.45E-08	6.68E-14	7.52E-14	9.33E-14	1.02E-13
Cm-242	3.39E-11	2.46E-08	2.20E-05	3.33E-11	3.36E-11	3.43E-11	3.46E-11
Cm-243	5.04E-13	3.65E-10	3.26E-07	4.94E-13	4.99E-13	5.09E-13	5.14E-13
Cm-244	1.29E-12	9.33E-10	8.34E-07	1.02E-12	1.15E-12	1.43E-12	1.56E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.74E-04 (g/L)	----	0.178	9.81E-05	1.10E-04	6.12E-04	9.36E-04
U	0.203	3.50E+04	3.13E+04	0.190	0.198	0.207	0.210

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.41E+04 (kg)	(9.01 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.28E+05 (kg)	(180 kgal)	----	----	----	----	----
Heat Load	5.92E-02 (kW)	(202 BTU/hr)	----	4.70E-02	5.29E-02	6.56E-02	7.17E-02
Bulk Density†	1.36 (g/cc)	----	----	1.27	1.32	1.39	1.42
Water wt%†	65.3	----	----	61.4	63.2	68.1	71.8
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.22E-07	2.36E-04	0.219	1.89E-07	2.49E-07	4.06E-07	4.94E-07
C-14	8.23E-08	6.04E-05	5.61E-02	6.54E-08	7.36E-08	9.12E-08	9.98E-08
Ni-59	2.34E-08	1.72E-05	1.60E-02	1.86E-08	2.10E-08	4.15E-08	6.70E-08
Ni-63	2.06E-06	1.51E-03	1.40	1.63E-06	1.84E-06	3.64E-06	5.88E-06
Co-60	1.15E-08	8.42E-06	7.82E-03	9.11E-09	1.03E-08	1.27E-08	1.39E-08
Se-79	1.73E-08	1.27E-05	1.18E-02	1.38E-08	1.55E-08	1.92E-08	2.10E-08
Sr-90	7.23E-03	5.31	4.92E+03	5.74E-03	6.46E-03	8.01E-03	8.76E-03
Y-90	7.23E-03	5.31	4.93E+03	5.74E-03	6.46E-03	8.01E-03	8.76E-03
Zr-93	8.26E-08	6.06E-05	5.62E-02	6.56E-08	7.38E-08	9.15E-08	1.00E-07
Nb-93m	7.11E-08	5.22E-05	4.85E-02	5.65E-08	6.36E-08	7.88E-08	8.62E-08
Tc-99	5.69E-07	4.18E-04	0.388	4.52E-07	5.09E-07	6.31E-07	6.90E-07
Ru-106	2.70E-16	1.99E-13	1.84E-10	2.15E-16	2.42E-16	3.00E-16	3.28E-16
Cd-113m	1.68E-07	1.23E-04	0.114	1.33E-07	1.50E-07	1.86E-07	2.03E-07
Sb-125	6.19E-09	4.55E-06	4.22E-03	4.92E-09	5.54E-09	6.86E-09	7.51E-09
Sn-126	2.57E-08	1.89E-05	1.75E-02	2.04E-08	2.30E-08	2.85E-08	3.12E-08
I-129	1.06E-09	7.79E-07	7.22E-04	8.42E-10	9.48E-10	1.18E-09	1.29E-09
Cs-134	9.83E-11	7.22E-08	6.69E-05	7.80E-11	8.79E-11	1.09E-10	1.19E-10
Cs-137	8.15E-03	5.98	5.55E+03	6.47E-03	7.29E-03	9.03E-03	9.88E-03
Ba-137m	7.71E-03	5.66	5.25E+03	6.12E-03	6.89E-03	8.54E-03	9.34E-03
Sm-151	6.55E-05	4.81E-02	44.6	5.20E-05	5.85E-05	7.26E-05	7.94E-05
Eu-152	8.03E-09	5.90E-06	5.47E-03	7.88E-09	7.96E-09	8.12E-09	8.19E-09
Eu-154	1.54E-07	1.13E-04	0.105	1.23E-07	1.38E-07	1.71E-07	1.87E-07
Eu-155	1.21E-06	8.92E-04	0.828	1.19E-06	1.20E-06	1.23E-06	1.24E-06
Ra-226	7.39E-12	5.42E-09	5.03E-06	5.87E-12	6.60E-12	8.19E-12	8.95E-12
Ra-228	1.09E-16	8.03E-14	7.45E-11	1.07E-16	1.08E-16	1.10E-16	1.12E-16
Ac-227	3.72E-11	2.73E-08	2.54E-05	2.96E-11	3.33E-11	4.13E-11	4.51E-11
Pa-231	7.75E-11	5.69E-08	5.28E-05	6.16E-11	6.93E-11	8.59E-11	9.40E-11
Th-229	2.11E-14	1.55E-11	1.44E-08	2.07E-14	2.09E-14	2.13E-14	2.15E-14
Th-232	2.56E-17	1.88E-14	1.74E-11	2.03E-17	2.29E-17	2.84E-17	3.10E-17
U-232	1.80E-10	1.32E-07	1.22E-04	1.68E-10	1.75E-10	1.83E-10	1.86E-10
U-233	1.08E-11	7.90E-09	7.33E-06	1.01E-11	1.05E-11	1.10E-11	1.11E-11
U-234	1.52E-05	1.11E-02	10.3	1.42E-05	1.48E-05	1.54E-05	1.57E-05
U-235	6.82E-07	5.01E-04	0.464	6.39E-07	6.64E-07	6.95E-07	7.05E-07
U-236	9.68E-08	7.11E-05	6.59E-02	9.07E-08	9.42E-08	9.86E-08	1.00E-07
U-238	1.53E-05	1.13E-02	10.5	1.44E-05	1.49E-05	1.56E-05	1.59E-05
Np-237	3.42E-09	2.51E-06	2.33E-03	2.72E-09	3.06E-09	3.79E-09	4.14E-09
Pu-238	5.09E-08	3.74E-05	3.47E-02	1.82E-08	2.05E-08	1.14E-07	1.74E-07
Pu-239	1.59E-05	1.17E-02	10.9	5.70E-06	6.42E-06	3.56E-05	5.44E-05
Pu-240	9.39E-07	6.90E-04	0.640	3.36E-07	3.78E-07	2.10E-06	3.20E-06
Pu-241	6.01E-07	4.42E-04	0.410	2.15E-07	2.42E-07	1.34E-06	2.05E-06
Pu-242	1.84E-12	1.35E-09	1.25E-06	6.57E-13	7.40E-13	4.10E-12	6.27E-12
Am-241	2.86E-08	2.10E-05	1.95E-02	2.27E-08	2.56E-08	3.17E-08	3.47E-08
Am-243	7.99E-14	5.87E-11	5.45E-08	6.35E-14	7.15E-14	8.86E-14	9.69E-14
Cm-242	3.22E-11	2.37E-08	2.20E-05	3.16E-11	3.19E-11	3.26E-11	3.29E-11
Cm-243	4.78E-13	3.51E-10	3.26E-07	4.69E-13	4.74E-13	4.83E-13	4.88E-13
Cm-244	1.22E-12	8.99E-10	8.34E-07	9.72E-13	1.09E-12	1.36E-12	1.48E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.61E-04 (g/L)	----	0.178	9.32E-05	1.05E-04	5.81E-04	8.89E-04
U	0.193	3.38E+04	3.13E+04	0.181	0.188	0.197	0.200

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.61E+05 (kg)	(44.0 kgal)	----	----	----	----	----
Heat Load	3.83E-02 (kW)	(131 BTU/hr)	----	1.39E-02	1.87E-02	5.38E-02	9.66E-02
Bulk Density	1.57 (g/cc)	----	----	1.22	1.29	1.61	1.66
Void Fraction	0.617	----	----	0.476	0.593	0.835	0.864
Water wt%	48.8	----	----	44.9	47.4	69.1	75.0
TOC wt% C (wet)	7.78E-05	----	----	1.77E-06	5.75E-05	1.27E-04	9.19E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.85	1.44E+05	3.77E+04	3.36	4.66	10.6	11.5
Al^{3+}	0.290	4.99E+03	1.30E+03	0.288	0.290	0.294	0.294
Fe^{3+} (total Fe)	0.234	8.33E+03	2.18E+03	0.225	0.233	0.235	0.237
Cr^{3+}	4.57E-03	151	39.6	3.95E-03	4.33E-03	5.28E-03	5.06E-03
Bi^{3+}	3.77E-02	5.01E+03	1.31E+03	3.15E-02	3.51E-02	3.95E-02	4.09E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.32E-05	6.79	1.78	3.78E-05	4.67E-05	5.79E-05	6.13E-05
Zr (as $ZrO(OH)_2$)	3.06E-04	17.8	4.64	2.22E-04	2.94E-04	4.22E-04	4.19E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.72E-03	251	65.7	1.10E-03	1.43E-03	8.17E-03	8.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.45E-02	2.16E+03	564	4.04E-02	7.04E-02	8.99E-02	9.50E-02
K^{+}	9.50E-03	237	61.9	5.56E-03	8.56E-03	1.26E-02	1.05E-02
OH^{-}	2.42	2.62E+04	6.85E+03	2.35	2.40	2.46	2.46
$NO3^{-}$	5.40	2.13E+05	5.57E+04	0.909	1.47	5.44	5.71
$NO2^{-}$	0.222	6.50E+03	1.70E+03	0.163	0.192	0.268	0.274
$CO3^{2-}$	0.140	5.35E+03	1.40E+03	5.01E-02	0.110	0.176	0.184
$PO4^{3-}$	1.23	7.42E+04	1.94E+04	0.616	0.814	1.33	1.35
$SO4^{2-}$	8.15E-02	4.99E+03	1.30E+03	4.65E-02	7.33E-02	0.109	0.434
Si (as SiO_x^{2-})	0.116	2.08E+03	543	6.40E-02	9.04E-02	0.142	0.167
F^{-}	0.112	1.35E+03	354	9.48E-02	0.105	0.132	0.200
Cl^{-}	5.01E-02	1.13E+03	296	2.57E-02	4.33E-02	0.224	0.250
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	8.48E-06	1.14	0.297	1.50E-07	5.15E-06	1.42E-05	1.00E-05
butanol	8.48E-06	0.400	0.105	1.50E-07	5.15E-06	1.42E-05	1.00E-05
NH_3	5.76E-02	624	163	5.05E-02	5.40E-02	6.49E-02	6.45E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.61E+05 (kg)	(44.0 kgal)	----	----	----	----	----
Heat Load	3.83E-02 (kW)	(131 BTU/hr)	----	1.39E-02	1.87E-02	5.38E-02	9.66E-02
Bulk Density†	1.57 (g/cc)	----	----	1.22	1.29	1.61	1.66
Water wt%†	48.8	----	----	44.9	47.4	69.1	75.0
TOC wt% C (wet)†	7.78E-05	----	----	1.77E-06	5.75E-05	1.27E-04	9.19E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	9.85	1.44E+05	3.77E+04	3.36	4.66	10.6	11.5
Al^{3+}	0.290	4.99E+03	1.30E+03	0.288	0.290	0.294	0.294
Fe^{3+} (total Fe)	0.234	8.33E+03	2.18E+03	0.225	0.233	0.235	0.237
Cr^{3+}	4.57E-03	151	39.6	3.95E-03	4.33E-03	5.28E-03	5.06E-03
Bi^{3+}	3.76E-02	5.01E+03	1.31E+03	3.15E-02	3.51E-02	3.95E-02	4.09E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.32E-05	6.79	1.78	3.78E-05	4.67E-05	5.79E-05	6.13E-05
Zr (as $ZrO(OH)_2$)	3.06E-04	17.8	4.64	2.22E-04	2.94E-04	4.22E-04	4.19E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.72E-03	251	65.7	1.10E-03	1.43E-03	8.17E-03	8.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.45E-02	2.16E+03	564	4.04E-02	7.04E-02	8.99E-02	9.50E-02
K^{+}	9.50E-03	237	61.9	5.56E-03	8.56E-03	1.26E-02	1.05E-02
OH^{-}	2.42	2.62E+04	6.85E+03	2.35	2.40	2.46	2.46
$NO3^{-}$	5.40	2.13E+05	5.57E+04	0.909	1.47	5.44	5.71
$NO2^{-}$	0.222	6.50E+03	1.70E+03	0.163	0.192	0.268	0.274
$CO3^{2-}$	0.140	5.35E+03	1.40E+03	5.01E-02	0.110	0.176	0.184
$PO4^{3-}$	1.23	7.42E+04	1.94E+04	0.616	0.814	1.33	1.35
$SO4^{2-}$	8.15E-02	4.99E+03	1.30E+03	4.65E-02	7.33E-02	0.109	0.434
Si (as SiO_x^{2-})	0.116	2.08E+03	543	6.40E-02	9.04E-02	0.142	0.167
F^{-}	0.112	1.35E+03	354	9.48E-02	0.105	0.132	0.200
Cl^{-}	5.01E-02	1.13E+03	296	2.57E-02	4.33E-02	0.224	0.250
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	8.48E-06	1.14	0.297	1.50E-07	5.15E-06	1.42E-05	1.00E-05
butanol	8.48E-06	0.400	0.105	1.50E-07	5.15E-06	1.42E-05	1.00E-05
NH_3	5.76E-02	624	163	5.05E-02	5.40E-02	6.49E-02	6.45E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.61E+05 (kg)	(44.0 kgal)	----	----	----	----	----
Heat Load	3.83E-02 (kW)	(131 BTU/hr)	----	1.39E-02	1.87E-02	5.38E-02	9.66E-02
Bulk Density	1.57 (g/cc)	----	----	1.22	1.29	1.61	1.66
Void Fraction	0.617	----	----	0.476	0.593	0.835	0.864
Water wt%	48.8	----	----	44.9	47.4	69.1	75.0
TOC wt% C (wet)	7.78E-05	----	----	1.77E-06	5.75E-05	1.27E-04	9.19E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.72E-06	1.10E-03	0.287	1.62E-07	1.62E-07	1.82E-06	2.08E-06
C-14	2.74E-07	1.75E-04	4.57E-02	4.13E-08	4.13E-08	2.79E-07	3.09E-07
Ni-59	4.85E-07	3.09E-04	8.07E-02	1.18E-08	1.18E-08	5.11E-07	5.28E-07
Ni-63	4.36E-05	2.78E-02	7.26	1.03E-06	1.03E-06	4.59E-05	4.75E-05
Co-60	5.83E-08	3.72E-05	9.71E-03	5.76E-09	5.76E-09	5.89E-08	6.62E-08
Se-79	5.88E-08	3.74E-05	9.78E-03	8.70E-09	8.70E-09	5.97E-08	6.63E-08
Sr-90	9.47E-03	6.04	1.58E+03	6.92E-03	9.09E-03	1.18E-02	4.02E-02
Y-90	9.48E-03	6.04	1.58E+03	3.63E-03	3.63E-03	9.87E-03	1.04E-02
Zr-93	2.79E-07	1.78E-04	4.65E-02	4.15E-08	4.15E-08	2.84E-07	3.15E-07
Nb-93m	2.37E-07	1.51E-04	3.94E-02	3.57E-08	3.57E-08	2.41E-07	2.67E-07
Tc-99	1.93E-06	1.23E-03	0.322	7.18E-07	1.55E-06	2.84E-06	2.18E-06
Ru-106	2.09E-14	1.33E-11	3.49E-09	1.36E-16	1.36E-16	2.12E-14	2.40E-14
Cd-113m	6.57E-07	4.19E-04	0.109	8.43E-08	8.43E-08	6.67E-07	7.44E-07
Sb-125	5.07E-08	3.23E-05	8.45E-03	3.11E-09	3.11E-09	5.13E-08	5.79E-08
Sn-126	8.81E-08	5.62E-05	1.47E-02	1.29E-08	1.29E-08	8.95E-08	9.95E-08
I-129	3.63E-09	2.31E-06	6.05E-04	1.34E-09	2.92E-09	5.35E-09	4.10E-09
Cs-134	2.26E-09	1.44E-06	3.76E-04	4.94E-11	4.94E-11	2.44E-09	2.63E-09
Cs-137	3.55E-02	22.6	5.90E+03	7.81E-03	1.06E-02	5.20E-02	6.60E-02
Ba-137m	3.35E-02	21.4	5.59E+03	3.87E-03	3.87E-03	3.59E-02	3.85E-02
Sm-151	2.19E-04	0.140	36.5	3.29E-05	3.29E-05	2.23E-04	2.47E-04
Eu-152	6.30E-08	4.01E-05	1.05E-02	4.04E-09	4.04E-09	6.34E-08	6.39E-08
Eu-154	1.01E-06	6.45E-04	0.169	7.75E-08	7.75E-08	1.02E-06	1.15E-06
Eu-155	5.13E-06	3.27E-03	0.854	6.10E-07	6.10E-07	5.16E-06	5.20E-06
Ra-226	1.78E-11	1.13E-08	2.96E-06	3.71E-12	3.71E-12	5.73E-11	4.66E-11
Ra-228	2.90E-16	1.85E-13	4.83E-11	5.50E-17	5.50E-17	2.92E-16	2.93E-16
Ac-227	9.12E-11	5.81E-08	1.52E-05	1.87E-11	1.87E-11	2.03E-10	2.43E-10
Pa-231	1.96E-10	1.25E-07	3.27E-05	3.90E-11	3.90E-11	2.01E-10	2.20E-10
Th-229	5.62E-14	3.58E-11	9.35E-09	1.06E-14	1.06E-14	5.65E-14	5.69E-14
Th-232	8.10E-17	5.16E-14	1.35E-11	1.29E-17	1.29E-17	8.24E-17	9.13E-17
U-232	1.52E-10	9.70E-08	2.53E-05	1.33E-10	1.42E-10	1.62E-10	1.69E-10
U-233	8.35E-12	5.32E-09	1.39E-06	7.43E-12	7.88E-12	8.84E-12	9.16E-12
U-234	1.05E-05	6.70E-03	1.75	9.61E-06	1.01E-05	1.10E-05	1.14E-05
U-235	4.72E-07	3.00E-04	7.85E-02	4.31E-07	4.51E-07	4.94E-07	5.09E-07
U-236	7.59E-08	4.83E-05	1.26E-02	6.73E-08	7.16E-08	8.04E-08	8.34E-08
U-238	1.07E-05	6.80E-03	1.78	9.74E-06	1.02E-05	1.12E-05	1.15E-05
Np-237	1.19E-08	7.56E-06	1.97E-03	4.35E-09	9.51E-09	1.75E-08	1.34E-08
Pu-238	2.19E-07	1.39E-04	3.64E-02	4.32E-08	8.65E-08	3.16E-07	3.26E-07
Pu-239	4.01E-05	2.56E-02	6.68	1.13E-05	1.87E-05	5.52E-05	5.94E-05
Pu-240	3.08E-06	1.97E-03	0.514	7.24E-07	1.32E-06	4.36E-06	4.50E-06
Pu-241	7.41E-06	4.72E-03	1.23	8.83E-07	2.44E-06	1.12E-05	1.16E-05
Pu-242	3.26E-11	2.08E-08	5.43E-06	3.47E-12	1.04E-11	4.95E-11	5.15E-11
Am-241	4.40E-07	2.80E-04	7.33E-02	9.32E-08	3.20E-07	6.92E-07	5.04E-07
Am-243	2.98E-12	1.90E-09	4.97E-07	5.53E-13	2.13E-12	4.74E-12	3.42E-12
Cm-242	9.89E-10	6.30E-07	1.65E-04	1.62E-11	1.62E-11	9.98E-10	1.01E-09
Cm-243	2.01E-11	1.28E-08	3.35E-06	2.40E-13	2.40E-13	2.03E-11	2.05E-11
Cm-244	6.56E-11	4.18E-08	1.09E-05	6.15E-13	6.15E-13	6.63E-11	7.52E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.59E-04 (g/L)	----	0.110	1.86E-04	3.07E-04	9.07E-04	9.75E-04
U	0.134	2.04E+04	5.32E+03	0.123	0.128	0.141	0.145

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.61E+05 (kg)	(44.0 kgal)	----	----	----	----	----
Heat Load	3.83E-02 (kW)	(131 BTU/hr)	----	1.39E-02	1.87E-02	5.38E-02	9.66E-02
Bulk Density†	1.57 (g/cc)	----	----	1.22	1.29	1.61	1.66
Water wt%†	48.8	----	----	44.9	47.4	69.1	75.0
TOC wt% C (wet)†	7.78E-05	----	----	1.77E-06	5.75E-05	1.27E-04	9.19E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.72E-06	1.10E-03	0.287	1.62E-07	1.62E-07	1.82E-06	2.08E-06
C-14	2.74E-07	1.75E-04	4.57E-02	4.13E-08	4.13E-08	2.79E-07	3.09E-07
Ni-59	4.85E-07	3.09E-04	8.07E-02	1.18E-08	1.18E-08	5.11E-07	5.28E-07
Ni-63	4.36E-05	2.78E-02	7.26	1.03E-06	1.03E-06	4.59E-05	4.75E-05
Co-60	5.83E-08	3.72E-05	9.71E-03	5.76E-09	5.76E-09	5.89E-08	6.62E-08
Se-79	5.87E-08	3.74E-05	9.78E-03	8.70E-09	8.70E-09	5.97E-08	6.63E-08
Sr-90	9.47E-03	6.04	1.58E+03	6.92E-03	9.09E-03	1.18E-02	4.02E-02
Y-90	9.48E-03	6.04	1.58E+03	3.63E-03	3.63E-03	9.87E-03	1.04E-02
Zr-93	2.79E-07	1.78E-04	4.65E-02	4.15E-08	4.15E-08	2.84E-07	3.15E-07
Nb-93m	2.37E-07	1.51E-04	3.94E-02	3.57E-08	3.57E-08	2.41E-07	2.67E-07
Tc-99	1.93E-06	1.23E-03	0.322	7.18E-07	1.55E-06	2.84E-06	2.18E-06
Ru-106	2.09E-14	1.33E-11	3.49E-09	1.36E-16	1.36E-16	2.12E-14	2.40E-14
Cd-113m	6.57E-07	4.19E-04	0.109	8.43E-08	8.43E-08	6.67E-07	7.44E-07
Sb-125	5.07E-08	3.23E-05	8.45E-03	3.11E-09	3.11E-09	5.13E-08	5.79E-08
Sn-126	8.81E-08	5.62E-05	1.47E-02	1.29E-08	1.29E-08	8.95E-08	9.95E-08
I-129	3.63E-09	2.31E-06	6.05E-04	1.34E-09	2.92E-09	5.35E-09	4.10E-09
Cs-134	2.26E-09	1.44E-06	3.76E-04	4.94E-11	4.94E-11	2.44E-09	2.63E-09
Cs-137	3.55E-02	22.6	5.90E+03	7.81E-03	1.06E-02	5.20E-02	6.60E-02
Ba-137m	3.35E-02	21.4	5.59E+03	3.87E-03	3.87E-03	3.59E-02	3.85E-02
Sm-151	2.19E-04	0.140	36.5	3.29E-05	3.29E-05	2.23E-04	2.47E-04
Eu-152	6.30E-08	4.01E-05	1.05E-02	4.04E-09	4.04E-09	6.34E-08	6.39E-08
Eu-154	1.01E-06	6.45E-04	0.169	7.75E-08	7.75E-08	1.02E-06	1.15E-06
Eu-155	5.13E-06	3.27E-03	0.854	6.10E-07	6.10E-07	5.16E-06	5.20E-06
Ra-226	1.78E-11	1.13E-08	2.96E-06	3.71E-12	3.71E-12	5.73E-11	4.66E-11
Ra-228	2.90E-16	1.85E-13	4.83E-11	5.50E-17	5.50E-17	2.92E-16	2.93E-16
Ac-227	9.12E-11	5.81E-08	1.52E-05	1.87E-11	1.87E-11	2.03E-10	2.43E-10
Pa-231	1.96E-10	1.25E-07	3.27E-05	3.90E-11	3.90E-11	2.01E-10	2.20E-10
Th-229	5.62E-14	3.58E-11	9.35E-09	1.06E-14	1.06E-14	5.65E-14	5.69E-14
Th-232	8.10E-17	5.16E-14	1.35E-11	1.29E-17	1.29E-17	8.24E-17	9.13E-17
U-232	1.52E-10	9.70E-08	2.53E-05	1.33E-10	1.42E-10	1.62E-10	1.69E-10
U-233	8.35E-12	5.32E-09	1.39E-06	7.43E-12	7.88E-12	8.84E-12	9.16E-12
U-234	1.05E-05	6.70E-03	1.75	9.61E-06	1.01E-05	1.10E-05	1.14E-05
U-235	4.71E-07	3.00E-04	7.85E-02	4.31E-07	4.51E-07	4.94E-07	5.09E-07
U-236	7.59E-08	4.83E-05	1.26E-02	6.73E-08	7.16E-08	8.04E-08	8.34E-08
U-238	1.07E-05	6.80E-03	1.78	9.74E-06	1.02E-05	1.12E-05	1.15E-05
Np-237	1.19E-08	7.56E-06	1.97E-03	4.35E-09	9.51E-09	1.75E-08	1.34E-08
Pu-238	2.19E-07	1.39E-04	3.64E-02	4.32E-08	8.65E-08	3.16E-07	3.26E-07
Pu-239	4.01E-05	2.56E-02	6.68	1.13E-05	1.87E-05	5.52E-05	5.94E-05
Pu-240	3.08E-06	1.97E-03	0.514	7.24E-07	1.32E-06	4.36E-06	4.50E-06
Pu-241	7.41E-06	4.72E-03	1.23	8.83E-07	2.44E-06	1.12E-05	1.16E-05
Pu-242	3.26E-11	2.08E-08	5.43E-06	3.47E-12	1.04E-11	4.95E-11	5.15E-11
Am-241	4.40E-07	2.80E-04	7.33E-02	9.32E-08	3.20E-07	6.92E-07	5.04E-07
Am-243	2.98E-12	1.90E-09	4.97E-07	5.53E-13	2.13E-12	4.74E-12	3.42E-12
Cm-242	9.89E-10	6.30E-07	1.65E-04	1.62E-11	1.62E-11	9.98E-10	1.01E-09
Cm-243	2.01E-11	1.28E-08	3.35E-06	2.40E-13	2.40E-13	2.03E-11	2.05E-11
Cm-244	6.56E-11	4.18E-08	1.09E-05	6.15E-13	6.15E-13	6.63E-11	7.52E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.59E-04 (g/L)	----	0.110	1.86E-04	3.07E-04	9.07E-04	9.75E-04
U	0.134	2.04E+04	5.32E+03	0.123	0.128	0.141	0.145

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.82E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	7.82E-02 (kW)	(267 BTU/hr)	----	1.66E-02	2.89E-02	0.117	0.225
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.1	1.86E+05	7.11E+04	1.66	4.15	15.4	17.3
Al^{3+}	9.05E-03	140	53.6	4.56E-03	8.30E-03	1.54E-02	1.63E-02
Fe^{3+} (total Fe)	0.126	4.04E+03	1.55E+03	0.109	0.123	0.129	0.131
Cr^{3+}	4.31E-03	129	49.2	3.12E-03	4.27E-03	5.67E-03	4.99E-03
Bi^{3+}	1.51E-02	1.81E+03	691	5.53E-03	1.18E-02	1.69E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.22E-06	0.601	0.230	5.08E-06	5.15E-06	9.58E-06	1.27E-05
Zr (as $ZrO(OH)_2$)	3.66E-04	19.2	7.34	2.07E-04	3.50E-04	5.88E-04	5.82E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.18E-02	396	152	1.01E-03	1.65E-03	1.45E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.20E-02	2.12E+03	810	7.67E-03	6.51E-02	0.102	0.111
K^+	1.20E-02	270	103	4.49E-03	1.02E-02	1.80E-02	1.39E-02
OH^-	0.915	8.93E+03	3.42E+03	0.786	0.889	0.987	1.00
$NO3^-$	9.38	3.34E+05	1.28E+05	0.794	1.86	9.44	9.98
$NO2^-$	0.209	5.53E+03	2.11E+03	9.68E-02	0.153	0.298	0.256
$CO3^{2-}$	0.198	6.83E+03	2.61E+03	2.62E-02	0.140	0.267	0.281
$PO4^{3-}$	1.30	7.06E+04	2.70E+04	0.127	0.507	1.50	1.54
$SO4^{2-}$	0.108	5.97E+03	2.28E+03	4.15E-02	9.27E-02	0.161	0.783
Si (as SiO_x^{2-})	1.78E-02	287	110	1.73E-02	1.75E-02	4.41E-02	6.99E-02
F^-	8.69E-02	948	363	5.45E-02	8.46E-02	0.126	0.111
Cl^-	6.77E-02	1.38E+03	526	2.09E-02	5.45E-02	0.401	0.450
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.62E-05	1.96	0.748	2.87E-07	9.85E-06	2.71E-05	1.92E-05
butanol	1.62E-05	0.690	0.264	2.87E-07	9.85E-06	2.71E-05	1.92E-05
NH_3	3.77E-02	367	141	2.74E-02	3.71E-02	5.17E-02	4.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.82E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	7.82E-02 (kW)	(267 BTU/hr)	----	1.66E-02	2.89E-02	0.117	0.225
Bulk Density†	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Water wt%†	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)†	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.1	1.86E+05	7.11E+04	1.66	4.15	15.4	17.3
Al^{3+}	9.05E-03	140	53.6	4.56E-03	8.30E-03	1.54E-02	1.63E-02
Fe^{3+} (total Fe)	0.126	4.04E+03	1.55E+03	0.109	0.123	0.129	0.131
Cr^{3+}	4.31E-03	129	49.2	3.12E-03	4.27E-03	5.67E-03	4.99E-03
Bi^{3+}	1.51E-02	1.81E+03	691	5.53E-03	1.18E-02	1.69E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.22E-06	0.601	0.230	5.08E-06	5.15E-06	9.58E-06	1.27E-05
Zr (as $ZrO(OH)_2$)	3.66E-04	19.2	7.34	2.07E-04	3.50E-04	5.88E-04	5.82E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.18E-02	396	152	1.01E-03	1.65E-03	1.45E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.20E-02	2.12E+03	810	7.67E-03	6.51E-02	0.102	0.111
K^+	1.20E-02	270	103	4.49E-03	1.02E-02	1.80E-02	1.39E-02
OH^-	0.915	8.93E+03	3.42E+03	0.786	0.889	0.987	1.00
$NO3^-$	9.38	3.34E+05	1.28E+05	0.794	1.86	9.44	9.98
$NO2^-$	0.209	5.53E+03	2.11E+03	9.68E-02	0.153	0.298	0.256
$CO3^{2-}$	0.198	6.83E+03	2.61E+03	2.62E-02	0.140	0.267	0.281
$PO4^{3-}$	1.30	7.06E+04	2.70E+04	0.127	0.507	1.50	1.54
$SO4^{2-}$	0.108	5.97E+03	2.28E+03	4.15E-02	9.27E-02	0.161	0.783
Si (as SiO_x^{2-})	1.78E-02	287	110	1.73E-02	1.75E-02	4.41E-02	6.99E-02
F^-	8.69E-02	948	363	5.45E-02	8.46E-02	0.126	0.111
Cl^-	6.77E-02	1.38E+03	526	2.09E-02	5.45E-02	0.401	0.450
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.62E-05	1.96	0.748	2.87E-07	9.85E-06	2.71E-05	1.92E-05
butanol	1.62E-05	0.690	0.264	2.87E-07	9.85E-06	2.71E-05	1.92E-05
NH_3	3.77E-02	367	141	2.74E-02	3.71E-02	5.17E-02	4.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.82E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	7.82E-02 (kW)	(267 BTU/hr)	----	1.66E-02	2.89E-02	0.117	0.225
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.99E-06	1.72E-03	0.656	0	0	3.18E-06	3.66E-06
C-14	4.46E-07	2.56E-04	9.78E-02	0	0	4.51E-07	5.12E-07
Ni-59	9.05E-07	5.19E-04	0.199	0	0	9.54E-07	9.87E-07
Ni-63	8.14E-05	4.67E-02	17.9	0	0	8.58E-05	8.88E-05
Co-60	1.01E-07	5.77E-05	2.21E-02	0	0	1.02E-07	1.16E-07
Se-79	9.57E-08	5.50E-05	2.10E-02	0	0	9.68E-08	1.10E-07
Sr-90	1.12E-02	6.42	2.45E+03	6.28E-03	1.09E-02	1.56E-02	7.00E-02
Y-90	1.12E-02	6.42	2.45E+03	0	0	1.13E-02	1.29E-02
Zr-93	4.55E-07	2.61E-04	9.99E-02	0	0	4.60E-07	5.23E-07
Nb-93m	3.85E-07	2.21E-04	8.44E-02	0	0	3.89E-07	4.42E-07
Tc-99	3.15E-06	1.81E-03	0.692	8.26E-07	2.42E-06	4.89E-06	3.62E-06
Ru-106	3.98E-14	2.28E-11	8.74E-09	0	0	4.03E-14	4.57E-14
Cd-113m	1.10E-06	6.29E-04	0.241	0	0	1.11E-06	1.26E-06
Sb-125	9.11E-08	5.23E-05	2.00E-02	0	0	9.22E-08	1.05E-07
Sn-126	1.44E-07	8.26E-05	3.16E-02	0	0	1.46E-07	1.66E-07
I-129	5.93E-09	3.40E-06	1.30E-03	1.55E-09	4.56E-09	9.22E-09	6.82E-09
Cs-134	4.23E-09	2.43E-06	9.28E-04	0	0	4.56E-09	4.94E-09
Cs-137	6.00E-02	34.4	1.32E+04	7.11E-03	1.24E-02	9.17E-02	0.118
Ba-137m	5.68E-02	32.6	1.25E+04	0	0	6.12E-02	6.62E-02
Sm-151	3.57E-04	0.205	78.3	0	0	3.61E-04	4.11E-04
Eu-152	1.13E-07	6.47E-05	2.47E-02	0	0	1.14E-07	1.15E-07
Eu-154	1.79E-06	1.03E-03	0.392	0	0	1.81E-06	2.06E-06
Eu-155	8.64E-06	4.96E-03	1.90	0	0	8.71E-06	8.77E-06
Ra-226	2.69E-11	1.55E-08	5.91E-06	0	0	1.03E-10	8.20E-11
Ra-228	4.49E-16	2.58E-13	9.87E-11	0	0	4.53E-16	4.56E-16
Ac-227	1.39E-10	7.96E-08	3.04E-05	0	0	3.53E-10	4.29E-10
Pa-231	3.01E-10	1.73E-07	6.61E-05	0	0	3.05E-10	3.47E-10
Th-229	8.72E-14	5.00E-11	1.91E-08	0	0	8.79E-14	8.85E-14
Th-232	1.30E-16	7.49E-14	2.86E-11	0	0	1.32E-16	1.50E-16
U-232	1.18E-10	6.80E-08	2.60E-05	8.15E-11	9.99E-11	1.38E-10	1.51E-10
U-233	5.64E-12	3.24E-09	1.24E-06	3.87E-12	4.74E-12	6.58E-12	7.19E-12
U-234	5.57E-06	3.20E-03	1.22	3.82E-06	4.67E-06	6.54E-06	7.17E-06
U-235	2.47E-07	1.42E-04	5.42E-02	1.69E-07	2.07E-07	2.90E-07	3.18E-07
U-236	5.21E-08	2.99E-05	1.14E-02	3.58E-08	4.39E-08	6.09E-08	6.65E-08
U-238	5.65E-06	3.25E-03	1.24	3.88E-06	4.74E-06	6.64E-06	7.28E-06
Np-237	1.94E-08	1.11E-05	4.26E-03	5.04E-09	1.49E-08	3.02E-08	2.23E-08
Pu-238	3.69E-07	2.12E-04	8.11E-02	3.38E-08	1.16E-07	5.55E-07	5.76E-07
Pu-239	6.14E-05	3.53E-02	13.5	6.39E-06	2.05E-05	9.03E-05	9.32E-05
Pu-240	5.00E-06	2.87E-03	1.10	4.83E-07	1.61E-06	7.44E-06	7.70E-06
Pu-241	1.36E-05	7.80E-03	2.98	1.11E-06	4.10E-06	2.08E-05	2.16E-05
Pu-242	6.07E-11	3.48E-08	1.33E-05	4.87E-12	1.82E-11	9.30E-11	9.68E-11
Am-241	8.14E-07	4.67E-04	0.179	1.51E-07	5.85E-07	1.30E-06	9.36E-07
Am-243	5.63E-12	3.23E-09	1.24E-06	9.81E-13	4.00E-12	8.98E-12	6.47E-12
Cm-242	1.86E-09	1.07E-06	4.08E-04	0	0	1.88E-09	1.90E-09
Cm-243	3.80E-11	2.18E-08	8.35E-06	0	0	3.84E-11	3.88E-11
Cm-244	1.24E-10	7.13E-08	2.73E-05	0	0	1.26E-10	1.43E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.01E-03 (g/L)	----	0.222	1.05E-04	3.36E-04	1.49E-03	1.53E-03
U	7.12E-02	9.72E+03	3.72E+03	4.88E-02	5.97E-02	8.36E-02	9.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.82E+05 (kg)	(58.0 kgal)	----	----	----	----	----
Heat Load	7.82E-02 (kW)	(267 BTU/hr)	----	1.66E-02	2.89E-02	0.117	0.225
Bulk Density†	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Water wt%†	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)†	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.99E-06	1.72E-03	0.656	0	0	3.18E-06	3.66E-06
C-14	4.46E-07	2.56E-04	9.78E-02	0	0	4.51E-07	5.12E-07
Ni-59	9.05E-07	5.19E-04	0.199	0	0	9.54E-07	9.87E-07
Ni-63	8.14E-05	4.67E-02	17.9	0	0	8.58E-05	8.88E-05
Co-60	1.01E-07	5.77E-05	2.21E-02	0	0	1.02E-07	1.16E-07
Se-79	9.57E-08	5.50E-05	2.10E-02	0	0	9.68E-08	1.10E-07
Sr-90	1.12E-02	6.42	2.45E+03	6.28E-03	1.09E-02	1.56E-02	7.00E-02
Y-90	1.12E-02	6.42	2.45E+03	0	0	1.13E-02	1.29E-02
Zr-93	4.55E-07	2.61E-04	9.99E-02	0	0	4.60E-07	5.23E-07
Nb-93m	3.85E-07	2.21E-04	8.44E-02	0	0	3.89E-07	4.42E-07
Tc-99	3.15E-06	1.81E-03	0.692	8.26E-07	2.42E-06	4.89E-06	3.62E-06
Ru-106	3.98E-14	2.28E-11	8.74E-09	0	0	4.03E-14	4.57E-14
Cd-113m	1.10E-06	6.29E-04	0.241	0	0	1.11E-06	1.26E-06
Sb-125	9.11E-08	5.23E-05	2.00E-02	0	0	9.22E-08	1.05E-07
Sn-126	1.44E-07	8.26E-05	3.16E-02	0	0	1.46E-07	1.66E-07
I-129	5.93E-09	3.40E-06	1.30E-03	1.55E-09	4.56E-09	9.22E-09	6.82E-09
Cs-134	4.23E-09	2.43E-06	9.28E-04	0	0	4.56E-09	4.94E-09
Cs-137	6.00E-02	34.4	1.32E+04	7.11E-03	1.24E-02	9.17E-02	0.118
Ba-137m	5.68E-02	32.6	1.25E+04	0	0	6.12E-02	6.62E-02
Sm-151	3.57E-04	0.205	78.3	0	0	3.61E-04	4.11E-04
Eu-152	1.13E-07	6.47E-05	2.47E-02	0	0	1.14E-07	1.15E-07
Eu-154	1.79E-06	1.03E-03	0.392	0	0	1.81E-06	2.06E-06
Eu-155	8.64E-06	4.96E-03	1.90	0	0	8.71E-06	8.77E-06
Ra-226	2.69E-11	1.55E-08	5.91E-06	0	0	1.03E-10	8.20E-11
Ra-228	4.49E-16	2.58E-13	9.87E-11	0	0	4.53E-16	4.56E-16
Ac-227	1.39E-10	7.96E-08	3.04E-05	0	0	3.53E-10	4.29E-10
Pa-231	3.01E-10	1.73E-07	6.61E-05	0	0	3.05E-10	3.47E-10
Th-229	8.72E-14	5.00E-11	1.91E-08	0	0	8.79E-14	8.85E-14
Th-232	1.30E-16	7.49E-14	2.86E-11	0	0	1.32E-16	1.50E-16
U-232	1.18E-10	6.80E-08	2.60E-05	8.15E-11	9.99E-11	1.38E-10	1.51E-10
U-233	5.64E-12	3.24E-09	1.24E-06	3.87E-12	4.74E-12	6.58E-12	7.19E-12
U-234	5.57E-06	3.20E-03	1.22	3.82E-06	4.67E-06	6.54E-06	7.17E-06
U-235	2.47E-07	1.42E-04	5.42E-02	1.69E-07	2.07E-07	2.90E-07	3.18E-07
U-236	5.21E-08	2.99E-05	1.14E-02	3.58E-08	4.39E-08	6.09E-08	6.65E-08
U-238	5.65E-06	3.25E-03	1.24	3.88E-06	4.74E-06	6.64E-06	7.28E-06
Np-237	1.94E-08	1.11E-05	4.26E-03	5.04E-09	1.49E-08	3.02E-08	2.23E-08
Pu-238	3.69E-07	2.12E-04	8.11E-02	3.38E-08	1.16E-07	5.55E-07	5.76E-07
Pu-239	6.14E-05	3.53E-02	13.5	6.39E-06	2.05E-05	9.03E-05	9.32E-05
Pu-240	5.00E-06	2.87E-03	1.10	4.83E-07	1.61E-06	7.44E-06	7.70E-06
Pu-241	1.36E-05	7.80E-03	2.98	1.11E-06	4.10E-06	2.08E-05	2.16E-05
Pu-242	6.07E-11	3.48E-08	1.33E-05	4.87E-12	1.82E-11	9.30E-11	9.68E-11
Am-241	8.14E-07	4.67E-04	0.179	1.51E-07	5.85E-07	1.30E-06	9.36E-07
Am-243	5.63E-12	3.23E-09	1.24E-06	9.81E-13	4.00E-12	8.98E-12	6.47E-12
Cm-242	1.86E-09	1.07E-06	4.08E-04	0	0	1.88E-09	1.90E-09
Cm-243	3.80E-11	2.18E-08	8.35E-06	0	0	3.84E-11	3.88E-11
Cm-244	1.24E-10	7.13E-08	2.73E-05	0	0	1.26E-10	1.43E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.01E-03 (g/L)	----	0.222	1.05E-04	3.36E-04	1.49E-03	1.53E-03
U	7.12E-02	9.72E+03	3.72E+03	4.88E-02	5.97E-02	8.36E-02	9.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.71E+06 (kg)	(376 kgal)	----	----	----	----	----
Heat Load	1.92E-02 (kW)	(65.5 BTU/hr)	----	1.72E-02	1.82E-02	2.02E-02	2.12E-02
Bulk Density	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.840	----	----	0.756	0.793	0.899	0.959
Water wt%	74.8	----	----	69.9	72.1	78.0	81.5
TOC wt% C (wet)	5.63E-02	----	----	5.34E-02	5.47E-02	5.83E-02	6.05E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.04	5.81E+04	9.94E+04	1.48	2.26	3.79	4.45
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.641	2.98E+04	5.10E+04	0.632	0.636	0.646	0.651
Cr^{3+}	4.06E-03	176	300	3.59E-03	3.82E-03	4.30E-03	4.52E-03
Bi^{3+}	7.17E-02	1.25E+04	2.13E+04	5.67E-02	6.52E-02	7.67E-02	8.06E-02
La^{3+}	8.98E-05	10.4	17.8	6.72E-05	7.89E-05	1.01E-04	1.11E-04
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.36E-03	66.2	113	1.22E-03	1.29E-03	2.03E-03	3.56E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.21E-04	5.51	9.43	9.01E-05	1.06E-04	1.35E-04	1.49E-04
Ca^{2+}	0.197	6.57E+03	1.12E+04	0.159	0.178	0.217	0.235
K^+	9.81E-03	319	546	8.43E-03	9.15E-03	1.05E-02	1.11E-02
OH^-	1.98	2.80E+04	4.80E+04	1.95	1.96	2.02	2.05
$NO3^-$	0.839	4.32E+04	7.40E+04	0.768	0.809	0.868	0.896
$NO2^-$	1.80E-02	687	1.18E+03	1.36E-02	1.59E-02	2.01E-02	2.21E-02
$CO3^{2-}$	0.197	9.83E+03	1.68E+04	0.159	0.178	0.217	0.235
$PO4^{3-}$	0.656	5.18E+04	8.87E+04	0.176	0.423	0.829	0.956
$SO4^{2-}$	3.27E-02	2.61E+03	4.47E+03	2.97E-02	3.15E-02	3.39E-02	3.50E-02
Si (as SiO_x^{2-})	5.31E-02	1.24E+03	2.12E+03	2.19E-02	2.33E-02	0.122	0.189
F^-	0.170	2.69E+03	4.61E+03	0.148	0.149	0.350	0.650
Cl^-	2.07E-02	609	1.04E+03	1.88E-02	1.99E-02	2.14E-02	2.21E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	2.82E-02	2.07E+03	3.54E+03	2.69E-02	2.77E-02	2.87E-02	2.90E-02
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	4.98E-06	7.03E-02	0.120	3.90E-06	4.39E-06	5.64E-06	6.37E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.20E+04 (kg)	(3.07 kgal)	----	----	----	----	----
Heat Load	1.18E-04 (kW)	(0.401 BTU/hr)	----	8.84E-05	1.03E-04	1.32E-04	1.47E-04
Bulk Density*	1.03 (g/cc)	----	----	1.02	1.03	1.03	1.04
Water wt%	94.4	----	----	93.0	93.7	95.0	95.7
TOC wt% C (wet)	3.71E-12	----	----	3.28E-12	3.49E-12	3.92E-12	4.13E-12

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.799	1.78E+04	214	0.601	0.698	0.900	0.997
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.26E-03	68.3	0.817	6.96E-04	9.72E-04	1.55E-03	1.82E-03
Cr^{3+}	3.41E-03	172	2.06	2.57E-03	2.98E-03	3.84E-03	4.26E-03
Bi^{3+}	2.52E-03	511	6.11	2.13E-03	2.32E-03	2.72E-03	2.91E-03
La^{3+}	1.21E-12	1.64E-07	1.96E-09	8.79E-13	1.04E-12	1.39E-12	1.55E-12
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.01E-03	57.5	0.688	7.59E-04	8.82E-04	1.13E-03	1.13E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.63E-12	8.70E-08	1.04E-09	1.18E-12	1.40E-12	1.86E-12	2.08E-12
Ca^{2+}	5.67E-03	221	2.64	3.46E-03	4.54E-03	6.79E-03	7.87E-03
K^+	2.33E-03	88.4	1.06	1.75E-03	2.03E-03	2.62E-03	2.91E-03
OH^-	4.77E-02	788	9.42	3.68E-02	4.22E-02	5.33E-02	5.83E-02
$NO3^-$	0.433	2.61E+04	312	0.326	0.378	0.487	0.539
$NO2^-$	4.30E-03	192	2.30	2.44E-03	3.28E-03	5.45E-03	6.69E-03
$CO3^{2-}$	5.67E-03	330	3.95	3.46E-03	4.54E-03	6.79E-03	7.87E-03
$PO4^{3-}$	6.89E-02	6.35E+03	76.0	5.24E-02	6.05E-02	7.73E-02	8.53E-02
$SO4^{2-}$	1.69E-02	1.58E+03	18.9	1.27E-02	1.48E-02	1.91E-02	2.11E-02
Si (as SiO_x^{2-})	1.23E-02	335	4.01	9.24E-03	1.07E-02	1.38E-02	1.53E-02
F^-	7.30E-02	1.35E+03	16.1	5.49E-02	6.38E-02	8.22E-02	9.11E-02
Cl^-	1.07E-02	369	4.41	8.06E-03	9.36E-03	1.21E-02	1.34E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	1.59E-12	1.36E-07	1.63E-09	1.41E-12	1.50E-12	1.68E-12	1.77E-12
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	2.03E-06	3.36E-02	4.02E-04	8.67E-07	1.36E-06	2.90E-06	3.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.72E+06 (kg)	(379 kgal)	----	----	----	----	----
Heat Load	1.93E-02 (kW)	(65.9 BTU/hr)	----	1.73E-02	1.83E-02	2.03E-02	2.13E-02
Bulk Density†	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Water wt%†	75.0	----	----	70.1	72.3	78.1	81.6
TOC wt% C (wet)†	5.59E-02	----	----	5.30E-02	5.43E-02	5.79E-02	6.00E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.02	5.78E+04	9.96E+04	1.48	2.25	3.77	4.42
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.636	2.96E+04	5.10E+04	0.627	0.631	0.641	0.646
Cr^{3+}	4.05E-03	176	302	3.59E-03	3.82E-03	4.29E-03	4.52E-03
Bi^{3+}	7.11E-02	1.24E+04	2.13E+04	5.62E-02	6.47E-02	7.61E-02	8.00E-02
La^{3+}	8.91E-05	10.3	17.8	6.66E-05	7.83E-05	9.97E-05	1.10E-04
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.35E-03	66.1	114	1.21E-03	1.28E-03	2.02E-03	3.54E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.20E-04	5.47	9.43	8.94E-05	1.05E-04	1.34E-04	1.47E-04
Ca^{2+}	0.196	6.52E+03	1.12E+04	0.158	0.176	0.215	0.233
K^+	9.75E-03	317	547	8.39E-03	9.09E-03	1.04E-02	1.10E-02
OH^-	1.97	2.78E+04	4.80E+04	1.93	1.95	2.00	2.03
$NO3^-$	0.835	4.31E+04	7.43E+04	0.765	0.806	0.865	0.893
$NO2^-$	1.79E-02	684	1.18E+03	1.35E-02	1.58E-02	1.99E-02	2.20E-02
$CO3^{2-}$	0.196	9.77E+03	1.68E+04	0.158	0.176	0.215	0.233
$PO4^{3-}$	0.652	5.15E+04	8.88E+04	0.175	0.420	0.822	0.949
$SO4^{2-}$	3.26E-02	2.61E+03	4.49E+03	2.96E-02	3.14E-02	3.38E-02	3.49E-02
Si (as SiO_x^{2-})	5.28E-02	1.23E+03	2.13E+03	2.18E-02	2.32E-02	0.122	0.188
F^-	0.170	2.68E+03	4.62E+03	0.148	0.149	0.347	0.645
Cl^-	2.06E-02	607	1.05E+03	1.88E-02	1.98E-02	2.13E-02	2.20E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	2.80E-02	2.05E+03	3.54E+03	2.67E-02	2.74E-02	2.84E-02	2.87E-02
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	4.95E-06	7.01E-02	0.121	3.89E-06	4.37E-06	5.62E-06	6.34E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.71E+06 (kg)	(376 kgal)	----	----	----	----	----
Heat Load	1.92E-02 (kW)	(65.5 BTU/hr)	----	1.72E-02	1.82E-02	2.02E-02	2.12E-02
Bulk Density	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.840	----	----	0.756	0.793	0.899	0.959
Water wt%	74.8	----	----	69.9	72.1	78.0	81.5
TOC wt% C (wet)	5.63E-02	----	----	5.34E-02	5.47E-02	5.83E-02	6.05E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.47E-08	2.88E-05	4.94E-02	2.68E-08	3.09E-08	3.84E-08	4.19E-08
C-14	1.18E-08	9.85E-06	1.69E-02	1.07E-08	1.13E-08	1.24E-08	1.30E-08
Ni-59	3.37E-09	2.80E-06	4.80E-03	3.05E-09	3.21E-09	5.20E-09	9.36E-09
Ni-63	3.01E-07	2.50E-04	0.428	2.71E-07	2.86E-07	4.61E-07	8.26E-07
Co-60	2.28E-09	1.90E-06	3.24E-03	1.97E-09	2.12E-09	2.44E-09	2.59E-09
Se-79	2.50E-09	2.08E-06	3.55E-03	2.26E-09	2.37E-09	2.62E-09	2.74E-09
Sr-90	1.12E-03	0.931	1.59E+03	1.01E-03	1.06E-03	1.18E-03	1.23E-03
Y-90	1.12E-03	0.932	1.59E+03	1.01E-03	1.06E-03	1.18E-03	1.23E-03
Zr-93	1.19E-08	9.87E-06	1.69E-02	1.07E-08	1.13E-08	1.25E-08	1.30E-08
Nb-93m	1.01E-08	8.40E-06	1.44E-02	9.16E-09	9.62E-09	1.06E-08	1.11E-08
Tc-99	8.21E-08	6.83E-05	0.117	7.42E-08	7.81E-08	8.61E-08	9.00E-08
Ru-106	6.88E-16	5.72E-13	9.78E-10	5.32E-16	6.08E-16	7.67E-16	8.43E-16
Cd-113m	2.70E-08	2.25E-05	3.85E-02	2.40E-08	2.55E-08	2.86E-08	3.00E-08
Sb-125	1.85E-09	1.54E-06	2.64E-03	1.54E-09	1.69E-09	2.01E-09	2.16E-09
Sn-126	3.74E-09	3.11E-06	5.32E-03	3.37E-09	3.55E-09	3.92E-09	4.10E-09
I-129	1.54E-10	1.28E-07	2.19E-04	1.39E-10	1.46E-10	1.62E-10	1.69E-10
Cs-134	6.94E-11	5.77E-08	9.87E-05	5.51E-11	6.21E-11	7.67E-11	8.37E-11
Cs-137	1.27E-03	1.05	1.80E+03	1.14E-03	1.20E-03	1.33E-03	1.40E-03
Ba-137m	1.20E-03	0.998	1.71E+03	1.08E-03	1.14E-03	1.26E-03	1.32E-03
Sm-151	9.35E-06	7.78E-03	13.3	8.47E-06	8.90E-06	9.80E-06	1.02E-05
Eu-152	7.15E-09	5.95E-06	1.02E-02	7.11E-09	7.13E-09	7.18E-09	7.20E-09
Eu-154	3.80E-08	3.16E-05	5.40E-02	3.21E-08	3.50E-08	4.09E-08	4.38E-08
Eu-155	5.88E-07	4.89E-04	0.836	5.85E-07	5.86E-07	5.89E-07	5.90E-07
Ra-226	8.38E-13	6.96E-10	1.19E-06	7.55E-13	8.05E-13	8.69E-13	8.99E-13
Ra-228	3.35E-17	2.78E-14	4.76E-11	3.33E-17	3.34E-17	3.35E-17	3.36E-17
Ac-227	4.25E-12	3.53E-09	6.05E-06	3.83E-12	4.08E-12	4.41E-12	4.56E-12
Pa-231	9.04E-12	7.51E-09	1.29E-05	8.16E-12	8.69E-12	9.36E-12	9.68E-12
Th-229	6.48E-15	5.39E-12	9.22E-09	6.46E-15	6.47E-15	6.49E-15	6.51E-15
Th-232	3.50E-18	2.91E-15	4.98E-12	3.19E-18	3.34E-18	3.66E-18	3.81E-18
U-232	4.60E-12	3.82E-09	6.54E-06	3.04E-12	3.18E-12	8.91E-12	1.21E-11
U-233	2.54E-13	2.11E-10	3.61E-07	1.61E-13	1.69E-13	5.12E-13	7.02E-13
U-234	3.23E-07	2.69E-04	0.460	1.92E-07	2.04E-07	6.88E-07	9.55E-07
U-235	1.45E-08	1.21E-05	2.06E-02	8.59E-09	9.12E-09	3.09E-08	4.29E-08
U-236	2.31E-09	1.92E-06	3.28E-03	1.47E-09	1.54E-09	4.63E-09	6.34E-09
U-238	3.28E-07	2.73E-04	0.466	1.95E-07	2.07E-07	6.96E-07	9.67E-07
Np-237	5.01E-10	4.17E-07	7.13E-04	4.52E-10	4.76E-10	5.26E-10	5.50E-10
Pu-238	3.80E-07	3.16E-04	0.541	1.60E-07	1.67E-07	6.64E-07	9.37E-07
Pu-239	7.26E-05	6.03E-02	103	3.67E-05	4.61E-05	1.08E-04	1.42E-04
Pu-240	5.46E-06	4.54E-03	7.77	2.78E-06	2.88E-06	8.90E-06	1.22E-05
Pu-241	1.24E-05	1.03E-02	17.6	2.70E-06	3.04E-06	2.48E-05	3.68E-05
Pu-242	5.42E-11	4.51E-08	7.71E-05	9.93E-12	1.15E-11	1.11E-10	1.66E-10
Am-241	1.51E-08	1.26E-05	2.15E-02	1.21E-08	1.36E-08	1.67E-08	1.81E-08
Am-243	9.87E-14	8.21E-11	1.40E-07	7.70E-14	8.76E-14	1.10E-13	1.20E-13
Cm-242	1.22E-10	1.02E-07	1.74E-04	1.21E-10	1.22E-10	1.23E-10	1.23E-10
Cm-243	2.49E-12	2.07E-09	3.54E-06	2.47E-12	2.48E-12	2.50E-12	2.50E-12
Cm-244	2.30E-12	1.91E-09	3.27E-06	1.78E-12	2.03E-12	2.56E-12	2.81E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.19E-03 (g/L)	----	1.70	6.05E-04	7.55E-04	1.77E-03	2.33E-03
U	4.13E-03	816	1.40E+03	2.45E-03	2.60E-03	8.77E-03	1.22E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.20E+04 (kg)	(3.07 kgal)	----	----	----	----	----
Heat Load	1.18E-04 (kW)	(0.401 BTU/hr)	----	8.84E-05	1.03E-04	1.32E-04	1.47E-04
Bulk Density*	1.03 (g/cc)	----	----	1.02	1.03	1.03	1.04
Water wt%†	94.4	----	----	93.0	93.7	95.0	95.7
TOC wt% C (wet)	3.71E-12	----	----	3.28E-12	3.49E-12	3.92E-12	4.13E-12

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.12E-08	2.06E-05	2.46E-04	1.20E-08	1.62E-08	2.69E-08	3.30E-08
C-14	8.31E-09	8.07E-06	9.65E-05	6.25E-09	7.26E-09	9.36E-09	1.04E-08
Ni-59	2.36E-09	2.29E-06	2.74E-05	1.78E-09	2.06E-09	2.65E-09	2.65E-09
Ni-63	2.15E-07	2.09E-04	2.50E-03	1.62E-07	1.88E-07	2.42E-07	2.42E-07
Co-60	2.24E-09	2.18E-06	2.60E-05	1.69E-09	1.96E-09	2.52E-09	2.79E-09
Se-79	1.75E-09	1.70E-06	2.04E-05	1.32E-09	1.53E-09	1.98E-09	2.19E-09
Sr-90	8.38E-04	0.814	9.74	6.31E-04	7.32E-04	9.44E-04	1.05E-03
Y-90	8.38E-04	0.814	9.74	6.31E-04	7.32E-04	9.44E-04	1.05E-03
Zr-93	8.32E-09	8.08E-06	9.67E-05	6.26E-09	7.27E-09	9.37E-09	1.04E-08
Nb-93m	6.95E-09	6.75E-06	8.08E-05	5.23E-09	6.08E-09	7.83E-09	8.68E-09
Tc-99	5.78E-08	5.61E-05	6.71E-04	4.35E-08	5.05E-08	6.51E-08	7.21E-08
Ru-106	1.14E-15	1.11E-12	1.32E-11	8.57E-16	9.95E-16	1.28E-15	1.42E-15
Cd-113m	2.19E-08	2.13E-05	2.54E-04	1.65E-08	1.91E-08	2.47E-08	2.73E-08
Sb-125	2.28E-09	2.21E-06	2.65E-05	1.71E-09	1.99E-09	2.57E-09	2.84E-09
Sn-126	2.65E-09	2.58E-06	3.08E-05	2.00E-09	2.32E-09	2.99E-09	3.31E-09
I-129	1.09E-10	1.06E-07	1.27E-06	8.23E-11	9.56E-11	1.23E-10	1.37E-10
Cs-134	1.05E-10	1.02E-07	1.22E-06	7.87E-11	9.14E-11	1.18E-10	1.31E-10
Cs-137	9.54E-04	0.927	11.1	7.18E-04	8.34E-04	1.07E-03	1.19E-03
Ba-137m	9.03E-04	0.877	10.5	6.79E-04	7.89E-04	1.02E-03	1.13E-03
Sm-151	6.48E-06	6.30E-03	7.54E-02	4.88E-06	5.67E-06	7.30E-06	8.09E-06
Eu-152	3.17E-10	3.08E-07	3.69E-06	2.39E-10	2.77E-10	3.57E-10	3.96E-10
Eu-154	4.28E-08	4.15E-05	4.97E-04	3.22E-08	3.74E-08	4.82E-08	5.34E-08
Eu-155	2.13E-08	2.07E-05	2.47E-04	1.60E-08	1.86E-08	2.40E-08	2.66E-08
Ra-226	3.56E-13	3.46E-10	4.14E-09	2.68E-13	3.11E-13	4.01E-13	4.44E-13
Ra-228	8.76E-19	8.51E-16	1.02E-14	6.59E-19	7.65E-19	9.87E-19	1.09E-18
Ac-227	1.84E-12	1.79E-09	2.14E-08	1.39E-12	1.61E-12	2.07E-12	2.30E-12
Pa-231	4.15E-12	4.03E-09	4.83E-08	3.13E-12	3.63E-12	4.68E-12	5.18E-12
Th-229	1.71E-16	1.66E-13	1.98E-12	1.28E-16	1.49E-16	1.92E-16	2.13E-16
Th-232	2.27E-18	2.21E-15	2.64E-14	1.71E-18	1.98E-18	2.56E-18	2.84E-18
U-232	2.60E-12	2.52E-09	3.02E-08	1.96E-12	2.27E-12	2.93E-12	3.24E-12
U-233	1.19E-13	1.16E-10	1.38E-09	8.95E-14	1.04E-13	1.34E-13	1.48E-13
U-234	1.08E-07	1.05E-04	1.25E-03	8.13E-08	9.43E-08	1.22E-07	1.35E-07
U-235	4.77E-09	4.63E-06	5.54E-05	3.59E-09	4.17E-09	5.37E-09	5.95E-09
U-236	1.11E-09	1.07E-06	1.29E-05	8.32E-10	9.67E-10	1.25E-09	1.38E-09
U-238	1.10E-07	1.07E-04	1.28E-03	8.26E-08	9.59E-08	1.24E-07	1.37E-07
Np-237	3.61E-10	3.50E-07	4.19E-06	2.71E-10	3.15E-10	4.06E-10	4.50E-10
Pu-238	4.54E-08	4.41E-05	5.28E-04	1.32E-08	2.90E-08	5.77E-08	5.77E-08
Pu-239	5.64E-06	5.48E-03	6.55E-02	1.64E-06	3.60E-06	7.17E-06	7.17E-06
Pu-240	5.51E-07	5.35E-04	6.40E-03	1.60E-07	3.51E-07	7.00E-07	7.00E-07
Pu-241	1.99E-06	1.94E-03	2.32E-02	5.80E-07	1.27E-06	2.53E-06	2.53E-06
Pu-242	9.11E-12	8.85E-09	1.06E-07	2.65E-12	5.81E-12	1.16E-11	1.16E-11
Am-241	2.19E-08	2.13E-05	2.55E-04	1.65E-08	1.92E-08	2.47E-08	2.74E-08
Am-243	1.59E-13	1.54E-10	1.84E-09	1.19E-13	1.39E-13	1.79E-13	1.98E-13
Cm-242	6.30E-12	6.12E-09	7.32E-08	4.74E-12	5.50E-12	7.09E-12	7.86E-12
Cm-243	1.30E-13	1.26E-10	1.51E-09	9.76E-14	1.13E-13	1.46E-13	1.62E-13
Cm-244	3.78E-12	3.67E-09	4.39E-08	2.85E-12	3.30E-12	4.26E-12	4.72E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.32E-05 (g/L)	----	1.08E-03	2.71E-05	5.95E-05	1.18E-04	1.18E-04
U	1.38E-03	319	3.82	1.04E-03	1.21E-03	1.56E-03	1.72E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.72E+06 (kg)	(379 kgal)	----	----	----	----	----
Heat Load	1.93E-02 (kW)	(65.9 BTU/hr)	----	1.73E-02	1.83E-02	2.03E-02	2.13E-02
Bulk Density†	1.20 (g/cc)	----	----	1.12	1.16	1.24	1.27
Water wt%†	75.0	----	----	70.1	72.3	78.1	81.6
TOC wt% C (wet)†	5.59E-02	----	----	5.30E-02	5.43E-02	5.79E-02	6.00E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.46E-08	2.88E-05	4.96E-02	2.68E-08	3.08E-08	3.82E-08	4.17E-08
C-14	1.18E-08	9.84E-06	1.70E-02	1.07E-08	1.12E-08	1.24E-08	1.30E-08
Ni-59	3.36E-09	2.80E-06	4.82E-03	3.04E-09	3.20E-09	5.18E-09	9.30E-09
Ni-63	3.00E-07	2.50E-04	0.430	2.70E-07	2.85E-07	4.59E-07	8.21E-07
Co-60	2.28E-09	1.90E-06	3.27E-03	1.97E-09	2.12E-09	2.44E-09	2.59E-09
Se-79	2.49E-09	2.07E-06	3.57E-03	2.25E-09	2.37E-09	2.61E-09	2.73E-09
Sr-90	1.12E-03	0.931	1.60E+03	1.00E-03	1.06E-03	1.18E-03	1.23E-03
Y-90	1.12E-03	0.931	1.60E+03	1.00E-03	1.06E-03	1.18E-03	1.23E-03
Zr-93	1.18E-08	9.86E-06	1.70E-02	1.07E-08	1.13E-08	1.24E-08	1.30E-08
Nb-93m	1.01E-08	8.39E-06	1.45E-02	9.12E-09	9.59E-09	1.06E-08	1.10E-08
Tc-99	8.19E-08	6.82E-05	0.117	7.40E-08	7.79E-08	8.60E-08	8.98E-08
Ru-106	6.91E-16	5.75E-13	9.91E-10	5.35E-16	6.11E-16	7.71E-16	8.48E-16
Cd-113m	2.70E-08	2.25E-05	3.87E-02	2.40E-08	2.55E-08	2.85E-08	3.00E-08
Sb-125	1.86E-09	1.55E-06	2.66E-03	1.54E-09	1.70E-09	2.02E-09	2.17E-09
Sn-126	3.73E-09	3.10E-06	5.35E-03	3.36E-09	3.54E-09	3.91E-09	4.09E-09
I-129	1.54E-10	1.28E-07	2.20E-04	1.39E-10	1.46E-10	1.61E-10	1.69E-10
Cs-134	6.97E-11	5.80E-08	1.00E-04	5.53E-11	6.24E-11	7.70E-11	8.41E-11
Cs-137	1.27E-03	1.05	1.82E+03	1.13E-03	1.20E-03	1.33E-03	1.40E-03
Ba-137m	1.20E-03	0.997	1.72E+03	1.07E-03	1.13E-03	1.26E-03	1.32E-03
Sm-151	9.33E-06	7.77E-03	13.4	8.44E-06	8.87E-06	9.78E-06	1.02E-05
Eu-152	7.10E-09	5.91E-06	1.02E-02	7.06E-09	7.08E-09	7.12E-09	7.14E-09
Eu-154	3.80E-08	3.16E-05	5.45E-02	3.21E-08	3.50E-08	4.10E-08	4.39E-08
Eu-155	5.83E-07	4.85E-04	0.836	5.80E-07	5.81E-07	5.84E-07	5.86E-07
Ra-226	8.34E-13	6.94E-10	1.20E-06	7.51E-13	8.01E-13	8.65E-13	8.94E-13
Ra-228	3.32E-17	2.76E-14	4.76E-11	3.31E-17	3.31E-17	3.33E-17	3.33E-17
Ac-227	4.23E-12	3.52E-09	6.07E-06	3.81E-12	4.07E-12	4.38E-12	4.53E-12
Pa-231	9.00E-12	7.49E-09	1.29E-05	8.13E-12	8.65E-12	9.32E-12	9.63E-12
Th-229	6.43E-15	5.35E-12	9.23E-09	6.41E-15	6.42E-15	6.44E-15	6.45E-15
Th-232	3.49E-18	2.91E-15	5.01E-12	3.18E-18	3.33E-18	3.65E-18	3.80E-18
U-232	4.58E-12	3.81E-09	6.57E-06	3.04E-12	3.17E-12	8.86E-12	1.20E-11
U-233	2.53E-13	2.10E-10	3.63E-07	1.60E-13	1.69E-13	5.09E-13	6.97E-13
U-234	3.22E-07	2.68E-04	0.461	1.91E-07	2.03E-07	6.83E-07	9.48E-07
U-235	1.44E-08	1.20E-05	2.07E-02	8.56E-09	9.09E-09	3.07E-08	4.26E-08
U-236	2.30E-09	1.91E-06	3.29E-03	1.46E-09	1.54E-09	4.60E-09	6.30E-09
U-238	3.26E-07	2.71E-04	0.468	1.94E-07	2.06E-07	6.92E-07	9.60E-07
Np-237	5.00E-10	4.16E-07	7.17E-04	4.51E-10	4.75E-10	5.25E-10	5.50E-10
Pu-238	3.78E-07	3.14E-04	0.542	1.59E-07	1.67E-07	6.59E-07	9.29E-07
Pu-239	7.20E-05	6.00E-02	103	3.64E-05	4.58E-05	1.07E-04	1.41E-04
Pu-240	5.42E-06	4.51E-03	7.77	2.77E-06	2.86E-06	8.83E-06	1.21E-05
Pu-241	1.23E-05	1.02E-02	17.6	2.69E-06	3.04E-06	2.47E-05	3.65E-05
Pu-242	5.38E-11	4.48E-08	7.72E-05	9.92E-12	1.15E-11	1.10E-10	1.65E-10
Am-241	1.52E-08	1.26E-05	2.18E-02	1.22E-08	1.37E-08	1.67E-08	1.82E-08
Am-243	9.92E-14	8.26E-11	1.42E-07	7.74E-14	8.81E-14	1.10E-13	1.21E-13
Cm-242	1.21E-10	1.01E-07	1.74E-04	1.20E-10	1.21E-10	1.22E-10	1.22E-10
Cm-243	2.47E-12	2.05E-09	3.54E-06	2.45E-12	2.46E-12	2.48E-12	2.49E-12
Cm-244	2.31E-12	1.92E-09	3.31E-06	1.79E-12	2.04E-12	2.57E-12	2.83E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.18E-03 (g/L)	----	1.70	6.01E-04	7.50E-04	1.76E-03	2.31E-03
U	4.10E-03	813	1.40E+03	2.44E-03	2.59E-03	8.71E-03	1.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.02E+06 (kg)	(456 kgal)	----	----	----	----	----
Heat Load	2.32E-02 (kW)	(79.2 BTU/hr)	----	1.94E-02	2.12E-02	2.52E-02	2.70E-02
Bulk Density	1.17 (g/cc)	----	----	1.13	1.15	1.19	1.20
Void Fraction	0.886	----	----	0.843	0.862	0.917	0.948
Water wt%	77.1	----	----	74.3	75.6	78.7	80.6
TOC wt% C (wet)	0.172	----	----	0.165	0.169	0.175	0.178

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.35	4.61E+04	9.31E+04	1.54	1.94	2.74	3.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.683	3.26E+04	6.59E+04	0.668	0.675	0.691	0.699
Cr^{3+}	4.63E-03	206	416	3.88E-03	4.25E-03	5.01E-03	5.38E-03
Bi^{3+}	5.78E-02	1.03E+04	2.08E+04	3.48E-02	4.73E-02	6.59E-02	7.22E-02
La^{3+}	2.67E-04	31.7	64.0	1.99E-04	2.34E-04	2.98E-04	3.29E-04
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.43E-03	71.5	144	1.20E-03	1.31E-03	1.77E-03	4.44E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.58E-04	16.8	34.0	2.68E-04	3.14E-04	4.01E-04	4.42E-04
Ca^{2+}	0.233	7.99E+03	1.61E+04	0.172	0.202	0.265	0.295
K^{+}	1.99E-02	665	1.34E+03	1.58E-02	1.79E-02	2.18E-02	2.37E-02
OH^{-}	2.11	3.06E+04	6.19E+04	2.06	2.09	2.13	2.16
$NO3^{-}$	0.782	4.14E+04	8.37E+04	0.689	0.735	0.829	0.874
$NO2^{-}$	1.47E-02	578	1.17E+03	1.15E-02	1.29E-02	1.67E-02	1.88E-02
$CO3^{2-}$	0.233	1.20E+04	2.42E+04	0.172	0.202	0.265	0.295
$PO4^{3-}$	0.403	3.27E+04	6.61E+04	0.155	0.282	0.492	0.558
$SO4^{2-}$	2.77E-02	2.27E+03	4.59E+03	2.40E-02	2.58E-02	2.96E-02	3.14E-02
Si (as SiO_x^{2-})	3.51E-02	843	1.70E+03	1.90E-02	1.97E-02	7.09E-02	0.105
F^{-}	0.200	3.24E+03	6.55E+03	0.134	0.137	0.292	0.447
Cl^{-}	1.89E-02	573	1.16E+03	1.66E-02	1.77E-02	2.01E-02	2.13E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	8.38E-02	6.30E+03	1.27E+04	8.00E-02	8.22E-02	8.51E-02	8.60E-02
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	4.21E-06	6.11E-02	0.123	2.88E-06	3.44E-06	5.17E-06	6.32E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.95E+03 (kg)	(2.06 kgal)	----	----	----	----	----
Heat Load	4.83E-05 (kW)	(0.165 BTU/hr)	----	3.64E-05	4.22E-05	5.44E-05	6.03E-05
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.02	1.02	1.02
Water wt%	96.5	----	----	95.7	96.1	96.9	97.3
TOC wt% C (wet)	5.10E-12	----	----	4.52E-12	4.80E-12	5.40E-12	5.68E-12

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.489	1.10E+04	87.8	0.368	0.427	0.551	0.610
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	7.70E-04	42.2	0.336	4.25E-04	5.94E-04	9.46E-04	1.11E-03
Cr^{3+}	2.09E-03	107	0.848	1.57E-03	1.82E-03	2.35E-03	2.60E-03
Bi^{3+}	1.54E-03	316	2.51	1.30E-03	1.42E-03	1.66E-03	1.78E-03
La^{3+}	1.65E-12	2.25E-07	1.79E-09	1.20E-12	1.42E-12	1.89E-12	2.11E-12
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.17E-04	35.6	0.283	4.64E-04	5.39E-04	6.93E-04	6.93E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.22E-12	1.20E-07	9.51E-10	1.61E-12	1.90E-12	2.53E-12	2.83E-12
Ca^{2+}	3.47E-03	136	1.09	2.11E-03	2.78E-03	4.15E-03	4.81E-03
K^{+}	1.42E-03	54.7	0.435	1.07E-03	1.24E-03	1.60E-03	1.78E-03
OH^{-}	2.92E-02	487	3.87	2.25E-02	2.58E-02	3.26E-02	3.57E-02
$NO3^{-}$	0.265	1.61E+04	128	0.200	0.231	0.298	0.329
$NO2^{-}$	2.63E-03	119	0.945	1.49E-03	2.01E-03	3.33E-03	4.09E-03
$CO3^{2-}$	3.47E-03	204	1.63	2.11E-03	2.78E-03	4.15E-03	4.81E-03
$PO4^{3-}$	4.21E-02	3.93E+03	31.3	3.21E-02	3.70E-02	4.73E-02	5.22E-02
$SO4^{2-}$	1.04E-02	977	7.77	7.79E-03	9.05E-03	1.17E-02	1.29E-02
Si (as SiO_x^{2-})	7.51E-03	207	1.65	5.65E-03	6.56E-03	8.46E-03	9.37E-03
F^{-}	4.46E-02	833	6.63	3.36E-02	3.90E-02	5.03E-02	5.57E-02
Cl^{-}	6.55E-03	228	1.81	4.93E-03	5.72E-03	7.38E-03	8.17E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	2.16E-12	1.87E-07	1.49E-09	1.92E-12	2.04E-12	2.29E-12	2.41E-12
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.24E-06	2.08E-02	1.65E-04	5.30E-07	8.30E-07	1.78E-06	2.41E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.03E+06 (kg)	(458 kgal)	----	----	----	----	----
Heat Load	2.32E-02 (kW)	(79.4 BTU/hr)	----	1.94E-02	2.13E-02	2.52E-02	2.71E-02
Bulk Density†	1.17 (g/cc)	----	----	1.13	1.15	1.19	1.20
Water wt%†	77.1	----	----	74.4	75.6	78.8	80.6
TOC wt% C (wet)†	0.171	----	----	0.164	0.168	0.174	0.178

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.34	4.59E+04	9.32E+04	1.54	1.94	2.73	3.06
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.680	3.25E+04	6.59E+04	0.665	0.672	0.688	0.696
Cr^{3+}	4.62E-03	205	416	3.87E-03	4.24E-03	5.00E-03	5.37E-03
Bi^{3+}	5.76E-02	1.03E+04	2.09E+04	3.47E-02	4.71E-02	6.56E-02	7.18E-02
La^{3+}	2.66E-04	31.5	64.0	1.99E-04	2.33E-04	2.97E-04	3.28E-04
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	71.4	145	1.20E-03	1.31E-03	1.77E-03	4.42E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.56E-04	16.7	34.0	2.66E-04	3.13E-04	3.99E-04	4.40E-04
Ca^{2+}	0.232	7.96E+03	1.61E+04	0.171	0.201	0.264	0.293
K^{+}	1.98E-02	663	1.34E+03	1.58E-02	1.79E-02	2.18E-02	2.36E-02
OH^{-}	2.10	3.05E+04	6.19E+04	2.05	2.08	2.12	2.15
$NO3^{-}$	0.780	4.13E+04	8.38E+04	0.687	0.732	0.826	0.871
$NO2^{-}$	1.46E-02	576	1.17E+03	1.14E-02	1.29E-02	1.66E-02	1.87E-02
$CO3^{2-}$	0.232	1.19E+04	2.42E+04	0.171	0.201	0.264	0.293
$PO4^{3-}$	0.402	3.26E+04	6.61E+04	0.155	0.281	0.490	0.555
$SO4^{2-}$	2.76E-02	2.27E+03	4.60E+03	2.39E-02	2.57E-02	2.95E-02	3.13E-02
Si (as SiO_x^{2-})	3.50E-02	841	1.70E+03	1.90E-02	1.97E-02	7.07E-02	0.105
F^{-}	0.199	3.23E+03	6.55E+03	0.134	0.136	0.291	0.445
Cl^{-}	1.89E-02	572	1.16E+03	1.65E-02	1.77E-02	2.01E-02	2.12E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	8.34E-02	6.28E+03	1.27E+04	7.96E-02	8.18E-02	8.47E-02	8.56E-02
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	4.19E-06	6.09E-02	0.124	2.87E-06	3.43E-06	5.16E-06	6.30E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.02E+06 (kg)	(456 kgal)	----	----	----	----	----
Heat Load	2.32E-02 (kW)	(79.2 BTU/hr)	----	1.94E-02	2.12E-02	2.52E-02	2.70E-02
Bulk Density	1.17 (g/cc)	----	----	1.13	1.15	1.19	1.20
Void Fraction	0.886	----	----	0.843	0.862	0.917	0.948
Water wt%	77.1	----	----	74.3	75.6	78.7	80.6
TOC wt% C (wet)	0.172	----	----	0.165	0.169	0.175	0.178
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.15E-08	2.69E-05	5.44E-02	2.32E-08	2.70E-08	3.67E-08	4.22E-08
C-14	1.14E-08	9.77E-06	1.97E-02	9.61E-09	1.05E-08	1.24E-08	1.33E-08
Ni-59	3.25E-09	2.78E-06	5.61E-03	2.73E-09	2.99E-09	4.20E-09	1.03E-08
Ni-63	2.93E-07	2.51E-04	0.506	2.46E-07	2.69E-07	3.76E-07	9.36E-07
Co-60	2.62E-09	2.24E-06	4.52E-03	2.13E-09	2.37E-09	2.87E-09	3.11E-09
Se-79	2.41E-09	2.06E-06	4.16E-03	2.03E-09	2.22E-09	2.61E-09	2.80E-09
Sr-90	1.12E-03	0.953	1.92E+03	9.31E-04	1.02E-03	1.21E-03	1.30E-03
Y-90	1.12E-03	0.953	1.93E+03	9.32E-04	1.02E-03	1.21E-03	1.30E-03
Zr-93	1.15E-08	9.79E-06	1.98E-02	9.63E-09	1.05E-08	1.24E-08	1.33E-08
Nb-93m	9.67E-09	8.26E-06	1.67E-02	8.14E-09	8.89E-09	1.04E-08	1.12E-08
Tc-99	7.94E-08	6.78E-05	0.137	6.67E-08	7.29E-08	8.58E-08	9.21E-08
Ru-106	1.10E-15	9.36E-13	1.89E-09	8.45E-16	9.68E-16	1.22E-15	1.35E-15
Cd-113m	2.80E-08	2.39E-05	4.83E-02	2.32E-08	2.55E-08	3.04E-08	3.28E-08
Sb-125	2.43E-09	2.07E-06	4.19E-03	1.93E-09	2.17E-09	2.68E-09	2.93E-09
Sn-126	3.63E-09	3.10E-06	6.26E-03	3.05E-09	3.33E-09	3.93E-09	4.21E-09
I-129	1.50E-10	1.28E-07	2.58E-04	1.26E-10	1.37E-10	1.62E-10	1.74E-10
Cs-134	1.03E-10	8.82E-08	1.78E-04	8.02E-11	9.15E-11	1.15E-10	1.26E-10
Cs-137	1.27E-03	1.08	2.19E+03	1.06E-03	1.16E-03	1.37E-03	1.48E-03
Ba-137m	1.20E-03	1.02	2.07E+03	1.00E-03	1.10E-03	1.30E-03	1.40E-03
Sm-151	8.98E-06	7.67E-03	15.5	7.56E-06	8.26E-06	9.71E-06	1.04E-05
Eu-152	1.02E-08	8.71E-06	1.76E-02	1.01E-08	1.02E-08	1.02E-08	1.03E-08
Eu-154	4.70E-08	4.01E-05	8.11E-02	3.76E-08	4.22E-08	5.18E-08	5.64E-08
Eu-155	7.42E-07	6.34E-04	1.28	7.38E-07	7.40E-07	7.45E-07	7.47E-07
Ra-226	6.61E-13	5.65E-10	1.14E-06	5.83E-13	6.21E-13	7.01E-13	7.39E-13
Ra-228	3.52E-17	3.01E-14	6.08E-11	3.50E-17	3.51E-17	3.53E-17	3.54E-17
Ac-227	3.38E-12	2.88E-09	5.83E-06	2.97E-12	3.17E-12	3.58E-12	3.78E-12
Pa-231	7.33E-12	6.26E-09	1.27E-05	6.42E-12	6.87E-12	7.80E-12	8.24E-12
Th-229	6.85E-15	5.85E-12	1.18E-08	6.81E-15	6.83E-15	6.86E-15	6.88E-15
Th-232	3.26E-18	2.79E-15	5.63E-12	2.76E-18	3.01E-18	3.52E-18	3.76E-18
U-232	4.04E-12	3.45E-09	6.97E-06	3.23E-12	3.30E-12	6.26E-12	7.90E-12
U-233	2.07E-13	1.77E-10	3.58E-07	1.59E-13	1.63E-13	3.41E-13	4.39E-13
U-234	2.36E-07	2.02E-04	0.408	1.69E-07	1.75E-07	4.24E-07	5.62E-07
U-235	1.05E-08	9.01E-06	1.82E-02	7.50E-09	7.77E-09	1.90E-08	2.52E-08
U-236	1.90E-09	1.62E-06	3.28E-03	1.47E-09	1.50E-09	3.10E-09	3.98E-09
U-238	2.40E-07	2.05E-04	0.414	1.71E-07	1.77E-07	4.30E-07	5.70E-07
Np-237	4.90E-10	4.18E-07	8.45E-04	4.11E-10	4.49E-10	5.30E-10	5.69E-10
Pu-238	4.65E-07	3.98E-04	0.803	1.10E-07	1.23E-07	9.22E-07	1.36E-06
Pu-239	7.09E-05	6.06E-02	122	2.68E-05	2.84E-05	1.28E-04	1.82E-04
Pu-240	6.08E-06	5.19E-03	10.5	1.77E-06	1.93E-06	1.16E-05	1.69E-05
Pu-241	1.82E-05	1.55E-02	31.4	2.61E-06	3.17E-06	3.83E-05	5.75E-05
Pu-242	8.19E-11	7.00E-08	1.41E-04	1.07E-11	1.32E-11	1.74E-10	2.62E-10
Am-241	2.18E-08	1.86E-05	3.76E-02	1.70E-08	1.94E-08	2.43E-08	2.66E-08
Am-243	1.52E-13	1.30E-10	2.63E-07	1.18E-13	1.35E-13	1.70E-13	1.87E-13
Cm-242	1.92E-10	1.64E-07	3.32E-04	1.91E-10	1.91E-10	1.93E-10	1.94E-10
Cm-243	3.95E-12	3.37E-09	6.81E-06	3.92E-12	3.93E-12	3.96E-12	3.98E-12
Cm-244	3.61E-12	3.08E-09	6.22E-06	2.78E-12	3.18E-12	4.03E-12	4.44E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.17E-03 (g/L)	----	2.01	4.39E-04	4.65E-04	2.10E-03	3.00E-03
U	3.02E-03	614	1.24E+03	2.15E-03	2.23E-03	5.41E-03	7.17E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.95E+03 (kg)	(2.06 kgal)	----	----	----	----	----
Heat Load	4.83E-05 (kW)	(0.165 BTU/hr)	----	3.64E-05	4.22E-05	5.44E-05	6.03E-05
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.02	1.02	1.02
Water wt%†	96.5	----	----	95.7	96.1	96.9	97.3
TOC wt% C (wet)	5.10E-12	----	----	4.52E-12	4.80E-12	5.40E-12	5.68E-12
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.29E-08	1.27E-05	1.01E-04	7.33E-09	9.88E-09	1.64E-08	2.02E-08
C-14	5.08E-09	4.99E-06	3.97E-05	3.82E-09	4.44E-09	5.72E-09	6.34E-09
Ni-59	1.44E-09	1.42E-06	1.13E-05	1.09E-09	1.26E-09	1.62E-09	1.62E-09
Ni-63	1.32E-07	1.29E-04	1.03E-03	9.91E-08	1.15E-07	1.48E-07	1.48E-07
Co-60	1.37E-09	1.35E-06	1.07E-05	1.03E-09	1.20E-09	1.54E-09	1.71E-09
Se-79	1.07E-09	1.05E-06	8.38E-06	8.07E-10	9.37E-10	1.21E-09	1.34E-09
Sr-90	5.12E-04	0.503	4.00	3.86E-04	4.48E-04	5.77E-04	6.40E-04
Y-90	5.13E-04	0.504	4.00	3.86E-04	4.48E-04	5.77E-04	6.40E-04
Zr-93	5.09E-09	5.00E-06	3.97E-05	3.83E-09	4.45E-09	5.73E-09	6.35E-09
Nb-93m	4.25E-09	4.18E-06	3.32E-05	3.20E-09	3.72E-09	4.79E-09	5.31E-09
Tc-99	3.53E-08	3.47E-05	2.76E-04	2.66E-08	3.09E-08	3.98E-08	4.41E-08
Ru-106	6.97E-16	6.84E-13	5.44E-12	5.24E-16	6.09E-16	7.85E-16	8.69E-16
Cd-113m	1.34E-08	1.32E-05	1.05E-04	1.01E-08	1.17E-08	1.51E-08	1.67E-08
Sb-125	1.39E-09	1.37E-06	1.09E-05	1.05E-09	1.22E-09	1.57E-09	1.74E-09
Sn-126	1.62E-09	1.59E-06	1.27E-05	1.22E-09	1.42E-09	1.83E-09	2.03E-09
I-129	6.69E-11	6.57E-08	5.23E-07	5.03E-11	5.84E-11	7.54E-11	8.35E-11
Cs-134	6.40E-11	6.29E-08	5.00E-07	4.82E-11	5.59E-11	7.21E-11	7.99E-11
Cs-137	5.84E-04	0.573	4.56	4.39E-04	5.10E-04	6.57E-04	7.28E-04
Ba-137m	5.52E-04	0.542	4.31	4.15E-04	4.82E-04	6.22E-04	6.89E-04
Sm-151	3.97E-06	3.90E-03	3.10E-02	2.98E-06	3.46E-06	4.47E-06	4.95E-06
Eu-152	1.94E-10	1.91E-07	1.52E-06	1.46E-10	1.69E-10	2.19E-10	2.42E-10
Eu-154	2.61E-08	2.57E-05	2.04E-04	1.97E-08	2.28E-08	2.95E-08	3.26E-08
Eu-155	1.30E-08	1.28E-05	1.02E-04	9.80E-09	1.14E-08	1.47E-08	1.63E-08
Ra-226	2.18E-13	2.14E-10	1.70E-09	1.64E-13	1.90E-13	2.45E-13	2.72E-13
Ra-228	5.36E-19	5.26E-16	4.18E-15	4.03E-19	4.68E-19	6.03E-19	6.68E-19
Ac-227	1.13E-12	1.11E-09	8.80E-09	8.48E-13	9.84E-13	1.27E-12	1.41E-12
Pa-231	2.54E-12	2.50E-09	1.98E-08	1.91E-12	2.22E-12	2.86E-12	3.17E-12
Th-229	1.04E-16	1.02E-13	8.15E-13	7.85E-17	9.11E-17	1.18E-16	1.30E-16
Th-232	1.39E-18	1.36E-15	1.09E-14	1.05E-18	1.21E-18	1.57E-18	1.73E-18
U-232	1.59E-12	1.56E-09	1.24E-08	1.20E-12	1.39E-12	1.79E-12	1.98E-12
U-233	7.28E-14	7.15E-11	5.68E-10	5.47E-14	6.36E-14	8.20E-14	9.08E-14
U-234	6.60E-08	6.49E-05	5.16E-04	4.97E-08	5.77E-08	7.44E-08	8.24E-08
U-235	2.92E-09	2.86E-06	2.28E-05	2.19E-09	2.55E-09	3.29E-09	3.64E-09
U-236	6.77E-10	6.65E-07	5.29E-06	5.09E-10	5.91E-10	7.62E-10	8.44E-10
U-238	6.71E-08	6.59E-05	5.25E-04	5.05E-08	5.87E-08	7.56E-08	8.38E-08
Np-237	2.21E-10	2.17E-07	1.72E-06	1.66E-10	1.93E-10	2.49E-10	2.75E-10
Pu-238	2.78E-08	2.73E-05	2.17E-04	8.08E-09	1.77E-08	3.53E-08	3.53E-08
Pu-239	3.45E-06	3.39E-03	2.69E-02	1.00E-06	2.20E-06	4.38E-06	4.38E-06
Pu-240	3.37E-07	3.31E-04	2.63E-03	9.80E-08	2.15E-07	4.28E-07	4.28E-07
Pu-241	1.22E-06	1.20E-03	9.52E-03	3.55E-07	7.78E-07	1.55E-06	1.55E-06
Pu-242	5.57E-12	5.47E-09	4.35E-08	1.62E-12	3.56E-12	7.08E-12	7.08E-12
Am-241	1.34E-08	1.32E-05	1.05E-04	1.01E-08	1.17E-08	1.51E-08	1.67E-08
Am-243	9.70E-14	9.53E-11	7.58E-10	7.30E-14	8.48E-14	1.09E-13	1.21E-13
Cm-242	3.85E-12	3.78E-09	3.01E-08	2.90E-12	3.37E-12	4.34E-12	4.81E-12
Cm-243	7.94E-14	7.79E-11	6.20E-10	5.97E-14	6.93E-14	8.94E-14	9.90E-14
Cm-244	2.31E-12	2.27E-09	1.81E-08	1.74E-12	2.02E-12	2.61E-12	2.89E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.70E-05 (g/L)	----	4.45E-04	1.66E-05	3.64E-05	7.24E-05	7.24E-05
U	8.45E-04	198	1.57	6.36E-04	7.38E-04	9.52E-04	1.05E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.03E+06 (kg)	(458 kgal)	----	----	----	----	----
Heat Load	2.32E-02 (kW)	(79.4 BTU/hr)	----	1.94E-02	2.13E-02	2.52E-02	2.71E-02
Bulk Density†	1.17 (g/cc)	----	----	1.13	1.15	1.19	1.20
Water wt%†	77.1	----	----	74.4	75.6	78.8	80.6
TOC wt% C (wet)†	0.171	----	----	0.164	0.168	0.174	0.178
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	3.15E-08	2.69E-05	5.45E-02	2.31E-08	2.69E-08	3.66E-08	4.21E-08
C-14	1.14E-08	9.75E-06	1.98E-02	9.59E-09	1.05E-08	1.23E-08	1.32E-08
Ni-59	3.24E-09	2.77E-06	5.62E-03	2.73E-09	2.98E-09	4.18E-09	1.03E-08
Ni-63	2.92E-07	2.50E-04	0.507	2.45E-07	2.68E-07	3.75E-07	9.32E-07
Co-60	2.61E-09	2.23E-06	4.53E-03	2.12E-09	2.36E-09	2.86E-09	3.10E-09
Se-79	2.41E-09	2.06E-06	4.17E-03	2.02E-09	2.21E-09	2.60E-09	2.79E-09
Sr-90	1.11E-03	0.951	1.93E+03	9.29E-04	1.02E-03	1.21E-03	1.30E-03
Y-90	1.11E-03	0.951	1.93E+03	9.29E-04	1.02E-03	1.21E-03	1.30E-03
Zr-93	1.14E-08	9.77E-06	1.98E-02	9.61E-09	1.05E-08	1.24E-08	1.33E-08
Nb-93m	9.64E-09	8.25E-06	1.67E-02	8.12E-09	8.87E-09	1.04E-08	1.12E-08
Tc-99	7.92E-08	6.77E-05	0.137	6.65E-08	7.27E-08	8.56E-08	9.18E-08
Ru-106	1.09E-15	9.35E-13	1.90E-09	8.44E-16	9.66E-16	1.22E-15	1.34E-15
Cd-113m	2.79E-08	2.39E-05	4.84E-02	2.31E-08	2.55E-08	3.04E-08	3.27E-08
Sb-125	2.42E-09	2.07E-06	4.20E-03	1.92E-09	2.17E-09	2.68E-09	2.92E-09
Sn-126	3.62E-09	3.09E-06	6.27E-03	3.04E-09	3.32E-09	3.92E-09	4.20E-09
I-129	1.49E-10	1.28E-07	2.59E-04	1.25E-10	1.37E-10	1.61E-10	1.73E-10
Cs-134	1.03E-10	8.81E-08	1.79E-04	8.01E-11	9.13E-11	1.15E-10	1.26E-10
Cs-137	1.26E-03	1.08	2.19E+03	1.05E-03	1.16E-03	1.37E-03	1.47E-03
Ba-137m	1.19E-03	1.02	2.07E+03	9.97E-04	1.09E-03	1.30E-03	1.39E-03
Sm-151	8.96E-06	7.66E-03	15.5	7.54E-06	8.23E-06	9.68E-06	1.04E-05
Eu-152	1.01E-08	8.68E-06	1.76E-02	1.01E-08	1.01E-08	1.02E-08	1.02E-08
Eu-154	4.69E-08	4.01E-05	8.13E-02	3.75E-08	4.21E-08	5.17E-08	5.63E-08
Eu-155	7.39E-07	6.32E-04	1.28	7.35E-07	7.37E-07	7.42E-07	7.44E-07
Ra-226	6.59E-13	5.63E-10	1.14E-06	5.81E-13	6.19E-13	6.99E-13	7.37E-13
Ra-228	3.51E-17	3.00E-14	6.08E-11	3.49E-17	3.50E-17	3.52E-17	3.53E-17
Ac-227	3.37E-12	2.88E-09	5.83E-06	2.96E-12	3.16E-12	3.57E-12	3.77E-12
Pa-231	7.31E-12	6.25E-09	1.27E-05	6.40E-12	6.85E-12	7.78E-12	8.22E-12
Th-229	6.82E-15	5.83E-12	1.18E-08	6.78E-15	6.80E-15	6.83E-15	6.85E-15
Th-232	3.25E-18	2.78E-15	5.64E-12	2.76E-18	3.00E-18	3.51E-18	3.75E-18
U-232	4.03E-12	3.44E-09	6.98E-06	3.22E-12	3.30E-12	6.24E-12	7.87E-12
U-233	2.07E-13	1.77E-10	3.58E-07	1.59E-13	1.63E-13	3.39E-13	4.37E-13
U-234	2.36E-07	2.01E-04	0.408	1.68E-07	1.74E-07	4.23E-07	5.60E-07
U-235	1.05E-08	8.99E-06	1.82E-02	7.48E-09	7.75E-09	1.89E-08	2.51E-08
U-236	1.89E-09	1.62E-06	3.28E-03	1.46E-09	1.50E-09	3.09E-09	3.97E-09
U-238	2.39E-07	2.04E-04	0.414	1.71E-07	1.77E-07	4.28E-07	5.68E-07
Np-237	4.89E-10	4.18E-07	8.47E-04	4.09E-10	4.48E-10	5.29E-10	5.68E-10
Pu-238	4.63E-07	3.96E-04	0.803	1.10E-07	1.22E-07	9.18E-07	1.35E-06
Pu-239	7.06E-05	6.03E-02	122	2.67E-05	2.82E-05	1.27E-04	1.81E-04
Pu-240	6.05E-06	5.18E-03	10.5	1.77E-06	1.92E-06	1.16E-05	1.69E-05
Pu-241	1.81E-05	1.55E-02	31.4	2.61E-06	3.16E-06	3.81E-05	5.72E-05
Pu-242	8.16E-11	6.98E-08	1.41E-04	1.07E-11	1.32E-11	1.73E-10	2.60E-10
Am-241	2.18E-08	1.86E-05	3.78E-02	1.70E-08	1.93E-08	2.42E-08	2.66E-08
Am-243	1.52E-13	1.30E-10	2.64E-07	1.17E-13	1.34E-13	1.70E-13	1.87E-13
Cm-242	1.91E-10	1.64E-07	3.32E-04	1.90E-10	1.91E-10	1.92E-10	1.93E-10
Cm-243	3.93E-12	3.36E-09	6.81E-06	3.90E-12	3.91E-12	3.94E-12	3.96E-12
Cm-244	3.60E-12	3.08E-09	6.24E-06	2.77E-12	3.18E-12	4.02E-12	4.43E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.16E-03 (g/L)	----	2.01	4.37E-04	4.63E-04	2.10E-03	2.99E-03
U	3.01E-03	612	1.24E+03	2.15E-03	2.22E-03	5.39E-03	7.14E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.55E+05 (kg)	(60.0 kgal)	----	----	----	----	----
Heat Load	3.44E-03 (kW)	(11.8 BTU/hr)	----	2.62E-03	3.03E-03	3.86E-03	4.26E-03
Bulk Density	1.12 (g/cc)	----	----	1.10	1.11	1.14	1.15
Void Fraction	0.944	----	----	0.932	0.938	0.950	0.956
Water wt%	81.4	----	----	78.8	80.0	83.0	84.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.20	2.45E+04	6.25E+03	0.914	1.05	1.34	1.48
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.785	3.90E+04	9.95E+03	0.760	0.772	0.798	0.811
Cr^{3+}	5.11E-03	236	60.4	3.90E-03	4.49E-03	5.74E-03	6.33E-03
Bi^{3+}	4.11E-02	7.63E+03	1.95E+03	3.79E-03	2.41E-02	5.43E-02	6.44E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.51E-03	79.0	20.2	1.15E-03	1.33E-03	1.85E-03	6.40E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.276	9.84E+03	2.51E+03	0.177	0.225	0.327	0.376
K^+	3.49E-03	121	31.0	2.66E-03	3.07E-03	3.91E-03	4.32E-03
OH^-	2.42	3.66E+04	9.34E+03	2.34	2.38	2.46	2.50
$NO3^-$	0.643	3.54E+04	9.04E+03	0.492	0.566	0.719	0.792
$NO2^-$	1.25E-02	510	130	7.21E-03	9.61E-03	1.57E-02	1.91E-02
$CO3^{2-}$	0.276	1.47E+04	3.76E+03	0.177	0.225	0.327	0.376
$PO4^{3-}$	0.141	1.19E+04	3.03E+03	7.96E-02	0.112	0.166	0.187
$SO4^{2-}$	2.54E-02	2.17E+03	554	1.94E-02	2.23E-02	2.85E-02	3.14E-02
Si (as SiO_x^{2-})	1.84E-02	460	117	1.40E-02	1.62E-02	2.06E-02	8.40E-02
F^-	0.109	1.85E+03	472	8.34E-02	9.62E-02	0.123	0.135
Cl^-	1.61E-02	506	129	1.22E-02	1.41E-02	1.80E-02	1.99E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.89E-06	5.88E-02	1.50E-02	1.75E-06	2.66E-06	5.46E-06	7.32E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.66E+04 (kg)	(7.03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.82E+05 (kg)	(67.0 kgal)	----	----	----	----	----
Heat Load	3.44E-03 (kW)	(11.8 BTU/hr)	----	2.62E-03	3.03E-03	3.86E-03	4.26E-03
Bulk Density†	1.11 (g/cc)	----	----	1.09	1.10	1.12	1.13
Water wt%†	83.1	----	----	80.7	81.9	84.6	86.2
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.07	2.22E+04	6.25E+03	0.818	0.942	1.20	1.33
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.703	3.53E+04	9.95E+03	0.680	0.691	0.714	0.725
Cr^{3+}	4.58E-03	214	60.4	3.49E-03	4.02E-03	5.13E-03	5.67E-03
Bi^{3+}	3.68E-02	6.91E+03	1.95E+03	3.39E-03	2.16E-02	4.86E-02	5.76E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.35E-03	71.5	20.2	1.03E-03	1.19E-03	1.65E-03	5.73E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.247	8.91E+03	2.51E+03	0.158	0.202	0.293	0.337
K^+	3.12E-03	110	31.0	2.38E-03	2.75E-03	3.50E-03	3.87E-03
OH^-	2.17	3.31E+04	9.34E+03	2.10	2.13	2.20	2.24
$NO3^-$	0.575	3.21E+04	9.04E+03	0.441	0.507	0.643	0.709
$NO2^-$	1.12E-02	462	130	6.46E-03	8.60E-03	1.40E-02	1.71E-02
$CO3^{2-}$	0.247	1.33E+04	3.76E+03	0.158	0.202	0.293	0.337
$PO4^{3-}$	0.126	1.07E+04	3.03E+03	7.13E-02	9.98E-02	0.148	0.168
$SO4^{2-}$	2.27E-02	1.96E+03	554	1.73E-02	2.00E-02	2.55E-02	2.81E-02
Si (as SiO_x^{2-})	1.65E-02	416	117	1.26E-02	1.45E-02	1.85E-02	7.52E-02
F^-	9.79E-02	1.67E+03	472	7.47E-02	8.61E-02	0.110	0.121
Cl^-	1.44E-02	458	129	1.10E-02	1.26E-02	1.61E-02	1.78E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	3.48E-06	5.33E-02	1.50E-02	1.56E-06	2.38E-06	4.89E-06	6.55E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.55E+05 (kg)	(60.0 kgal)	----	----	----	----	----
Heat Load	3.44E-03 (kW)	(11.8 BTU/hr)	----	2.62E-03	3.03E-03	3.86E-03	4.26E-03
Bulk Density	1.12 (g/cc)	----	----	1.10	1.11	1.14	1.15
Void Fraction	0.944	----	----	0.932	0.938	0.950	0.956
Water wt%	81.4	----	----	78.8	80.0	83.0	84.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.17E-08	2.82E-05	7.20E-03	1.82E-08	2.44E-08	4.01E-08	4.90E-08
C-14	1.25E-08	1.11E-05	2.83E-03	9.50E-09	1.09E-08	1.40E-08	1.54E-08
Ni-59	3.54E-09	3.15E-06	8.03E-04	2.70E-09	3.11E-09	4.32E-09	1.50E-08
Ni-63	3.23E-07	2.87E-04	7.33E-02	2.46E-07	2.84E-07	3.94E-07	1.37E-06
Co-60	3.36E-09	2.98E-06	7.62E-04	2.56E-09	2.95E-09	3.76E-09	4.16E-09
Se-79	2.63E-09	2.34E-06	5.97E-04	2.01E-09	2.31E-09	2.95E-09	3.26E-09
Sr-90	1.26E-03	1.12	285	9.58E-04	1.10E-03	1.41E-03	1.55E-03
Y-90	1.26E-03	1.12	285	9.58E-04	1.10E-03	1.41E-03	1.56E-03
Zr-93	1.25E-08	1.11E-05	2.83E-03	9.51E-09	1.10E-08	1.40E-08	1.54E-08
Nb-93m	1.04E-08	9.27E-06	2.37E-03	7.95E-09	9.16E-09	1.17E-08	1.29E-08
Tc-99	8.66E-08	7.70E-05	1.97E-02	6.60E-08	7.61E-08	9.71E-08	1.07E-07
Ru-106	1.71E-15	1.52E-12	3.88E-10	1.30E-15	1.50E-15	1.91E-15	2.11E-15
Cd-113m	3.28E-08	2.92E-05	7.45E-03	2.50E-08	2.88E-08	3.68E-08	4.06E-08
Sb-125	3.41E-09	3.04E-06	7.75E-04	2.60E-09	3.00E-09	3.83E-09	4.23E-09
Sn-126	3.98E-09	3.54E-06	9.03E-04	3.03E-09	3.50E-09	4.46E-09	4.93E-09
I-129	1.64E-10	1.46E-07	3.72E-05	1.25E-10	1.44E-10	1.84E-10	2.03E-10
Cs-134	1.57E-10	1.39E-07	3.56E-05	1.20E-10	1.38E-10	1.76E-10	1.94E-10
Cs-137	1.43E-03	1.27	325	1.09E-03	1.26E-03	1.60E-03	1.77E-03
Ba-137m	1.35E-03	1.20	307	1.03E-03	1.19E-03	1.52E-03	1.67E-03
Sm-151	9.72E-06	8.64E-03	2.21	7.41E-06	8.54E-06	1.09E-05	1.20E-05
Eu-152	1.53E-08	1.36E-05	3.47E-03	1.52E-08	1.52E-08	1.53E-08	1.54E-08
Eu-154	6.41E-08	5.70E-05	1.45E-02	4.89E-08	5.63E-08	7.19E-08	7.93E-08
Eu-155	1.03E-06	9.11E-04	0.233	1.02E-06	1.02E-06	1.03E-06	1.03E-06
Ra-226	5.34E-13	4.74E-10	1.21E-07	4.07E-13	4.69E-13	5.98E-13	6.61E-13
Ra-228	4.22E-17	3.75E-14	9.57E-12	4.18E-17	4.20E-17	4.23E-17	4.25E-17
Ac-227	2.76E-12	2.45E-09	6.27E-07	2.11E-12	2.43E-12	3.10E-12	3.42E-12
Pa-231	6.23E-12	5.54E-09	1.41E-06	4.75E-12	5.47E-12	6.98E-12	7.71E-12
Th-229	8.21E-15	7.30E-12	1.86E-09	8.15E-15	8.18E-15	8.24E-15	8.27E-15
Th-232	3.41E-18	3.03E-15	7.73E-13	2.60E-18	2.99E-18	3.82E-18	4.22E-18
U-232	3.90E-12	3.46E-09	8.84E-07	2.97E-12	3.42E-12	4.37E-12	4.82E-12
U-233	1.78E-13	1.59E-10	4.05E-08	1.36E-13	1.57E-13	2.00E-13	2.21E-13
U-234	1.62E-07	1.44E-04	3.67E-02	1.23E-07	1.42E-07	1.82E-07	2.00E-07
U-235	7.15E-09	6.36E-06	1.62E-03	5.45E-09	6.28E-09	8.02E-09	8.85E-09
U-236	1.66E-09	1.47E-06	3.76E-04	1.26E-09	1.46E-09	1.86E-09	2.05E-09
U-238	1.65E-07	1.46E-04	3.74E-02	1.25E-07	1.45E-07	1.85E-07	2.04E-07
Np-237	5.41E-10	4.81E-07	1.23E-04	4.12E-10	4.75E-10	6.07E-10	6.69E-10
Pu-238	6.42E-07	5.71E-04	0.146	6.60E-08	8.65E-08	1.38E-06	2.10E-06
Pu-239	7.97E-05	7.09E-02	18.1	8.19E-06	1.07E-05	1.72E-04	2.60E-04
Pu-240	7.79E-06	6.92E-03	1.77	8.00E-07	1.05E-06	1.68E-05	2.54E-05
Pu-241	2.82E-05	2.51E-02	6.40	2.90E-06	3.80E-06	6.07E-05	9.20E-05
Pu-242	1.29E-10	1.15E-07	2.92E-05	1.32E-11	1.74E-11	2.78E-10	4.20E-10
Am-241	3.29E-08	2.92E-05	7.47E-03	2.51E-08	2.89E-08	3.69E-08	4.07E-08
Am-243	2.38E-13	2.11E-10	5.40E-08	1.81E-13	2.09E-13	2.67E-13	2.94E-13
Cm-242	3.03E-10	2.70E-07	6.88E-05	3.01E-10	3.02E-10	3.04E-10	3.05E-10
Cm-243	6.25E-12	5.55E-09	1.42E-06	6.20E-12	6.22E-12	6.27E-12	6.29E-12
Cm-244	5.67E-12	5.04E-09	1.29E-06	4.32E-12	4.98E-12	6.36E-12	7.02E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.32E-03 (g/L)	----	0.299	1.35E-04	1.78E-04	2.84E-03	4.30E-03
U	2.07E-03	438	112	1.58E-03	1.82E-03	2.32E-03	2.56E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.66E+04 (kg)	(7.03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.82E+05 (kg)	(67.0 kgal)	----	----	----	----	----
Heat Load	3.44E-03 (kW)	(11.8 BTU/hr)	----	2.62E-03	3.03E-03	3.86E-03	4.26E-03
Bulk Density†	1.11 (g/cc)	----	----	1.09	1.10	1.12	1.13
Water wt%†	83.1	----	----	80.7	81.9	84.6	86.2
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.84E-08	2.55E-05	7.20E-03	1.63E-08	2.18E-08	3.59E-08	4.39E-08
C-14	1.11E-08	1.00E-05	2.83E-03	8.50E-09	9.80E-09	1.25E-08	1.38E-08
Ni-59	3.17E-09	2.85E-06	8.03E-04	2.42E-09	2.78E-09	3.87E-09	1.34E-08
Ni-63	2.89E-07	2.60E-04	7.33E-02	2.20E-07	2.54E-07	3.53E-07	1.22E-06
Co-60	3.01E-09	2.70E-06	7.62E-04	2.29E-09	2.64E-09	3.37E-09	3.72E-09
Se-79	2.35E-09	2.12E-06	5.97E-04	1.79E-09	2.07E-09	2.64E-09	2.91E-09
Sr-90	1.12E-03	1.01	285	8.57E-04	9.88E-04	1.26E-03	1.39E-03
Y-90	1.12E-03	1.01	285	8.58E-04	9.88E-04	1.26E-03	1.39E-03
Zr-93	1.12E-08	1.00E-05	2.83E-03	8.51E-09	9.81E-09	1.25E-08	1.38E-08
Nb-93m	9.33E-09	8.39E-06	2.37E-03	7.11E-09	8.20E-09	1.05E-08	1.15E-08
Tc-99	7.75E-08	6.97E-05	1.97E-02	5.91E-08	6.81E-08	8.69E-08	9.59E-08
Ru-106	1.53E-15	1.37E-12	3.88E-10	1.17E-15	1.34E-15	1.71E-15	1.89E-15
Cd-113m	2.94E-08	2.64E-05	7.45E-03	2.24E-08	2.58E-08	3.29E-08	3.64E-08
Sb-125	3.06E-09	2.75E-06	7.75E-04	2.33E-09	2.69E-09	3.43E-09	3.78E-09
Sn-126	3.56E-09	3.20E-06	9.03E-04	2.72E-09	3.13E-09	3.99E-09	4.41E-09
I-129	1.47E-10	1.32E-07	3.72E-05	1.12E-10	1.29E-10	1.65E-10	1.82E-10
Cs-134	1.40E-10	1.26E-07	3.56E-05	1.07E-10	1.23E-10	1.57E-10	1.74E-10
Cs-137	1.28E-03	1.15	325	9.76E-04	1.13E-03	1.44E-03	1.58E-03
Ba-137m	1.21E-03	1.09	307	9.23E-04	1.06E-03	1.36E-03	1.50E-03
Sm-151	8.70E-06	7.83E-03	2.21	6.63E-06	7.65E-06	9.76E-06	1.08E-05
Eu-152	1.37E-08	1.23E-05	3.47E-03	1.36E-08	1.36E-08	1.37E-08	1.38E-08
Eu-154	5.74E-08	5.16E-05	1.45E-02	4.37E-08	5.04E-08	6.43E-08	7.10E-08
Eu-155	9.18E-07	8.25E-04	0.233	9.11E-07	9.14E-07	9.21E-07	9.24E-07
Ra-226	4.78E-13	4.30E-10	1.21E-07	3.64E-13	4.20E-13	5.36E-13	5.91E-13
Ra-228	3.77E-17	3.39E-14	9.57E-12	3.75E-17	3.76E-17	3.79E-17	3.80E-17
Ac-227	2.47E-12	2.22E-09	6.27E-07	1.88E-12	2.17E-12	2.77E-12	3.06E-12
Pa-231	5.57E-12	5.01E-09	1.41E-06	4.25E-12	4.90E-12	6.25E-12	6.90E-12
Th-229	7.35E-15	6.61E-12	1.86E-09	7.29E-15	7.32E-15	7.38E-15	7.40E-15
Th-232	3.05E-18	2.74E-15	7.73E-13	2.32E-18	2.68E-18	3.42E-18	3.77E-18
U-232	3.49E-12	3.14E-09	8.84E-07	2.66E-12	3.06E-12	3.91E-12	4.32E-12
U-233	1.60E-13	1.44E-10	4.05E-08	1.22E-13	1.40E-13	1.79E-13	1.98E-13
U-234	1.45E-07	1.30E-04	3.67E-02	1.10E-07	1.27E-07	1.62E-07	1.79E-07
U-235	6.40E-09	5.76E-06	1.62E-03	4.88E-09	5.62E-09	7.18E-09	7.92E-09
U-236	1.48E-09	1.34E-06	3.76E-04	1.13E-09	1.30E-09	1.66E-09	1.84E-09
U-238	1.47E-07	1.33E-04	3.74E-02	1.12E-07	1.29E-07	1.65E-07	1.82E-07
Np-237	4.84E-10	4.35E-07	1.23E-04	3.69E-10	4.25E-10	5.43E-10	5.99E-10
Pu-238	5.75E-07	5.17E-04	0.146	5.91E-08	7.75E-08	1.24E-06	1.88E-06
Pu-239	7.14E-05	6.42E-02	18.1	7.33E-06	9.62E-06	1.54E-04	2.33E-04
Pu-240	6.97E-06	6.27E-03	1.77	7.16E-07	9.39E-07	1.50E-05	2.27E-05
Pu-241	2.52E-05	2.27E-02	6.40	2.59E-06	3.40E-06	5.44E-05	8.23E-05
Pu-242	1.15E-10	1.04E-07	2.92E-05	1.18E-11	1.55E-11	2.48E-10	3.76E-10
Am-241	2.94E-08	2.65E-05	7.47E-03	2.25E-08	2.59E-08	3.30E-08	3.64E-08
Am-243	2.13E-13	1.91E-10	5.40E-08	1.62E-13	1.87E-13	2.39E-13	2.63E-13
Cm-242	2.71E-10	2.44E-07	6.88E-05	2.69E-10	2.70E-10	2.72E-10	2.73E-10
Cm-243	5.59E-12	5.03E-09	1.42E-06	5.55E-12	5.57E-12	5.61E-12	5.63E-12
Cm-244	5.07E-12	4.56E-09	1.29E-06	3.87E-12	4.46E-12	5.69E-12	6.28E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.18E-03 (g/L)	----	0.299	1.21E-04	1.59E-04	2.54E-03	3.85E-03
U	1.85E-03	397	112	1.41E-03	1.63E-03	2.08E-03	2.29E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	1.03E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.15E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	33.3	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.23E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	49.8	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	8.85	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	26.4	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.04E+03	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	851	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.99E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	8.05E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	15.6	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.55E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	846	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	27.2	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	2.03E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	89.1	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	9.90E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.21E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.32E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.5	----	----	63.2	65.9	73.6	75.9
TOC wt% C (wet)†	2.05	----	----	1.98	2.01	2.08	2.08

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.09	7.83E+04	1.03E+04	2.92	3.15	4.99	5.87
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.350	1.63E+04	2.15E+03	0.329	0.339	0.361	0.372
Cr^{3+}	5.84E-03	253	33.3	4.37E-03	5.13E-03	6.53E-03	7.20E-03
Bi^{3+}	5.36E-02	9.34E+03	1.23E+03	1.60E-02	3.74E-02	6.59E-02	7.50E-02
La^{3+}	3.26E-03	378	49.8	2.44E-03	2.87E-03	3.65E-03	4.02E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.37E-03	67.2	8.85	1.03E-03	1.21E-03	2.28E-03	6.38E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.38E-03	200	26.4	3.27E-03	3.85E-03	4.90E-03	5.40E-03
Ca^{2+}	0.236	7.88E+03	1.04E+03	0.152	0.193	0.279	0.320
K^+	0.198	6.46E+03	851	0.148	0.174	0.222	0.245
OH^-	1.06	1.51E+04	1.99E+03	1.000	1.03	1.10	1.13
$NO3^-$	1.18	6.11E+04	8.05E+03	0.885	1.04	1.32	1.46
$NO2^-$	3.09E-03	119	15.6	1.70E-03	2.36E-03	3.91E-03	4.79E-03
$CO3^{2-}$	0.236	1.18E+04	1.55E+03	0.152	0.193	0.279	0.320
$PO4^{3-}$	8.11E-02	6.42E+03	846	3.66E-02	6.15E-02	9.66E-02	0.109
$SO4^{2-}$	2.58E-03	206	27.2	1.93E-03	2.26E-03	2.88E-03	3.18E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0.975	1.54E+04	2.03E+03	0.173	0.204	1.90	2.79
Cl^-	2.29E-02	676	89.1	1.71E-02	2.01E-02	2.56E-02	2.83E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.03	7.52E+04	9.90E+03	0.978	1.00	1.04	1.05
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.18E-07	1.68E-03	2.21E-04	5.05E-08	8.13E-08	1.64E-07	2.17E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-201

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	5.63E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.75E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	4.96E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	4.57E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	5.60E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	3.68E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	18.2	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	18.2	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.75E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.45E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.21E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	4.20E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	4.89E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	6.46E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	5.55E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.29E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.78E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	20.7	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	19.6	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.139	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.82E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	8.99E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.64E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	8.22E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	5.28E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	4.34E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.00E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.02E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	4.62E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	5.36E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	2.45E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.67E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.19E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.33E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.71E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	7.51E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	3.21E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	4.64E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	4.07E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.35E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	6.23E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	3.80E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	3.08E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	3.70E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	7.98E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	7.84E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	7.65E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	8.13	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-201

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.79E+03 (kg)	(1.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-201

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.32E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	2.20E-04 (kW)	(0.750 BTU/hr)	----	1.64E-04	1.93E-04	2.46E-04	2.71E-04
Bulk Density†	1.20 (g/cc)	----	----	1.15	1.17	1.23	1.26
Water wt%†	69.5	----	----	63.2	65.9	73.6	75.9
TOC wt% C (wet)†	2.05	----	----	1.98	2.01	2.08	2.08
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.13E-09	4.27E-06	5.63E-04	2.84E-09	3.95E-09	6.42E-09	7.79E-09
C-14	1.59E-09	1.32E-06	1.75E-04	1.19E-09	1.40E-09	1.78E-09	1.96E-09
Ni-59	4.52E-10	3.76E-07	4.96E-05	3.38E-10	3.97E-10	7.51E-10	2.10E-09
Ni-63	4.17E-08	3.47E-05	4.57E-03	3.11E-08	3.66E-08	6.93E-08	1.94E-07
Co-60	5.10E-10	4.25E-07	5.60E-05	3.82E-10	4.48E-10	5.71E-10	6.29E-10
Se-79	3.35E-10	2.79E-07	3.68E-05	2.51E-10	2.95E-10	3.75E-10	4.14E-10
Sr-90	1.66E-04	0.138	18.2	1.24E-04	1.46E-04	1.86E-04	2.05E-04
Y-90	1.66E-04	0.138	18.2	1.24E-04	1.46E-04	1.86E-04	2.05E-04
Zr-93	1.59E-09	1.33E-06	1.75E-04	1.19E-09	1.40E-09	1.78E-09	1.96E-09
Nb-93m	1.32E-09	1.10E-06	1.45E-04	9.85E-10	1.16E-09	1.47E-09	1.62E-09
Tc-99	1.10E-08	9.20E-06	1.21E-03	8.25E-09	9.69E-09	1.23E-08	1.36E-08
Ru-106	3.83E-16	3.19E-13	4.20E-11	2.86E-16	3.36E-16	4.28E-16	4.72E-16
Cd-113m	4.46E-09	3.71E-06	4.89E-04	3.33E-09	3.91E-09	4.99E-09	5.50E-09
Sb-125	5.88E-10	4.90E-07	6.46E-05	4.40E-10	5.17E-10	6.58E-10	7.26E-10
Sn-126	5.06E-10	4.21E-07	5.55E-05	3.78E-10	4.44E-10	5.66E-10	6.24E-10
I-129	2.08E-11	1.74E-08	2.29E-06	1.56E-11	1.83E-11	2.33E-11	2.57E-11
Cs-134	2.54E-11	2.11E-08	2.78E-06	1.90E-11	2.23E-11	2.84E-11	3.13E-11
Cs-137	1.88E-04	0.157	20.7	1.41E-04	1.65E-04	2.11E-04	2.32E-04
Ba-137m	1.78E-04	0.148	19.6	1.33E-04	1.56E-04	1.99E-04	2.20E-04
Sm-151	1.27E-06	1.06E-03	0.139	9.49E-07	1.11E-06	1.42E-06	1.56E-06
Eu-152	1.66E-09	1.38E-06	1.82E-04	1.65E-09	1.65E-09	1.67E-09	1.67E-09
Eu-154	8.19E-09	6.82E-06	8.99E-04	6.12E-09	7.19E-09	9.16E-09	1.01E-08
Eu-155	1.50E-07	1.25E-04	1.64E-02	1.49E-07	1.49E-07	1.50E-07	1.51E-07
Ra-226	7.49E-14	6.24E-11	8.22E-09	5.60E-14	6.58E-14	8.38E-14	9.23E-14
Ra-228	4.81E-18	4.01E-15	5.28E-13	4.77E-18	4.80E-18	4.83E-18	4.85E-18
Ac-227	3.95E-13	3.29E-10	4.34E-08	2.95E-13	3.47E-13	4.42E-13	4.87E-13
Pa-231	9.12E-13	7.60E-10	1.00E-07	6.82E-13	8.01E-13	1.02E-12	1.12E-12
Th-229	9.31E-16	7.76E-13	1.02E-10	9.23E-16	9.28E-16	9.35E-16	9.39E-16
Th-232	4.21E-19	3.51E-16	4.62E-14	3.15E-19	3.70E-19	4.71E-19	5.19E-19
U-232	4.88E-13	4.07E-10	5.36E-08	3.65E-13	4.29E-13	5.46E-13	6.02E-13
U-233	2.23E-14	1.86E-11	2.45E-09	1.67E-14	1.96E-14	2.49E-14	2.75E-14
U-234	2.43E-08	2.03E-05	2.67E-03	1.82E-08	2.14E-08	2.72E-08	3.00E-08
U-235	1.08E-09	9.02E-07	1.19E-04	8.10E-10	9.51E-10	1.21E-09	1.34E-09
U-236	2.12E-10	1.77E-07	2.33E-05	1.59E-10	1.86E-10	2.37E-10	2.62E-10
U-238	2.47E-08	2.06E-05	2.71E-03	1.85E-08	2.17E-08	2.76E-08	3.05E-08
Np-237	6.84E-11	5.70E-08	7.51E-06	5.11E-11	6.01E-11	7.65E-11	8.44E-11
Pu-238	2.92E-09	2.43E-06	3.21E-04	2.18E-09	2.56E-09	3.27E-09	3.60E-09
Pu-239	4.23E-07	3.52E-04	4.64E-02	3.16E-07	3.71E-07	4.73E-07	5.21E-07
Pu-240	3.71E-08	3.09E-05	4.07E-03	2.77E-08	3.26E-08	4.15E-08	4.58E-08
Pu-241	1.23E-07	1.02E-04	1.35E-02	9.17E-08	1.08E-07	1.37E-07	1.51E-07
Pu-242	5.67E-13	4.73E-10	6.23E-08	4.24E-13	4.98E-13	6.35E-13	7.00E-13
Am-241	3.46E-09	2.88E-06	3.80E-04	2.59E-09	3.04E-09	3.87E-09	4.26E-09
Am-243	2.81E-14	2.34E-11	3.08E-09	2.10E-14	2.47E-14	3.14E-14	3.47E-14
Cm-242	3.38E-11	2.81E-08	3.70E-06	3.35E-11	3.36E-11	3.39E-11	3.40E-11
Cm-243	7.27E-13	6.06E-10	7.98E-08	7.21E-13	7.24E-13	7.30E-13	7.33E-13
Cm-244	7.14E-13	5.95E-10	7.84E-08	5.34E-13	6.27E-13	7.99E-13	8.81E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.97E-06 (g/L)	----	7.65E-04	5.21E-06	6.12E-06	7.79E-06	8.59E-06
U	3.11E-04	61.7	8.13	2.33E-04	2.73E-04	3.48E-04	3.84E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.60E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	1.65E-04 (kW)	(0.563 BTU/hr)	----	1.23E-04	1.45E-04	1.84E-04	2.03E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	7.74E+03	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	1.61E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	25.0	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	923	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	37.3	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	6.64	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	19.8	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	779	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	638	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.49E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	6.04E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	11.7	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.17E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	634	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	20.4	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	1.53E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	66.8	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	7.43E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	1.66E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.60E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	1.65E-04 (kW)	(0.563 BTU/hr)	----	1.23E-04	1.45E-04	1.84E-04	2.03E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.23	8.06E+04	7.74E+03	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	1.61E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	25.0	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	923	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	37.3	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	6.64	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	19.8	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	779	0.157	0.200	0.289	0.332
K^+	0.205	6.65E+03	638	0.154	0.180	0.230	0.253
OH^-	1.10	1.55E+04	1.49E+03	1.04	1.07	1.14	1.17
$NO3^-$	1.23	6.29E+04	6.04E+03	0.917	1.08	1.37	1.51
$NO2^-$	3.20E-03	122	11.7	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.17E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	634	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	20.4	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	1.01	1.59E+04	1.53E+03	0.180	0.211	1.97	2.89
Cl^-	2.37E-02	696	66.8	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	7.43E+03	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	1.66E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-202

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.60E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	1.65E-04 (kW)	(0.563 BTU/hr)	----	1.23E-04	1.45E-04	1.84E-04	2.03E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	4.22E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.31E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	3.72E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	3.43E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	4.20E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	2.76E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	13.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	13.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.31E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.08E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	9.09E-04	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	3.15E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	3.67E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	4.84E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	4.16E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	1.72E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.09E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	15.5	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	14.7	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.104	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.37E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	6.74E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.23E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	6.16E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	3.96E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	3.25E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	7.51E-08	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	7.67E-11	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	3.46E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	4.02E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	1.83E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.00E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	8.92E-05	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	1.75E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.03E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	5.63E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	2.40E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	3.48E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	3.06E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.01E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	4.67E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	2.85E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	2.31E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	2.78E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	5.99E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	5.88E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	5.74E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	6.09	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-202

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-202

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.60E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	1.65E-04 (kW)	(0.563 BTU/hr)	----	1.23E-04	1.45E-04	1.84E-04	2.03E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.31E-09	4.40E-06	4.22E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	1.31E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	3.72E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	3.43E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	4.20E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	2.76E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	13.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	13.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	1.31E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.08E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	9.09E-04	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	3.15E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	3.67E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	4.84E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	4.16E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	1.72E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	2.09E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	15.5	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	14.7	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.104	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	1.37E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	6.74E-04	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	1.23E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	6.16E-09	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	3.96E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	3.25E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	7.51E-08	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	7.67E-11	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	3.46E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	4.02E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	1.83E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	2.00E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	8.92E-05	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	1.75E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	2.03E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	5.63E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	2.40E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	3.48E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	3.06E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.01E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	4.67E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	2.85E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	2.31E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	2.78E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	5.99E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	5.88E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.22E-06 (g/L)	----	5.74E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	6.09	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.60E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	2.75E-04 (kW)	(0.938 BTU/hr)	----	2.05E-04	2.41E-04	3.07E-04	3.39E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.23	8.06E+04	1.29E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.68E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	41.7	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.54E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	62.2	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	11.1	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	33.0	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.30E+03	0.157	0.200	0.289	0.332
K^{+}	0.205	6.65E+03	1.06E+03	0.154	0.180	0.230	0.253
OH^{-}	1.10	1.55E+04	2.48E+03	1.04	1.07	1.14	1.17
$NO3^{-}$	1.23	6.29E+04	1.01E+04	0.917	1.08	1.37	1.51
$NO2^{-}$	3.20E-03	122	19.5	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.94E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.06E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	34.0	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	1.01	1.59E+04	2.54E+03	0.180	0.211	1.97	2.89
Cl^{-}	2.37E-02	696	111	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	1.24E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.76E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.60E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	2.75E-04 (kW)	(0.938 BTU/hr)	----	2.05E-04	2.41E-04	3.07E-04	3.39E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.23	8.06E+04	1.29E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.68E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	41.7	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.54E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	62.2	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	11.1	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	33.0	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.30E+03	0.157	0.200	0.289	0.332
K^{+}	0.205	6.65E+03	1.06E+03	0.154	0.180	0.230	0.253
OH^{-}	1.10	1.55E+04	2.48E+03	1.04	1.07	1.14	1.17
$NO3^{-}$	1.23	6.29E+04	1.01E+04	0.917	1.08	1.37	1.51
$NO2^{-}$	3.20E-03	122	19.5	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	1.94E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.06E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	34.0	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	1.01	1.59E+04	2.54E+03	0.180	0.211	1.97	2.89
Cl^{-}	2.37E-02	696	111	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	1.06	7.74E+04	1.24E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	2.76E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-203

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.60E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	2.75E-04 (kW)	(0.938 BTU/hr)	----	2.05E-04	2.41E-04	3.07E-04	3.39E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.31E-09	4.40E-06	7.04E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	2.18E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	6.20E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	5.72E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	7.00E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	4.60E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	22.8	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	22.8	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	2.18E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.81E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.51E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	5.25E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	6.12E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	8.07E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	6.94E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.86E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	3.48E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	25.8	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	24.4	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.174	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	2.28E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.12E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.06E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.03E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	6.61E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	5.42E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.25E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.28E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	5.77E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	6.70E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	3.06E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	3.34E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.49E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.91E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	3.39E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	9.39E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	4.01E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	5.80E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	5.09E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.68E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	7.79E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	4.74E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	3.86E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	4.63E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	9.98E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	9.80E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.22E-06 (g/L)	----	9.56E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	10.2	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-203

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-203

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.60E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	2.75E-04 (kW)	(0.938 BTU/hr)	----	2.05E-04	2.41E-04	3.07E-04	3.39E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.31E-09	4.40E-06	7.04E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	2.18E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	6.20E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	5.72E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	7.00E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	4.60E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	22.8	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	22.8	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	2.18E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.81E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.51E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	5.25E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	6.12E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	8.07E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	6.94E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	2.86E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	3.48E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	25.8	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	24.4	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.174	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	2.28E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.12E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.06E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.03E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	6.61E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	5.42E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.25E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.28E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	5.77E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	6.70E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	3.06E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	3.34E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.49E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	2.91E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	3.39E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	9.39E-06	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	4.01E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	5.80E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	5.09E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.68E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	7.79E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	4.74E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	3.86E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	4.63E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	9.98E-08	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	9.80E-08	5.53E-13	6.50E-13	8.28E-13	9.12E-13

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.22E-06 (g/L)	----	9.56E-04	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	10.2	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-T-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.74E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	2.98E-04 (kW)	(1.02 BTU/hr)	----	2.23E-04	2.62E-04	3.34E-04	3.68E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.23	8.06E+04	1.40E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.91E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	45.2	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.67E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	67.5	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	12.0	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	35.8	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.41E+03	0.157	0.200	0.289	0.332
K^{+}	0.205	6.65E+03	1.15E+03	0.154	0.180	0.230	0.253
OH^{-}	1.10	1.55E+04	2.69E+03	1.04	1.07	1.14	1.17
$NO3^{-}$	1.23	6.29E+04	1.09E+04	0.917	1.08	1.37	1.51
$NO2^{-}$	3.20E-03	122	21.2	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	2.11E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.15E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	36.9	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	1.01	1.59E+04	2.76E+03	0.180	0.211	1.97	2.89
Cl^{-}	2.37E-02	696	121	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	1.06	7.74E+04	1.34E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	3.00E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.74E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	2.98E-04 (kW)	(1.02 BTU/hr)	----	2.23E-04	2.62E-04	3.34E-04	3.68E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.23	8.06E+04	1.40E+04	3.03	3.26	5.17	6.08
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.363	1.68E+04	2.91E+03	0.341	0.352	0.374	0.385
Cr^{3+}	6.05E-03	260	45.2	4.52E-03	5.31E-03	6.77E-03	7.46E-03
Bi^{3+}	5.55E-02	9.61E+03	1.67E+03	1.66E-02	3.87E-02	6.83E-02	7.77E-02
La^{3+}	3.38E-03	389	67.5	2.53E-03	2.97E-03	3.78E-03	4.17E-03
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.42E-03	69.2	12.0	1.06E-03	1.25E-03	2.37E-03	6.61E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.54E-03	206	35.8	3.39E-03	3.98E-03	5.07E-03	5.59E-03
Ca^{2+}	0.244	8.11E+03	1.41E+03	0.157	0.200	0.289	0.332
K^{+}	0.205	6.65E+03	1.15E+03	0.154	0.180	0.230	0.253
OH^{-}	1.10	1.55E+04	2.69E+03	1.04	1.07	1.14	1.17
$NO3^{-}$	1.23	6.29E+04	1.09E+04	0.917	1.08	1.37	1.51
$NO2^{-}$	3.20E-03	122	21.2	1.76E-03	2.44E-03	4.05E-03	4.97E-03
$CO3^{2-}$	0.244	1.21E+04	2.11E+03	0.157	0.200	0.289	0.332
$PO4^{3-}$	8.40E-02	6.61E+03	1.15E+03	3.79E-02	6.37E-02	0.100	0.113
$SO4^{2-}$	2.67E-03	212	36.9	1.99E-03	2.34E-03	2.98E-03	3.29E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	1.01	1.59E+04	2.76E+03	0.180	0.211	1.97	2.89
Cl^{-}	2.37E-02	696	121	1.77E-02	2.08E-02	2.65E-02	2.93E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	1.06	7.74E+04	1.34E+04	1.01	1.04	1.08	1.09
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.23E-07	1.73E-03	3.00E-04	5.23E-08	8.43E-08	1.69E-07	2.25E-07
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-204

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.74E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	2.98E-04 (kW)	(1.02 BTU/hr)	----	2.23E-04	2.62E-04	3.34E-04	3.68E-04
Bulk Density	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Void Fraction	0.885	----	----	0.853	0.868	0.905	0.914
Water wt%	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)	2.11	----	----	2.03	2.07	2.14	2.14

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.31E-09	4.40E-06	7.64E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	2.37E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	6.73E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	6.21E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	7.60E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	5.00E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	24.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	24.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	2.37E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.96E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.64E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	5.70E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	6.64E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	8.77E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	7.53E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	3.10E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	3.78E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	28.1	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	26.5	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.189	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	2.47E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.22E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.23E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.12E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	7.17E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	5.89E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.36E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.39E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	6.27E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	7.27E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	3.32E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	3.63E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.61E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	3.16E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	3.68E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	1.02E-05	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	4.35E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	6.30E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	5.53E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.83E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	8.45E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	5.15E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	4.19E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	5.03E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	1.08E-07	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	1.06E-07	5.53E-13	6.50E-13	8.28E-13	9.12E-13

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.22E-06 (g/L)	----	1.04E-03	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	11.0	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-T-204

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(1.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-T-204

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.74E+05 (kg)	(38.0 kgal)	----	----	----	----	----
Heat Load	2.98E-04 (kW)	(1.02 BTU/hr)	----	2.23E-04	2.62E-04	3.34E-04	3.68E-04
Bulk Density†	1.21 (g/cc)	----	----	1.15	1.17	1.24	1.26
Water wt%†	68.6	----	----	62.1	64.9	72.8	75.2
TOC wt% C (wet)†	2.11	----	----	2.03	2.07	2.14	2.14

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.31E-09	4.40E-06	7.64E-04	2.94E-09	4.10E-09	6.65E-09	8.07E-09
C-14	1.65E-09	1.36E-06	2.37E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Ni-59	4.68E-10	3.88E-07	6.73E-05	3.50E-10	4.11E-10	7.78E-10	2.17E-09
Ni-63	4.32E-08	3.57E-05	6.21E-03	3.23E-08	3.79E-08	7.17E-08	2.01E-07
Co-60	5.29E-10	4.38E-07	7.60E-05	3.95E-10	4.64E-10	5.91E-10	6.52E-10
Se-79	3.47E-10	2.88E-07	5.00E-05	2.60E-10	3.05E-10	3.89E-10	4.28E-10
Sr-90	1.72E-04	0.142	24.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Y-90	1.72E-04	0.142	24.7	1.29E-04	1.51E-04	1.92E-04	2.12E-04
Zr-93	1.65E-09	1.37E-06	2.37E-04	1.23E-09	1.45E-09	1.84E-09	2.03E-09
Nb-93m	1.36E-09	1.13E-06	1.96E-04	1.02E-09	1.20E-09	1.53E-09	1.68E-09
Tc-99	1.14E-08	9.47E-06	1.64E-03	8.55E-09	1.00E-08	1.28E-08	1.41E-08
Ru-106	3.96E-16	3.28E-13	5.70E-11	2.96E-16	3.48E-16	4.43E-16	4.89E-16
Cd-113m	4.62E-09	3.82E-06	6.64E-04	3.45E-09	4.05E-09	5.16E-09	5.69E-09
Sb-125	6.10E-10	5.05E-07	8.77E-05	4.56E-10	5.35E-10	6.82E-10	7.52E-10
Sn-126	5.24E-10	4.34E-07	7.53E-05	3.92E-10	4.60E-10	5.86E-10	6.46E-10
I-129	2.16E-11	1.79E-08	3.10E-06	1.61E-11	1.90E-11	2.41E-11	2.66E-11
Cs-134	2.63E-11	2.17E-08	3.78E-06	1.96E-11	2.31E-11	2.94E-11	3.24E-11
Cs-137	1.95E-04	0.162	28.1	1.46E-04	1.71E-04	2.18E-04	2.41E-04
Ba-137m	1.85E-04	0.153	26.5	1.38E-04	1.62E-04	2.06E-04	2.28E-04
Sm-151	1.31E-06	1.09E-03	0.189	9.82E-07	1.15E-06	1.47E-06	1.62E-06
Eu-152	1.72E-09	1.42E-06	2.47E-04	1.71E-09	1.71E-09	1.73E-09	1.73E-09
Eu-154	8.48E-09	7.02E-06	1.22E-03	6.34E-09	7.45E-09	9.49E-09	1.05E-08
Eu-155	1.55E-07	1.29E-04	2.23E-02	1.54E-07	1.55E-07	1.56E-07	1.56E-07
Ra-226	7.76E-14	6.42E-11	1.12E-08	5.80E-14	6.81E-14	8.68E-14	9.56E-14
Ra-228	4.99E-18	4.13E-15	7.17E-13	4.94E-18	4.97E-18	5.01E-18	5.03E-18
Ac-227	4.09E-13	3.39E-10	5.89E-08	3.06E-13	3.59E-13	4.58E-13	5.05E-13
Pa-231	9.44E-13	7.82E-10	1.36E-07	7.06E-13	8.29E-13	1.06E-12	1.16E-12
Th-229	9.65E-16	7.99E-13	1.39E-10	9.57E-16	9.61E-16	9.68E-16	9.72E-16
Th-232	4.36E-19	3.61E-16	6.27E-14	3.26E-19	3.83E-19	4.88E-19	5.37E-19
U-232	5.06E-13	4.19E-10	7.27E-08	3.78E-13	4.44E-13	5.66E-13	6.24E-13
U-233	2.31E-14	1.91E-11	3.32E-09	1.72E-14	2.03E-14	2.58E-14	2.85E-14
U-234	2.52E-08	2.09E-05	3.63E-03	1.89E-08	2.21E-08	2.82E-08	3.11E-08
U-235	1.12E-09	9.29E-07	1.61E-04	8.39E-10	9.85E-10	1.26E-09	1.38E-09
U-236	2.20E-10	1.82E-07	3.16E-05	1.64E-10	1.93E-10	2.46E-10	2.71E-10
U-238	2.56E-08	2.12E-05	3.68E-03	1.91E-08	2.25E-08	2.86E-08	3.16E-08
Np-237	7.09E-11	5.87E-08	1.02E-05	5.30E-11	6.22E-11	7.93E-11	8.74E-11
Pu-238	3.03E-09	2.51E-06	4.35E-04	2.26E-09	2.66E-09	3.38E-09	3.73E-09
Pu-239	4.38E-07	3.63E-04	6.30E-02	3.27E-07	3.85E-07	4.90E-07	5.40E-07
Pu-240	3.84E-08	3.18E-05	5.53E-03	2.87E-08	3.38E-08	4.30E-08	4.74E-08
Pu-241	1.27E-07	1.05E-04	1.83E-02	9.50E-08	1.12E-07	1.42E-07	1.57E-07
Pu-242	5.88E-13	4.87E-10	8.45E-08	4.39E-13	5.16E-13	6.58E-13	7.25E-13
Am-241	3.58E-09	2.97E-06	5.15E-04	2.68E-09	3.15E-09	4.01E-09	4.42E-09
Am-243	2.91E-14	2.41E-11	4.19E-09	2.18E-14	2.56E-14	3.26E-14	3.59E-14
Cm-242	3.50E-11	2.89E-08	5.03E-06	3.47E-11	3.48E-11	3.51E-11	3.52E-11
Cm-243	7.53E-13	6.24E-10	1.08E-07	7.47E-13	7.50E-13	7.56E-13	7.59E-13
Cm-244	7.40E-13	6.13E-10	1.06E-07	5.53E-13	6.50E-13	8.28E-13	9.12E-13

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.22E-06 (g/L)	----	1.04E-03	5.39E-06	6.34E-06	8.07E-06	8.90E-06
U	3.22E-04	63.5	11.0	2.41E-04	2.83E-04	3.60E-04	3.97E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.91E+05 (kg)	(74.0 kgal)	----	----	----	----	----
Heat Load	1.73 (kW)	(5.90E+03 BTU/hr)	----	1.25	1.53	1.85	1.91
Bulk Density	1.75 (g/cc)	----	----	1.52	1.54	2.09	2.21
Void Fraction	0.531	----	----	8.02E-02	0.229	0.721	0.726
Water wt%	27.8	----	----	4.28	11.5	42.6	44.1
TOC wt% C (wet)	0	----	----	0	0	0	0
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	7.92	1.04E+05	5.10E+04	3.12	3.60	14.1	17.4
Al^{3+}	6.76	1.04E+05	5.11E+04	6.37	6.53	6.91	6.91
Fe^{3+} (total Fe)	0.986	3.14E+04	1.54E+04	0.968	0.977	0.995	1.00
Cr^{3+}	5.87E-02	1.74E+03	854	6.82E-03	3.22E-02	0.494	1.00
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	4.93E-02	1.65E+03	811	3.60E-02	4.35E-02	5.37E-02	5.29E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.217	4.96E+03	2.44E+03	0.147	0.181	0.253	0.287
K^+	1.07E-02	239	117	1.32E-03	5.08E-03	1.45E-02	1.45E-02
OH^-	25.2	2.44E+05	1.20E+05	22.8	24.0	26.4	27.9
$NO3^-$	5.02	1.78E+05	8.72E+04	7.93E-02	7.93E-02	12.7	17.0
$NO2^-$	1.38	3.62E+04	1.78E+04	0.125	0.563	2.03	2.03
$CO3^{2-}$	0.291	9.98E+03	4.90E+03	0.221	0.256	0.327	0.362
$PO4^{3-}$	1.62E-02	879	432	6.97E-03	1.18E-02	2.00E-02	2.30E-02
$SO4^{2-}$	1.36E-02	743	365	4.84E-03	8.32E-03	1.71E-02	1.71E-02
Si (as SiO_x^{2-})	7.69E-03	123	60.5	9.41E-04	3.64E-03	1.04E-02	1.04E-02
F^-	0	0	0	0	0	0	0
Cl^-	4.96E-02	1.00E+03	492	6.31E-03	2.36E-02	6.69E-02	0.149
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.242	2.34E+03	1.15E+03	6.20E-02	8.75E-02	0.256	0.269
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.93E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	6.96E-02 (kW)	(238 BTU/hr)	----	6.57E-02	6.76E-02	7.16E-02	7.35E-02
Bulk Density*	1.41 (g/cc)	----	----	1.38	1.39	1.42	1.43
Water wt%	48.8	----	----	46.6	47.6	50.0	51.5
TOC wt% C (wet)	0.521	----	----	0.347	0.432	0.610	0.696
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	9.52	1.55E+05	1.08E+04	8.75	9.13	9.85	10.2
Al^{3+}	1.16	2.23E+04	1.54E+03	1.06	1.11	1.22	1.23
Fe^{3+} (total Fe)	7.01E-03	278	19.3	5.74E-03	6.36E-03	7.66E-03	8.28E-03
Cr^{3+}	0.106	3.93E+03	272	8.66E-02	9.72E-02	0.110	0.113
Bi^{3+}	8.07E-04	120	8.29	7.31E-04	7.68E-04	8.45E-04	8.82E-04
La^{3+}	1.86E-05	1.84	0.127	1.35E-05	1.60E-05	2.13E-05	2.38E-05
Hg^{2+}	5.66E-06	0.807	5.59E-02	5.27E-06	5.49E-06	5.74E-06	5.82E-06
Zr (as $ZrO(OH)_2$)	1.55E-04	10.0	0.695	1.41E-04	1.46E-04	1.60E-04	1.68E-04
Pb^{2+}	6.27E-04	92.3	6.39	5.16E-04	5.70E-04	6.84E-04	7.38E-04
Ni^{2+}	4.22E-03	176	12.2	4.05E-03	4.14E-03	4.27E-03	4.31E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.37E-03	92.7	6.42	1.77E-03	2.06E-03	2.69E-03	2.98E-03
Ca^{2+}	2.21E-02	628	43.5	2.02E-02	2.11E-02	2.30E-02	2.39E-02
K^+	4.30E-02	1.20E+03	82.8	3.93E-02	4.11E-02	4.51E-02	4.70E-02
OH^-	7.01	8.46E+04	5.86E+03	6.40	6.69	7.34	7.39
$NO3^-$	3.29	1.45E+05	1.00E+04	3.05	3.19	3.36	3.37
$NO2^-$	1.68	5.50E+04	3.81E+03	1.42	1.54	1.82	1.95
$CO3^{2-}$	0.268	1.14E+04	791	0.243	0.253	0.286	0.289
$PO4^{3-}$	5.56E-02	3.75E+03	260	4.79E-02	5.06E-02	5.70E-02	5.84E-02
$SO4^{2-}$	0.154	1.05E+04	728	0.120	0.136	0.172	0.188
Si (as SiO_x^{2-})	5.09E-02	1.02E+03	70.3	4.22E-02	4.64E-02	5.53E-02	5.96E-02
F^-	3.94E-02	532	36.9	3.29E-02	3.56E-02	4.26E-02	4.52E-02
Cl^-	0.164	4.12E+03	286	0.149	0.155	0.171	0.177
$C_6H_5O_7^{3-}$	1.76E-02	2.36E+03	164	1.62E-02	1.69E-02	1.83E-02	1.90E-02
$EDTA^{4-}$	8.70E-03	1.78E+03	123	2.67E-03	5.61E-03	1.18E-02	1.48E-02
$HEDTA^{3-}$	1.63E-02	3.17E+03	220	4.23E-03	1.01E-02	2.25E-02	2.86E-02
$glycolate^-$	5.30E-02	2.82E+03	196	3.45E-02	4.35E-02	6.25E-02	7.15E-02
$acetate^-$	3.52E-03	147	10.2	2.87E-03	3.19E-03	3.85E-03	4.16E-03
$oxalate^{2-}$	2.44E-05	1.53	0.106	2.16E-05	2.30E-05	2.58E-05	2.72E-05
DBP	1.19E-02	1.77E+03	123	9.72E-03	1.08E-02	1.29E-02	1.40E-02
butanol	1.19E-02	625	43.3	9.72E-03	1.08E-02	1.29E-02	1.40E-02
NH_3	5.58E-02	674	46.7	4.59E-02	4.98E-02	6.33E-02	7.22E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.60E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	1.80 (kW)	(6.13E+03 BTU/hr)	----	1.32	1.60	1.93	1.98
Bulk Density†	1.70 (g/cc)	----	----	1.50	1.52	1.99	2.09
Water wt%†	30.4	----	----	8.81	15.4	43.5	45.0
TOC wt% C (wet)†	6.44E-02	----	----	4.28E-02	5.33E-02	7.55E-02	8.63E-02
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^+	8.16	1.10E+05	6.18E+04	3.99	4.45	13.5	16.2
Al^{3+}	5.92	9.39E+04	5.26E+04	5.60	5.73	6.05	6.05
Fe^{3+} (total Fe)	0.840	2.76E+04	1.54E+04	0.824	0.832	0.847	0.855
Cr^{3+}	6.58E-02	2.01E+03	1.13E+03	2.18E-02	4.34E-02	0.434	0.865
Bi^{3+}	1.21E-04	14.8	8.29	1.09E-04	1.15E-04	1.26E-04	1.32E-04
La^{3+}	2.78E-06	0.227	0.127	2.02E-06	2.39E-06	3.18E-06	3.56E-06
Hg^{2+}	8.46E-07	9.98E-02	5.59E-02	7.87E-07	8.21E-07	8.58E-07	8.69E-07
Zr (as $ZrO(OH)_2$)	2.31E-05	1.24	0.695	2.11E-05	2.18E-05	2.40E-05	2.52E-05
Pb^{2+}	9.37E-05	11.4	6.39	7.71E-05	8.52E-05	1.02E-04	1.10E-04
Ni^{2+}	4.26E-02	1.47E+03	823	3.12E-02	3.76E-02	4.63E-02	4.56E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.55E-04	11.5	6.42	2.64E-04	3.08E-04	4.01E-04	4.46E-04
Ca^{2+}	0.188	4.42E+03	2.48E+03	0.128	0.157	0.218	0.248
K^+	1.56E-02	357	200	7.58E-03	1.10E-02	1.88E-02	1.88E-02
OH^-	22.5	2.24E+05	1.26E+05	20.4	21.4	23.5	24.7
$NO3^-$	4.76	1.74E+05	9.73E+04	0.569	0.569	11.3	14.9
$NO2^-$	1.42	3.85E+04	2.16E+04	0.347	0.735	1.99	1.99
$CO3^{2-}$	0.288	1.02E+04	5.69E+03	0.228	0.258	0.318	0.348
$PO4^{3-}$	2.21E-02	1.23E+03	691	1.42E-02	1.84E-02	2.53E-02	2.79E-02
$SO4^{2-}$	3.45E-02	1.95E+03	1.09E+03	2.71E-02	3.03E-02	3.75E-02	3.96E-02
Si (as SiO_x^{2-})	1.41E-02	234	131	8.42E-03	1.08E-02	1.64E-02	1.64E-02
F^-	5.89E-03	65.8	36.9	4.91E-03	5.32E-03	6.37E-03	6.75E-03
Cl^-	6.67E-02	1.39E+03	778	3.00E-02	4.55E-02	8.14E-02	0.151
$C_6H_5O_7^{3-}$	2.63E-03	292	164	2.42E-03	2.52E-03	2.73E-03	2.83E-03
$EDTA^{4-}$	1.30E-03	220	123	3.98E-04	8.39E-04	1.76E-03	2.22E-03
$HEDTA^{3-}$	2.44E-03	393	220	6.33E-04	1.51E-03	3.36E-03	4.27E-03
$glycolate^-$	7.92E-03	349	196	5.16E-03	6.51E-03	9.33E-03	1.07E-02
$acetate^-$	5.26E-04	18.2	10.2	4.30E-04	4.77E-04	5.75E-04	6.22E-04
$oxalate^{2-}$	3.65E-06	0.189	0.106	3.23E-06	3.44E-06	3.86E-06	4.06E-06
DBP	1.77E-03	219	123	1.45E-03	1.61E-03	1.93E-03	2.09E-03
butanol	1.77E-03	77.2	43.3	1.45E-03	1.61E-03	1.93E-03	2.09E-03
NH_3	0.214	2.14E+03	1.20E+03	6.06E-02	8.25E-02	0.226	0.237
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.91E+05 (kg)	(74.0 kgal)	----	----	----	----	----
Heat Load	1.73 (kW)	(5.90E+03 BTU/hr)	----	1.25	1.53	1.85	1.91
Bulk Density	1.75 (g/cc)	----	----	1.52	1.54	2.09	2.21
Void Fraction	0.531	----	----	8.02E-02	0.229	0.721	0.726
Water wt%	27.8	----	----	4.28	11.5	42.6	44.1
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.77E-05	1.58E-02	7.76	2.92E-06	1.40E-05	3.89E-05	3.89E-05
C-14	2.25E-06	1.28E-03	0.631	3.55E-07	1.11E-06	3.01E-06	3.01E-06
Ni-59	1.41E-05	8.02E-03	3.94	1.02E-05	1.24E-05	1.54E-05	1.51E-05
Ni-63	1.31E-03	0.749	368	9.48E-04	1.15E-03	1.43E-03	1.41E-03
Co-60	8.47E-07	4.83E-04	0.237	9.86E-08	3.98E-07	1.15E-06	1.15E-06
Se-79	4.57E-07	2.61E-04	0.128	5.49E-08	2.16E-07	6.19E-07	6.77E-06
Sr-90	0.878	501	2.46E+05	0.626	0.768	0.962	0.977
Y-90	0.878	501	2.46E+05	0.627	0.769	0.962	0.977
Zr-93	2.16E-06	1.23E-03	0.605	2.59E-07	1.02E-06	2.92E-06	2.87E-05
Nb-93m	1.77E-06	1.01E-03	0.495	2.13E-07	8.33E-07	2.39E-06	3.03E-05
Tc-99	1.51E-05	8.60E-03	4.22	1.81E-06	7.11E-06	2.04E-05	2.04E-05
Ru-106	2.36E-12	1.35E-09	6.61E-07	2.70E-13	1.11E-12	3.20E-12	3.20E-12
Cd-113m	6.64E-06	3.79E-03	1.86	7.84E-07	3.12E-06	8.99E-06	8.99E-06
Sb-125	1.24E-06	7.09E-04	0.348	1.43E-07	5.82E-07	1.68E-06	1.68E-06
Sn-126	7.03E-07	4.01E-04	0.197	8.42E-08	3.31E-07	9.51E-07	1.08E-05
I-129	2.90E-08	1.65E-05	8.11E-03	3.47E-09	1.37E-08	3.92E-08	3.92E-08
Cs-134	2.57E-08	1.47E-05	7.20E-03	6.80E-09	1.44E-08	3.33E-08	3.33E-08
Cs-137	5.31E-02	30.3	1.49E+04	1.41E-02	2.97E-02	6.87E-02	6.87E-02
Ba-137m	5.02E-02	28.6	1.41E+04	1.33E-02	2.81E-02	6.50E-02	6.50E-02
Sm-151	1.63E-03	0.932	457	1.96E-04	7.70E-04	2.21E-03	2.50E-02
Eu-152	6.62E-06	3.78E-03	1.85	6.48E-06	6.54E-06	6.68E-06	6.68E-06
Eu-154	2.04E-05	1.17E-02	5.73	2.36E-06	9.58E-06	2.77E-05	2.77E-05
Eu-155	3.13E-04	0.178	87.6	3.06E-04	3.09E-04	3.16E-04	3.16E-04
Ra-226	1.03E-09	5.86E-07	2.88E-04	1.45E-10	5.77E-10	1.48E-09	1.91E-09
Ra-228	8.80E-15	5.02E-12	2.46E-09	8.61E-15	8.69E-15	8.87E-15	8.87E-15
Ac-227	4.52E-09	2.58E-06	1.27E-03	3.03E-10	1.90E-09	7.13E-09	9.64E-09
Pa-231	6.92E-10	3.95E-07	1.94E-04	9.06E-11	3.31E-10	1.94E-09	1.59E-08
Th-229	1.68E-12	9.58E-10	4.70E-07	1.64E-12	1.66E-12	1.69E-12	1.69E-12
Th-232	5.63E-16	3.21E-13	1.58E-10	6.82E-17	2.66E-16	7.62E-16	7.62E-16
U-232	7.10E-11	4.05E-08	1.99E-05	6.66E-11	6.84E-11	7.28E-11	7.28E-11
U-233	4.14E-12	2.36E-09	1.16E-06	3.98E-12	4.04E-12	4.21E-12	4.21E-12
U-234	5.68E-06	3.24E-03	1.59	5.58E-06	5.62E-06	5.72E-06	5.72E-06
U-235	2.55E-07	1.46E-04	7.15E-02	2.51E-07	2.53E-07	2.57E-07	2.57E-07
U-236	3.74E-08	2.13E-05	1.05E-02	3.58E-08	3.64E-08	3.80E-08	3.80E-08
U-238	5.76E-06	3.28E-03	1.61	5.66E-06	5.70E-06	5.80E-06	5.80E-06
Np-237	9.79E-08	5.58E-05	2.74E-02	1.17E-08	4.61E-08	1.32E-07	1.32E-07
Pu-238	6.26E-06	3.57E-03	1.75	4.49E-06	5.36E-06	7.16E-06	8.02E-06
Pu-239	8.23E-04	0.470	231	6.97E-04	7.59E-04	8.87E-04	9.49E-04
Pu-240	1.58E-04	9.02E-02	44.3	1.40E-04	1.49E-04	1.67E-04	1.76E-04
Pu-241	3.76E-04	0.214	105	2.70E-04	3.22E-04	4.30E-04	4.82E-04
Pu-242	1.72E-09	9.83E-07	4.83E-04	1.24E-09	1.48E-09	1.97E-09	2.21E-09
Am-241	4.02E-04	0.229	113	3.77E-04	3.95E-04	4.08E-04	5.30E-04
Am-243	7.16E-11	4.08E-08	2.01E-05	8.20E-12	3.35E-11	9.71E-11	1.27E-09
Cm-242	1.52E-07	8.69E-05	4.26E-02	1.49E-07	1.50E-07	1.54E-07	1.54E-07
Cm-243	3.49E-09	1.99E-06	9.78E-04	3.42E-09	3.45E-09	3.52E-09	3.52E-09
Cm-244	2.56E-09	1.46E-06	7.17E-04	2.93E-10	1.20E-09	3.47E-09	3.47E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.41E-02 (g/L)	----	3.94	1.19E-02	1.30E-02	1.51E-02	1.62E-02
U	7.25E-02	9.84E+03	4.83E+03	7.12E-02	7.17E-02	7.30E-02	7.30E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.93E+04 (kg)	(13.0 kgal)	----	----	----	----	----
Heat Load	6.96E-02 (kW)	(238 BTU/hr)	----	6.57E-02	6.76E-02	7.16E-02	7.35E-02
Bulk Density*	1.41 (g/cc)	----	----	1.38	1.39	1.42	1.43
Water wt%†	48.8	----	----	46.6	47.6	50.0	51.5
TOC wt% C (wet)	0.521	----	----	0.347	0.432	0.610	0.696

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.70E-04	0.121	8.38	9.27E-05	9.27E-05	1.76E-04	1.81E-04
C-14	2.37E-05	1.69E-02	1.17	7.47E-06	7.47E-06	2.40E-05	2.44E-05
Ni-59	1.54E-06	1.10E-03	7.60E-02	7.80E-07	7.80E-07	1.58E-06	1.62E-06
Ni-63	1.51E-04	0.107	7.43	7.54E-05	7.54E-05	1.55E-04	1.59E-04
Co-60	2.59E-05	1.84E-02	1.27	7.27E-06	7.27E-06	2.63E-05	2.68E-05
Se-79	2.39E-06	1.69E-03	0.117	1.35E-06	1.35E-06	2.76E-06	3.12E-06
Sr-90	7.89E-02	56.0	3.88E+03	7.38E-02	7.63E-02	8.15E-02	8.40E-02
Y-90	7.89E-02	56.0	3.88E+03	4.30E-02	4.30E-02	8.15E-02	8.40E-02
Zr-93	1.17E-05	8.31E-03	0.576	6.51E-06	6.51E-06	1.36E-05	1.54E-05
Nb-93m	8.52E-06	6.05E-03	0.419	4.89E-06	4.89E-06	9.83E-06	1.11E-05
Tc-99	1.69E-04	0.120	8.32	1.08E-04	1.38E-04	2.00E-04	2.30E-04
Ru-106	4.54E-09	3.23E-06	2.24E-04	2.14E-09	2.14E-09	5.08E-09	5.57E-09
Cd-113m	6.09E-05	4.32E-02	2.99	2.97E-05	2.97E-05	7.21E-05	8.29E-05
Sb-125	1.10E-04	7.84E-02	5.43	2.99E-05	2.99E-05	1.12E-04	1.14E-04
Sn-126	3.61E-06	2.56E-03	0.177	2.05E-06	2.05E-06	4.17E-06	4.71E-06
I-129	3.26E-07	2.31E-04	1.60E-02	2.09E-07	2.66E-07	3.86E-07	4.44E-07
Cs-134	1.72E-06	1.22E-03	8.44E-02	1.26E-06	1.39E-06	1.95E-06	2.18E-06
Cs-137	0.188	134	9.27E+03	0.172	0.180	0.197	0.205
Ba-137m	0.178	127	8.77E+03	0.135	0.135	0.186	0.194
Sm-151	8.40E-03	5.97	413	4.77E-03	4.77E-03	9.71E-03	1.10E-02
Eu-152	2.64E-06	1.88E-03	0.130	1.36E-06	1.36E-06	2.81E-06	2.97E-06
Eu-154	4.22E-04	0.300	20.7	1.62E-04	1.62E-04	5.15E-04	5.53E-04
Eu-155	1.56E-04	0.111	7.66	7.91E-05	7.91E-05	1.66E-04	1.76E-04
Ra-226	1.03E-10	7.31E-08	5.06E-06	7.07E-11	7.07E-11	1.14E-10	1.26E-10
Ra-228	8.53E-08	6.06E-05	4.20E-03	3.50E-08	5.96E-08	1.15E-07	1.47E-07
Ac-227	6.43E-10	4.57E-07	3.17E-05	4.57E-10	4.57E-10	7.11E-10	7.76E-10
Pa-231	2.94E-09	2.09E-06	1.45E-04	1.90E-09	1.90E-09	3.32E-09	3.68E-09
Th-229	2.00E-09	1.42E-06	9.86E-05	9.01E-10	1.44E-09	2.66E-09	3.35E-09
Th-232	5.65E-09	4.01E-06	2.78E-04	2.87E-09	4.23E-09	7.07E-09	8.43E-09
U-232	4.49E-07	3.19E-04	2.21E-02	2.48E-07	3.46E-07	5.68E-07	6.95E-07
U-233	1.72E-06	1.22E-03	8.47E-02	9.51E-07	1.33E-06	2.18E-06	2.66E-06
U-234	5.67E-07	4.03E-04	2.79E-02	5.42E-07	5.54E-07	5.82E-07	5.85E-07
U-235	2.31E-08	1.64E-05	1.14E-03	2.20E-08	2.25E-08	2.37E-08	2.38E-08
U-236	1.75E-08	1.25E-05	8.63E-04	1.70E-08	1.73E-08	1.78E-08	1.81E-08
U-238	6.42E-07	4.56E-04	3.16E-02	6.16E-07	6.29E-07	6.57E-07	6.59E-07
Np-237	6.26E-07	4.45E-04	3.08E-02	4.28E-07	5.25E-07	7.28E-07	8.27E-07
Pu-238	9.41E-07	6.69E-04	4.63E-02	7.09E-07	8.23E-07	1.06E-06	1.17E-06
Pu-239	3.26E-05	2.32E-02	1.61	2.67E-05	2.96E-05	3.57E-05	3.86E-05
Pu-240	5.51E-06	3.91E-03	0.271	4.40E-06	4.94E-06	6.07E-06	6.61E-06
Pu-241	6.34E-05	4.50E-02	3.12	4.76E-05	5.53E-05	7.15E-05	7.93E-05
Pu-242	3.48E-10	2.47E-07	1.71E-05	2.53E-10	2.99E-10	3.96E-10	4.43E-10
Am-241	4.01E-05	2.85E-02	1.97	2.91E-05	3.45E-05	4.58E-05	5.11E-05
Am-243	1.36E-09	9.64E-07	6.67E-05	1.01E-09	1.18E-09	1.54E-09	1.72E-09
Cm-242	9.89E-08	7.03E-05	4.87E-03	4.62E-08	4.62E-08	1.05E-07	1.11E-07
Cm-243	9.11E-09	6.48E-06	4.49E-04	4.08E-09	4.08E-09	9.69E-09	1.02E-08
Cm-244	9.12E-08	6.48E-05	4.49E-03	3.93E-08	3.93E-08	1.09E-07	1.20E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.10E-04 (g/L)	----	2.02E-02	2.97E-04	3.53E-04	4.67E-04	5.22E-04
U	6.53E-03	1.10E+03	76.5	6.21E-03	6.36E-03	6.72E-03	6.74E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.60E+05 (kg)	(87.0 kgal)	----	----	----	----	----
Heat Load	1.80 (kW)	(6.13E+03 BTU/hr)	----	1.32	1.60	1.93	1.98
Bulk Density†	1.70 (g/cc)	----	----	1.50	1.52	1.99	2.09
Water wt%†	30.4	----	----	8.81	15.4	43.5	45.0
TOC wt% C (wet)†	6.44E-02	----	----	4.28E-02	5.33E-02	7.55E-02	8.63E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.90E-05	2.88E-02	16.1	2.77E-05	3.74E-05	5.86E-05	5.86E-05
C-14	5.46E-06	3.21E-03	1.80	3.03E-06	3.03E-06	6.11E-06	6.11E-06
Ni-59	1.22E-05	7.16E-03	4.01	8.86E-06	1.07E-05	1.33E-05	1.31E-05
Ni-63	1.14E-03	0.669	375	8.29E-04	1.00E-03	1.24E-03	1.22E-03
Co-60	4.59E-06	2.70E-03	1.51	1.81E-06	1.81E-06	4.84E-06	4.84E-06
Se-79	7.46E-07	4.38E-04	0.245	4.04E-07	5.49E-07	8.83E-07	6.09E-06
Sr-90	0.759	446	2.50E+05	0.545	0.665	0.830	0.842
Y-90	0.759	446	2.50E+05	0.545	0.666	0.830	0.842
Zr-93	3.59E-06	2.11E-03	1.18	1.97E-06	2.66E-06	4.23E-06	2.61E-05
Nb-93m	2.78E-06	1.63E-03	0.914	1.46E-06	2.02E-06	3.30E-06	2.70E-05
Tc-99	3.81E-05	2.24E-02	12.5	2.68E-05	3.16E-05	4.28E-05	4.73E-05
Ru-106	6.81E-10	4.00E-07	2.24E-04	3.22E-10	3.22E-10	7.61E-10	8.35E-10
Cd-113m	1.47E-05	8.67E-03	4.86	9.78E-06	1.01E-05	1.67E-05	1.80E-05
Sb-125	1.76E-05	1.03E-02	5.78	5.52E-06	5.52E-06	1.79E-05	1.82E-05
Sn-126	1.14E-06	6.68E-04	0.374	6.12E-07	8.34E-07	1.35E-06	9.72E-06
I-129	7.33E-08	4.31E-05	2.41E-02	5.17E-08	6.09E-08	8.23E-08	9.11E-08
Cs-134	2.78E-07	1.64E-04	9.16E-02	2.10E-07	2.30E-07	3.13E-07	3.48E-07
Cs-137	7.33E-02	43.1	2.41E+04	4.03E-02	5.42E-02	8.66E-02	8.66E-02
Ba-137m	6.93E-02	40.8	2.28E+04	3.81E-02	5.13E-02	8.19E-02	8.19E-02
Sm-151	2.64E-03	1.55	871	1.43E-03	1.94E-03	3.13E-03	2.24E-02
Eu-152	6.03E-06	3.54E-03	1.98	5.84E-06	5.84E-06	6.08E-06	6.08E-06
Eu-154	8.04E-05	4.73E-02	26.5	4.17E-05	4.17E-05	9.44E-05	1.00E-04
Eu-155	2.89E-04	0.170	95.3	2.78E-04	2.78E-04	2.92E-04	2.92E-04
Ra-226	8.89E-10	5.23E-07	2.93E-04	1.42E-10	5.08E-10	1.27E-09	1.64E-09
Ra-228	1.27E-08	7.49E-06	4.20E-03	5.24E-09	8.91E-09	1.72E-08	2.19E-08
Ac-227	3.94E-09	2.31E-06	1.30E-03	3.67E-10	1.72E-09	6.15E-09	8.28E-09
Pa-231	1.03E-09	6.04E-07	3.39E-04	5.18E-10	7.34E-10	2.09E-09	1.39E-08
Th-229	3.01E-10	1.77E-07	9.90E-05	1.36E-10	2.17E-10	3.98E-10	5.02E-10
Th-232	8.44E-10	4.96E-07	2.78E-04	4.29E-10	6.32E-10	1.06E-09	1.26E-09
U-232	6.72E-08	3.95E-05	2.21E-02	3.71E-08	5.18E-08	8.50E-08	1.04E-07
U-233	2.57E-07	1.51E-04	8.47E-02	1.42E-07	1.98E-07	3.26E-07	3.98E-07
U-234	4.92E-06	2.89E-03	1.62	4.84E-06	4.87E-06	4.95E-06	4.95E-06
U-235	2.21E-07	1.30E-04	7.27E-02	2.17E-07	2.19E-07	2.22E-07	2.22E-07
U-236	3.44E-08	2.02E-05	1.13E-02	3.31E-08	3.36E-08	3.49E-08	3.49E-08
U-238	4.99E-06	2.93E-03	1.64	4.91E-06	4.94E-06	5.03E-06	5.03E-06
Np-237	1.77E-07	1.04E-04	5.82E-02	1.04E-07	1.35E-07	2.06E-07	2.07E-07
Pu-238	5.46E-06	3.21E-03	1.80	3.97E-06	4.70E-06	6.23E-06	6.96E-06
Pu-239	7.05E-04	0.414	232	5.98E-04	6.51E-04	7.59E-04	8.12E-04
Pu-240	1.35E-04	7.95E-02	44.5	1.20E-04	1.27E-04	1.43E-04	1.51E-04
Pu-241	3.29E-04	0.193	108	2.39E-04	2.83E-04	3.75E-04	4.19E-04
Pu-242	1.52E-09	8.92E-07	5.00E-04	1.11E-09	1.31E-09	1.73E-09	1.93E-09
Am-241	3.48E-04	0.205	115	3.27E-04	3.42E-04	3.53E-04	4.56E-04
Am-243	2.64E-10	1.55E-07	8.68E-05	2.10E-10	2.33E-10	2.91E-10	1.28E-09
Cm-242	1.44E-07	8.48E-05	4.75E-02	1.36E-07	1.36E-07	1.45E-07	1.46E-07
Cm-243	4.33E-09	2.55E-06	1.43E-03	3.58E-09	3.58E-09	4.42E-09	4.50E-09
Cm-244	1.58E-08	9.29E-06	5.20E-03	8.05E-09	8.05E-09	1.84E-08	2.01E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.20E-02 (g/L)	----	3.96	1.02E-02	1.11E-02	1.29E-02	1.38E-02
U	6.26E-02	8.76E+03	4.91E+03	6.15E-02	6.20E-02	6.30E-02	6.30E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.82E-04 (kW)	(0.621 BTU/hr)	----	1.55E-04	1.69E-04	1.95E-04	2.06E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	882	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	50.2	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	0.537	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	0.303	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	25.5	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	8.91E-02	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	1.40E+03	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	34.6	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	1.75	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	858	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	288	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	65.6	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	0.363	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	0.372	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	1.47E-04	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.17E+06 (kg)	(215 kgal)	----	----	----	----	----
Heat Load	1.36 (kW)	(4.65E+03 BTU/hr)	----	1.23	1.29	1.43	1.50
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.41	1.44	1.45
Water wt%	45.3	----	----	43.6	44.4	47.1	49.1
TOC wt% C (wet)	0.838	----	----	0.402	0.616	1.06	1.27

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.2	1.63E+05	1.90E+05	9.17	9.66	10.4	10.6
Al^{3+}	1.06	2.00E+04	2.33E+04	0.942	1.000	1.12	1.18
Fe^{3+} (total Fe)	8.50E-03	331	386	7.51E-03	7.99E-03	9.00E-03	9.49E-03
Cr^{3+}	8.27E-02	3.00E+03	3.50E+03	7.21E-02	7.78E-02	8.46E-02	8.60E-02
Bi^{3+}	1.70E-03	249	290	1.51E-03	1.61E-03	1.80E-03	1.89E-03
La^{3+}	8.43E-10	8.18E-05	9.53E-05	6.80E-10	7.60E-10	9.26E-10	1.01E-09
Hg^{2+}	9.71E-06	1.36	1.58	8.71E-06	9.28E-06	9.84E-06	9.97E-06
Zr (as $ZrO(OH)_2$)	3.65E-04	23.3	27.1	3.30E-04	3.43E-04	3.80E-04	3.99E-04
Pb^{2+}	9.03E-04	131	152	7.11E-04	8.05E-04	1.00E-03	1.09E-03
Ni^{2+}	5.26E-03	215	251	4.97E-03	5.10E-03	5.33E-03	5.33E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.20E-03	84.2	98.2	1.72E-03	1.95E-03	2.44E-03	2.67E-03
Ca^{2+}	2.84E-02	794	925	2.69E-02	2.76E-02	2.91E-02	2.98E-02
K^+	4.84E-02	1.32E+03	1.54E+03	4.27E-02	4.47E-02	5.28E-02	5.62E-02
OH^-	6.08	7.22E+04	8.41E+04	5.61	5.84	6.33	6.56
$NO3^-$	4.01	1.74E+05	2.02E+05	3.40	3.76	4.09	4.17
$NO2^-$	1.56	5.01E+04	5.84E+04	1.36	1.45	1.67	1.77
$CO3^{2-}$	0.364	1.52E+04	1.78E+04	0.307	0.326	0.411	0.418
$PO4^{3-}$	9.22E-02	6.11E+03	7.13E+03	7.25E-02	7.94E-02	9.58E-02	9.92E-02
$SO4^{2-}$	0.210	1.41E+04	1.64E+04	0.159	0.177	0.250	0.254
Si (as SiO_x^{2-})	5.87E-02	1.15E+03	1.34E+03	5.19E-02	5.52E-02	6.22E-02	6.55E-02
F^-	8.37E-02	1.11E+03	1.29E+03	6.71E-02	7.40E-02	9.18E-02	9.82E-02
Cl^-	0.185	4.56E+03	5.32E+03	0.152	0.163	0.197	0.197
$C_6H_5O_7^{3-}$	1.42E-02	1.87E+03	2.18E+03	1.28E-02	1.35E-02	1.49E-02	1.55E-02
$EDTA^{4-}$	2.07E-02	4.17E+03	4.86E+03	5.32E-03	1.29E-02	2.87E-02	3.64E-02
$HEDTA^{3-}$	4.07E-02	7.79E+03	9.08E+03	9.87E-03	2.49E-02	5.66E-02	7.21E-02
$glycolate^-$	7.56E-02	3.96E+03	4.62E+03	4.48E-02	5.98E-02	9.15E-02	0.107
$acetate^-$	2.44E-03	100	117	1.97E-03	2.20E-03	2.67E-03	2.90E-03
$oxalate^{2-}$	1.10E-09	6.79E-05	7.91E-05	1.02E-09	1.06E-09	1.15E-09	1.19E-09
DBP	1.20E-02	1.77E+03	2.06E+03	1.04E-02	1.12E-02	1.29E-02	1.37E-02
butanol	1.20E-02	623	727	1.04E-02	1.12E-02	1.29E-02	1.37E-02
NH_3	8.26E-02	980	1.14E+03	6.33E-02	7.27E-02	9.26E-02	0.102
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+06 (kg)	(217 kgal)	----	----	----	----	----
Heat Load	1.36 (kW)	(4.65E+03 BTU/hr)	----	1.23	1.30	1.43	1.50
Bulk Density†	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%†	45.3	----	----	43.7	44.4	47.1	49.1
TOC wt% C (wet)†	0.829	----	----	0.398	0.609	1.05	1.26

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.1	1.62E+05	1.91E+05	9.13	9.62	10.4	10.6
Al^{3+}	1.05	1.98E+04	2.33E+04	0.933	0.990	1.11	1.17
Fe^{3+} (total Fe)	9.51E-03	370	436	8.53E-03	9.01E-03	1.00E-02	1.05E-02
Cr^{3+}	8.20E-02	2.97E+03	3.50E+03	7.14E-02	7.71E-02	8.38E-02	8.52E-02
Bi^{3+}	1.69E-03	246	290	1.50E-03	1.59E-03	1.78E-03	1.88E-03
La^{3+}	8.35E-10	8.09E-05	9.53E-05	6.74E-10	7.53E-10	9.18E-10	9.97E-10
Hg^{2+}	9.62E-06	1.34	1.58	8.63E-06	9.19E-06	9.75E-06	9.88E-06
Zr (as $ZrO(OH)_2$)	3.62E-04	23.0	27.1	3.27E-04	3.40E-04	3.76E-04	3.96E-04
Pb^{2+}	8.94E-04	129	152	7.04E-04	7.97E-04	9.91E-04	1.08E-03
Ni^{2+}	5.21E-03	213	251	4.93E-03	5.06E-03	5.28E-03	5.29E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.18E-03	83.3	98.2	1.70E-03	1.94E-03	2.42E-03	2.65E-03
Ca^{2+}	2.89E-02	807	951	2.75E-02	2.82E-02	2.96E-02	3.03E-02
K^+	4.79E-02	1.31E+03	1.54E+03	4.23E-02	4.43E-02	5.24E-02	5.57E-02
OH^-	6.13	7.26E+04	8.55E+04	5.65	5.89	6.37	6.60
$NO3^-$	3.97	1.72E+05	2.02E+05	3.37	3.72	4.06	4.13
$NO2^-$	1.55	4.96E+04	5.84E+04	1.35	1.44	1.65	1.75
$CO3^{2-}$	0.378	1.58E+04	1.86E+04	0.322	0.341	0.424	0.431
$PO4^{3-}$	9.50E-02	6.29E+03	7.41E+03	7.56E-02	8.24E-02	9.86E-02	0.102
$SO4^{2-}$	0.209	1.40E+04	1.65E+04	0.159	0.176	0.248	0.252
Si (as SiO_x^{2-})	5.82E-02	1.14E+03	1.34E+03	5.14E-02	5.47E-02	6.16E-02	6.49E-02
F^-	8.29E-02	1.10E+03	1.29E+03	6.65E-02	7.34E-02	9.09E-02	9.73E-02
Cl^-	0.183	4.52E+03	5.32E+03	0.150	0.161	0.195	0.195
$C_6H_5O_7^{3-}$	1.40E-02	1.85E+03	2.18E+03	1.27E-02	1.34E-02	1.47E-02	1.54E-02
$EDTA^{4-}$	2.05E-02	4.13E+03	4.86E+03	5.27E-03	1.27E-02	2.84E-02	3.61E-02
$HEDTA^{3-}$	4.03E-02	7.71E+03	9.08E+03	9.78E-03	2.47E-02	5.61E-02	7.14E-02
$glycolate^-$	7.49E-02	3.92E+03	4.62E+03	4.43E-02	5.93E-02	9.06E-02	0.106
$acetate^-$	2.41E-03	99.3	117	1.95E-03	2.18E-03	2.65E-03	2.87E-03
$oxalate^{2-}$	1.09E-09	6.71E-05	7.91E-05	1.01E-09	1.05E-09	1.14E-09	1.18E-09
DBP	1.19E-02	1.75E+03	2.06E+03	1.03E-02	1.11E-02	1.28E-02	1.36E-02
butanol	1.19E-02	617	727	1.03E-02	1.11E-02	1.28E-02	1.36E-02
NH_3	8.18E-02	969	1.14E+03	6.27E-02	7.20E-02	9.18E-02	0.102
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.28E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	1.82E-04 (kW)	(0.621 BTU/hr)	----	1.55E-04	1.69E-04	1.95E-04	2.06E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	7.19E-03	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	2.06E-02	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	7.28E-04	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	6.39E-02	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	3.56E-04	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	5.38E-04	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	15.1	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	15.1	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	2.56E-03	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	2.21E-03	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	1.77E-02	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	8.40E-12	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	5.21E-03	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	1.92E-04	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	7.99E-04	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	3.29E-05	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	2.06E-07	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	17.1	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	16.1	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	2.03	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	4.76E-04	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	4.79E-03	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	7.19E-02	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	1.04E-06	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	6.48E-12	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	2.60E-06	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	2.41E-06	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	1.25E-09	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	7.94E-13	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.23E-05	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	7.38E-07	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	1.04	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	4.68E-02	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	6.64E-03	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	1.05	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	1.06E-04	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	8.01E-05	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	2.51E-02	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	1.48E-03	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	9.46E-04	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	2.89E-09	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	8.88E-04	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	2.48E-09	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	1.91E-06	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	2.83E-08	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	3.80E-08	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	4.10E-04	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	3.16E+03	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.17E+06 (kg)	(215 kgal)	----	----	----	----	----
Heat Load	1.36 (kW)	(4.65E+03 BTU/hr)	----	1.23	1.29	1.43	1.50
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.41	1.44	1.45
Water wt%†	45.3	----	----	43.6	44.4	47.1	49.1
TOC wt% C (wet)	0.838	----	----	0.402	0.616	1.06	1.27

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.57E-04	0.110	128	9.66E-05	9.66E-05	1.69E-04	1.84E-04
C-14	2.20E-05	1.54E-02	17.9	9.33E-06	9.33E-06	2.27E-05	2.34E-05
Ni-59	1.62E-06	1.13E-03	1.32	1.02E-06	1.02E-06	1.65E-06	1.68E-06
Ni-63	1.59E-04	0.111	129	9.97E-05	9.97E-05	1.62E-04	1.65E-04
Co-60	2.50E-05	1.75E-02	20.4	1.05E-05	1.05E-05	2.60E-05	2.69E-05
Se-79	2.41E-06	1.68E-03	1.96	1.60E-06	1.60E-06	2.70E-06	2.98E-06
Sr-90	8.54E-02	59.6	6.95E+04	7.92E-02	8.24E-02	8.88E-02	8.94E-02
Y-90	8.54E-02	59.6	6.95E+04	5.74E-02	5.74E-02	8.74E-02	8.94E-02
Zr-93	1.18E-05	8.27E-03	9.63	7.79E-06	7.79E-06	1.33E-05	1.47E-05
Nb-93m	8.55E-06	5.97E-03	6.96	5.72E-06	5.72E-06	9.58E-06	1.06E-05
Tc-99	1.57E-04	0.109	127	1.09E-04	1.32E-04	1.81E-04	2.05E-04
Ru-106	4.77E-09	3.33E-06	3.88E-03	2.89E-09	2.89E-09	5.19E-09	5.57E-09
Cd-113m	6.24E-05	4.35E-02	50.7	3.81E-05	3.81E-05	7.11E-05	7.96E-05
Sb-125	1.10E-04	7.65E-02	89.1	4.67E-05	4.67E-05	1.15E-04	1.19E-04
Sn-126	3.63E-06	2.53E-03	2.95	2.42E-06	2.42E-06	4.07E-06	4.49E-06
I-129	3.02E-07	2.11E-04	0.246	2.11E-07	2.55E-07	3.49E-07	3.95E-07
Cs-134	3.06E-06	2.14E-03	2.49	1.89E-06	2.46E-06	3.66E-06	4.25E-06
Cs-137	0.235	164	1.91E+05	0.200	0.217	0.253	0.270
Ba-137m	0.222	155	1.81E+05	0.189	0.200	0.239	0.255
Sm-151	8.46E-03	5.91	6.89E+03	5.63E-03	5.63E-03	9.49E-03	1.05E-02
Eu-152	3.34E-06	2.33E-03	2.71	2.33E-06	2.33E-06	3.76E-06	4.18E-06
Eu-154	4.32E-04	0.302	352	2.30E-04	2.30E-04	5.05E-04	5.34E-04
Eu-155	2.00E-04	0.140	163	1.40E-04	1.40E-04	2.26E-04	2.52E-04
Ra-226	1.10E-10	7.66E-08	8.93E-05	8.47E-11	8.47E-11	1.19E-10	1.28E-10
Ra-228	1.69E-07	1.18E-04	0.138	6.46E-08	1.16E-07	2.31E-07	2.97E-07
Ac-227	7.13E-10	4.98E-07	5.80E-04	5.67E-10	5.67E-10	7.66E-10	8.16E-10
Pa-231	3.21E-09	2.24E-06	2.61E-03	2.40E-09	2.40E-09	3.51E-09	3.79E-09
Th-229	3.92E-09	2.74E-06	3.19E-03	1.63E-09	2.75E-09	5.28E-09	6.73E-09
Th-232	1.04E-08	7.25E-06	8.45E-03	4.61E-09	7.44E-09	1.33E-08	1.62E-08
U-232	8.47E-07	5.91E-04	0.689	4.29E-07	6.33E-07	1.10E-06	1.36E-06
U-233	3.25E-06	2.27E-03	2.64	1.64E-06	2.43E-06	4.20E-06	5.21E-06
U-234	6.96E-07	4.86E-04	0.567	6.64E-07	6.85E-07	7.04E-07	7.10E-07
U-235	2.79E-08	1.95E-05	2.27E-02	2.66E-08	2.74E-08	2.83E-08	2.85E-08
U-236	2.28E-08	1.59E-05	1.85E-02	2.18E-08	2.26E-08	2.30E-08	2.32E-08
U-238	8.46E-07	5.90E-04	0.688	8.15E-07	8.34E-07	8.54E-07	8.59E-07
Np-237	5.60E-07	3.91E-04	0.456	4.06E-07	4.81E-07	6.40E-07	7.17E-07
Pu-238	1.05E-06	7.30E-04	0.851	8.64E-07	9.53E-07	1.14E-06	1.23E-06
Pu-239	3.65E-05	2.55E-02	29.7	3.18E-05	3.41E-05	3.89E-05	4.11E-05
Pu-240	6.14E-06	4.28E-03	4.99	5.27E-06	5.70E-06	6.58E-06	7.00E-06
Pu-241	6.99E-05	4.88E-02	56.9	5.75E-05	6.36E-05	7.62E-05	8.23E-05
Pu-242	3.85E-10	2.68E-07	3.13E-04	3.11E-10	3.47E-10	4.22E-10	4.59E-10
Am-241	4.31E-05	3.01E-02	35.1	3.45E-05	3.87E-05	4.75E-05	5.17E-05
Am-243	1.52E-09	1.06E-06	1.23E-03	1.24E-09	1.37E-09	1.69E-09	1.83E-09
Cm-242	1.28E-07	8.94E-05	0.104	8.69E-08	8.69E-08	1.44E-07	1.60E-07
Cm-243	1.18E-08	8.22E-06	9.58E-03	7.85E-09	7.85E-09	1.32E-08	1.47E-08
Cm-244	1.01E-07	7.02E-05	8.18E-02	6.01E-08	6.01E-08	1.14E-07	1.23E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.99E-04 (g/L)	----	0.406	4.11E-04	4.54E-04	5.43E-04	5.86E-04
U	7.80E-03	1.30E+03	1.51E+03	7.41E-03	7.65E-03	7.90E-03	7.96E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.18E+06 (kg)	(217 kgal)	----	----	----	----	----
Heat Load	1.36 (kW)	(4.65E+03 BTU/hr)	----	1.23	1.30	1.43	1.50
Bulk Density†	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%†	45.3	----	----	43.7	44.4	47.1	49.1
TOC wt% C (wet)†	0.829	----	----	0.398	0.609	1.05	1.26

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.56E-04	0.109	128	9.57E-05	9.57E-05	1.68E-04	1.83E-04
C-14	2.18E-05	1.52E-02	17.9	9.26E-06	9.26E-06	2.25E-05	2.32E-05
Ni-59	1.60E-06	1.12E-03	1.32	1.01E-06	1.01E-06	1.63E-06	1.66E-06
Ni-63	1.57E-04	0.110	129	9.88E-05	9.88E-05	1.60E-04	1.63E-04
Co-60	2.48E-05	1.73E-02	20.4	1.04E-05	1.04E-05	2.58E-05	2.67E-05
Se-79	2.39E-06	1.66E-03	1.96	1.58E-06	1.58E-06	2.68E-06	2.95E-06
Sr-90	8.46E-02	59.0	6.95E+04	7.85E-02	8.17E-02	8.80E-02	8.86E-02
Y-90	8.46E-02	59.0	6.95E+04	5.69E-02	5.69E-02	8.66E-02	8.86E-02
Zr-93	1.17E-05	8.18E-03	9.64	7.72E-06	7.72E-06	1.32E-05	1.46E-05
Nb-93m	8.48E-06	5.91E-03	6.96	5.67E-06	5.67E-06	9.49E-06	1.05E-05
Tc-99	1.55E-04	0.108	128	1.08E-04	1.31E-04	1.79E-04	2.03E-04
Ru-106	4.72E-09	3.29E-06	3.88E-03	2.86E-09	2.86E-09	5.14E-09	5.52E-09
Cd-113m	6.18E-05	4.31E-02	50.7	3.77E-05	3.77E-05	7.05E-05	7.88E-05
Sb-125	1.09E-04	7.56E-02	89.1	4.63E-05	4.63E-05	1.13E-04	1.18E-04
Sn-126	3.60E-06	2.51E-03	2.95	2.39E-06	2.39E-06	4.03E-06	4.45E-06
I-129	2.99E-07	2.09E-04	0.246	2.09E-07	2.53E-07	3.46E-07	3.91E-07
Cs-134	3.03E-06	2.11E-03	2.49	1.88E-06	2.44E-06	3.63E-06	4.21E-06
Cs-137	0.233	162	1.91E+05	0.198	0.215	0.250	0.268
Ba-137m	0.220	153	1.81E+05	0.187	0.198	0.237	0.253
Sm-151	8.39E-03	5.85	6.89E+03	5.58E-03	5.58E-03	9.41E-03	1.04E-02
Eu-152	3.31E-06	2.30E-03	2.72	2.31E-06	2.31E-06	3.73E-06	4.14E-06
Eu-154	4.28E-04	0.298	352	2.28E-04	2.28E-04	5.01E-04	5.30E-04
Eu-155	1.98E-04	0.138	163	1.39E-04	1.39E-04	2.24E-04	2.50E-04
Ra-226	1.10E-10	7.67E-08	9.04E-05	8.52E-11	8.52E-11	1.19E-10	1.28E-10
Ra-228	1.67E-07	1.17E-04	0.138	6.40E-08	1.15E-07	2.29E-07	2.94E-07
Ac-227	7.10E-10	4.95E-07	5.83E-04	5.65E-10	5.65E-10	7.62E-10	8.12E-10
Pa-231	3.19E-09	2.22E-06	2.62E-03	2.38E-09	2.38E-09	3.48E-09	3.76E-09
Th-229	3.88E-09	2.71E-06	3.19E-03	1.61E-09	2.72E-09	5.23E-09	6.66E-09
Th-232	1.03E-08	7.17E-06	8.45E-03	4.56E-09	7.37E-09	1.32E-08	1.60E-08
U-232	8.39E-07	5.85E-04	0.689	4.25E-07	6.27E-07	1.09E-06	1.35E-06
U-233	3.22E-06	2.24E-03	2.64	1.63E-06	2.40E-06	4.16E-06	5.16E-06
U-234	1.96E-06	1.36E-03	1.61	1.92E-06	1.94E-06	1.96E-06	1.97E-06
U-235	8.47E-08	5.90E-05	6.95E-02	8.33E-08	8.41E-08	8.50E-08	8.52E-08
U-236	3.06E-08	2.14E-05	2.52E-02	2.97E-08	3.04E-08	3.08E-08	3.11E-08
U-238	2.12E-06	1.48E-03	1.74	2.09E-06	2.11E-06	2.13E-06	2.13E-06
Np-237	5.55E-07	3.87E-04	0.456	4.02E-07	4.77E-07	6.34E-07	7.10E-07
Pu-238	1.04E-06	7.22E-04	0.851	8.56E-07	9.44E-07	1.13E-06	1.22E-06
Pu-239	3.62E-05	2.52E-02	29.7	3.16E-05	3.38E-05	3.85E-05	4.08E-05
Pu-240	6.08E-06	4.24E-03	5.00	5.22E-06	5.65E-06	6.52E-06	6.94E-06
Pu-241	6.92E-05	4.83E-02	56.9	5.70E-05	6.30E-05	7.55E-05	8.15E-05
Pu-242	3.81E-10	2.66E-07	3.13E-04	3.08E-10	3.44E-10	4.18E-10	4.54E-10
Am-241	4.27E-05	2.98E-02	35.1	3.42E-05	3.84E-05	4.71E-05	5.12E-05
Am-243	1.50E-09	1.05E-06	1.23E-03	1.23E-09	1.35E-09	1.67E-09	1.82E-09
Cm-242	1.27E-07	8.84E-05	0.104	8.61E-08	8.61E-08	1.43E-07	1.59E-07
Cm-243	1.17E-08	8.13E-06	9.58E-03	7.78E-09	7.78E-09	1.31E-08	1.45E-08
Cm-244	9.96E-08	6.94E-05	8.18E-02	5.95E-08	5.95E-08	1.13E-07	1.22E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.95E-04 (g/L)	----	0.406	4.07E-04	4.50E-04	5.39E-04	5.81E-04
U	2.39E-02	3.96E+03	4.67E+03	2.35E-02	2.37E-02	2.40E-02	2.40E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.98E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	4.05E-03 (kW)	(13.8 BTU/hr)	----	8.59E-04	1.50E-03	6.07E-03	1.17E-02
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	14.1	1.86E+05	3.68E+03	1.66	4.15	15.4	17.3
Al^{3+}	9.05E-03	140	2.77	4.56E-03	8.30E-03	1.54E-02	1.63E-02
Fe^{3+} (total Fe)	0.126	4.04E+03	79.9	0.109	0.123	0.129	0.131
Cr^{3+}	4.31E-03	129	2.54	3.12E-03	4.27E-03	5.67E-03	4.99E-03
Bi^{3+}	1.51E-02	1.81E+03	35.7	5.53E-03	1.18E-02	1.69E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.22E-06	0.601	1.19E-02	5.08E-06	5.15E-06	9.58E-06	1.27E-05
Zr (as $ZrO(OH)_2$)	3.66E-04	19.2	0.379	2.07E-04	3.50E-04	5.88E-04	5.82E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.18E-02	396	7.84	1.01E-03	1.65E-03	1.45E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.20E-02	2.12E+03	41.9	7.67E-03	6.51E-02	0.102	0.111
K^{+}	1.20E-02	270	5.35	4.49E-03	1.02E-02	1.80E-02	1.39E-02
OH^{-}	0.915	8.93E+03	177	0.786	0.889	0.987	1.00
$NO3^{-}$	9.38	3.34E+05	6.60E+03	0.794	1.86	9.44	9.98
$NO2^{-}$	0.209	5.53E+03	109	9.68E-02	0.153	0.298	0.256
$CO3^{2-}$	0.198	6.83E+03	135	2.62E-02	0.140	0.267	0.281
$PO4^{3-}$	1.30	7.06E+04	1.40E+03	0.127	0.507	1.50	1.54
$SO4^{2-}$	0.108	5.97E+03	118	4.15E-02	9.27E-02	0.161	0.783
Si (as SiO_x^{2-})	1.78E-02	287	5.68	1.73E-02	1.75E-02	4.41E-02	6.99E-02
F^{-}	8.69E-02	948	18.8	5.45E-02	8.46E-02	0.126	0.111
Cl^{-}	6.77E-02	1.38E+03	27.2	2.09E-02	5.45E-02	0.401	0.450
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.62E-05	1.96	3.87E-02	2.87E-07	9.85E-06	2.71E-05	1.92E-05
butanol	1.62E-05	0.690	1.36E-02	2.87E-07	9.85E-06	2.71E-05	1.92E-05
NH_3	3.77E-02	367	7.27	2.74E-02	3.71E-02	5.17E-02	4.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.00E+05 (kg)	(154 kgal)	----	----	----	----	----
Heat Load	0.399 (kW)	(1.36E+03 BTU/hr)	----	0.359	0.378	0.420	0.440
Bulk Density*	1.20 (g/cc)	----	----	1.18	1.19	1.21	1.21
Water wt%	70.0	----	----	68.7	69.2	71.0	72.3
TOC wt% C (wet)	0.259	----	----	0.185	0.221	0.297	0.334

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.70	9.01E+04	6.30E+04	4.28	4.49	4.84	4.97
Al^{3+}	0.501	1.13E+04	7.88E+03	0.449	0.474	0.528	0.554
Fe^{3+} (total Fe)	3.72E-03	173	121	3.19E-03	3.45E-03	3.99E-03	4.24E-03
Cr^{3+}	3.97E-02	1.72E+03	1.20E+03	3.47E-02	3.74E-02	4.07E-02	4.15E-02
Bi^{3+}	8.18E-04	142	99.6	7.35E-04	7.75E-04	8.60E-04	9.01E-04
La^{3+}	3.47E-05	4.01	2.81	2.51E-05	2.98E-05	3.96E-05	4.43E-05
Hg^{2+}	4.36E-06	0.728	0.510	3.92E-06	4.17E-06	4.42E-06	4.48E-06
Zr (as $ZrO(OH)_2$)	1.62E-04	12.3	8.60	1.46E-04	1.52E-04	1.68E-04	1.77E-04
Pb^{2+}	4.03E-04	69.6	48.7	3.19E-04	3.60E-04	4.47E-04	4.88E-04
Ni^{2+}	2.47E-03	121	84.4	2.34E-03	2.40E-03	2.50E-03	2.50E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.13E-03	51.8	36.3	8.80E-04	1.00E-03	1.26E-03	1.38E-03
Ca^{2+}	1.29E-02	431	301	1.21E-02	1.25E-02	1.33E-02	1.37E-02
K^{+}	2.43E-02	792	554	2.19E-02	2.27E-02	2.63E-02	2.78E-02
OH^{-}	2.90	4.11E+04	2.87E+04	2.69	2.79	3.01	3.11
$NO3^{-}$	1.89	9.78E+04	6.84E+04	1.63	1.78	1.93	1.97
$NO2^{-}$	0.726	2.78E+04	1.95E+04	0.619	0.669	0.782	0.836
$CO3^{2-}$	0.165	8.26E+03	5.78E+03	0.140	0.149	0.186	0.189
$PO4^{3-}$	4.24E-02	3.35E+03	2.34E+03	3.38E-02	3.68E-02	4.39E-02	4.54E-02
$SO4^{2-}$	9.36E-02	7.49E+03	5.24E+03	7.16E-02	7.92E-02	0.111	0.113
Si (as SiO_x^{2-})	2.64E-02	618	432	2.28E-02	2.46E-02	2.83E-02	3.00E-02
F^{-}	4.03E-02	637	446	3.30E-02	3.61E-02	4.38E-02	4.66E-02
Cl^{-}	8.56E-02	2.53E+03	1.77E+03	7.11E-02	7.61E-02	9.11E-02	9.11E-02
$C_6H_5O_7^{3-}$	7.51E-03	1.18E+03	828	6.79E-03	7.14E-03	7.89E-03	8.24E-03
$EDTA^{4-}$	3.14E-03	754	527	9.54E-04	2.02E-03	4.27E-03	5.37E-03
$HEDTA^{3-}$	5.94E-03	1.36E+03	948	1.56E-03	3.70E-03	8.19E-03	1.04E-02
$glycolate^{-}$	2.48E-02	1.55E+03	1.09E+03	1.51E-02	1.99E-02	2.98E-02	3.45E-02
$acetate^{-}$	1.11E-03	54.8	38.3	9.03E-04	1.01E-03	1.22E-03	1.33E-03
$oxalate^{2-}$	4.54E-05	3.33	2.33	4.02E-05	4.28E-05	4.80E-05	5.06E-05
DBP	5.93E-03	1.04E+03	726	5.04E-03	5.48E-03	6.37E-03	6.80E-03
butanol	5.93E-03	366	256	5.04E-03	5.48E-03	6.37E-03	6.80E-03
NH_3	3.76E-02	533	373	2.92E-02	3.33E-02	4.20E-02	4.63E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.20E+05 (kg)	(157 kgal)	----	----	----	----	----
Heat Load	0.403 (kW)	(1.38E+03 BTU/hr)	----	0.363	0.383	0.424	0.444
Bulk Density†	1.21 (g/cc)	----	----	1.18	1.19	1.22	1.22
Water wt%†	69.1	----	----	67.8	68.4	71.1	72.5
TOC wt% C (wet)†	0.252	----	----	0.180	0.215	0.289	0.325

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.88	9.27E+04	6.67E+04	4.23	4.48	5.02	5.14
Al^{3+}	0.492	1.10E+04	7.88E+03	0.440	0.465	0.518	0.544
Fe^{3+} (total Fe)	6.06E-03	279	201	5.54E-03	5.79E-03	6.32E-03	6.57E-03
Cr^{3+}	3.90E-02	1.68E+03	1.21E+03	3.41E-02	3.67E-02	4.00E-02	4.08E-02
Bi^{3+}	1.09E-03	188	135	9.07E-04	1.03E-03	1.13E-03	1.15E-03
La^{3+}	3.40E-05	3.90	2.81	2.46E-05	2.92E-05	3.88E-05	4.34E-05
Hg^{2+}	4.38E-06	0.725	0.522	3.97E-06	4.25E-06	4.47E-06	4.52E-06
Zr (as $ZrO(OH)_2$)	1.66E-04	12.5	8.98	1.55E-04	1.60E-04	1.72E-04	1.77E-04
Pb^{2+}	3.96E-04	67.7	48.7	3.13E-04	3.53E-04	4.38E-04	4.79E-04
Ni^{2+}	2.64E-03	128	92.2	2.33E-03	2.44E-03	2.70E-03	2.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.11E-03	50.4	36.3	8.63E-04	9.85E-04	1.24E-03	1.36E-03
Ca^{2+}	1.44E-02	477	343	1.26E-02	1.39E-02	1.48E-02	1.52E-02
K^{+}	2.41E-02	778	560	2.15E-02	2.25E-02	2.61E-02	2.75E-02
OH^{-}	2.86	4.02E+04	2.89E+04	2.66	2.76	2.97	3.07
$NO3^{-}$	2.04	1.04E+05	7.50E+04	1.61	1.79	2.07	2.09
$NO2^{-}$	0.716	2.72E+04	1.96E+04	0.611	0.660	0.772	0.824
$CO3^{2-}$	0.166	8.22E+03	5.91E+03	0.138	0.149	0.187	0.191
$PO4^{3-}$	6.63E-02	5.20E+03	3.74E+03	4.08E-02	5.12E-02	7.02E-02	7.09E-02
$SO4^{2-}$	9.39E-02	7.45E+03	5.36E+03	7.10E-02	7.94E-02	0.112	0.126
Si (as SiO_x^{2-})	2.62E-02	609	438	2.27E-02	2.44E-02	2.81E-02	2.98E-02
F^{-}	4.12E-02	646	465	3.45E-02	3.78E-02	4.47E-02	4.68E-02
Cl^{-}	8.53E-02	2.49E+03	1.79E+03	7.02E-02	7.57E-02	9.70E-02	9.79E-02
$C_6H_5O_7^{3-}$	7.37E-03	1.15E+03	828	6.66E-03	7.01E-03	7.74E-03	8.09E-03
$EDTA^{4-}$	3.08E-03	733	527	9.36E-04	1.98E-03	4.18E-03	5.26E-03
$HEDTA^{3-}$	5.82E-03	1.32E+03	948	1.53E-03	3.63E-03	8.03E-03	1.02E-02
$glycolate^{-}$	2.43E-02	1.51E+03	1.09E+03	1.48E-02	1.95E-02	2.92E-02	3.39E-02
$acetate^{-}$	1.09E-03	53.3	38.3	8.85E-04	9.87E-04	1.20E-03	1.30E-03
$oxalate^{2-}$	4.45E-05	3.24	2.33	3.95E-05	4.19E-05	4.71E-05	4.96E-05
DBP	5.82E-03	1.01E+03	726	4.95E-03	5.37E-03	6.25E-03	6.67E-03
butanol	5.82E-03	356	256	4.95E-03	5.37E-03	6.25E-03	6.67E-03
NH_3	3.76E-02	528	380	2.94E-02	3.34E-02	4.19E-02	4.61E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.98E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	4.05E-03 (kW)	(13.8 BTU/hr)	----	8.59E-04	1.50E-03	6.07E-03	1.17E-02
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.99E-06	1.72E-03	3.39E-02	0	0	3.18E-06	3.66E-06
C-14	4.46E-07	2.56E-04	5.06E-03	0	0	4.51E-07	5.12E-07
Ni-59	9.05E-07	5.19E-04	1.03E-02	0	0	9.54E-07	9.87E-07
Ni-63	8.14E-05	4.67E-02	0.924	0	0	8.58E-05	8.88E-05
Co-60	1.01E-07	5.77E-05	1.14E-03	0	0	1.02E-07	1.16E-07
Se-79	9.57E-08	5.50E-05	1.09E-03	0	0	9.68E-08	1.10E-07
Sr-90	1.12E-02	6.42	127	6.28E-03	1.09E-02	1.56E-02	7.00E-02
Y-90	1.12E-02	6.42	127	0	0	1.13E-02	1.29E-02
Zr-93	4.55E-07	2.61E-04	5.17E-03	0	0	4.60E-07	5.23E-07
Nb-93m	3.85E-07	2.21E-04	4.37E-03	0	0	3.89E-07	4.42E-07
Tc-99	3.15E-06	1.81E-03	3.58E-02	8.26E-07	2.42E-06	4.89E-06	3.62E-06
Ru-106	3.98E-14	2.28E-11	4.52E-10	0	0	4.03E-14	4.57E-14
Cd-113m	1.10E-06	6.29E-04	1.24E-02	0	0	1.11E-06	1.26E-06
Sb-125	9.11E-08	5.23E-05	1.03E-03	0	0	9.22E-08	1.05E-07
Sn-126	1.44E-07	8.26E-05	1.63E-03	0	0	1.46E-07	1.66E-07
I-129	5.93E-09	3.40E-06	6.73E-05	1.55E-09	4.56E-09	9.22E-09	6.82E-09
Cs-134	4.23E-09	2.43E-06	4.80E-05	0	0	4.56E-09	4.94E-09
Cs-137	6.00E-02	34.4	681	7.11E-03	1.24E-02	9.17E-02	0.118
Ba-137m	5.68E-02	32.6	644	0	0	6.12E-02	6.62E-02
Sm-151	3.57E-04	0.205	4.05	0	0	3.61E-04	4.11E-04
Eu-152	1.13E-07	6.47E-05	1.28E-03	0	0	1.14E-07	1.15E-07
Eu-154	1.79E-06	1.03E-03	2.03E-02	0	0	1.81E-06	2.06E-06
Eu-155	8.64E-06	4.96E-03	9.81E-02	0	0	8.71E-06	8.77E-06
Ra-226	2.69E-11	1.55E-08	3.06E-07	0	0	1.03E-10	8.20E-11
Ra-228	4.49E-16	2.58E-13	5.10E-12	0	0	4.53E-16	4.56E-16
Ac-227	1.39E-10	7.96E-08	1.57E-06	0	0	3.53E-10	4.29E-10
Pa-231	3.01E-10	1.73E-07	3.42E-06	0	0	3.05E-10	3.47E-10
Th-229	8.72E-14	5.00E-11	9.90E-10	0	0	8.79E-14	8.85E-14
Th-232	1.30E-16	7.49E-14	1.48E-12	0	0	1.32E-16	1.50E-16
U-232	1.18E-10	6.80E-08	1.35E-06	8.15E-11	9.99E-11	1.38E-10	1.51E-10
U-233	5.64E-12	3.24E-09	6.40E-08	3.87E-12	4.74E-12	6.58E-12	7.19E-12
U-234	5.57E-06	3.20E-03	6.32E-02	3.82E-06	4.67E-06	6.54E-06	7.17E-06
U-235	2.47E-07	1.42E-04	2.80E-03	1.69E-07	2.07E-07	2.90E-07	3.18E-07
U-236	5.21E-08	2.99E-05	5.92E-04	3.58E-08	4.39E-08	6.09E-08	6.65E-08
U-238	5.65E-06	3.25E-03	6.42E-02	3.88E-06	4.74E-06	6.64E-06	7.28E-06
Np-237	1.94E-08	1.11E-05	2.20E-04	5.04E-09	1.49E-08	3.02E-08	2.23E-08
Pu-238	3.69E-07	2.12E-04	4.19E-03	3.38E-08	1.16E-07	5.55E-07	5.76E-07
Pu-239	6.14E-05	3.53E-02	0.698	6.39E-06	2.05E-05	9.03E-05	9.32E-05
Pu-240	5.00E-06	2.87E-03	5.68E-02	4.83E-07	1.61E-06	7.44E-06	7.70E-06
Pu-241	1.36E-05	7.80E-03	0.154	1.11E-06	4.10E-06	2.08E-05	2.16E-05
Pu-242	6.07E-11	3.48E-08	6.89E-07	4.87E-12	1.82E-11	9.30E-11	9.68E-11
Am-241	8.14E-07	4.67E-04	9.25E-03	1.51E-07	5.85E-07	1.30E-06	9.36E-07
Am-243	5.63E-12	3.23E-09	6.39E-08	9.81E-13	4.00E-12	8.98E-12	6.47E-12
Cm-242	1.86E-09	1.07E-06	2.11E-05	0	0	1.88E-09	1.90E-09
Cm-243	3.80E-11	2.18E-08	4.32E-07	0	0	3.84E-11	3.88E-11
Cm-244	1.24E-10	7.13E-08	1.41E-06	0	0	1.26E-10	1.43E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.01E-03 (g/L)	----	1.15E-02	1.05E-04	3.36E-04	1.49E-03	1.53E-03
U	7.12E-02	9.72E+03	192	4.88E-02	5.97E-02	8.36E-02	9.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.00E+05 (kg)	(154 kgal)	----	----	----	----	----
Heat Load	0.399 (kW)	(1.36E+03 BTU/hr)	----	0.359	0.378	0.420	0.440
Bulk Density*	1.20 (g/cc)	----	----	1.18	1.19	1.21	1.21
Water wt%†	70.0	----	----	68.7	69.2	71.0	72.3
TOC wt% C (wet)	0.259	----	----	0.185	0.221	0.297	0.334

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.19E-05	5.99E-02	41.9	3.97E-05	3.97E-05	7.55E-05	7.99E-05
C-14	1.05E-05	8.74E-03	6.11	3.76E-06	3.76E-06	1.08E-05	1.11E-05
Ni-59	7.63E-07	6.36E-04	0.445	4.47E-07	4.47E-07	7.79E-07	7.95E-07
Ni-63	7.48E-05	6.24E-02	43.6	4.35E-05	4.35E-05	7.64E-05	7.80E-05
Co-60	1.17E-05	9.71E-03	6.79	3.95E-06	3.95E-06	1.21E-05	1.24E-05
Se-79	1.07E-06	8.89E-04	0.622	6.38E-07	6.38E-07	1.22E-06	1.37E-06
Sr-90	3.54E-02	29.5	2.06E+04	3.33E-02	3.41E-02	3.69E-02	3.75E-02
Y-90	3.54E-02	29.5	2.06E+04	2.06E-02	2.06E-02	3.65E-02	3.75E-02
Zr-93	5.24E-06	4.36E-03	3.05	3.09E-06	3.09E-06	6.02E-06	6.76E-06
Nb-93m	3.80E-06	3.16E-03	2.21	2.29E-06	2.29E-06	4.34E-06	4.86E-06
Tc-99	7.47E-05	6.22E-02	43.5	4.96E-05	6.19E-05	8.76E-05	1.00E-04
Ru-106	2.12E-09	1.77E-06	1.24E-03	1.12E-09	1.12E-09	2.34E-09	2.55E-09
Cd-113m	2.73E-05	2.27E-02	15.9	1.44E-05	1.44E-05	3.20E-05	3.64E-05
Sb-125	5.00E-05	4.17E-02	29.2	1.67E-05	1.67E-05	5.18E-05	5.36E-05
Sn-126	1.61E-06	1.34E-03	0.939	9.67E-07	9.67E-07	1.84E-06	2.07E-06
I-129	1.44E-07	1.20E-04	8.39E-02	9.55E-08	1.19E-07	1.69E-07	1.93E-07
Cs-134	8.84E-07	7.36E-04	0.515	6.97E-07	7.88E-07	9.80E-07	1.07E-06
Cs-137	9.53E-02	79.4	5.55E+04	8.04E-02	8.77E-02	0.103	0.110
Ba-137m	9.01E-02	75.1	5.25E+04	7.61E-02	8.00E-02	9.74E-02	0.104
Sm-151	3.76E-03	3.13	2.19E+03	2.25E-03	2.25E-03	4.30E-03	4.82E-03
Eu-152	1.24E-06	1.03E-03	0.721	7.04E-07	7.04E-07	1.30E-06	1.36E-06
Eu-154	1.89E-04	0.157	110	8.15E-05	8.15E-05	2.28E-04	2.43E-04
Eu-155	7.35E-05	6.12E-02	42.8	4.18E-05	4.18E-05	7.72E-05	8.08E-05
Ra-226	4.93E-11	4.10E-08	2.87E-05	3.59E-11	3.59E-11	5.41E-11	5.87E-11
Ra-228	7.36E-08	6.13E-05	4.29E-02	2.82E-08	5.04E-08	1.01E-07	1.29E-07
Ac-227	3.19E-10	2.66E-07	1.86E-04	2.42E-10	2.42E-10	3.47E-10	3.74E-10
Pa-231	1.42E-09	1.19E-06	8.30E-04	9.94E-10	9.94E-10	1.58E-09	1.73E-09
Th-229	1.71E-09	1.42E-06	9.96E-04	7.11E-10	1.20E-09	2.30E-09	2.93E-09
Th-232	4.54E-09	3.79E-06	2.65E-03	2.03E-09	3.26E-09	5.83E-09	7.06E-09
U-232	3.71E-07	3.09E-04	0.216	1.89E-07	2.78E-07	4.79E-07	5.94E-07
U-233	1.42E-06	1.18E-03	0.829	7.24E-07	1.07E-06	1.83E-06	2.27E-06
U-234	3.20E-07	2.66E-04	0.186	3.05E-07	3.15E-07	3.23E-07	3.27E-07
U-235	1.29E-08	1.07E-05	7.50E-03	1.23E-08	1.26E-08	1.30E-08	1.32E-08
U-236	1.03E-08	8.59E-06	6.01E-03	9.88E-09	1.02E-08	1.04E-08	1.05E-08
U-238	3.85E-07	3.20E-04	0.224	3.71E-07	3.79E-07	3.88E-07	3.92E-07
Np-237	2.68E-07	2.23E-04	0.156	1.86E-07	2.26E-07	3.10E-07	3.51E-07
Pu-238	4.43E-07	3.69E-04	0.258	3.47E-07	3.94E-07	4.92E-07	5.39E-07
Pu-239	1.58E-05	1.32E-02	9.21	1.33E-05	1.46E-05	1.71E-05	1.83E-05
Pu-240	2.66E-06	2.21E-03	1.55	2.20E-06	2.42E-06	2.89E-06	3.11E-06
Pu-241	2.94E-05	2.45E-02	17.2	2.29E-05	2.61E-05	3.28E-05	3.60E-05
Pu-242	1.62E-10	1.35E-07	9.42E-05	1.22E-10	1.42E-10	1.82E-10	2.01E-10
Am-241	1.98E-05	1.65E-02	11.6	1.53E-05	1.75E-05	2.22E-05	2.44E-05
Am-243	6.72E-10	5.60E-07	3.92E-04	5.23E-10	5.91E-10	7.64E-10	8.45E-10
Cm-242	4.81E-08	4.01E-05	2.80E-02	2.63E-08	2.63E-08	5.04E-08	5.27E-08
Cm-243	4.48E-09	3.73E-06	2.61E-03	2.39E-09	2.39E-09	4.68E-09	4.89E-09
Cm-244	4.49E-08	3.74E-05	2.62E-02	2.35E-08	2.35E-08	5.22E-08	5.68E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.14E-04 (g/L)	----	0.125	1.67E-04	1.90E-04	2.37E-04	2.60E-04
U	3.60E-03	713	499	3.43E-03	3.53E-03	3.64E-03	3.68E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.20E+05 (kg)	(157 kgal)	----	----	----	----	----
Heat Load	0.403 (kW)	(1.38E+03 BTU/hr)	----	0.363	0.383	0.424	0.444
Bulk Density†	1.21 (g/cc)	----	----	1.18	1.19	1.22	1.22
Water wt%†	69.1	----	----	67.8	68.4	71.1	72.5
TOC wt% C (wet)†	0.252	----	----	0.180	0.215	0.289	0.325

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.06E-05	5.83E-02	41.9	3.90E-05	3.90E-05	7.41E-05	7.84E-05
C-14	1.03E-05	8.50E-03	6.12	3.69E-06	3.69E-06	1.06E-05	1.09E-05
Ni-59	7.66E-07	6.33E-04	0.455	4.56E-07	4.56E-07	7.82E-07	7.97E-07
Ni-63	7.50E-05	6.19E-02	44.6	4.43E-05	4.43E-05	7.65E-05	7.80E-05
Co-60	1.14E-05	9.44E-03	6.80	3.88E-06	3.88E-06	1.18E-05	1.22E-05
Se-79	1.05E-06	8.66E-04	0.623	6.28E-07	6.28E-07	1.20E-06	1.35E-06
Sr-90	3.49E-02	28.9	2.08E+04	3.29E-02	3.37E-02	3.65E-02	3.77E-02
Y-90	3.49E-02	28.9	2.08E+04	2.04E-02	2.04E-02	3.60E-02	3.70E-02
Zr-93	5.15E-06	4.25E-03	3.06	3.04E-06	3.04E-06	5.91E-06	6.64E-06
Nb-93m	3.73E-06	3.08E-03	2.22	2.26E-06	2.26E-06	4.27E-06	4.78E-06
Tc-99	7.33E-05	6.06E-02	43.6	4.87E-05	6.07E-05	8.60E-05	9.82E-05
Ru-106	2.08E-09	1.72E-06	1.24E-03	1.10E-09	1.10E-09	2.30E-09	2.50E-09
Cd-113m	2.68E-05	2.21E-02	15.9	1.42E-05	1.42E-05	3.14E-05	3.58E-05
Sb-125	4.91E-05	4.05E-02	29.2	1.64E-05	1.64E-05	5.08E-05	5.26E-05
Sn-126	1.58E-06	1.31E-03	0.941	9.52E-07	9.52E-07	1.81E-06	2.03E-06
I-129	1.41E-07	1.17E-04	8.40E-02	9.38E-08	1.17E-07	1.66E-07	1.90E-07
Cs-134	8.67E-07	7.16E-04	0.515	6.84E-07	7.73E-07	9.61E-07	1.05E-06
Cs-137	9.46E-02	78.1	5.62E+04	8.00E-02	8.71E-02	0.102	0.109
Ba-137m	8.95E-02	73.9	5.32E+04	7.57E-02	7.96E-02	9.66E-02	0.103
Sm-151	3.69E-03	3.05	2.19E+03	2.22E-03	2.22E-03	4.23E-03	4.74E-03
Eu-152	1.22E-06	1.00E-03	0.722	6.93E-07	6.93E-07	1.27E-06	1.33E-06
Eu-154	1.85E-04	0.153	110	7.99E-05	7.99E-05	2.23E-04	2.39E-04
Eu-155	7.22E-05	5.97E-02	42.9	4.12E-05	4.12E-05	7.59E-05	7.94E-05
Ra-226	4.88E-11	4.03E-08	2.90E-05	3.58E-11	3.58E-11	5.36E-11	5.81E-11
Ra-228	7.22E-08	5.96E-05	4.29E-02	2.76E-08	4.94E-08	9.86E-08	1.27E-07
Ac-227	3.16E-10	2.61E-07	1.88E-04	2.40E-10	2.40E-10	3.43E-10	3.70E-10
Pa-231	1.40E-09	1.16E-06	8.33E-04	9.81E-10	9.81E-10	1.55E-09	1.70E-09
Th-229	1.68E-09	1.38E-06	9.96E-04	6.98E-10	1.18E-09	2.26E-09	2.87E-09
Th-232	4.46E-09	3.68E-06	2.65E-03	1.99E-09	3.20E-09	5.72E-09	6.92E-09
U-232	3.64E-07	3.00E-04	0.216	1.85E-07	2.73E-07	4.70E-07	5.82E-07
U-233	1.39E-06	1.15E-03	0.829	7.11E-07	1.04E-06	1.80E-06	2.23E-06
U-234	4.20E-07	3.47E-04	0.250	3.87E-07	4.03E-07	4.39E-07	4.51E-07
U-235	1.73E-08	1.43E-05	1.03E-02	1.59E-08	1.66E-08	1.82E-08	1.87E-08
U-236	1.11E-08	9.18E-06	6.60E-03	1.07E-08	1.10E-08	1.13E-08	1.14E-08
U-238	4.85E-07	4.01E-04	0.288	4.51E-07	4.68E-07	5.04E-07	5.16E-07
Np-237	2.63E-07	2.17E-04	0.156	1.83E-07	2.22E-07	3.05E-07	3.45E-07
Pu-238	4.42E-07	3.65E-04	0.262	3.47E-07	3.93E-07	4.90E-07	5.36E-07
Pu-239	1.67E-05	1.38E-02	9.91	1.43E-05	1.54E-05	1.79E-05	1.91E-05
Pu-240	2.70E-06	2.23E-03	1.60	2.25E-06	2.47E-06	2.93E-06	3.15E-06
Pu-241	2.91E-05	2.41E-02	17.3	2.27E-05	2.59E-05	3.24E-05	3.56E-05
Pu-242	1.60E-10	1.32E-07	9.48E-05	1.21E-10	1.40E-10	1.79E-10	1.98E-10
Am-241	1.95E-05	1.61E-02	11.6	1.50E-05	1.72E-05	2.18E-05	2.40E-05
Am-243	6.59E-10	5.44E-07	3.92E-04	5.13E-10	5.80E-10	7.50E-10	8.29E-10
Cm-242	4.72E-08	3.90E-05	2.81E-02	2.58E-08	2.58E-08	4.95E-08	5.17E-08
Cm-243	4.39E-09	3.63E-06	2.61E-03	2.35E-09	2.35E-09	4.60E-09	4.79E-09
Cm-244	4.41E-08	3.64E-05	2.62E-02	2.30E-08	2.30E-08	5.12E-08	5.58E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.29E-04 (g/L)	----	0.136	1.83E-04	2.06E-04	2.52E-04	2.74E-04
U	4.89E-03	961	691	4.46E-03	4.67E-03	5.12E-03	5.28E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.15E+05 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	1.64E-03 (kW)	(5.59 BTU/hr)	----	1.40E-03	1.52E-03	1.75E-03	1.85E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	7.94E+03	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	452	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	4.84	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	2.73	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	230	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	0.802	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	1.26E+04	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	312	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	15.8	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	7.72E+03	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	2.59E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	591	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	3.27	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	3.34	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	1.32E-03	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.55E+05 (kg)	(47.0 kgal)	----	----	----	----	----
Heat Load	0.289 (kW)	(987 BTU/hr)	----	0.261	0.274	0.304	0.318
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%	45.3	----	----	43.6	44.3	47.0	49.0
TOC wt% C (wet)	0.758	----	----	0.393	0.572	0.943	1.12

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.2	1.64E+05	4.18E+04	9.25	9.73	10.5	10.7
Al^{3+}	1.07	2.02E+04	5.14E+03	0.956	1.01	1.13	1.19
Fe^{3+} (total Fe)	8.33E-03	324	82.8	7.37E-03	7.84E-03	8.82E-03	9.30E-03
Cr^{3+}	8.35E-02	3.03E+03	772	7.20E-02	7.82E-02	8.53E-02	8.67E-02
Bi^{3+}	1.66E-03	242	61.8	1.48E-03	1.57E-03	1.76E-03	1.85E-03
La^{3+}	8.22E-10	7.96E-05	2.03E-05	6.64E-10	7.41E-10	9.04E-10	9.82E-10
Hg^{2+}	9.47E-06	1.32	0.338	8.49E-06	9.05E-06	9.60E-06	9.73E-06
Zr (as $ZrO(OH)_2$)	3.56E-04	22.7	5.78	3.22E-04	3.34E-04	3.70E-04	3.90E-04
Pb^{2+}	8.81E-04	127	32.5	6.94E-04	7.85E-04	9.76E-04	1.07E-03
Ni^{2+}	5.30E-03	217	55.3	5.01E-03	5.14E-03	5.37E-03	5.37E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.13E-03	81.7	20.8	1.67E-03	1.90E-03	2.37E-03	2.60E-03
Ca^{2+}	2.84E-02	792	202	2.70E-02	2.76E-02	2.91E-02	2.97E-02
K^+	4.84E-02	1.32E+03	336	4.29E-02	4.48E-02	5.27E-02	5.60E-02
OH^-	6.19	7.34E+04	1.87E+04	5.72	5.95	6.43	6.66
$NO3^-$	4.05	1.75E+05	4.46E+04	3.45	3.80	4.13	4.21
$NO2^-$	1.54	4.94E+04	1.26E+04	1.34	1.43	1.64	1.74
$CO3^{2-}$	0.367	1.54E+04	3.92E+03	0.312	0.331	0.413	0.420
$PO4^{3-}$	9.07E-02	6.01E+03	1.53E+03	7.15E-02	7.82E-02	9.42E-02	9.75E-02
$SO4^{2-}$	0.206	1.38E+04	3.51E+03	0.156	0.173	0.245	0.248
Si (as SiO_x^{2-})	5.86E-02	1.15E+03	293	5.20E-02	5.52E-02	6.20E-02	6.53E-02
F^-	8.16E-02	1.08E+03	276	6.55E-02	7.23E-02	8.96E-02	9.58E-02
Cl^-	0.186	4.60E+03	1.17E+03	0.154	0.165	0.198	0.198
$C_6H_5O_7^{3-}$	1.46E-02	1.92E+03	490	1.29E-02	1.37E-02	1.54E-02	1.63E-02
$EDTA^{4-}$	1.75E-02	3.51E+03	895	4.54E-03	1.09E-02	2.41E-02	3.06E-02
$HEDTA^{3-}$	3.42E-02	6.53E+03	1.67E+03	8.33E-03	2.10E-02	4.75E-02	6.05E-02
$glycolate^-$	7.79E-02	4.08E+03	1.04E+03	5.21E-02	6.47E-02	9.12E-02	0.104
$acetate^-$	2.40E-03	98.7	25.2	1.94E-03	2.17E-03	2.63E-03	2.86E-03
$oxalate^{2-}$	1.08E-09	6.61E-05	1.69E-05	9.91E-10	1.03E-09	1.12E-09	1.16E-09
DBP	1.18E-02	1.73E+03	440	1.01E-02	1.09E-02	1.26E-02	1.34E-02
butanol	1.18E-02	608	155	1.01E-02	1.09E-02	1.26E-02	1.34E-02
NH_3	8.08E-02	957	244	6.20E-02	7.11E-02	9.06E-02	0.100
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.70E+05 (kg)	(65.0 kgal)	----	----	----	----	----
Heat Load	0.291 (kW)	(992 BTU/hr)	----	0.262	0.276	0.305	0.319
Bulk Density†	1.50 (g/cc)	----	----	1.48	1.49	1.51	1.52
Water wt%†	45.8	----	----	44.6	45.1	47.0	48.3
TOC wt% C (wet)†	0.523	----	----	0.270	0.394	0.651	0.777

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.79	1.34E+05	4.97E+04	8.09	8.44	8.97	9.13
Al^{3+}	0.775	1.39E+04	5.14E+03	0.691	0.732	0.818	0.859
Fe^{3+} (total Fe)	3.89E-02	1.44E+03	534	3.71E-02	3.80E-02	3.98E-02	4.07E-02
Cr^{3+}	6.07E-02	2.10E+03	777	5.25E-02	5.69E-02	6.21E-02	6.31E-02
Bi^{3+}	1.20E-03	167	61.8	1.07E-03	1.13E-03	1.27E-03	1.34E-03
La^{3+}	5.95E-10	5.49E-05	2.03E-05	4.80E-10	5.36E-10	6.53E-10	7.10E-10
Hg^{2+}	6.85E-06	0.913	0.338	6.14E-06	6.54E-06	6.94E-06	7.03E-06
Zr (as $ZrO(OH)_2$)	2.58E-04	15.6	5.78	2.33E-04	2.42E-04	2.68E-04	2.82E-04
Pb^{2+}	6.37E-04	87.8	32.5	5.02E-04	5.68E-04	7.06E-04	7.72E-04
Ni^{2+}	4.02E-03	157	58.0	3.82E-03	3.91E-03	4.17E-03	4.42E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.54E-03	56.4	20.8	1.21E-03	1.37E-03	1.71E-03	1.88E-03
Ca^{2+}	4.38E-02	1.17E+03	432	3.67E-02	4.01E-02	4.74E-02	5.09E-02
K^+	3.50E-02	911	337	3.11E-02	3.24E-02	3.82E-02	4.06E-02
OH^-	7.48	8.46E+04	3.13E+04	7.15	7.31	7.66	7.82
$NO3^-$	2.95	1.21E+05	4.49E+04	2.51	2.77	3.01	3.06
$NO2^-$	1.12	3.41E+04	1.26E+04	0.972	1.04	1.19	1.26
$CO3^{2-}$	0.789	3.15E+04	1.16E+04	0.642	0.720	0.848	0.899
$PO4^{3-}$	0.176	1.11E+04	4.12E+03	0.113	0.146	0.202	0.223
$SO4^{2-}$	0.174	1.11E+04	4.10E+03	0.138	0.150	0.202	0.205
Si (as SiO_x^{2-})	4.29E-02	801	296	3.81E-02	4.04E-02	4.53E-02	4.77E-02
F^-	5.90E-02	746	276	4.74E-02	5.22E-02	6.48E-02	6.93E-02
Cl^-	0.135	3.18E+03	1.18E+03	0.112	0.120	0.144	0.144
$C_6H_5O_7^{3-}$	1.05E-02	1.32E+03	490	9.29E-03	9.90E-03	1.12E-02	1.18E-02
$EDTA^{4-}$	1.26E-02	2.42E+03	895	3.28E-03	7.85E-03	1.74E-02	2.21E-02
$HEDTA^{3-}$	2.47E-02	4.51E+03	1.67E+03	6.03E-03	1.52E-02	3.43E-02	4.37E-02
$glycolate^-$	5.63E-02	2.81E+03	1.04E+03	3.76E-02	4.68E-02	6.60E-02	7.54E-02
$acetate^-$	1.73E-03	68.1	25.2	1.40E-03	1.57E-03	1.90E-03	2.06E-03
$oxalate^{2-}$	7.79E-10	4.56E-05	1.69E-05	7.17E-10	7.47E-10	8.11E-10	8.41E-10
DBP	8.51E-03	1.19E+03	440	7.33E-03	7.91E-03	9.10E-03	9.67E-03
butanol	8.51E-03	420	155	7.33E-03	7.91E-03	9.10E-03	9.67E-03
NH_3	5.84E-02	660	244	4.48E-02	5.14E-02	6.55E-02	7.24E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.15E+05 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	1.64E-03 (kW)	(5.59 BTU/hr)	----	1.40E-03	1.52E-03	1.75E-03	1.85E-03
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	6.47E-02	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	0.186	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	6.55E-03	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	0.575	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	3.21E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	4.84E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	136	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	136	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	2.31E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	1.99E-02	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	0.159	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	7.56E-11	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	4.69E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	1.73E-03	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	7.19E-03	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	2.96E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	1.85E-06	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	154	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	145	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	18.3	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	4.28E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	4.31E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	0.647	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	9.35E-06	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	5.83E-11	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	2.34E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	2.17E-05	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	1.12E-08	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	7.15E-12	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	1.11E-04	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	6.64E-06	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	9.36	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.421	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	5.98E-02	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	9.48	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	9.56E-04	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	7.21E-04	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.226	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	1.33E-02	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	8.52E-03	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	2.60E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	7.99E-03	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	2.23E-08	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	1.72E-05	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	2.55E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	3.42E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	3.69E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	2.84E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.55E+05 (kg)	(47.0 kgal)	----	----	----	----	----
Heat Load	0.289 (kW)	(987 BTU/hr)	----	0.261	0.274	0.304	0.318
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%†	45.3	----	----	43.6	44.3	47.0	49.0
TOC wt% C (wet)	0.758	----	----	0.393	0.572	0.943	1.12

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.54E-04	0.107	27.4	9.50E-05	9.50E-05	1.64E-04	1.77E-04
C-14	2.15E-05	1.50E-02	3.82	9.12E-06	9.12E-06	2.22E-05	2.28E-05
Ni-59	1.60E-06	1.12E-03	0.285	1.02E-06	1.02E-06	1.63E-06	1.66E-06
Ni-63	1.57E-04	0.110	28.0	9.97E-05	9.97E-05	1.60E-04	1.63E-04
Co-60	2.43E-05	1.70E-02	4.33	1.02E-05	1.02E-05	2.53E-05	2.62E-05
Se-79	2.39E-06	1.66E-03	0.424	1.60E-06	1.60E-06	2.67E-06	2.95E-06
Sr-90	8.32E-02	58.0	1.48E+04	7.80E-02	8.03E-02	8.66E-02	8.71E-02
Y-90	8.32E-02	58.0	1.48E+04	5.59E-02	5.59E-02	8.52E-02	8.71E-02
Zr-93	1.17E-05	8.16E-03	2.08	7.75E-06	7.75E-06	1.31E-05	1.45E-05
Nb-93m	8.49E-06	5.92E-03	1.51	5.72E-06	5.72E-06	9.49E-06	1.04E-05
Tc-99	1.53E-04	0.107	27.2	1.07E-04	1.29E-04	1.77E-04	2.00E-04
Ru-106	4.79E-09	3.34E-06	8.52E-04	2.96E-09	2.96E-09	5.20E-09	5.57E-09
Cd-113m	6.08E-05	4.24E-02	10.8	3.71E-05	3.71E-05	6.94E-05	7.76E-05
Sb-125	1.06E-04	7.40E-02	18.9	4.49E-05	4.49E-05	1.10E-04	1.14E-04
Sn-126	3.60E-06	2.51E-03	0.641	2.42E-06	2.42E-06	4.03E-06	4.44E-06
I-129	2.95E-07	2.06E-04	5.25E-02	2.06E-07	2.49E-07	3.41E-07	3.85E-07
Cs-134	2.77E-06	1.93E-03	0.493	1.80E-06	2.27E-06	3.28E-06	3.77E-06
Cs-137	0.227	158	4.04E+04	0.193	0.210	0.245	0.262
Ba-137m	0.215	150	3.82E+04	0.183	0.193	0.231	0.247
Sm-151	8.40E-03	5.85	1.49E+03	5.63E-03	5.63E-03	9.40E-03	1.04E-02
Eu-152	3.16E-06	2.20E-03	0.562	2.18E-06	2.18E-06	3.52E-06	3.87E-06
Eu-154	4.18E-04	0.292	74.4	2.21E-04	2.21E-04	4.90E-04	5.18E-04
Eu-155	1.89E-04	0.132	33.6	1.31E-04	1.31E-04	2.11E-04	2.32E-04
Ra-226	1.10E-10	7.69E-08	1.96E-05	8.58E-11	8.58E-11	1.19E-10	1.28E-10
Ra-228	1.65E-07	1.15E-04	2.93E-02	6.29E-08	1.13E-07	2.25E-07	2.89E-07
Ac-227	7.14E-10	4.98E-07	1.27E-04	5.72E-10	5.72E-10	7.66E-10	8.15E-10
Pa-231	3.18E-09	2.21E-06	5.65E-04	2.39E-09	2.39E-09	3.46E-09	3.74E-09
Th-229	3.82E-09	2.66E-06	6.79E-04	1.59E-09	2.68E-09	5.14E-09	6.55E-09
Th-232	1.01E-08	7.06E-06	1.80E-03	4.49E-09	7.25E-09	1.30E-08	1.58E-08
U-232	8.25E-07	5.75E-04	0.147	4.17E-07	6.17E-07	1.07E-06	1.32E-06
U-233	3.16E-06	2.21E-03	0.563	1.60E-06	2.36E-06	4.09E-06	5.08E-06
U-234	6.84E-07	4.77E-04	0.122	6.52E-07	6.72E-07	6.92E-07	6.97E-07
U-235	2.75E-08	1.91E-05	4.88E-03	2.62E-08	2.69E-08	2.78E-08	2.80E-08
U-236	2.23E-08	1.55E-05	3.96E-03	2.13E-08	2.21E-08	2.25E-08	2.27E-08
U-238	8.29E-07	5.78E-04	0.148	7.99E-07	8.18E-07	8.38E-07	8.42E-07
Np-237	5.50E-07	3.83E-04	9.78E-02	3.99E-07	4.73E-07	6.28E-07	7.03E-07
Pu-238	1.02E-06	7.09E-04	0.181	8.40E-07	9.27E-07	1.11E-06	1.19E-06
Pu-239	3.55E-05	2.48E-02	6.32	3.10E-05	3.32E-05	3.78E-05	4.00E-05
Pu-240	5.99E-06	4.18E-03	1.07	5.15E-06	5.56E-06	6.42E-06	6.84E-06
Pu-241	6.79E-05	4.73E-02	12.1	5.58E-05	6.18E-05	7.41E-05	8.00E-05
Pu-242	3.75E-10	2.61E-07	6.67E-05	3.03E-10	3.38E-10	4.12E-10	4.47E-10
Am-241	4.39E-05	3.06E-02	7.81	3.55E-05	3.96E-05	4.82E-05	5.23E-05
Am-243	1.56E-09	1.09E-06	2.78E-04	1.21E-09	1.37E-09	1.78E-09	1.97E-09
Cm-242	1.22E-07	8.50E-05	2.17E-02	8.18E-08	8.18E-08	1.36E-07	1.49E-07
Cm-243	1.12E-08	7.84E-06	2.00E-03	7.42E-09	7.42E-09	1.25E-08	1.37E-08
Cm-244	1.01E-07	7.04E-05	1.80E-02	6.15E-08	6.15E-08	1.14E-07	1.23E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.89E-04 (g/L)	----	8.70E-02	4.03E-04	4.46E-04	5.33E-04	5.75E-04
U	7.66E-03	1.27E+03	324	7.29E-03	7.52E-03	7.77E-03	7.82E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.70E+05 (kg)	(65.0 kgal)	----	----	----	----	----
Heat Load	0.291 (kW)	(992 BTU/hr)	----	0.262	0.276	0.305	0.319
Bulk Density†	1.50 (g/cc)	----	----	1.48	1.49	1.51	1.52
Water wt%†	45.8	----	----	44.6	45.1	47.0	48.3
TOC wt% C (wet)†	0.523	----	----	0.270	0.394	0.651	0.777

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.12E-04	7.43E-02	27.5	6.90E-05	6.90E-05	1.19E-04	1.28E-04
C-14	1.63E-05	1.08E-02	4.01	7.35E-06	7.35E-06	1.68E-05	1.73E-05
Ni-59	1.19E-06	7.89E-04	0.292	7.66E-07	7.66E-07	1.21E-06	1.24E-06
Ni-63	1.16E-04	7.72E-02	28.6	7.44E-05	7.44E-05	1.18E-04	1.21E-04
Co-60	1.76E-05	1.17E-02	4.33	7.37E-06	7.37E-06	1.83E-05	1.89E-05
Se-79	1.74E-06	1.16E-03	0.429	1.17E-06	1.17E-06	1.95E-06	2.15E-06
Sr-90	6.07E-02	40.4	1.49E+04	5.70E-02	5.86E-02	6.32E-02	6.35E-02
Y-90	6.07E-02	40.4	1.49E+04	4.10E-02	4.10E-02	6.22E-02	6.35E-02
Zr-93	8.56E-06	5.69E-03	2.11	5.70E-06	5.70E-06	9.59E-06	1.06E-05
Nb-93m	6.22E-06	4.13E-03	1.53	4.22E-06	4.22E-06	6.94E-06	7.64E-06
Tc-99	1.11E-04	7.40E-02	27.4	7.80E-05	9.43E-05	1.28E-04	1.45E-04
Ru-106	3.46E-09	2.30E-06	8.52E-04	2.14E-09	2.14E-09	3.76E-09	4.03E-09
Cd-113m	4.42E-05	2.94E-02	10.9	2.70E-05	2.70E-05	5.04E-05	5.63E-05
Sb-125	7.68E-05	5.11E-02	18.9	3.24E-05	3.24E-05	7.98E-05	8.27E-05
Sn-126	2.63E-06	1.75E-03	0.648	1.78E-06	1.78E-06	2.94E-06	3.24E-06
I-129	2.15E-07	1.43E-04	5.28E-02	1.50E-07	1.82E-07	2.48E-07	2.80E-07
Cs-134	2.01E-06	1.33E-03	0.493	1.30E-06	1.64E-06	2.37E-06	2.72E-06
Cs-137	0.165	110	4.06E+04	0.140	0.152	0.178	0.190
Ba-137m	0.156	104	3.84E+04	0.133	0.140	0.168	0.180
Sm-151	6.15E-03	4.09	1.51E+03	4.15E-03	4.15E-03	6.87E-03	7.56E-03
Eu-152	2.30E-06	1.53E-03	0.566	1.59E-06	1.59E-06	2.56E-06	2.81E-06
Eu-154	3.03E-04	0.201	74.5	1.60E-04	1.60E-04	3.54E-04	3.75E-04
Eu-155	1.39E-04	9.26E-02	34.3	9.72E-05	9.72E-05	1.55E-04	1.71E-04
Ra-226	1.18E-10	7.83E-08	2.90E-05	8.82E-11	8.82E-11	1.63E-10	2.07E-10
Ra-228	1.19E-07	7.92E-05	2.93E-02	4.55E-08	8.15E-08	1.63E-07	2.09E-07
Ac-227	6.12E-10	4.07E-07	1.50E-04	5.09E-10	5.09E-10	8.76E-10	1.13E-09
Pa-231	2.38E-09	1.59E-06	5.87E-04	1.81E-09	1.81E-09	2.59E-09	2.84E-09
Th-229	2.76E-09	1.84E-06	6.79E-04	1.15E-09	1.94E-09	3.72E-09	4.74E-09
Th-232	7.32E-09	4.87E-06	1.80E-03	3.25E-09	5.24E-09	9.40E-09	1.14E-08
U-232	5.97E-07	3.97E-04	0.147	3.02E-07	4.47E-07	7.72E-07	9.58E-07
U-233	2.29E-06	1.52E-03	0.563	1.16E-06	1.71E-06	2.96E-06	3.67E-06
U-234	3.86E-05	2.56E-02	9.49	3.84E-05	3.85E-05	3.86E-05	3.87E-05
U-235	1.73E-06	1.15E-03	0.426	1.73E-06	1.73E-06	1.73E-06	1.74E-06
U-236	2.59E-07	1.72E-04	6.37E-02	2.58E-07	2.59E-07	2.59E-07	2.60E-07
U-238	3.91E-05	2.60E-02	9.63	3.90E-05	3.91E-05	3.92E-05	3.92E-05
Np-237	4.01E-07	2.67E-04	9.88E-02	2.92E-07	3.46E-07	4.58E-07	5.12E-07
Pu-238	7.38E-07	4.91E-04	0.182	6.10E-07	6.73E-07	8.04E-07	8.67E-07
Pu-239	2.66E-05	1.77E-02	6.55	2.33E-05	2.49E-05	3.19E-05	3.83E-05
Pu-240	4.39E-06	2.92E-03	1.08	3.78E-06	4.08E-06	4.70E-06	5.07E-06
Pu-241	4.91E-05	3.27E-02	12.1	4.04E-05	4.47E-05	5.36E-05	5.79E-05
Pu-242	2.71E-10	1.80E-07	6.67E-05	2.19E-10	2.44E-10	2.98E-10	3.23E-10
Am-241	3.18E-05	2.11E-02	7.82	2.57E-05	2.87E-05	3.49E-05	3.78E-05
Am-243	1.13E-09	7.51E-07	2.78E-04	8.76E-10	9.92E-10	1.29E-09	1.42E-09
Cm-242	8.82E-08	5.87E-05	2.17E-02	5.92E-08	5.92E-08	9.81E-08	1.08E-07
Cm-243	8.13E-09	5.41E-06	2.00E-03	5.36E-09	5.36E-09	9.02E-09	9.88E-09
Cm-244	7.30E-08	4.86E-05	1.80E-02	4.45E-08	4.45E-08	8.27E-08	8.89E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.69E-04 (g/L)	----	9.07E-02	3.07E-04	3.37E-04	4.55E-04	5.59E-04
U	0.491	7.76E+04	2.87E+04	0.489	0.490	0.491	0.492

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	7.27E-04 (kW)	(2.48 BTU/hr)	----	6.22E-04	6.74E-04	7.78E-04	8.24E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	6.92E+04	3.53E+03	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	201	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	2.15	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	1.21	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	102	5.84E-02	7.09E-02	9.73E-02	0.110
K^+	3.01E-04	6.99	0.357	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^-	10.9	1.10E+05	5.59E+03	10.8	10.8	10.9	10.9
$NO3^-$	7.38E-02	2.71E+03	138	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^-$	5.04E-03	138	7.02	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	3.43E+03	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	1.15E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	263	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	1.45	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^-	0	0	0	0	0	0	0
Cl^-	1.39E-03	29.1	1.49	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	5.86E-04	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.29E+06 (kg)	(601 kgal)	----	----	----	----	----
Heat Load	3.46 (kW)	(1.18E+04 BTU/hr)	----	3.07	3.26	3.65	3.85
Bulk Density*	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%	44.8	----	----	43.0	43.8	46.6	48.8
TOC wt% C (wet)	0.356	----	----	0.297	0.326	0.386	0.416

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.4	1.65E+05	5.43E+05	9.35	9.87	10.7	10.9
Al^{3+}	1.14	2.12E+04	6.98E+04	1.01	1.07	1.20	1.26
Fe^{3+} (total Fe)	8.02E-03	310	1.02E+03	6.96E-03	7.48E-03	8.55E-03	9.07E-03
Cr^{3+}	8.91E-02	3.21E+03	1.05E+04	7.72E-02	8.36E-02	9.11E-02	9.26E-02
Bi^{3+}	1.81E-03	262	862	1.61E-03	1.71E-03	1.92E-03	2.02E-03
La^{3+}	8.97E-10	8.62E-05	2.83E-04	7.24E-10	8.09E-10	9.86E-10	1.07E-09
Hg^{2+}	1.03E-05	1.43	4.71	9.26E-06	9.87E-06	1.05E-05	1.06E-05
Zr (as $ZrO(OH)_2$)	3.89E-04	24.5	80.7	3.52E-04	3.65E-04	4.04E-04	4.25E-04
Pb^{2+}	9.60E-04	138	452	7.55E-04	8.55E-04	1.06E-03	1.16E-03
Ni^{2+}	5.56E-03	226	743	5.25E-03	5.39E-03	5.64E-03	5.64E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.28E-03	86.7	285	1.77E-03	2.02E-03	2.54E-03	2.79E-03
Ca^{2+}	2.89E-02	802	2.64E+03	2.74E-02	2.81E-02	2.97E-02	3.04E-02
K^+	4.98E-02	1.35E+03	4.43E+03	4.38E-02	4.59E-02	5.45E-02	5.82E-02
OH^-	6.51	7.65E+04	2.52E+05	6.00	6.25	6.76	7.01
$NO3^-$	4.21	1.81E+05	5.94E+05	3.56	3.95	4.30	4.39
$NO2^-$	1.63	5.19E+04	1.71E+05	1.42	1.52	1.74	1.85
$CO3^{2-}$	0.352	1.46E+04	4.81E+04	0.292	0.312	0.402	0.410
$PO4^{3-}$	9.76E-02	6.41E+03	2.11E+04	7.66E-02	8.39E-02	0.101	0.105
$SO4^{2-}$	0.209	1.39E+04	4.57E+04	0.155	0.174	0.251	0.256
Si (as SiO_x^{2-})	5.77E-02	1.12E+03	3.69E+03	5.05E-02	5.40E-02	6.14E-02	6.50E-02
F^-	8.90E-02	1.17E+03	3.85E+03	7.14E-02	7.88E-02	9.77E-02	0.105
Cl^-	0.189	4.63E+03	1.52E+04	0.154	0.166	0.202	0.202
$C_6H_5O_7^{3-}$	1.51E-02	1.97E+03	6.48E+03	1.36E-02	1.43E-02	1.58E-02	1.65E-02
$EDTA^{4-}$	3.39E-03	676	2.22E+03	1.28E-03	2.31E-03	4.48E-03	5.54E-03
$HEDTA^{3-}$	5.96E-03	1.13E+03	3.72E+03	1.74E-03	3.80E-03	8.14E-03	1.03E-02
$glycolate^-$	4.29E-02	2.23E+03	7.32E+03	2.40E-02	3.32E-02	5.26E-02	6.19E-02
$acetate^-$	2.62E-03	107	352	2.12E-03	2.37E-03	2.87E-03	3.12E-03
$oxalate^{2-}$	1.18E-09	7.16E-05	2.35E-04	1.08E-09	1.13E-09	1.22E-09	1.27E-09
DBP	1.28E-02	1.86E+03	6.12E+03	1.10E-02	1.19E-02	1.37E-02	1.45E-02
butanol	1.28E-02	656	2.16E+03	1.10E-02	1.19E-02	1.37E-02	1.45E-02
NH_3	8.71E-02	1.03E+03	3.37E+03	6.66E-02	7.66E-02	9.78E-02	0.108
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.34E+06 (kg)	(609 kgal)	----	----	----	----	----
Heat Load	3.46 (kW)	(1.18E+04 BTU/hr)	----	3.07	3.26	3.66	3.85
Bulk Density†	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%†	44.8	----	----	43.1	43.8	46.7	48.8
TOC wt% C (wet)†	0.350	----	----	0.292	0.321	0.380	0.410

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.3	1.64E+05	5.47E+05	9.29	9.80	10.6	10.8
Al^{3+}	1.12	2.09E+04	6.98E+04	0.998	1.06	1.19	1.25
Fe^{3+} (total Fe)	9.47E-03	365	1.22E+03	8.43E-03	8.94E-03	1.00E-02	1.05E-02
Cr^{3+}	8.80E-02	3.16E+03	1.05E+04	7.62E-02	8.25E-02	9.00E-02	9.14E-02
Bi^{3+}	1.79E-03	258	862	1.59E-03	1.69E-03	1.89E-03	1.99E-03
La^{3+}	8.85E-10	8.49E-05	2.83E-04	7.14E-10	7.98E-10	9.73E-10	1.06E-09
Hg^{2+}	1.02E-05	1.41	4.71	9.14E-06	9.74E-06	1.03E-05	1.05E-05
Zr (as $ZrO(OH)_2$)	3.84E-04	24.2	80.7	3.47E-04	3.60E-04	3.99E-04	4.20E-04
Pb^{2+}	9.47E-04	135	452	7.45E-04	8.44E-04	1.05E-03	1.15E-03
Ni^{2+}	5.50E-03	223	744	5.19E-03	5.33E-03	5.57E-03	5.57E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.25E-03	85.4	285	1.75E-03	2.00E-03	2.51E-03	2.75E-03
Ca^{2+}	2.96E-02	820	2.74E+03	2.81E-02	2.89E-02	3.04E-02	3.11E-02
K^+	4.91E-02	1.33E+03	4.43E+03	4.32E-02	4.53E-02	5.38E-02	5.74E-02
OH^-	6.56	7.70E+04	2.57E+05	6.06	6.31	6.82	7.07
$NO3^-$	4.16	1.78E+05	5.94E+05	3.52	3.89	4.25	4.33
$NO2^-$	1.61	5.11E+04	1.71E+05	1.40	1.50	1.72	1.83
$CO3^{2-}$	0.372	1.54E+04	5.15E+04	0.313	0.333	0.422	0.429
$PO4^{3-}$	0.102	6.66E+03	2.22E+04	8.09E-02	8.81E-02	0.105	0.109
$SO4^{2-}$	0.207	1.38E+04	4.59E+04	0.154	0.173	0.249	0.253
Si (as SiO_x^{2-})	5.70E-02	1.11E+03	3.69E+03	4.98E-02	5.33E-02	6.06E-02	6.41E-02
F^-	8.79E-02	1.15E+03	3.85E+03	7.05E-02	7.78E-02	9.64E-02	0.103
Cl^-	0.186	4.56E+03	1.52E+04	0.152	0.163	0.199	0.199
$C_6H_5O_7^{3-}$	1.49E-02	1.94E+03	6.48E+03	1.35E-02	1.41E-02	1.56E-02	1.63E-02
$EDTA^{4-}$	3.34E-03	665	2.22E+03	1.26E-03	2.28E-03	4.42E-03	5.47E-03
$HEDTA^{3-}$	5.88E-03	1.11E+03	3.72E+03	1.71E-03	3.75E-03	8.03E-03	1.01E-02
$glycolate^-$	4.24E-02	2.19E+03	7.32E+03	2.37E-02	3.28E-02	5.19E-02	6.11E-02
$acetate^-$	2.59E-03	105	352	2.09E-03	2.33E-03	2.84E-03	3.08E-03
$oxalate^{2-}$	1.16E-09	7.05E-05	2.35E-04	1.07E-09	1.11E-09	1.21E-09	1.25E-09
DBP	1.26E-02	1.83E+03	6.12E+03	1.09E-02	1.17E-02	1.35E-02	1.43E-02
butanol	1.26E-02	646	2.16E+03	1.09E-02	1.17E-02	1.35E-02	1.43E-02
NH_3	8.60E-02	1.01E+03	3.37E+03	6.57E-02	7.56E-02	9.66E-02	0.107
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	7.27E-04 (kW)	(2.48 BTU/hr)	----	6.22E-04	6.74E-04	7.78E-04	8.24E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.49E-07	5.63E-04	2.87E-02	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	8.25E-02	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	2.91E-03	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	0.256	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	1.43E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	2.15E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	60.5	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	60.5	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	1.03E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	8.83E-03	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	7.07E-02	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	3.36E-11	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	2.08E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	7.69E-04	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	3.19E-03	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	1.32E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	8.23E-07	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	68.2	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	64.6	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	8.13	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	1.90E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	1.92E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	0.288	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	4.16E-06	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	2.59E-11	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	1.04E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	9.63E-06	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	5.00E-09	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	3.18E-12	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	4.93E-05	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	2.95E-06	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	4.16	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.187	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	2.66E-02	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	4.21	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	4.25E-04	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	3.20E-04	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.100	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	5.91E-03	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	3.78E-03	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	1.16E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	3.55E-03	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	9.93E-09	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	7.64E-06	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	1.13E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	1.52E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.42E-05 (g/L)	----	1.64E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	1.26E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.29E+06 (kg)	(601 kgal)	----	----	----	----	----
Heat Load	3.46 (kW)	(1.18E+04 BTU/hr)	----	3.07	3.26	3.65	3.85
Bulk Density*	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%†	44.8	----	----	43.0	43.8	46.6	48.8
TOC wt% C (wet)	0.356	----	----	0.297	0.326	0.386	0.416

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.56E-04	0.108	354	9.10E-05	9.10E-05	1.64E-04	1.75E-04
C-14	2.22E-05	1.54E-02	50.5	8.69E-06	8.69E-06	2.29E-05	2.36E-05
Ni-59	1.69E-06	1.17E-03	3.85	1.06E-06	1.06E-06	1.73E-06	1.76E-06
Ni-63	1.66E-04	0.115	377	1.03E-04	1.03E-04	1.69E-04	1.72E-04
Co-60	2.43E-05	1.68E-02	55.3	8.86E-06	8.86E-06	2.53E-05	2.62E-05
Se-79	2.28E-06	1.58E-03	5.19	1.42E-06	1.42E-06	2.60E-06	2.89E-06
Sr-90	7.37E-02	51.0	1.68E+05	6.88E-02	7.06E-02	7.74E-02	7.79E-02
Y-90	7.37E-02	51.0	1.68E+05	4.40E-02	4.40E-02	7.59E-02	7.80E-02
Zr-93	1.12E-05	7.75E-03	25.5	6.90E-06	6.90E-06	1.28E-05	1.43E-05
Nb-93m	8.13E-06	5.63E-03	18.5	5.12E-06	5.12E-06	9.22E-06	1.03E-05
Tc-99	1.58E-04	0.110	360	1.08E-04	1.33E-04	1.84E-04	2.09E-04
Ru-106	4.34E-09	3.01E-06	9.88E-03	2.35E-09	2.35E-09	4.79E-09	5.20E-09
Cd-113m	5.78E-05	4.00E-02	132	3.20E-05	3.20E-05	6.72E-05	7.62E-05
Sb-125	1.03E-04	7.15E-02	235	3.64E-05	3.64E-05	1.08E-04	1.12E-04
Sn-126	3.45E-06	2.38E-03	7.84	2.15E-06	2.15E-06	3.91E-06	4.36E-06
I-129	3.05E-07	2.11E-04	0.694	2.08E-07	2.55E-07	3.55E-07	4.04E-07
Cs-134	1.78E-06	1.23E-03	4.05	1.33E-06	1.55E-06	2.01E-06	2.24E-06
Cs-137	0.218	151	4.97E+05	0.182	0.200	0.237	0.255
Ba-137m	0.207	143	4.70E+05	0.172	0.183	0.224	0.241
Sm-151	8.04E-03	5.56	1.83E+04	5.02E-03	5.02E-03	9.13E-03	1.02E-02
Eu-152	2.49E-06	1.72E-03	5.67	1.42E-06	1.42E-06	2.61E-06	2.72E-06
Eu-154	3.92E-04	0.271	891	1.76E-04	1.76E-04	4.69E-04	5.00E-04
Eu-155	1.48E-04	0.102	336	8.41E-05	8.41E-05	1.56E-04	1.65E-04
Ra-226	1.09E-10	7.52E-08	2.47E-04	8.19E-11	8.19E-11	1.18E-10	1.28E-10
Ra-228	1.80E-07	1.24E-04	0.409	6.87E-08	1.23E-07	2.46E-07	3.16E-07
Ac-227	7.11E-10	4.92E-07	1.62E-03	5.56E-10	5.56E-10	7.67E-10	8.21E-10
Pa-231	3.15E-09	2.18E-06	7.16E-03	2.29E-09	2.29E-09	3.46E-09	3.76E-09
Th-229	4.17E-09	2.88E-06	9.48E-03	1.73E-09	2.92E-09	5.61E-09	7.15E-09
Th-232	1.10E-08	7.64E-06	2.51E-02	4.90E-09	7.91E-09	1.42E-08	1.72E-08
U-232	8.99E-07	6.22E-04	2.05	4.54E-07	6.72E-07	1.16E-06	1.44E-06
U-233	3.45E-06	2.38E-03	7.84	1.74E-06	2.58E-06	4.46E-06	5.53E-06
U-234	7.35E-07	5.08E-04	1.67	7.00E-07	7.22E-07	7.43E-07	7.49E-07
U-235	2.95E-08	2.04E-05	6.71E-02	2.81E-08	2.89E-08	2.99E-08	3.01E-08
U-236	2.38E-08	1.65E-05	5.42E-02	2.28E-08	2.36E-08	2.40E-08	2.43E-08
U-238	8.95E-07	6.19E-04	2.04	8.62E-07	8.82E-07	9.04E-07	9.09E-07
Np-237	5.72E-07	3.96E-04	1.30	4.07E-07	4.87E-07	6.56E-07	7.38E-07
Pu-238	9.17E-07	6.34E-04	2.09	7.24E-07	8.18E-07	1.02E-06	1.11E-06
Pu-239	3.31E-05	2.29E-02	75.3	2.82E-05	3.06E-05	3.56E-05	3.80E-05
Pu-240	5.49E-06	3.80E-03	12.5	4.57E-06	5.02E-06	5.96E-06	6.41E-06
Pu-241	6.04E-05	4.18E-02	137	4.73E-05	5.37E-05	6.71E-05	7.36E-05
Pu-242	3.29E-10	2.28E-07	7.49E-04	2.50E-10	2.89E-10	3.69E-10	4.08E-10
Am-241	4.15E-05	2.87E-02	94.4	3.24E-05	3.68E-05	4.62E-05	5.07E-05
Am-243	1.40E-09	9.69E-07	3.18E-03	1.11E-09	1.24E-09	1.58E-09	1.74E-09
Cm-242	9.63E-08	6.66E-05	0.219	5.25E-08	5.25E-08	9.95E-08	1.03E-07
Cm-243	8.94E-09	6.19E-06	2.03E-02	4.76E-09	4.76E-09	9.33E-09	9.71E-09
Cm-244	9.25E-08	6.40E-05	0.210	4.94E-08	4.94E-08	1.07E-07	1.16E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.56E-04 (g/L)	----	1.04	3.62E-04	4.08E-04	5.03E-04	5.49E-04
U	8.23E-03	1.36E+03	4.46E+03	7.82E-03	8.07E-03	8.35E-03	8.41E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.34E+06 (kg)	(609 kgal)	----	----	----	----	----
Heat Load	3.46 (kW)	(1.18E+04 BTU/hr)	----	3.07	3.26	3.66	3.85
Bulk Density†	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%†	44.8	----	----	43.1	43.8	46.7	48.8
TOC wt% C (wet)†	0.350	----	----	0.292	0.321	0.380	0.410

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.53E-04	0.106	354	8.98E-05	8.98E-05	1.62E-04	1.73E-04
C-14	2.19E-05	1.51E-02	50.5	8.61E-06	8.61E-06	2.26E-05	2.33E-05
Ni-59	1.67E-06	1.15E-03	3.85	1.05E-06	1.05E-06	1.70E-06	1.73E-06
Ni-63	1.64E-04	0.113	378	1.02E-04	1.02E-04	1.67E-04	1.70E-04
Co-60	2.40E-05	1.66E-02	55.3	8.75E-06	8.75E-06	2.50E-05	2.59E-05
Se-79	2.25E-06	1.56E-03	5.20	1.40E-06	1.40E-06	2.56E-06	2.86E-06
Sr-90	7.28E-02	50.2	1.68E+05	6.79E-02	6.97E-02	7.64E-02	7.69E-02
Y-90	7.28E-02	50.3	1.68E+05	4.34E-02	4.34E-02	7.49E-02	7.70E-02
Zr-93	1.11E-05	7.64E-03	25.5	6.81E-06	6.81E-06	1.26E-05	1.41E-05
Nb-93m	8.03E-06	5.54E-03	18.5	5.05E-06	5.05E-06	9.11E-06	1.01E-05
Tc-99	1.56E-04	0.108	360	1.07E-04	1.31E-04	1.82E-04	2.07E-04
Ru-106	4.29E-09	2.96E-06	9.88E-03	2.32E-09	2.32E-09	4.73E-09	5.13E-09
Cd-113m	5.71E-05	3.94E-02	132	3.16E-05	3.16E-05	6.63E-05	7.52E-05
Sb-125	1.02E-04	7.04E-02	235	3.59E-05	3.59E-05	1.06E-04	1.10E-04
Sn-126	3.40E-06	2.35E-03	7.84	2.13E-06	2.13E-06	3.86E-06	4.31E-06
I-129	3.01E-07	2.08E-04	0.694	2.05E-07	2.52E-07	3.51E-07	3.98E-07
Cs-134	1.76E-06	1.21E-03	4.05	1.31E-06	1.53E-06	1.99E-06	2.21E-06
Cs-137	0.215	149	4.97E+05	0.180	0.197	0.234	0.252
Ba-137m	0.204	141	4.70E+05	0.170	0.181	0.221	0.238
Sm-151	7.93E-03	5.48	1.83E+04	4.96E-03	4.96E-03	9.01E-03	1.00E-02
Eu-152	2.46E-06	1.70E-03	5.67	1.41E-06	1.41E-06	2.57E-06	2.69E-06
Eu-154	3.86E-04	0.267	891	1.74E-04	1.74E-04	4.63E-04	4.94E-04
Eu-155	1.46E-04	0.101	336	8.31E-05	8.31E-05	1.54E-04	1.63E-04
Ra-226	1.09E-10	7.53E-08	2.51E-04	8.27E-11	8.27E-11	1.19E-10	1.28E-10
Ra-228	1.77E-07	1.22E-04	0.409	6.78E-08	1.21E-07	2.42E-07	3.12E-07
Ac-227	7.06E-10	4.88E-07	1.63E-03	5.53E-10	5.53E-10	7.62E-10	8.15E-10
Pa-231	3.11E-09	2.15E-06	7.17E-03	2.26E-09	2.26E-09	3.42E-09	3.71E-09
Th-229	4.11E-09	2.84E-06	9.48E-03	1.71E-09	2.88E-09	5.54E-09	7.06E-09
Th-232	1.09E-08	7.53E-06	2.51E-02	4.83E-09	7.80E-09	1.40E-08	1.70E-08
U-232	8.88E-07	6.13E-04	2.05	4.48E-07	6.63E-07	1.15E-06	1.43E-06
U-233	3.40E-06	2.35E-03	7.84	1.72E-06	2.54E-06	4.40E-06	5.46E-06
U-234	2.53E-06	1.75E-03	5.83	2.50E-06	2.52E-06	2.54E-06	2.54E-06
U-235	1.10E-07	7.62E-05	0.254	1.09E-07	1.10E-07	1.11E-07	1.11E-07
U-236	3.50E-08	2.42E-05	8.08E-02	3.40E-08	3.48E-08	3.52E-08	3.55E-08
U-238	2.71E-06	1.87E-03	6.25	2.68E-06	2.70E-06	2.72E-06	2.72E-06
Np-237	5.64E-07	3.90E-04	1.30	4.02E-07	4.81E-07	6.48E-07	7.29E-07
Pu-238	9.05E-07	6.25E-04	2.09	7.14E-07	8.08E-07	1.00E-06	1.10E-06
Pu-239	3.27E-05	2.26E-02	75.4	2.78E-05	3.02E-05	3.52E-05	3.76E-05
Pu-240	5.42E-06	3.74E-03	12.5	4.51E-06	4.96E-06	5.88E-06	6.32E-06
Pu-241	5.96E-05	4.12E-02	137	4.66E-05	5.30E-05	6.63E-05	7.26E-05
Pu-242	3.25E-10	2.24E-07	7.49E-04	2.47E-10	2.85E-10	3.64E-10	4.02E-10
Am-241	4.10E-05	2.83E-02	94.4	3.19E-05	3.64E-05	4.56E-05	5.00E-05
Am-243	1.38E-09	9.54E-07	3.18E-03	1.09E-09	1.23E-09	1.56E-09	1.71E-09
Cm-242	9.50E-08	6.56E-05	0.219	5.18E-08	5.18E-08	9.82E-08	1.01E-07
Cm-243	8.82E-09	6.09E-06	2.03E-02	4.70E-09	4.70E-09	9.21E-09	9.58E-09
Cm-244	9.13E-08	6.30E-05	0.210	4.88E-08	4.88E-08	1.06E-07	1.15E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.51E-04 (g/L)	----	1.04	3.58E-04	4.04E-04	4.97E-04	5.42E-04
U	3.11E-02	5.12E+03	1.71E+04	3.07E-02	3.10E-02	3.12E-02	3.13E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.30E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	9.87E-02 (kW)	(337 BTU/hr)	----	7.16E-02	8.75E-02	0.106	0.109
Bulk Density	1.74 (g/cc)	----	----	1.54	1.56	2.02	2.13
Void Fraction	0.508	----	----	0.127	0.253	0.669	0.673
Water wt%	30.9	----	----	9.65	16.2	43.5	44.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.52	9.92E+04	3.27E+03	3.45	3.86	12.8	15.6
Al^{3+}	5.59	8.66E+04	2.85E+03	5.27	5.39	5.72	5.72
Fe^{3+} (total Fe)	0.834	2.67E+04	882	0.819	0.826	0.842	0.849
Cr^{3+}	4.98E-02	1.49E+03	49.0	5.93E-03	2.74E-02	0.418	0.847
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	4.07E-02	1.37E+03	45.2	2.94E-02	3.58E-02	4.44E-02	4.37E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.193	4.43E+03	146	0.133	0.162	0.223	0.252
K^+	9.04E-03	203	6.69	1.09E-03	4.26E-03	1.22E-02	1.22E-02
OH^-	22.7	2.21E+05	7.29E+03	20.6	21.6	23.7	24.9
$NO3^-$	4.24	1.51E+05	4.98E+03	6.30E-02	6.30E-02	10.8	14.3
$NO2^-$	1.17	3.08E+04	1.02E+03	0.106	0.477	1.72	1.72
$CO3^{2-}$	0.554	1.91E+04	629	0.448	0.504	0.597	0.633
$PO4^{3-}$	8.00E-02	4.36E+03	144	3.44E-02	5.84E-02	9.84E-02	0.113
$SO4^{2-}$	2.64E-02	1.45E+03	48.0	1.90E-02	2.19E-02	2.93E-02	2.93E-02
Si (as SiO_x^{2-})	6.79E-03	109	3.61	1.08E-03	3.36E-03	9.08E-03	9.08E-03
F^-	0	0	0	0	0	0	0
Cl^-	4.16E-02	846	27.9	5.00E-03	1.96E-02	5.63E-02	0.126
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.204	1.99E+03	65.8	5.24E-02	7.40E-02	0.216	0.227
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.83E+06 (kg)	(336 kgal)	----	----	----	----	----
Heat Load	1.97 (kW)	(6.72E+03 BTU/hr)	----	1.76	1.86	2.08	2.18
Bulk Density*	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%	45.2	----	----	43.5	44.2	47.0	49.1
TOC wt% C (wet)	0.514	----	----	0.333	0.422	0.606	0.696

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.3	1.64E+05	3.00E+05	9.25	9.75	10.5	10.8
Al^{3+}	1.10	2.07E+04	3.78E+04	0.982	1.04	1.17	1.23
Fe^{3+} (total Fe)	8.09E-03	314	574	7.08E-03	7.57E-03	8.60E-03	9.10E-03
Cr^{3+}	8.61E-02	3.12E+03	5.70E+03	7.45E-02	8.08E-02	8.81E-02	8.95E-02
Bi^{3+}	1.74E-03	252	462	1.54E-03	1.64E-03	1.84E-03	1.93E-03
La^{3+}	8.60E-10	8.30E-05	1.52E-04	6.94E-10	7.75E-10	9.44E-10	1.03E-09
Hg^{2+}	9.89E-06	1.38	2.52	8.87E-06	9.46E-06	1.00E-05	1.02E-05
Zr (as $ZrO(OH)_2$)	3.72E-04	23.6	43.2	3.37E-04	3.50E-04	3.87E-04	4.07E-04
Pb^{2+}	9.20E-04	133	242	7.24E-04	8.20E-04	1.02E-03	1.12E-03
Ni^{2+}	5.42E-03	221	405	5.13E-03	5.26E-03	5.49E-03	5.50E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.20E-03	84.1	154	1.72E-03	1.95E-03	2.45E-03	2.69E-03
Ca^{2+}	2.85E-02	794	1.45E+03	2.71E-02	2.78E-02	2.92E-02	3.00E-02
K^+	4.89E-02	1.33E+03	2.43E+03	4.31E-02	4.51E-02	5.34E-02	5.69E-02
OH^-	6.33	7.49E+04	1.37E+05	5.85	6.09	6.58	6.82
$NO3^-$	4.13	1.78E+05	3.26E+05	3.50	3.87	4.21	4.30
$NO2^-$	1.58	5.06E+04	9.25E+04	1.37	1.47	1.69	1.79
$CO3^{2-}$	0.357	1.49E+04	2.72E+04	0.299	0.318	0.405	0.412
$PO4^{3-}$	9.40E-02	6.21E+03	1.14E+04	7.39E-02	8.09E-02	9.76E-02	0.101
$SO4^{2-}$	0.206	1.38E+04	2.52E+04	0.154	0.172	0.247	0.251
Si (as SiO_x^{2-})	5.76E-02	1.13E+03	2.06E+03	5.07E-02	5.41E-02	6.12E-02	6.46E-02
F^-	8.53E-02	1.13E+03	2.06E+03	6.84E-02	7.55E-02	9.36E-02	0.100
Cl^-	0.187	4.60E+03	8.41E+03	0.153	0.165	0.199	0.199
$C_6H_5O_7^{3-}$	1.47E-02	1.94E+03	3.54E+03	1.32E-02	1.40E-02	1.55E-02	1.63E-02
$EDTA^{4-}$	8.99E-03	1.80E+03	3.29E+03	2.57E-03	5.70E-03	1.23E-02	1.55E-02
$HEDTA^{3-}$	1.72E-02	3.28E+03	5.99E+03	4.36E-03	1.06E-02	2.38E-02	3.02E-02
$glycolate^-$	5.66E-02	2.95E+03	5.40E+03	3.63E-02	4.62E-02	6.71E-02	7.70E-02
$acetate^-$	2.51E-03	103	188	2.03E-03	2.27E-03	2.75E-03	2.99E-03
$oxalate^{2-}$	1.13E-09	6.89E-05	1.26E-04	1.04E-09	1.08E-09	1.17E-09	1.22E-09
DBP	1.23E-02	1.79E+03	3.28E+03	1.06E-02	1.14E-02	1.31E-02	1.39E-02
butanol	1.23E-02	633	1.16E+03	1.06E-02	1.14E-02	1.31E-02	1.39E-02
NH_3	8.38E-02	991	1.81E+03	6.42E-02	7.37E-02	9.41E-02	0.104
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.86E+06 (kg)	(341 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.06E+03 BTU/hr)	----	1.86	1.96	2.18	2.28
Bulk Density†	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%†	45.0	----	----	43.3	44.0	46.7	48.8
TOC wt% C (wet)†	0.505	----	----	0.327	0.414	0.596	0.684

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.2	1.63E+05	3.03E+05	9.23	9.72	10.5	10.7
Al^{3+}	1.17	2.19E+04	4.07E+04	1.05	1.11	1.23	1.29
Fe^{3+} (total Fe)	2.02E-02	782	1.46E+03	1.92E-02	1.97E-02	2.07E-02	2.12E-02
Cr^{3+}	8.56E-02	3.09E+03	5.75E+03	7.80E-02	8.17E-02	8.93E-02	8.89E-02
Bi^{3+}	1.71E-03	248	462	1.52E-03	1.61E-03	1.81E-03	1.90E-03
La^{3+}	8.47E-10	8.16E-05	1.52E-04	6.83E-10	7.63E-10	9.31E-10	1.01E-09
Hg^{2+}	9.75E-06	1.36	2.52	8.74E-06	9.32E-06	9.88E-06	1.00E-05
Zr (as $ZrO(OH)_2$)	3.67E-04	23.2	43.2	3.32E-04	3.44E-04	3.81E-04	4.01E-04
Pb^{2+}	9.07E-04	130	242	7.14E-04	8.08E-04	1.00E-03	1.10E-03
Ni^{2+}	5.94E-03	242	450	5.65E-03	5.78E-03	6.01E-03	6.01E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.17E-03	82.6	154	1.69E-03	1.93E-03	2.41E-03	2.65E-03
Ca^{2+}	3.09E-02	859	1.60E+03	2.95E-02	3.02E-02	3.16E-02	3.23E-02
K^+	4.83E-02	1.31E+03	2.44E+03	4.26E-02	4.46E-02	5.28E-02	5.62E-02
OH^-	6.57	7.75E+04	1.44E+05	6.09	6.33	6.82	7.05
$NO3^-$	4.13	1.78E+05	3.31E+05	3.52	3.88	4.21	4.29
$NO2^-$	1.58	5.02E+04	9.35E+04	1.37	1.47	1.68	1.78
$CO3^{2-}$	0.360	1.50E+04	2.78E+04	0.303	0.322	0.407	0.414
$PO4^{3-}$	9.38E-02	6.17E+03	1.15E+04	7.40E-02	8.09E-02	9.74E-02	0.101
$SO4^{2-}$	0.203	1.35E+04	2.52E+04	0.153	0.170	0.243	0.247
Si (as SiO_x^{2-})	5.69E-02	1.11E+03	2.06E+03	5.00E-02	5.34E-02	6.04E-02	6.37E-02
F^-	8.41E-02	1.11E+03	2.06E+03	6.74E-02	7.44E-02	9.22E-02	9.87E-02
Cl^-	0.185	4.53E+03	8.44E+03	0.151	0.163	0.197	0.197
$C_6H_5O_7^{3-}$	1.45E-02	1.90E+03	3.54E+03	1.30E-02	1.38E-02	1.53E-02	1.60E-02
$EDTA^{4-}$	8.85E-03	1.77E+03	3.29E+03	2.53E-03	5.62E-03	1.21E-02	1.53E-02
$HEDTA^{3-}$	1.69E-02	3.22E+03	5.99E+03	4.29E-03	1.05E-02	2.34E-02	2.98E-02
$glycolate^-$	5.58E-02	2.90E+03	5.40E+03	3.57E-02	4.55E-02	6.61E-02	7.59E-02
$acetate^-$	2.47E-03	101	188	2.00E-03	2.23E-03	2.71E-03	2.94E-03
$oxalate^{2-}$	1.11E-09	6.77E-05	1.26E-04	1.02E-09	1.06E-09	1.15E-09	1.20E-09
DBP	1.21E-02	1.76E+03	3.28E+03	1.04E-02	1.12E-02	1.29E-02	1.37E-02
butanol	1.21E-02	622	1.16E+03	1.04E-02	1.12E-02	1.29E-02	1.37E-02
NH_3	8.56E-02	1.01E+03	1.88E+03	6.62E-02	7.57E-02	9.57E-02	0.106
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.30E+04 (kg)	(5.00 kgal)	----	----	----	----	----
Heat Load	9.87E-02 (kW)	(337 BTU/hr)	----	7.16E-02	8.75E-02	0.106	0.109
Bulk Density	1.74 (g/cc)	----	----	1.54	1.56	2.02	2.13
Void Fraction	0.508	----	----	0.127	0.253	0.669	0.673
Water wt%	30.9	----	----	9.65	16.2	43.5	44.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.36E-05	1.35E-02	0.446	2.63E-06	1.20E-05	3.30E-05	3.30E-05
C-14	2.36E-06	1.35E-03	4.46E-02	7.52E-07	1.39E-06	3.00E-06	3.00E-06
Ni-59	1.19E-05	6.83E-03	0.225	8.60E-06	1.05E-05	1.30E-05	1.28E-05
Ni-63	1.11E-03	0.638	21.0	8.03E-04	9.77E-04	1.21E-03	1.20E-03
Co-60	7.24E-07	4.16E-04	1.37E-02	9.12E-08	3.44E-07	9.79E-07	9.79E-07
Se-79	3.99E-07	2.29E-04	7.54E-03	5.82E-08	1.94E-07	5.35E-07	5.74E-06
Sr-90	0.743	427	1.41E+04	0.530	0.650	0.814	0.826
Y-90	0.743	427	1.41E+04	0.530	0.650	0.814	0.827
Zr-93	1.88E-06	1.08E-03	3.56E-02	2.75E-07	9.17E-07	2.53E-06	2.43E-05
Nb-93m	1.54E-06	8.85E-04	2.92E-02	2.28E-07	7.53E-07	2.07E-06	2.57E-05
Tc-99	1.31E-05	7.54E-03	0.249	1.92E-06	6.40E-06	1.77E-05	1.77E-05
Ru-106	2.00E-12	1.15E-09	3.78E-08	2.29E-13	9.35E-13	2.71E-12	2.71E-12
Cd-113m	5.73E-06	3.29E-03	0.108	7.77E-07	2.76E-06	7.72E-06	7.72E-06
Sb-125	1.05E-06	6.05E-04	2.00E-02	1.25E-07	4.96E-07	1.43E-06	1.43E-06
Sn-126	6.12E-07	3.51E-04	1.16E-02	8.87E-08	2.98E-07	8.22E-07	9.18E-06
I-129	2.52E-08	1.45E-05	4.77E-04	3.66E-09	1.23E-08	3.39E-08	3.39E-08
Cs-134	2.18E-08	1.25E-05	4.12E-04	5.75E-09	1.21E-08	2.82E-08	2.82E-08
Cs-137	4.53E-02	26.0	857	1.23E-02	2.55E-02	5.85E-02	5.85E-02
Ba-137m	4.28E-02	24.6	810	1.16E-02	2.41E-02	5.53E-02	5.53E-02
Sm-151	1.43E-03	0.818	27.0	2.11E-04	6.96E-04	1.91E-03	2.12E-02
Eu-152	5.61E-06	3.22E-03	0.106	5.49E-06	5.54E-06	5.66E-06	5.66E-06
Eu-154	1.74E-05	9.99E-03	0.329	2.10E-06	8.21E-06	2.35E-05	2.35E-05
Eu-155	2.66E-04	0.153	5.04	2.61E-04	2.63E-04	2.68E-04	2.68E-04
Ra-226	8.92E-10	5.12E-07	1.69E-05	1.45E-10	5.11E-10	1.27E-09	1.64E-09
Ra-228	7.58E-15	4.35E-12	1.44E-10	7.43E-15	7.49E-15	7.65E-15	7.65E-15
Ac-227	3.88E-09	2.23E-06	7.34E-05	3.13E-10	1.67E-09	6.09E-09	8.21E-09
Pa-231	6.38E-10	3.66E-07	1.21E-05	1.29E-10	3.32E-10	1.70E-09	1.35E-08
Th-229	1.45E-12	8.31E-10	2.74E-08	1.42E-12	1.43E-12	1.46E-12	1.46E-12
Th-232	4.94E-16	2.83E-13	9.34E-12	7.50E-17	2.42E-16	6.62E-16	6.62E-16
U-232	3.30E-10	1.89E-07	6.25E-06	3.26E-10	3.28E-10	3.32E-10	3.32E-10
U-233	1.97E-11	1.13E-08	3.72E-07	1.95E-11	1.96E-11	1.97E-11	1.97E-11
U-234	2.76E-05	1.58E-02	0.522	2.75E-05	2.75E-05	2.76E-05	2.77E-05
U-235	1.24E-06	7.12E-04	2.35E-02	1.24E-06	1.24E-06	1.24E-06	1.24E-06
U-236	1.77E-07	1.02E-04	3.35E-03	1.76E-07	1.76E-07	1.78E-07	1.78E-07
U-238	2.79E-05	1.60E-02	0.529	2.78E-05	2.79E-05	2.80E-05	2.80E-05
Np-237	8.51E-08	4.88E-05	1.61E-03	1.22E-08	4.13E-08	1.14E-07	1.14E-07
Pu-238	5.29E-06	3.04E-03	0.100	3.80E-06	4.53E-06	6.06E-06	6.79E-06
Pu-239	3.78E-04	0.217	7.16	2.72E-04	3.24E-04	4.33E-04	4.85E-04
Pu-240	5.41E-05	3.10E-02	1.02	3.88E-05	4.63E-05	6.19E-05	6.93E-05
Pu-241	3.18E-04	0.182	6.02	2.28E-04	2.72E-04	3.64E-04	4.08E-04
Pu-242	1.46E-09	8.37E-07	2.76E-05	1.05E-09	1.25E-09	1.67E-09	1.87E-09
Am-241	6.50E-06	3.73E-03	0.123	7.64E-07	3.05E-06	8.80E-06	1.15E-04
Am-243	6.06E-11	3.48E-08	1.15E-06	6.99E-12	2.84E-11	8.21E-11	1.07E-09
Cm-242	1.29E-07	7.39E-05	2.44E-03	1.26E-07	1.27E-07	1.30E-07	1.30E-07
Cm-243	2.95E-09	1.69E-06	5.59E-05	2.89E-09	2.91E-09	2.98E-09	2.98E-09
Cm-244	2.16E-09	1.24E-06	4.10E-05	2.48E-10	1.01E-09	2.93E-09	2.93E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.33E-03 (g/L)	----	0.120	4.54E-03	5.42E-03	7.23E-03	8.11E-03
U	0.352	4.80E+04	1.58E+03	0.350	0.351	0.352	0.352

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.83E+06 (kg)	(336 kgal)	----	----	----	----	----
Heat Load	1.97 (kW)	(6.72E+03 BTU/hr)	----	1.76	1.86	2.08	2.18
Bulk Density*	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%†	45.2	----	----	43.5	44.2	47.0	49.1
TOC wt% C (wet)	0.514	----	----	0.333	0.422	0.606	0.696

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.54E-04	0.107	195	9.18E-05	9.18E-05	1.62E-04	1.72E-04
C-14	2.17E-05	1.51E-02	27.6	8.79E-06	8.79E-06	2.24E-05	2.31E-05
Ni-59	1.64E-06	1.14E-03	2.09	1.04E-06	1.04E-06	1.67E-06	1.70E-06
Ni-63	1.61E-04	0.112	205	1.01E-04	1.01E-04	1.64E-04	1.67E-04
Co-60	2.41E-05	1.68E-02	30.7	9.31E-06	9.31E-06	2.51E-05	2.60E-05
Se-79	2.31E-06	1.60E-03	2.93	1.48E-06	1.48E-06	2.60E-06	2.89E-06
Sr-90	7.69E-02	53.5	9.78E+04	7.22E-02	7.39E-02	8.04E-02	8.09E-02
Y-90	7.69E-02	53.5	9.78E+04	4.84E-02	4.84E-02	7.90E-02	8.10E-02
Zr-93	1.13E-05	7.87E-03	14.4	7.18E-06	7.18E-06	1.28E-05	1.42E-05
Nb-93m	8.21E-06	5.71E-03	10.4	5.32E-06	5.32E-06	9.25E-06	1.03E-05
Tc-99	1.55E-04	0.108	197	1.07E-04	1.30E-04	1.80E-04	2.04E-04
Ru-106	4.49E-09	3.12E-06	5.71E-03	2.57E-09	2.57E-09	4.91E-09	5.30E-09
Cd-113m	5.85E-05	4.07E-02	74.5	3.38E-05	3.38E-05	6.75E-05	7.61E-05
Sb-125	1.04E-04	7.20E-02	132	3.95E-05	3.95E-05	1.08E-04	1.12E-04
Sn-126	3.48E-06	2.42E-03	4.43	2.24E-06	2.24E-06	3.93E-06	4.36E-06
I-129	2.99E-07	2.08E-04	0.380	2.05E-07	2.51E-07	3.47E-07	3.93E-07
Cs-134	2.16E-06	1.50E-03	2.75	1.68E-06	1.91E-06	2.41E-06	2.66E-06
Cs-137	0.220	153	2.80E+05	0.185	0.202	0.238	0.255
Ba-137m	0.208	145	2.65E+05	0.175	0.186	0.225	0.242
Sm-151	8.11E-03	5.64	1.03E+04	5.22E-03	5.22E-03	9.16E-03	1.02E-02
Eu-152	2.74E-06	1.90E-03	3.48	1.71E-06	1.71E-06	2.92E-06	3.09E-06
Eu-154	3.99E-04	0.277	507	1.93E-04	1.93E-04	4.74E-04	5.03E-04
Eu-155	1.63E-04	0.113	207	1.02E-04	1.02E-04	1.74E-04	1.85E-04
Ra-226	1.08E-10	7.54E-08	1.38E-04	8.28E-11	8.28E-11	1.18E-10	1.27E-10
Ra-228	1.72E-07	1.20E-04	0.219	6.58E-08	1.18E-07	2.35E-07	3.02E-07
Ac-227	7.06E-10	4.91E-07	8.98E-04	5.58E-10	5.58E-10	7.60E-10	8.12E-10
Pa-231	3.13E-09	2.18E-06	3.98E-03	2.31E-09	2.31E-09	3.43E-09	3.72E-09
Th-229	3.99E-09	2.78E-06	5.08E-03	1.66E-09	2.80E-09	5.38E-09	6.85E-09
Th-232	1.06E-08	7.36E-06	1.35E-02	4.69E-09	7.58E-09	1.36E-08	1.65E-08
U-232	8.62E-07	5.99E-04	1.10	4.36E-07	6.44E-07	1.11E-06	1.38E-06
U-233	3.30E-06	2.30E-03	4.20	1.67E-06	2.47E-06	4.27E-06	5.30E-06
U-234	7.08E-07	4.92E-04	0.900	6.75E-07	6.96E-07	7.17E-07	7.22E-07
U-235	2.84E-08	1.98E-05	3.62E-02	2.71E-08	2.79E-08	2.88E-08	2.90E-08
U-236	2.30E-08	1.60E-05	2.92E-02	2.20E-08	2.28E-08	2.32E-08	2.34E-08
U-238	8.61E-07	5.99E-04	1.09	8.30E-07	8.49E-07	8.70E-07	8.74E-07
Np-237	5.58E-07	3.88E-04	0.710	4.01E-07	4.77E-07	6.39E-07	7.18E-07
Pu-238	9.49E-07	6.60E-04	1.21	7.64E-07	8.55E-07	1.04E-06	1.13E-06
Pu-239	3.39E-05	2.35E-02	43.1	2.91E-05	3.14E-05	3.63E-05	3.86E-05
Pu-240	5.66E-06	3.93E-03	7.20	4.77E-06	5.21E-06	6.11E-06	6.54E-06
Pu-241	6.29E-05	4.37E-02	80.0	5.03E-05	5.65E-05	6.94E-05	7.56E-05
Pu-242	3.45E-10	2.40E-07	4.38E-04	2.69E-10	3.06E-10	3.83E-10	4.20E-10
Am-241	4.23E-05	2.94E-02	53.8	3.36E-05	3.79E-05	4.68E-05	5.11E-05
Am-243	1.45E-09	1.01E-06	1.85E-03	1.14E-09	1.28E-09	1.65E-09	1.82E-09
Cm-242	1.06E-07	7.35E-05	0.134	6.37E-08	6.37E-08	1.12E-07	1.19E-07
Cm-243	9.79E-09	6.81E-06	1.24E-02	5.78E-09	5.78E-09	1.04E-08	1.10E-08
Cm-244	9.51E-08	6.61E-05	0.121	5.39E-08	5.39E-08	1.09E-07	1.18E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.66E-04 (g/L)	----	0.593	3.77E-04	4.21E-04	5.12E-04	5.56E-04
U	7.93E-03	1.31E+03	2.40E+03	7.54E-03	7.78E-03	8.04E-03	8.10E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.86E+06 (kg)	(341 kgal)	----	----	----	----	----
Heat Load	2.07 (kW)	(7.06E+03 BTU/hr)	----	1.86	1.96	2.18	2.28
Bulk Density†	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%†	45.0	----	----	43.3	44.0	46.7	48.8
TOC wt% C (wet)†	0.505	----	----	0.327	0.414	0.596	0.684

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.52E-04	0.105	196	9.08E-05	9.08E-05	1.60E-04	1.70E-04
C-14	2.14E-05	1.49E-02	27.7	8.69E-06	8.69E-06	2.21E-05	2.28E-05
Ni-59	1.79E-06	1.24E-03	2.32	1.19E-06	1.19E-06	1.82E-06	1.85E-06
Ni-63	1.75E-04	0.121	226	1.16E-04	1.16E-04	1.78E-04	1.81E-04
Co-60	2.38E-05	1.65E-02	30.7	9.19E-06	9.19E-06	2.47E-05	2.56E-05
Se-79	2.28E-06	1.58E-03	2.94	1.46E-06	1.46E-06	2.57E-06	2.85E-06
Sr-90	8.66E-02	60.1	1.12E+05	8.20E-02	8.37E-02	9.01E-02	9.07E-02
Y-90	8.67E-02	60.1	1.12E+05	5.86E-02	5.86E-02	8.87E-02	9.07E-02
Zr-93	1.12E-05	7.75E-03	14.4	7.11E-06	7.11E-06	1.26E-05	1.41E-05
Nb-93m	8.11E-06	5.62E-03	10.5	5.26E-06	5.26E-06	9.14E-06	1.01E-05
Tc-99	1.53E-04	0.106	197	1.05E-04	1.28E-04	1.77E-04	2.01E-04
Ru-106	4.42E-09	3.06E-06	5.71E-03	2.53E-09	2.53E-09	4.84E-09	5.23E-09
Cd-113m	5.78E-05	4.00E-02	74.6	3.34E-05	3.34E-05	6.66E-05	7.51E-05
Sb-125	1.02E-04	7.08E-02	132	3.89E-05	3.89E-05	1.06E-04	1.10E-04
Sn-126	3.44E-06	2.38E-03	4.44	2.22E-06	2.22E-06	3.88E-06	4.30E-06
I-129	2.95E-07	2.04E-04	0.380	2.03E-07	2.47E-07	3.42E-07	3.88E-07
Cs-134	2.13E-06	1.48E-03	2.75	1.65E-06	1.89E-06	2.38E-06	2.62E-06
Cs-137	0.217	151	2.81E+05	0.183	0.200	0.235	0.252
Ba-137m	0.206	143	2.65E+05	0.173	0.184	0.222	0.239
Sm-151	8.01E-03	5.56	1.03E+04	5.17E-03	5.17E-03	9.05E-03	1.00E-02
Eu-152	2.78E-06	1.93E-03	3.59	1.77E-06	1.77E-06	2.95E-06	3.13E-06
Eu-154	3.93E-04	0.273	508	1.90E-04	1.90E-04	4.67E-04	4.96E-04
Eu-155	1.64E-04	0.114	212	1.04E-04	1.04E-04	1.75E-04	1.86E-04
Ra-226	1.20E-10	8.31E-08	1.55E-04	9.47E-11	9.47E-11	1.29E-10	1.38E-10
Ra-228	1.70E-07	1.18E-04	0.219	6.48E-08	1.16E-07	2.32E-07	2.98E-07
Ac-227	7.53E-10	5.22E-07	9.72E-04	6.07E-10	6.07E-10	8.06E-10	8.57E-10
Pa-231	3.10E-09	2.15E-06	4.00E-03	2.28E-09	2.28E-09	3.39E-09	3.67E-09
Th-229	3.93E-09	2.73E-06	5.08E-03	1.63E-09	2.76E-09	5.30E-09	6.75E-09
Th-232	1.04E-08	7.23E-06	1.35E-02	4.62E-09	7.47E-09	1.34E-08	1.62E-08
U-232	8.49E-07	5.89E-04	1.10	4.29E-07	6.35E-07	1.10E-06	1.36E-06
U-233	3.26E-06	2.26E-03	4.20	1.65E-06	2.43E-06	4.21E-06	5.22E-06
U-234	1.10E-06	7.64E-04	1.42	1.07E-06	1.09E-06	1.11E-06	1.12E-06
U-235	4.62E-08	3.20E-05	5.96E-02	4.49E-08	4.57E-08	4.65E-08	4.68E-08
U-236	2.52E-08	1.75E-05	3.26E-02	2.43E-08	2.50E-08	2.55E-08	2.57E-08
U-238	1.26E-06	8.72E-04	1.62	1.23E-06	1.25E-06	1.27E-06	1.27E-06
Np-237	5.51E-07	3.82E-04	0.711	3.96E-07	4.72E-07	6.31E-07	7.08E-07
Pu-238	1.01E-06	7.02E-04	1.31	8.31E-07	9.20E-07	1.11E-06	1.20E-06
Pu-239	3.89E-05	2.70E-02	50.2	3.42E-05	3.65E-05	4.13E-05	4.36E-05
Pu-240	6.37E-06	4.41E-03	8.22	5.50E-06	5.92E-06	6.81E-06	7.24E-06
Pu-241	6.67E-05	4.62E-02	86.0	5.42E-05	6.03E-05	7.30E-05	7.91E-05
Pu-242	3.61E-10	2.50E-07	4.66E-04	2.87E-10	3.23E-10	3.99E-10	4.35E-10
Am-241	4.18E-05	2.90E-02	54.0	3.32E-05	3.74E-05	4.62E-05	5.05E-05
Am-243	1.43E-09	9.93E-07	1.85E-03	1.13E-09	1.27E-09	1.62E-09	1.79E-09
Cm-242	1.06E-07	7.35E-05	0.137	6.47E-08	6.47E-08	1.13E-07	1.19E-07
Cm-243	9.69E-09	6.72E-06	1.25E-02	5.74E-09	5.74E-09	1.03E-08	1.09E-08
Cm-244	9.38E-08	6.50E-05	0.121	5.31E-08	5.31E-08	1.08E-07	1.16E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.52E-04 (g/L)	----	0.713	4.64E-04	5.07E-04	5.97E-04	6.40E-04
U	1.30E-02	2.14E+03	3.99E+03	1.26E-02	1.28E-02	1.31E-02	1.31E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	7.27E-04 (kW)	(2.48 BTU/hr)	----	6.22E-04	6.74E-04	7.78E-04	8.24E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.07	6.92E+04	3.53E+03	3.39	4.28	5.75	6.31
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.119	3.93E+03	201	0.112	0.115	0.122	0.125
Cr^{3+}	1.37E-03	42.1	2.15	1.17E-03	1.27E-03	1.46E-03	1.55E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	6.83E-04	23.8	1.21	5.95E-04	6.38E-04	1.24E-03	2.14E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.41E-02	2.00E+03	102	5.84E-02	7.09E-02	9.73E-02	0.110
K^{+}	3.01E-04	6.99	0.357	2.57E-04	2.79E-04	3.22E-04	3.41E-04
OH^{-}	10.9	1.10E+05	5.59E+03	10.8	10.8	10.9	10.9
$NO3^{-}$	7.38E-02	2.71E+03	138	6.26E-02	6.82E-02	7.92E-02	8.41E-02
$NO2^{-}$	5.04E-03	138	7.02	4.26E-03	4.64E-03	5.45E-03	5.86E-03
$CO3^{2-}$	1.89	6.73E+04	3.43E+03	1.36	1.64	2.10	2.29
$PO4^{3-}$	0.400	2.26E+04	1.15E+03	0.172	0.292	0.492	0.567
$SO4^{2-}$	9.03E-02	5.15E+03	263	7.71E-02	8.37E-02	9.66E-02	0.102
Si (as SiO_x^{2-})	1.71E-03	28.4	1.45	1.46E-03	1.58E-03	1.83E-03	1.93E-03
F^{-}	0	0	0	0	0	0	0
Cl^{-}	1.39E-03	29.1	1.49	1.18E-03	1.28E-03	1.48E-03	1.57E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	1.14E-06	1.15E-02	5.86E-04	6.21E-07	8.45E-07	1.51E-06	1.94E-06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.15E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	3.24E-02 (kW)	(111 BTU/hr)	----	2.92E-02	3.08E-02	3.41E-02	3.57E-02
Bulk Density*	1.08 (g/cc)	----	----	1.08	1.08	1.08	1.09
Water wt%	86.2	----	----	85.6	85.9	86.7	87.4
TOC wt% C (wet)	0.178	----	----	9.53E-02	0.136	0.220	0.262

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.95	4.13E+04	4.74E+03	1.76	1.85	1.99	2.04
Al^{3+}	0.205	5.12E+03	587	0.183	0.194	0.217	0.228
Fe^{3+} (total Fe)	1.58E-03	81.2	9.32	1.39E-03	1.48E-03	1.67E-03	1.76E-03
Cr^{3+}	1.60E-02	770	88.4	1.38E-02	1.50E-02	1.64E-02	1.67E-02
Bi^{3+}	3.19E-04	61.5	7.06	2.83E-04	3.01E-04	3.37E-04	3.54E-04
La^{3+}	1.58E-10	2.02E-05	2.32E-06	1.27E-10	1.42E-10	1.73E-10	1.88E-10
Hg^{2+}	1.82E-06	0.336	3.86E-02	1.63E-06	1.73E-06	1.84E-06	1.86E-06
Zr (as $ZrO(OH)_2$)	6.83E-05	5.75	0.660	6.18E-05	6.41E-05	7.10E-05	7.47E-05
Pb^{2+}	1.69E-04	32.3	3.71	1.33E-04	1.51E-04	1.87E-04	2.05E-04
Ni^{2+}	1.01E-03	54.9	6.30	9.59E-04	9.84E-04	1.03E-03	1.03E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.08E-04	20.7	2.37	3.19E-04	3.62E-04	4.53E-04	4.97E-04
Ca^{2+}	5.40E-03	200	22.9	5.14E-03	5.27E-03	5.54E-03	5.67E-03
K^{+}	9.23E-03	333	38.2	8.17E-03	8.53E-03	1.01E-02	1.07E-02
OH^{-}	1.19	1.86E+04	2.14E+03	1.10	1.14	1.23	1.27
$NO3^{-}$	0.775	4.44E+04	5.09E+03	0.660	0.728	0.790	0.805
$NO2^{-}$	0.295	1.25E+04	1.44E+03	0.257	0.274	0.315	0.333
$CO3^{2-}$	6.95E-02	3.85E+03	442	5.89E-02	6.24E-02	7.83E-02	7.96E-02
$PO4^{3-}$	1.74E-02	1.52E+03	175	1.37E-02	1.50E-02	1.80E-02	1.87E-02
$SO4^{2-}$	3.91E-02	3.47E+03	398	2.96E-02	3.29E-02	4.66E-02	4.73E-02
Si (as SiO_x^{2-})	1.11E-02	288	33.0	9.83E-03	1.05E-02	1.18E-02	1.24E-02
F^{-}	1.56E-02	275	31.5	1.26E-02	1.38E-02	1.72E-02	1.84E-02
Cl^{-}	3.55E-02	1.16E+03	133	2.93E-02	3.14E-02	3.78E-02	3.78E-02
$C_6H_5O_7^{3-}$	2.77E-03	484	55.5	2.46E-03	2.61E-03	2.93E-03	3.09E-03
$EDTA^{4-}$	2.98E-03	793	91.0	7.84E-04	1.86E-03	4.11E-03	5.22E-03
$HEDTA^{3-}$	5.82E-03	1.47E+03	169	1.43E-03	3.57E-03	8.08E-03	1.03E-02
$glycolate^{-}$	1.39E-02	966	111	9.55E-03	1.17E-02	1.62E-02	1.84E-02
$acetate^{-}$	4.60E-04	25.1	2.88	3.73E-04	4.15E-04	5.05E-04	5.48E-04
$oxalate^{2-}$	2.07E-10	1.68E-05	1.93E-06	1.90E-10	1.98E-10	2.15E-10	2.23E-10
DBP	2.26E-03	438	50.3	1.94E-03	2.10E-03	2.41E-03	2.56E-03
butanol	2.26E-03	154	17.7	1.94E-03	2.10E-03	2.41E-03	2.56E-03
NH_3	1.55E-02	243	27.9	1.19E-02	1.36E-02	1.74E-02	1.92E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.66E+05 (kg)	(36.0 kgal)	----	----	----	----	----
Heat Load	3.31E-02 (kW)	(113 BTU/hr)	----	2.99E-02	3.15E-02	3.48E-02	3.64E-02
Bulk Density†	1.22 (g/cc)	----	----	1.20	1.21	1.22	1.23
Water wt%†	74.1	----	----	73.1	73.6	74.7	75.5
TOC wt% C (wet)†	0.123	----	----	6.59E-02	9.39E-02	0.153	0.181

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.64	4.99E+04	8.27E+03	2.27	2.46	2.79	2.92
Al^{3+}	0.160	3.54E+03	587	0.143	0.151	0.169	0.177
Fe^{3+} (total Fe)	2.76E-02	1.27E+03	210	2.61E-02	2.69E-02	2.83E-02	2.91E-02
Cr^{3+}	1.28E-02	546	90.5	1.11E-02	1.20E-02	1.30E-02	1.33E-02
Bi^{3+}	2.48E-04	42.6	7.06	2.20E-04	2.34E-04	2.62E-04	2.75E-04
La^{3+}	1.23E-10	1.40E-05	2.32E-06	9.89E-11	1.11E-10	1.35E-10	1.46E-10
Hg^{2+}	1.41E-06	0.233	3.86E-02	1.27E-06	1.35E-06	1.43E-06	1.45E-06
Zr (as $ZrO(OH)_2$)	5.31E-05	3.98	0.660	4.80E-05	4.99E-05	5.52E-05	5.81E-05
Pb^{2+}	1.31E-04	22.4	3.71	1.03E-04	1.17E-04	1.46E-04	1.59E-04
Ni^{2+}	9.40E-04	45.3	7.52	8.98E-04	9.17E-04	1.06E-03	1.26E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.17E-04	14.3	2.37	2.48E-04	2.82E-04	3.53E-04	3.86E-04
Ca^{2+}	2.29E-02	754	125	1.72E-02	2.00E-02	2.58E-02	2.86E-02
K^{+}	7.24E-03	233	38.6	6.42E-03	6.70E-03	7.89E-03	8.39E-03
OH^{-}	3.34	4.66E+04	7.73E+03	3.27	3.30	3.37	3.41
$NO3^{-}$	0.619	3.15E+04	5.23E+03	0.530	0.582	0.631	0.643
$NO2^{-}$	0.230	8.71E+03	1.44E+03	0.201	0.215	0.246	0.260
$CO3^{2-}$	0.474	2.34E+04	3.87E+03	0.356	0.418	0.522	0.562
$PO4^{3-}$	0.102	7.99E+03	1.33E+03	5.17E-02	7.84E-02	0.123	0.140
$SO4^{2-}$	5.05E-02	3.98E+03	660	4.31E-02	4.56E-02	5.63E-02	5.68E-02
Si (as SiO_x^{2-})	9.01E-03	208	34.5	8.02E-03	8.51E-03	9.52E-03	1.00E-02
F^{-}	1.22E-02	190	31.5	9.76E-03	1.08E-02	1.34E-02	1.43E-02
Cl^{-}	2.79E-02	813	135	2.31E-02	2.47E-02	2.97E-02	2.97E-02
$C_6H_5O_7^{3-}$	2.16E-03	335	55.5	1.91E-03	2.03E-03	2.28E-03	2.40E-03
$EDTA^{4-}$	2.32E-03	549	91.0	6.10E-04	1.44E-03	3.20E-03	4.06E-03
$HEDTA^{3-}$	4.53E-03	1.02E+03	169	1.11E-03	2.78E-03	6.29E-03	8.00E-03
$glycolate^{-}$	1.08E-02	669	111	7.43E-03	9.10E-03	1.26E-02	1.43E-02
$acetate^{-}$	3.58E-04	17.4	2.88	2.90E-04	3.23E-04	3.93E-04	4.26E-04
$oxalate^{2-}$	1.61E-10	1.16E-05	1.93E-06	1.48E-10	1.54E-10	1.67E-10	1.73E-10
DBP	1.75E-03	303	50.3	1.51E-03	1.63E-03	1.88E-03	1.99E-03
butanol	1.75E-03	107	17.7	1.51E-03	1.63E-03	1.88E-03	1.99E-03
NH_3	1.20E-02	168	27.9	9.23E-03	1.06E-02	1.35E-02	1.49E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.10E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	7.27E-04 (kW)	(2.48 BTU/hr)	----	6.22E-04	6.74E-04	7.78E-04	8.24E-04
Bulk Density	1.68 (g/cc)	----	----	1.61	1.65	1.72	1.74
Void Fraction	0.396	----	----	0.284	0.335	0.466	0.546
Water wt%	47.0	----	----	44.8	45.7	48.5	50.3
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	9.49E-07	5.63E-04	2.87E-02	7.89E-07	8.66E-07	1.04E-06	1.12E-06
C-14	2.73E-06	1.62E-03	8.25E-02	1.92E-06	2.35E-06	3.05E-06	3.32E-06
Ni-59	9.62E-08	5.71E-05	2.91E-03	8.39E-08	8.99E-08	1.74E-07	3.01E-07
Ni-63	8.44E-06	5.01E-03	0.256	7.36E-06	7.89E-06	1.53E-05	2.64E-05
Co-60	4.71E-08	2.79E-05	1.43E-03	4.02E-08	4.36E-08	5.04E-08	5.33E-08
Se-79	7.11E-08	4.22E-05	2.15E-03	6.07E-08	6.59E-08	7.60E-08	8.05E-08
Sr-90	2.00E-03	1.19	60.5	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Y-90	2.00E-03	1.19	60.5	1.71E-03	1.85E-03	2.14E-03	2.27E-03
Zr-93	3.39E-07	2.01E-04	1.03E-02	2.89E-07	3.14E-07	3.62E-07	3.84E-07
Nb-93m	2.92E-07	1.73E-04	8.83E-03	2.49E-07	2.70E-07	3.12E-07	3.31E-07
Tc-99	2.34E-06	1.39E-03	7.07E-02	2.00E-06	2.16E-06	2.50E-06	2.65E-06
Ru-106	1.11E-15	6.58E-13	3.36E-11	9.48E-16	1.03E-15	1.19E-15	1.26E-15
Cd-113m	6.88E-07	4.09E-04	2.08E-02	5.88E-07	6.38E-07	7.37E-07	7.80E-07
Sb-125	2.54E-08	1.51E-05	7.69E-04	2.17E-08	2.35E-08	2.72E-08	2.88E-08
Sn-126	1.06E-07	6.26E-05	3.19E-03	9.01E-08	9.78E-08	1.13E-07	1.20E-07
I-129	4.35E-09	2.58E-06	1.32E-04	3.72E-09	4.03E-09	4.65E-09	4.93E-09
Cs-134	2.72E-11	1.61E-08	8.23E-07	2.32E-11	2.52E-11	2.91E-11	3.08E-11
Cs-137	2.25E-03	1.34	68.2	1.93E-03	2.09E-03	2.41E-03	2.55E-03
Ba-137m	2.13E-03	1.27	64.6	1.82E-03	1.98E-03	2.28E-03	2.42E-03
Sm-151	2.69E-04	0.159	8.13	2.29E-04	2.49E-04	2.87E-04	3.04E-04
Eu-152	6.29E-08	3.73E-05	1.90E-03	6.24E-08	6.26E-08	6.31E-08	6.33E-08
Eu-154	6.33E-07	3.76E-04	1.92E-02	5.41E-07	5.87E-07	6.77E-07	7.17E-07
Eu-155	9.50E-06	5.64E-03	0.288	9.44E-06	9.47E-06	9.54E-06	9.57E-06
Ra-226	1.37E-10	8.15E-08	4.16E-06	3.03E-11	3.03E-11	3.02E-10	4.60E-10
Ra-228	8.56E-16	5.08E-13	2.59E-11	8.50E-16	8.53E-16	8.59E-16	8.61E-16
Ac-227	3.43E-10	2.04E-07	1.04E-05	1.53E-10	1.53E-10	1.30E-09	2.21E-09
Pa-231	3.18E-10	1.89E-07	9.63E-06	2.72E-10	2.95E-10	3.40E-10	1.95E-09
Th-229	1.65E-13	9.79E-11	5.00E-09	1.64E-13	1.64E-13	1.66E-13	1.66E-13
Th-232	1.05E-16	6.23E-14	3.18E-12	8.96E-17	9.73E-17	1.12E-16	1.19E-16
U-232	1.63E-09	9.67E-07	4.93E-05	1.62E-09	1.63E-09	1.63E-09	1.63E-09
U-233	9.75E-11	5.79E-08	2.95E-06	9.72E-11	9.74E-11	9.77E-11	9.78E-11
U-234	1.37E-04	8.16E-02	4.16	1.37E-04	1.37E-04	1.38E-04	1.38E-04
U-235	6.18E-06	3.67E-03	0.187	6.16E-06	6.17E-06	6.19E-06	6.20E-06
U-236	8.78E-07	5.21E-04	2.66E-02	8.74E-07	8.76E-07	8.79E-07	8.80E-07
U-238	1.39E-04	8.26E-02	4.21	1.39E-04	1.39E-04	1.39E-04	1.40E-04
Np-237	1.40E-08	8.33E-06	4.25E-04	1.20E-08	1.30E-08	1.50E-08	1.59E-08
Pu-238	1.06E-08	6.28E-06	3.20E-04	9.23E-09	9.89E-09	7.13E-08	1.45E-07
Pu-239	3.31E-06	1.97E-03	0.100	2.89E-06	3.10E-06	2.23E-05	4.54E-05
Pu-240	1.95E-07	1.16E-04	5.91E-03	1.70E-07	1.83E-07	1.32E-06	2.68E-06
Pu-241	1.25E-07	7.42E-05	3.78E-03	1.09E-07	1.17E-07	8.43E-07	1.71E-06
Pu-242	3.82E-13	2.27E-10	1.16E-08	3.33E-13	3.57E-13	2.58E-12	5.23E-12
Am-241	1.17E-07	6.96E-05	3.55E-03	1.00E-07	1.09E-07	1.26E-07	1.33E-07
Am-243	3.28E-13	1.95E-10	9.93E-09	2.80E-13	3.04E-13	3.51E-13	3.72E-13
Cm-242	2.52E-10	1.50E-07	7.64E-06	2.50E-10	2.51E-10	2.53E-10	2.54E-10
Cm-243	3.74E-12	2.22E-09	1.13E-07	3.72E-12	3.73E-12	3.76E-12	3.77E-12
Cm-244	5.02E-12	2.98E-09	1.52E-07	4.29E-12	4.65E-12	5.37E-12	5.69E-12
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.42E-05 (g/L)	----	1.64E-03	4.72E-05	5.06E-05	3.65E-04	7.42E-04
U	1.75	2.47E+05	1.26E+04	1.75	1.75	1.75	1.76

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.15E+05 (kg)	(28.0 kgal)	----	----	----	----	----
Heat Load	3.24E-02 (kW)	(111 BTU/hr)	----	2.92E-02	3.08E-02	3.41E-02	3.57E-02
Bulk Density*	1.08 (g/cc)	----	----	1.08	1.08	1.08	1.09
Water wt%†	86.2	----	----	85.6	85.9	86.7	87.4
TOC wt% C (wet)	0.178	----	----	9.53E-02	0.136	0.220	0.262
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.93E-05	2.70E-02	3.10	1.79E-05	1.79E-05	3.10E-05	3.31E-05
C-14	4.09E-06	3.78E-03	0.434	1.72E-06	1.72E-06	4.22E-06	4.35E-06
Ni-59	3.07E-07	2.83E-04	3.25E-02	1.95E-07	1.95E-07	3.12E-07	3.18E-07
Ni-63	3.00E-05	2.77E-02	3.18	1.90E-05	1.90E-05	3.06E-05	3.11E-05
Co-60	4.61E-06	4.26E-03	0.489	1.90E-06	1.90E-06	4.79E-06	4.96E-06
Se-79	4.50E-07	4.16E-04	4.77E-02	2.99E-07	2.99E-07	5.05E-07	5.58E-07
Sr-90	1.56E-02	14.4	1.65E+03	1.47E-02	1.50E-02	1.62E-02	1.63E-02
Y-90	1.56E-02	14.4	1.65E+03	1.03E-02	1.03E-02	1.60E-02	1.63E-02
Zr-93	2.21E-06	2.04E-03	0.234	1.45E-06	1.45E-06	2.48E-06	2.75E-06
Nb-93m	1.60E-06	1.48E-03	0.170	1.07E-06	1.07E-06	1.79E-06	1.98E-06
Tc-99	2.92E-05	2.69E-02	3.09	2.03E-05	2.46E-05	3.37E-05	3.81E-05
Ru-106	8.97E-10	8.28E-07	9.51E-05	5.46E-10	5.46E-10	9.76E-10	1.05E-09
Cd-113m	1.15E-05	1.06E-02	1.22	6.93E-06	6.93E-06	1.31E-05	1.47E-05
Sb-125	2.01E-05	1.85E-02	2.13	8.31E-06	8.31E-06	2.09E-05	2.16E-05
Sn-126	6.80E-07	6.28E-04	7.21E-02	4.53E-07	4.53E-07	7.62E-07	8.41E-07
I-129	5.62E-08	5.19E-05	5.96E-03	3.91E-08	4.75E-08	6.50E-08	7.35E-08
Cs-134	5.02E-07	4.64E-04	5.32E-02	3.36E-07	4.17E-07	5.88E-07	6.71E-07
Cs-137	4.29E-02	39.6	4.55E+03	3.64E-02	3.96E-02	4.63E-02	4.95E-02
Ba-137m	4.06E-02	37.5	4.30E+03	3.44E-02	3.65E-02	4.38E-02	4.68E-02
Sm-151	1.59E-03	1.46	168	1.06E-03	1.06E-03	1.78E-03	1.96E-03
Eu-152	5.83E-07	5.39E-04	6.18E-02	3.96E-07	3.96E-07	6.44E-07	7.04E-07
Eu-154	7.87E-05	7.27E-02	8.34	4.09E-05	4.09E-05	9.24E-05	9.79E-05
Eu-155	3.49E-05	3.22E-02	3.70	2.37E-05	2.37E-05	3.86E-05	4.23E-05
Ra-226	2.09E-11	1.93E-08	2.22E-06	1.62E-11	1.62E-11	2.26E-11	2.42E-11
Ra-228	3.16E-08	2.92E-05	3.35E-03	1.21E-08	2.16E-08	4.31E-08	5.55E-08
Ac-227	1.36E-10	1.25E-07	1.44E-05	1.08E-10	1.08E-10	1.45E-10	1.55E-10
Pa-231	6.02E-10	5.56E-07	6.38E-05	4.51E-10	4.51E-10	6.57E-10	7.10E-10
Th-229	7.32E-10	6.76E-07	7.76E-05	3.04E-10	5.13E-10	9.86E-10	1.26E-09
Th-232	1.94E-09	1.79E-06	2.06E-04	8.61E-10	1.39E-09	2.49E-09	3.02E-09
U-232	1.58E-07	1.46E-04	1.68E-02	8.00E-08	1.18E-07	2.05E-07	2.54E-07
U-233	6.06E-07	5.60E-04	6.43E-02	3.07E-07	4.53E-07	7.84E-07	9.73E-07
U-234	1.31E-07	1.21E-04	1.39E-02	1.25E-07	1.29E-07	1.33E-07	1.33E-07
U-235	5.26E-09	4.86E-06	5.57E-04	5.01E-09	5.16E-09	5.33E-09	5.36E-09
U-236	4.26E-09	3.93E-06	4.51E-04	4.08E-09	4.22E-09	4.30E-09	4.33E-09
U-238	1.59E-07	1.47E-04	1.68E-02	1.53E-07	1.57E-07	1.61E-07	1.61E-07
Np-237	1.05E-07	9.68E-05	1.11E-02	7.60E-08	9.01E-08	1.20E-07	1.34E-07
Pu-238	1.91E-07	1.76E-04	2.02E-02	1.57E-07	1.73E-07	2.08E-07	2.25E-07
Pu-239	6.69E-06	6.18E-03	0.709	5.82E-06	6.25E-06	7.13E-06	7.56E-06
Pu-240	1.13E-06	1.04E-03	0.119	9.65E-07	1.04E-06	1.21E-06	1.29E-06
Pu-241	1.27E-05	1.17E-02	1.35	1.04E-05	1.15E-05	1.39E-05	1.50E-05
Pu-242	7.00E-11	6.46E-08	7.42E-06	5.62E-11	6.29E-11	7.70E-11	8.38E-11
Am-241	8.30E-06	7.67E-03	0.880	6.69E-06	7.48E-06	9.13E-06	9.91E-06
Am-243	2.92E-10	2.70E-07	3.10E-05	2.27E-10	2.57E-10	3.32E-10	3.67E-10
Cm-242	2.25E-08	2.08E-05	2.39E-03	1.48E-08	1.48E-08	2.48E-08	2.71E-08
Cm-243	2.08E-09	1.92E-06	2.20E-04	1.34E-09	1.34E-09	2.29E-09	2.49E-09
Cm-244	1.89E-08	1.75E-05	2.01E-03	1.14E-08	1.14E-08	2.15E-08	2.31E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.22E-05 (g/L)	----	9.77E-03	7.57E-05	8.38E-05	1.01E-04	1.09E-04
U	1.47E-03	323	37.0	1.40E-03	1.44E-03	1.49E-03	1.50E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.66E+05 (kg)	(36.0 kgal)	----	----	----	----	----
Heat Load	3.31E-02 (kW)	(113 BTU/hr)	----	2.99E-02	3.15E-02	3.48E-02	3.64E-02
Bulk Density†	1.22 (g/cc)	----	----	1.20	1.21	1.22	1.23
Water wt%†	74.1	----	----	73.1	73.6	74.7	75.5
TOC wt% C (wet)†	0.123	----	----	6.59E-02	9.39E-02	0.153	0.181
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.30E-05	1.89E-02	3.13	1.42E-05	1.42E-05	2.43E-05	2.60E-05
C-14	3.79E-06	3.12E-03	0.516	1.95E-06	1.95E-06	3.89E-06	3.99E-06
Ni-59	2.60E-07	2.14E-04	3.54E-02	1.73E-07	1.73E-07	2.77E-07	3.05E-07
Ni-63	2.52E-05	2.08E-02	3.44	1.67E-05	1.67E-05	2.68E-05	2.92E-05
Co-60	3.60E-06	2.96E-03	0.491	1.49E-06	1.49E-06	3.74E-06	3.87E-06
Se-79	3.66E-07	3.01E-04	4.99E-02	2.48E-07	2.48E-07	4.09E-07	4.50E-07
Sr-90	1.26E-02	10.3	1.71E+03	1.19E-02	1.21E-02	1.31E-02	1.31E-02
Y-90	1.26E-02	10.3	1.71E+03	8.49E-03	8.49E-03	1.29E-02	1.31E-02
Zr-93	1.79E-06	1.47E-03	0.244	1.20E-06	1.20E-06	2.01E-06	2.21E-06
Nb-93m	1.31E-06	1.08E-03	0.179	8.99E-07	8.99E-07	1.46E-06	1.60E-06
Tc-99	2.32E-05	1.91E-02	3.16	1.63E-05	1.97E-05	2.67E-05	3.02E-05
Ru-106	6.98E-10	5.74E-07	9.51E-05	4.25E-10	4.25E-10	7.59E-10	8.14E-10
Cd-113m	9.07E-06	7.46E-03	1.24	5.54E-06	5.54E-06	1.04E-05	1.16E-05
Sb-125	1.56E-05	1.28E-02	2.13	6.47E-06	6.47E-06	1.62E-05	1.68E-05
Sn-126	5.52E-07	4.54E-04	7.53E-02	3.76E-07	3.76E-07	6.16E-07	6.78E-07
I-129	4.47E-08	3.67E-05	6.09E-03	3.14E-08	3.79E-08	5.15E-08	5.82E-08
Cs-134	3.91E-07	3.21E-04	5.32E-02	2.62E-07	3.25E-07	4.57E-07	5.22E-07
Cs-137	3.39E-02	27.8	4.61E+03	2.88E-02	3.13E-02	3.65E-02	3.90E-02
Ba-137m	3.20E-02	26.3	4.37E+03	2.73E-02	2.89E-02	3.45E-02	3.69E-02
Sm-151	1.29E-03	1.06	176	8.80E-04	8.80E-04	1.44E-03	1.58E-03
Eu-152	4.68E-07	3.84E-04	6.37E-02	3.22E-07	3.22E-07	5.15E-07	5.61E-07
Eu-154	6.14E-05	5.04E-02	8.36	3.19E-05	3.19E-05	7.20E-05	7.63E-05
Eu-155	2.92E-05	2.40E-02	3.98	2.05E-05	2.05E-05	3.21E-05	3.50E-05
Ra-226	4.68E-11	3.84E-08	6.37E-06	2.30E-11	2.30E-11	8.33E-11	1.18E-10
Ra-228	2.46E-08	2.02E-05	3.35E-03	9.39E-09	1.68E-08	3.36E-08	4.31E-08
Ac-227	1.82E-10	1.49E-07	2.48E-05	1.39E-10	1.39E-10	3.94E-10	5.98E-10
Pa-231	5.39E-10	4.43E-07	7.34E-05	4.21E-10	4.21E-10	5.82E-10	9.01E-10
Th-229	5.70E-10	4.68E-07	7.76E-05	2.36E-10	3.99E-10	7.67E-10	9.77E-10
Th-232	1.51E-09	1.24E-06	2.06E-04	6.70E-10	1.08E-09	1.94E-09	2.35E-09
U-232	1.23E-07	1.01E-04	1.68E-02	6.26E-08	9.23E-08	1.59E-07	1.98E-07
U-233	4.72E-07	3.88E-04	6.43E-02	2.39E-07	3.53E-07	6.10E-07	7.57E-07
U-234	3.06E-05	2.52E-02	4.18	3.05E-05	3.06E-05	3.07E-05	3.07E-05
U-235	1.38E-06	1.13E-03	0.188	1.37E-06	1.38E-06	1.38E-06	1.38E-06
U-236	1.98E-07	1.63E-04	2.70E-02	1.98E-07	1.98E-07	1.99E-07	1.99E-07
U-238	3.10E-05	2.55E-02	4.23	3.09E-05	3.10E-05	3.11E-05	3.11E-05
Np-237	8.47E-08	6.96E-05	1.15E-02	6.22E-08	7.32E-08	9.63E-08	1.07E-07
Pu-238	1.51E-07	1.24E-04	2.05E-02	1.24E-07	1.37E-07	1.64E-07	1.80E-07
Pu-239	5.94E-06	4.88E-03	0.810	5.26E-06	5.60E-06	1.02E-05	1.53E-05
Pu-240	9.20E-07	7.56E-04	0.125	7.94E-07	8.56E-07	1.17E-06	1.47E-06
Pu-241	9.91E-06	8.14E-03	1.35	8.11E-06	8.99E-06	1.08E-05	1.17E-05
Pu-242	5.45E-11	4.48E-08	7.43E-06	4.38E-11	4.90E-11	6.00E-11	6.53E-11
Am-241	6.48E-06	5.33E-03	0.883	5.23E-06	5.85E-06	7.12E-06	7.74E-06
Am-243	2.27E-10	1.87E-07	3.10E-05	1.77E-10	2.00E-10	2.59E-10	2.86E-10
Cm-242	1.76E-08	1.44E-05	2.39E-03	1.16E-08	1.16E-08	1.94E-08	2.11E-08
Cm-243	1.62E-09	1.33E-06	2.20E-04	1.05E-09	1.05E-09	1.78E-09	1.94E-09
Cm-244	1.47E-08	1.21E-05	2.01E-03	8.85E-09	8.85E-09	1.67E-08	1.80E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.37E-05 (g/L)	----	1.14E-02	7.09E-05	7.72E-05	1.53E-04	2.37E-04
U	0.390	7.64E+04	1.27E+04	0.389	0.390	0.391	0.391

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.96E+04 (kg)	(6.00 kgal)	----	----	----	----	----
Heat Load	1.44E-03 (kW)	(4.92 BTU/hr)	----	5.25E-04	6.22E-04	2.26E-03	2.37E-03
Bulk Density	1.74 (g/cc)	----	----	1.23	1.32	2.04	1.77
Void Fraction	0.434	----	----	0.397	0.169	0.770	0.799
Water wt%	30.1	----	----	29.5	14.8	63.9	75.6
TOC wt% C (wet)	7.68E-05	----	----	2.37E-06	8.20E-06	1.73E-04	1.90E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.0	1.46E+05	5.77E+03	1.72	2.66	17.0	11.5
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.09	3.49E+04	1.38E+03	3.99E-02	1.00	1.10	1.11
Cr^{3+}	1.44E-03	42.8	1.70	4.76E-04	5.77E-04	2.29E-03	2.41E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.18E-04	24.2	0.957	2.38E-04	2.89E-04	1.15E-03	1.21E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.257	5.91E+03	234	2.82E-02	3.23E-02	0.299	0.339
K^{+}	4.93E-03	111	4.38	2.05E-04	7.03E-04	9.16E-03	9.73E-03
OH^{-}	6.77	6.60E+04	2.61E+03	3.62	6.52	6.80	6.83
$NO3^{-}$	8.94	3.18E+05	1.26E+04	4.49E-02	0.692	15.3	8.95
$NO2^{-}$	0.103	2.72E+03	108	2.01E-03	1.04E-02	0.258	0.284
$CO3^{2-}$	0.914	3.15E+04	1.25E+03	0.631	0.676	0.986	1.05
$PO4^{3-}$	0.173	9.44E+03	374	9.72E-02	0.137	0.208	0.282
$SO4^{2-}$	7.35E-02	4.05E+03	160	3.10E-02	3.55E-02	0.111	0.117
Si (as SiO_x^{2-})	5.69E-04	9.16	0.363	4.86E-04	5.27E-04	6.09E-04	6.45E-04
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.97E-02	604	23.9	1.10E-03	4.11E-03	5.53E-02	0.160
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	9.30E-06	1.12	4.44E-02	2.02E-07	1.16E-06	1.74E-05	1.85E-05
butanol	9.30E-06	0.396	1.57E-02	2.02E-07	1.16E-06	1.74E-05	1.85E-05
NH_3	2.90E-04	2.83	0.112	6.17E-07	7.94E-06	7.46E-04	7.70E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.48E+05 (kg)	(128 kgal)	----	----	----	----	----
Heat Load	0.560 (kW)	(1.91E+03 BTU/hr)	----	0.497	0.528	0.593	0.624
Bulk Density*	1.34 (g/cc)	----	----	1.31	1.32	1.35	1.35
Water wt%	54.8	----	----	53.2	53.9	56.5	58.4
TOC wt% C (wet)	0.278	----	----	0.239	0.258	0.298	0.318

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.87	1.35E+05	8.77E+04	7.06	7.47	8.08	8.27
Al^{3+}	0.866	1.75E+04	1.13E+04	0.769	0.817	0.916	0.964
Fe^{3+} (total Fe)	6.07E-03	254	164	5.27E-03	5.67E-03	6.48E-03	6.88E-03
Cr^{3+}	6.79E-02	2.64E+03	1.71E+03	5.88E-02	6.37E-02	6.94E-02	7.06E-02
Bi^{3+}	1.39E-03	218	141	1.24E-03	1.31E-03	1.47E-03	1.55E-03
La^{3+}	6.87E-10	7.14E-05	4.62E-05	5.55E-10	6.20E-10	7.55E-10	8.20E-10
Hg^{2+}	7.95E-06	1.19	0.772	7.12E-06	7.59E-06	8.06E-06	8.16E-06
Zr (as $ZrO(OH)_2$)	3.00E-04	20.4	13.2	2.71E-04	2.81E-04	3.12E-04	3.28E-04
Pb^{2+}	7.39E-04	114	74.1	5.82E-04	6.59E-04	8.19E-04	8.95E-04
Ni^{2+}	4.23E-03	186	120	3.99E-03	4.10E-03	4.29E-03	4.29E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.74E-03	71.6	46.4	1.36E-03	1.55E-03	1.94E-03	2.13E-03
Ca^{2+}	2.20E-02	658	426	2.08E-02	2.14E-02	2.25E-02	2.31E-02
K^{+}	3.78E-02	1.11E+03	717	3.32E-02	3.48E-02	4.15E-02	4.43E-02
OH^{-}	4.95	6.29E+04	4.07E+04	4.56	4.75	5.14	5.34
$NO3^{-}$	3.18	1.48E+05	9.56E+04	2.68	2.98	3.25	3.32
$NO2^{-}$	1.25	4.29E+04	2.78E+04	1.08	1.16	1.33	1.41
$CO3^{2-}$	0.265	1.19E+04	7.69E+03	0.218	0.234	0.303	0.309
$PO4^{3-}$	7.46E-02	5.29E+03	3.43E+03	5.87E-02	6.43E-02	7.75E-02	8.03E-02
$SO4^{2-}$	0.159	1.14E+04	7.41E+03	0.118	0.132	0.192	0.195
Si (as SiO_x^{2-})	4.39E-02	921	597	3.84E-02	4.11E-02	4.67E-02	4.94E-02
F^{-}	6.85E-02	973	630	5.49E-02	6.06E-02	7.51E-02	8.04E-02
Cl^{-}	0.143	3.78E+03	2.45E+03	0.115	0.125	0.153	0.153
$C_6H_5O_7^{3-}$	1.14E-02	1.61E+03	1.04E+03	1.03E-02	1.08E-02	1.19E-02	1.24E-02
$EDTA^{4-}$	2.18E-03	469	304	8.76E-04	1.51E-03	2.84E-03	3.50E-03
$HEDTA^{3-}$	3.73E-03	765	496	1.13E-03	2.40E-03	5.07E-03	6.38E-03
$glycolate^{-}$	3.06E-02	1.72E+03	1.11E+03	1.69E-02	2.36E-02	3.77E-02	4.44E-02
$acetate^{-}$	1.99E-03	87.8	56.9	1.61E-03	1.80E-03	2.18E-03	2.37E-03
$oxalate^{2-}$	9.00E-10	5.92E-05	3.84E-05	8.29E-10	8.64E-10	9.36E-10	9.71E-10
DBP	9.79E-03	1.54E+03	997	8.44E-03	9.10E-03	1.05E-02	1.11E-02
butanol	9.79E-03	543	352	8.44E-03	9.10E-03	1.05E-02	1.11E-02
NH_3	6.70E-02	851	551	5.11E-02	5.88E-02	7.52E-02	8.33E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.88E+05 (kg)	(134 kgal)	----	----	----	----	----
Heat Load	0.562 (kW)	(1.92E+03 BTU/hr)	----	0.499	0.529	0.594	0.625
Bulk Density†	1.36 (g/cc)	----	----	1.32	1.33	1.37	1.37
Water wt%†	53.4	----	----	51.9	52.2	56.4	57.6
TOC wt% C (wet)†	0.262	----	----	0.225	0.243	0.281	0.300

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.01	1.36E+05	9.34E+04	7.15	7.36	8.25	8.40
Al^{3+}	0.827	1.65E+04	1.13E+04	0.735	0.780	0.875	0.921
Fe^{3+} (total Fe)	5.45E-02	2.25E+03	1.54E+03	7.41E-03	5.08E-02	5.49E-02	5.54E-02
Cr^{3+}	6.49E-02	2.49E+03	1.71E+03	5.63E-02	6.09E-02	6.64E-02	6.75E-02
Bi^{3+}	1.33E-03	205	141	1.18E-03	1.26E-03	1.41E-03	1.48E-03
La^{3+}	6.56E-10	6.73E-05	4.62E-05	5.30E-10	5.92E-10	7.21E-10	7.83E-10
Hg^{2+}	7.59E-06	1.12	0.772	6.81E-06	7.25E-06	7.70E-06	7.80E-06
Zr (as $ZrO(OH)_2$)	2.86E-04	19.3	13.2	2.59E-04	2.69E-04	2.98E-04	3.13E-04
Pb^{2+}	7.06E-04	108	74.1	5.56E-04	6.29E-04	7.82E-04	8.55E-04
Ni^{2+}	4.07E-03	176	121	3.84E-03	3.94E-03	4.13E-03	4.13E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.67E-03	67.5	46.4	1.30E-03	1.48E-03	1.85E-03	2.03E-03
Ca^{2+}	3.25E-02	961	660	2.12E-02	2.21E-02	3.41E-02	3.57E-02
K^{+}	3.64E-02	1.05E+03	721	3.19E-02	3.35E-02	3.99E-02	4.25E-02
OH^{-}	5.03	6.30E+04	4.33E+04	4.66	4.84	5.22	5.40
$NO3^{-}$	3.44	1.57E+05	1.08E+05	2.75	2.90	3.70	3.57
$NO2^{-}$	1.20	4.06E+04	2.79E+04	1.04	1.11	1.28	1.36
$CO3^{2-}$	0.294	1.30E+04	8.94E+03	0.249	0.264	0.331	0.336
$PO4^{3-}$	7.90E-02	5.53E+03	3.80E+03	6.21E-02	6.87E-02	8.18E-02	8.45E-02
$SO4^{2-}$	0.155	1.10E+04	7.57E+03	0.116	0.129	0.187	0.190
Si (as SiO_x^{2-})	4.19E-02	869	597	3.67E-02	3.92E-02	4.46E-02	4.72E-02
F^{-}	6.54E-02	917	630	5.24E-02	5.79E-02	7.18E-02	7.68E-02
Cl^{-}	0.138	3.59E+03	2.47E+03	0.112	0.120	0.147	0.147
$C_6H_5O_7^{3-}$	1.09E-02	1.51E+03	1.04E+03	9.88E-03	1.04E-02	1.14E-02	1.18E-02
$EDTA^{4-}$	2.08E-03	442	304	8.37E-04	1.44E-03	2.72E-03	3.34E-03
$HEDTA^{3-}$	3.56E-03	721	496	1.08E-03	2.29E-03	4.84E-03	6.09E-03
$glycolate^{-}$	2.92E-02	1.62E+03	1.11E+03	1.61E-02	2.25E-02	3.60E-02	4.24E-02
$acetate^{-}$	1.90E-03	82.7	56.9	1.54E-03	1.72E-03	2.09E-03	2.26E-03
$oxalate^{2-}$	8.60E-10	5.58E-05	3.84E-05	7.92E-10	8.25E-10	8.95E-10	9.28E-10
DBP	9.35E-03	1.45E+03	997	8.06E-03	8.69E-03	1.00E-02	1.06E-02
butanol	9.35E-03	511	352	8.06E-03	8.69E-03	1.00E-02	1.06E-02
NH_3	6.40E-02	802	552	4.88E-02	5.62E-02	7.19E-02	7.96E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.96E+04 (kg)	(6.00 kgal)	----	----	----	----	----
Heat Load	1.44E-03 (kW)	(4.92 BTU/hr)	----	5.25E-04	6.22E-04	2.26E-03	2.37E-03
Bulk Density	1.74 (g/cc)	----	----	1.23	1.32	2.04	1.77
Void Fraction	0.434	----	----	0.397	0.169	0.770	0.799
Water wt%	30.1	----	----	29.5	14.8	63.9	75.6
TOC wt% C (wet)	7.68E-05	----	----	2.37E-06	8.20E-06	1.73E-04	1.90E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.85E-06	1.06E-03	4.19E-02	3.17E-07	4.95E-07	3.38E-06	3.60E-06
C-14	1.12E-06	6.43E-04	2.54E-02	8.52E-07	9.35E-07	1.31E-06	1.33E-06
Ni-59	9.22E-08	5.29E-05	2.09E-03	3.34E-08	3.96E-08	1.45E-07	1.61E-07
Ni-63	8.24E-06	4.73E-03	0.187	2.93E-06	3.49E-06	1.30E-05	1.42E-05
Co-60	6.41E-08	3.68E-05	1.46E-03	1.67E-08	2.17E-08	1.06E-07	1.12E-07
Se-79	6.83E-08	3.92E-05	1.55E-03	2.47E-08	2.93E-08	1.07E-07	1.13E-07
Sr-90	4.11E-03	2.36	93.2	7.41E-04	1.10E-03	7.12E-03	7.52E-03
Y-90	4.11E-03	2.36	93.3	7.41E-04	1.10E-03	7.12E-03	7.53E-03
Zr-93	3.25E-07	1.86E-04	7.38E-03	1.18E-07	1.39E-07	5.11E-07	5.36E-07
Nb-93m	2.76E-07	1.58E-04	6.27E-03	1.01E-07	1.20E-07	4.33E-07	4.54E-07
Tc-99	2.25E-06	1.29E-03	5.10E-02	8.11E-07	9.62E-07	3.53E-06	3.71E-06
Ru-106	2.05E-14	1.18E-11	4.66E-10	8.08E-16	2.88E-15	3.81E-14	4.05E-14
Cd-113m	7.48E-07	4.29E-04	1.70E-02	2.41E-07	2.94E-07	1.20E-06	1.26E-06
Sb-125	5.33E-08	3.06E-05	1.21E-03	9.44E-09	1.41E-08	9.25E-08	9.78E-08
Sn-126	1.02E-07	5.87E-05	2.32E-03	3.66E-08	4.36E-08	1.61E-07	1.69E-07
I-129	4.22E-09	2.42E-06	9.58E-05	1.51E-09	1.80E-09	6.64E-09	6.97E-09
Cs-134	5.72E-10	3.28E-07	1.30E-05	2.63E-10	2.96E-10	8.48E-10	8.86E-10
Cs-137	7.65E-03	4.39	174	3.87E-03	4.27E-03	1.10E-02	1.15E-02
Ba-137m	7.24E-03	4.15	164	3.66E-03	4.04E-03	1.04E-02	1.09E-02
Sm-151	2.56E-04	0.147	5.81	9.31E-05	1.10E-04	4.01E-04	4.21E-04
Eu-152	5.05E-07	2.90E-04	1.15E-02	4.99E-07	4.99E-07	5.10E-07	5.11E-07
Eu-154	1.08E-06	6.21E-04	2.46E-02	2.30E-07	3.20E-07	1.85E-06	1.95E-06
Eu-155	3.96E-05	2.27E-02	0.900	3.92E-05	3.92E-05	4.00E-05	4.01E-05
Ra-226	5.80E-11	3.32E-08	1.32E-06	2.23E-11	2.23E-11	1.13E-10	5.74E-10
Ra-228	2.13E-15	1.22E-12	4.85E-11	2.11E-15	2.11E-15	2.15E-15	2.16E-15
Ac-227	1.77E-10	1.01E-07	4.01E-06	1.13E-10	1.13E-10	4.95E-10	2.52E-09
Pa-231	2.41E-10	1.38E-07	5.48E-06	1.09E-10	1.23E-10	3.59E-10	7.84E-10
Th-229	4.14E-13	2.37E-10	9.40E-09	4.09E-13	4.10E-13	4.18E-13	4.18E-13
Th-232	9.53E-17	5.47E-14	2.16E-12	3.63E-17	4.25E-17	1.48E-16	1.55E-16
U-232	5.44E-10	3.12E-07	1.23E-05	5.42E-10	5.43E-10	5.45E-10	5.45E-10
U-233	3.25E-11	1.87E-08	7.39E-07	3.24E-11	3.25E-11	3.26E-11	3.26E-11
U-234	4.59E-05	2.63E-02	1.04	4.57E-05	4.58E-05	4.59E-05	4.60E-05
U-235	2.06E-06	1.18E-03	4.68E-02	2.06E-06	2.06E-06	2.07E-06	2.07E-06
U-236	2.93E-07	1.68E-04	6.65E-03	2.92E-07	2.92E-07	2.93E-07	2.94E-07
U-238	4.64E-05	2.66E-02	1.05	4.63E-05	4.64E-05	4.65E-05	4.66E-05
Np-237	1.37E-08	7.88E-06	3.12E-04	4.87E-09	5.81E-09	2.17E-08	2.27E-08
Pu-238	1.55E-08	8.90E-06	3.52E-04	3.79E-09	5.02E-09	6.27E-08	5.38E-07
Pu-239	2.93E-06	1.68E-03	6.65E-02	1.14E-06	1.33E-06	1.01E-05	8.23E-05
Pu-240	2.22E-07	1.27E-04	5.03E-03	6.85E-08	8.46E-08	8.37E-07	7.03E-06
Pu-241	5.13E-07	2.94E-04	1.17E-02	5.19E-08	1.01E-07	2.37E-06	2.10E-05
Pu-242	2.25E-12	1.29E-09	5.11E-08	1.74E-13	3.92E-13	1.06E-11	9.47E-11
Am-241	4.46E-07	2.56E-04	1.01E-02	4.80E-08	8.99E-08	8.02E-07	8.50E-07
Am-243	2.95E-12	1.69E-09	6.70E-08	1.71E-13	4.64E-13	5.44E-12	5.77E-12
Cm-242	8.94E-09	5.13E-06	2.03E-04	8.83E-09	8.85E-09	9.04E-09	9.06E-09
Cm-243	1.83E-10	1.05E-07	4.15E-06	1.80E-10	1.81E-10	1.85E-10	1.85E-10
Cm-244	6.88E-11	3.95E-08	1.56E-06	3.13E-12	1.00E-11	1.28E-10	1.36E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.81E-05 (g/L)	----	1.09E-03	1.87E-05	2.18E-05	1.66E-04	1.36E-03
U	0.584	7.98E+04	3.16E+03	0.582	0.583	0.585	0.586

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.48E+05 (kg)	(128 kgal)	----	----	----	----	----
Heat Load	0.560 (kW)	(1.91E+03 BTU/hr)	----	0.497	0.528	0.593	0.624
Bulk Density*	1.34 (g/cc)	----	----	1.31	1.32	1.35	1.35
Water wt%†	54.8	----	----	53.2	53.9	56.5	58.4
TOC wt% C (wet)	0.278	----	----	0.239	0.258	0.298	0.318
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.18E-04	8.86E-02	57.4	6.94E-05	6.94E-05	1.25E-04	1.33E-04
C-14	1.69E-05	1.26E-02	8.19	6.62E-06	6.62E-06	1.74E-05	1.80E-05
Ni-59	1.29E-06	9.66E-04	0.626	8.09E-07	8.09E-07	1.32E-06	1.34E-06
Ni-63	1.27E-04	9.46E-02	61.3	7.88E-05	7.88E-05	1.29E-04	1.31E-04
Co-60	1.85E-05	1.38E-02	8.96	6.73E-06	6.73E-06	1.92E-05	2.00E-05
Se-79	1.73E-06	1.29E-03	0.839	1.08E-06	1.08E-06	1.97E-06	2.20E-06
Sr-90	5.57E-02	41.6	2.70E+04	5.19E-02	5.32E-02	5.85E-02	5.89E-02
Y-90	5.57E-02	41.6	2.70E+04	3.30E-02	3.30E-02	5.73E-02	5.89E-02
Zr-93	8.50E-06	6.35E-03	4.12	5.22E-06	5.22E-06	9.68E-06	1.08E-05
Nb-93m	6.16E-06	4.61E-03	2.99	3.87E-06	3.87E-06	6.99E-06	7.79E-06
Tc-99	1.21E-04	9.02E-02	58.4	8.23E-05	1.01E-04	1.40E-04	1.59E-04
Ru-106	3.27E-09	2.45E-06	1.59E-03	1.75E-09	1.75E-09	3.61E-09	3.92E-09
Cd-113m	4.39E-05	3.28E-02	21.3	2.42E-05	2.42E-05	5.10E-05	5.79E-05
Sb-125	7.84E-05	5.86E-02	38.0	2.75E-05	2.75E-05	8.18E-05	8.51E-05
Sn-126	2.61E-06	1.95E-03	1.27	1.63E-06	1.63E-06	2.97E-06	3.31E-06
I-129	2.32E-07	1.74E-04	0.113	1.58E-07	1.95E-07	2.71E-07	3.07E-07
Cs-134	1.34E-06	9.99E-04	0.647	9.88E-07	1.16E-06	1.52E-06	1.69E-06
Cs-137	0.167	125	8.08E+04	0.139	0.153	0.181	0.195
Ba-137m	0.158	118	7.64E+04	0.132	0.140	0.171	0.184
Sm-151	6.09E-03	4.55	2.95E+03	3.80E-03	3.80E-03	6.92E-03	7.72E-03
Eu-152	1.87E-06	1.40E-03	0.908	1.06E-06	1.06E-06	1.96E-06	2.05E-06
Eu-154	2.97E-04	0.222	144	1.33E-04	1.33E-04	3.56E-04	3.80E-04
Eu-155	1.11E-04	8.30E-02	53.8	6.27E-05	6.27E-05	1.18E-04	1.24E-04
Ra-226	8.24E-11	6.16E-08	3.99E-05	6.21E-11	6.21E-11	8.98E-11	9.68E-11
Ra-228	1.40E-07	1.04E-04	6.77E-02	5.32E-08	9.55E-08	1.91E-07	2.46E-07
Ac-227	5.40E-10	4.04E-07	2.62E-04	4.22E-10	4.22E-10	5.83E-10	6.24E-10
Pa-231	2.39E-09	1.79E-06	1.16E-03	1.74E-09	1.74E-09	2.63E-09	2.86E-09
Th-229	3.24E-09	2.42E-06	1.57E-03	1.34E-09	2.27E-09	4.36E-09	5.56E-09
Th-232	8.56E-09	6.40E-06	4.15E-03	3.78E-09	6.12E-09	1.10E-08	1.33E-08
U-232	6.98E-07	5.22E-04	0.338	3.52E-07	5.21E-07	9.04E-07	1.12E-06
U-233	2.68E-06	2.00E-03	1.30	1.35E-06	2.00E-06	3.46E-06	4.30E-06
U-234	5.64E-07	4.21E-04	0.273	5.37E-07	5.54E-07	5.70E-07	5.75E-07
U-235	2.26E-08	1.69E-05	1.10E-02	2.15E-08	2.22E-08	2.29E-08	2.31E-08
U-236	1.83E-08	1.37E-05	8.87E-03	1.75E-08	1.81E-08	1.85E-08	1.86E-08
U-238	6.83E-07	5.11E-04	0.331	6.58E-07	6.74E-07	6.90E-07	6.94E-07
Np-237	4.35E-07	3.26E-04	0.211	3.10E-07	3.71E-07	5.00E-07	5.62E-07
Pu-238	6.94E-07	5.19E-04	0.336	5.47E-07	6.19E-07	7.69E-07	8.41E-07
Pu-239	2.50E-05	1.87E-02	12.1	2.13E-05	2.31E-05	2.69E-05	2.88E-05
Pu-240	4.13E-06	3.09E-03	2.00	3.43E-06	3.78E-06	4.49E-06	4.83E-06
Pu-241	4.57E-05	3.41E-02	22.1	3.56E-05	4.05E-05	5.08E-05	5.57E-05
Pu-242	2.48E-10	1.86E-07	1.20E-04	1.88E-10	2.18E-10	2.79E-10	3.08E-10
Am-241	3.10E-05	2.32E-02	15.0	2.41E-05	2.75E-05	3.46E-05	3.80E-05
Am-243	1.05E-09	7.86E-07	5.09E-04	8.33E-10	9.37E-10	1.18E-09	1.30E-09
Cm-242	7.23E-08	5.41E-05	3.50E-02	3.90E-08	3.90E-08	7.48E-08	7.72E-08
Cm-243	6.71E-09	5.02E-06	3.25E-03	3.53E-09	3.53E-09	7.01E-09	7.30E-09
Cm-244	6.97E-08	5.21E-05	3.38E-02	3.69E-08	3.69E-08	8.08E-08	8.79E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.44E-04 (g/L)	----	0.167	2.73E-04	3.08E-04	3.80E-04	4.15E-04
U	6.31E-03	1.12E+03	728	6.00E-03	6.19E-03	6.40E-03	6.44E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.88E+05 (kg)	(134 kgal)	----	----	----	----	----
Heat Load	0.562 (kW)	(1.92E+03 BTU/hr)	----	0.499	0.529	0.594	0.625
Bulk Density†	1.36 (g/cc)	----	----	1.32	1.33	1.37	1.37
Water wt%†	53.4	----	----	51.9	52.2	56.4	57.6
TOC wt% C (wet)†	0.262	----	----	0.225	0.243	0.281	0.300
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.13E-04	8.35E-02	57.4	6.64E-05	6.64E-05	1.20E-04	1.28E-04
C-14	1.62E-05	1.19E-02	8.21	6.38E-06	6.38E-06	1.67E-05	1.72E-05
Ni-59	1.24E-06	9.13E-04	0.628	7.77E-07	7.77E-07	1.26E-06	1.28E-06
Ni-63	1.21E-04	8.95E-02	61.5	7.56E-05	7.56E-05	1.24E-04	1.26E-04
Co-60	1.77E-05	1.30E-02	8.96	6.43E-06	6.43E-06	1.84E-05	1.91E-05
Se-79	1.66E-06	1.22E-03	0.840	1.03E-06	1.03E-06	1.88E-06	2.10E-06
Sr-90	5.34E-02	39.4	2.71E+04	4.98E-02	5.10E-02	5.61E-02	5.64E-02
Y-90	5.34E-02	39.4	2.71E+04	3.17E-02	3.17E-02	5.49E-02	5.65E-02
Zr-93	8.13E-06	6.00E-03	4.12	5.00E-06	5.00E-06	9.26E-06	1.04E-05
Nb-93m	5.90E-06	4.35E-03	2.99	3.71E-06	3.71E-06	6.69E-06	7.46E-06
Tc-99	1.15E-04	8.51E-02	58.5	7.87E-05	9.66E-05	1.34E-04	1.52E-04
Ru-106	3.13E-09	2.31E-06	1.59E-03	1.67E-09	1.67E-09	3.45E-09	3.75E-09
Cd-113m	4.20E-05	3.10E-02	21.3	2.32E-05	2.32E-05	4.88E-05	5.53E-05
Sb-125	7.49E-05	5.53E-02	38.0	2.63E-05	2.63E-05	7.81E-05	8.13E-05
Sn-126	2.50E-06	1.84E-03	1.27	1.56E-06	1.56E-06	2.84E-06	3.17E-06
I-129	2.22E-07	1.64E-04	0.113	1.51E-07	1.86E-07	2.59E-07	2.94E-07
Cs-134	1.28E-06	9.41E-04	0.647	9.44E-07	1.11E-06	1.45E-06	1.61E-06
Cs-137	0.160	118	8.10E+04	0.133	0.146	0.173	0.186
Ba-137m	0.151	111	7.66E+04	0.126	0.134	0.164	0.176
Sm-151	5.83E-03	4.30	2.96E+03	3.64E-03	3.64E-03	6.62E-03	7.38E-03
Eu-152	1.81E-06	1.34E-03	0.920	1.04E-06	1.04E-06	1.90E-06	1.98E-06
Eu-154	2.84E-04	0.209	144	1.27E-04	1.27E-04	3.40E-04	3.63E-04
Eu-155	1.08E-04	7.96E-02	54.7	6.17E-05	6.17E-05	1.14E-04	1.20E-04
Ra-226	8.13E-11	6.00E-08	4.12E-05	6.19E-11	6.19E-11	8.83E-11	1.02E-10
Ra-228	1.33E-07	9.84E-05	6.77E-02	5.08E-08	9.12E-08	1.82E-07	2.35E-07
Ac-227	5.24E-10	3.86E-07	2.66E-04	4.11E-10	4.11E-10	5.65E-10	6.17E-10
Pa-231	2.30E-09	1.69E-06	1.17E-03	1.67E-09	1.67E-09	2.52E-09	2.74E-09
Th-229	3.09E-09	2.28E-06	1.57E-03	1.28E-09	2.16E-09	4.17E-09	5.31E-09
Th-232	8.18E-09	6.03E-06	4.15E-03	3.61E-09	5.85E-09	1.05E-08	1.27E-08
U-232	6.67E-07	4.92E-04	0.338	3.36E-07	4.98E-07	8.63E-07	1.07E-06
U-233	2.56E-06	1.89E-03	1.30	1.29E-06	1.91E-06	3.31E-06	4.11E-06
U-234	2.59E-06	1.91E-03	1.31	2.57E-06	2.58E-06	2.60E-06	2.60E-06
U-235	1.14E-07	8.40E-05	5.78E-02	1.13E-07	1.14E-07	1.14E-07	1.14E-07
U-236	3.06E-08	2.26E-05	1.55E-02	2.98E-08	3.04E-08	3.08E-08	3.09E-08
U-238	2.73E-06	2.01E-03	1.39	2.71E-06	2.72E-06	2.74E-06	2.74E-06
Np-237	4.17E-07	3.07E-04	0.211	2.97E-07	3.55E-07	4.78E-07	5.38E-07
Pu-238	6.63E-07	4.89E-04	0.336	5.23E-07	5.92E-07	7.35E-07	8.04E-07
Pu-239	2.40E-05	1.77E-02	12.2	2.04E-05	2.22E-05	2.59E-05	2.76E-05
Pu-240	3.96E-06	2.92E-03	2.01	3.29E-06	3.62E-06	4.30E-06	4.63E-06
Pu-241	4.36E-05	3.22E-02	22.1	3.41E-05	3.87E-05	4.85E-05	5.32E-05
Pu-242	2.37E-10	1.75E-07	1.20E-04	1.80E-10	2.08E-10	2.66E-10	2.95E-10
Am-241	2.97E-05	2.19E-02	15.1	2.30E-05	2.63E-05	3.31E-05	3.63E-05
Am-243	1.00E-09	7.41E-07	5.09E-04	7.95E-10	8.95E-10	1.13E-09	1.24E-09
Cm-242	6.95E-08	5.13E-05	3.52E-02	3.76E-08	3.76E-08	7.18E-08	7.41E-08
Cm-243	6.42E-09	4.74E-06	3.26E-03	3.38E-09	3.38E-09	6.71E-09	6.98E-09
Cm-244	6.66E-08	4.91E-05	3.38E-02	3.52E-08	3.52E-08	7.72E-08	8.39E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.31E-04 (g/L)	----	0.168	2.63E-04	2.96E-04	3.65E-04	3.98E-04
U	3.22E-02	5.65E+03	3.89E+03	3.19E-02	3.21E-02	3.23E-02	3.23E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.99E+06 (kg)	(384 kgal)	----	----	----	----	----
Heat Load	0.194 (kW)	(664 BTU/hr)	----	0.143	0.169	0.221	0.246
Bulk Density	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Void Fraction	0.729	----	----	0.673	0.696	0.784	0.868
Water wt%	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.10	8.59E+04	1.71E+05	3.01	4.22	5.72	6.26
Al^{3+}	0.503	9.93E+03	1.97E+04	0.503	0.503	0.503	0.503
Fe^{3+} (total Fe)	0.344	1.41E+04	2.79E+04	0.335	0.341	0.346	0.347
Cr^{3+}	4.93E-03	188	372	3.84E-03	4.40E-03	5.47E-03	5.99E-03
Bi^{3+}	6.10E-02	9.33E+03	1.85E+04	4.41E-02	5.53E-02	6.43E-02	6.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.86E-05	14.5	28.8	5.64E-05	8.43E-05	1.07E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	2.43E-04	16.2	32.2	1.89E-04	2.17E-04	2.69E-04	2.95E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	52.1	104	9.46E-04	1.08E-03	2.24E-03	3.20E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.46E-02	2.19E+03	4.35E+03	3.70E-02	6.18E-02	8.22E-02	8.70E-02
K^{+}	6.85E-03	196	389	5.34E-03	6.11E-03	7.60E-03	8.33E-03
OH^{-}	3.69	4.60E+04	9.13E+04	3.57	3.65	3.72	3.74
$NO3^{-}$	1.01	4.57E+04	9.07E+04	0.834	0.930	1.08	1.13
$NO2^{-}$	0.273	9.18E+03	1.82E+04	0.166	0.214	0.344	0.423
$CO3^{2-}$	7.46E-02	3.28E+03	6.51E+03	3.70E-02	6.18E-02	8.22E-02	8.70E-02
$PO4^{3-}$	1.13	7.83E+04	1.56E+05	0.578	0.914	1.25	1.33
$SO4^{2-}$	5.28E-02	3.71E+03	7.37E+03	4.12E-02	4.71E-02	5.86E-02	6.42E-02
Si (as SiO_x^{2-})	0.191	3.92E+03	7.78E+03	0.108	0.142	0.221	0.249
F^{-}	0.141	1.96E+03	3.89E+03	0.110	0.126	0.180	0.307
Cl^{-}	3.15E-02	817	1.62E+03	2.46E-02	2.81E-02	3.50E-02	3.83E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.80E-02	846	1.68E+03	5.56E-02	6.22E-02	7.37E-02	7.91E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.99E+06 (kg)	(384 kgal)	----	----	----	----	----
Heat Load	0.194 (kW)	(664 BTU/hr)	----	0.143	0.169	0.221	0.246
Bulk Density†	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Water wt%†	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.10	8.59E+04	1.71E+05	3.01	4.22	5.72	6.26
Al^{3+}	0.503	9.93E+03	1.97E+04	0.503	0.503	0.503	0.503
Fe^{3+} (total Fe)	0.344	1.41E+04	2.79E+04	0.335	0.341	0.346	0.347
Cr^{3+}	4.93E-03	188	372	3.84E-03	4.40E-03	5.47E-03	5.99E-03
Bi^{3+}	6.10E-02	9.33E+03	1.85E+04	4.41E-02	5.53E-02	6.43E-02	6.65E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.86E-05	14.5	28.8	5.64E-05	8.43E-05	1.07E-04	1.12E-04
Zr (as $ZrO(OH)_2$)	2.43E-04	16.2	32.2	1.89E-04	2.17E-04	2.69E-04	2.95E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21E-03	52.1	104	9.46E-04	1.08E-03	2.24E-03	3.20E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.46E-02	2.19E+03	4.35E+03	3.70E-02	6.18E-02	8.22E-02	8.70E-02
K^{+}	6.85E-03	196	389	5.34E-03	6.11E-03	7.60E-03	8.33E-03
OH^{-}	3.69	4.60E+04	9.13E+04	3.57	3.65	3.72	3.74
$NO3^{-}$	1.01	4.57E+04	9.07E+04	0.834	0.930	1.08	1.13
$NO2^{-}$	0.273	9.18E+03	1.82E+04	0.166	0.214	0.344	0.423
$CO3^{2-}$	7.46E-02	3.28E+03	6.51E+03	3.70E-02	6.18E-02	8.22E-02	8.70E-02
$PO4^{3-}$	1.13	7.83E+04	1.56E+05	0.578	0.914	1.25	1.33
$SO4^{2-}$	5.28E-02	3.71E+03	7.37E+03	4.12E-02	4.71E-02	5.86E-02	6.42E-02
Si (as SiO_x^{2-})	0.191	3.92E+03	7.78E+03	0.108	0.142	0.221	0.249
F^{-}	0.141	1.96E+03	3.89E+03	0.110	0.126	0.180	0.307
Cl^{-}	3.15E-02	817	1.62E+03	2.46E-02	2.81E-02	3.50E-02	3.83E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.79E-02	846	1.68E+03	5.56E-02	6.22E-02	7.37E-02	7.91E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.99E+06 (kg)	(384 kgal)	----	----	----	----	----
Heat Load	0.194 (kW)	(664 BTU/hr)	----	0.143	0.169	0.221	0.246
Bulk Density	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Void Fraction	0.729	----	----	0.673	0.696	0.784	0.868
Water wt%	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.60E-07	4.10E-04	0.814	2.88E-07	4.08E-07	7.51E-07	9.64E-07
C-14	1.17E-07	8.56E-05	0.170	8.67E-08	1.02E-07	1.32E-07	1.47E-07
Ni-59	3.32E-08	2.43E-05	4.83E-02	2.47E-08	2.91E-08	6.64E-08	9.72E-08
Ni-63	3.00E-06	2.19E-03	4.36	2.21E-06	2.62E-06	6.02E-06	8.83E-06
Co-60	2.68E-08	1.96E-05	3.89E-02	1.86E-08	2.28E-08	3.09E-08	3.48E-08
Se-79	2.47E-08	1.80E-05	3.58E-02	1.83E-08	2.16E-08	2.78E-08	3.09E-08
Sr-90	1.11E-02	8.13	1.61E+04	8.14E-03	9.66E-03	1.26E-02	1.40E-02
Y-90	1.11E-02	8.13	1.61E+04	8.14E-03	9.67E-03	1.26E-02	1.40E-02
Zr-93	1.17E-07	8.57E-05	0.170	8.69E-08	1.02E-07	1.32E-07	1.47E-07
Nb-93m	9.88E-08	7.23E-05	0.144	7.36E-08	8.66E-08	1.11E-07	1.24E-07
Tc-99	8.11E-07	5.94E-04	1.18	6.02E-07	7.10E-07	9.16E-07	1.02E-06
Ru-106	1.12E-14	8.17E-12	1.62E-08	7.03E-15	9.16E-15	1.32E-14	1.52E-14
Cd-113m	2.86E-07	2.10E-04	0.416	2.07E-07	2.48E-07	3.26E-07	3.65E-07
Sb-125	2.48E-08	1.82E-05	3.61E-02	1.65E-08	2.08E-08	2.90E-08	3.30E-08
Sn-126	3.71E-08	2.72E-05	5.39E-02	2.75E-08	3.24E-08	4.19E-08	4.66E-08
I-129	1.53E-09	1.12E-06	2.22E-03	1.13E-09	1.34E-09	1.73E-09	1.92E-09
Cs-134	1.03E-09	7.55E-07	1.50E-03	6.61E-10	8.52E-10	1.22E-09	1.40E-09
Cs-137	1.26E-02	9.23	1.83E+04	9.23E-03	1.10E-02	1.43E-02	1.59E-02
Ba-137m	1.19E-02	8.73	1.73E+04	8.73E-03	1.04E-02	1.35E-02	1.51E-02
Sm-151	9.18E-05	6.72E-02	133	6.82E-05	8.04E-05	1.04E-04	1.15E-04
Eu-152	3.47E-08	2.54E-05	5.04E-02	3.36E-08	3.42E-08	3.53E-08	3.58E-08
Eu-154	4.83E-07	3.53E-04	0.702	3.27E-07	4.07E-07	5.60E-07	6.36E-07
Eu-155	2.63E-06	1.92E-03	3.82	2.55E-06	2.59E-06	2.67E-06	2.70E-06
Ra-226	6.71E-12	4.91E-09	9.76E-06	5.42E-12	6.09E-12	7.36E-12	7.99E-12
Ra-228	1.34E-16	9.83E-14	1.95E-10	1.31E-16	1.33E-16	1.36E-16	1.37E-16
Ac-227	3.43E-11	2.51E-08	4.98E-05	2.76E-11	3.10E-11	3.76E-11	4.09E-11
Pa-231	7.45E-11	5.45E-08	1.08E-04	5.94E-11	6.72E-11	8.21E-11	8.94E-11
Th-229	2.61E-14	1.91E-11	3.79E-08	2.54E-14	2.58E-14	2.64E-14	2.67E-14
Th-232	3.33E-17	2.44E-14	4.84E-11	2.51E-17	2.93E-17	3.74E-17	4.14E-17
U-232	2.83E-10	2.07E-07	4.12E-04	2.51E-10	2.72E-10	2.90E-10	2.94E-10
U-233	1.41E-11	1.03E-08	2.05E-05	1.26E-11	1.36E-11	1.44E-11	1.46E-11
U-234	1.52E-05	1.11E-02	22.0	1.38E-05	1.47E-05	1.54E-05	1.56E-05
U-235	6.75E-07	4.94E-04	0.981	6.17E-07	6.55E-07	6.87E-07	6.94E-07
U-236	1.30E-07	9.48E-05	0.188	1.16E-07	1.25E-07	1.32E-07	1.34E-07
U-238	1.54E-05	1.13E-02	22.4	1.40E-05	1.49E-05	1.57E-05	1.58E-05
Np-237	5.01E-09	3.67E-06	7.28E-03	3.70E-09	4.37E-09	5.66E-09	6.30E-09
Pu-238	2.82E-07	2.07E-04	0.410	5.75E-08	1.79E-07	3.73E-07	4.61E-07
Pu-239	3.93E-05	2.88E-02	57.1	1.14E-05	2.65E-05	5.06E-05	6.14E-05
Pu-240	3.57E-06	2.61E-03	5.18	8.39E-07	2.32E-06	4.67E-06	5.73E-06
Pu-241	1.17E-05	8.55E-03	17.0	1.80E-06	7.15E-06	1.57E-05	1.95E-05
Pu-242	5.30E-11	3.88E-08	7.70E-05	7.83E-12	3.23E-11	7.12E-11	8.87E-11
Am-241	2.25E-07	1.65E-04	0.328	1.46E-07	1.87E-07	2.65E-07	3.04E-07
Am-243	1.57E-12	1.15E-09	2.29E-06	9.97E-13	1.29E-12	1.86E-12	2.14E-12
Cm-242	6.33E-10	4.63E-07	9.20E-04	6.10E-10	6.22E-10	6.45E-10	6.56E-10
Cm-243	1.30E-11	9.49E-09	1.88E-05	1.25E-11	1.27E-11	1.32E-11	1.34E-11
Cm-244	3.72E-11	2.72E-08	5.41E-05	2.35E-11	3.06E-11	4.41E-11	5.07E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.48E-04 (g/L)	----	0.942	1.87E-04	4.37E-04	8.35E-04	1.01E-03
U	0.194	3.37E+04	6.70E+04	0.177	0.188	0.197	0.199

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(2.80E-02 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-109

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.99E+06 (kg)	(384 kgal)	----	----	----	----	----
Heat Load	0.194 (kW)	(664 BTU/hr)	----	0.143	0.169	0.221	0.246
Bulk Density†	1.37 (g/cc)	----	----	1.25	1.32	1.40	1.42
Water wt%†	64.9	----	----	61.2	62.9	67.9	72.5
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	5.60E-07	4.10E-04	0.814	2.88E-07	4.08E-07	7.51E-07	9.64E-07
C-14	1.17E-07	8.56E-05	0.170	8.67E-08	1.02E-07	1.32E-07	1.47E-07
Ni-59	3.32E-08	2.43E-05	4.83E-02	2.47E-08	2.91E-08	6.64E-08	9.72E-08
Ni-63	3.00E-06	2.19E-03	4.36	2.21E-06	2.62E-06	6.02E-06	8.83E-06
Co-60	2.68E-08	1.96E-05	3.89E-02	1.86E-08	2.28E-08	3.09E-08	3.48E-08
Se-79	2.47E-08	1.80E-05	3.58E-02	1.83E-08	2.16E-08	2.78E-08	3.09E-08
Sr-90	1.11E-02	8.13	1.61E+04	8.14E-03	9.66E-03	1.26E-02	1.40E-02
Y-90	1.11E-02	8.13	1.61E+04	8.14E-03	9.67E-03	1.26E-02	1.40E-02
Zr-93	1.17E-07	8.57E-05	0.170	8.69E-08	1.02E-07	1.32E-07	1.47E-07
Nb-93m	9.88E-08	7.23E-05	0.144	7.36E-08	8.66E-08	1.11E-07	1.24E-07
Tc-99	8.11E-07	5.94E-04	1.18	6.02E-07	7.10E-07	9.16E-07	1.02E-06
Ru-106	1.12E-14	8.17E-12	1.62E-08	7.03E-15	9.16E-15	1.32E-14	1.52E-14
Cd-113m	2.86E-07	2.10E-04	0.416	2.07E-07	2.48E-07	3.26E-07	3.65E-07
Sb-125	2.48E-08	1.82E-05	3.61E-02	1.65E-08	2.08E-08	2.90E-08	3.30E-08
Sn-126	3.71E-08	2.72E-05	5.39E-02	2.75E-08	3.24E-08	4.19E-08	4.66E-08
I-129	1.53E-09	1.12E-06	2.22E-03	1.13E-09	1.34E-09	1.73E-09	1.92E-09
Cs-134	1.03E-09	7.55E-07	1.50E-03	6.61E-10	8.52E-10	1.22E-09	1.40E-09
Cs-137	1.26E-02	9.23	1.83E+04	9.23E-03	1.10E-02	1.43E-02	1.59E-02
Ba-137m	1.19E-02	8.73	1.73E+04	8.73E-03	1.04E-02	1.35E-02	1.51E-02
Sm-151	9.18E-05	6.72E-02	133	6.82E-05	8.04E-05	1.04E-04	1.15E-04
Eu-152	3.47E-08	2.54E-05	5.04E-02	3.36E-08	3.42E-08	3.53E-08	3.58E-08
Eu-154	4.83E-07	3.53E-04	0.702	3.27E-07	4.07E-07	5.60E-07	6.36E-07
Eu-155	2.63E-06	1.92E-03	3.82	2.55E-06	2.59E-06	2.67E-06	2.70E-06
Ra-226	6.71E-12	4.91E-09	9.76E-06	5.42E-12	6.09E-12	7.36E-12	7.99E-12
Ra-228	1.34E-16	9.83E-14	1.95E-10	1.31E-16	1.33E-16	1.36E-16	1.37E-16
Ac-227	3.43E-11	2.51E-08	4.98E-05	2.76E-11	3.10E-11	3.76E-11	4.09E-11
Pa-231	7.45E-11	5.45E-08	1.08E-04	5.94E-11	6.72E-11	8.21E-11	8.94E-11
Th-229	2.61E-14	1.91E-11	3.79E-08	2.54E-14	2.58E-14	2.64E-14	2.67E-14
Th-232	3.33E-17	2.44E-14	4.84E-11	2.51E-17	2.93E-17	3.74E-17	4.14E-17
U-232	2.83E-10	2.07E-07	4.12E-04	2.51E-10	2.72E-10	2.90E-10	2.94E-10
U-233	1.41E-11	1.03E-08	2.05E-05	1.26E-11	1.36E-11	1.44E-11	1.46E-11
U-234	1.52E-05	1.11E-02	22.0	1.38E-05	1.47E-05	1.54E-05	1.56E-05
U-235	6.75E-07	4.94E-04	0.981	6.17E-07	6.55E-07	6.87E-07	6.94E-07
U-236	1.30E-07	9.48E-05	0.188	1.16E-07	1.25E-07	1.32E-07	1.34E-07
U-238	1.54E-05	1.13E-02	22.4	1.40E-05	1.49E-05	1.57E-05	1.58E-05
Np-237	5.01E-09	3.67E-06	7.28E-03	3.70E-09	4.37E-09	5.66E-09	6.30E-09
Pu-238	2.82E-07	2.07E-04	0.410	5.75E-08	1.79E-07	3.73E-07	4.61E-07
Pu-239	3.93E-05	2.88E-02	57.1	1.14E-05	2.65E-05	5.06E-05	6.14E-05
Pu-240	3.57E-06	2.61E-03	5.18	8.39E-07	2.32E-06	4.67E-06	5.73E-06
Pu-241	1.17E-05	8.55E-03	17.0	1.80E-06	7.15E-06	1.57E-05	1.95E-05
Pu-242	5.30E-11	3.88E-08	7.70E-05	7.83E-12	3.23E-11	7.12E-11	8.87E-11
Am-241	2.25E-07	1.65E-04	0.328	1.46E-07	1.87E-07	2.65E-07	3.04E-07
Am-243	1.57E-12	1.15E-09	2.29E-06	9.97E-13	1.29E-12	1.86E-12	2.14E-12
Cm-242	6.33E-10	4.63E-07	9.20E-04	6.10E-10	6.22E-10	6.45E-10	6.56E-10
Cm-243	1.30E-11	9.49E-09	1.88E-05	1.25E-11	1.27E-11	1.32E-11	1.34E-11
Cm-244	3.72E-11	2.72E-08	5.41E-05	2.35E-11	3.06E-11	4.41E-11	5.07E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.48E-04 (g/L)	----	0.942	1.87E-04	4.37E-04	8.35E-04	1.01E-03
U	0.194	3.37E+04	6.70E+04	0.177	0.188	0.197	0.199

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.91E+05 (kg)	(37.0 kgal)	----	----	----	----	----
Heat Load	2.05E-02 (kW)	(70.1 BTU/hr)	----	1.40E-02	1.74E-02	2.38E-02	2.69E-02
Bulk Density	1.36 (g/cc)	----	----	1.22	1.30	1.40	1.43
Void Fraction	0.733	----	----	0.660	0.690	0.805	0.913
Water wt%	65.2	----	----	60.4	62.6	69.2	75.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	8.55E+04	1.63E+04	2.34	3.92	5.87	6.58
Al^{3+}	0.474	9.39E+03	1.79E+03	0.474	0.474	0.474	0.474
Fe^{3+} (total Fe)	0.341	1.40E+04	2.67E+03	0.330	0.338	0.344	0.345
Cr^{3+}	4.95E-03	189	36.0	3.54E-03	4.27E-03	5.66E-03	6.34E-03
Bi^{3+}	6.06E-02	9.29E+03	1.77E+03	3.86E-02	5.31E-02	6.49E-02	6.77E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.65E-05	14.2	2.71	4.15E-05	7.79E-05	1.07E-04	1.14E-04
Zr (as $ZrO(OH)_2$)	2.44E-04	16.3	3.11	1.74E-04	2.10E-04	2.78E-04	3.12E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.22E-03	52.5	10.0	8.71E-04	1.05E-03	2.56E-03	3.81E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.41E-02	2.18E+03	416	2.52E-02	5.74E-02	8.40E-02	9.02E-02
K^+	6.88E-03	198	37.7	4.92E-03	5.93E-03	7.87E-03	8.82E-03
OH^-	3.58	4.47E+04	8.52E+03	3.42	3.53	3.62	3.64
$NO3^-$	0.998	4.54E+04	8.66E+03	0.773	0.898	1.09	1.16
$NO2^-$	0.284	9.58E+03	1.83E+03	0.145	0.207	0.376	0.479
$CO3^{2-}$	7.41E-02	3.27E+03	623	2.52E-02	5.74E-02	8.40E-02	9.02E-02
$PO4^{3-}$	1.12	7.81E+04	1.49E+04	0.404	0.842	1.28	1.39
$SO4^{2-}$	5.30E-02	3.74E+03	713	3.79E-02	4.57E-02	6.06E-02	6.79E-02
Si (as SiO_x^{2-})	0.181	3.73E+03	710	7.36E-02	0.117	0.220	0.257
F^-	0.142	1.98E+03	377	0.101	0.122	0.192	0.358
Cl^-	3.17E-02	824	157	2.26E-02	2.73E-02	3.62E-02	4.06E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	6.45E-02	805	153	4.84E-02	5.69E-02	7.20E-02	7.90E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.23E+06 (kg)	(425 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.90E+03 BTU/hr)	----	2.08	2.20	2.43	2.54
Bulk Density*	1.39 (g/cc)	----	----	1.35	1.37	1.39	1.40
Water wt%	49.7	----	----	48.1	48.8	51.3	53.2
TOC wt% C (wet)	0.685	----	----	0.358	0.519	0.852	1.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.06	1.50E+05	3.35E+05	8.20	8.63	9.28	9.49
Al^{3+}	0.951	1.85E+04	4.13E+04	0.848	0.899	1.00	1.06
Fe^{3+} (total Fe)	7.38E-03	298	663	6.52E-03	6.95E-03	7.82E-03	8.24E-03
Cr^{3+}	7.41E-02	2.78E+03	6.20E+03	6.40E-02	6.94E-02	7.57E-02	7.69E-02
Bi^{3+}	1.48E-03	223	498	1.32E-03	1.40E-03	1.56E-03	1.65E-03
La^{3+}	7.33E-10	7.35E-05	1.64E-04	5.91E-10	6.60E-10	8.05E-10	8.75E-10
Hg^{2+}	8.44E-06	1.22	2.72	7.57E-06	8.06E-06	8.55E-06	8.66E-06
Zr (as $ZrO(OH)_2$)	3.17E-04	20.9	46.6	2.87E-04	2.98E-04	3.30E-04	3.47E-04
Pb^{2+}	7.85E-04	117	262	6.18E-04	7.00E-04	8.70E-04	9.51E-04
Ni^{2+}	4.70E-03	199	444	4.45E-03	4.57E-03	4.77E-03	4.77E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.90E-03	75.3	168	1.49E-03	1.69E-03	2.11E-03	2.31E-03
Ca^{2+}	2.52E-02	728	1.62E+03	2.39E-02	2.45E-02	2.58E-02	2.64E-02
K^+	4.29E-02	1.21E+03	2.70E+03	3.80E-02	3.97E-02	4.68E-02	4.98E-02
OH^-	5.49	6.74E+04	1.50E+05	5.08	5.28	5.71	5.91
$NO3^-$	3.59	1.61E+05	3.58E+05	3.06	3.37	3.67	3.74
$NO2^-$	1.37	4.55E+04	1.01E+05	1.19	1.27	1.46	1.55
$CO3^{2-}$	0.325	1.41E+04	3.14E+04	0.276	0.293	0.366	0.372
$PO4^{3-}$	8.07E-02	5.53E+03	1.23E+04	6.36E-02	6.96E-02	8.38E-02	8.68E-02
$SO4^{2-}$	0.183	1.27E+04	2.82E+04	0.139	0.154	0.217	0.221
Si (as SiO_x^{2-})	5.20E-02	1.05E+03	2.35E+03	4.61E-02	4.90E-02	5.50E-02	5.79E-02
F^-	7.27E-02	997	2.22E+03	5.83E-02	6.44E-02	7.98E-02	8.54E-02
Cl^-	0.165	4.22E+03	9.41E+03	0.136	0.146	0.176	0.176
$C_6H_5O_7^{3-}$	1.29E-02	1.76E+03	3.93E+03	1.14E-02	1.22E-02	1.37E-02	1.44E-02
$EDTA^{4-}$	1.51E-02	3.15E+03	7.02E+03	3.95E-03	9.41E-03	2.09E-02	2.65E-02
$HEDTA^{3-}$	2.96E-02	5.86E+03	1.31E+04	7.23E-03	1.82E-02	4.11E-02	5.24E-02
$glycolate^-$	6.81E-02	3.69E+03	8.22E+03	4.57E-02	5.66E-02	7.96E-02	9.08E-02
$acetate^-$	2.13E-03	90.9	203	1.73E-03	1.93E-03	2.34E-03	2.54E-03
$oxalate^{2-}$	9.60E-10	6.10E-05	1.36E-04	8.83E-10	9.21E-10	9.99E-10	1.04E-09
DBP	1.05E-02	1.59E+03	3.54E+03	9.03E-03	9.74E-03	1.12E-02	1.19E-02
butanol	1.05E-02	561	1.25E+03	9.03E-03	9.74E-03	1.12E-02	1.19E-02
NH_3	7.19E-02	882	1.97E+03	5.51E-02	6.33E-02	8.06E-02	8.92E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.42E+06 (kg)	(462 kgal)	----	----	----	----	----
Heat Load	2.33 (kW)	(7.97E+03 BTU/hr)	----	2.11	2.22	2.45	2.56
Bulk Density†	1.38 (g/cc)	----	----	1.35	1.37	1.39	1.40
Water wt%†	50.9	----	----	49.5	50.1	52.4	54.2
TOC wt% C (wet)†	0.631	----	----	0.330	0.478	0.785	0.935

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.74	1.45E+05	3.51E+05	7.95	8.34	8.94	9.13
Al^{3+}	0.913	1.78E+04	4.31E+04	0.818	0.865	0.962	1.01
Fe^{3+} (total Fe)	3.41E-02	1.38E+03	3.33E+03	3.32E-02	3.37E-02	3.45E-02	3.49E-02
Cr^{3+}	6.85E-02	2.58E+03	6.23E+03	5.93E-02	6.43E-02	7.01E-02	7.12E-02
Bi^{3+}	6.21E-03	938	2.27E+03	4.45E-03	5.61E-03	6.56E-03	6.78E-03
La^{3+}	6.74E-10	6.77E-05	1.64E-04	5.44E-10	6.08E-10	7.41E-10	8.05E-10
Hg^{2+}	1.55E-05	2.24	5.43	1.11E-05	1.40E-05	1.64E-05	1.69E-05
Zr (as $ZrO(OH)_2$)	3.11E-04	20.5	49.7	2.84E-04	2.94E-04	3.23E-04	3.39E-04
Pb^{2+}	7.22E-04	108	262	5.68E-04	6.44E-04	8.00E-04	8.75E-04
Ni^{2+}	4.43E-03	188	454	4.19E-03	4.30E-03	4.54E-03	4.64E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	69.4	168	1.37E-03	1.55E-03	1.94E-03	2.13E-03
Ca^{2+}	2.91E-02	842	2.04E+03	2.52E-02	2.77E-02	2.99E-02	3.04E-02
K^+	4.00E-02	1.13E+03	2.74E+03	3.55E-02	3.71E-02	4.36E-02	4.63E-02
OH^-	5.34	6.56E+04	1.59E+05	4.96	5.15	5.54	5.72
$NO3^-$	3.39	1.52E+05	3.67E+05	2.90	3.18	3.45	3.52
$NO2^-$	1.28	4.26E+04	1.03E+05	1.12	1.20	1.37	1.45
$CO3^{2-}$	0.305	1.32E+04	3.20E+04	0.260	0.275	0.343	0.349
$PO4^{3-}$	0.164	1.12E+04	2.72E+04	0.106	0.142	0.177	0.185
$SO4^{2-}$	0.172	1.20E+04	2.89E+04	0.132	0.146	0.204	0.207
Si (as SiO_x^{2-})	6.23E-02	1.26E+03	3.06E+03	5.34E-02	5.72E-02	6.52E-02	6.77E-02
F^-	7.82E-02	1.07E+03	2.60E+03	6.50E-02	7.05E-02	8.47E-02	9.75E-02
Cl^-	0.154	3.95E+03	9.57E+03	0.128	0.137	0.164	0.164
$C_6H_5O_7^{3-}$	1.19E-02	1.63E+03	3.93E+03	1.05E-02	1.12E-02	1.26E-02	1.33E-02
$EDTA^{4-}$	1.39E-02	2.90E+03	7.02E+03	3.63E-03	8.66E-03	1.92E-02	2.44E-02
$HEDTA^{3-}$	2.72E-02	5.40E+03	1.31E+04	6.65E-03	1.67E-02	3.78E-02	4.82E-02
$glycolate^-$	6.26E-02	3.40E+03	8.22E+03	4.20E-02	5.21E-02	7.32E-02	8.36E-02
$acetate^-$	1.96E-03	83.7	203	1.59E-03	1.77E-03	2.15E-03	2.34E-03
$oxalate^{2-}$	8.83E-10	5.62E-05	1.36E-04	8.13E-10	8.47E-10	9.19E-10	9.53E-10
DBP	9.64E-03	1.47E+03	3.54E+03	8.31E-03	8.96E-03	1.03E-02	1.10E-02
butanol	9.64E-03	517	1.25E+03	8.31E-03	8.96E-03	1.03E-02	1.10E-02
NH_3	7.13E-02	876	2.12E+03	5.59E-02	6.34E-02	7.94E-02	8.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.91E+05 (kg)	(37.0 kgal)	----	----	----	----	----
Heat Load	2.05E-02 (kW)	(70.1 BTU/hr)	----	1.40E-02	1.74E-02	2.38E-02	2.69E-02
Bulk Density	1.36 (g/cc)	----	----	1.22	1.30	1.40	1.43
Void Fraction	0.733	----	----	0.660	0.690	0.805	0.913
Water wt%	65.2	----	----	60.4	62.6	69.2	75.5
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.27E-07	4.60E-04	8.77E-02	2.73E-07	4.30E-07	8.76E-07	1.15E-06
C-14	1.26E-07	9.26E-05	1.76E-02	8.67E-08	1.07E-07	1.46E-07	1.65E-07
Ni-59	3.58E-08	2.63E-05	5.02E-03	2.47E-08	3.04E-08	7.91E-08	1.19E-07
Ni-63	3.25E-06	2.39E-03	0.455	2.23E-06	2.75E-06	7.19E-06	1.09E-05
Co-60	3.12E-08	2.29E-05	4.37E-03	2.06E-08	2.61E-08	3.65E-08	4.17E-08
Se-79	2.66E-08	1.95E-05	3.72E-03	1.83E-08	2.26E-08	3.08E-08	3.48E-08
Sr-90	1.22E-02	8.93	1.70E+03	8.30E-03	1.03E-02	1.41E-02	1.60E-02
Y-90	1.22E-02	8.93	1.70E+03	8.30E-03	1.03E-02	1.41E-02	1.60E-02
Zr-93	1.26E-07	9.27E-05	1.77E-02	8.69E-08	1.07E-07	1.46E-07	1.65E-07
Nb-93m	1.06E-07	7.79E-05	1.48E-02	7.32E-08	9.01E-08	1.23E-07	1.38E-07
Tc-99	8.76E-07	6.43E-04	0.123	6.02E-07	7.43E-07	1.01E-06	1.14E-06
Ru-106	1.45E-14	1.06E-11	2.02E-09	9.07E-15	1.18E-14	1.72E-14	1.98E-14
Cd-113m	3.20E-07	2.35E-04	4.47E-02	2.16E-07	2.69E-07	3.71E-07	4.22E-07
Sb-125	3.04E-08	2.23E-05	4.25E-03	1.96E-08	2.51E-08	3.58E-08	4.10E-08
Sn-126	4.01E-08	2.95E-05	5.62E-03	2.76E-08	3.40E-08	4.64E-08	5.25E-08
I-129	1.65E-09	1.21E-06	2.31E-04	1.14E-09	1.40E-09	1.91E-09	2.16E-09
Cs-134	1.31E-09	9.64E-07	1.84E-04	8.30E-10	1.08E-09	1.55E-09	1.79E-09
Cs-137	1.38E-02	10.2	1.93E+03	9.43E-03	1.17E-02	1.60E-02	1.81E-02
Ba-137m	1.31E-02	9.60	1.83E+03	8.92E-03	1.11E-02	1.52E-02	1.72E-02
Sm-151	9.87E-05	7.25E-02	13.8	6.80E-05	8.38E-05	1.14E-04	1.29E-04
Eu-152	4.27E-08	3.13E-05	5.97E-03	4.12E-08	4.19E-08	4.34E-08	4.41E-08
Eu-154	5.80E-07	4.26E-04	8.11E-02	3.77E-07	4.82E-07	6.81E-07	7.79E-07
Eu-155	3.04E-06	2.23E-03	0.425	2.94E-06	2.99E-06	3.09E-06	3.14E-06
Ra-226	6.39E-12	4.69E-09	8.94E-07	4.71E-12	5.57E-12	7.23E-12	8.05E-12
Ra-228	1.40E-16	1.03E-13	1.96E-11	1.36E-16	1.38E-16	1.42E-16	1.44E-16
Ac-227	3.28E-11	2.41E-08	4.59E-06	2.41E-11	2.86E-11	3.72E-11	4.14E-11
Pa-231	7.24E-11	5.31E-08	1.01E-05	5.27E-11	6.28E-11	8.22E-11	9.17E-11
Th-229	2.72E-14	2.00E-11	3.81E-09	2.64E-14	2.68E-14	2.76E-14	2.80E-14
Th-232	3.53E-17	2.59E-14	4.93E-12	2.45E-17	3.00E-17	4.06E-17	4.58E-17
U-232	3.12E-10	2.29E-07	4.36E-05	2.70E-10	2.98E-10	3.20E-10	3.25E-10
U-233	1.49E-11	1.10E-08	2.09E-06	1.30E-11	1.43E-11	1.53E-11	1.55E-11
U-234	1.49E-05	1.10E-02	2.09	1.32E-05	1.43E-05	1.53E-05	1.55E-05
U-235	6.62E-07	4.86E-04	9.27E-02	5.86E-07	6.37E-07	6.77E-07	6.87E-07
U-236	1.38E-07	1.01E-04	1.93E-02	1.20E-07	1.32E-07	1.41E-07	1.44E-07
U-238	1.52E-05	1.11E-02	2.12	1.34E-05	1.46E-05	1.55E-05	1.57E-05
Np-237	5.44E-09	3.99E-06	7.61E-04	3.73E-09	4.61E-09	6.29E-09	7.12E-09
Pu-238	3.52E-07	2.58E-04	4.92E-02	5.87E-08	2.17E-07	4.70E-07	5.84E-07
Pu-239	4.61E-05	3.39E-02	6.46	9.75E-06	2.95E-05	6.09E-05	7.50E-05
Pu-240	4.35E-06	3.19E-03	0.609	7.94E-07	2.72E-06	5.78E-06	7.16E-06
Pu-241	1.50E-05	1.10E-02	2.10	2.16E-06	9.12E-06	2.02E-05	2.52E-05
Pu-242	6.84E-11	5.02E-08	9.58E-06	9.62E-12	4.15E-11	9.22E-11	1.15E-10
Am-241	2.85E-07	2.09E-04	3.98E-02	1.81E-07	2.34E-07	3.37E-07	3.87E-07
Am-243	2.03E-12	1.49E-09	2.83E-07	1.27E-12	1.66E-12	2.40E-12	2.76E-12
Cm-242	8.15E-10	5.98E-07	1.14E-04	7.85E-10	8.00E-10	8.30E-10	8.44E-10
Cm-243	1.67E-11	1.23E-08	2.34E-06	1.61E-11	1.64E-11	1.70E-11	1.73E-11
Cm-244	4.81E-11	3.53E-08	6.73E-06	3.02E-11	3.94E-11	5.71E-11	6.57E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.62E-04 (g/L)	----	0.107	1.60E-04	4.86E-04	1.00E-03	1.24E-03
U	0.191	3.33E+04	6.35E+03	0.169	0.183	0.195	0.198

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.23E+06 (kg)	(425 kgal)	----	----	----	----	----
Heat Load	2.31 (kW)	(7.90E+03 BTU/hr)	----	2.08	2.20	2.43	2.54
Bulk Density*	1.39 (g/cc)	----	----	1.35	1.37	1.39	1.40
Water wt%†	49.7	----	----	48.1	48.8	51.3	53.2
TOC wt% C (wet)	0.685	----	----	0.358	0.519	0.852	1.01

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.37E-04	9.87E-02	220	8.41E-05	8.41E-05	1.46E-04	1.56E-04
C-14	1.91E-05	1.38E-02	30.7	8.07E-06	8.07E-06	1.97E-05	2.03E-05
Ni-59	1.43E-06	1.03E-03	2.29	9.07E-07	9.07E-07	1.45E-06	1.48E-06
Ni-63	1.40E-04	0.101	225	8.84E-05	8.84E-05	1.42E-04	1.45E-04
Co-60	2.16E-05	1.56E-02	34.8	8.99E-06	8.99E-06	2.24E-05	2.32E-05
Se-79	2.11E-06	1.52E-03	3.40	1.41E-06	1.41E-06	2.37E-06	2.61E-06
Sr-90	7.35E-02	53.1	1.18E+05	6.90E-02	7.10E-02	7.65E-02	7.70E-02
Y-90	7.36E-02	53.1	1.18E+05	4.92E-02	4.92E-02	7.53E-02	7.70E-02
Zr-93	1.04E-05	7.48E-03	16.7	6.85E-06	6.85E-06	1.16E-05	1.29E-05
Nb-93m	7.51E-06	5.42E-03	12.1	5.05E-06	5.05E-06	8.41E-06	9.26E-06
Tc-99	1.36E-04	9.82E-02	219	9.49E-05	1.15E-04	1.57E-04	1.78E-04
Ru-106	4.24E-09	3.06E-06	6.81E-03	2.60E-09	2.60E-09	4.60E-09	4.93E-09
Cd-113m	5.39E-05	3.89E-02	86.7	3.28E-05	3.28E-05	6.15E-05	6.88E-05
Sb-125	9.42E-05	6.80E-02	152	3.96E-05	3.96E-05	9.79E-05	1.01E-04
Sn-126	3.19E-06	2.30E-03	5.13	2.13E-06	2.13E-06	3.57E-06	3.94E-06
I-129	2.62E-07	1.89E-04	0.422	1.83E-07	2.21E-07	3.03E-07	3.43E-07
Cs-134	2.44E-06	1.76E-03	3.92	1.59E-06	2.00E-06	2.87E-06	3.30E-06
Cs-137	0.201	145	3.24E+05	0.171	0.186	0.217	0.232
Ba-137m	0.190	137	3.06E+05	0.162	0.171	0.205	0.219
Sm-151	7.44E-03	5.37	1.20E+04	4.97E-03	4.97E-03	8.33E-03	9.18E-03
Eu-152	2.79E-06	2.01E-03	4.48	1.91E-06	1.91E-06	3.10E-06	3.40E-06
Eu-154	3.71E-04	0.268	596	1.95E-04	1.95E-04	4.34E-04	4.60E-04
Eu-155	1.67E-04	0.120	268	1.15E-04	1.15E-04	1.86E-04	2.04E-04
Ra-226	9.77E-11	7.06E-08	1.57E-04	7.59E-11	7.59E-11	1.06E-10	1.13E-10
Ra-228	1.47E-07	1.06E-04	0.236	5.61E-08	1.00E-07	2.01E-07	2.58E-07
Ac-227	6.33E-10	4.57E-07	1.02E-03	5.07E-10	5.07E-10	6.79E-10	7.23E-10
Pa-231	2.82E-09	2.03E-06	4.53E-03	2.11E-09	2.11E-09	3.07E-09	3.32E-09
Th-229	3.40E-09	2.46E-06	5.47E-03	1.41E-09	2.39E-09	4.58E-09	5.84E-09
Th-232	9.02E-09	6.51E-06	1.45E-02	4.00E-09	6.46E-09	1.16E-08	1.40E-08
U-232	7.35E-07	5.31E-04	1.18	3.72E-07	5.50E-07	9.51E-07	1.18E-06
U-233	2.82E-06	2.03E-03	4.53	1.43E-06	2.11E-06	3.64E-06	4.52E-06
U-234	6.08E-07	4.39E-04	0.978	5.80E-07	5.98E-07	6.16E-07	6.20E-07
U-235	2.44E-08	1.76E-05	3.93E-02	2.33E-08	2.40E-08	2.47E-08	2.49E-08
U-236	1.98E-08	1.43E-05	3.19E-02	1.90E-08	1.96E-08	2.00E-08	2.02E-08
U-238	7.38E-07	5.33E-04	1.19	7.11E-07	7.28E-07	7.46E-07	7.49E-07
Np-237	4.88E-07	3.53E-04	0.786	3.54E-07	4.20E-07	5.58E-07	6.24E-07
Pu-238	9.00E-07	6.50E-04	1.45	7.43E-07	8.20E-07	9.81E-07	1.06E-06
Pu-239	3.15E-05	2.27E-02	50.6	2.74E-05	2.94E-05	3.35E-05	3.55E-05
Pu-240	5.31E-06	3.83E-03	8.54	4.55E-06	4.92E-06	5.69E-06	6.06E-06
Pu-241	6.01E-05	4.34E-02	96.7	4.93E-05	5.46E-05	6.56E-05	7.09E-05
Pu-242	3.31E-10	2.39E-07	5.33E-04	2.67E-10	2.99E-10	3.64E-10	3.96E-10
Am-241	3.88E-05	2.80E-02	62.5	3.14E-05	3.50E-05	4.27E-05	4.63E-05
Am-243	1.38E-09	9.96E-07	2.22E-03	1.07E-09	1.21E-09	1.57E-09	1.74E-09
Cm-242	1.08E-07	7.76E-05	0.173	7.17E-08	7.17E-08	1.19E-07	1.31E-07
Cm-243	9.92E-09	7.16E-06	1.60E-02	6.51E-09	6.51E-09	1.10E-08	1.20E-08
Cm-244	8.93E-08	6.45E-05	0.144	5.42E-08	5.42E-08	1.01E-07	1.09E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.33E-04 (g/L)	----	0.697	3.57E-04	3.94E-04	4.72E-04	5.09E-04
U	6.82E-03	1.17E+03	2.61E+03	6.48E-03	6.69E-03	6.91E-03	6.96E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-110

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.42E+06 (kg)	(462 kgal)	----	----	----	----	----
Heat Load	2.33 (kW)	(7.97E+03 BTU/hr)	----	2.11	2.22	2.45	2.56
Bulk Density†	1.38 (g/cc)	----	----	1.35	1.37	1.39	1.40
Water wt%†	50.9	----	----	49.5	50.1	52.4	54.2
TOC wt% C (wet)†	0.631	----	----	0.330	0.478	0.785	0.935

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.26E-04	9.10E-02	220	7.74E-05	7.74E-05	1.34E-04	1.44E-04
C-14	1.76E-05	1.27E-02	30.7	7.44E-06	7.44E-06	1.81E-05	1.87E-05
Ni-59	1.31E-06	9.50E-04	2.30	8.37E-07	8.37E-07	1.34E-06	1.36E-06
Ni-63	1.29E-04	9.31E-02	225	8.16E-05	8.16E-05	1.31E-04	1.33E-04
Co-60	1.99E-05	1.44E-02	34.8	8.27E-06	8.27E-06	2.06E-05	2.14E-05
Se-79	1.95E-06	1.41E-03	3.40	1.30E-06	1.30E-06	2.18E-06	2.40E-06
Sr-90	6.86E-02	49.6	1.20E+05	6.45E-02	6.63E-02	7.14E-02	7.18E-02
Y-90	6.86E-02	49.6	1.20E+05	4.63E-02	4.63E-02	7.03E-02	7.18E-02
Zr-93	9.55E-06	6.90E-03	16.7	6.31E-06	6.31E-06	1.07E-05	1.18E-05
Nb-93m	6.92E-06	5.00E-03	12.1	4.66E-06	4.66E-06	7.74E-06	8.53E-06
Tc-99	1.25E-04	9.05E-02	219	8.74E-05	1.06E-04	1.45E-04	1.63E-04
Ru-106	3.90E-09	2.82E-06	6.81E-03	2.40E-09	2.40E-09	4.23E-09	4.54E-09
Cd-113m	4.96E-05	3.58E-02	86.7	3.02E-05	3.02E-05	5.66E-05	6.34E-05
Sb-125	8.67E-05	6.26E-02	152	3.64E-05	3.64E-05	9.01E-05	9.33E-05
Sn-126	2.94E-06	2.12E-03	5.14	1.97E-06	1.97E-06	3.29E-06	3.63E-06
I-129	2.41E-07	1.74E-04	0.422	1.68E-07	2.04E-07	2.79E-07	3.15E-07
Cs-134	2.24E-06	1.62E-03	3.92	1.46E-06	1.84E-06	2.64E-06	3.03E-06
Cs-137	0.186	135	3.25E+05	0.158	0.172	0.200	0.214
Ba-137m	0.176	127	3.08E+05	0.150	0.159	0.190	0.203
Sm-151	6.85E-03	4.95	1.20E+04	4.58E-03	4.58E-03	7.67E-03	8.45E-03
Eu-152	2.57E-06	1.85E-03	4.49	1.76E-06	1.76E-06	2.85E-06	3.13E-06
Eu-154	3.41E-04	0.247	596	1.79E-04	1.79E-04	4.00E-04	4.23E-04
Eu-155	1.54E-04	0.111	268	1.06E-04	1.06E-04	1.71E-04	1.88E-04
Ra-226	9.04E-11	6.54E-08	1.58E-04	7.04E-11	7.04E-11	9.77E-11	1.05E-10
Ra-228	1.35E-07	9.76E-05	0.236	5.16E-08	9.24E-08	1.84E-07	2.37E-07
Ac-227	5.85E-10	4.23E-07	1.02E-03	4.69E-10	4.69E-10	6.27E-10	6.68E-10
Pa-231	2.60E-09	1.88E-06	4.54E-03	1.95E-09	1.95E-09	2.83E-09	3.06E-09
Th-229	3.13E-09	2.26E-06	5.47E-03	1.30E-09	2.19E-09	4.22E-09	5.37E-09
Th-232	8.30E-09	6.00E-06	1.45E-02	3.68E-09	5.94E-09	1.07E-08	1.29E-08
U-232	6.77E-07	4.89E-04	1.18	3.42E-07	5.06E-07	8.75E-07	1.09E-06
U-233	2.59E-06	1.87E-03	4.53	1.31E-06	1.94E-06	3.35E-06	4.16E-06
U-234	1.75E-06	1.27E-03	3.07	1.62E-06	1.71E-06	1.78E-06	1.80E-06
U-235	7.55E-08	5.46E-05	0.132	6.94E-08	7.34E-08	7.67E-08	7.75E-08
U-236	2.93E-08	2.11E-05	5.12E-02	2.78E-08	2.88E-08	2.95E-08	2.97E-08
U-238	1.89E-06	1.37E-03	3.31	1.75E-06	1.84E-06	1.92E-06	1.94E-06
Np-237	4.50E-07	3.25E-04	0.786	3.26E-07	3.87E-07	5.13E-07	5.75E-07
Pu-238	8.56E-07	6.19E-04	1.50	7.11E-07	7.82E-07	9.31E-07	1.00E-06
Pu-239	3.26E-05	2.36E-02	57.1	2.89E-05	3.08E-05	3.45E-05	3.63E-05
Pu-240	5.23E-06	3.78E-03	9.14	4.54E-06	4.88E-06	5.58E-06	5.92E-06
Pu-241	5.65E-05	4.08E-02	98.8	4.66E-05	5.14E-05	6.15E-05	6.64E-05
Pu-242	3.10E-10	2.24E-07	5.43E-04	2.51E-10	2.80E-10	3.41E-10	3.70E-10
Am-241	3.57E-05	2.58E-02	62.5	2.89E-05	3.22E-05	3.93E-05	4.26E-05
Am-243	1.27E-09	9.17E-07	2.22E-03	9.87E-10	1.12E-09	1.44E-09	1.60E-09
Cm-242	9.90E-08	7.15E-05	0.173	6.61E-08	6.61E-08	1.10E-07	1.20E-07
Cm-243	9.13E-09	6.60E-06	1.60E-02	5.99E-09	5.99E-09	1.01E-08	1.11E-08
Cm-244	8.22E-08	5.94E-05	0.144	4.98E-08	4.98E-08	9.32E-08	1.00E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.59E-04 (g/L)	----	0.803	3.89E-04	4.24E-04	4.95E-04	5.29E-04
U	2.15E-02	3.70E+03	8.96E+03	1.98E-02	2.09E-02	2.19E-02	2.21E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.21E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	2.68E-02 (kW)	(91.4 BTU/hr)	----	1.67E-02	2.19E-02	3.18E-02	3.66E-02
Bulk Density	1.36 (g/cc)	----	----	1.16	1.28	1.41	1.45
Void Fraction	0.737	----	----	0.641	0.680	0.832	0.975
Water wt%	65.6	----	----	59.2	62.1	70.9	79.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.01	8.50E+04	1.88E+04	1.41	3.50	6.07	7.01
Al^{3+}	0.434	8.63E+03	1.90E+03	0.434	0.434	0.434	0.434
Fe^{3+} (total Fe)	0.338	1.39E+04	3.07E+03	0.323	0.333	0.341	0.343
Cr^{3+}	4.98E-03	191	42.1	3.11E-03	4.08E-03	5.91E-03	6.82E-03
Bi^{3+}	6.00E-02	9.25E+03	2.04E+03	3.09E-02	5.01E-02	6.57E-02	6.94E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.36E-05	13.8	3.05	2.09E-05	6.89E-05	1.08E-04	1.17E-04
Zr (as $ZrO(OH)_2$)	2.45E-04	16.5	3.64	1.53E-04	2.01E-04	2.91E-04	3.36E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.23E-03	53.1	11.7	7.67E-04	1.00E-03	3.00E-03	4.65E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.35E-02	2.17E+03	479	8.73E-03	5.13E-02	8.65E-02	9.47E-02
K^+	6.93E-03	200	44.1	4.34E-03	5.67E-03	8.23E-03	9.49E-03
OH^-	3.43	4.30E+04	9.48E+03	3.21	3.35	3.47	3.50
$NO3^-$	0.986	4.51E+04	9.95E+03	0.689	0.854	1.10	1.20
$NO2^-$	0.299	1.01E+04	2.24E+03	0.115	0.198	0.421	0.557
$CO3^{2-}$	7.35E-02	3.25E+03	717	8.73E-03	5.13E-02	8.65E-02	9.47E-02
$PO4^{3-}$	1.11	7.77E+04	1.71E+04	0.164	0.742	1.33	1.46
$SO4^{2-}$	5.33E-02	3.78E+03	834	3.33E-02	4.36E-02	6.33E-02	7.30E-02
Si (as SiO_x^{2-})	0.167	3.46E+03	762	2.54E-02	8.32E-02	0.218	0.268
F^-	0.142	2.00E+03	441	8.91E-02	0.117	0.209	0.429
Cl^-	3.19E-02	834	184	1.99E-02	2.61E-02	3.79E-02	4.37E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate$^-$	0	0	0	0	0	0	0
acetate$^-$	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.97E-02	749	165	3.85E-02	4.97E-02	6.97E-02	7.89E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.76E+06 (kg)	(327 kgal)	----	----	----	----	----
Heat Load	1.97 (kW)	(6.72E+03 BTU/hr)	----	1.78	1.87	2.07	2.16
Bulk Density*	1.42 (g/cc)	----	----	1.39	1.40	1.43	1.44
Water wt%	46.4	----	----	44.7	45.5	48.0	50.0
TOC wt% C (wet)	0.782	----	----	0.395	0.584	0.978	1.17

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.91	1.60E+05	2.82E+05	8.98	9.44	10.1	10.4
Al^{3+}	1.04	1.97E+04	3.46E+04	0.924	0.978	1.09	1.15
Fe^{3+} (total Fe)	8.13E-03	319	562	7.20E-03	7.65E-03	8.61E-03	9.06E-03
Cr^{3+}	8.06E-02	2.95E+03	5.19E+03	6.96E-02	7.55E-02	8.24E-02	8.38E-02
Bi^{3+}	1.60E-03	236	415	1.42E-03	1.51E-03	1.69E-03	1.78E-03
La^{3+}	7.93E-10	7.75E-05	1.36E-04	6.40E-10	7.15E-10	8.72E-10	9.47E-10
Hg^{2+}	9.13E-06	1.29	2.27	8.19E-06	8.73E-06	9.26E-06	9.38E-06
Zr (as $ZrO(OH)_2$)	3.44E-04	22.1	38.8	3.11E-04	3.23E-04	3.57E-04	3.76E-04
Pb^{2+}	8.50E-04	124	218	6.69E-04	7.57E-04	9.42E-04	1.03E-03
Ni^{2+}	5.12E-03	212	372	4.85E-03	4.98E-03	5.19E-03	5.19E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.06E-03	79.7	140	1.61E-03	1.83E-03	2.29E-03	2.51E-03
Ca^{2+}	2.75E-02	776	1.36E+03	2.62E-02	2.68E-02	2.82E-02	2.88E-02
K^+	4.69E-02	1.29E+03	2.27E+03	4.16E-02	4.34E-02	5.11E-02	5.43E-02
OH^-	5.99	7.16E+04	1.26E+05	5.54	5.76	6.22	6.44
$NO3^-$	3.92	1.71E+05	3.00E+05	3.34	3.68	3.99	4.07
$NO2^-$	1.49	4.82E+04	8.49E+04	1.30	1.39	1.59	1.68
$CO3^{2-}$	0.358	1.51E+04	2.66E+04	0.305	0.323	0.403	0.409
$PO4^{3-}$	8.76E-02	5.85E+03	1.03E+04	6.91E-02	7.55E-02	9.09E-02	9.41E-02
$SO4^{2-}$	0.200	1.35E+04	2.37E+04	0.152	0.169	0.237	0.241
Si (as SiO_x^{2-})	5.71E-02	1.13E+03	1.99E+03	5.07E-02	5.39E-02	6.04E-02	6.35E-02
F^-	7.87E-02	1.05E+03	1.85E+03	6.31E-02	6.97E-02	8.64E-02	9.24E-02
Cl^-	0.181	4.50E+03	7.92E+03	0.149	0.160	0.192	0.192
$C_6H_5O_7^{3-}$	1.41E-02	1.88E+03	3.30E+03	1.24E-02	1.33E-02	1.50E-02	1.58E-02
$EDTA^{4-}$	1.83E-02	3.71E+03	6.52E+03	4.72E-03	1.14E-02	2.53E-02	3.21E-02
$HEDTA^{3-}$	3.59E-02	6.92E+03	1.22E+04	8.72E-03	2.20E-02	4.98E-02	6.35E-02
glycolate$^-$	7.91E-02	4.18E+03	7.35E+03	5.20E-02	6.52E-02	9.31E-02	0.107
acetate$^-$	2.31E-03	96.1	169	1.87E-03	2.09E-03	2.54E-03	2.75E-03
oxalate^{2-}	1.04E-09	6.43E-05	1.13E-04	9.56E-10	9.97E-10	1.08E-09	1.12E-09
DBP	1.14E-02	1.68E+03	2.96E+03	9.79E-03	1.06E-02	1.21E-02	1.29E-02
butanol	1.14E-02	593	1.04E+03	9.79E-03	1.06E-02	1.21E-02	1.29E-02
NH_3	7.80E-02	933	1.64E+03	5.99E-02	6.87E-02	8.75E-02	9.67E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.98E+06 (kg)	(370 kgal)	----	----	----	----	----
Heat Load	1.99 (kW)	(6.81E+03 BTU/hr)	----	1.80	1.90	2.09	2.19
Bulk Density†	1.41 (g/cc)	----	----	1.38	1.40	1.42	1.43
Water wt%†	48.5	----	----	47.0	47.7	50.0	51.8
TOC wt% C (wet)†	0.694	----	----	0.351	0.519	0.870	1.04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.34	1.52E+05	3.01E+05	8.52	8.93	9.55	9.75
Al^{3+}	0.966	1.84E+04	3.65E+04	0.867	0.915	1.02	1.07
Fe^{3+} (total Fe)	4.64E-02	1.83E+03	3.63E+03	4.47E-02	4.59E-02	4.69E-02	4.73E-02
Cr^{3+}	7.18E-02	2.64E+03	5.23E+03	6.21E-02	6.73E-02	7.34E-02	7.46E-02
Bi^{3+}	8.39E-03	1.24E+03	2.45E+03	5.01E-03	7.24E-03	9.06E-03	9.48E-03
La^{3+}	7.01E-10	6.89E-05	1.36E-04	5.66E-10	6.32E-10	7.70E-10	8.37E-10
Hg^{2+}	1.89E-05	2.69	5.32	1.05E-05	1.61E-05	2.06E-05	2.17E-05
Zr (as $ZrO(OH)_2$)	3.32E-04	21.4	42.4	3.03E-04	3.14E-04	3.44E-04	3.61E-04
Pb^{2+}	7.51E-04	110	218	5.91E-04	6.69E-04	8.32E-04	9.10E-04
Ni^{2+}	4.67E-03	194	384	4.43E-03	4.54E-03	4.88E-03	5.07E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.82E-03	70.8	140	1.43E-03	1.62E-03	2.02E-03	2.22E-03
Ca^{2+}	3.28E-02	931	1.84E+03	2.53E-02	3.03E-02	3.44E-02	3.53E-02
K^+	4.22E-02	1.17E+03	2.31E+03	3.75E-02	3.92E-02	4.60E-02	4.88E-02
OH^-	5.69	6.84E+04	1.35E+05	5.30	5.49	5.89	6.09
$NO3^-$	3.58	1.57E+05	3.10E+05	3.07	3.37	3.64	3.71
$NO2^-$	1.35	4.40E+04	8.71E+04	1.18	1.26	1.44	1.52
$CO3^{2-}$	0.325	1.38E+04	2.73E+04	0.278	0.294	0.364	0.370
$PO4^{3-}$	0.206	1.39E+04	2.74E+04	9.60E-02	0.164	0.232	0.248
$SO4^{2-}$	0.183	1.24E+04	2.46E+04	0.141	0.155	0.216	0.219
Si (as SiO_x^{2-})	6.99E-02	1.39E+03	2.75E+03	5.31E-02	6.01E-02	7.56E-02	8.09E-02
F^-	8.61E-02	1.16E+03	2.29E+03	7.24E-02	7.81E-02	9.59E-02	0.121
Cl^-	0.163	4.09E+03	8.10E+03	0.136	0.145	0.174	0.174
$C_6H_5O_7^{3-}$	1.25E-02	1.67E+03	3.30E+03	1.10E-02	1.17E-02	1.32E-02	1.40E-02
$EDTA^{4-}$	1.62E-02	3.30E+03	6.52E+03	4.17E-03	1.00E-02	2.23E-02	2.84E-02
$HEDTA^{3-}$	3.17E-02	6.15E+03	1.22E+04	7.71E-03	1.94E-02	4.41E-02	5.61E-02
glycolate$^-$	6.99E-02	3.71E+03	7.35E+03	4.59E-02	5.76E-02	8.23E-02	9.43E-02
acetate$^-$	2.04E-03	85.4	169	1.66E-03	1.85E-03	2.24E-03	2.43E-03
oxalate^{2-}	9.18E-10	5.72E-05	1.13E-04	8.45E-10	8.81E-10	9.56E-10	9.91E-10
DBP	1.00E-02	1.49E+03	2.96E+03	8.65E-03	9.33E-03	1.07E-02	1.14E-02
butanol	1.00E-02	526	1.04E+03	8.65E-03	9.33E-03	1.07E-02	1.14E-02
NH_3	7.59E-02	912	1.81E+03	5.98E-02	6.76E-02	8.42E-02	9.24E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.21E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	2.68E-02 (kW)	(91.4 BTU/hr)	----	1.67E-02	2.19E-02	3.18E-02	3.66E-02
Bulk Density	1.36 (g/cc)	----	----	1.16	1.28	1.41	1.45
Void Fraction	0.737	----	----	0.641	0.680	0.832	0.975
Water wt%	65.6	----	----	59.2	62.1	70.9	79.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.20E-07	5.31E-04	0.117	2.51E-07	4.59E-07	1.05E-06	1.42E-06
C-14	1.39E-07	1.02E-04	2.26E-02	8.68E-08	1.14E-07	1.65E-07	1.90E-07
Ni-59	3.94E-08	2.91E-05	6.42E-03	2.47E-08	3.23E-08	9.66E-08	1.50E-07
Ni-63	3.60E-06	2.65E-03	0.585	2.25E-06	2.94E-06	8.81E-06	1.36E-05
Co-60	3.74E-08	2.76E-05	6.09E-03	2.34E-08	3.06E-08	4.44E-08	5.12E-08
Se-79	2.93E-08	2.16E-05	4.77E-03	1.83E-08	2.40E-08	3.48E-08	4.01E-08
Sr-90	1.36E-02	10.0	2.22E+03	8.52E-03	1.11E-02	1.62E-02	1.86E-02
Y-90	1.36E-02	10.1	2.22E+03	8.52E-03	1.12E-02	1.62E-02	1.86E-02
Zr-93	1.39E-07	1.02E-04	2.26E-02	8.69E-08	1.14E-07	1.65E-07	1.90E-07
Nb-93m	1.16E-07	8.57E-05	1.89E-02	7.26E-08	9.50E-08	1.38E-07	1.59E-07
Tc-99	9.65E-07	7.12E-04	0.157	6.03E-07	7.89E-07	1.15E-06	1.32E-06
Ru-106	1.90E-14	1.40E-11	3.10E-09	1.19E-14	1.56E-14	2.26E-14	2.60E-14
Cd-113m	3.66E-07	2.70E-04	5.95E-02	2.29E-07	2.99E-07	4.34E-07	5.00E-07
Sb-125	3.80E-08	2.81E-05	6.19E-03	2.38E-08	3.11E-08	4.52E-08	5.21E-08
Sn-126	4.43E-08	3.27E-05	7.22E-03	2.77E-08	3.63E-08	5.26E-08	6.07E-08
I-129	1.83E-09	1.35E-06	2.97E-04	1.14E-09	1.50E-09	2.17E-09	2.50E-09
Cs-134	1.70E-09	1.25E-06	2.77E-04	1.06E-09	1.39E-09	2.02E-09	2.33E-09
Cs-137	1.55E-02	11.4	2.52E+03	9.70E-03	1.27E-02	1.84E-02	2.12E-02
Ba-137m	1.47E-02	10.8	2.39E+03	9.18E-03	1.20E-02	1.74E-02	2.01E-02
Sm-151	1.08E-04	7.99E-02	17.6	6.77E-05	8.86E-05	1.29E-04	1.48E-04
Eu-152	5.37E-08	3.96E-05	8.73E-03	5.17E-08	5.27E-08	5.47E-08	5.56E-08
Eu-154	7.14E-07	5.27E-04	0.116	4.47E-07	5.84E-07	8.48E-07	9.77E-07
Eu-155	3.60E-06	2.66E-03	0.586	3.47E-06	3.54E-06	3.67E-06	3.73E-06
Ra-226	5.95E-12	4.39E-09	9.68E-07	3.72E-12	4.87E-12	7.06E-12	8.14E-12
Ra-228	1.48E-16	1.09E-13	2.41E-11	1.43E-16	1.46E-16	1.51E-16	1.54E-16
Ac-227	3.08E-11	2.27E-08	5.01E-06	1.92E-11	2.52E-11	3.65E-11	4.21E-11
Pa-231	6.94E-11	5.12E-08	1.13E-05	4.34E-11	5.68E-11	8.24E-11	9.49E-11
Th-229	2.89E-14	2.13E-11	4.70E-09	2.78E-14	2.83E-14	2.94E-14	2.99E-14
Th-232	3.79E-17	2.80E-14	6.17E-12	2.37E-17	3.10E-17	4.50E-17	5.19E-17
U-232	3.51E-10	2.59E-07	5.71E-05	2.96E-10	3.33E-10	3.62E-10	3.69E-10
U-233	1.61E-11	1.19E-08	2.62E-06	1.36E-11	1.52E-11	1.66E-11	1.69E-11
U-234	1.46E-05	1.08E-02	2.37	1.23E-05	1.38E-05	1.50E-05	1.53E-05
U-235	6.45E-07	4.75E-04	0.105	5.44E-07	6.11E-07	6.64E-07	6.77E-07
U-236	1.50E-07	1.10E-04	2.43E-02	1.26E-07	1.42E-07	1.54E-07	1.57E-07
U-238	1.48E-05	1.09E-02	2.41	1.25E-05	1.41E-05	1.53E-05	1.56E-05
Np-237	6.03E-09	4.45E-06	9.81E-04	3.77E-09	4.93E-09	7.15E-09	8.25E-09
Pu-238	4.48E-07	3.30E-04	7.29E-02	6.03E-08	2.70E-07	6.04E-07	7.55E-07
Pu-239	5.56E-05	4.10E-02	9.05	7.49E-06	3.35E-05	7.50E-05	9.37E-05
Pu-240	5.43E-06	4.00E-03	0.883	7.31E-07	3.27E-06	7.33E-06	9.15E-06
Pu-241	1.96E-05	1.45E-02	3.20	2.65E-06	1.19E-05	2.65E-05	3.31E-05
Pu-242	8.98E-11	6.62E-08	1.46E-05	1.21E-11	5.42E-11	1.21E-10	1.51E-10
Am-241	3.66E-07	2.70E-04	5.96E-02	2.29E-07	3.00E-07	4.35E-07	5.02E-07
Am-243	2.65E-12	1.95E-09	4.31E-07	1.66E-12	2.17E-12	3.15E-12	3.63E-12
Cm-242	1.07E-09	7.86E-07	1.73E-04	1.03E-09	1.05E-09	1.09E-09	1.10E-09
Cm-243	2.20E-11	1.62E-08	3.57E-06	2.11E-11	2.16E-11	2.24E-11	2.28E-11
Cm-244	6.32E-11	4.66E-08	1.03E-05	3.95E-11	5.17E-11	7.50E-11	8.64E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.18E-04 (g/L)	----	0.149	1.24E-04	5.54E-04	1.24E-03	1.55E-03
U	0.187	3.28E+04	7.23E+03	0.158	0.177	0.192	0.196

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.76E+06 (kg)	(327 kgal)	----	----	----	----	----
Heat Load	1.97 (kW)	(6.72E+03 BTU/hr)	----	1.78	1.87	2.07	2.16
Bulk Density*	1.42 (g/cc)	----	----	1.39	1.40	1.43	1.44
Water wt%†	46.4	----	----	44.7	45.5	48.0	50.0
TOC wt% C (wet)	0.782	----	----	0.395	0.584	0.978	1.17

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.50E-04	0.105	185	9.28E-05	9.28E-05	1.60E-04	1.74E-04
C-14	2.09E-05	1.47E-02	25.8	8.92E-06	8.92E-06	2.15E-05	2.21E-05
Ni-59	1.55E-06	1.09E-03	1.92	9.92E-07	9.92E-07	1.58E-06	1.61E-06
Ni-63	1.52E-04	0.107	188	9.67E-05	9.67E-05	1.55E-04	1.58E-04
Co-60	2.37E-05	1.67E-02	29.3	1.00E-05	1.00E-05	2.46E-05	2.54E-05
Se-79	2.33E-06	1.64E-03	2.88	1.57E-06	1.57E-06	2.61E-06	2.87E-06
Sr-90	8.18E-02	57.6	1.01E+05	7.64E-02	7.90E-02	8.51E-02	8.56E-02
Y-90	8.18E-02	57.6	1.01E+05	5.55E-02	5.55E-02	8.38E-02	8.56E-02
Zr-93	1.14E-05	8.04E-03	14.2	7.62E-06	7.62E-06	1.28E-05	1.41E-05
Nb-93m	8.29E-06	5.83E-03	10.3	5.62E-06	5.62E-06	9.25E-06	1.02E-05
Tc-99	1.48E-04	0.104	184	1.04E-04	1.26E-04	1.71E-04	1.93E-04
Ru-106	4.70E-09	3.31E-06	5.82E-03	2.93E-09	2.93E-09	5.09E-09	5.45E-09
Cd-113m	5.94E-05	4.18E-02	73.6	3.66E-05	3.66E-05	6.77E-05	7.57E-05
Sb-125	1.04E-04	7.29E-02	128	4.44E-05	4.44E-05	1.08E-04	1.12E-04
Sn-126	3.52E-06	2.48E-03	4.36	2.38E-06	2.38E-06	3.93E-06	4.33E-06
I-129	2.86E-07	2.01E-04	0.354	2.00E-07	2.42E-07	3.30E-07	3.73E-07
Cs-134	2.79E-06	1.96E-03	3.45	1.76E-06	2.26E-06	3.32E-06	3.83E-06
Cs-137	0.222	156	2.74E+05	0.189	0.205	0.239	0.255
Ba-137m	0.210	148	2.60E+05	0.179	0.189	0.226	0.241
Sm-151	8.20E-03	5.77	1.02E+04	5.54E-03	5.54E-03	9.17E-03	1.01E-02
Eu-152	3.14E-06	2.21E-03	3.88	2.19E-06	2.19E-06	3.51E-06	3.88E-06
Eu-154	4.10E-04	0.288	507	2.19E-04	2.19E-04	4.78E-04	5.06E-04
Eu-155	1.88E-04	0.132	232	1.32E-04	1.32E-04	2.11E-04	2.33E-04
Ra-226	1.07E-10	7.56E-08	1.33E-04	8.39E-11	8.39E-11	1.16E-10	1.24E-10
Ra-228	1.59E-07	1.12E-04	0.197	6.07E-08	1.09E-07	2.17E-07	2.79E-07
Ac-227	6.95E-10	4.89E-07	8.61E-04	5.58E-10	5.58E-10	7.45E-10	7.93E-10
Pa-231	3.09E-09	2.18E-06	3.83E-03	2.33E-09	2.33E-09	3.37E-09	3.63E-09
Th-229	3.68E-09	2.59E-06	4.56E-03	1.53E-09	2.58E-09	4.96E-09	6.32E-09
Th-232	9.76E-09	6.87E-06	1.21E-02	4.33E-09	6.99E-09	1.25E-08	1.52E-08
U-232	7.96E-07	5.60E-04	0.985	4.03E-07	5.95E-07	1.03E-06	1.28E-06
U-233	3.05E-06	2.15E-03	3.78	1.54E-06	2.28E-06	3.94E-06	4.90E-06
U-234	6.60E-07	4.65E-04	0.817	6.30E-07	6.49E-07	6.68E-07	6.73E-07
U-235	2.65E-08	1.87E-05	3.28E-02	2.53E-08	2.60E-08	2.69E-08	2.70E-08
U-236	2.15E-08	1.51E-05	2.66E-02	2.06E-08	2.13E-08	2.17E-08	2.19E-08
U-238	8.01E-07	5.63E-04	0.991	7.72E-07	7.89E-07	8.09E-07	8.13E-07
Np-237	5.33E-07	3.75E-04	0.660	3.88E-07	4.58E-07	6.08E-07	6.80E-07
Pu-238	9.99E-07	7.03E-04	1.24	8.28E-07	9.12E-07	1.09E-06	1.17E-06
Pu-239	3.48E-05	2.45E-02	43.0	3.04E-05	3.25E-05	3.70E-05	3.91E-05
Pu-240	5.87E-06	4.13E-03	7.27	5.06E-06	5.46E-06	6.29E-06	6.69E-06
Pu-241	6.68E-05	4.70E-02	82.7	5.51E-05	6.08E-05	7.27E-05	7.84E-05
Pu-242	3.69E-10	2.60E-07	4.57E-04	2.99E-10	3.33E-10	4.04E-10	4.39E-10
Am-241	4.29E-05	3.02E-02	53.0	3.48E-05	3.87E-05	4.70E-05	5.10E-05
Am-243	1.53E-09	1.08E-06	1.90E-03	1.19E-09	1.35E-09	1.75E-09	1.94E-09
Cm-242	1.21E-07	8.51E-05	0.150	8.23E-08	8.23E-08	1.35E-07	1.49E-07
Cm-243	1.12E-08	7.85E-06	1.38E-02	7.46E-09	7.46E-09	1.24E-08	1.37E-08
Cm-244	9.90E-08	6.97E-05	0.123	6.10E-08	6.10E-08	1.12E-07	1.20E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.79E-04 (g/L)	----	0.593	3.96E-04	4.37E-04	5.21E-04	5.61E-04
U	7.40E-03	1.24E+03	2.18E+03	7.04E-03	7.26E-03	7.51E-03	7.55E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-111

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.98E+06 (kg)	(370 kgal)	----	----	----	----	----
Heat Load	1.99 (kW)	(6.81E+03 BTU/hr)	----	1.80	1.90	2.09	2.19
Bulk Density†	1.41 (g/cc)	----	----	1.38	1.40	1.42	1.43
Water wt%†	48.5	----	----	47.0	47.7	50.0	51.8
TOC wt% C (wet)†	0.694	----	----	0.351	0.519	0.870	1.04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.32E-04	9.37E-02	186	8.21E-05	8.21E-05	1.42E-04	1.54E-04
C-14	1.84E-05	1.30E-02	25.8	7.90E-06	7.90E-06	1.90E-05	1.96E-05
Ni-59	1.38E-06	9.74E-04	1.93	8.81E-07	8.81E-07	1.40E-06	1.43E-06
Ni-63	1.35E-04	9.55E-02	189	8.59E-05	8.59E-05	1.37E-04	1.40E-04
Co-60	2.09E-05	1.48E-02	29.3	8.86E-06	8.86E-06	2.17E-05	2.25E-05
Se-79	2.06E-06	1.46E-03	2.89	1.39E-06	1.39E-06	2.31E-06	2.54E-06
Sr-90	7.39E-02	52.3	1.03E+05	6.91E-02	7.14E-02	7.68E-02	7.72E-02
Y-90	7.39E-02	52.3	1.04E+05	5.07E-02	5.07E-02	7.56E-02	7.72E-02
Zr-93	1.01E-05	7.16E-03	14.2	6.75E-06	6.75E-06	1.13E-05	1.25E-05
Nb-93m	7.34E-06	5.19E-03	10.3	4.98E-06	4.98E-06	8.19E-06	9.01E-06
Tc-99	1.31E-04	9.29E-02	184	9.20E-05	1.11E-04	1.52E-04	1.71E-04
Ru-106	4.15E-09	2.94E-06	5.82E-03	2.59E-09	2.59E-09	4.50E-09	4.82E-09
Cd-113m	5.26E-05	3.72E-02	73.6	3.24E-05	3.24E-05	5.99E-05	6.69E-05
Sb-125	9.15E-05	6.48E-02	128	3.93E-05	3.93E-05	9.54E-05	9.92E-05
Sn-126	3.12E-06	2.20E-03	4.36	2.11E-06	2.11E-06	3.48E-06	3.83E-06
I-129	2.53E-07	1.79E-04	0.354	1.77E-07	2.14E-07	2.92E-07	3.30E-07
Cs-134	2.47E-06	1.74E-03	3.45	1.56E-06	2.00E-06	2.93E-06	3.39E-06
Cs-137	0.198	140	2.77E+05	0.169	0.183	0.213	0.227
Ba-137m	0.187	132	2.62E+05	0.160	0.169	0.201	0.215
Sm-151	7.26E-03	5.14	1.02E+04	4.91E-03	4.91E-03	8.12E-03	8.93E-03
Eu-152	2.78E-06	1.96E-03	3.89	1.94E-06	1.94E-06	3.11E-06	3.43E-06
Eu-154	3.62E-04	0.256	507	1.94E-04	1.94E-04	4.23E-04	4.47E-04
Eu-155	1.66E-04	0.118	233	1.17E-04	1.17E-04	1.87E-04	2.07E-04
Ra-226	9.57E-11	6.77E-08	1.34E-04	7.48E-11	7.48E-11	1.03E-10	1.11E-10
Ra-228	1.40E-07	9.93E-05	0.197	5.37E-08	9.61E-08	1.92E-07	2.47E-07
Ac-227	6.18E-10	4.37E-07	8.66E-04	4.97E-10	4.97E-10	6.62E-10	7.04E-10
Pa-231	2.74E-09	1.94E-06	3.84E-03	2.07E-09	2.07E-09	2.98E-09	3.22E-09
Th-229	3.26E-09	2.30E-06	4.56E-03	1.35E-09	2.28E-09	4.38E-09	5.59E-09
Th-232	8.63E-09	6.10E-06	1.21E-02	3.83E-09	6.18E-09	1.11E-08	1.34E-08
U-232	7.04E-07	4.98E-04	0.985	3.56E-07	5.26E-07	9.10E-07	1.13E-06
U-233	2.70E-06	1.91E-03	3.78	1.37E-06	2.02E-06	3.49E-06	4.33E-06
U-234	2.28E-06	1.61E-03	3.19	2.02E-06	2.19E-06	2.33E-06	2.37E-06
U-235	9.83E-08	6.96E-05	0.138	8.67E-08	9.44E-08	1.01E-07	1.02E-07
U-236	3.64E-08	2.57E-05	5.09E-02	3.37E-08	3.55E-08	3.69E-08	3.73E-08
U-238	2.43E-06	1.72E-03	3.41	2.16E-06	2.34E-06	2.49E-06	2.52E-06
Np-237	4.72E-07	3.34E-04	0.661	3.43E-07	4.06E-07	5.38E-07	6.02E-07
Pu-238	9.35E-07	6.61E-04	1.31	7.84E-07	8.58E-07	1.01E-06	1.09E-06
Pu-239	3.72E-05	2.63E-02	52.1	3.15E-05	3.46E-05	3.93E-05	4.13E-05
Pu-240	5.82E-06	4.12E-03	8.15	5.10E-06	5.45E-06	6.19E-06	6.54E-06
Pu-241	6.13E-05	4.34E-02	85.9	5.10E-05	5.61E-05	6.66E-05	7.16E-05
Pu-242	3.36E-10	2.38E-07	4.71E-04	2.75E-10	3.05E-10	3.68E-10	3.98E-10
Am-241	3.79E-05	2.68E-02	53.1	3.08E-05	3.43E-05	4.16E-05	4.51E-05
Am-243	1.36E-09	9.59E-07	1.90E-03	1.05E-09	1.19E-09	1.55E-09	1.71E-09
Cm-242	1.07E-07	7.57E-05	0.150	7.28E-08	7.28E-08	1.20E-07	1.32E-07
Cm-243	9.86E-09	6.98E-06	1.38E-02	6.60E-09	6.60E-09	1.10E-08	1.21E-08
Cm-244	8.75E-08	6.19E-05	0.123	5.39E-08	5.39E-08	9.89E-08	1.06E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.30E-04 (g/L)	----	0.742	4.37E-04	4.87E-04	5.67E-04	6.03E-04
U	2.82E-02	4.75E+03	9.41E+03	2.49E-02	2.71E-02	2.89E-02	2.93E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.58E+05 (kg)	(24.0 kgal)	----	----	----	----	----
Heat Load	3.24E-02 (kW)	(111 BTU/hr)	----	6.87E-03	1.20E-02	4.86E-02	9.32E-02
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.1	1.86E+05	2.94E+04	1.66	4.15	15.4	17.3
Al^{3+}	9.05E-03	140	22.2	4.56E-03	8.30E-03	1.54E-02	1.63E-02
Fe^{3+} (total Fe)	0.126	4.04E+03	639	0.109	0.123	0.129	0.131
Cr^{3+}	4.31E-03	129	20.4	3.12E-03	4.27E-03	5.67E-03	4.99E-03
Bi^{3+}	1.51E-02	1.81E+03	286	5.53E-03	1.18E-02	1.69E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.22E-06	0.601	9.52E-02	5.08E-06	5.15E-06	9.58E-06	1.27E-05
Zr (as $ZrO(OH)_2$)	3.66E-04	19.2	3.04	2.07E-04	3.50E-04	5.88E-04	5.82E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.18E-02	396	62.7	1.01E-03	1.65E-03	1.45E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.20E-02	2.12E+03	335	7.67E-03	6.51E-02	0.102	0.111
K^+	1.20E-02	270	42.8	4.49E-03	1.02E-02	1.80E-02	1.39E-02
OH^-	0.915	8.93E+03	1.41E+03	0.786	0.889	0.987	1.00
$NO3^-$	9.38	3.34E+05	5.28E+04	0.794	1.86	9.44	9.98
$NO2^-$	0.209	5.53E+03	874	9.68E-02	0.153	0.298	0.256
$CO3^{2-}$	0.198	6.83E+03	1.08E+03	2.62E-02	0.140	0.267	0.281
$PO4^{3-}$	1.30	7.06E+04	1.12E+04	0.127	0.507	1.50	1.54
$SO4^{2-}$	0.108	5.97E+03	946	4.15E-02	9.27E-02	0.161	0.783
Si (as SiO_x^{2-})	1.78E-02	287	45.4	1.73E-02	1.75E-02	4.41E-02	6.99E-02
F^-	8.69E-02	948	150	5.45E-02	8.46E-02	0.126	0.111
Cl^-	6.77E-02	1.38E+03	218	2.09E-02	5.45E-02	0.401	0.450
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.62E-05	1.96	0.310	2.87E-07	9.85E-06	2.71E-05	1.92E-05
butanol	1.62E-05	0.690	0.109	2.87E-07	9.85E-06	2.71E-05	1.92E-05
NH_3	3.77E-02	367	58.2	2.74E-02	3.71E-02	5.17E-02	4.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.41E+06 (kg)	(625 kgal)	----	----	----	----	----
Heat Load	3.57 (kW)	(1.22E+04 BTU/hr)	----	3.17	3.37	3.77	3.97
Bulk Density*	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%	45.1	----	----	43.3	44.1	46.9	49.1
TOC wt% C (wet)	0.358	----	----	0.296	0.327	0.390	0.422

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.3	1.64E+05	5.61E+05	9.27	9.79	10.6	10.8
Al^{3+}	1.13	2.11E+04	7.20E+04	1.00	1.06	1.19	1.25
Fe^{3+} (total Fe)	7.96E-03	308	1.05E+03	6.91E-03	7.43E-03	8.49E-03	9.00E-03
Cr^{3+}	8.84E-02	3.19E+03	1.09E+04	7.66E-02	8.29E-02	9.04E-02	9.19E-02
Bi^{3+}	1.80E-03	261	889	1.60E-03	1.70E-03	1.90E-03	2.00E-03
La^{3+}	8.90E-10	8.57E-05	2.92E-04	7.18E-10	8.02E-10	9.78E-10	1.06E-09
Hg^{2+}	1.02E-05	1.42	4.86	9.18E-06	9.78E-06	1.04E-05	1.05E-05
Zr (as $ZrO(OH)_2$)	3.85E-04	24.4	83.2	3.49E-04	3.62E-04	4.01E-04	4.22E-04
Pb^{2+}	9.52E-04	137	466	7.49E-04	8.48E-04	1.05E-03	1.15E-03
Ni^{2+}	5.52E-03	225	766	5.21E-03	5.35E-03	5.59E-03	5.59E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.26E-03	86.2	294	1.76E-03	2.01E-03	2.52E-03	2.76E-03
Ca^{2+}	2.87E-02	798	2.72E+03	2.72E-02	2.79E-02	2.95E-02	3.02E-02
K^+	4.94E-02	1.34E+03	4.57E+03	4.34E-02	4.55E-02	5.41E-02	5.77E-02
OH^-	6.45	7.61E+04	2.60E+05	5.95	6.20	6.71	6.96
$NO3^-$	4.18	1.80E+05	6.13E+05	3.53	3.91	4.27	4.35
$NO2^-$	1.62	5.16E+04	1.76E+05	1.40	1.50	1.73	1.84
$CO3^{2-}$	0.350	1.46E+04	4.96E+04	0.290	0.310	0.399	0.407
$PO4^{3-}$	9.68E-02	6.38E+03	2.17E+04	7.60E-02	8.33E-02	0.101	0.104
$SO4^{2-}$	0.207	1.38E+04	4.71E+04	0.154	0.172	0.250	0.254
Si (as SiO_x^{2-})	5.73E-02	1.12E+03	3.81E+03	5.01E-02	5.36E-02	6.10E-02	6.45E-02
F^-	8.83E-02	1.16E+03	3.97E+03	7.08E-02	7.82E-02	9.69E-02	0.104
Cl^-	0.187	4.60E+03	1.57E+04	0.152	0.164	0.201	0.200
$C_6H_5O_7^{3-}$	1.49E-02	1.96E+03	6.68E+03	1.35E-02	1.42E-02	1.57E-02	1.64E-02
$EDTA^{4-}$	3.52E-03	703	2.40E+03	1.30E-03	2.39E-03	4.66E-03	5.77E-03
$HEDTA^{3-}$	6.23E-03	1.18E+03	4.04E+03	1.80E-03	3.96E-03	8.51E-03	1.07E-02
$glycolate^-$	4.30E-02	2.24E+03	7.63E+03	2.41E-02	3.33E-02	5.26E-02	6.18E-02
$acetate^-$	2.60E-03	106	363	2.10E-03	2.35E-03	2.85E-03	3.09E-03
$oxalate^{2-}$	1.17E-09	7.12E-05	2.43E-04	1.07E-09	1.12E-09	1.21E-09	1.26E-09
DBP	1.27E-02	1.85E+03	6.31E+03	1.09E-02	1.18E-02	1.36E-02	1.44E-02
butanol	1.27E-02	653	2.23E+03	1.09E-02	1.18E-02	1.36E-02	1.44E-02
NH_3	8.64E-02	1.02E+03	3.48E+03	6.61E-02	7.60E-02	9.70E-02	0.107
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.57E+06 (kg)	(649 kgal)	----	----	----	----	----
Heat Load	3.60 (kW)	(1.23E+04 BTU/hr)	----	3.21	3.40	3.81	4.00
Bulk Density†	1.45 (g/cc)	----	----	1.39	1.41	1.47	1.47
Water wt%†	44.8	----	----	43.1	43.8	47.8	50.2
TOC wt% C (wet)†	0.343	----	----	0.283	0.312	0.373	0.403

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.5	1.65E+05	5.90E+05	8.99	9.58	10.8	11.0
Al^{3+}	1.09	2.02E+04	7.20E+04	0.966	1.02	1.15	1.21
Fe^{3+} (total Fe)	1.23E-02	474	1.69E+03	1.13E-02	1.18E-02	1.28E-02	1.33E-02
Cr^{3+}	8.53E-02	3.05E+03	1.09E+04	7.39E-02	8.00E-02	8.72E-02	8.86E-02
Bi^{3+}	2.29E-03	329	1.18E+03	1.94E-03	2.17E-03	2.36E-03	2.41E-03
La^{3+}	8.57E-10	8.19E-05	2.92E-04	6.91E-10	7.72E-10	9.41E-10	1.02E-09
Hg^{2+}	1.01E-05	1.39	4.95	9.09E-06	9.72E-06	1.02E-05	1.03E-05
Zr (as $ZrO(OH)_2$)	3.85E-04	24.2	86.2	3.57E-04	3.70E-04	3.99E-04	4.14E-04
Pb^{2+}	9.16E-04	131	466	7.21E-04	8.17E-04	1.02E-03	1.11E-03
Ni^{2+}	5.75E-03	232	829	5.11E-03	5.36E-03	5.85E-03	5.87E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.18E-03	82.4	294	1.70E-03	1.93E-03	2.43E-03	2.66E-03
Ca^{2+}	3.10E-02	856	3.05E+03	2.75E-02	3.00E-02	3.20E-02	3.28E-02
K^+	4.80E-02	1.29E+03	4.61E+03	4.20E-02	4.42E-02	5.28E-02	5.60E-02
OH^-	6.25	7.31E+04	2.61E+05	5.76	6.00	6.50	6.73
$NO3^-$	4.37	1.87E+05	6.66E+05	3.43	3.84	4.46	4.50
$NO2^-$	1.57	4.96E+04	1.77E+05	1.36	1.46	1.67	1.78
$CO3^{2-}$	0.344	1.42E+04	5.07E+04	0.280	0.304	0.394	0.402
$PO4^{3-}$	0.141	9.22E+03	3.29E+04	9.04E-02	0.112	0.149	0.150
$SO4^{2-}$	0.204	1.35E+04	4.81E+04	0.150	0.170	0.246	0.273
Si (as SiO_x^{2-})	5.58E-02	1.08E+03	3.85E+03	4.89E-02	5.23E-02	5.94E-02	6.28E-02
F^-	8.83E-02	1.15E+03	4.12E+03	7.23E-02	7.99E-02	9.67E-02	0.102
Cl^-	0.183	4.46E+03	1.59E+04	0.148	0.160	0.208	0.210
$C_6H_5O_7^{3-}$	1.44E-02	1.87E+03	6.68E+03	1.30E-02	1.37E-02	1.51E-02	1.58E-02
$EDTA^{4-}$	3.39E-03	672	2.40E+03	1.25E-03	2.30E-03	4.49E-03	5.56E-03
$HEDTA^{3-}$	6.00E-03	1.13E+03	4.04E+03	1.73E-03	3.82E-03	8.20E-03	1.03E-02
$glycolate^-$	4.14E-02	2.14E+03	7.63E+03	2.32E-02	3.21E-02	5.07E-02	5.95E-02
$acetate^-$	2.50E-03	102	363	2.03E-03	2.26E-03	2.75E-03	2.98E-03
$oxalate^{2-}$	1.12E-09	6.80E-05	2.43E-04	1.03E-09	1.08E-09	1.17E-09	1.21E-09
DBP	1.22E-02	1.77E+03	6.31E+03	1.05E-02	1.14E-02	1.31E-02	1.39E-02
butanol	1.22E-02	624	2.23E+03	1.05E-02	1.14E-02	1.31E-02	1.39E-02
NH_3	8.46E-02	990	3.53E+03	6.50E-02	7.46E-02	9.49E-02	0.105
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.58E+05 (kg)	(24.0 kgal)	----	----	----	----	----
Heat Load	3.24E-02 (kW)	(111 BTU/hr)	----	6.87E-03	1.20E-02	4.86E-02	9.32E-02
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.99E-06	1.72E-03	0.271	0	0	3.18E-06	3.66E-06
C-14	4.46E-07	2.56E-04	4.05E-02	0	0	4.51E-07	5.12E-07
Ni-59	9.05E-07	5.19E-04	8.22E-02	0	0	9.54E-07	9.87E-07
Ni-63	8.14E-05	4.67E-02	7.39	0	0	8.58E-05	8.88E-05
Co-60	1.01E-07	5.77E-05	9.13E-03	0	0	1.02E-07	1.16E-07
Se-79	9.57E-08	5.50E-05	8.70E-03	0	0	9.68E-08	1.10E-07
Sr-90	1.12E-02	6.42	1.02E+03	6.28E-03	1.09E-02	1.56E-02	7.00E-02
Y-90	1.12E-02	6.42	1.02E+03	0	0	1.13E-02	1.29E-02
Zr-93	4.55E-07	2.61E-04	4.13E-02	0	0	4.60E-07	5.23E-07
Nb-93m	3.85E-07	2.21E-04	3.49E-02	0	0	3.89E-07	4.42E-07
Tc-99	3.15E-06	1.81E-03	0.286	8.26E-07	2.42E-06	4.89E-06	3.62E-06
Ru-106	3.98E-14	2.28E-11	3.61E-09	0	0	4.03E-14	4.57E-14
Cd-113m	1.10E-06	6.29E-04	9.96E-02	0	0	1.11E-06	1.26E-06
Sb-125	9.11E-08	5.23E-05	8.27E-03	0	0	9.22E-08	1.05E-07
Sn-126	1.44E-07	8.26E-05	1.31E-02	0	0	1.46E-07	1.66E-07
I-129	5.93E-09	3.40E-06	5.39E-04	1.55E-09	4.56E-09	9.22E-09	6.82E-09
Cs-134	4.23E-09	2.43E-06	3.84E-04	0	0	4.56E-09	4.94E-09
Cs-137	6.00E-02	34.4	5.45E+03	7.11E-03	1.24E-02	9.17E-02	0.118
Ba-137m	5.68E-02	32.6	5.16E+03	0	0	6.12E-02	6.62E-02
Sm-151	3.57E-04	0.205	32.4	0	0	3.61E-04	4.11E-04
Eu-152	1.13E-07	6.47E-05	1.02E-02	0	0	1.14E-07	1.15E-07
Eu-154	1.79E-06	1.03E-03	0.162	0	0	1.81E-06	2.06E-06
Eu-155	8.64E-06	4.96E-03	0.785	0	0	8.71E-06	8.77E-06
Ra-226	2.69E-11	1.55E-08	2.45E-06	0	0	1.03E-10	8.20E-11
Ra-228	4.49E-16	2.58E-13	4.08E-11	0	0	4.53E-16	4.56E-16
Ac-227	1.39E-10	7.96E-08	1.26E-05	0	0	3.53E-10	4.29E-10
Pa-231	3.01E-10	1.73E-07	2.74E-05	0	0	3.05E-10	3.47E-10
Th-229	8.72E-14	5.00E-11	7.92E-09	0	0	8.79E-14	8.85E-14
Th-232	1.30E-16	7.49E-14	1.18E-11	0	0	1.32E-16	1.50E-16
U-232	1.18E-10	6.80E-08	1.08E-05	8.15E-11	9.99E-11	1.38E-10	1.51E-10
U-233	5.64E-12	3.24E-09	5.12E-07	3.87E-12	4.74E-12	6.58E-12	7.19E-12
U-234	5.57E-06	3.20E-03	0.506	3.82E-06	4.67E-06	6.54E-06	7.17E-06
U-235	2.47E-07	1.42E-04	2.24E-02	1.69E-07	2.07E-07	2.90E-07	3.18E-07
U-236	5.21E-08	2.99E-05	4.74E-03	3.58E-08	4.39E-08	6.09E-08	6.65E-08
U-238	5.65E-06	3.25E-03	0.514	3.88E-06	4.74E-06	6.64E-06	7.28E-06
Np-237	1.94E-08	1.11E-05	1.76E-03	5.04E-09	1.49E-08	3.02E-08	2.23E-08
Pu-238	3.69E-07	2.12E-04	3.35E-02	3.38E-08	1.16E-07	5.55E-07	5.76E-07
Pu-239	6.14E-05	3.53E-02	5.58	6.39E-06	2.05E-05	9.03E-05	9.32E-05
Pu-240	5.00E-06	2.87E-03	0.454	4.83E-07	1.61E-06	7.44E-06	7.70E-06
Pu-241	1.36E-05	7.80E-03	1.23	1.11E-06	4.10E-06	2.08E-05	2.16E-05
Pu-242	6.07E-11	3.48E-08	5.51E-06	4.87E-12	1.82E-11	9.30E-11	9.68E-11
Am-241	8.14E-07	4.67E-04	7.40E-02	1.51E-07	5.85E-07	1.30E-06	9.36E-07
Am-243	5.63E-12	3.23E-09	5.11E-07	9.81E-13	4.00E-12	8.98E-12	6.47E-12
Cm-242	1.86E-09	1.07E-06	1.69E-04	0	0	1.88E-09	1.90E-09
Cm-243	3.80E-11	2.18E-08	3.45E-06	0	0	3.84E-11	3.88E-11
Cm-244	1.24E-10	7.13E-08	1.13E-05	0	0	1.26E-10	1.43E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.01E-03 (g/L)	----	9.18E-02	1.05E-04	3.36E-04	1.49E-03	1.53E-03
U	7.12E-02	9.72E+03	1.54E+03	4.88E-02	5.97E-02	8.36E-02	9.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.41E+06 (kg)	(625 kgal)	----	----	----	----	----
Heat Load	3.57 (kW)	(1.22E+04 BTU/hr)	----	3.17	3.37	3.77	3.97
Bulk Density*	1.44 (g/cc)	----	----	1.40	1.42	1.45	1.46
Water wt%†	45.1	----	----	43.3	44.1	46.9	49.1
TOC wt% C (wet)	0.358	----	----	0.296	0.327	0.390	0.422

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.54E-04	0.107	365	9.04E-05	9.04E-05	1.63E-04	1.74E-04
C-14	2.20E-05	1.53E-02	52.1	8.63E-06	8.63E-06	2.27E-05	2.34E-05
Ni-59	1.68E-06	1.17E-03	3.97	1.05E-06	1.05E-06	1.71E-06	1.74E-06
Ni-63	1.65E-04	0.114	389	1.02E-04	1.02E-04	1.68E-04	1.71E-04
Co-60	2.41E-05	1.67E-02	57.1	8.81E-06	8.81E-06	2.51E-05	2.60E-05
Se-79	2.27E-06	1.57E-03	5.36	1.41E-06	1.41E-06	2.58E-06	2.87E-06
Sr-90	7.33E-02	50.8	1.73E+05	6.84E-02	7.01E-02	7.69E-02	7.75E-02
Y-90	7.33E-02	50.8	1.73E+05	4.38E-02	4.38E-02	7.54E-02	7.75E-02
Zr-93	1.11E-05	7.72E-03	26.3	6.86E-06	6.86E-06	1.27E-05	1.42E-05
Nb-93m	8.08E-06	5.60E-03	19.1	5.08E-06	5.08E-06	9.16E-06	1.02E-05
Tc-99	1.57E-04	0.109	372	1.07E-04	1.32E-04	1.83E-04	2.08E-04
Ru-106	4.32E-09	2.99E-06	1.02E-02	2.34E-09	2.34E-09	4.76E-09	5.16E-09
Cd-113m	5.74E-05	3.98E-02	136	3.18E-05	3.18E-05	6.67E-05	7.56E-05
Sb-125	1.03E-04	7.11E-02	243	3.62E-05	3.62E-05	1.07E-04	1.11E-04
Sn-126	3.42E-06	2.37E-03	8.10	2.14E-06	2.14E-06	3.89E-06	4.33E-06
I-129	3.03E-07	2.10E-04	0.716	2.06E-07	2.53E-07	3.52E-07	4.00E-07
Cs-134	1.78E-06	1.23E-03	4.21	1.33E-06	1.55E-06	2.01E-06	2.23E-06
Cs-137	0.217	150	5.13E+05	0.181	0.199	0.235	0.253
Ba-137m	0.205	142	4.85E+05	0.171	0.182	0.223	0.239
Sm-151	7.98E-03	5.53	1.89E+04	4.99E-03	4.99E-03	9.06E-03	1.01E-02
Eu-152	2.48E-06	1.72E-03	5.87	1.42E-06	1.42E-06	2.60E-06	2.71E-06
Eu-154	3.89E-04	0.270	920	1.75E-04	1.75E-04	4.66E-04	4.97E-04
Eu-155	1.47E-04	0.102	348	8.40E-05	8.40E-05	1.56E-04	1.64E-04
Ra-226	1.08E-10	7.48E-08	2.55E-04	8.14E-11	8.14E-11	1.17E-10	1.27E-10
Ra-228	1.78E-07	1.24E-04	0.422	6.81E-08	1.22E-07	2.44E-07	3.13E-07
Ac-227	7.06E-10	4.90E-07	1.67E-03	5.52E-10	5.52E-10	7.62E-10	8.15E-10
Pa-231	3.12E-09	2.17E-06	7.39E-03	2.27E-09	2.27E-09	3.43E-09	3.73E-09
Th-229	4.13E-09	2.87E-06	9.78E-03	1.72E-09	2.90E-09	5.57E-09	7.09E-09
Th-232	1.10E-08	7.60E-06	2.59E-02	4.86E-09	7.84E-09	1.41E-08	1.70E-08
U-232	8.92E-07	6.19E-04	2.11	4.51E-07	6.66E-07	1.15E-06	1.43E-06
U-233	3.42E-06	2.37E-03	8.09	1.73E-06	2.55E-06	4.42E-06	5.49E-06
U-234	7.29E-07	5.05E-04	1.72	6.94E-07	7.16E-07	7.37E-07	7.43E-07
U-235	2.93E-08	2.03E-05	6.92E-02	2.79E-08	2.87E-08	2.96E-08	2.99E-08
U-236	2.36E-08	1.64E-05	5.59E-02	2.26E-08	2.34E-08	2.38E-08	2.41E-08
U-238	8.88E-07	6.16E-04	2.10	8.55E-07	8.75E-07	8.96E-07	9.01E-07
Np-237	5.67E-07	3.93E-04	1.34	4.04E-07	4.84E-07	6.51E-07	7.32E-07
Pu-238	9.11E-07	6.32E-04	2.16	7.20E-07	8.14E-07	1.01E-06	1.10E-06
Pu-239	3.29E-05	2.28E-02	77.8	2.80E-05	3.04E-05	3.54E-05	3.78E-05
Pu-240	5.45E-06	3.78E-03	12.9	4.54E-06	4.99E-06	5.92E-06	6.36E-06
Pu-241	6.01E-05	4.17E-02	142	4.70E-05	5.34E-05	6.67E-05	7.31E-05
Pu-242	3.27E-10	2.27E-07	7.74E-04	2.49E-10	2.87E-10	3.67E-10	4.05E-10
Am-241	4.12E-05	2.86E-02	97.5	3.21E-05	3.66E-05	4.59E-05	5.03E-05
Am-243	1.39E-09	9.65E-07	3.29E-03	1.10E-09	1.23E-09	1.57E-09	1.73E-09
Cm-242	9.59E-08	6.65E-05	0.227	5.24E-08	5.24E-08	9.90E-08	1.02E-07
Cm-243	8.90E-09	6.17E-06	2.11E-02	4.76E-09	4.76E-09	9.29E-09	9.66E-09
Cm-244	9.19E-08	6.37E-05	0.217	4.92E-08	4.92E-08	1.06E-07	1.16E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.53E-04 (g/L)	----	1.07	3.60E-04	4.06E-04	5.00E-04	5.45E-04
U	8.17E-03	1.35E+03	4.60E+03	7.76E-03	8.01E-03	8.28E-03	8.34E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-112

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.57E+06 (kg)	(649 kgal)	----	----	----	----	----
Heat Load	3.60 (kW)	(1.23E+04 BTU/hr)	----	3.21	3.40	3.81	4.00
Bulk Density†	1.45 (g/cc)	----	----	1.39	1.41	1.47	1.47
Water wt%†	44.8	----	----	43.1	43.8	47.8	50.2
TOC wt% C (wet)†	0.343	----	----	0.283	0.312	0.373	0.403

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.49E-04	0.102	365	8.72E-05	8.72E-05	1.57E-04	1.67E-04
C-14	2.12E-05	1.46E-02	52.1	8.32E-06	8.32E-06	2.19E-05	2.26E-05
Ni-59	1.65E-06	1.14E-03	4.06	1.04E-06	1.04E-06	1.68E-06	1.71E-06
Ni-63	1.62E-04	0.111	397	1.02E-04	1.02E-04	1.65E-04	1.67E-04
Co-60	2.32E-05	1.60E-02	57.1	8.49E-06	8.49E-06	2.42E-05	2.51E-05
Se-79	2.19E-06	1.51E-03	5.37	1.36E-06	1.36E-06	2.49E-06	2.77E-06
Sr-90	7.10E-02	48.9	1.74E+05	6.61E-02	6.80E-02	7.47E-02	7.71E-02
Y-90	7.10E-02	48.9	1.74E+05	4.26E-02	4.26E-02	7.31E-02	7.50E-02
Zr-93	1.07E-05	7.39E-03	26.4	6.62E-06	6.62E-06	1.22E-05	1.37E-05
Nb-93m	7.79E-06	5.36E-03	19.1	4.91E-06	4.91E-06	8.83E-06	9.84E-06
Tc-99	1.51E-04	0.104	372	1.03E-04	1.27E-04	1.76E-04	2.00E-04
Ru-106	4.16E-09	2.86E-06	1.02E-02	2.25E-09	2.25E-09	4.58E-09	4.97E-09
Cd-113m	5.54E-05	3.81E-02	136	3.07E-05	3.07E-05	6.43E-05	7.29E-05
Sb-125	9.88E-05	6.80E-02	243	3.49E-05	3.49E-05	1.03E-04	1.07E-04
Sn-126	3.30E-06	2.27E-03	8.11	2.07E-06	2.07E-06	3.75E-06	4.18E-06
I-129	2.92E-07	2.01E-04	0.717	1.99E-07	2.44E-07	3.40E-07	3.86E-07
Cs-134	1.71E-06	1.18E-03	4.21	1.28E-06	1.49E-06	1.94E-06	2.15E-06
Cs-137	0.211	145	5.18E+05	0.177	0.193	0.229	0.246
Ba-137m	0.200	137	4.90E+05	0.167	0.177	0.216	0.233
Sm-151	7.70E-03	5.30	1.89E+04	4.82E-03	4.82E-03	8.74E-03	9.74E-03
Eu-152	2.39E-06	1.65E-03	5.88	1.37E-06	1.37E-06	2.50E-06	2.61E-06
Eu-154	3.75E-04	0.258	920	1.69E-04	1.69E-04	4.49E-04	4.79E-04
Eu-155	1.42E-04	9.77E-02	349	8.12E-05	8.12E-05	1.50E-04	1.58E-04
Ra-226	1.05E-10	7.22E-08	2.58E-04	7.93E-11	7.93E-11	1.14E-10	1.23E-10
Ra-228	1.72E-07	1.18E-04	0.422	6.56E-08	1.17E-07	2.35E-07	3.02E-07
Ac-227	6.85E-10	4.71E-07	1.68E-03	5.37E-10	5.37E-10	7.39E-10	7.90E-10
Pa-231	3.02E-09	2.08E-06	7.42E-03	2.20E-09	2.20E-09	3.32E-09	3.60E-09
Th-229	3.98E-09	2.74E-06	9.78E-03	1.65E-09	2.79E-09	5.36E-09	6.83E-09
Th-232	1.05E-08	7.26E-06	2.59E-02	4.68E-09	7.55E-09	1.35E-08	1.64E-08
U-232	8.59E-07	5.91E-04	2.11	4.34E-07	6.42E-07	1.11E-06	1.38E-06
U-233	3.29E-06	2.27E-03	8.09	1.66E-06	2.46E-06	4.26E-06	5.28E-06
U-234	9.08E-07	6.25E-04	2.23	8.43E-07	8.74E-07	9.44E-07	9.67E-07
U-235	3.73E-08	2.57E-05	9.16E-02	3.44E-08	3.58E-08	3.89E-08	3.99E-08
U-236	2.47E-08	1.70E-05	6.06E-02	2.37E-08	2.44E-08	2.50E-08	2.52E-08
U-238	1.06E-06	7.32E-04	2.61	9.98E-07	1.03E-06	1.10E-06	1.12E-06
Np-237	5.47E-07	3.76E-04	1.34	3.90E-07	4.67E-07	6.28E-07	7.06E-07
Pu-238	8.91E-07	6.13E-04	2.19	7.07E-07	7.97E-07	9.85E-07	1.08E-06
Pu-239	3.40E-05	2.34E-02	83.4	2.92E-05	3.16E-05	3.64E-05	3.87E-05
Pu-240	5.44E-06	3.74E-03	13.4	4.56E-06	4.99E-06	5.88E-06	6.31E-06
Pu-241	5.83E-05	4.02E-02	143	4.58E-05	5.19E-05	6.48E-05	7.09E-05
Pu-242	3.17E-10	2.18E-07	7.79E-04	2.42E-10	2.79E-10	3.56E-10	3.93E-10
Am-241	3.97E-05	2.74E-02	97.6	3.10E-05	3.53E-05	4.42E-05	4.85E-05
Am-243	1.34E-09	9.22E-07	3.29E-03	1.06E-09	1.19E-09	1.51E-09	1.66E-09
Cm-242	9.24E-08	6.36E-05	0.227	5.05E-08	5.05E-08	9.55E-08	9.84E-08
Cm-243	8.57E-09	5.90E-06	2.11E-02	4.58E-09	4.58E-09	8.95E-09	9.30E-09
Cm-244	8.85E-08	6.09E-05	0.217	4.74E-08	4.74E-08	1.02E-07	1.11E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.73E-04 (g/L)	----	1.16	3.84E-04	4.28E-04	5.19E-04	5.62E-04
U	1.05E-02	1.72E+03	6.14E+03	9.67E-03	1.01E-02	1.10E-02	1.13E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.39E+05 (kg)	(183 kgal)	----	----	----	----	----
Heat Load	0.114 (kW)	(389 BTU/hr)	----	7.12E-02	9.32E-02	0.135	0.156
Bulk Density	1.36 (g/cc)	----	----	1.16	1.28	1.41	1.45
Void Fraction	0.737	----	----	0.641	0.680	0.832	0.975
Water wt%	65.6	----	----	59.2	62.1	70.9	79.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.01	8.50E+04	7.98E+04	1.41	3.50	6.07	7.01
Al^{3+}	0.434	8.63E+03	8.11E+03	0.434	0.434	0.434	0.434
Fe^{3+} (total Fe)	0.338	1.39E+04	1.31E+04	0.323	0.333	0.341	0.343
Cr^{3+}	4.98E-03	191	179	3.11E-03	4.08E-03	5.91E-03	6.82E-03
Bi^{3+}	6.00E-02	9.25E+03	8.68E+03	3.09E-02	5.01E-02	6.57E-02	6.94E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	9.36E-05	13.8	13.0	2.09E-05	6.89E-05	1.08E-04	1.17E-04
Zr (as $ZrO(OH)_2$)	2.45E-04	16.5	15.5	1.53E-04	2.01E-04	2.91E-04	3.36E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.23E-03	53.1	49.8	7.67E-04	1.00E-03	3.00E-03	4.65E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.35E-02	2.17E+03	2.04E+03	8.73E-03	5.13E-02	8.65E-02	9.47E-02
K^+	6.93E-03	200	188	4.34E-03	5.67E-03	8.23E-03	9.49E-03
OH^-	3.43	4.30E+04	4.03E+04	3.21	3.35	3.47	3.50
$NO3^-$	0.986	4.51E+04	4.23E+04	0.689	0.854	1.10	1.20
$NO2^-$	0.299	1.01E+04	9.53E+03	0.115	0.198	0.421	0.557
$CO3^{2-}$	7.35E-02	3.25E+03	3.05E+03	8.73E-03	5.13E-02	8.65E-02	9.47E-02
$PO4^{3-}$	1.11	7.77E+04	7.30E+04	0.164	0.742	1.33	1.46
$SO4^{2-}$	5.33E-02	3.78E+03	3.55E+03	3.33E-02	4.36E-02	6.33E-02	7.30E-02
Si (as SiO_x^{2-})	0.167	3.46E+03	3.24E+03	2.54E-02	8.32E-02	0.218	0.268
F^-	0.142	2.00E+03	1.88E+03	8.91E-02	0.117	0.209	0.429
Cl^-	3.19E-02	834	783	1.99E-02	2.61E-02	3.79E-02	4.37E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.97E-02	749	703	3.85E-02	4.97E-02	6.97E-02	7.89E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.29E+06 (kg)	(424 kgal)	----	----	----	----	----
Heat Load	2.46 (kW)	(8.41E+03 BTU/hr)	----	2.21	2.33	2.60	2.72
Bulk Density*	1.43 (g/cc)	----	----	1.39	1.41	1.44	1.45
Water wt%	45.9	----	----	44.2	45.0	47.7	49.7
TOC wt% C (wet)	0.565	----	----	0.343	0.452	0.679	0.790

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.1	1.62E+05	3.71E+05	9.08	9.57	10.3	10.5
Al^{3+}	1.07	2.03E+04	4.65E+04	0.957	1.01	1.13	1.19
Fe^{3+} (total Fe)	7.99E-03	312	716	7.01E-03	7.49E-03	8.49E-03	8.97E-03
Cr^{3+}	8.38E-02	3.05E+03	6.99E+03	7.24E-02	7.85E-02	8.56E-02	8.70E-02
Bi^{3+}	1.68E-03	246	565	1.50E-03	1.59E-03	1.78E-03	1.87E-03
La^{3+}	8.33E-10	8.10E-05	1.86E-04	6.72E-10	7.51E-10	9.15E-10	9.95E-10
Hg^{2+}	9.59E-06	1.35	3.09	8.60E-06	9.17E-06	9.72E-06	9.85E-06
Zr (as $ZrO(OH)_2$)	3.61E-04	23.0	52.8	3.26E-04	3.39E-04	3.75E-04	3.95E-04
Pb^{2+}	8.92E-04	129	297	7.02E-04	7.95E-04	9.89E-04	1.08E-03
Ni^{2+}	5.29E-03	217	498	5.01E-03	5.13E-03	5.36E-03	5.36E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.14E-03	82.3	189	1.67E-03	1.90E-03	2.38E-03	2.61E-03
Ca^{2+}	2.79E-02	783	1.80E+03	2.65E-02	2.72E-02	2.87E-02	2.93E-02
K^+	4.78E-02	1.31E+03	3.00E+03	4.23E-02	4.42E-02	5.22E-02	5.56E-02
OH^-	6.18	7.35E+04	1.69E+05	5.71	5.94	6.42	6.65
$NO3^-$	4.04	1.75E+05	4.02E+05	3.43	3.79	4.12	4.20
$NO2^-$	1.54	4.96E+04	1.14E+05	1.34	1.43	1.64	1.74
$CO3^{2-}$	0.353	1.48E+04	3.40E+04	0.297	0.316	0.400	0.406
$PO4^{3-}$	9.13E-02	6.07E+03	1.39E+04	7.18E-02	7.86E-02	9.48E-02	9.82E-02
$SO4^{2-}$	0.202	1.36E+04	3.11E+04	0.152	0.169	0.241	0.245
Si (as SiO_x^{2-})	5.67E-02	1.11E+03	2.56E+03	5.00E-02	5.33E-02	6.01E-02	6.34E-02
F^-	8.27E-02	1.10E+03	2.52E+03	6.63E-02	7.32E-02	9.07E-02	9.71E-02
Cl^-	0.183	4.54E+03	1.04E+04	0.151	0.162	0.196	0.196
$C_6H_5O_7^{3-}$	1.44E-02	1.91E+03	4.37E+03	1.29E-02	1.36E-02	1.52E-02	1.59E-02
$EDTA^{4-}$	1.08E-02	2.19E+03	5.01E+03	2.99E-03	6.83E-03	1.49E-02	1.88E-02
$HEDTA^{3-}$	2.09E-02	4.01E+03	9.20E+03	5.22E-03	1.29E-02	2.90E-02	3.69E-02
$glycolate^-$	6.07E-02	3.19E+03	7.31E+03	4.01E-02	5.02E-02	7.12E-02	8.13E-02
$acetate^-$	2.43E-03	100	230	1.97E-03	2.20E-03	2.67E-03	2.89E-03
$oxalate^{2-}$	1.09E-09	6.72E-05	1.54E-04	1.00E-09	1.05E-09	1.14E-09	1.18E-09
DBP	1.19E-02	1.75E+03	4.02E+03	1.03E-02	1.11E-02	1.27E-02	1.35E-02
butanol	1.19E-02	618	1.42E+03	1.03E-02	1.11E-02	1.27E-02	1.35E-02
NH_3	8.14E-02	968	2.22E+03	6.23E-02	7.16E-02	9.13E-02	0.101
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.23E+06 (kg)	(607 kgal)	----	----	----	----	----
Heat Load	2.58 (kW)	(8.80E+03 BTU/hr)	----	2.32	2.45	2.71	2.84
Bulk Density†	1.41 (g/cc)	----	----	1.35	1.38	1.42	1.44
Water wt%†	51.6	----	----	49.7	50.6	52.9	54.8
TOC wt% C (wet)†	0.401	----	----	0.243	0.320	0.482	0.561

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	8.54	1.39E+05	4.51E+05	7.41	8.06	8.88	9.18
Al^{3+}	0.881	1.69E+04	5.46E+04	0.799	0.839	0.923	0.964
Fe^{3+} (total Fe)	0.107	4.26E+03	1.38E+04	0.103	0.106	0.108	0.109
Cr^{3+}	6.00E-02	2.22E+03	7.17E+03	5.21E-02	5.64E-02	6.13E-02	6.23E-02
Bi^{3+}	1.93E-02	2.86E+03	9.24E+03	1.05E-02	1.63E-02	2.10E-02	2.21E-02
La^{3+}	5.82E-10	5.75E-05	1.86E-04	4.70E-10	5.25E-10	6.39E-10	6.95E-10
Hg^{2+}	3.49E-05	4.98	16.1	1.30E-05	2.75E-05	3.93E-05	4.20E-05
Zr (as $ZrO(OH)_2$)	3.26E-04	21.1	68.3	2.92E-04	3.09E-04	3.43E-04	3.60E-04
Pb^{2+}	6.23E-04	91.8	297	4.91E-04	5.55E-04	6.91E-04	7.56E-04
Ni^{2+}	4.07E-03	170	548	3.87E-03	3.96E-03	4.61E-03	5.10E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.50E-03	58.4	189	1.17E-03	1.33E-03	1.66E-03	1.82E-03
Ca^{2+}	4.17E-02	1.19E+03	3.84E+03	2.21E-02	3.50E-02	4.56E-02	4.81E-02
K^+	3.55E-02	987	3.19E+03	3.16E-02	3.29E-02	3.86E-02	4.09E-02
OH^-	5.35	6.46E+04	2.09E+05	5.02	5.18	5.52	5.68
$NO3^-$	3.12	1.37E+05	4.44E+05	2.70	2.94	3.18	3.23
$NO2^-$	1.17	3.81E+04	1.23E+05	1.03	1.09	1.24	1.31
$CO3^{2-}$	0.269	1.15E+04	3.71E+04	0.230	0.243	0.301	0.306
$PO4^{3-}$	0.398	2.69E+04	8.69E+04	0.113	0.287	0.464	0.505
$SO4^{2-}$	0.157	1.07E+04	3.46E+04	0.122	0.134	0.185	0.187
Si (as SiO_x^{2-})	8.99E-02	1.79E+03	5.80E+03	4.70E-02	6.47E-02	0.105	0.120
F^-	0.101	1.36E+03	4.40E+03	8.10E-02	9.10E-02	0.122	0.189
Cl^-	0.138	3.47E+03	1.12E+04	0.115	0.123	0.146	0.146
$C_6H_5O_7^{3-}$	1.01E-02	1.35E+03	4.37E+03	8.98E-03	9.51E-03	1.06E-02	1.11E-02
$EDTA^{4-}$	7.57E-03	1.55E+03	5.01E+03	2.09E-03	4.77E-03	1.04E-02	1.31E-02
$HEDTA^{3-}$	1.46E-02	2.85E+03	9.20E+03	3.65E-03	9.01E-03	2.03E-02	2.58E-02
$glycolate^-$	4.24E-02	2.26E+03	7.31E+03	2.80E-02	3.51E-02	4.98E-02	5.68E-02
$acetate^-$	1.70E-03	71.3	230	1.38E-03	1.53E-03	1.86E-03	2.02E-03
$oxalate^{2-}$	7.62E-10	4.77E-05	1.54E-04	7.02E-10	7.31E-10	7.93E-10	8.23E-10
DBP	8.32E-03	1.24E+03	4.02E+03	7.16E-03	7.73E-03	8.89E-03	9.45E-03
butanol	8.32E-03	438	1.42E+03	7.16E-03	7.73E-03	8.89E-03	9.45E-03
NH_3	7.49E-02	904	2.92E+03	6.15E-02	6.80E-02	8.18E-02	8.86E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	9.39E+05 (kg)	(183 kgal)	----	----	----	----	----
Heat Load	0.114 (kW)	(389 BTU/hr)	----	7.12E-02	9.32E-02	0.135	0.156
Bulk Density	1.36 (g/cc)	----	----	1.16	1.28	1.41	1.45
Void Fraction	0.737	----	----	0.641	0.680	0.832	0.975
Water wt%	65.6	----	----	59.2	62.1	70.9	79.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	7.20E-07	5.31E-04	0.498	2.51E-07	4.59E-07	1.05E-06	1.42E-06
C-14	1.39E-07	1.02E-04	9.61E-02	8.68E-08	1.14E-07	1.65E-07	1.90E-07
Ni-59	3.94E-08	2.91E-05	2.73E-02	2.47E-08	3.23E-08	9.66E-08	1.50E-07
Ni-63	3.60E-06	2.65E-03	2.49	2.25E-06	2.94E-06	8.81E-06	1.36E-05
Co-60	3.74E-08	2.76E-05	2.59E-02	2.34E-08	3.06E-08	4.44E-08	5.12E-08
Se-79	2.93E-08	2.16E-05	2.03E-02	1.83E-08	2.40E-08	3.48E-08	4.01E-08
Sr-90	1.36E-02	10.0	9.43E+03	8.52E-03	1.11E-02	1.62E-02	1.86E-02
Y-90	1.36E-02	10.1	9.44E+03	8.52E-03	1.12E-02	1.62E-02	1.86E-02
Zr-93	1.39E-07	1.02E-04	9.62E-02	8.69E-08	1.14E-07	1.65E-07	1.90E-07
Nb-93m	1.16E-07	8.57E-05	8.04E-02	7.26E-08	9.50E-08	1.38E-07	1.59E-07
Tc-99	9.65E-07	7.12E-04	0.668	6.03E-07	7.89E-07	1.15E-06	1.32E-06
Ru-106	1.90E-14	1.40E-11	1.32E-08	1.19E-14	1.56E-14	2.26E-14	2.60E-14
Cd-113m	3.66E-07	2.70E-04	0.253	2.29E-07	2.99E-07	4.34E-07	5.00E-07
Sb-125	3.80E-08	2.81E-05	2.63E-02	2.38E-08	3.11E-08	4.52E-08	5.21E-08
Sn-126	4.43E-08	3.27E-05	3.07E-02	2.77E-08	3.63E-08	5.26E-08	6.07E-08
I-129	1.83E-09	1.35E-06	1.27E-03	1.14E-09	1.50E-09	2.17E-09	2.50E-09
Cs-134	1.70E-09	1.25E-06	1.18E-03	1.06E-09	1.39E-09	2.02E-09	2.33E-09
Cs-137	1.55E-02	11.4	1.07E+04	9.70E-03	1.27E-02	1.84E-02	2.12E-02
Ba-137m	1.47E-02	10.8	1.02E+04	9.18E-03	1.20E-02	1.74E-02	2.01E-02
Sm-151	1.08E-04	7.99E-02	75.0	6.77E-05	8.86E-05	1.29E-04	1.48E-04
Eu-152	5.37E-08	3.96E-05	3.72E-02	5.17E-08	5.27E-08	5.47E-08	5.56E-08
Eu-154	7.14E-07	5.27E-04	0.495	4.47E-07	5.84E-07	8.48E-07	9.77E-07
Eu-155	3.60E-06	2.66E-03	2.50	3.47E-06	3.54E-06	3.67E-06	3.73E-06
Ra-226	5.95E-12	4.39E-09	4.12E-06	3.72E-12	4.87E-12	7.06E-12	8.14E-12
Ra-228	1.48E-16	1.09E-13	1.03E-10	1.43E-16	1.46E-16	1.51E-16	1.54E-16
Ac-227	3.08E-11	2.27E-08	2.13E-05	1.92E-11	2.52E-11	3.65E-11	4.21E-11
Pa-231	6.94E-11	5.12E-08	4.80E-05	4.34E-11	5.68E-11	8.24E-11	9.49E-11
Th-229	2.89E-14	2.13E-11	2.00E-08	2.78E-14	2.83E-14	2.94E-14	2.99E-14
Th-232	3.79E-17	2.80E-14	2.63E-11	2.37E-17	3.10E-17	4.50E-17	5.19E-17
U-232	3.51E-10	2.59E-07	2.43E-04	2.96E-10	3.33E-10	3.62E-10	3.69E-10
U-233	1.61E-11	1.19E-08	1.11E-05	1.36E-11	1.52E-11	1.66E-11	1.69E-11
U-234	1.46E-05	1.08E-02	10.1	1.23E-05	1.38E-05	1.50E-05	1.53E-05
U-235	6.45E-07	4.75E-04	0.446	5.44E-07	6.11E-07	6.64E-07	6.77E-07
U-236	1.50E-07	1.10E-04	0.104	1.26E-07	1.42E-07	1.54E-07	1.57E-07
U-238	1.48E-05	1.09E-02	10.3	1.25E-05	1.41E-05	1.53E-05	1.56E-05
Np-237	6.03E-09	4.45E-06	4.17E-03	3.77E-09	4.93E-09	7.15E-09	8.25E-09
Pu-238	4.48E-07	3.30E-04	0.310	6.03E-08	2.70E-07	6.04E-07	7.55E-07
Pu-239	5.56E-05	4.10E-02	38.5	7.49E-06	3.35E-05	7.50E-05	9.37E-05
Pu-240	5.43E-06	4.00E-03	3.76	7.31E-07	3.27E-06	7.33E-06	9.15E-06
Pu-241	1.96E-05	1.45E-02	13.6	2.65E-06	1.19E-05	2.65E-05	3.31E-05
Pu-242	8.98E-11	6.62E-08	6.22E-05	1.21E-11	5.42E-11	1.21E-10	1.51E-10
Am-241	3.66E-07	2.70E-04	0.254	2.29E-07	3.00E-07	4.35E-07	5.02E-07
Am-243	2.65E-12	1.95E-09	1.84E-06	1.66E-12	2.17E-12	3.15E-12	3.63E-12
Cm-242	1.07E-09	7.86E-07	7.38E-04	1.03E-09	1.05E-09	1.09E-09	1.10E-09
Cm-243	2.20E-11	1.62E-08	1.52E-05	2.11E-11	2.16E-11	2.24E-11	2.28E-11
Cm-244	6.32E-11	4.66E-08	4.37E-05	3.95E-11	5.17E-11	7.50E-11	8.64E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.18E-04 (g/L)	----	0.636	1.24E-04	5.54E-04	1.24E-03	1.55E-03
U	0.187	3.28E+04	3.08E+04	0.158	0.177	0.192	0.196

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.29E+06 (kg)	(424 kgal)	----	----	----	----	----
Heat Load	2.46 (kW)	(8.41E+03 BTU/hr)	----	2.21	2.33	2.60	2.72
Bulk Density*	1.43 (g/cc)	----	----	1.39	1.41	1.44	1.45
Water wt%†	45.9	----	----	44.2	45.0	47.7	49.7
TOC wt% C (wet)	0.565	----	----	0.343	0.452	0.679	0.790

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.51E-04	0.105	242	9.07E-05	9.07E-05	1.59E-04	1.69E-04
C-14	2.12E-05	1.49E-02	34.1	8.69E-06	8.69E-06	2.19E-05	2.25E-05
Ni-59	1.60E-06	1.12E-03	2.57	1.01E-06	1.01E-06	1.63E-06	1.66E-06
Ni-63	1.57E-04	0.110	252	9.85E-05	9.85E-05	1.60E-04	1.63E-04
Co-60	2.37E-05	1.66E-02	38.0	9.33E-06	9.33E-06	2.46E-05	2.55E-05
Se-79	2.28E-06	1.59E-03	3.66	1.48E-06	1.48E-06	2.57E-06	2.84E-06
Sr-90	7.68E-02	53.8	1.23E+05	7.23E-02	7.39E-02	8.03E-02	8.08E-02
Y-90	7.69E-02	53.8	1.23E+05	4.92E-02	4.92E-02	7.89E-02	8.08E-02
Zr-93	1.12E-05	7.82E-03	17.9	7.17E-06	7.17E-06	1.26E-05	1.40E-05
Nb-93m	8.11E-06	5.67E-03	13.0	5.31E-06	5.31E-06	9.12E-06	1.01E-05
Tc-99	1.51E-04	0.106	243	1.05E-04	1.27E-04	1.75E-04	1.99E-04
Ru-106	4.47E-09	3.13E-06	7.17E-03	2.61E-09	2.61E-09	4.88E-09	5.26E-09
Cd-113m	5.79E-05	4.05E-02	92.9	3.39E-05	3.39E-05	6.66E-05	7.49E-05
Sb-125	1.02E-04	7.14E-02	164	4.00E-05	4.00E-05	1.06E-04	1.10E-04
Sn-126	3.44E-06	2.41E-03	5.52	2.24E-06	2.24E-06	3.87E-06	4.29E-06
I-129	2.92E-07	2.04E-04	0.468	2.01E-07	2.45E-07	3.38E-07	3.83E-07
Cs-134	2.26E-06	1.58E-03	3.63	1.67E-06	1.96E-06	2.57E-06	2.87E-06
Cs-137	0.217	152	3.48E+05	0.183	0.200	0.235	0.252
Ba-137m	0.205	144	3.30E+05	0.173	0.184	0.222	0.238
Sm-151	8.02E-03	5.61	1.29E+04	5.22E-03	5.22E-03	9.03E-03	1.00E-02
Eu-152	2.78E-06	1.95E-03	4.47	1.79E-06	1.79E-06	3.00E-06	3.21E-06
Eu-154	3.96E-04	0.277	635	1.96E-04	1.96E-04	4.68E-04	4.97E-04
Eu-155	1.66E-04	0.116	266	1.07E-04	1.07E-04	1.79E-04	1.92E-04
Ra-226	1.07E-10	7.46E-08	1.71E-04	8.19E-11	8.19E-11	1.16E-10	1.24E-10
Ra-228	1.67E-07	1.17E-04	0.268	6.38E-08	1.14E-07	2.28E-07	2.93E-07
Ac-227	6.94E-10	4.86E-07	1.11E-03	5.50E-10	5.50E-10	7.46E-10	7.96E-10
Pa-231	3.08E-09	2.15E-06	4.94E-03	2.28E-09	2.28E-09	3.37E-09	3.65E-09
Th-229	3.87E-09	2.71E-06	6.21E-03	1.61E-09	2.71E-09	5.21E-09	6.64E-09
Th-232	1.03E-08	7.18E-06	1.65E-02	4.55E-09	7.34E-09	1.32E-08	1.60E-08
U-232	8.36E-07	5.85E-04	1.34	4.22E-07	6.24E-07	1.08E-06	1.34E-06
U-233	3.20E-06	2.24E-03	5.14	1.62E-06	2.39E-06	4.14E-06	5.14E-06
U-234	6.88E-07	4.81E-04	1.10	6.56E-07	6.76E-07	6.96E-07	7.01E-07
U-235	2.76E-08	1.93E-05	4.43E-02	2.63E-08	2.71E-08	2.80E-08	2.82E-08
U-236	2.23E-08	1.56E-05	3.59E-02	2.14E-08	2.21E-08	2.26E-08	2.28E-08
U-238	8.36E-07	5.85E-04	1.34	8.05E-07	8.24E-07	8.44E-07	8.49E-07
Np-237	5.45E-07	3.81E-04	0.874	3.92E-07	4.66E-07	6.23E-07	6.99E-07
Pu-238	9.47E-07	6.62E-04	1.52	7.67E-07	8.55E-07	1.04E-06	1.13E-06
Pu-239	3.36E-05	2.35E-02	54.0	2.90E-05	3.13E-05	3.60E-05	3.82E-05
Pu-240	5.63E-06	3.94E-03	9.04	4.78E-06	5.20E-06	6.07E-06	6.49E-06
Pu-241	6.29E-05	4.40E-02	101	5.06E-05	5.66E-05	6.91E-05	7.51E-05
Pu-242	3.45E-10	2.41E-07	5.54E-04	2.72E-10	3.08E-10	3.82E-10	4.18E-10
Am-241	4.20E-05	2.94E-02	67.4	3.35E-05	3.77E-05	4.64E-05	5.05E-05
Am-243	1.45E-09	1.02E-06	2.33E-03	1.13E-09	1.28E-09	1.65E-09	1.82E-09
Cm-242	1.07E-07	7.52E-05	0.172	6.68E-08	6.68E-08	1.16E-07	1.24E-07
Cm-243	9.94E-09	6.96E-06	1.60E-02	6.06E-09	6.06E-09	1.07E-08	1.14E-08
Cm-244	9.46E-08	6.62E-05	0.152	5.46E-08	5.46E-08	1.08E-07	1.17E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.63E-04 (g/L)	----	0.743	3.76E-04	4.19E-04	5.07E-04	5.50E-04
U	7.71E-03	1.28E+03	2.94E+03	7.33E-03	7.56E-03	7.81E-03	7.87E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-113

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.23E+06 (kg)	(607 kgal)	----	----	----	----	----
Heat Load	2.58 (kW)	(8.80E+03 BTU/hr)	----	2.32	2.45	2.71	2.84
Bulk Density†	1.41 (g/cc)	----	----	1.35	1.38	1.42	1.44
Water wt%†	51.6	----	----	49.7	50.6	52.9	54.8
TOC wt% C (wet)†	0.401	----	----	0.243	0.320	0.482	0.561

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.05E-04	7.49E-02	242	6.36E-05	6.36E-05	1.11E-04	1.18E-04
C-14	1.49E-05	1.06E-02	34.2	6.11E-06	6.11E-06	1.53E-05	1.58E-05
Ni-59	1.13E-06	8.03E-04	2.60	7.18E-07	7.18E-07	1.15E-06	1.17E-06
Ni-63	1.11E-04	7.86E-02	254	6.99E-05	6.99E-05	1.13E-04	1.15E-04
Co-60	1.66E-05	1.18E-02	38.0	6.53E-06	6.53E-06	1.72E-05	1.78E-05
Se-79	1.60E-06	1.14E-03	3.68	1.04E-06	1.04E-06	1.80E-06	2.00E-06
Sr-90	5.78E-02	41.1	1.33E+05	5.46E-02	5.57E-02	6.02E-02	6.05E-02
Y-90	5.78E-02	41.1	1.33E+05	3.85E-02	3.85E-02	5.92E-02	6.05E-02
Zr-93	7.85E-06	5.58E-03	18.0	5.05E-06	5.05E-06	8.86E-06	9.83E-06
Nb-93m	5.70E-06	4.05E-03	13.1	3.74E-06	3.74E-06	6.41E-06	7.09E-06
Tc-99	1.06E-04	7.53E-02	243	7.33E-05	8.93E-05	1.23E-04	1.39E-04
Ru-106	3.12E-09	2.22E-06	7.17E-03	1.83E-09	1.83E-09	3.41E-09	3.68E-09
Cd-113m	4.06E-05	2.88E-02	93.2	2.38E-05	2.38E-05	4.66E-05	5.24E-05
Sb-125	7.13E-05	5.07E-02	164	2.79E-05	2.79E-05	7.42E-05	7.70E-05
Sn-126	2.42E-06	1.72E-03	5.55	1.58E-06	1.58E-06	2.72E-06	3.01E-06
I-129	2.04E-07	1.45E-04	0.469	1.41E-07	1.72E-07	2.37E-07	2.68E-07
Cs-134	1.58E-06	1.12E-03	3.64	1.17E-06	1.37E-06	1.80E-06	2.00E-06
Cs-137	0.156	111	3.59E+05	0.133	0.144	0.169	0.180
Ba-137m	0.148	105	3.40E+05	0.125	0.133	0.159	0.171
Sm-151	5.63E-03	4.00	1.29E+04	3.68E-03	3.68E-03	6.34E-03	7.02E-03
Eu-152	1.96E-06	1.39E-03	4.50	1.27E-06	1.27E-06	2.11E-06	2.26E-06
Eu-154	2.77E-04	0.197	635	1.37E-04	1.37E-04	3.27E-04	3.47E-04
Eu-155	1.17E-04	8.31E-02	269	7.58E-05	7.58E-05	1.26E-04	1.35E-04
Ra-226	7.63E-11	5.42E-08	1.75E-04	5.90E-11	5.90E-11	8.26E-11	8.86E-11
Ra-228	1.17E-07	8.29E-05	0.268	4.45E-08	7.98E-08	1.59E-07	2.05E-07
Ac-227	4.94E-10	3.51E-07	1.14E-03	3.93E-10	3.93E-10	5.30E-10	5.65E-10
Pa-231	2.17E-09	1.54E-06	4.99E-03	1.61E-09	1.61E-09	2.37E-09	2.57E-09
Th-229	2.70E-09	1.92E-06	6.21E-03	1.12E-09	1.89E-09	3.64E-09	4.64E-09
Th-232	7.16E-09	5.09E-06	1.65E-02	3.18E-09	5.13E-09	9.20E-09	1.12E-08
U-232	5.84E-07	4.15E-04	1.34	2.95E-07	4.36E-07	7.55E-07	9.37E-07
U-233	2.24E-06	1.59E-03	5.14	1.13E-06	1.67E-06	2.89E-06	3.59E-06
U-234	4.88E-06	3.47E-03	11.2	4.19E-06	4.65E-06	5.02E-06	5.10E-06
U-235	2.14E-07	1.52E-04	0.491	1.83E-07	2.03E-07	2.20E-07	2.23E-07
U-236	6.07E-08	4.31E-05	0.139	5.37E-08	5.83E-08	6.21E-08	6.30E-08
U-238	5.06E-06	3.59E-03	11.6	4.36E-06	4.82E-06	5.20E-06	5.28E-06
Np-237	3.82E-07	2.72E-04	0.878	2.76E-07	3.28E-07	4.37E-07	4.90E-07
Pu-238	7.96E-07	5.66E-04	1.83	6.71E-07	7.32E-07	8.60E-07	9.22E-07
Pu-239	4.02E-05	2.86E-02	92.5	2.57E-05	3.36E-05	4.60E-05	5.15E-05
Pu-240	5.57E-06	3.96E-03	12.8	4.15E-06	4.92E-06	6.13E-06	6.67E-06
Pu-241	4.98E-05	3.54E-02	114	4.13E-05	4.55E-05	5.42E-05	5.84E-05
Pu-242	2.68E-10	1.90E-07	6.16E-04	2.17E-10	2.42E-10	2.94E-10	3.19E-10
Am-241	2.95E-05	2.09E-02	67.7	2.35E-05	2.64E-05	3.25E-05	3.54E-05
Am-243	1.01E-09	7.21E-07	2.33E-03	7.94E-10	8.95E-10	1.15E-09	1.27E-09
Cm-242	7.54E-08	5.36E-05	0.173	4.70E-08	4.70E-08	8.12E-08	8.68E-08
Cm-243	6.95E-09	4.94E-06	1.60E-02	4.24E-09	4.24E-09	7.47E-09	7.98E-09
Cm-244	6.61E-08	4.70E-05	0.152	3.82E-08	3.82E-08	7.56E-08	8.16E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.00E-04 (g/L)	----	1.38	3.60E-04	4.91E-04	6.95E-04	7.86E-04
U	6.17E-02	1.04E+04	3.37E+04	5.29E-02	5.87E-02	6.34E-02	6.45E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.03E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	8.07E-02 (kW)	(276 BTU/hr)	----	1.91E-02	3.14E-02	0.120	0.228
Bulk Density	1.72 (g/cc)	----	----	1.09	1.21	1.78	1.88
Void Fraction	0.538	----	----	0.287	0.495	0.928	0.980
Water wt%	39.1	----	----	33.8	37.2	73.8	86.2
TOC wt% C (wet)	1.27E-04	----	----	3.56E-06	1.09E-04	2.05E-04	1.53E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.5	1.81E+05	7.28E+04	1.88	4.20	14.8	16.5
Al^{3+}	3.64E-02	572	231	3.22E-02	3.57E-02	4.24E-02	4.32E-02
Fe^{3+} (total Fe)	0.140	4.54E+03	1.83E+03	0.123	0.137	0.142	0.144
Cr^{3+}	4.35E-03	132	53.1	3.24E-03	4.29E-03	5.63E-03	4.99E-03
Bi^{3+}	1.80E-02	2.19E+03	881	9.04E-03	1.49E-02	1.97E-02	2.09E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.09E-05	1.28	0.514	6.23E-06	9.33E-06	1.50E-05	1.79E-05
Zr (as $ZrO(OH)_2$)	3.59E-04	19.0	7.67	2.10E-04	3.43E-04	5.66E-04	5.61E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.11E-02	379	153	1.02E-03	1.62E-03	1.37E-02	1.42E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.08E-02	2.12E+03	854	1.19E-02	6.57E-02	0.100	0.109
K^{+}	1.17E-02	267	107	4.65E-03	1.00E-02	1.73E-02	1.34E-02
OH^{-}	1.08	1.07E+04	4.30E+03	0.957	1.05	1.14	1.16
$NO3^{-}$	8.84	3.19E+05	1.29E+05	0.807	1.80	8.89	9.40
$NO2^{-}$	0.215	5.76E+03	2.32E+03	0.110	0.162	0.298	0.258
$CO3^{2-}$	0.190	6.65E+03	2.68E+03	2.92E-02	0.136	0.254	0.268
$PO4^{3-}$	1.28	7.10E+04	2.86E+04	0.190	0.546	1.48	1.51
$SO4^{2-}$	0.105	5.86E+03	2.36E+03	4.23E-02	9.01E-02	0.154	0.736
Si (as SiO_x^{2-})	2.74E-02	448	181	1.83E-02	2.20E-02	5.20E-02	7.61E-02
F^{-}	9.05E-02	1.00E+03	404	6.02E-02	8.83E-02	0.127	0.113
Cl^{-}	6.54E-02	1.35E+03	544	2.16E-02	5.31E-02	0.377	0.423
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.52E-05	1.86	0.748	2.69E-07	9.21E-06	2.53E-05	1.80E-05
butanol	1.52E-05	0.655	0.264	2.69E-07	9.21E-06	2.53E-05	1.80E-05
NH_3	3.91E-02	387	156	2.94E-02	3.84E-02	5.22E-02	4.48E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+06 (kg)	(473 kgal)	----	----	----	----	----
Heat Load	2.79 (kW)	(9.52E+03 BTU/hr)	----	2.50	2.64	2.94	3.08
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%	45.4	----	----	43.7	44.5	47.2	49.2
TOC wt% C (wet)	0.578	----	----	0.348	0.460	0.695	0.809

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.2	1.63E+05	4.19E+05	9.20	9.69	10.4	10.7
Al^{3+}	1.09	2.05E+04	5.25E+04	0.969	1.03	1.15	1.21
Fe^{3+} (total Fe)	8.10E-03	315	810	7.11E-03	7.60E-03	8.61E-03	9.09E-03
Cr^{3+}	8.48E-02	3.07E+03	7.89E+03	7.33E-02	7.95E-02	8.67E-02	8.81E-02
Bi^{3+}	1.70E-03	248	637	1.51E-03	1.61E-03	1.80E-03	1.89E-03
La^{3+}	8.43E-10	8.16E-05	2.10E-04	6.80E-10	7.60E-10	9.26E-10	1.01E-09
Hg^{2+}	9.70E-06	1.36	3.48	8.70E-06	9.27E-06	9.84E-06	9.97E-06
Zr (as $ZrO(OH)_2$)	3.65E-04	23.2	59.6	3.30E-04	3.43E-04	3.80E-04	3.99E-04
Pb^{2+}	9.02E-04	130	335	7.11E-04	8.04E-04	1.00E-03	1.09E-03
Ni^{2+}	5.36E-03	219	563	5.07E-03	5.20E-03	5.43E-03	5.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.17E-03	83.0	213	1.69E-03	1.92E-03	2.41E-03	2.64E-03
Ca^{2+}	2.83E-02	791	2.03E+03	2.69E-02	2.76E-02	2.90E-02	2.97E-02
K^{+}	4.84E-02	1.32E+03	3.39E+03	4.28E-02	4.48E-02	5.29E-02	5.63E-02
OH^{-}	6.25	7.41E+04	1.90E+05	5.78	6.01	6.50	6.73
$NO3^{-}$	4.09	1.77E+05	4.54E+05	3.48	3.84	4.17	4.25
$NO2^{-}$	1.56	5.00E+04	1.28E+05	1.36	1.45	1.66	1.76
$CO3^{2-}$	0.358	1.50E+04	3.85E+04	0.301	0.320	0.405	0.412
$PO4^{3-}$	9.24E-02	6.11E+03	1.57E+04	7.27E-02	7.96E-02	9.59E-02	9.94E-02
$SO4^{2-}$	0.204	1.37E+04	3.51E+04	0.154	0.171	0.244	0.248
Si (as SiO_x^{2-})	5.75E-02	1.13E+03	2.89E+03	5.07E-02	5.40E-02	6.09E-02	6.43E-02
F^{-}	8.37E-02	1.11E+03	2.85E+03	6.71E-02	7.40E-02	9.18E-02	9.82E-02
Cl^{-}	0.186	4.58E+03	1.18E+04	0.153	0.164	0.198	0.198
$C_6H_5O_7^{3-}$	1.46E-02	1.92E+03	4.94E+03	1.30E-02	1.38E-02	1.54E-02	1.62E-02
$EDTA^{4-}$	1.12E-02	2.26E+03	5.79E+03	3.09E-03	7.06E-03	1.54E-02	1.95E-02
$HEDTA^{3-}$	2.17E-02	4.14E+03	1.06E+04	5.41E-03	1.34E-02	3.01E-02	3.83E-02
$glycolate^{-}$	6.21E-02	3.25E+03	8.34E+03	4.12E-02	5.14E-02	7.29E-02	8.31E-02
$acetate^{-}$	2.46E-03	101	260	1.99E-03	2.22E-03	2.70E-03	2.93E-03
$oxalate^{2-}$	1.10E-09	6.77E-05	1.74E-04	1.02E-09	1.06E-09	1.15E-09	1.19E-09
DBP	1.20E-02	1.77E+03	4.53E+03	1.04E-02	1.12E-02	1.29E-02	1.37E-02
butanol	1.20E-02	622	1.60E+03	1.04E-02	1.12E-02	1.29E-02	1.37E-02
NH_3	8.24E-02	976	2.51E+03	6.31E-02	7.25E-02	9.24E-02	0.102
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.97E+06 (kg)	(535 kgal)	----	----	----	----	----
Heat Load	2.87 (kW)	(9.80E+03 BTU/hr)	----	2.58	2.72	3.02	3.16
Bulk Density†	1.47 (g/cc)	----	----	1.36	1.39	1.48	1.50
Water wt%†	44.6	----	----	42.7	43.5	49.9	52.7
TOC wt% C (wet)†	0.499	----	----	0.300	0.398	0.601	0.700

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.6	1.66E+05	4.92E+05	8.35	9.06	10.9	11.2
Al^{3+}	0.966	1.78E+04	5.28E+04	0.861	0.912	1.02	1.07
Fe^{3+} (total Fe)	2.34E-02	889	2.64E+03	2.15E-02	2.29E-02	2.38E-02	2.42E-02
Cr^{3+}	7.55E-02	2.67E+03	7.95E+03	6.53E-02	7.08E-02	7.71E-02	7.84E-02
Bi^{3+}	3.59E-03	511	1.52E+03	2.55E-03	3.24E-03	3.79E-03	3.93E-03
La^{3+}	7.45E-10	7.05E-05	2.10E-04	6.01E-10	6.72E-10	8.19E-10	8.90E-10
Hg^{2+}	9.84E-06	1.35	4.00	9.12E-06	9.66E-06	1.03E-05	1.07E-05
Zr (as $ZrO(OH)_2$)	3.64E-04	22.6	67.3	3.44E-04	3.54E-04	3.76E-04	3.85E-04
Pb^{2+}	7.98E-04	113	335	6.28E-04	7.11E-04	8.84E-04	9.67E-04
Ni^{2+}	6.02E-03	241	716	4.64E-03	4.91E-03	6.32E-03	6.38E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.92E-03	71.7	213	1.49E-03	1.70E-03	2.13E-03	2.34E-03
Ca^{2+}	3.55E-02	971	2.88E+03	2.60E-02	3.26E-02	3.71E-02	3.86E-02
K^{+}	4.42E-02	1.18E+03	3.50E+03	3.84E-02	4.07E-02	4.88E-02	5.12E-02
OH^{-}	5.65	6.55E+04	1.95E+05	5.23	5.44	5.87	6.08
$NO3^{-}$	4.64	1.96E+05	5.83E+05	3.17	3.60	4.71	4.75
$NO2^{-}$	1.40	4.40E+04	1.31E+05	1.22	1.31	1.50	1.59
$CO3^{2-}$	0.339	1.38E+04	4.12E+04	0.270	0.299	0.388	0.395
$PO4^{3-}$	0.230	1.49E+04	4.43E+04	9.72E-02	0.145	0.253	0.257
$SO4^{2-}$	0.193	1.26E+04	3.75E+04	0.141	0.162	0.234	0.305
Si (as SiO_x^{2-})	5.40E-02	1.03E+03	3.07E+03	4.80E-02	5.09E-02	5.70E-02	6.00E-02
F^{-}	8.44E-02	1.09E+03	3.25E+03	7.24E-02	8.02E-02	9.22E-02	9.38E-02
Cl^{-}	0.172	4.15E+03	1.23E+04	0.137	0.151	0.219	0.224
$C_6H_5O_7^{3-}$	1.29E-02	1.66E+03	4.94E+03	1.15E-02	1.22E-02	1.36E-02	1.43E-02
$EDTA^{4-}$	9.93E-03	1.95E+03	5.79E+03	2.73E-03	6.25E-03	1.36E-02	1.72E-02
$HEDTA^{3-}$	1.92E-02	3.58E+03	1.06E+04	4.78E-03	1.18E-02	2.66E-02	3.38E-02
$glycolate^{-}$	5.49E-02	2.81E+03	8.34E+03	3.64E-02	4.55E-02	6.44E-02	7.35E-02
$acetate^{-}$	2.17E-03	87.5	260	1.76E-03	1.96E-03	2.39E-03	2.59E-03
$oxalate^{2-}$	9.76E-10	5.86E-05	1.74E-04	8.98E-10	9.36E-10	1.02E-09	1.05E-09
DBP	1.07E-02	1.53E+03	4.53E+03	9.18E-03	9.90E-03	1.14E-02	1.21E-02
butanol	1.07E-02	538	1.60E+03	9.18E-03	9.90E-03	1.14E-02	1.21E-02
NH_3	7.73E-02	896	2.66E+03	6.03E-02	6.86E-02	8.62E-02	9.49E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.03E+05 (kg)	(62.0 kgal)	----	----	----	----	----
Heat Load	8.07E-02 (kW)	(276 BTU/hr)	----	1.91E-02	3.14E-02	0.120	0.228
Bulk Density	1.72 (g/cc)	----	----	1.09	1.21	1.78	1.88
Void Fraction	0.538	----	----	0.287	0.495	0.928	0.980
Water wt%	39.1	----	----	33.8	37.2	73.8	86.2
TOC wt% C (wet)	1.27E-04	----	----	3.56E-06	1.09E-04	2.05E-04	1.53E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.84E-06	1.65E-03	0.667	4.64E-08	4.64E-08	3.02E-06	3.47E-06
C-14	4.26E-07	2.48E-04	9.99E-02	8.95E-09	8.95E-09	4.31E-07	4.88E-07
Ni-59	8.49E-07	4.95E-04	0.199	2.54E-09	2.54E-09	8.95E-07	9.26E-07
Ni-63	7.64E-05	4.45E-02	17.9	2.32E-07	2.32E-07	8.05E-05	8.33E-05
Co-60	9.65E-08	5.62E-05	2.26E-02	2.41E-09	2.41E-09	9.76E-08	1.11E-07
Se-79	9.15E-08	5.33E-05	2.15E-02	1.89E-09	1.89E-09	9.25E-08	1.05E-07
Sr-90	1.13E-02	6.60	2.66E+03	6.76E-03	1.11E-02	1.55E-02	6.64E-02
Y-90	1.13E-02	6.60	2.66E+03	8.78E-04	8.78E-04	1.15E-02	1.30E-02
Zr-93	4.35E-07	2.53E-04	0.102	8.96E-09	8.96E-09	4.39E-07	4.99E-07
Nb-93m	3.67E-07	2.14E-04	8.62E-02	7.49E-09	7.49E-09	3.71E-07	4.21E-07
Tc-99	3.01E-06	1.75E-03	0.706	8.35E-07	2.33E-06	4.64E-06	3.45E-06
Ru-106	3.85E-14	2.24E-11	9.02E-09	1.23E-15	1.23E-15	3.89E-14	4.40E-14
Cd-113m	1.05E-06	6.11E-04	0.246	2.36E-08	2.36E-08	1.06E-06	1.20E-06
Sb-125	8.77E-08	5.11E-05	2.06E-02	2.45E-09	2.45E-09	8.87E-08	1.00E-07
Sn-126	1.37E-07	8.01E-05	3.23E-02	2.86E-09	2.86E-09	1.39E-07	1.58E-07
I-129	5.66E-09	3.30E-06	1.33E-03	1.57E-09	4.38E-09	8.74E-09	6.50E-09
Cs-134	4.06E-09	2.37E-06	9.53E-04	1.10E-10	1.10E-10	4.38E-09	4.73E-09
Cs-137	5.71E-02	33.3	1.34E+04	7.66E-03	1.26E-02	8.68E-02	0.112
Ba-137m	5.40E-02	31.5	1.27E+04	9.46E-04	9.46E-04	5.82E-02	6.29E-02
Sm-151	3.41E-04	0.198	80.0	6.98E-06	6.98E-06	3.45E-04	3.91E-04
Eu-152	1.09E-07	6.34E-05	2.56E-02	3.46E-09	3.46E-09	1.10E-07	1.11E-07
Eu-154	1.72E-06	1.00E-03	0.403	4.60E-08	4.60E-08	1.74E-06	1.97E-06
Eu-155	8.31E-06	4.84E-03	1.95	2.32E-07	2.32E-07	8.38E-06	8.44E-06
Ra-226	2.56E-11	1.49E-08	6.00E-06	3.83E-13	3.83E-13	9.64E-11	7.71E-11
Ra-228	4.30E-16	2.50E-13	1.01E-10	9.55E-18	9.55E-18	4.33E-16	4.36E-16
Ac-227	1.32E-10	7.67E-08	3.09E-05	1.98E-12	1.98E-12	3.32E-10	4.04E-10
Pa-231	2.86E-10	1.67E-07	6.72E-05	4.47E-12	4.47E-12	2.89E-10	3.29E-10
Th-229	8.34E-14	4.86E-11	1.96E-08	1.86E-15	1.86E-15	8.41E-14	8.47E-14
Th-232	1.24E-16	7.25E-14	2.92E-11	2.45E-18	2.45E-18	1.26E-16	1.43E-16
U-232	1.33E-10	7.77E-08	3.13E-05	9.89E-11	1.16E-10	1.52E-10	1.64E-10
U-233	6.31E-12	3.67E-09	1.48E-06	4.66E-12	5.47E-12	7.19E-12	7.77E-12
U-234	6.15E-06	3.58E-03	1.44	4.51E-06	5.31E-06	7.06E-06	7.65E-06
U-235	2.73E-07	1.59E-04	6.40E-02	2.00E-07	2.35E-07	3.13E-07	3.39E-07
U-236	5.84E-08	3.40E-05	1.37E-02	4.32E-08	5.07E-08	6.66E-08	7.19E-08
U-238	6.25E-06	3.64E-03	1.47	4.58E-06	5.39E-06	7.17E-06	7.77E-06
Np-237	1.85E-08	1.08E-05	4.35E-03	5.10E-09	1.43E-08	2.86E-08	2.13E-08
Pu-238	3.74E-07	2.18E-04	8.78E-02	6.05E-08	1.38E-07	5.48E-07	5.67E-07
Pu-239	6.11E-05	3.56E-02	14.3	9.56E-06	2.27E-05	8.81E-05	9.07E-05
Pu-240	5.03E-06	2.93E-03	1.18	8.02E-07	1.86E-06	7.31E-06	7.56E-06
Pu-241	1.40E-05	8.14E-03	3.28	2.31E-06	5.10E-06	2.07E-05	2.15E-05
Pu-242	6.25E-11	3.64E-08	1.47E-05	1.03E-11	2.28E-11	9.28E-11	9.64E-11
Am-241	7.85E-07	4.57E-04	0.184	1.65E-07	5.71E-07	1.24E-06	8.99E-07
Am-243	5.44E-12	3.17E-09	1.28E-06	1.09E-12	3.92E-12	8.58E-12	6.22E-12
Cm-242	1.81E-09	1.05E-06	4.24E-04	6.87E-11	6.87E-11	1.83E-09	1.84E-09
Cm-243	3.70E-11	2.15E-08	8.68E-06	1.42E-12	1.42E-12	3.73E-11	3.77E-11
Cm-244	1.20E-10	7.01E-08	2.82E-05	4.07E-12	4.07E-12	1.22E-10	1.37E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.00E-03 (g/L)	----	0.236	1.57E-04	3.74E-04	1.45E-03	1.49E-03
U	7.86E-02	1.09E+04	4.39E+03	5.77E-02	6.78E-02	9.02E-02	9.78E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.57E+06 (kg)	(473 kgal)	----	----	----	----	----
Heat Load	2.79 (kW)	(9.52E+03 BTU/hr)	----	2.50	2.64	2.94	3.08
Bulk Density*	1.43 (g/cc)	----	----	1.40	1.42	1.44	1.45
Water wt%†	45.4	----	----	43.7	44.5	47.2	49.2
TOC wt% C (wet)	0.578	----	----	0.348	0.460	0.695	0.809

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.53E-04	0.106	273	9.20E-05	9.20E-05	1.61E-04	1.71E-04
C-14	2.15E-05	1.50E-02	38.5	8.81E-06	8.81E-06	2.22E-05	2.28E-05
Ni-59	1.62E-06	1.13E-03	2.90	1.02E-06	1.02E-06	1.65E-06	1.68E-06
Ni-63	1.59E-04	0.111	284	9.98E-05	9.98E-05	1.62E-04	1.65E-04
Co-60	2.40E-05	1.67E-02	43.0	9.48E-06	9.48E-06	2.49E-05	2.58E-05
Se-79	2.31E-06	1.61E-03	4.14	1.50E-06	1.50E-06	2.60E-06	2.88E-06
Sr-90	7.80E-02	54.4	1.40E+05	7.34E-02	7.51E-02	8.15E-02	8.20E-02
Y-90	7.80E-02	54.4	1.40E+05	5.01E-02	5.01E-02	8.01E-02	8.20E-02
Zr-93	1.13E-05	7.90E-03	20.3	7.29E-06	7.29E-06	1.28E-05	1.42E-05
Nb-93m	8.22E-06	5.73E-03	14.7	5.39E-06	5.39E-06	9.25E-06	1.02E-05
Tc-99	1.53E-04	0.107	274	1.06E-04	1.29E-04	1.78E-04	2.01E-04
Ru-106	4.54E-09	3.16E-06	8.12E-03	2.66E-09	2.66E-09	4.96E-09	5.34E-09
Cd-113m	5.87E-05	4.09E-02	105	3.44E-05	3.44E-05	6.75E-05	7.59E-05
Sb-125	1.04E-04	7.21E-02	185	4.07E-05	4.07E-05	1.08E-04	1.12E-04
Sn-126	3.49E-06	2.43E-03	6.24	2.27E-06	2.27E-06	3.93E-06	4.35E-06
I-129	2.95E-07	2.06E-04	0.529	2.04E-07	2.48E-07	3.42E-07	3.88E-07
Cs-134	2.31E-06	1.61E-03	4.14	1.70E-06	2.00E-06	2.63E-06	2.94E-06
Cs-137	0.220	153	3.94E+05	0.186	0.203	0.238	0.255
Ba-137m	0.208	145	3.73E+05	0.176	0.186	0.225	0.241
Sm-151	8.13E-03	5.67	1.46E+04	5.30E-03	5.30E-03	9.16E-03	1.01E-02
Eu-152	2.83E-06	1.97E-03	5.07	1.83E-06	1.83E-06	3.06E-06	3.28E-06
Eu-154	4.01E-04	0.280	718	1.99E-04	1.99E-04	4.74E-04	5.04E-04
Eu-155	1.69E-04	0.118	302	1.09E-04	1.09E-04	1.83E-04	1.96E-04
Ra-226	1.08E-10	7.54E-08	1.94E-04	8.30E-11	8.30E-11	1.17E-10	1.26E-10
Ra-228	1.69E-07	1.18E-04	0.302	6.45E-08	1.16E-07	2.31E-07	2.97E-07
Ac-227	7.03E-10	4.90E-07	1.26E-03	5.58E-10	5.58E-10	7.56E-10	8.07E-10
Pa-231	3.12E-09	2.17E-06	5.59E-03	2.31E-09	2.31E-09	3.41E-09	3.69E-09
Th-229	3.91E-09	2.73E-06	7.01E-03	1.62E-09	2.74E-09	5.27E-09	6.72E-09
Th-232	1.04E-08	7.23E-06	1.86E-02	4.60E-09	7.43E-09	1.33E-08	1.61E-08
U-232	8.45E-07	5.89E-04	1.51	4.27E-07	6.32E-07	1.09E-06	1.36E-06
U-233	3.24E-06	2.26E-03	5.80	1.64E-06	2.42E-06	4.19E-06	5.20E-06
U-234	6.96E-07	4.85E-04	1.25	6.63E-07	6.84E-07	7.04E-07	7.10E-07
U-235	2.79E-08	1.95E-05	5.00E-02	2.66E-08	2.74E-08	2.83E-08	2.85E-08
U-236	2.26E-08	1.58E-05	4.05E-02	2.16E-08	2.24E-08	2.28E-08	2.30E-08
U-238	8.46E-07	5.89E-04	1.51	8.15E-07	8.34E-07	8.54E-07	8.59E-07
Np-237	5.51E-07	3.84E-04	0.987	3.97E-07	4.72E-07	6.31E-07	7.08E-07
Pu-238	9.61E-07	6.70E-04	1.72	7.79E-07	8.68E-07	1.05E-06	1.14E-06
Pu-239	3.41E-05	2.38E-02	61.1	2.95E-05	3.17E-05	3.65E-05	3.87E-05
Pu-240	5.72E-06	3.99E-03	10.2	4.85E-06	5.28E-06	6.16E-06	6.58E-06
Pu-241	6.38E-05	4.45E-02	114	5.14E-05	5.75E-05	7.01E-05	7.62E-05
Pu-242	3.50E-10	2.44E-07	6.27E-04	2.76E-10	3.13E-10	3.88E-10	4.24E-10
Am-241	4.26E-05	2.97E-02	76.3	3.40E-05	3.82E-05	4.70E-05	5.12E-05
Am-243	1.47E-09	1.03E-06	2.64E-03	1.15E-09	1.30E-09	1.67E-09	1.85E-09
Cm-242	1.09E-07	7.62E-05	0.196	6.82E-08	6.82E-08	1.18E-07	1.26E-07
Cm-243	1.01E-08	7.05E-06	1.81E-02	6.19E-09	6.19E-09	1.09E-08	1.16E-08
Cm-244	9.61E-08	6.70E-05	0.172	5.56E-08	5.56E-08	1.10E-07	1.19E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.70E-04 (g/L)	----	0.841	3.82E-04	4.25E-04	5.15E-04	5.57E-04
U	7.80E-03	1.29E+03	3.32E+03	7.41E-03	7.65E-03	7.91E-03	7.96E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-114

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.97E+06 (kg)	(535 kgal)	----	----	----	----	----
Heat Load	2.87 (kW)	(9.80E+03 BTU/hr)	----	2.58	2.72	3.02	3.16
Bulk Density†	1.47 (g/cc)	----	----	1.36	1.39	1.48	1.50
Water wt%†	44.6	----	----	42.7	43.5	49.9	52.7
TOC wt% C (wet)†	0.499	----	----	0.300	0.398	0.601	0.700

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.35E-04	9.22E-02	274	8.17E-05	8.17E-05	1.43E-04	1.52E-04
C-14	1.91E-05	1.30E-02	38.6	7.84E-06	7.84E-06	1.97E-05	2.02E-05
Ni-59	1.53E-06	1.04E-03	3.10	1.00E-06	1.00E-06	1.56E-06	1.58E-06
Ni-63	1.49E-04	0.102	302	9.71E-05	9.71E-05	1.52E-04	1.54E-04
Co-60	2.12E-05	1.45E-02	43.0	8.39E-06	8.39E-06	2.21E-05	2.29E-05
Se-79	2.05E-06	1.40E-03	4.16	1.34E-06	1.34E-06	2.31E-06	2.56E-06
Sr-90	7.03E-02	47.9	1.42E+05	6.57E-02	6.77E-02	7.38E-02	8.01E-02
Y-90	7.03E-02	47.9	1.42E+05	4.56E-02	4.56E-02	7.21E-02	7.38E-02
Zr-93	1.01E-05	6.86E-03	20.4	6.49E-06	6.49E-06	1.14E-05	1.26E-05
Nb-93m	7.31E-06	4.98E-03	14.8	4.81E-06	4.81E-06	8.22E-06	9.09E-06
Tc-99	1.36E-04	9.25E-02	275	9.40E-05	1.14E-04	1.57E-04	1.78E-04
Ru-106	4.01E-09	2.73E-06	8.12E-03	2.35E-09	2.35E-09	4.38E-09	4.72E-09
Cd-113m	5.20E-05	3.55E-02	105	3.06E-05	3.06E-05	5.98E-05	6.73E-05
Sb-125	9.15E-05	6.24E-02	185	3.60E-05	3.60E-05	9.52E-05	9.88E-05
Sn-126	3.10E-06	2.11E-03	6.28	2.03E-06	2.03E-06	3.49E-06	3.86E-06
I-129	2.62E-07	1.78E-04	0.530	1.81E-07	2.20E-07	3.03E-07	3.44E-07
Cs-134	2.04E-06	1.39E-03	4.14	1.50E-06	1.77E-06	2.32E-06	2.60E-06
Cs-137	0.201	137	4.08E+05	0.171	0.186	0.217	0.232
Ba-137m	0.190	130	3.86E+05	0.162	0.171	0.205	0.220
Sm-151	7.23E-03	4.93	1.46E+04	4.72E-03	4.72E-03	8.13E-03	9.00E-03
Eu-152	2.52E-06	1.71E-03	5.10	1.63E-06	1.63E-06	2.72E-06	2.91E-06
Eu-154	3.55E-04	0.242	719	1.76E-04	1.76E-04	4.20E-04	4.46E-04
Eu-155	1.50E-04	0.102	304	9.74E-05	9.74E-05	1.62E-04	1.74E-04
Ra-226	9.86E-11	6.72E-08	2.00E-04	7.64E-11	7.64E-11	1.07E-10	1.14E-10
Ra-228	1.49E-07	1.02E-04	0.302	5.70E-08	1.02E-07	2.04E-07	2.62E-07
Ac-227	6.37E-10	4.34E-07	1.29E-03	5.08E-10	5.08E-10	6.84E-10	7.28E-10
Pa-231	2.79E-09	1.90E-06	5.65E-03	2.08E-09	2.08E-09	3.05E-09	3.30E-09
Th-229	3.46E-09	2.36E-06	7.01E-03	1.44E-09	2.43E-09	4.66E-09	5.94E-09
Th-232	9.17E-09	6.25E-06	1.86E-02	4.07E-09	6.57E-09	1.18E-08	1.43E-08
U-232	7.48E-07	5.09E-04	1.51	3.78E-07	5.59E-07	9.67E-07	1.20E-06
U-233	2.86E-06	1.95E-03	5.80	1.45E-06	2.14E-06	3.70E-06	4.60E-06
U-234	1.33E-06	9.05E-04	2.69	1.14E-06	1.23E-06	1.43E-06	1.50E-06
U-235	5.63E-08	3.84E-05	0.114	4.79E-08	5.19E-08	6.10E-08	6.40E-08
U-236	2.68E-08	1.82E-05	5.42E-02	2.50E-08	2.59E-08	2.77E-08	2.83E-08
U-238	1.47E-06	1.00E-03	2.98	1.28E-06	1.37E-06	1.58E-06	1.65E-06
Np-237	4.90E-07	3.34E-04	0.992	3.53E-07	4.20E-07	5.60E-07	6.28E-07
Pu-238	8.93E-07	6.08E-04	1.81	7.32E-07	8.11E-07	9.75E-07	1.05E-06
Pu-239	3.72E-05	2.54E-02	75.4	3.06E-05	3.28E-05	4.04E-05	4.13E-05
Pu-240	5.64E-06	3.84E-03	11.4	4.87E-06	5.25E-06	6.03E-06	6.40E-06
Pu-241	5.80E-05	3.96E-02	118	4.71E-05	5.25E-05	6.36E-05	6.90E-05
Pu-242	3.17E-10	2.16E-07	6.42E-04	2.52E-10	2.84E-10	3.50E-10	3.82E-10
Am-241	3.78E-05	2.57E-02	76.5	3.02E-05	3.39E-05	4.17E-05	4.54E-05
Am-243	1.30E-09	8.88E-07	2.64E-03	1.02E-09	1.15E-09	1.48E-09	1.63E-09
Cm-242	9.69E-08	6.60E-05	0.196	6.05E-08	6.05E-08	1.04E-07	1.12E-07
Cm-243	8.95E-09	6.10E-06	1.81E-02	5.48E-09	5.48E-09	9.63E-09	1.03E-08
Cm-244	8.49E-08	5.79E-05	0.172	4.92E-08	4.92E-08	9.71E-08	1.05E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.32E-04 (g/L)	----	1.08	4.22E-04	4.59E-04	5.83E-04	6.09E-04
U	1.60E-02	2.60E+03	7.71E+03	1.36E-02	1.48E-02	1.74E-02	1.82E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.37E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	2.52E-03 (kW)	(8.61 BTU/hr)	----	6.87E-04	8.80E-04	4.16E-03	4.38E-03
Bulk Density	1.77 (g/cc)	----	----	1.00	1.14	2.21	1.81
Void Fraction	0.453	----	----	0.427	5.58E-02	0.957	1.00
Water wt%	22.1	----	----	21.7	2.56	76.4	99.7
TOC wt% C (wet)	1.13E-04	----	----	4.36E-06	1.13E-05	2.83E-04	3.15E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.0	1.82E+05	9.77E+03	4.20E-02	1.45	23.0	14.5
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.57	4.96E+04	2.66E+03	4.60E-04	1.45	1.59	1.60
Cr^{3+}	1.47E-03	43.1	2.32	3.20E-05	1.83E-04	2.76E-03	2.93E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.36E-04	24.4	1.31	1.60E-05	9.17E-05	1.38E-03	1.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.344	7.77E+03	417	1.84E-04	6.36E-03	0.406	0.466
K^+	7.24E-03	160	8.58	1.58E-04	9.03E-04	1.36E-02	1.44E-02
OH^-	4.72	4.53E+04	2.43E+03	1.43E-03	4.34	4.77	4.82
$NO3^-$	13.4	4.68E+05	2.51E+04	3.05E-02	1.00	22.9	13.4
$NO2^-$	0.152	3.94E+03	212	4.97E-04	1.31E-02	0.384	0.424
$CO3^{2-}$	0.427	1.45E+04	776	2.00E-03	6.92E-02	0.501	0.546
$PO4^{3-}$	5.98E-02	3.20E+03	172	1.30E-03	7.45E-03	0.112	0.224
$SO4^{2-}$	6.51E-02	3.53E+03	189	1.42E-03	8.12E-03	0.122	0.130
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	4.39E-02	877	47.1	9.55E-04	5.47E-03	8.23E-02	0.239
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.40E-05	1.65	8.88E-02	3.04E-07	1.74E-06	2.62E-05	2.78E-05
butanol	1.40E-05	0.583	3.13E-02	3.04E-07	1.74E-06	2.62E-05	2.78E-05
NH_3	4.34E-04	4.16	0.224	3.55E-07	1.13E-05	1.12E-03	1.15E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.06E+06 (kg)	(560 kgal)	----	----	----	----	----
Heat Load	3.23 (kW)	(1.10E+04 BTU/hr)	----	2.87	3.04	3.41	3.59
Bulk Density*	1.44 (g/cc)	----	----	1.41	1.42	1.46	1.47
Water wt%	44.8	----	----	43.0	43.8	46.7	48.8
TOC wt% C (wet)	0.368	----	----	0.299	0.333	0.403	0.437

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.4	1.65E+05	5.06E+05	9.34	9.86	10.7	10.9
Al^{3+}	1.13	2.12E+04	6.49E+04	1.01	1.07	1.20	1.26
Fe^{3+} (total Fe)	8.02E-03	310	950	6.97E-03	7.49E-03	8.56E-03	9.07E-03
Cr^{3+}	8.89E-02	3.20E+03	9.80E+03	7.70E-02	8.34E-02	9.09E-02	9.24E-02
Bi^{3+}	1.81E-03	262	801	1.61E-03	1.71E-03	1.91E-03	2.01E-03
La^{3+}	8.95E-10	8.60E-05	2.63E-04	7.22E-10	8.06E-10	9.83E-10	1.07E-09
Hg^{2+}	1.03E-05	1.43	4.38	9.23E-06	9.84E-06	1.04E-05	1.06E-05
Zr (as $ZrO(OH)_2$)	3.88E-04	24.5	74.9	3.51E-04	3.64E-04	4.03E-04	4.24E-04
Pb^{2+}	9.57E-04	137	420	7.53E-04	8.53E-04	1.06E-03	1.16E-03
Ni^{2+}	5.55E-03	226	691	5.25E-03	5.39E-03	5.63E-03	5.63E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.28E-03	86.5	265	1.77E-03	2.02E-03	2.53E-03	2.78E-03
Ca^{2+}	2.89E-02	801	2.45E+03	2.74E-02	2.81E-02	2.97E-02	3.04E-02
K^+	4.97E-02	1.35E+03	4.12E+03	4.38E-02	4.58E-02	5.45E-02	5.81E-02
OH^-	6.49	7.64E+04	2.34E+05	5.99	6.24	6.75	7.00
$NO3^-$	4.21	1.81E+05	5.53E+05	3.56	3.94	4.30	4.38
$NO2^-$	1.63	5.18E+04	1.59E+05	1.41	1.51	1.74	1.85
$CO3^{2-}$	0.353	1.47E+04	4.49E+04	0.293	0.313	0.403	0.410
$PO4^{3-}$	9.73E-02	6.40E+03	1.96E+04	7.64E-02	8.37E-02	0.101	0.105
$SO4^{2-}$	0.209	1.39E+04	4.25E+04	0.155	0.174	0.251	0.255
Si (as SiO_x^{2-})	5.77E-02	1.12E+03	3.44E+03	5.05E-02	5.41E-02	6.14E-02	6.50E-02
F^-	8.88E-02	1.17E+03	3.58E+03	7.12E-02	7.86E-02	9.74E-02	0.104
Cl^-	0.189	4.63E+03	1.42E+04	0.154	0.166	0.202	0.202
$C_6H_5O_7^{3-}$	1.50E-02	1.97E+03	6.03E+03	1.36E-02	1.43E-02	1.58E-02	1.65E-02
$EDTA^{4-}$	3.81E-03	760	2.33E+03	1.37E-03	2.56E-03	5.07E-03	6.29E-03
$HEDTA^{3-}$	6.81E-03	1.29E+03	3.96E+03	1.93E-03	4.32E-03	9.32E-03	1.18E-02
$glycolate^-$	4.40E-02	2.29E+03	7.00E+03	2.49E-02	3.43E-02	5.38E-02	6.31E-02
$acetate^-$	2.61E-03	107	327	2.12E-03	2.36E-03	2.87E-03	3.11E-03
$oxalate^{2-}$	1.17E-09	7.14E-05	2.19E-04	1.08E-09	1.12E-09	1.22E-09	1.27E-09
DBP	1.28E-02	1.86E+03	5.69E+03	1.10E-02	1.19E-02	1.36E-02	1.45E-02
butanol	1.28E-02	655	2.00E+03	1.10E-02	1.19E-02	1.36E-02	1.45E-02
NH_3	8.69E-02	1.02E+03	3.13E+03	6.65E-02	7.64E-02	9.76E-02	0.108
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.12E+06 (kg)	(568 kgal)	----	----	----	----	----
Heat Load	3.23 (kW)	(1.10E+04 BTU/hr)	----	2.87	3.05	3.41	3.59
Bulk Density†	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%†	44.4	----	----	42.7	43.4	46.5	48.4
TOC wt% C (wet)†	0.362	----	----	0.294	0.327	0.396	0.430

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.4	1.66E+05	5.16E+05	9.41	9.88	10.7	11.0
Al^{3+}	1.12	2.08E+04	6.49E+04	0.995	1.06	1.18	1.24
Fe^{3+} (total Fe)	3.01E-02	1.16E+03	3.61E+03	7.67E-03	2.83E-02	3.06E-02	3.11E-02
Cr^{3+}	8.77E-02	3.15E+03	9.80E+03	7.60E-02	8.23E-02	8.97E-02	9.12E-02
Bi^{3+}	1.78E-03	257	801	1.58E-03	1.68E-03	1.88E-03	1.98E-03
La^{3+}	8.82E-10	8.45E-05	2.63E-04	7.12E-10	7.95E-10	9.69E-10	1.05E-09
Hg^{2+}	1.02E-05	1.40	4.38	9.10E-06	9.70E-06	1.03E-05	1.04E-05
Zr (as $ZrO(OH)_2$)	3.82E-04	24.0	74.9	3.46E-04	3.59E-04	3.97E-04	4.18E-04
Pb^{2+}	9.43E-04	135	420	7.43E-04	8.41E-04	1.05E-03	1.14E-03
Ni^{2+}	5.49E-03	222	692	5.18E-03	5.32E-03	5.56E-03	5.56E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.24E-03	85.0	265	1.75E-03	1.99E-03	2.50E-03	2.74E-03
Ca^{2+}	3.33E-02	922	2.87E+03	2.71E-02	2.82E-02	3.41E-02	3.48E-02
K^+	4.91E-02	1.33E+03	4.13E+03	4.32E-02	4.53E-02	5.38E-02	5.74E-02
OH^-	6.47	7.59E+04	2.36E+05	5.97	6.22	6.72	6.97
$NO3^-$	4.34	1.86E+05	5.78E+05	3.70	3.93	4.43	4.51
$NO2^-$	1.61	5.10E+04	1.59E+05	1.39	1.49	1.72	1.82
$CO3^{2-}$	0.354	1.46E+04	4.56E+04	0.294	0.314	0.403	0.410
$PO4^{3-}$	9.68E-02	6.34E+03	1.98E+04	7.54E-02	8.32E-02	0.101	0.104
$SO4^{2-}$	0.207	1.37E+04	4.27E+04	0.154	0.172	0.249	0.253
Si (as SiO_x^{2-})	5.69E-02	1.10E+03	3.44E+03	4.98E-02	5.33E-02	6.06E-02	6.41E-02
F^-	8.75E-02	1.15E+03	3.58E+03	7.02E-02	7.75E-02	9.60E-02	0.103
Cl^-	0.187	4.56E+03	1.42E+04	0.152	0.164	0.200	0.200
$C_6H_5O_7^{3-}$	1.48E-02	1.94E+03	6.03E+03	1.34E-02	1.41E-02	1.56E-02	1.62E-02
$EDTA^{4-}$	3.76E-03	747	2.33E+03	1.35E-03	2.53E-03	5.00E-03	6.20E-03
$HEDTA^{3-}$	6.71E-03	1.27E+03	3.96E+03	1.91E-03	4.25E-03	9.19E-03	1.16E-02
$glycolate^-$	4.34E-02	2.25E+03	7.00E+03	2.46E-02	3.38E-02	5.30E-02	6.22E-02
$acetate^-$	2.58E-03	105	327	2.09E-03	2.33E-03	2.83E-03	3.07E-03
$oxalate^{2-}$	1.16E-09	7.02E-05	2.19E-04	1.06E-09	1.11E-09	1.20E-09	1.25E-09
DBP	1.26E-02	1.82E+03	5.69E+03	1.08E-02	1.17E-02	1.35E-02	1.43E-02
butanol	1.26E-02	643	2.01E+03	1.08E-02	1.17E-02	1.35E-02	1.43E-02
NH_3	8.57E-02	1.01E+03	3.13E+03	6.55E-02	7.53E-02	9.62E-02	0.106
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	5.37E+04 (kg)	(8.00 kgal)	----	----	----	----	----
Heat Load	2.52E-03 (kW)	(8.61 BTU/hr)	----	6.87E-04	8.80E-04	4.16E-03	4.38E-03
Bulk Density	1.77 (g/cc)	----	----	1.00	1.14	2.21	1.81
Void Fraction	0.453	----	----	0.427	5.58E-02	0.957	1.00
Water wt%	22.1	----	----	21.7	2.56	76.4	99.7
TOC wt% C (wet)	1.13E-04	----	----	4.36E-06	1.13E-05	2.83E-04	3.15E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.30E-06	1.30E-03	6.95E-02	5.36E-10	2.67E-07	4.59E-06	4.92E-06
C-14	3.17E-07	1.79E-04	9.61E-03	6.90E-09	3.96E-08	5.95E-07	6.33E-07
Ni-59	9.03E-08	5.09E-05	2.73E-03	1.96E-09	1.13E-08	1.69E-07	1.80E-07
Ni-63	8.14E-06	4.59E-03	0.246	1.77E-07	1.02E-06	1.53E-05	1.62E-05
Co-60	7.26E-08	4.10E-05	2.20E-03	1.58E-09	9.06E-09	1.36E-07	1.45E-07
Se-79	6.70E-08	3.78E-05	2.03E-03	1.46E-09	8.35E-09	1.26E-07	1.33E-07
Sr-90	5.16E-03	2.91	156	1.12E-04	6.44E-04	9.68E-03	1.03E-02
Y-90	5.16E-03	2.91	156	1.12E-04	6.44E-04	9.68E-03	1.03E-02
Zr-93	3.18E-07	1.79E-04	9.63E-03	6.92E-09	3.97E-08	5.96E-07	6.34E-07
Nb-93m	2.68E-07	1.51E-04	8.13E-03	5.84E-09	3.35E-08	5.03E-07	5.35E-07
Tc-99	2.20E-06	1.24E-03	6.67E-02	4.79E-08	2.75E-07	4.13E-06	4.39E-06
Ru-106	3.02E-14	1.70E-11	9.15E-10	6.57E-16	3.77E-15	5.67E-14	6.02E-14
Cd-113m	7.77E-07	4.38E-04	2.35E-02	1.69E-08	9.69E-08	1.46E-06	1.55E-06
Sb-125	6.73E-08	3.79E-05	2.04E-03	1.46E-09	8.39E-09	1.26E-07	1.34E-07
Sn-126	1.01E-07	5.68E-05	3.05E-03	2.19E-09	1.26E-08	1.89E-07	2.01E-07
I-129	4.15E-09	2.34E-06	1.26E-04	9.03E-11	5.18E-10	7.78E-09	8.28E-09
Cs-134	8.45E-10	4.76E-07	2.56E-05	3.82E-10	4.30E-10	1.26E-09	1.31E-09
Cs-137	1.04E-02	5.84	313	4.68E-03	5.27E-03	1.54E-02	1.61E-02
Ba-137m	9.79E-03	5.52	296	4.42E-03	4.99E-03	1.46E-02	1.52E-02
Sm-151	2.49E-04	0.141	7.55	5.42E-06	3.11E-05	4.67E-04	4.97E-04
Eu-152	7.26E-07	4.09E-04	2.20E-02	7.17E-07	7.18E-07	7.34E-07	7.35E-07
Eu-154	1.31E-06	7.38E-04	3.96E-02	2.85E-08	1.63E-07	2.45E-06	2.61E-06
Eu-155	5.47E-05	3.09E-02	1.66	5.40E-05	5.41E-05	5.53E-05	5.54E-05
Ra-226	1.83E-11	1.03E-08	5.53E-07	3.97E-13	2.28E-12	4.51E-11	7.93E-10
Ra-228	2.77E-15	1.56E-12	8.40E-11	2.74E-15	2.74E-15	2.80E-15	2.81E-15
Ac-227	9.33E-11	5.26E-08	2.82E-06	2.03E-12	1.16E-11	1.75E-10	3.61E-09
Pa-231	2.03E-10	1.14E-07	6.14E-06	4.41E-12	2.53E-11	3.80E-10	4.04E-10
Th-229	5.38E-13	3.04E-10	1.63E-08	5.32E-13	5.32E-13	5.44E-13	5.45E-13
Th-232	9.05E-17	5.11E-14	2.74E-12	1.97E-18	1.13E-17	1.70E-16	1.80E-16
U-232	1.04E-12	5.84E-10	3.13E-08	2.25E-14	1.29E-13	1.94E-12	2.06E-12
U-233	5.13E-14	2.89E-11	1.55E-09	1.12E-15	6.40E-15	9.62E-14	1.02E-13
U-234	5.49E-08	3.10E-05	1.66E-03	1.19E-09	6.85E-09	1.03E-07	1.09E-07
U-235	2.44E-09	1.38E-06	7.40E-05	5.31E-11	3.05E-10	4.58E-09	4.87E-09
U-236	4.72E-10	2.66E-07	1.43E-05	1.03E-11	5.89E-11	8.85E-10	9.41E-10
U-238	5.57E-08	3.14E-05	1.69E-03	1.21E-09	6.95E-09	1.04E-07	1.11E-07
Np-237	1.36E-08	7.67E-06	4.12E-04	2.96E-10	1.70E-09	2.55E-08	2.71E-08
Pu-238	1.80E-08	1.02E-05	5.45E-04	3.91E-10	2.24E-09	8.87E-08	8.01E-07
Pu-239	2.74E-06	1.54E-03	8.29E-02	5.95E-08	3.41E-07	1.35E-05	1.22E-04
Pu-240	2.35E-07	1.32E-04	7.11E-03	5.11E-09	2.93E-08	1.16E-06	1.05E-05
Pu-241	7.08E-07	3.99E-04	2.14E-02	1.54E-08	8.83E-08	3.49E-06	3.15E-05
Pu-242	3.19E-12	1.80E-09	9.65E-08	6.93E-14	3.98E-13	1.57E-11	1.42E-10
Am-241	6.11E-07	3.44E-04	1.85E-02	1.33E-08	7.61E-08	1.14E-06	1.22E-06
Am-243	4.26E-12	2.40E-09	1.29E-07	9.27E-14	5.31E-13	7.99E-12	8.49E-12
Cm-242	1.33E-08	7.50E-06	4.02E-04	1.31E-08	1.31E-08	1.34E-08	1.35E-08
Cm-243	2.72E-10	1.54E-07	8.24E-06	2.69E-10	2.69E-10	2.75E-10	2.76E-10
Cm-244	1.01E-10	5.68E-08	3.05E-06	2.19E-12	1.26E-11	1.89E-10	2.01E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.51E-05 (g/L)	----	1.36E-03	9.80E-07	5.62E-06	2.22E-04	2.01E-03
U	7.01E-04	94.1	5.05	1.52E-05	8.74E-05	1.31E-03	1.40E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.06E+06 (kg)	(560 kgal)	----	----	----	----	----
Heat Load	3.23 (kW)	(1.10E+04 BTU/hr)	----	2.87	3.04	3.41	3.59
Bulk Density*	1.44 (g/cc)	----	----	1.41	1.42	1.46	1.47
Water wt%†	44.8	----	----	43.0	43.8	46.7	48.8
TOC wt% C (wet)	0.368	----	----	0.299	0.333	0.403	0.437
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.55E-04	0.108	329	9.11E-05	9.11E-05	1.64E-04	1.75E-04
C-14	2.22E-05	1.53E-02	47.0	8.70E-06	8.70E-06	2.29E-05	2.36E-05
Ni-59	1.69E-06	1.17E-03	3.58	1.06E-06	1.06E-06	1.72E-06	1.75E-06
Ni-63	1.66E-04	0.115	351	1.03E-04	1.03E-04	1.69E-04	1.72E-04
Co-60	2.43E-05	1.68E-02	51.5	8.90E-06	8.90E-06	2.53E-05	2.62E-05
Se-79	2.29E-06	1.58E-03	4.85	1.43E-06	1.43E-06	2.60E-06	2.89E-06
Sr-90	7.40E-02	51.2	1.57E+05	6.91E-02	7.08E-02	7.77E-02	7.82E-02
Y-90	7.40E-02	51.2	1.57E+05	4.43E-02	4.43E-02	7.62E-02	7.82E-02
Zr-93	1.12E-05	7.76E-03	23.8	6.92E-06	6.92E-06	1.28E-05	1.43E-05
Nb-93m	8.14E-06	5.63E-03	17.3	5.13E-06	5.13E-06	9.23E-06	1.03E-05
Tc-99	1.58E-04	0.109	335	1.08E-04	1.32E-04	1.84E-04	2.09E-04
Ru-106	4.36E-09	3.02E-06	9.24E-03	2.37E-09	2.37E-09	4.80E-09	5.21E-09
Cd-113m	5.79E-05	4.01E-02	123	3.21E-05	3.21E-05	6.72E-05	7.62E-05
Sb-125	1.03E-04	7.15E-02	219	3.67E-05	3.67E-05	1.08E-04	1.12E-04
Sn-126	3.45E-06	2.39E-03	7.31	2.16E-06	2.16E-06	3.92E-06	4.36E-06
I-129	3.05E-07	2.11E-04	0.646	2.08E-07	2.55E-07	3.55E-07	4.03E-07
Cs-134	1.81E-06	1.25E-03	3.84	1.36E-06	1.58E-06	2.04E-06	2.27E-06
Cs-137	0.218	151	4.63E+05	0.183	0.200	0.237	0.255
Ba-137m	0.207	143	4.38E+05	0.173	0.183	0.224	0.241
Sm-151	8.04E-03	5.57	1.71E+04	5.04E-03	5.04E-03	9.13E-03	1.02E-02
Eu-152	2.51E-06	1.74E-03	5.32	1.45E-06	1.45E-06	2.63E-06	2.74E-06
Eu-154	3.92E-04	0.272	831	1.78E-04	1.78E-04	4.70E-04	5.01E-04
Eu-155	1.49E-04	0.103	316	8.55E-05	8.55E-05	1.58E-04	1.66E-04
Ra-226	1.09E-10	7.52E-08	2.30E-04	8.20E-11	8.20E-11	1.18E-10	1.28E-10
Ra-228	1.79E-07	1.24E-04	0.380	6.85E-08	1.23E-07	2.45E-07	3.15E-07
Ac-227	7.11E-10	4.92E-07	1.51E-03	5.56E-10	5.56E-10	7.67E-10	8.21E-10
Pa-231	3.15E-09	2.18E-06	6.67E-03	2.29E-09	2.29E-09	3.46E-09	3.76E-09
Th-229	4.16E-09	2.88E-06	8.81E-03	1.72E-09	2.91E-09	5.60E-09	7.13E-09
Th-232	1.10E-08	7.62E-06	2.33E-02	4.88E-09	7.89E-09	1.41E-08	1.71E-08
U-232	8.97E-07	6.21E-04	1.90	4.53E-07	6.70E-07	1.16E-06	1.44E-06
U-233	3.44E-06	2.38E-03	7.28	1.74E-06	2.57E-06	4.44E-06	5.52E-06
U-234	7.33E-07	5.07E-04	1.55	6.98E-07	7.20E-07	7.42E-07	7.47E-07
U-235	2.94E-08	2.04E-05	6.24E-02	2.80E-08	2.89E-08	2.98E-08	3.00E-08
U-236	2.38E-08	1.64E-05	5.04E-02	2.27E-08	2.35E-08	2.40E-08	2.42E-08
U-238	8.93E-07	6.18E-04	1.89	8.60E-07	8.80E-07	9.01E-07	9.06E-07
Np-237	5.71E-07	3.95E-04	1.21	4.07E-07	4.87E-07	6.55E-07	7.37E-07
Pu-238	9.20E-07	6.37E-04	1.95	7.27E-07	8.22E-07	1.02E-06	1.11E-06
Pu-239	3.32E-05	2.30E-02	70.4	2.82E-05	3.07E-05	3.57E-05	3.81E-05
Pu-240	5.50E-06	3.81E-03	11.7	4.58E-06	5.04E-06	5.97E-06	6.42E-06
Pu-241	6.06E-05	4.20E-02	129	4.75E-05	5.39E-05	6.73E-05	7.38E-05
Pu-242	3.30E-10	2.29E-07	7.00E-04	2.52E-10	2.90E-10	3.70E-10	4.09E-10
Am-241	4.16E-05	2.88E-02	88.2	3.25E-05	3.69E-05	4.63E-05	5.07E-05
Am-243	1.41E-09	9.72E-07	2.98E-03	1.11E-09	1.25E-09	1.59E-09	1.74E-09
Cm-242	9.70E-08	6.72E-05	0.206	5.33E-08	5.33E-08	1.00E-07	1.03E-07
Cm-243	9.01E-09	6.24E-06	1.91E-02	4.84E-09	4.84E-09	9.40E-09	9.77E-09
Cm-244	9.27E-08	6.42E-05	0.197	4.98E-08	4.98E-08	1.07E-07	1.17E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.57E-04 (g/L)	----	0.968	3.63E-04	4.09E-04	5.04E-04	5.50E-04
U	8.21E-03	1.35E+03	4.14E+03	7.80E-03	8.05E-03	8.33E-03	8.39E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-115

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.12E+06 (kg)	(568 kgal)	----	----	----	----	----
Heat Load	3.23 (kW)	(1.10E+04 BTU/hr)	----	2.87	3.05	3.41	3.59
Bulk Density†	1.45 (g/cc)	----	----	1.41	1.43	1.46	1.47
Water wt%†	44.4	----	----	42.7	43.4	46.5	48.4
TOC wt% C (wet)†	0.362	----	----	0.294	0.327	0.396	0.430
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.53E-04	0.106	330	8.99E-05	8.99E-05	1.62E-04	1.72E-04
C-14	2.18E-05	1.51E-02	47.0	8.58E-06	8.58E-06	2.25E-05	2.32E-05
Ni-59	1.67E-06	1.15E-03	3.58	1.04E-06	1.04E-06	1.70E-06	1.73E-06
Ni-63	1.63E-04	0.113	351	1.02E-04	1.02E-04	1.67E-04	1.70E-04
Co-60	2.40E-05	1.65E-02	51.5	8.78E-06	8.78E-06	2.49E-05	2.59E-05
Se-79	2.25E-06	1.56E-03	4.85	1.41E-06	1.41E-06	2.56E-06	2.86E-06
Sr-90	7.30E-02	50.4	1.57E+05	6.82E-02	6.99E-02	7.66E-02	7.72E-02
Y-90	7.30E-02	50.4	1.57E+05	4.38E-02	4.38E-02	7.52E-02	7.72E-02
Zr-93	1.11E-05	7.63E-03	23.8	6.83E-06	6.83E-06	1.26E-05	1.41E-05
Nb-93m	8.03E-06	5.54E-03	17.3	5.07E-06	5.07E-06	9.10E-06	1.01E-05
Tc-99	1.56E-04	0.108	335	1.06E-04	1.31E-04	1.81E-04	2.06E-04
Ru-106	4.30E-09	2.96E-06	9.24E-03	2.33E-09	2.33E-09	4.74E-09	5.13E-09
Cd-113m	5.71E-05	3.94E-02	123	3.17E-05	3.17E-05	6.63E-05	7.51E-05
Sb-125	1.02E-04	7.03E-02	219	3.61E-05	3.61E-05	1.06E-04	1.10E-04
Sn-126	3.40E-06	2.35E-03	7.32	2.13E-06	2.13E-06	3.86E-06	4.30E-06
I-129	3.00E-07	2.07E-04	0.646	2.05E-07	2.51E-07	3.50E-07	3.97E-07
Cs-134	1.78E-06	1.23E-03	3.84	1.34E-06	1.56E-06	2.01E-06	2.24E-06
Cs-137	0.216	149	4.63E+05	0.180	0.197	0.234	0.251
Ba-137m	0.204	141	4.38E+05	0.170	0.181	0.221	0.238
Sm-151	7.93E-03	5.47	1.71E+04	4.97E-03	4.97E-03	9.01E-03	1.00E-02
Eu-152	2.49E-06	1.72E-03	5.34	1.44E-06	1.44E-06	2.60E-06	2.71E-06
Eu-154	3.87E-04	0.267	831	1.75E-04	1.75E-04	4.63E-04	4.94E-04
Eu-155	1.48E-04	0.102	317	8.51E-05	8.51E-05	1.56E-04	1.64E-04
Ra-226	1.07E-10	7.41E-08	2.31E-04	8.11E-11	8.11E-11	1.17E-10	1.26E-10
Ra-228	1.77E-07	1.22E-04	0.380	6.75E-08	1.21E-07	2.41E-07	3.10E-07
Ac-227	7.02E-10	4.85E-07	1.51E-03	5.50E-10	5.50E-10	7.58E-10	8.11E-10
Pa-231	3.11E-09	2.14E-06	6.68E-03	2.26E-09	2.26E-09	3.41E-09	3.71E-09
Th-229	4.10E-09	2.83E-06	8.81E-03	1.70E-09	2.87E-09	5.52E-09	7.03E-09
Th-232	1.09E-08	7.49E-06	2.33E-02	4.82E-09	7.77E-09	1.39E-08	1.69E-08
U-232	8.84E-07	6.10E-04	1.90	4.47E-07	6.61E-07	1.14E-06	1.42E-06
U-233	3.39E-06	2.34E-03	7.28	1.71E-06	2.53E-06	4.38E-06	5.44E-06
U-234	7.23E-07	4.99E-04	1.56	6.89E-07	7.11E-07	7.32E-07	7.38E-07
U-235	2.90E-08	2.00E-05	6.25E-02	2.77E-08	2.85E-08	2.94E-08	2.96E-08
U-236	2.34E-08	1.62E-05	5.04E-02	2.24E-08	2.32E-08	2.37E-08	2.39E-08
U-238	8.81E-07	6.08E-04	1.89	8.49E-07	8.68E-07	8.90E-07	8.94E-07
Np-237	5.63E-07	3.88E-04	1.21	4.01E-07	4.80E-07	6.46E-07	7.27E-07
Pu-238	9.07E-07	6.26E-04	1.95	7.17E-07	8.10E-07	1.00E-06	1.10E-06
Pu-239	3.28E-05	2.26E-02	70.4	2.79E-05	3.03E-05	3.52E-05	3.76E-05
Pu-240	5.43E-06	3.75E-03	11.7	4.52E-06	4.97E-06	5.89E-06	6.33E-06
Pu-241	5.98E-05	4.13E-02	129	4.69E-05	5.32E-05	6.64E-05	7.28E-05
Pu-242	3.26E-10	2.25E-07	7.00E-04	2.49E-10	2.86E-10	3.65E-10	4.03E-10
Am-241	4.10E-05	2.83E-02	88.2	3.20E-05	3.64E-05	4.56E-05	5.00E-05
Am-243	1.39E-09	9.56E-07	2.98E-03	1.10E-09	1.23E-09	1.56E-09	1.72E-09
Cm-242	9.59E-08	6.61E-05	0.206	5.28E-08	5.28E-08	9.90E-08	1.02E-07
Cm-243	8.89E-09	6.13E-06	1.91E-02	4.78E-09	4.78E-09	9.27E-09	9.64E-09
Cm-244	9.14E-08	6.31E-05	0.197	4.91E-08	4.91E-08	1.06E-07	1.15E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.51E-04 (g/L)	----	0.970	3.59E-04	4.04E-04	4.98E-04	5.43E-04
U	8.11E-03	1.33E+03	4.15E+03	7.70E-03	7.95E-03	8.22E-03	8.28E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.23E+06 (kg)	(391 kgal)	----	----	----	----	----
Heat Load	0.436 (kW)	(1.49E+03 BTU/hr)	----	9.25E-02	0.161	0.654	1.25
Bulk Density	1.51 (g/cc)	----	----	0.951	1.06	1.57	1.65
Void Fraction	0.433	----	----	0.211	0.395	0.777	0.823
Water wt%	35.8	----	----	30.7	34.0	69.3	81.3
TOC wt% C (wet)	1.28E-04	----	----	3.59E-06	1.10E-04	2.06E-04	1.54E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.5	2.06E+05	4.59E+05	3.23	5.28	14.6	16.1
Al^{3+}	2.14E-02	383	854	1.77E-02	2.08E-02	2.67E-02	2.73E-02
Fe^{3+} (total Fe)	0.120	4.44E+03	9.90E+03	0.105	0.118	0.122	0.124
Cr^{3+}	3.56E-03	123	274	2.57E-03	3.53E-03	4.69E-03	4.12E-03
Bi^{3+}	1.24E-02	1.73E+03	3.85E+03	4.57E-03	9.78E-03	1.40E-02	1.50E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.31E-06	0.574	1.28	4.19E-06	4.25E-06	7.91E-06	1.05E-05
Zr (as $ZrO(OH)_2$)	3.03E-04	18.3	40.9	1.71E-04	2.89E-04	4.86E-04	4.81E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	9.71E-03	378	844	8.34E-04	1.36E-03	1.20E-02	1.25E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	8.99E-02	2.39E+03	5.33E+03	2.02E-02	6.77E-02	9.81E-02	0.106
K^+	9.95E-03	258	576	3.71E-03	8.46E-03	1.49E-02	1.15E-02
OH^-	0.756	8.53E+03	1.90E+04	0.650	0.734	0.816	0.829
$NO3^-$	7.75	3.19E+05	7.11E+05	0.656	1.54	7.80	8.25
$NO2^-$	0.173	5.28E+03	1.18E+04	8.00E-02	0.126	0.246	0.211
$CO3^{2-}$	0.164	6.52E+03	1.46E+04	2.16E-02	0.116	0.220	0.232
$PO4^{3-}$	1.07	6.74E+04	1.50E+05	0.105	0.419	1.24	1.27
$SO4^{2-}$	8.95E-02	5.71E+03	1.27E+04	3.43E-02	7.65E-02	0.133	0.647
Si (as SiO_x^{2-})	1.00	1.87E+04	4.16E+04	1.00	1.00	1.02	1.04
F^-	7.18E-02	905	2.02E+03	4.50E-02	6.99E-02	0.104	9.19E-02
Cl^-	5.59E-02	1.31E+03	2.93E+03	1.73E-02	4.51E-02	0.331	0.372
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.34E-05	1.87	4.17	2.37E-07	8.13E-06	2.24E-05	1.59E-05
butanol	1.34E-05	0.659	1.47	2.37E-07	8.13E-06	2.24E-05	1.59E-05
NH_3	3.11E-02	351	783	2.26E-02	3.06E-02	4.27E-02	3.62E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	9.72E+05 (kg)	(172 kgal)	----	----	----	----	----
Heat Load	1.16 (kW)	(3.98E+03 BTU/hr)	----	1.01	1.09	1.24	1.32
Bulk Density*	1.49 (g/cc)	----	----	1.44	1.47	1.51	1.52
Water wt%	41.5	----	----	39.5	40.4	43.6	46.0
TOC wt% C (wet)	0.296	----	----	0.268	0.281	0.310	0.323

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.3	1.74E+05	1.69E+05	10.1	10.7	11.6	11.9
Al^{3+}	1.33	2.41E+04	2.34E+04	1.15	1.24	1.43	1.52
Fe^{3+} (total Fe)	9.12E-03	341	332	7.91E-03	8.50E-03	9.74E-03	1.03E-02
Cr^{3+}	9.92E-02	3.46E+03	3.36E+03	8.70E-02	9.36E-02	0.102	0.104
Bi^{3+}	2.15E-03	300	292	1.90E-03	2.02E-03	2.27E-03	2.39E-03
La^{3+}	1.10E-09	1.03E-04	9.97E-05	9.02E-10	1.00E-09	1.20E-09	1.30E-09
Hg^{2+}	1.35E-05	1.81	1.76	1.22E-05	1.29E-05	1.37E-05	1.39E-05
Zr (as $ZrO(OH)_2$)	4.54E-04	27.7	26.9	4.10E-04	4.25E-04	4.72E-04	4.97E-04
Pb^{2+}	1.34E-03	186	181	1.04E-03	1.19E-03	1.50E-03	1.65E-03
Ni^{2+}	6.43E-03	253	246	5.97E-03	6.20E-03	6.54E-03	6.54E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.77E-03	102	99.2	2.19E-03	2.48E-03	3.07E-03	3.36E-03
Ca^{2+}	3.34E-02	897	871	3.16E-02	3.25E-02	3.43E-02	3.51E-02
K^+	5.44E-02	1.42E+03	1.38E+03	4.72E-02	4.97E-02	6.00E-02	6.43E-02
OH^-	7.41	8.44E+04	8.20E+04	6.66	7.03	7.80	8.17
$NO3^-$	4.46	1.85E+05	1.80E+05	3.68	4.14	4.56	4.66
$NO2^-$	1.94	5.97E+04	5.80E+04	1.69	1.80	2.07	2.19
$CO3^{2-}$	0.364	1.46E+04	1.42E+04	0.292	0.316	0.423	0.432
$PO4^{3-}$	0.111	7.04E+03	6.83E+03	9.01E-02	9.72E-02	0.115	0.119
$SO4^{2-}$	0.239	1.54E+04	1.50E+04	0.175	0.197	0.290	0.295
Si (as SiO_x^{2-})	6.56E-02	1.23E+03	1.20E+03	5.72E-02	6.13E-02	6.98E-02	7.39E-02
F^-	0.105	1.34E+03	1.30E+03	8.42E-02	9.30E-02	0.115	0.124
Cl^-	0.197	4.69E+03	4.55E+03	0.156	0.170	0.213	0.213
$C_6H_5O_7^{3-}$	1.64E-02	2.07E+03	2.01E+03	1.52E-02	1.57E-02	1.70E-02	1.75E-02
$EDTA^{4-}$	8.69E-04	168	163	6.82E-04	7.73E-04	9.65E-04	1.06E-03
$HEDTA^{3-}$	5.06E-04	93.0	90.4	1.35E-04	3.16E-04	6.97E-04	8.84E-04
$glycolate^-$	2.77E-02	1.39E+03	1.35E+03	1.43E-02	2.09E-02	3.46E-02	4.11E-02
$acetate^-$	3.95E-03	156	152	3.20E-03	3.56E-03	4.33E-03	4.70E-03
$oxalate^{2-}$	1.44E-09	8.52E-05	8.27E-05	1.34E-09	1.39E-09	1.50E-09	1.55E-09
DBP	1.60E-02	2.26E+03	2.19E+03	1.40E-02	1.50E-02	1.71E-02	1.80E-02
butanol	1.60E-02	796	773	1.40E-02	1.50E-02	1.71E-02	1.80E-02
NH_3	0.100	1.14E+03	1.11E+03	7.75E-02	8.87E-02	0.113	0.124
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.20E+06 (kg)	(563 kgal)	----	----	----	----	----
Heat Load	1.60 (kW)	(5.46E+03 BTU/hr)	----	1.22	1.30	1.85	2.46
Bulk Density†	1.50 (g/cc)	----	----	1.10	1.19	1.55	1.61
Water wt%†	37.5	----	----	33.4	35.9	59.6	67.2
TOC wt% C (wet)†	8.98E-02	----	----	8.02E-02	8.49E-02	0.114	0.122

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	12.8	1.96E+05	6.28E+05	5.32	6.94	13.7	14.8
Al^{3+}	0.422	7.58E+03	2.43E+04	0.365	0.393	0.452	0.480
Fe^{3+} (total Fe)	8.60E-02	3.20E+03	1.02E+04	7.59E-02	8.45E-02	8.75E-02	8.89E-02
Cr^{3+}	3.28E-02	1.13E+03	3.63E+03	2.90E-02	3.11E-02	3.40E-02	3.41E-02
Bi^{3+}	9.30E-03	1.29E+03	4.14E+03	3.83E-03	7.45E-03	1.04E-02	1.11E-02
La^{3+}	3.37E-10	3.11E-05	9.97E-05	2.76E-10	3.06E-10	3.68E-10	3.98E-10
Hg^{2+}	7.11E-06	0.949	3.04	6.98E-06	7.04E-06	9.61E-06	1.14E-05
Zr (as $ZrO(OH)_2$)	3.49E-04	21.2	67.8	2.71E-04	3.36E-04	4.67E-04	4.59E-04
Pb^{2+}	4.10E-04	56.6	181	3.18E-04	3.63E-04	4.57E-04	5.03E-04
Ni^{2+}	8.71E-03	340	1.09E+03	2.45E-03	2.90E-03	1.03E-02	1.06E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.47E-04	31.0	99.2	6.69E-04	7.56E-04	9.38E-04	1.03E-03
Ca^{2+}	7.26E-02	1.94E+03	6.20E+03	2.41E-02	5.72E-02	7.85E-02	8.42E-02
K^+	2.35E-02	612	1.96E+03	1.70E-02	2.11E-02	2.87E-02	2.68E-02
OH^-	2.79	3.16E+04	1.01E+05	2.56	2.67	2.91	3.02
$NO3^-$	6.74	2.78E+05	8.91E+05	1.58	2.33	6.78	7.09
$NO2^-$	0.712	2.18E+04	6.98E+04	0.612	0.652	0.789	0.789
$CO3^{2-}$	0.225	8.98E+03	2.88E+04	0.104	0.177	0.282	0.293
$PO4^{3-}$	0.777	4.91E+04	1.57E+05	0.104	0.325	0.895	0.916
$SO4^{2-}$	0.135	8.65E+03	2.77E+04	7.74E-02	0.113	0.181	0.539
Si (as SiO_x^{2-})	0.715	1.34E+04	4.28E+04	0.713	0.714	0.729	0.743
F^-	8.20E-02	1.04E+03	3.32E+03	6.90E-02	8.01E-02	0.101	8.99E-02
Cl^-	9.91E-02	2.34E+03	7.48E+03	5.95E-02	8.32E-02	0.295	0.323
$C_6H_5O_7^{3-}$	5.00E-03	629	2.01E+03	4.63E-03	4.81E-03	5.18E-03	5.36E-03
$EDTA^{4-}$	2.66E-04	50.9	163	2.08E-04	2.36E-04	2.95E-04	3.24E-04
$HEDTA^{3-}$	1.55E-04	28.2	90.4	4.12E-05	9.67E-05	2.13E-04	2.70E-04
$glycolate^-$	8.47E-03	423	1.35E+03	4.38E-03	6.38E-03	1.06E-02	1.26E-02
$acetate^-$	1.21E-03	47.4	152	9.76E-04	1.09E-03	1.32E-03	1.44E-03
$oxalate^{2-}$	4.41E-10	2.58E-05	8.27E-05	4.08E-10	4.24E-10	4.58E-10	4.74E-10
DBP	4.91E-03	686	2.20E+03	4.28E-03	4.59E-03	5.22E-03	5.52E-03
butanol	4.91E-03	242	775	4.28E-03	4.59E-03	5.22E-03	5.52E-03
NH_3	5.23E-02	592	1.89E+03	4.53E-02	4.87E-02	5.83E-02	5.96E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.23E+06 (kg)	(391 kgal)	----	----	----	----	----
Heat Load	0.436 (kW)	(1.49E+03 BTU/hr)	----	9.25E-02	0.161	0.654	1.25
Bulk Density	1.51 (g/cc)	----	----	0.951	1.06	1.57	1.65
Void Fraction	0.433	----	----	0.211	0.395	0.777	0.823
Water wt%	35.8	----	----	30.7	34.0	69.3	81.3
TOC wt% C (wet)	1.28E-04	----	----	3.59E-06	1.10E-04	2.06E-04	1.54E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.47E-06	1.64E-03	3.65	0	0	2.63E-06	3.03E-06
C-14	3.68E-07	2.44E-04	0.545	0	0	3.72E-07	4.23E-07
Ni-59	7.48E-07	4.96E-04	1.11	0	0	7.88E-07	8.16E-07
Ni-63	6.72E-05	4.46E-02	99.5	0	0	7.09E-05	7.34E-05
Co-60	8.31E-08	5.51E-05	0.123	0	0	8.40E-08	9.55E-08
Se-79	7.91E-08	5.25E-05	0.117	0	0	8.00E-08	9.10E-08
Sr-90	9.23E-03	6.13	1.37E+04	5.19E-03	9.04E-03	1.29E-02	5.78E-02
Y-90	9.24E-03	6.13	1.37E+04	0	0	9.34E-03	1.07E-02
Zr-93	3.76E-07	2.49E-04	0.556	0	0	3.80E-07	4.32E-07
Nb-93m	3.18E-07	2.11E-04	0.470	0	0	3.21E-07	3.65E-07
Tc-99	2.60E-06	1.73E-03	3.85	6.82E-07	2.00E-06	4.04E-06	2.99E-06
Ru-106	3.29E-14	2.18E-11	4.87E-08	0	0	3.33E-14	3.78E-14
Cd-113m	9.06E-07	6.01E-04	1.34	0	0	9.16E-07	1.04E-06
Sb-125	7.53E-08	4.99E-05	0.111	0	0	7.61E-08	8.65E-08
Sn-126	1.19E-07	7.89E-05	0.176	0	0	1.20E-07	1.37E-07
I-129	4.90E-09	3.25E-06	7.25E-03	1.28E-09	3.77E-09	7.61E-09	5.64E-09
Cs-134	3.49E-09	2.32E-06	5.17E-03	0	0	3.77E-09	4.08E-09
Cs-137	4.96E-02	32.9	7.33E+04	5.88E-03	1.02E-02	7.57E-02	9.78E-02
Ba-137m	4.69E-02	31.1	6.94E+04	0	0	5.06E-02	5.47E-02
Sm-151	2.95E-04	0.196	436	0	0	2.98E-04	3.39E-04
Eu-152	9.31E-08	6.18E-05	0.138	0	0	9.39E-08	9.46E-08
Eu-154	1.48E-06	9.80E-04	2.19	0	0	1.49E-06	1.70E-06
Eu-155	7.14E-06	4.74E-03	10.6	0	0	7.19E-06	7.25E-06
Ra-226	2.23E-11	1.48E-08	3.29E-05	0	0	8.47E-11	6.77E-11
Ra-228	3.71E-16	2.46E-13	5.49E-10	0	0	3.74E-16	3.77E-16
Ac-227	1.15E-10	7.60E-08	1.69E-04	0	0	2.91E-10	3.55E-10
Pa-231	2.49E-10	1.65E-07	3.68E-04	0	0	2.52E-10	2.86E-10
Th-229	7.20E-14	4.78E-11	1.07E-07	0	0	7.26E-14	7.31E-14
Th-232	1.08E-16	7.15E-14	1.59E-10	0	0	1.09E-16	1.24E-16
U-232	9.79E-11	6.50E-08	1.45E-04	6.73E-11	8.25E-11	1.14E-10	1.24E-10
U-233	4.66E-12	3.09E-09	6.89E-06	3.20E-12	3.92E-12	5.44E-12	5.94E-12
U-234	4.60E-06	3.05E-03	6.81	3.15E-06	3.85E-06	5.40E-06	5.92E-06
U-235	2.04E-07	1.35E-04	0.302	1.40E-07	1.71E-07	2.40E-07	2.63E-07
U-236	4.31E-08	2.86E-05	6.37E-02	2.96E-08	3.63E-08	5.03E-08	5.50E-08
U-238	4.67E-06	3.10E-03	6.91	3.20E-06	3.92E-06	5.49E-06	6.01E-06
Np-237	1.60E-08	1.06E-05	2.37E-02	4.16E-09	1.23E-08	2.49E-08	1.84E-08
Pu-238	3.05E-07	2.02E-04	0.452	2.79E-08	9.62E-08	4.59E-07	4.75E-07
Pu-239	5.07E-05	3.37E-02	75.1	5.28E-06	1.69E-05	7.46E-05	7.70E-05
Pu-240	4.13E-06	2.74E-03	6.11	3.99E-07	1.33E-06	6.15E-06	6.36E-06
Pu-241	1.12E-05	7.45E-03	16.6	9.17E-07	3.39E-06	1.72E-05	1.79E-05
Pu-242	5.01E-11	3.33E-08	7.42E-05	4.02E-12	1.50E-11	7.68E-11	8.00E-11
Am-241	6.73E-07	4.46E-04	0.996	1.25E-07	4.84E-07	1.07E-06	7.73E-07
Am-243	4.65E-12	3.09E-09	6.88E-06	8.10E-13	3.31E-12	7.42E-12	5.35E-12
Cm-242	1.54E-09	1.02E-06	2.27E-03	0	0	1.55E-09	1.57E-09
Cm-243	3.14E-11	2.08E-08	4.65E-05	0	0	3.17E-11	3.20E-11
Cm-244	1.03E-10	6.81E-08	1.52E-04	0	0	1.04E-10	1.18E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.35E-04 (g/L)	----	1.24	8.66E-05	2.78E-04	1.23E-03	1.27E-03
U	5.88E-02	9.29E+03	2.07E+04	4.03E-02	4.93E-02	6.90E-02	7.57E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	9.72E+05 (kg)	(172 kgal)	----	----	----	----	----
Heat Load	1.16 (kW)	(3.98E+03 BTU/hr)	----	1.01	1.09	1.24	1.32
Bulk Density*	1.49 (g/cc)	----	----	1.44	1.47	1.51	1.52
Water wt%†	41.5	----	----	39.5	40.4	43.6	46.0
TOC wt% C (wet)	0.296	----	----	0.268	0.281	0.310	0.323
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.78E-04	0.119	116	1.03E-04	1.03E-04	1.90E-04	2.05E-04
C-14	2.61E-05	1.75E-02	17.0	1.05E-05	1.05E-05	2.71E-05	2.81E-05
Ni-59	2.03E-06	1.36E-03	1.32	1.30E-06	1.30E-06	2.07E-06	2.11E-06
Ni-63	2.00E-04	0.134	130	1.27E-04	1.27E-04	2.03E-04	2.07E-04
Co-60	2.85E-05	1.91E-02	18.6	1.07E-05	1.07E-05	2.99E-05	3.12E-05
Se-79	2.57E-06	1.72E-03	1.67	1.58E-06	1.58E-06	2.93E-06	3.28E-06
Sr-90	8.04E-02	53.9	5.24E+04	7.46E-02	7.67E-02	8.48E-02	8.53E-02
Y-90	8.04E-02	53.9	5.24E+04	4.61E-02	4.61E-02	8.29E-02	8.53E-02
Zr-93	1.27E-05	8.48E-03	8.24	7.69E-06	7.69E-06	1.45E-05	1.62E-05
Nb-93m	9.14E-06	6.12E-03	5.95	5.66E-06	5.66E-06	1.04E-05	1.16E-05
Tc-99	1.86E-04	0.125	121	1.28E-04	1.57E-04	2.16E-04	2.45E-04
Ru-106	4.66E-09	3.12E-06	3.03E-03	2.35E-09	2.35E-09	5.17E-09	5.64E-09
Cd-113m	6.64E-05	4.45E-02	43.2	3.66E-05	3.66E-05	7.72E-05	8.76E-05
Sb-125	1.20E-04	8.07E-02	78.4	4.33E-05	4.33E-05	1.27E-04	1.33E-04
Sn-126	3.87E-06	2.60E-03	2.52	2.38E-06	2.38E-06	4.41E-06	4.93E-06
I-129	3.59E-07	2.41E-04	0.234	2.47E-07	3.02E-07	4.17E-07	4.73E-07
Cs-134	2.01E-06	1.35E-03	1.31	1.37E-06	1.68E-06	2.34E-06	2.65E-06
Cs-137	0.266	178	1.73E+05	0.216	0.240	0.292	0.317
Ba-137m	0.252	169	1.64E+05	0.204	0.222	0.276	0.300
Sm-151	9.03E-03	6.05	5.88E+03	5.56E-03	5.56E-03	1.03E-02	1.15E-02
Eu-152	2.76E-06	1.85E-03	1.79	1.52E-06	1.52E-06	2.92E-06	3.08E-06
Eu-154	4.48E-04	0.300	291	1.99E-04	1.99E-04	5.38E-04	5.73E-04
Eu-155	1.64E-04	0.110	107	9.09E-05	9.09E-05	1.76E-04	1.88E-04
Ra-226	1.20E-10	8.07E-08	7.84E-05	8.97E-11	8.97E-11	1.32E-10	1.42E-10
Ra-228	2.56E-07	1.72E-04	0.167	9.90E-08	1.76E-07	3.50E-07	4.49E-07
Ac-227	8.25E-10	5.53E-07	5.37E-04	6.46E-10	6.46E-10	8.89E-10	9.52E-10
Pa-231	3.75E-09	2.51E-06	2.44E-03	2.76E-09	2.76E-09	4.11E-09	4.46E-09
Th-229	5.95E-09	3.99E-06	3.88E-03	2.50E-09	4.19E-09	8.00E-09	1.02E-08
Th-232	1.58E-08	1.06E-05	1.03E-02	7.13E-09	1.14E-08	2.03E-08	2.45E-08
U-232	1.27E-06	8.53E-04	0.828	6.42E-07	9.50E-07	1.65E-06	2.04E-06
U-233	4.88E-06	3.27E-03	3.17	2.46E-06	3.64E-06	6.31E-06	7.83E-06
U-234	9.19E-07	6.16E-04	0.598	8.68E-07	9.07E-07	9.29E-07	9.39E-07
U-235	3.67E-08	2.46E-05	2.39E-02	3.46E-08	3.61E-08	3.71E-08	3.74E-08
U-236	3.01E-08	2.02E-05	1.96E-02	2.86E-08	2.99E-08	3.04E-08	3.06E-08
U-238	1.20E-06	8.03E-04	0.780	1.15E-06	1.19E-06	1.21E-06	1.21E-06
Np-237	6.68E-07	4.47E-04	0.435	4.78E-07	5.71E-07	7.65E-07	8.60E-07
Pu-238	1.03E-06	6.88E-04	0.668	8.03E-07	9.12E-07	1.14E-06	1.25E-06
Pu-239	3.66E-05	2.45E-02	23.8	3.09E-05	3.37E-05	3.95E-05	4.23E-05
Pu-240	5.92E-06	3.97E-03	3.85	4.86E-06	5.38E-06	6.46E-06	6.98E-06
Pu-241	6.76E-05	4.53E-02	44.0	5.24E-05	5.98E-05	7.53E-05	8.28E-05
Pu-242	3.60E-10	2.41E-07	2.34E-04	2.69E-10	3.13E-10	4.06E-10	4.51E-10
Am-241	4.10E-05	2.75E-02	26.7	3.04E-05	3.56E-05	4.64E-05	5.16E-05
Am-243	1.44E-09	9.62E-07	9.35E-04	1.10E-09	1.26E-09	1.61E-09	1.78E-09
Cm-242	1.05E-07	7.02E-05	6.82E-02	5.42E-08	5.42E-08	1.09E-07	1.14E-07
Cm-243	9.68E-09	6.49E-06	6.30E-03	4.86E-09	4.86E-09	1.03E-08	1.08E-08
Cm-244	9.85E-08	6.60E-05	6.41E-02	4.88E-08	4.88E-08	1.15E-07	1.26E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.01E-04 (g/L)	----	0.326	3.93E-04	4.46E-04	5.55E-04	6.08E-04
U	1.02E-02	1.63E+03	1.59E+03	9.62E-03	1.01E-02	1.03E-02	1.04E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-116

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.20E+06 (kg)	(563 kgal)	----	----	----	----	----
Heat Load	1.60 (kW)	(5.46E+03 BTU/hr)	----	1.22	1.30	1.85	2.46
Bulk Density†	1.50 (g/cc)	----	----	1.10	1.19	1.55	1.61
Water wt%†	37.5	----	----	33.4	35.9	59.6	67.2
TOC wt% C (wet)†	8.98E-02	----	----	8.02E-02	8.49E-02	0.114	0.122
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.60E-05	3.73E-02	119	3.33E-05	3.33E-05	5.98E-05	6.44E-05
C-14	8.23E-06	5.48E-03	17.5	3.48E-06	3.48E-06	8.54E-06	8.83E-06
Ni-59	1.14E-06	7.59E-04	2.43	6.05E-07	6.05E-07	1.17E-06	1.19E-06
Ni-63	1.08E-04	7.17E-02	229	5.95E-05	5.95E-05	1.10E-04	1.12E-04
Co-60	8.77E-06	5.84E-03	18.7	3.33E-06	3.33E-06	9.19E-06	9.60E-06
Se-79	8.41E-07	5.59E-04	1.79	5.37E-07	5.37E-07	9.50E-07	1.06E-06
Sr-90	3.10E-02	20.6	6.60E+04	2.64E-02	2.97E-02	3.49E-02	6.62E-02
Y-90	3.10E-02	20.6	6.60E+04	2.05E-02	2.05E-02	3.18E-02	3.25E-02
Zr-93	4.13E-06	2.75E-03	8.80	2.61E-06	2.61E-06	4.68E-06	5.21E-06
Nb-93m	3.01E-06	2.01E-03	6.42	1.95E-06	1.95E-06	3.40E-06	3.77E-06
Tc-99	5.88E-05	3.91E-02	125	4.10E-05	4.97E-05	6.79E-05	7.67E-05
Ru-106	1.42E-09	9.47E-07	3.03E-03	7.19E-10	7.19E-10	1.58E-09	1.72E-09
Cd-113m	2.09E-05	1.39E-02	44.6	1.18E-05	1.18E-05	2.42E-05	2.74E-05
Sb-125	3.69E-05	2.45E-02	78.5	1.33E-05	1.33E-05	3.87E-05	4.06E-05
Sn-126	1.27E-06	8.42E-04	2.70	8.10E-07	8.10E-07	1.43E-06	1.59E-06
I-129	1.13E-07	7.53E-05	0.241	7.89E-08	9.56E-08	1.31E-07	1.48E-07
Cs-134	6.16E-07	4.10E-04	1.31	4.22E-07	5.16E-07	7.16E-07	8.13E-07
Cs-137	0.116	77.0	2.47E+05	8.41E-02	8.78E-02	0.135	0.151
Ba-137m	0.109	72.9	2.33E+05	7.49E-02	7.49E-02	0.117	0.124
Sm-151	2.96E-03	1.97	6.32E+03	1.90E-03	1.90E-03	3.35E-03	3.72E-03
Eu-152	9.06E-07	6.03E-04	1.93	5.30E-07	5.30E-07	9.56E-07	1.00E-06
Eu-154	1.38E-04	9.17E-02	294	6.19E-05	6.19E-05	1.65E-04	1.76E-04
Eu-155	5.51E-05	3.67E-02	117	3.27E-05	3.27E-05	5.88E-05	6.24E-05
Ra-226	5.23E-11	3.48E-08	1.11E-04	3.07E-11	3.07E-11	9.43E-11	7.99E-11
Ra-228	7.83E-08	5.21E-05	0.167	3.02E-08	5.37E-08	1.07E-07	1.37E-07
Ac-227	3.31E-10	2.21E-07	7.06E-04	2.21E-10	2.21E-10	4.50E-10	4.79E-10
Pa-231	1.32E-09	8.78E-07	2.81E-03	1.02E-09	1.02E-09	1.43E-09	1.53E-09
Th-229	1.82E-09	1.21E-06	3.88E-03	7.64E-10	1.28E-09	2.44E-09	3.11E-09
Th-232	4.84E-09	3.22E-06	1.03E-02	2.18E-09	3.48E-09	6.20E-09	7.50E-09
U-232	3.89E-07	2.59E-04	0.829	1.96E-07	2.90E-07	5.03E-07	6.25E-07
U-233	1.49E-06	9.92E-04	3.17	7.52E-07	1.11E-06	1.93E-06	2.39E-06
U-234	3.47E-06	2.31E-03	7.40	2.47E-06	2.96E-06	4.03E-06	4.39E-06
U-235	1.53E-07	1.02E-04	0.326	1.08E-07	1.30E-07	1.78E-07	1.94E-07
U-236	3.91E-08	2.60E-05	8.34E-02	2.98E-08	3.44E-08	4.41E-08	4.74E-08
U-238	3.61E-06	2.40E-03	7.69	2.59E-06	3.09E-06	4.18E-06	4.54E-06
Np-237	2.15E-07	1.43E-04	0.458	1.57E-07	1.85E-07	2.45E-07	2.74E-07
Pu-238	5.25E-07	3.50E-04	1.12	3.30E-07	3.80E-07	6.32E-07	6.44E-07
Pu-239	4.64E-05	3.09E-02	98.9	1.45E-05	2.29E-05	6.30E-05	6.46E-05
Pu-240	4.68E-06	3.11E-03	9.96	2.06E-06	2.73E-06	6.08E-06	6.23E-06
Pu-241	2.84E-05	1.89E-02	60.6	2.12E-05	2.30E-05	3.26E-05	3.31E-05
Pu-242	1.45E-10	9.63E-08	3.08E-04	1.12E-10	1.20E-10	1.63E-10	1.72E-10
Am-241	1.30E-05	8.65E-03	27.7	9.76E-06	1.13E-05	1.46E-05	1.62E-05
Am-243	4.42E-10	2.94E-07	9.41E-04	3.40E-10	3.89E-10	4.96E-10	5.48E-10
Cm-242	3.31E-08	2.20E-05	7.04E-02	1.76E-08	1.76E-08	3.45E-08	3.59E-08
Cm-243	2.98E-09	1.98E-06	6.35E-03	1.51E-09	1.51E-09	3.16E-09	3.33E-09
Cm-244	3.02E-08	2.01E-05	6.43E-02	1.50E-08	1.50E-08	3.53E-08	3.86E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.33E-04 (g/L)	----	1.56	2.08E-04	3.46E-04	1.01E-03	1.03E-03
U	4.40E-02	6.96E+03	2.23E+04	3.11E-02	3.73E-02	5.11E-02	5.57E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+06 (kg)	(226 kgal)	----	----	----	----	----
Heat Load	0.266 (kW)	(907 BTU/hr)	----	5.64E-02	9.82E-02	0.399	0.765
Bulk Density	1.57 (g/cc)	----	----	0.982	1.10	1.63	1.72
Void Fraction	0.457	----	----	0.223	0.417	0.820	0.869
Water wt%	36.3	----	----	31.2	34.5	70.8	83.2
TOC wt% C (wet)	1.30E-04	----	----	3.67E-06	1.12E-04	2.08E-04	1.57E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	13.6	2.00E+05	2.68E+05	2.82	4.99	14.8	16.4
Al^{3+}	1.82E-02	312	419	1.42E-02	1.75E-02	2.37E-02	2.44E-02
Fe^{3+} (total Fe)	0.121	4.32E+03	5.80E+03	0.106	0.119	0.124	0.126
Cr^{3+}	3.76E-03	125	167	2.72E-03	3.72E-03	4.95E-03	4.35E-03
Bi^{3+}	1.31E-02	1.75E+03	2.35E+03	4.82E-03	1.03E-02	1.48E-02	1.59E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	4.55E-06	0.582	0.781	4.42E-06	4.49E-06	8.35E-06	1.11E-05
Zr (as $ZrO(OH)_2$)	3.19E-04	18.6	24.9	1.81E-04	3.05E-04	5.13E-04	5.08E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.02E-02	384	515	8.80E-04	1.44E-03	1.27E-02	1.32E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.05E-02	2.31E+03	3.10E+03	1.70E-02	6.70E-02	9.91E-02	0.107
K^+	1.05E-02	262	351	3.92E-03	8.92E-03	1.57E-02	1.21E-02
OH^-	0.798	8.65E+03	1.16E+04	0.685	0.774	0.861	0.874
$NO3^-$	8.17	3.23E+05	4.33E+05	0.693	1.62	8.23	8.70
$NO2^-$	0.182	5.35E+03	7.18E+03	8.44E-02	0.133	0.260	0.223
$CO3^{2-}$	0.173	6.61E+03	8.87E+03	2.28E-02	0.122	0.233	0.245
$PO4^{3-}$	1.13	6.84E+04	9.17E+04	0.111	0.442	1.31	1.34
$SO4^{2-}$	9.45E-02	5.78E+03	7.76E+03	3.62E-02	8.08E-02	0.141	0.683
Si (as SiO_x^{2-})	0.743	1.33E+04	1.79E+04	0.743	0.743	0.766	0.788
F^-	7.58E-02	918	1.23E+03	4.75E-02	7.37E-02	0.110	9.69E-02
Cl^-	5.90E-02	1.33E+03	1.79E+03	1.82E-02	4.76E-02	0.350	0.392
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.41E-05	1.89	2.54	2.50E-07	8.58E-06	2.36E-05	1.67E-05
butanol	1.41E-05	0.668	0.896	2.50E-07	8.58E-06	2.36E-05	1.67E-05
NH_3	3.28E-02	356	477	2.38E-02	3.23E-02	4.50E-02	3.82E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.66E+06 (kg)	(306 kgal)	----	----	----	----	----
Heat Load	1.79 (kW)	(6.11E+03 BTU/hr)	----	1.54	1.66	1.92	2.04
Bulk Density*	1.44 (g/cc)	----	----	1.39	1.41	1.45	1.47
Water wt%	46.0	----	----	43.9	44.9	48.1	50.6
TOC wt% C (wet)	0.245	----	----	0.223	0.234	0.256	0.266

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.00	1.60E+05	2.66E+05	8.82	9.41	10.3	10.5
Al^{3+}	1.19	2.23E+04	3.70E+04	1.00	1.09	1.28	1.37
Fe^{3+} (total Fe)	7.94E-03	308	513	7.05E-03	7.48E-03	8.39E-03	8.82E-03
Cr^{3+}	8.49E-02	3.07E+03	5.11E+03	7.29E-02	7.94E-02	8.67E-02	8.85E-02
Bi^{3+}	2.05E-03	297	495	1.82E-03	1.93E-03	2.16E-03	2.27E-03
La^{3+}	8.65E-10	8.37E-05	1.39E-04	7.20E-10	7.91E-10	9.40E-10	1.01E-09
Hg^{2+}	1.28E-05	1.78	2.97	1.16E-05	1.23E-05	1.30E-05	1.32E-05
Zr (as $ZrO(OH)_2$)	4.24E-04	26.9	44.8	3.82E-04	3.97E-04	4.42E-04	4.65E-04
Pb^{2+}	1.27E-03	183	305	9.77E-04	1.12E-03	1.42E-03	1.57E-03
Ni^{2+}	5.79E-03	237	394	5.35E-03	5.56E-03	5.90E-03	5.90E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.19E-03	83.7	139	1.76E-03	1.97E-03	2.41E-03	2.62E-03
Ca^{2+}	3.01E-02	841	1.40E+03	2.86E-02	2.94E-02	3.09E-02	3.17E-02
K^+	4.78E-02	1.30E+03	2.16E+03	4.10E-02	4.34E-02	5.31E-02	5.72E-02
OH^-	6.47	7.65E+04	1.27E+05	5.74	6.10	6.84	7.20
$NO3^-$	4.06	1.75E+05	2.91E+05	3.32	3.76	4.16	4.25
$NO2^-$	1.67	5.35E+04	8.90E+04	1.49	1.57	1.77	1.86
$CO3^{2-}$	0.316	1.32E+04	2.20E+04	0.248	0.271	0.373	0.381
$PO4^{3-}$	0.106	6.99E+03	1.16E+04	8.50E-02	9.22E-02	0.110	0.114
$SO4^{2-}$	0.212	1.42E+04	2.36E+04	0.152	0.172	0.260	0.264
Si (as SiO_x^{2-})	5.66E-02	1.11E+03	1.84E+03	5.05E-02	5.35E-02	5.97E-02	6.27E-02
F^-	0.100	1.32E+03	2.21E+03	8.04E-02	8.87E-02	0.110	0.118
Cl^-	0.175	4.31E+03	7.17E+03	0.135	0.149	0.190	0.190
$C_6H_5O_7^{3-}$	1.21E-02	1.59E+03	2.65E+03	1.12E-02	1.17E-02	1.25E-02	1.30E-02
$EDTA^{4-}$	7.85E-04	157	262	6.48E-04	7.15E-04	8.55E-04	9.23E-04
$HEDTA^{3-}$	3.70E-04	70.5	117	9.86E-05	2.31E-04	5.09E-04	6.45E-04
$glycolate^-$	2.06E-02	1.08E+03	1.79E+03	1.06E-02	1.55E-02	2.57E-02	3.06E-02
$acetate^-$	3.84E-03	158	262	3.11E-03	3.47E-03	4.21E-03	4.57E-03
$oxalate^{2-}$	1.13E-09	6.95E-05	1.16E-04	1.05E-09	1.09E-09	1.17E-09	1.21E-09
DBP	1.33E-02	1.95E+03	3.24E+03	1.18E-02	1.26E-02	1.41E-02	1.48E-02
butanol	1.33E-02	687	1.14E+03	1.18E-02	1.26E-02	1.41E-02	1.48E-02
NH_3	8.97E-02	1.06E+03	1.77E+03	6.88E-02	7.89E-02	0.101	0.111
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.01E+06 (kg)	(532 kgal)	----	----	----	----	----
Heat Load	2.06 (kW)	(7.02E+03 BTU/hr)	----	1.78	1.85	2.24	2.62
Bulk Density†	1.49 (g/cc)	----	----	1.22	1.28	1.53	1.57
Water wt%†	41.7	----	----	38.3	40.2	56.4	61.8
TOC wt% C (wet)†	0.135	----	----	0.123	0.129	0.158	0.166

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.5	1.78E+05	5.34E+05	6.27	7.53	12.2	13.0
Al^{3+}	0.689	1.25E+04	3.74E+04	0.585	0.636	0.743	0.795
Fe^{3+} (total Fe)	5.61E-02	2.10E+03	6.31E+03	4.97E-02	5.51E-02	5.72E-02	5.82E-02
Cr^{3+}	5.04E-02	1.76E+03	5.28E+03	4.35E-02	4.72E-02	5.17E-02	5.25E-02
Bi^{3+}	6.75E-03	945	2.84E+03	3.22E-03	5.56E-03	7.45E-03	7.91E-03
La^{3+}	4.98E-10	4.63E-05	1.39E-04	4.14E-10	4.55E-10	5.41E-10	5.82E-10
Hg^{2+}	9.28E-06	1.25	3.75	9.05E-06	9.16E-06	1.09E-05	1.21E-05
Zr (as $ZrO(OH)_2$)	3.80E-04	23.2	69.7	3.44E-04	3.67E-04	4.46E-04	4.36E-04
Pb^{2+}	7.31E-04	102	305	5.62E-04	6.45E-04	8.18E-04	9.01E-04
Ni^{2+}	7.68E-03	302	908	3.54E-03	3.93E-03	8.71E-03	8.92E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.26E-03	46.3	139	1.01E-03	1.13E-03	1.38E-03	1.50E-03
Ca^{2+}	5.58E-02	1.50E+03	4.50E+03	2.43E-02	4.58E-02	5.98E-02	6.37E-02
K^+	3.20E-02	837	2.52E+03	2.53E-02	2.87E-02	3.72E-02	3.75E-02
OH^-	4.06	4.62E+04	1.39E+05	3.64	3.85	4.28	4.48
$NO3^-$	5.81	2.41E+05	7.25E+05	2.21	2.85	5.86	6.03
$NO2^-$	1.04	3.20E+04	9.62E+04	0.933	0.968	1.12	1.14
$CO3^{2-}$	0.255	1.03E+04	3.09E+04	0.153	0.208	0.313	0.323
$PO4^{3-}$	0.540	3.44E+04	1.03E+05	0.103	0.248	0.617	0.630
$SO4^{2-}$	0.162	1.04E+04	3.13E+04	0.103	0.133	0.209	0.442
Si (as SiO_x^{2-})	0.348	6.55E+03	1.97E+04	0.345	0.346	0.356	0.364
F^-	8.98E-02	1.14E+03	3.44E+03	8.07E-02	8.80E-02	9.78E-02	9.47E-02
Cl^-	0.126	2.98E+03	8.96E+03	8.55E-02	0.106	0.258	0.276
$C_6H_5O_7^{3-}$	6.96E-03	882	2.65E+03	6.46E-03	6.71E-03	7.22E-03	7.46E-03
$EDTA^{4-}$	4.51E-04	87.1	262	3.73E-04	4.11E-04	4.92E-04	5.31E-04
$HEDTA^{3-}$	2.13E-04	39.0	117	5.67E-05	1.33E-04	2.93E-04	3.71E-04
$glycolate^-$	1.19E-02	596	1.79E+03	6.11E-03	8.92E-03	1.48E-02	1.76E-02
$acetate^-$	2.21E-03	87.3	262	1.79E-03	1.99E-03	2.42E-03	2.63E-03
$oxalate^{2-}$	6.52E-10	3.85E-05	1.16E-04	6.07E-10	6.29E-10	6.75E-10	6.97E-10
DBP	7.67E-03	1.08E+03	3.24E+03	6.80E-03	7.23E-03	8.10E-03	8.51E-03
butanol	7.67E-03	381	1.14E+03	6.80E-03	7.23E-03	8.10E-03	8.51E-03
NH_3	6.55E-02	746	2.24E+03	5.35E-02	5.94E-02	7.18E-02	7.79E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.34E+06 (kg)	(226 kgal)	----	----	----	----	----
Heat Load	0.266 (kW)	(907 BTU/hr)	----	5.64E-02	9.82E-02	0.399	0.765
Bulk Density	1.57 (g/cc)	----	----	0.982	1.10	1.63	1.72
Void Fraction	0.457	----	----	0.223	0.417	0.820	0.869
Water wt%	36.3	----	----	31.2	34.5	70.8	83.2
TOC wt% C (wet)	1.30E-04	----	----	3.67E-06	1.12E-04	2.08E-04	1.57E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.60E-06	1.66E-03	2.23	0	0	2.77E-06	3.19E-06
C-14	3.88E-07	2.48E-04	0.332	0	0	3.93E-07	4.47E-07
Ni-59	7.89E-07	5.03E-04	0.675	0	0	8.32E-07	8.61E-07
Ni-63	7.09E-05	4.52E-02	60.7	0	0	7.48E-05	7.74E-05
Co-60	8.76E-08	5.59E-05	7.50E-02	0	0	8.87E-08	1.01E-07
Se-79	8.35E-08	5.32E-05	7.14E-02	0	0	8.44E-08	9.60E-08
Sr-90	9.74E-03	6.21	8.33E+03	5.48E-03	9.54E-03	1.36E-02	6.10E-02
Y-90	9.74E-03	6.21	8.34E+03	0	0	9.86E-03	1.13E-02
Zr-93	3.97E-07	2.53E-04	0.339	0	0	4.01E-07	4.56E-07
Nb-93m	3.35E-07	2.14E-04	0.287	0	0	3.39E-07	3.86E-07
Tc-99	2.75E-06	1.75E-03	2.35	7.20E-07	2.11E-06	4.27E-06	3.16E-06
Ru-106	3.47E-14	2.21E-11	2.97E-08	0	0	3.51E-14	3.99E-14
Cd-113m	9.56E-07	6.09E-04	0.817	0	0	9.67E-07	1.10E-06
Sb-125	7.94E-08	5.06E-05	6.79E-02	0	0	8.03E-08	9.13E-08
Sn-126	1.25E-07	8.00E-05	0.107	0	0	1.27E-07	1.44E-07
I-129	5.17E-09	3.30E-06	4.42E-03	1.35E-09	3.97E-09	8.03E-09	5.95E-09
Cs-134	3.68E-09	2.35E-06	3.15E-03	0	0	3.98E-09	4.31E-09
Cs-137	5.23E-02	33.3	4.47E+04	6.20E-03	1.08E-02	7.99E-02	0.103
Ba-137m	4.95E-02	31.5	4.23E+04	0	0	5.34E-02	5.77E-02
Sm-151	3.11E-04	0.198	266	0	0	3.15E-04	3.58E-04
Eu-152	9.82E-08	6.26E-05	8.40E-02	0	0	9.91E-08	9.98E-08
Eu-154	1.56E-06	9.93E-04	1.33	0	0	1.58E-06	1.79E-06
Eu-155	7.53E-06	4.80E-03	6.44	0	0	7.59E-06	7.65E-06
Ra-226	2.35E-11	1.50E-08	2.01E-05	0	0	8.94E-11	7.15E-11
Ra-228	3.92E-16	2.50E-13	3.35E-10	0	0	3.95E-16	3.98E-16
Ac-227	1.21E-10	7.70E-08	1.03E-04	0	0	3.07E-10	3.74E-10
Pa-231	2.62E-10	1.67E-07	2.25E-04	0	0	2.65E-10	3.02E-10
Th-229	7.60E-14	4.85E-11	6.50E-08	0	0	7.66E-14	7.72E-14
Th-232	1.14E-16	7.25E-14	9.72E-11	0	0	1.15E-16	1.31E-16
U-232	1.03E-10	6.58E-08	8.84E-05	7.10E-11	8.71E-11	1.20E-10	1.31E-10
U-233	4.91E-12	3.13E-09	4.20E-06	3.38E-12	4.13E-12	5.74E-12	6.27E-12
U-234	4.85E-06	3.09E-03	4.15	3.33E-06	4.07E-06	5.70E-06	6.25E-06
U-235	2.15E-07	1.37E-04	0.184	1.48E-07	1.80E-07	2.53E-07	2.77E-07
U-236	4.55E-08	2.90E-05	3.89E-02	3.12E-08	3.83E-08	5.31E-08	5.80E-08
U-238	4.93E-06	3.14E-03	4.22	3.38E-06	4.13E-06	5.79E-06	6.35E-06
Np-237	1.69E-08	1.08E-05	1.45E-02	4.39E-09	1.30E-08	2.63E-08	1.95E-08
Pu-238	3.22E-07	2.05E-04	0.275	2.94E-08	1.02E-07	4.84E-07	5.02E-07
Pu-239	5.35E-05	3.41E-02	45.8	5.57E-06	1.78E-05	7.87E-05	8.12E-05
Pu-240	4.36E-06	2.78E-03	3.73	4.21E-07	1.41E-06	6.49E-06	6.71E-06
Pu-241	1.18E-05	7.55E-03	10.1	9.68E-07	3.57E-06	1.81E-05	1.89E-05
Pu-242	5.29E-11	3.37E-08	4.52E-05	4.24E-12	1.58E-11	8.10E-11	8.44E-11
Am-241	7.10E-07	4.53E-04	0.607	1.32E-07	5.10E-07	1.13E-06	8.16E-07
Am-243	4.91E-12	3.13E-09	4.20E-06	8.55E-13	3.49E-12	7.83E-12	5.64E-12
Cm-242	1.62E-09	1.03E-06	1.39E-03	0	0	1.64E-09	1.65E-09
Cm-243	3.31E-11	2.11E-08	2.84E-05	0	0	3.35E-11	3.38E-11
Cm-244	1.08E-10	6.90E-08	9.26E-05	0	0	1.10E-10	1.24E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.81E-04 (g/L)	----	0.753	9.14E-05	2.93E-04	1.29E-03	1.34E-03
U	6.20E-02	9.41E+03	1.26E+04	4.25E-02	5.20E-02	7.28E-02	7.99E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.66E+06 (kg)	(306 kgal)	----	----	----	----	----
Heat Load	1.79 (kW)	(6.11E+03 BTU/hr)	----	1.54	1.66	1.92	2.04
Bulk Density*	1.44 (g/cc)	----	----	1.39	1.41	1.45	1.47
Water wt%†	46.0	----	----	43.9	44.9	48.1	50.6
TOC wt% C (wet)	0.245	----	----	0.223	0.234	0.256	0.266

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.43E-04	9.95E-02	166	8.87E-05	8.87E-05	1.54E-04	1.68E-04
C-14	2.08E-05	1.45E-02	24.1	9.43E-06	9.43E-06	2.17E-05	2.26E-05
Ni-59	1.71E-06	1.19E-03	1.98	1.18E-06	1.18E-06	1.74E-06	1.77E-06
Ni-63	1.68E-04	0.117	194	1.15E-04	1.15E-04	1.71E-04	1.73E-04
Co-60	2.25E-05	1.57E-02	26.1	9.52E-06	9.52E-06	2.38E-05	2.50E-05
Se-79	2.12E-06	1.48E-03	2.46	1.40E-06	1.40E-06	2.38E-06	2.63E-06
Sr-90	6.71E-02	46.7	7.77E+04	6.16E-02	6.35E-02	7.12E-02	7.17E-02
Y-90	6.71E-02	46.7	7.77E+04	4.21E-02	4.21E-02	6.89E-02	7.07E-02
Zr-93	1.04E-05	7.25E-03	12.1	6.80E-06	6.80E-06	1.17E-05	1.30E-05
Nb-93m	7.55E-06	5.26E-03	8.75	5.02E-06	5.02E-06	8.47E-06	9.36E-06
Tc-99	1.48E-04	0.103	172	1.06E-04	1.27E-04	1.70E-04	1.91E-04
Ru-106	3.67E-09	2.56E-06	4.25E-03	1.99E-09	1.99E-09	4.05E-09	4.39E-09
Cd-113m	5.40E-05	3.76E-02	62.5	3.22E-05	3.22E-05	6.18E-05	6.94E-05
Sb-125	9.50E-05	6.61E-02	110	3.87E-05	3.87E-05	1.01E-04	1.06E-04
Sn-126	3.19E-06	2.22E-03	3.70	2.11E-06	2.11E-06	3.59E-06	3.96E-06
I-129	2.86E-07	1.99E-04	0.331	2.04E-07	2.44E-07	3.28E-07	3.69E-07
Cs-134	1.75E-06	1.21E-03	2.02	1.17E-06	1.45E-06	2.04E-06	2.33E-06
Cs-137	0.233	162	2.70E+05	0.187	0.210	0.257	0.280
Ba-137m	0.221	154	2.56E+05	0.177	0.196	0.243	0.265
Sm-151	7.45E-03	5.18	8.63E+03	4.91E-03	4.91E-03	8.37E-03	9.25E-03
Eu-152	2.24E-06	1.56E-03	2.60	1.35E-06	1.35E-06	2.39E-06	2.54E-06
Eu-154	3.56E-04	0.247	412	1.74E-04	1.74E-04	4.21E-04	4.47E-04
Eu-155	1.34E-04	9.32E-02	155	8.05E-05	8.05E-05	1.45E-04	1.56E-04
Ra-226	1.05E-10	7.27E-08	1.21E-04	8.20E-11	8.20E-11	1.13E-10	1.20E-10
Ra-228	2.73E-07	1.90E-04	0.316	1.04E-07	1.86E-07	3.73E-07	4.79E-07
Ac-227	7.29E-10	5.07E-07	8.44E-04	5.98E-10	5.98E-10	7.82E-10	8.32E-10
Pa-231	3.27E-09	2.28E-06	3.79E-03	2.55E-09	2.55E-09	3.57E-09	3.85E-09
Th-229	6.30E-09	4.38E-06	7.29E-03	2.59E-09	4.40E-09	8.49E-09	1.08E-08
Th-232	1.65E-08	1.15E-05	1.92E-02	7.20E-09	1.18E-08	2.13E-08	2.59E-08
U-232	1.33E-06	9.28E-04	1.54	6.56E-07	9.87E-07	1.73E-06	2.16E-06
U-233	5.11E-06	3.55E-03	5.92	2.52E-06	3.78E-06	6.64E-06	8.28E-06
U-234	8.39E-07	5.84E-04	0.971	7.89E-07	8.26E-07	8.49E-07	8.61E-07
U-235	3.33E-08	2.32E-05	3.86E-02	3.13E-08	3.28E-08	3.37E-08	3.39E-08
U-236	2.72E-08	1.89E-05	3.15E-02	2.57E-08	2.70E-08	2.75E-08	2.77E-08
U-238	1.12E-06	7.81E-04	1.30	1.08E-06	1.11E-06	1.13E-06	1.14E-06
Np-237	5.37E-07	3.73E-04	0.621	3.98E-07	4.66E-07	6.08E-07	6.77E-07
Pu-238	8.41E-07	5.85E-04	0.974	6.78E-07	7.58E-07	9.24E-07	1.00E-06
Pu-239	3.10E-05	2.15E-02	35.9	2.68E-05	2.88E-05	3.31E-05	3.51E-05
Pu-240	4.93E-06	3.43E-03	5.71	4.15E-06	4.53E-06	5.32E-06	5.70E-06
Pu-241	5.51E-05	3.84E-02	63.9	4.41E-05	4.95E-05	6.08E-05	6.62E-05
Pu-242	2.90E-10	2.02E-07	3.36E-04	2.24E-10	2.56E-10	3.24E-10	3.56E-10
Am-241	3.37E-05	2.35E-02	39.1	2.60E-05	2.98E-05	3.77E-05	4.14E-05
Am-243	1.16E-09	8.08E-07	1.34E-03	9.19E-10	1.03E-09	1.29E-09	1.41E-09
Cm-242	8.49E-08	5.91E-05	9.84E-02	4.80E-08	4.80E-08	8.98E-08	9.46E-08
Cm-243	7.82E-09	5.44E-06	9.06E-03	4.30E-09	4.30E-09	8.42E-09	9.00E-09
Cm-244	7.75E-08	5.39E-05	8.97E-02	4.12E-08	4.12E-08	8.97E-08	9.76E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.36E-04 (g/L)	----	0.505	3.57E-04	3.96E-04	4.76E-04	5.14E-04
U	9.29E-03	1.54E+03	2.56E+03	8.70E-03	9.13E-03	9.40E-03	9.45E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-117

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.01E+06 (kg)	(532 kgal)	----	----	----	----	----
Heat Load	2.06 (kW)	(7.02E+03 BTU/hr)	----	1.78	1.85	2.24	2.62
Bulk Density†	1.49 (g/cc)	----	----	1.22	1.28	1.53	1.57
Water wt%†	41.7	----	----	38.3	40.2	56.4	61.8
TOC wt% C (wet)†	0.135	----	----	0.123	0.129	0.158	0.166

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.33E-05	5.58E-02	168	5.21E-05	5.21E-05	8.97E-05	9.76E-05
C-14	1.21E-05	8.12E-03	24.4	5.59E-06	5.59E-06	1.26E-05	1.32E-05
Ni-59	1.32E-06	8.84E-04	2.66	9.56E-07	9.56E-07	1.34E-06	1.35E-06
Ni-63	1.27E-04	8.49E-02	255	9.39E-05	9.39E-05	1.28E-04	1.30E-04
Co-60	1.30E-05	8.71E-03	26.2	5.52E-06	5.52E-06	1.37E-05	1.44E-05
Se-79	1.26E-06	8.41E-04	2.53	8.38E-07	8.38E-07	1.41E-06	1.55E-06
Sr-90	4.27E-02	28.6	8.60E+04	3.78E-02	4.06E-02	4.68E-02	6.72E-02
Y-90	4.27E-02	28.6	8.61E+04	2.83E-02	2.83E-02	4.38E-02	4.48E-02
Zr-93	6.16E-06	4.13E-03	12.4	4.08E-06	4.08E-06	6.92E-06	7.64E-06
Nb-93m	4.49E-06	3.01E-03	9.04	3.03E-06	3.03E-06	5.02E-06	5.52E-06
Tc-99	8.65E-05	5.80E-02	174	6.22E-05	7.41E-05	9.91E-05	1.11E-04
Ru-106	2.11E-09	1.41E-06	4.25E-03	1.14E-09	1.14E-09	2.33E-09	2.52E-09
Cd-113m	3.14E-05	2.11E-02	63.3	1.89E-05	1.89E-05	3.60E-05	4.03E-05
Sb-125	5.47E-05	3.66E-02	110	2.23E-05	2.23E-05	5.79E-05	6.10E-05
Sn-126	1.89E-06	1.27E-03	3.81	1.26E-06	1.26E-06	2.12E-06	2.33E-06
I-129	1.67E-07	1.12E-04	0.336	1.20E-07	1.43E-07	1.91E-07	2.14E-07
Cs-134	1.01E-06	6.73E-04	2.02	6.72E-07	8.35E-07	1.18E-06	1.34E-06
Cs-137	0.156	105	3.15E+05	0.130	0.138	0.170	0.183
Ba-137m	0.148	99.1	2.98E+05	0.123	0.123	0.161	0.173
Sm-151	4.42E-03	2.96	8.89E+03	2.96E-03	2.96E-03	4.95E-03	5.45E-03
Eu-152	1.33E-06	8.93E-04	2.68	8.16E-07	8.16E-07	1.42E-06	1.50E-06
Eu-154	2.05E-04	0.137	413	1.01E-04	1.01E-04	2.43E-04	2.58E-04
Eu-155	8.03E-05	5.38E-02	162	4.95E-05	4.95E-05	8.67E-05	9.28E-05
Ra-226	7.01E-11	4.70E-08	1.41E-04	4.93E-11	4.93E-11	9.56E-11	8.35E-11
Ra-228	1.57E-07	1.05E-04	0.316	5.96E-08	1.07E-07	2.14E-07	2.76E-07
Ac-227	4.71E-10	3.15E-07	9.48E-04	3.64E-10	3.64E-10	5.43E-10	5.45E-10
Pa-231	2.00E-09	1.34E-06	4.02E-03	1.58E-09	1.58E-09	2.16E-09	2.32E-09
Th-229	3.62E-09	2.43E-06	7.29E-03	1.49E-09	2.53E-09	4.89E-09	6.23E-09
Th-232	9.52E-09	6.38E-06	1.92E-02	4.14E-09	6.77E-09	1.23E-08	1.49E-08
U-232	7.67E-07	5.14E-04	1.54	3.78E-07	5.68E-07	9.98E-07	1.24E-06
U-233	2.94E-06	1.97E-03	5.92	1.45E-06	2.18E-06	3.82E-06	4.76E-06
U-234	2.54E-06	1.70E-03	5.12	1.90E-06	2.21E-06	2.90E-06	3.14E-06
U-235	1.11E-07	7.41E-05	0.223	8.18E-08	9.58E-08	1.27E-07	1.37E-07
U-236	3.50E-08	2.34E-05	7.04E-02	2.89E-08	3.19E-08	3.82E-08	4.03E-08
U-238	2.74E-06	1.84E-03	5.52	2.08E-06	2.40E-06	3.10E-06	3.34E-06
Np-237	3.16E-07	2.12E-04	0.636	2.36E-07	2.75E-07	3.57E-07	3.96E-07
Pu-238	6.20E-07	4.16E-04	1.25	4.92E-07	5.26E-07	6.89E-07	7.14E-07
Pu-239	4.06E-05	2.72E-02	81.7	1.96E-05	2.54E-05	5.12E-05	5.23E-05
Pu-240	4.69E-06	3.14E-03	9.43	2.96E-06	3.43E-06	5.59E-06	5.69E-06
Pu-241	3.68E-05	2.46E-02	74.0	3.04E-05	3.32E-05	4.00E-05	4.31E-05
Pu-242	1.89E-10	1.27E-07	3.81E-04	1.51E-10	1.70E-10	2.09E-10	2.27E-10
Am-241	1.97E-05	1.32E-02	39.7	1.53E-05	1.74E-05	2.20E-05	2.41E-05
Am-243	6.70E-10	4.49E-07	1.35E-03	5.30E-10	5.97E-10	7.44E-10	8.15E-10
Cm-242	4.95E-08	3.32E-05	9.97E-02	2.83E-08	2.83E-08	5.24E-08	5.51E-08
Cm-243	4.51E-09	3.02E-06	9.09E-03	2.49E-09	2.49E-09	4.86E-09	5.19E-09
Cm-244	4.46E-08	2.99E-05	8.98E-02	2.38E-08	2.38E-08	5.17E-08	5.62E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.25E-04 (g/L)	----	1.26	2.81E-04	3.75E-04	8.01E-04	8.18E-04
U	3.17E-02	5.05E+03	1.52E+04	2.34E-02	2.74E-02	3.63E-02	3.93E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.94E+05 (kg)	(45.0 kgal)	----	----	----	----	----
Heat Load	8.09E-03 (kW)	(27.6 BTU/hr)	----	1.72E-03	2.99E-03	1.21E-02	2.33E-02
Bulk Density	1.73 (g/cc)	----	----	1.64	1.65	1.84	1.75
Void Fraction	0.546	----	----	0.510	0.443	0.602	0.609
Water wt%	29.8	----	----	29.1	23.1	33.1	34.0
TOC wt% C (wet)	1.80E-05	----	----	3.37E-07	1.14E-05	3.00E-05	2.11E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.58	4.77E+04	1.40E+04	1.93	2.26	5.94	4.01
Al^{3+}	9.54	1.49E+05	4.38E+04	9.48	9.51	9.54	9.55
Fe^{3+} (total Fe)	1.48	4.78E+04	1.40E+04	1.37	1.44	1.49	1.51
Cr^{3+}	5.10E-03	154	45.2	2.62E-03	3.86E-03	5.28E-03	5.24E-03
Bi^{3+}	2.01E-03	243	71.5	7.37E-04	1.58E-03	2.26E-03	2.43E-03
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	6.97E-07	8.10E-02	2.38E-02	6.77E-07	6.87E-07	1.28E-06	1.69E-06
Zr (as $ZrO(OH)_2$)	4.89E-05	2.58	0.759	2.76E-05	4.66E-05	7.84E-05	7.77E-05
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	8.60E-02	2.93E+03	860	2.44E-03	5.70E-02	8.94E-02	9.27E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.370	8.60E+03	2.53E+03	1.62E-02	0.226	0.437	0.500
K^+	7.69E-03	174	51.2	4.35E-03	6.02E-03	8.48E-03	7.93E-03
OH^-	33.5	3.31E+05	9.71E+04	32.7	33.2	33.6	33.6
$NO3^-$	2.49	8.94E+04	2.63E+04	1.34	1.48	4.95	2.57
$NO2^-$	3.46E-02	924	271	1.96E-02	2.71E-02	4.65E-02	4.08E-02
$CO3^{2-}$	0.472	1.64E+04	4.83E+03	6.99E-02	0.303	0.537	0.599
$PO4^{3-}$	0.173	9.51E+03	2.79E+03	1.70E-02	6.76E-02	0.200	0.205
$SO4^{2-}$	1.77E-02	987	290	8.81E-03	1.56E-02	2.48E-02	0.108
Si (as SiO_x^{2-})	2.37E-03	38.6	11.4	2.31E-03	2.34E-03	5.88E-03	9.32E-03
F^-	1.16E-02	128	37.5	7.27E-03	1.13E-02	1.68E-02	1.48E-02
Cl^-	5.19E-02	1.07E+03	313	2.84E-02	4.02E-02	9.64E-02	0.103
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	2.16E-06	0.263	7.74E-02	3.83E-08	1.31E-06	3.61E-06	2.56E-06
butanol	2.16E-06	9.29E-02	2.73E-02	3.83E-08	1.31E-06	3.61E-06	2.56E-06
NH_3	5.02E-03	49.5	14.5	3.65E-03	4.95E-03	6.89E-03	5.84E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.17E+06 (kg)	(240 kgal)	----	----	----	----	----
Heat Load	0.905 (kW)	(3.09E+03 BTU/hr)	----	0.833	0.868	0.943	0.979
Bulk Density*	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%	60.6	----	----	59.0	59.7	61.6	62.8
TOC wt% C (wet)	0.425	----	----	0.262	0.342	0.508	0.589

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.62	1.19E+05	1.38E+05	6.15	6.39	6.82	7.00
Al^{3+}	0.748	1.57E+04	1.83E+04	0.685	0.716	0.780	0.811
Fe^{3+} (total Fe)	5.11E-03	223	259	4.35E-03	4.72E-03	5.50E-03	5.88E-03
Cr^{3+}	6.33E-02	2.57E+03	2.99E+03	5.32E-02	5.87E-02	6.50E-02	6.65E-02
Bi^{3+}	8.61E-04	140	163	7.72E-04	8.15E-04	9.06E-04	9.49E-04
La^{3+}	1.17E-05	1.27	1.48	8.51E-06	1.01E-05	1.34E-05	1.50E-05
Hg^{2+}	5.17E-06	0.808	0.942	4.70E-06	4.97E-06	5.24E-06	5.31E-06
Zr (as $ZrO(OH)_2$)	1.75E-04	12.5	14.5	1.59E-04	1.65E-04	1.82E-04	1.91E-04
Pb^{2+}	5.10E-04	82.5	96.1	4.09E-04	4.59E-04	5.62E-04	6.12E-04
Ni^{2+}	3.22E-03	147	172	3.07E-03	3.14E-03	3.26E-03	3.28E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.54E-03	65.9	76.8	1.17E-03	1.35E-03	1.73E-03	1.90E-03
Ca^{2+}	1.70E-02	530	618	1.59E-02	1.64E-02	1.75E-02	1.81E-02
K^+	3.10E-02	946	1.10E+03	2.84E-02	2.93E-02	3.31E-02	3.47E-02
OH^-	4.41	5.85E+04	6.81E+04	4.10	4.25	4.58	4.66
$NO3^-$	2.49	1.21E+05	1.40E+05	2.21	2.38	2.53	2.57
$NO2^-$	1.08	3.87E+04	4.51E+04	0.922	0.995	1.16	1.24
$CO3^{2-}$	0.213	9.97E+03	1.16E+04	0.187	0.196	0.235	0.238
$PO4^{3-}$	5.00E-02	3.70E+03	4.32E+03	4.09E-02	4.41E-02	5.17E-02	5.33E-02
$SO4^{2-}$	0.121	9.04E+03	1.05E+04	9.72E-02	0.105	0.139	0.141
Si (as SiO_x^{2-})	3.64E-02	798	930	3.12E-02	3.38E-02	3.91E-02	4.17E-02
F^-	4.22E-02	625	729	3.45E-02	3.77E-02	4.60E-02	4.90E-02
Cl^-	0.118	3.25E+03	3.79E+03	0.102	0.108	0.124	0.125
$C_6H_5O_7^{3-}$	1.08E-02	1.60E+03	1.86E+03	9.86E-03	1.03E-02	1.14E-02	1.18E-02
$EDTA^{4-}$	7.18E-03	1.61E+03	1.88E+03	2.04E-03	4.55E-03	9.82E-03	1.24E-02
$HEDTA^{3-}$	1.37E-02	2.94E+03	3.42E+03	3.47E-03	8.48E-03	1.90E-02	2.42E-02
$glycolate^-$	3.97E-02	2.32E+03	2.70E+03	2.64E-02	3.29E-02	4.64E-02	5.29E-02
$acetate^-$	1.98E-03	90.9	106	1.61E-03	1.79E-03	2.16E-03	2.34E-03
$oxalate^{2-}$	1.54E-05	1.06	1.23	1.36E-05	1.45E-05	1.63E-05	1.71E-05
DBP	8.04E-03	1.32E+03	1.54E+03	6.76E-03	7.39E-03	8.69E-03	9.31E-03
butanol	8.04E-03	465	542	6.76E-03	7.39E-03	8.69E-03	9.31E-03
NH_3	4.65E-02	616	717	3.74E-02	4.18E-02	5.12E-02	5.63E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.46E+06 (kg)	(285 kgal)	----	----	----	----	----
Heat Load	0.913 (kW)	(3.12E+03 BTU/hr)	----	0.841	0.876	0.951	0.987
Bulk Density†	1.35 (g/cc)	----	----	1.32	1.33	1.37	1.37
Water wt%†	54.4	----	----	53.2	52.6	56.0	57.1
TOC wt% C (wet)†	0.339	----	----	0.209	0.273	0.406	0.471

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.14	1.04E+05	1.52E+05	5.49	5.74	6.51	6.46
Al^{3+}	2.14	4.26E+04	6.22E+04	2.08	2.11	2.16	2.19
Fe^{3+} (total Fe)	0.237	9.80E+03	1.43E+04	0.221	0.232	0.240	0.243
Cr^{3+}	5.41E-02	2.08E+03	3.04E+03	4.56E-02	5.02E-02	5.55E-02	5.68E-02
Bi^{3+}	1.04E-03	161	235	8.41E-04	9.74E-04	1.08E-03	1.11E-03
La^{3+}	9.89E-06	1.02	1.48	7.16E-06	8.50E-06	1.13E-05	1.26E-05
Hg^{2+}	4.46E-06	0.662	0.966	4.10E-06	4.35E-06	4.56E-06	4.62E-06
Zr (as $ZrO(OH)_2$)	1.55E-04	10.5	15.3	1.46E-04	1.51E-04	1.61E-04	1.65E-04
Pb^{2+}	4.30E-04	65.9	96.1	3.45E-04	3.86E-04	4.73E-04	5.15E-04
Ni^{2+}	1.63E-02	707	1.03E+03	3.09E-03	1.17E-02	1.68E-02	1.73E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.30E-03	52.6	76.8	9.87E-04	1.14E-03	1.45E-03	1.60E-03
Ca^{2+}	7.28E-02	2.16E+03	3.15E+03	1.68E-02	4.99E-02	8.31E-02	9.30E-02
K^+	2.74E-02	791	1.15E+03	2.50E-02	2.59E-02	2.92E-02	3.05E-02
OH^-	9.01	1.13E+05	1.65E+05	8.75	8.87	9.15	9.22
$NO3^-$	2.49	1.14E+05	1.67E+05	2.07	2.24	2.88	2.55
$NO2^-$	0.914	3.11E+04	4.54E+04	0.782	0.843	0.983	1.05
$CO3^{2-}$	0.254	1.13E+04	1.64E+04	0.183	0.224	0.274	0.277
$PO4^{3-}$	6.94E-02	4.87E+03	7.11E+03	4.19E-02	5.28E-02	7.38E-02	7.45E-02
$SO4^{2-}$	0.104	7.42E+03	1.08E+04	8.32E-02	9.11E-02	0.121	0.136
Si (as SiO_x^{2-})	3.11E-02	645	941	2.66E-02	2.88E-02	3.33E-02	3.55E-02
F^-	3.74E-02	525	766	3.14E-02	3.44E-02	4.07E-02	4.24E-02
Cl^-	0.107	2.81E+03	4.10E+03	9.34E-02	9.85E-02	0.119	0.120
$C_6H_5O_7^{3-}$	9.14E-03	1.28E+03	1.86E+03	8.30E-03	8.71E-03	9.56E-03	9.97E-03
$EDTA^{4-}$	6.04E-03	1.29E+03	1.88E+03	1.72E-03	3.83E-03	8.27E-03	1.04E-02
$HEDTA^{3-}$	1.16E-02	2.34E+03	3.42E+03	2.92E-03	7.14E-03	1.60E-02	2.04E-02
$glycolate^-$	3.34E-02	1.85E+03	2.70E+03	2.22E-02	2.77E-02	3.91E-02	4.46E-02
$acetate^-$	1.66E-03	72.6	106	1.35E-03	1.51E-03	1.82E-03	1.97E-03
$oxalate^{2-}$	1.30E-05	0.843	1.23	1.15E-05	1.22E-05	1.37E-05	1.44E-05
DBP	6.77E-03	1.05E+03	1.54E+03	5.69E-03	6.22E-03	7.32E-03	7.84E-03
butanol	6.77E-03	371	542	5.69E-03	6.22E-03	7.32E-03	7.84E-03
NH_3	3.99E-02	502	732	3.23E-02	3.60E-02	4.39E-02	4.82E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.94E+05 (kg)	(45.0 kgal)	----	----	----	----	----
Heat Load	8.09E-03 (kW)	(27.6 BTU/hr)	----	1.72E-03	2.99E-03	1.21E-02	2.33E-02
Bulk Density	1.73 (g/cc)	----	----	1.64	1.65	1.84	1.75
Void Fraction	0.546	----	----	0.510	0.443	0.602	0.609
Water wt%	29.8	----	----	29.1	23.1	33.1	34.0
TOC wt% C (wet)	1.80E-05	----	----	3.37E-07	1.14E-05	3.00E-05	2.11E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.98E-07	2.31E-04	6.79E-02	0	0	4.24E-07	4.88E-07
C-14	5.94E-08	3.44E-05	1.01E-02	0	0	6.01E-08	6.83E-08
Ni-59	1.21E-07	6.99E-05	2.06E-02	0	0	1.27E-07	1.32E-07
Ni-63	1.09E-05	6.29E-03	1.85	0	0	1.14E-05	1.18E-05
Co-60	1.34E-08	7.77E-06	2.28E-03	0	0	1.36E-08	1.54E-08
Se-79	1.28E-08	7.40E-06	2.17E-03	0	0	1.29E-08	1.47E-08
Sr-90	1.49E-03	0.864	254	8.38E-04	1.46E-03	2.08E-03	9.33E-03
Y-90	1.49E-03	0.864	254	0	0	1.51E-03	1.72E-03
Zr-93	6.07E-08	3.52E-05	1.03E-02	0	0	6.14E-08	6.98E-08
Nb-93m	5.13E-08	2.97E-05	8.73E-03	0	0	5.19E-08	5.90E-08
Tc-99	4.20E-07	2.43E-04	7.15E-02	1.10E-07	3.23E-07	6.53E-07	4.83E-07
Ru-106	5.31E-15	3.08E-12	9.04E-10	0	0	5.37E-15	6.10E-15
Cd-113m	1.46E-07	8.47E-05	2.49E-02	0	0	1.48E-07	1.68E-07
Sb-125	1.21E-08	7.04E-06	2.07E-03	0	0	1.23E-08	1.40E-08
Sn-126	1.92E-08	1.11E-05	3.27E-03	0	0	1.94E-08	2.21E-08
I-129	7.91E-10	4.58E-07	1.35E-04	2.07E-10	6.08E-10	1.23E-09	9.10E-10
Cs-134	5.63E-10	3.27E-07	9.60E-05	0	0	6.09E-10	6.59E-10
Cs-137	8.00E-03	4.64	1.36E+03	9.49E-04	1.65E-03	1.22E-02	1.58E-02
Ba-137m	7.57E-03	4.39	1.29E+03	0	0	8.17E-03	8.83E-03
Sm-151	4.76E-05	2.76E-02	8.10	0	0	4.81E-05	5.47E-05
Eu-152	1.50E-08	8.71E-06	2.56E-03	0	0	1.52E-08	1.53E-08
Eu-154	2.38E-07	1.38E-04	4.06E-02	0	0	2.41E-07	2.74E-07
Eu-155	1.15E-06	6.68E-04	0.196	0	0	1.16E-06	1.17E-06
Ra-226	3.59E-12	2.08E-09	6.12E-07	0	0	1.37E-11	1.09E-11
Ra-228	5.99E-17	3.47E-14	1.02E-11	0	0	6.04E-17	6.08E-17
Ac-227	1.85E-11	1.07E-08	3.15E-06	0	0	4.70E-11	5.73E-11
Pa-231	4.02E-11	2.33E-08	6.84E-06	0	0	4.06E-11	4.62E-11
Th-229	1.16E-14	6.74E-12	1.98E-09	0	0	1.17E-14	1.18E-14
Th-232	1.74E-17	1.01E-14	2.96E-12	0	0	1.76E-17	2.00E-17
U-232	1.58E-11	9.16E-09	2.69E-06	1.09E-11	1.33E-11	1.84E-11	2.01E-11
U-233	7.52E-13	4.36E-10	1.28E-07	5.16E-13	6.32E-13	8.78E-13	9.59E-13
U-234	7.42E-07	4.30E-04	0.126	5.09E-07	6.22E-07	8.72E-07	9.56E-07
U-235	3.29E-08	1.91E-05	5.61E-03	2.26E-08	2.76E-08	3.87E-08	4.24E-08
U-236	6.95E-09	4.03E-06	1.18E-03	4.78E-09	5.85E-09	8.12E-09	8.87E-09
U-238	7.54E-07	4.37E-04	0.128	5.17E-07	6.32E-07	8.85E-07	9.71E-07
Np-237	2.59E-09	1.50E-06	4.41E-04	6.72E-10	1.99E-09	4.02E-09	2.98E-09
Pu-238	4.92E-08	2.85E-05	8.39E-03	4.50E-09	1.55E-08	7.40E-08	7.68E-08
Pu-239	2.42E-02	14.0	4.11E+03	2.37E-02	2.40E-02	2.43E-02	2.44E-02
Pu-240	6.04E-03	3.50	1.03E+03	5.92E-03	6.00E-03	6.07E-03	6.09E-03
Pu-241	1.81E-06	1.05E-03	0.309	1.48E-07	5.47E-07	2.77E-06	2.88E-06
Pu-242	8.09E-12	4.69E-09	1.38E-06	6.49E-13	2.42E-12	1.24E-11	1.29E-11
Am-241	2.53E-02	14.7	4.31E+03	2.37E-02	2.48E-02	2.57E-02	2.61E-02
Am-243	7.51E-13	4.35E-10	1.28E-07	1.31E-13	5.34E-13	1.20E-12	8.63E-13
Cm-242	2.48E-10	1.44E-07	4.22E-05	0	0	2.50E-10	2.53E-10
Cm-243	5.07E-12	2.94E-09	8.64E-07	0	0	5.12E-12	5.17E-12
Cm-244	1.66E-11	9.60E-09	2.82E-06	0	0	1.68E-11	1.90E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0.422 (g/L)	----	71.9	0.414	0.420	0.424	0.426
U	9.49E-03	1.31E+03	385	6.51E-03	7.95E-03	1.11E-02	1.22E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.17E+06 (kg)	(240 kgal)	----	----	----	----	----
Heat Load	0.905 (kW)	(3.09E+03 BTU/hr)	----	0.833	0.868	0.943	0.979
Bulk Density*	1.28 (g/cc)	----	----	1.26	1.27	1.29	1.30
Water wt%†	60.6	----	----	59.0	59.7	61.6	62.8
TOC wt% C (wet)	0.425	----	----	0.262	0.342	0.508	0.589

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.08E-04	8.43E-02	98.2	6.14E-05	6.14E-05	1.12E-04	1.17E-04
C-14	1.52E-05	1.19E-02	13.8	5.43E-06	5.43E-06	1.55E-05	1.59E-05
Ni-59	1.06E-06	8.25E-04	0.962	5.99E-07	5.99E-07	1.08E-06	1.10E-06
Ni-63	1.04E-04	8.08E-02	94.2	5.82E-05	5.82E-05	1.06E-04	1.08E-04
Co-60	1.68E-05	1.31E-02	15.3	5.63E-06	5.63E-06	1.73E-05	1.77E-05
Se-79	1.58E-06	1.23E-03	1.43	9.52E-07	9.52E-07	1.80E-06	2.02E-06
Sr-90	5.30E-02	41.3	4.81E+04	4.99E-02	5.14E-02	5.46E-02	5.60E-02
Y-90	5.30E-02	41.3	4.81E+04	3.14E-02	3.14E-02	5.45E-02	5.61E-02
Zr-93	7.73E-06	6.03E-03	7.02	4.61E-06	4.61E-06	8.86E-06	9.95E-06
Nb-93m	5.62E-06	4.38E-03	5.10	3.43E-06	3.43E-06	6.41E-06	7.17E-06
Tc-99	1.08E-04	8.44E-02	98.4	7.19E-05	8.97E-05	1.27E-04	1.45E-04
Ru-106	3.07E-09	2.39E-06	2.79E-03	1.62E-09	1.62E-09	3.39E-09	3.69E-09
Cd-113m	4.02E-05	3.14E-02	36.6	2.15E-05	2.15E-05	4.70E-05	5.35E-05
Sb-125	7.23E-05	5.64E-02	65.7	2.39E-05	2.39E-05	7.44E-05	7.64E-05
Sn-126	2.38E-06	1.86E-03	2.16	1.44E-06	1.44E-06	2.72E-06	3.04E-06
I-129	2.09E-07	1.63E-04	0.190	1.38E-07	1.73E-07	2.45E-07	2.80E-07
Cs-134	1.38E-06	1.08E-03	1.26	9.95E-07	1.18E-06	1.58E-06	1.78E-06
Cs-137	0.137	106	1.24E+05	0.119	0.128	0.145	0.154
Ba-137m	0.129	101	1.17E+05	0.108	0.108	0.138	0.146
Sm-151	5.55E-03	4.33	5.04E+03	3.36E-03	3.36E-03	6.34E-03	7.10E-03
Eu-152	1.86E-06	1.45E-03	1.69	1.09E-06	1.09E-06	2.01E-06	2.15E-06
Eu-154	2.78E-04	0.217	252	1.22E-04	1.22E-04	3.34E-04	3.57E-04
Eu-155	1.11E-04	8.62E-02	100	6.45E-05	6.45E-05	1.19E-04	1.28E-04
Ra-226	7.06E-11	5.50E-08	6.41E-05	5.12E-11	5.12E-11	7.76E-11	8.43E-11
Ra-228	8.49E-08	6.62E-05	7.71E-02	3.32E-08	5.85E-08	1.16E-07	1.48E-07
Ac-227	4.50E-10	3.51E-07	4.09E-04	3.38E-10	3.38E-10	4.91E-10	5.30E-10
Pa-231	2.03E-09	1.58E-06	1.84E-03	1.41E-09	1.41E-09	2.26E-09	2.47E-09
Th-229	1.98E-09	1.54E-06	1.80E-03	8.43E-10	1.40E-09	2.65E-09	3.37E-09
Th-232	5.35E-09	4.17E-06	4.86E-03	2.49E-09	3.89E-09	6.81E-09	8.21E-09
U-232	4.33E-07	3.37E-04	0.393	2.26E-07	3.27E-07	5.55E-07	6.86E-07
U-233	1.66E-06	1.29E-03	1.51	8.66E-07	1.25E-06	2.13E-06	2.63E-06
U-234	4.23E-07	3.30E-04	0.384	4.06E-07	4.16E-07	4.30E-07	4.33E-07
U-235	1.71E-08	1.33E-05	1.55E-02	1.64E-08	1.68E-08	1.74E-08	1.75E-08
U-236	1.34E-08	1.05E-05	1.22E-02	1.29E-08	1.33E-08	1.36E-08	1.38E-08
U-238	4.98E-07	3.88E-04	0.452	4.81E-07	4.91E-07	5.05E-07	5.08E-07
Np-237	3.95E-07	3.08E-04	0.359	2.76E-07	3.34E-07	4.56E-07	5.16E-07
Pu-238	6.44E-07	5.02E-04	0.585	5.04E-07	5.72E-07	7.15E-07	7.84E-07
Pu-239	2.26E-05	1.76E-02	20.6	1.90E-05	2.08E-05	2.44E-05	2.62E-05
Pu-240	3.82E-06	2.97E-03	3.47	3.15E-06	3.48E-06	4.16E-06	4.48E-06
Pu-241	4.31E-05	3.36E-02	39.1	3.36E-05	3.82E-05	4.80E-05	5.26E-05
Pu-242	2.37E-10	1.84E-07	2.15E-04	1.80E-10	2.08E-10	2.66E-10	2.94E-10
Am-241	2.81E-05	2.19E-02	25.5	2.14E-05	2.47E-05	3.15E-05	3.47E-05
Am-243	9.54E-10	7.44E-07	8.66E-04	7.45E-10	8.44E-10	1.08E-09	1.19E-09
Cm-242	7.10E-08	5.54E-05	6.45E-02	3.93E-08	3.93E-08	7.64E-08	8.17E-08
Cm-243	6.56E-09	5.12E-06	5.96E-03	3.54E-09	3.54E-09	7.05E-09	7.52E-09
Cm-244	6.33E-08	4.94E-05	5.75E-02	3.21E-08	3.21E-08	7.39E-08	8.06E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.98E-04 (g/L)	----	0.271	2.30E-04	2.64E-04	3.33E-04	3.66E-04
U	4.80E-03	890	1.04E+03	4.59E-03	4.71E-03	4.89E-03	4.92E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TX-118

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.46E+06 (kg)	(285 kgal)	----	----	----	----	----
Heat Load	0.913 (kW)	(3.12E+03 BTU/hr)	----	0.841	0.876	0.951	0.987
Bulk Density†	1.35 (g/cc)	----	----	1.32	1.33	1.37	1.37
Water wt%†	54.4	----	----	53.2	52.6	56.0	57.1
TOC wt% C (wet)†	0.339	----	----	0.209	0.273	0.406	0.471

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.11E-05	6.73E-02	98.3	5.18E-05	5.18E-05	9.45E-05	9.88E-05
C-14	1.28E-05	9.47E-03	13.8	4.58E-06	4.58E-06	1.31E-05	1.34E-05
Ni-59	9.11E-07	6.73E-04	0.982	5.24E-07	5.24E-07	9.30E-07	9.49E-07
Ni-63	8.90E-05	6.58E-02	96.0	5.07E-05	5.07E-05	9.10E-05	9.28E-05
Co-60	1.42E-05	1.05E-02	15.3	4.75E-06	4.75E-06	1.46E-05	1.49E-05
Se-79	1.33E-06	9.83E-04	1.43	8.04E-07	8.04E-07	1.52E-06	1.70E-06
Sr-90	4.48E-02	33.2	4.84E+04	4.23E-02	4.35E-02	4.63E-02	4.76E-02
Y-90	4.49E-02	33.2	4.84E+04	2.67E-02	2.67E-02	4.62E-02	4.74E-02
Zr-93	6.52E-06	4.82E-03	7.03	3.89E-06	3.89E-06	7.47E-06	8.39E-06
Nb-93m	4.74E-06	3.50E-03	5.11	2.90E-06	2.90E-06	5.40E-06	6.04E-06
Tc-99	9.13E-05	6.75E-02	98.5	6.06E-05	7.56E-05	1.07E-04	1.22E-04
Ru-106	2.58E-09	1.91E-06	2.79E-03	1.37E-09	1.37E-09	2.86E-09	3.10E-09
Cd-113m	3.39E-05	2.51E-02	36.6	1.81E-05	1.81E-05	3.96E-05	4.51E-05
Sb-125	6.09E-05	4.50E-02	65.7	2.01E-05	2.01E-05	6.26E-05	6.43E-05
Sn-126	2.01E-06	1.48E-03	2.17	1.22E-06	1.22E-06	2.29E-06	2.57E-06
I-129	1.76E-07	1.30E-04	0.190	1.17E-07	1.46E-07	2.06E-07	2.36E-07
Cs-134	1.17E-06	8.61E-04	1.26	8.38E-07	9.98E-07	1.33E-06	1.50E-06
Cs-137	0.116	85.9	1.25E+05	0.102	0.109	0.124	0.131
Ba-137m	0.110	81.3	1.19E+05	9.20E-02	9.20E-02	0.117	0.124
Sm-151	4.68E-03	3.46	5.05E+03	2.84E-03	2.84E-03	5.34E-03	5.98E-03
Eu-152	1.57E-06	1.16E-03	1.70	9.21E-07	9.21E-07	1.69E-06	1.81E-06
Eu-154	2.34E-04	0.173	252	1.03E-04	1.03E-04	2.82E-04	3.00E-04
Eu-155	9.33E-05	6.90E-02	101	5.45E-05	5.45E-05	1.01E-04	1.08E-04
Ra-226	6.00E-11	4.44E-08	6.47E-05	4.37E-11	4.37E-11	6.59E-11	7.15E-11
Ra-228	7.15E-08	5.29E-05	7.71E-02	2.80E-08	4.93E-08	9.73E-08	1.25E-07
Ac-227	3.82E-10	2.83E-07	4.12E-04	2.88E-10	2.88E-10	4.16E-10	4.49E-10
Pa-231	1.72E-09	1.27E-06	1.85E-03	1.19E-09	1.19E-09	1.91E-09	2.09E-09
Th-229	1.66E-09	1.23E-06	1.80E-03	7.10E-10	1.18E-09	2.23E-09	2.83E-09
Th-232	4.51E-09	3.33E-06	4.86E-03	2.10E-09	3.28E-09	5.73E-09	6.91E-09
U-232	3.64E-07	2.69E-04	0.393	1.90E-07	2.75E-07	4.68E-07	5.78E-07
U-233	1.40E-06	1.03E-03	1.51	7.29E-07	1.06E-06	1.79E-06	2.21E-06
U-234	4.73E-07	3.50E-04	0.510	4.36E-07	4.54E-07	4.94E-07	5.07E-07
U-235	1.96E-08	1.45E-05	2.11E-02	1.79E-08	1.87E-08	2.05E-08	2.11E-08
U-236	1.24E-08	9.18E-06	1.34E-02	1.20E-08	1.22E-08	1.26E-08	1.27E-08
U-238	5.38E-07	3.98E-04	0.581	5.01E-07	5.19E-07	5.59E-07	5.72E-07
Np-237	3.33E-07	2.46E-04	0.359	2.33E-07	2.82E-07	3.85E-07	4.35E-07
Pu-238	5.50E-07	4.07E-04	0.593	4.32E-07	4.90E-07	6.10E-07	6.68E-07
Pu-239	3.83E-03	2.83	4.13E+03	3.76E-03	3.81E-03	3.85E-03	3.87E-03
Pu-240	9.56E-04	0.707	1.03E+03	9.39E-04	9.51E-04	9.61E-04	9.65E-04
Pu-241	3.66E-05	2.70E-02	39.5	2.85E-05	3.25E-05	4.07E-05	4.46E-05
Pu-242	2.01E-10	1.48E-07	2.16E-04	1.53E-10	1.76E-10	2.25E-10	2.49E-10
Am-241	4.02E-03	2.97	4.33E+03	3.77E-03	3.94E-03	4.08E-03	4.14E-03
Am-243	8.03E-10	5.94E-07	8.67E-04	6.28E-10	7.11E-10	9.10E-10	1.00E-09
Cm-242	5.99E-08	4.43E-05	6.46E-02	3.31E-08	3.31E-08	6.44E-08	6.89E-08
Cm-243	5.53E-09	4.09E-06	5.96E-03	2.98E-09	2.98E-09	5.94E-09	6.34E-09
Cm-244	5.33E-08	3.94E-05	5.75E-02	2.71E-08	2.71E-08	6.22E-08	6.79E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.69E-02 (g/L)	----	72.2	6.57E-02	6.66E-02	6.72E-02	6.75E-02
U	5.54E-03	974	1.42E+03	5.07E-03	5.29E-03	5.80E-03	5.97E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.91E+05 (kg)	(118 kgal)	----	----	----	----	----
Heat Load	0.757 (kW)	(2.58E+03 BTU/hr)	----	0.708	0.718	0.788	0.874
Bulk Density	1.55 (g/cc)	----	----	1.29	1.34	1.58	1.62
Void Fraction	0.775	----	----	0.670	0.757	0.937	0.959
Water wt%	55.6	----	----	52.3	54.4	71.3	75.6
TOC wt% C (wet)	0.296	----	----	0.283	0.290	0.342	0.356

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.78	1.01E+05	6.97E+04	1.94	2.91	7.31	8.03
Al^{3+}	3.53E-03	61.5	42.5	1.78E-03	3.24E-03	6.02E-03	6.34E-03
Fe^{3+} (total Fe)	0.114	4.11E+03	2.84E+03	0.107	0.113	0.115	0.116
Cr^{3+}	2.82E-03	94.9	65.6	2.36E-03	2.81E-03	3.36E-03	3.09E-03
Bi^{3+}	0.135	1.83E+04	1.26E+04	0.128	0.132	0.139	0.143
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.04E-06	0.264	0.182	1.98E-06	2.01E-06	3.73E-06	4.95E-06
Zr (as $ZrO(OH)_2$)	1.47E-02	865	598	9.93E-03	1.23E-02	1.71E-02	1.94E-02
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.121	4.60E+03	3.18E+03	0.117	0.117	0.122	0.123
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.181	4.69E+03	3.24E+03	0.139	0.160	0.203	0.224
K^+	7.10E-03	179	124	4.15E-03	6.39E-03	9.41E-03	7.81E-03
OH^-	2.58	2.84E+04	1.96E+04	2.53	2.57	2.61	2.62
$NO3^-$	3.73	1.49E+05	1.03E+05	0.385	0.800	3.75	3.97
$NO2^-$	0.415	1.23E+04	8.52E+03	0.371	0.393	0.449	0.433
$CO3^{2-}$	0.218	8.45E+03	5.84E+03	0.151	0.195	0.245	0.259
$PO4^{3-}$	0.773	4.74E+04	3.28E+04	0.317	0.465	0.853	0.867
$SO4^{2-}$	5.37E-02	3.33E+03	2.30E+03	2.76E-02	4.76E-02	7.44E-02	0.317
Si (as SiO_x^{2-})	7.84E-02	1.42E+03	984	2.88E-02	2.88E-02	0.182	0.282
F^-	0.164	2.02E+03	1.39E+03	0.152	0.163	0.495	0.946
Cl^-	3.74E-02	857	592	1.92E-02	3.23E-02	0.167	0.186
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	6.32E-06	0.858	0.593	1.12E-07	3.84E-06	1.06E-05	7.48E-06
butanol	6.32E-06	0.303	0.209	1.12E-07	3.84E-06	1.06E-05	7.48E-06
NH_3	2.64E-02	290	201	2.24E-02	2.62E-02	3.19E-02	2.88E-02
$Fe(CN)_6^{4-}$	6.36E-02	1.11E+04	7.68E+03	6.36E-02	6.36E-02	6.36E-02	6.36E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.91E+05 (kg)	(118 kgal)	----	----	----	----	----
Heat Load	0.757 (kW)	(2.58E+03 BTU/hr)	----	0.708	0.718	0.788	0.874
Bulk Density†	1.55 (g/cc)	----	----	1.29	1.34	1.58	1.62
Water wt%†	55.6	----	----	52.3	54.4	71.3	75.6
TOC wt% C (wet)†	0.296	----	----	0.283	0.290	0.342	0.356

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	6.78	1.01E+05	6.97E+04	1.94	2.91	7.31	8.03
Al^{3+}	3.53E-03	61.5	42.5	1.78E-03	3.24E-03	6.02E-03	6.34E-03
Fe^{3+} (total Fe)	0.114	4.11E+03	2.84E+03	0.107	0.113	0.115	0.116
Cr^{3+}	2.82E-03	94.9	65.6	2.36E-03	2.81E-03	3.36E-03	3.09E-03
Bi^{3+}	0.135	1.83E+04	1.26E+04	0.128	0.132	0.139	0.143
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.04E-06	0.264	0.182	1.98E-06	2.01E-06	3.73E-06	4.95E-06
Zr (as $ZrO(OH)_2$)	1.47E-02	865	598	9.93E-03	1.23E-02	1.71E-02	1.94E-02
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.121	4.60E+03	3.18E+03	0.117	0.117	0.122	0.123
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.181	4.69E+03	3.24E+03	0.139	0.160	0.203	0.224
K^+	7.10E-03	179	124	4.15E-03	6.39E-03	9.41E-03	7.81E-03
OH^-	2.58	2.84E+04	1.96E+04	2.53	2.57	2.61	2.62
$NO3^-$	3.73	1.49E+05	1.03E+05	0.385	0.800	3.75	3.97
$NO2^-$	0.415	1.23E+04	8.52E+03	0.371	0.393	0.449	0.433
$CO3^{2-}$	0.218	8.45E+03	5.84E+03	0.151	0.195	0.245	0.259
$PO4^{3-}$	0.773	4.74E+04	3.28E+04	0.317	0.465	0.853	0.867
$SO4^{2-}$	5.37E-02	3.33E+03	2.30E+03	2.76E-02	4.76E-02	7.44E-02	0.317
Si (as SiO_x^{2-})	7.84E-02	1.42E+03	984	2.88E-02	2.88E-02	0.182	0.282
F^-	0.164	2.02E+03	1.39E+03	0.152	0.163	0.495	0.946
Cl^-	3.74E-02	857	592	1.92E-02	3.23E-02	0.167	0.186
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	6.32E-06	0.858	0.593	1.12E-07	3.84E-06	1.06E-05	7.48E-06
butanol	6.32E-06	0.303	0.209	1.12E-07	3.84E-06	1.06E-05	7.48E-06
NH_3	2.64E-02	290	201	2.24E-02	2.62E-02	3.19E-02	2.88E-02
$Fe(CN)_6^{4-}$	6.36E-02	1.11E+04	7.68E+03	6.36E-02	6.36E-02	6.36E-02	6.36E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.91E+05 (kg)	(118 kgal)	----	----	----	----	----
Heat Load	0.757 (kW)	(2.58E+03 BTU/hr)	----	0.708	0.718	0.788	0.874
Bulk Density	1.55 (g/cc)	----	----	1.29	1.34	1.58	1.62
Void Fraction	0.775	----	----	0.670	0.757	0.937	0.959
Water wt%	55.6	----	----	52.3	54.4	71.3	75.6
TOC wt% C (wet)	0.296	----	----	0.283	0.290	0.342	0.356
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.49E-06	9.64E-04	0.667	3.28E-07	3.28E-07	1.57E-06	1.76E-06
C-14	2.77E-07	1.79E-04	0.124	1.04E-07	1.04E-07	2.79E-07	3.03E-07
Ni-59	8.95E-07	5.78E-04	0.400	5.42E-07	5.42E-07	9.14E-07	9.27E-07
Ni-63	8.12E-05	5.24E-02	36.3	4.95E-05	4.95E-05	8.29E-05	8.41E-05
Co-60	6.71E-08	4.34E-05	3.00E-02	2.79E-08	2.79E-08	6.76E-08	7.30E-08
Se-79	5.92E-08	3.82E-05	2.64E-02	2.19E-08	2.19E-08	5.96E-08	6.48E-08
Sr-90	0.133	86.1	5.95E+04	0.131	0.133	0.135	0.156
Y-90	0.133	86.1	5.95E+04	0.129	0.129	0.133	0.134
Zr-93	2.81E-07	1.82E-04	0.126	1.04E-07	1.04E-07	2.83E-07	3.08E-07
Nb-93m	2.37E-07	1.53E-04	0.106	8.67E-08	8.67E-08	2.38E-07	2.59E-07
Tc-99	1.95E-06	1.26E-03	0.870	1.04E-06	1.67E-06	2.63E-06	2.13E-06
Ru-106	2.97E-14	1.92E-11	1.33E-08	1.42E-14	1.42E-14	2.99E-14	3.20E-14
Cd-113m	7.00E-07	4.52E-04	0.313	2.73E-07	2.73E-07	7.05E-07	7.65E-07
Sb-125	6.39E-08	4.13E-05	2.85E-02	2.84E-08	2.84E-08	6.43E-08	6.92E-08
Sn-126	8.92E-08	5.76E-05	3.98E-02	3.31E-08	3.31E-08	8.98E-08	9.76E-08
I-129	3.68E-09	2.37E-06	1.64E-03	1.97E-09	3.14E-09	4.96E-09	4.02E-09
Cs-134	1.77E-08	1.15E-05	7.92E-03	1.61E-08	1.61E-08	1.79E-08	1.80E-08
Cs-137	0.170	110	7.60E+04	0.150	0.152	0.182	0.193
Ba-137m	0.161	104	7.19E+04	0.139	0.139	0.163	0.165
Sm-151	2.20E-04	0.142	98.2	8.08E-05	8.08E-05	2.22E-04	2.41E-04
Eu-152	1.36E-07	8.77E-05	6.06E-02	9.18E-08	9.18E-08	1.36E-07	1.36E-07
Eu-154	1.23E-06	7.94E-04	0.549	5.33E-07	5.33E-07	1.24E-06	1.33E-06
Eu-155	9.53E-06	6.16E-03	4.26	6.17E-06	6.17E-06	9.56E-06	9.59E-06
Ra-226	1.49E-11	9.65E-09	6.67E-06	4.44E-12	4.44E-12	4.44E-11	3.64E-11
Ra-228	4.29E-16	2.77E-13	1.91E-10	2.54E-16	2.54E-16	4.30E-16	4.31E-16
Ac-227	7.70E-11	4.97E-08	3.44E-05	2.30E-11	2.30E-11	1.60E-10	1.90E-10
Pa-231	1.69E-10	1.09E-07	7.56E-05	5.18E-11	5.18E-11	1.71E-10	1.87E-10
Th-229	8.34E-14	5.39E-11	3.72E-08	4.94E-14	4.94E-14	8.36E-14	8.39E-14
Th-232	7.92E-17	5.11E-14	3.54E-11	2.83E-17	2.83E-17	7.97E-17	8.68E-17
U-232	6.75E-10	4.36E-07	3.02E-04	6.61E-10	6.68E-10	6.83E-10	6.88E-10
U-233	3.10E-11	2.00E-08	1.38E-05	3.03E-11	3.06E-11	3.14E-11	3.16E-11
U-234	2.83E-05	1.83E-02	12.6	2.76E-05	2.80E-05	2.87E-05	2.89E-05
U-235	1.25E-06	8.08E-04	0.559	1.22E-06	1.24E-06	1.27E-06	1.28E-06
U-236	2.88E-07	1.86E-04	0.129	2.82E-07	2.85E-07	2.92E-07	2.94E-07
U-238	2.88E-05	1.86E-02	12.9	2.81E-05	2.84E-05	2.92E-05	2.94E-05
Np-237	1.21E-08	7.79E-06	5.39E-03	6.46E-09	1.03E-08	1.63E-08	1.32E-08
Pu-238	8.71E-07	5.63E-04	0.389	2.51E-07	5.55E-07	1.19E-06	1.49E-06
Pu-239	1.14E-04	7.38E-02	51.0	3.73E-05	7.49E-05	1.53E-04	1.91E-04
Pu-240	1.08E-05	6.95E-03	4.81	3.25E-06	6.93E-06	1.46E-05	1.83E-05
Pu-241	3.72E-05	2.40E-02	16.6	1.00E-05	2.33E-05	5.10E-05	6.44E-05
Pu-242	1.69E-10	1.09E-07	7.57E-05	4.52E-11	1.06E-10	2.33E-10	2.94E-10
Am-241	5.91E-07	3.82E-04	0.264	3.32E-07	5.02E-07	7.79E-07	6.38E-07
Am-243	4.17E-12	2.70E-09	1.86E-06	2.36E-12	3.54E-12	5.48E-12	4.50E-12
Cm-242	2.55E-09	1.65E-06	1.14E-03	1.82E-09	1.82E-09	2.56E-09	2.56E-09
Cm-243	5.24E-11	3.38E-08	2.34E-05	3.76E-11	3.76E-11	5.25E-11	5.27E-11
Cm-244	9.56E-11	6.17E-08	4.27E-05	4.71E-11	4.71E-11	9.62E-11	1.03E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.88E-03 (g/L)	----	0.842	6.14E-04	1.24E-03	2.53E-03	3.15E-03
U	0.362	5.57E+04	3.85E+04	0.353	0.358	0.367	0.370

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(3.00E-03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.91E+05 (kg)	(118 kgal)	----	----	----	----	----
Heat Load	0.757 (kW)	(2.58E+03 BTU/hr)	----	0.708	0.718	0.788	0.874
Bulk Density†	1.55 (g/cc)	----	----	1.29	1.34	1.58	1.62
Water wt%†	55.6	----	----	52.3	54.4	71.3	75.6
TOC wt% C (wet)†	0.296	----	----	0.283	0.290	0.342	0.356
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.49E-06	9.64E-04	0.667	3.28E-07	3.28E-07	1.57E-06	1.76E-06
C-14	2.77E-07	1.79E-04	0.124	1.04E-07	1.04E-07	2.79E-07	3.03E-07
Ni-59	8.95E-07	5.78E-04	0.400	5.42E-07	5.42E-07	9.14E-07	9.27E-07
Ni-63	8.12E-05	5.24E-02	36.3	4.95E-05	4.95E-05	8.29E-05	8.41E-05
Co-60	6.71E-08	4.34E-05	3.00E-02	2.79E-08	2.79E-08	6.76E-08	7.30E-08
Se-79	5.92E-08	3.82E-05	2.64E-02	2.19E-08	2.19E-08	5.96E-08	6.48E-08
Sr-90	0.133	86.1	5.95E+04	0.131	0.133	0.135	0.156
Y-90	0.133	86.1	5.95E+04	0.129	0.129	0.133	0.134
Zr-93	2.81E-07	1.82E-04	0.126	1.04E-07	1.04E-07	2.83E-07	3.08E-07
Nb-93m	2.37E-07	1.53E-04	0.106	8.67E-08	8.67E-08	2.38E-07	2.59E-07
Tc-99	1.95E-06	1.26E-03	0.870	1.04E-06	1.67E-06	2.63E-06	2.13E-06
Ru-106	2.97E-14	1.92E-11	1.33E-08	1.42E-14	1.42E-14	2.99E-14	3.20E-14
Cd-113m	7.00E-07	4.52E-04	0.313	2.73E-07	2.73E-07	7.05E-07	7.65E-07
Sb-125	6.39E-08	4.13E-05	2.85E-02	2.84E-08	2.84E-08	6.43E-08	6.92E-08
Sn-126	8.92E-08	5.76E-05	3.98E-02	3.31E-08	3.31E-08	8.98E-08	9.76E-08
I-129	3.68E-09	2.37E-06	1.64E-03	1.97E-09	3.14E-09	4.96E-09	4.02E-09
Cs-134	1.77E-08	1.15E-05	7.92E-03	1.61E-08	1.61E-08	1.79E-08	1.80E-08
Cs-137	0.170	110	7.60E+04	0.150	0.152	0.182	0.193
Ba-137m	0.161	104	7.19E+04	0.139	0.139	0.163	0.165
Sm-151	2.20E-04	0.142	98.2	8.08E-05	8.08E-05	2.22E-04	2.41E-04
Eu-152	1.36E-07	8.77E-05	6.06E-02	9.18E-08	9.18E-08	1.36E-07	1.36E-07
Eu-154	1.23E-06	7.94E-04	0.549	5.33E-07	5.33E-07	1.24E-06	1.33E-06
Eu-155	9.53E-06	6.16E-03	4.26	6.17E-06	6.17E-06	9.56E-06	9.59E-06
Ra-226	1.49E-11	9.65E-09	6.67E-06	4.44E-12	4.44E-12	4.44E-11	3.64E-11
Ra-228	4.29E-16	2.77E-13	1.91E-10	2.54E-16	2.54E-16	4.30E-16	4.31E-16
Ac-227	7.70E-11	4.97E-08	3.44E-05	2.30E-11	2.30E-11	1.60E-10	1.90E-10
Pa-231	1.69E-10	1.09E-07	7.56E-05	5.18E-11	5.18E-11	1.71E-10	1.87E-10
Th-229	8.34E-14	5.39E-11	3.72E-08	4.94E-14	4.94E-14	8.36E-14	8.39E-14
Th-232	7.92E-17	5.11E-14	3.54E-11	2.83E-17	2.83E-17	7.97E-17	8.68E-17
U-232	6.75E-10	4.36E-07	3.02E-04	6.61E-10	6.68E-10	6.83E-10	6.88E-10
U-233	3.10E-11	2.00E-08	1.38E-05	3.03E-11	3.06E-11	3.14E-11	3.16E-11
U-234	2.83E-05	1.83E-02	12.6	2.76E-05	2.80E-05	2.87E-05	2.89E-05
U-235	1.25E-06	8.08E-04	0.559	1.22E-06	1.24E-06	1.27E-06	1.28E-06
U-236	2.88E-07	1.86E-04	0.129	2.82E-07	2.85E-07	2.92E-07	2.94E-07
U-238	2.88E-05	1.86E-02	12.9	2.81E-05	2.84E-05	2.92E-05	2.94E-05
Np-237	1.21E-08	7.79E-06	5.39E-03	6.46E-09	1.03E-08	1.63E-08	1.32E-08
Pu-238	8.71E-07	5.63E-04	0.389	2.51E-07	5.55E-07	1.19E-06	1.49E-06
Pu-239	1.14E-04	7.38E-02	51.0	3.73E-05	7.49E-05	1.53E-04	1.91E-04
Pu-240	1.08E-05	6.95E-03	4.81	3.25E-06	6.93E-06	1.46E-05	1.83E-05
Pu-241	3.72E-05	2.40E-02	16.6	1.00E-05	2.33E-05	5.10E-05	6.44E-05
Pu-242	1.69E-10	1.09E-07	7.57E-05	4.52E-11	1.06E-10	2.33E-10	2.94E-10
Am-241	5.91E-07	3.82E-04	0.264	3.32E-07	5.02E-07	7.79E-07	6.38E-07
Am-243	4.17E-12	2.70E-09	1.86E-06	2.36E-12	3.54E-12	5.48E-12	4.50E-12
Cm-242	2.55E-09	1.65E-06	1.14E-03	1.82E-09	1.82E-09	2.56E-09	2.56E-09
Cm-243	5.24E-11	3.38E-08	2.34E-05	3.76E-11	3.76E-11	5.25E-11	5.27E-11
Cm-244	9.56E-11	6.17E-08	4.27E-05	4.71E-11	4.71E-11	9.62E-11	1.03E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.88E-03 (g/L)	----	0.842	6.14E-04	1.24E-03	2.53E-03	3.15E-03
U	0.362	5.57E+04	3.85E+04	0.353	0.358	0.367	0.370

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.91E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	3.91E-02 (kW)	(134 BTU/hr)	----	8.31E-03	1.45E-02	5.87E-02	0.113
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.1	1.86E+05	3.55E+04	1.66	4.15	15.4	17.3
Al^{3+}	9.05E-03	140	26.8	4.56E-03	8.30E-03	1.54E-02	1.63E-02
Fe^{3+} (total Fe)	0.126	4.04E+03	773	0.109	0.123	0.129	0.131
Cr^{3+}	4.31E-03	129	24.6	3.12E-03	4.27E-03	5.67E-03	4.99E-03
Bi^{3+}	1.51E-02	1.81E+03	345	5.53E-03	1.18E-02	1.69E-02	1.82E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	5.22E-06	0.601	0.115	5.08E-06	5.15E-06	9.58E-06	1.27E-05
Zr (as $ZrO(OH)_2$)	3.66E-04	19.2	3.67	2.07E-04	3.50E-04	5.88E-04	5.82E-04
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.18E-02	396	75.8	1.01E-03	1.65E-03	1.45E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.20E-02	2.12E+03	405	7.67E-03	6.51E-02	0.102	0.111
K^+	1.20E-02	270	51.7	4.49E-03	1.02E-02	1.80E-02	1.39E-02
OH^-	0.915	8.93E+03	1.71E+03	0.786	0.889	0.987	1.00
$NO3^-$	9.38	3.34E+05	6.38E+04	0.794	1.86	9.44	9.98
$NO2^-$	0.209	5.53E+03	1.06E+03	9.68E-02	0.153	0.298	0.256
$CO3^{2-}$	0.198	6.83E+03	1.31E+03	2.62E-02	0.140	0.267	0.281
$PO4^{3-}$	1.30	7.06E+04	1.35E+04	0.127	0.507	1.50	1.54
$SO4^{2-}$	0.108	5.97E+03	1.14E+03	4.15E-02	9.27E-02	0.161	0.783
Si (as SiO_x^{2-})	1.78E-02	287	54.9	1.73E-02	1.75E-02	4.41E-02	6.99E-02
F^-	8.69E-02	948	181	5.45E-02	8.46E-02	0.126	0.111
Cl^-	6.77E-02	1.38E+03	263	2.09E-02	5.45E-02	0.401	0.450
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.62E-05	1.96	0.374	2.87E-07	9.85E-06	2.71E-05	1.92E-05
butanol	1.62E-05	0.690	0.132	2.87E-07	9.85E-06	2.71E-05	1.92E-05
NH_3	3.77E-02	367	70.3	2.74E-02	3.71E-02	5.17E-02	4.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.86E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	0.181 (kW)	(617 BTU/hr)	----	0.161	0.171	0.191	0.201
Bulk Density*	1.40 (g/cc)	----	----	1.36	1.38	1.41	1.42
Water wt%	48.8	----	----	47.0	47.8	50.5	52.6
TOC wt% C (wet)	0.325	----	----	0.274	0.299	0.351	0.376

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	9.35	1.53E+05	2.85E+04	8.41	8.88	9.60	9.82
Al^{3+}	1.02	1.97E+04	3.66E+03	0.910	0.965	1.08	1.14
Fe^{3+} (total Fe)	7.21E-03	287	53.3	6.26E-03	6.72E-03	7.69E-03	8.16E-03
Cr^{3+}	8.01E-02	2.97E+03	552	6.95E-02	7.52E-02	8.19E-02	8.33E-02
Bi^{3+}	1.64E-03	244	45.3	1.45E-03	1.54E-03	1.73E-03	1.82E-03
La^{3+}	8.09E-10	8.02E-05	1.49E-05	6.53E-10	7.29E-10	8.89E-10	9.66E-10
Hg^{2+}	9.31E-06	1.33	0.247	8.35E-06	8.90E-06	9.44E-06	9.56E-06
Zr (as $ZrO(OH)_2$)	3.51E-04	22.8	4.24	3.17E-04	3.29E-04	3.64E-04	3.83E-04
Pb^{2+}	8.65E-04	128	23.8	6.81E-04	7.71E-04	9.59E-04	1.05E-03
Ni^{2+}	5.01E-03	210	39.0	4.73E-03	4.86E-03	5.08E-03	5.08E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.06E-03	80.7	15.0	1.60E-03	1.82E-03	2.29E-03	2.51E-03
Ca^{2+}	2.60E-02	745	138	2.47E-02	2.53E-02	2.67E-02	2.74E-02
K^+	4.48E-02	1.25E+03	232	3.94E-02	4.13E-02	4.91E-02	5.24E-02
OH^-	5.85	7.11E+04	1.32E+04	5.40	5.62	6.09	6.31
$NO3^-$	3.79	1.68E+05	3.11E+04	3.20	3.55	3.87	3.95
$NO2^-$	1.47	4.83E+04	8.95E+03	1.27	1.36	1.57	1.67
$CO3^{2-}$	0.317	1.36E+04	2.52E+03	0.263	0.281	0.362	0.369
$PO4^{3-}$	8.80E-02	5.97E+03	1.11E+03	6.91E-02	7.57E-02	9.14E-02	9.47E-02
$SO4^{2-}$	0.188	1.29E+04	2.39E+03	0.140	0.156	0.227	0.230
Si (as SiO_x^{2-})	5.20E-02	1.04E+03	193	4.54E-02	4.86E-02	5.53E-02	5.85E-02
F^-	8.03E-02	1.09E+03	202	6.44E-02	7.11E-02	8.81E-02	9.43E-02
Cl^-	0.170	4.30E+03	797	0.138	0.149	0.182	0.182
$C_6H_5O_7^{3-}$	1.36E-02	1.83E+03	340	1.23E-02	1.29E-02	1.42E-02	1.49E-02
$EDTA^{4-}$	2.84E-03	584	108	1.10E-03	1.95E-03	3.74E-03	4.61E-03
$HEDTA^{3-}$	4.95E-03	968	180	1.46E-03	3.16E-03	6.74E-03	8.49E-03
$glycolate^-$	3.83E-02	2.05E+03	380	2.12E-02	2.95E-02	4.70E-02	5.54E-02
$acetate^-$	2.36E-03	99.4	18.4	1.91E-03	2.13E-03	2.59E-03	2.81E-03
$oxalate^{2-}$	1.06E-09	6.66E-05	1.24E-05	9.75E-10	1.02E-09	1.10E-09	1.14E-09
DBP	1.15E-02	1.73E+03	321	9.93E-03	1.07E-02	1.23E-02	1.31E-02
butanol	1.15E-02	610	113	9.93E-03	1.07E-02	1.23E-02	1.31E-02
NH_3	7.85E-02	953	177	6.00E-02	6.90E-02	8.82E-02	9.76E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.77E+05 (kg)	(64.0 kgal)	----	----	----	----	----
Heat Load	0.220 (kW)	(751 BTU/hr)	----	0.183	0.192	0.244	0.300
Bulk Density†	1.56 (g/cc)	----	----	1.23	1.30	1.59	1.64
Water wt%†	43.2	----	----	39.5	41.6	60.5	66.5
TOC wt% C (wet)†	0.160	----	----	0.135	0.147	0.191	0.202

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	11.5	1.70E+05	6.40E+04	5.35	6.74	12.2	13.1
Al^{3+}	0.564	9.78E+03	3.69E+03	0.502	0.532	0.596	0.627
Fe^{3+} (total Fe)	6.11E-02	2.19E+03	826	5.31E-02	5.98E-02	6.23E-02	6.35E-02
Cr^{3+}	4.58E-02	1.53E+03	577	3.99E-02	4.31E-02	4.70E-02	4.75E-02
Bi^{3+}	7.72E-03	1.04E+03	391	3.40E-03	6.26E-03	8.57E-03	9.14E-03
La^{3+}	4.42E-10	3.95E-05	1.49E-05	3.57E-10	3.99E-10	4.86E-10	5.28E-10
Hg^{2+}	7.46E-06	0.962	0.362	7.32E-06	7.39E-06	9.44E-06	1.09E-05
Zr (as $ZrO(OH)_2$)	3.58E-04	21.0	7.90	3.04E-04	3.45E-04	4.46E-04	4.37E-04
Pb^{2+}	4.73E-04	63.0	23.8	3.73E-04	4.22E-04	5.25E-04	5.74E-04
Ni^{2+}	8.07E-03	304	115	3.07E-03	3.48E-03	9.32E-03	9.58E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.12E-03	39.7	15.0	8.75E-04	9.97E-04	1.25E-03	1.37E-03
Ca^{2+}	5.59E-02	1.44E+03	543	1.75E-02	4.37E-02	6.07E-02	6.53E-02
K^+	3.00E-02	753	284	2.36E-02	2.72E-02	3.50E-02	3.43E-02
OH^-	3.62	3.95E+04	1.49E+04	3.37	3.49	3.74	3.87
$NO3^-$	6.32	2.52E+05	9.50E+04	2.11	2.78	6.36	6.60
$NO2^-$	0.898	2.66E+04	1.00E+04	0.792	0.835	0.974	1.01
$CO3^{2-}$	0.263	1.02E+04	3.83E+03	0.155	0.217	0.319	0.329
$PO4^{3-}$	0.635	3.88E+04	1.46E+04	0.102	0.278	0.728	0.745
$SO4^{2-}$	0.152	9.39E+03	3.54E+03	9.53E-02	0.128	0.197	0.481
Si (as SiO_x^{2-})	3.65E-02	659	248	3.29E-02	3.47E-02	4.70E-02	5.74E-02
F^-	8.33E-02	1.02E+03	383	7.44E-02	8.15E-02	9.61E-02	8.94E-02
Cl^-	0.124	2.81E+03	1.06E+03	8.50E-02	0.106	0.281	0.303
$C_6H_5O_7^{3-}$	7.43E-03	903	340	6.73E-03	7.07E-03	7.79E-03	8.13E-03
$EDTA^{4-}$	1.55E-03	288	108	6.01E-04	1.07E-03	2.04E-03	2.52E-03
$HEDTA^{3-}$	2.71E-03	477	180	8.01E-04	1.73E-03	3.69E-03	4.64E-03
$glycolate^-$	2.09E-02	1.01E+03	380	1.16E-02	1.62E-02	2.57E-02	3.03E-02
$acetate^-$	1.29E-03	49.0	18.4	1.04E-03	1.17E-03	1.42E-03	1.54E-03
$oxalate^{2-}$	5.79E-10	3.28E-05	1.24E-05	5.33E-10	5.56E-10	6.03E-10	6.26E-10
DBP	6.31E-03	853	321	5.44E-03	5.87E-03	6.75E-03	7.17E-03
butanol	6.31E-03	301	113	5.44E-03	5.87E-03	6.75E-03	7.17E-03
NH_3	6.00E-02	656	247	4.99E-02	5.48E-02	6.53E-02	7.04E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.91E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	3.91E-02 (kW)	(134 BTU/hr)	----	8.31E-03	1.45E-02	5.87E-02	0.113
Bulk Density	1.74 (g/cc)	----	----	1.07	1.21	1.81	1.92
Void Fraction	0.525	----	----	0.256	0.479	0.941	0.997
Water wt%	37.7	----	----	32.3	35.8	74.4	88.0
TOC wt% C (wet)	1.34E-04	----	----	3.87E-06	1.18E-04	2.15E-04	1.62E-04
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.99E-06	1.72E-03	0.328	0	0	3.18E-06	3.66E-06
C-14	4.46E-07	2.56E-04	4.89E-02	0	0	4.51E-07	5.12E-07
Ni-59	9.05E-07	5.19E-04	9.93E-02	0	0	9.54E-07	9.87E-07
Ni-63	8.14E-05	4.67E-02	8.93	0	0	8.58E-05	8.88E-05
Co-60	1.01E-07	5.77E-05	1.10E-02	0	0	1.02E-07	1.16E-07
Se-79	9.57E-08	5.50E-05	1.05E-02	0	0	9.68E-08	1.10E-07
Sr-90	1.12E-02	6.42	1.23E+03	6.28E-03	1.09E-02	1.56E-02	7.00E-02
Y-90	1.12E-02	6.42	1.23E+03	0	0	1.13E-02	1.29E-02
Zr-93	4.55E-07	2.61E-04	4.99E-02	0	0	4.60E-07	5.23E-07
Nb-93m	3.85E-07	2.21E-04	4.22E-02	0	0	3.89E-07	4.42E-07
Tc-99	3.15E-06	1.81E-03	0.346	8.26E-07	2.42E-06	4.89E-06	3.62E-06
Ru-106	3.98E-14	2.28E-11	4.37E-09	0	0	4.03E-14	4.57E-14
Cd-113m	1.10E-06	6.29E-04	0.120	0	0	1.11E-06	1.26E-06
Sb-125	9.11E-08	5.23E-05	1.00E-02	0	0	9.22E-08	1.05E-07
Sn-126	1.44E-07	8.26E-05	1.58E-02	0	0	1.46E-07	1.66E-07
I-129	5.93E-09	3.40E-06	6.51E-04	1.55E-09	4.56E-09	9.22E-09	6.82E-09
Cs-134	4.23E-09	2.43E-06	4.64E-04	0	0	4.56E-09	4.94E-09
Cs-137	6.00E-02	34.4	6.59E+03	7.11E-03	1.24E-02	9.17E-02	0.118
Ba-137m	5.68E-02	32.6	6.23E+03	0	0	6.12E-02	6.62E-02
Sm-151	3.57E-04	0.205	39.2	0	0	3.61E-04	4.11E-04
Eu-152	1.13E-07	6.47E-05	1.24E-02	0	0	1.14E-07	1.15E-07
Eu-154	1.79E-06	1.03E-03	0.196	0	0	1.81E-06	2.06E-06
Eu-155	8.64E-06	4.96E-03	0.948	0	0	8.71E-06	8.77E-06
Ra-226	2.69E-11	1.55E-08	2.96E-06	0	0	1.03E-10	8.20E-11
Ra-228	4.49E-16	2.58E-13	4.93E-11	0	0	4.53E-16	4.56E-16
Ac-227	1.39E-10	7.96E-08	1.52E-05	0	0	3.53E-10	4.29E-10
Pa-231	3.01E-10	1.73E-07	3.31E-05	0	0	3.05E-10	3.47E-10
Th-229	8.72E-14	5.00E-11	9.57E-09	0	0	8.79E-14	8.85E-14
Th-232	1.30E-16	7.49E-14	1.43E-11	0	0	1.32E-16	1.50E-16
U-232	1.18E-10	6.80E-08	1.30E-05	8.15E-11	9.99E-11	1.38E-10	1.51E-10
U-233	5.64E-12	3.24E-09	6.19E-07	3.87E-12	4.74E-12	6.58E-12	7.19E-12
U-234	5.57E-06	3.20E-03	0.611	3.82E-06	4.67E-06	6.54E-06	7.17E-06
U-235	2.47E-07	1.42E-04	2.71E-02	1.69E-07	2.07E-07	2.90E-07	3.18E-07
U-236	5.21E-08	2.99E-05	5.72E-03	3.58E-08	4.39E-08	6.09E-08	6.65E-08
U-238	5.65E-06	3.25E-03	0.621	3.88E-06	4.74E-06	6.64E-06	7.28E-06
Np-237	1.94E-08	1.11E-05	2.13E-03	5.04E-09	1.49E-08	3.02E-08	2.23E-08
Pu-238	3.69E-07	2.12E-04	4.05E-02	3.38E-08	1.16E-07	5.55E-07	5.76E-07
Pu-239	6.14E-05	3.53E-02	6.74	6.39E-06	2.05E-05	9.03E-05	9.32E-05
Pu-240	5.00E-06	2.87E-03	0.549	4.83E-07	1.61E-06	7.44E-06	7.70E-06
Pu-241	1.36E-05	7.80E-03	1.49	1.11E-06	4.10E-06	2.08E-05	2.16E-05
Pu-242	6.07E-11	3.48E-08	6.66E-06	4.87E-12	1.82E-11	9.30E-11	9.68E-11
Am-241	8.14E-07	4.67E-04	8.94E-02	1.51E-07	5.85E-07	1.30E-06	9.36E-07
Am-243	5.63E-12	3.23E-09	6.18E-07	9.81E-13	4.00E-12	8.98E-12	6.47E-12
Cm-242	1.86E-09	1.07E-06	2.04E-04	0	0	1.88E-09	1.90E-09
Cm-243	3.80E-11	2.18E-08	4.17E-06	0	0	3.84E-11	3.88E-11
Cm-244	1.24E-10	7.13E-08	1.36E-05	0	0	1.26E-10	1.43E-10
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.01E-03 (g/L)	----	0.111	1.05E-04	3.36E-04	1.49E-03	1.53E-03
U	7.12E-02	9.72E+03	1.86E+03	4.88E-02	5.97E-02	8.36E-02	9.16E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.86E+05 (kg)	(35.0 kgal)	----	----	----	----	----
Heat Load	0.181 (kW)	(617 BTU/hr)	----	0.161	0.171	0.191	0.201
Bulk Density*	1.40 (g/cc)	----	----	1.36	1.38	1.41	1.42
Water wt%†	48.8	----	----	47.0	47.8	50.5	52.6
TOC wt% C (wet)	0.325	----	----	0.274	0.299	0.351	0.376
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.40E-04	9.99E-02	18.5	8.18E-05	8.18E-05	1.48E-04	1.57E-04
C-14	2.00E-05	1.43E-02	2.65	7.81E-06	7.81E-06	2.06E-05	2.12E-05
Ni-59	1.52E-06	1.09E-03	0.202	9.52E-07	9.52E-07	1.55E-06	1.58E-06
Ni-63	1.49E-04	0.107	19.8	9.28E-05	9.28E-05	1.52E-04	1.55E-04
Co-60	2.19E-05	1.56E-02	2.90	7.96E-06	7.96E-06	2.28E-05	2.36E-05
Se-79	2.05E-06	1.47E-03	0.272	1.28E-06	1.28E-06	2.33E-06	2.60E-06
Sr-90	6.62E-02	47.3	8.77E+03	6.18E-02	6.33E-02	6.95E-02	7.00E-02
Y-90	6.62E-02	47.3	8.77E+03	3.94E-02	3.94E-02	6.81E-02	7.00E-02
Zr-93	1.01E-05	7.19E-03	1.33	6.19E-06	6.19E-06	1.15E-05	1.28E-05
Nb-93m	7.31E-06	5.22E-03	0.969	4.59E-06	4.59E-06	8.30E-06	9.24E-06
Tc-99	1.43E-04	0.102	18.9	9.72E-05	1.19E-04	1.66E-04	1.88E-04
Ru-106	3.91E-09	2.79E-06	5.18E-04	2.11E-09	2.11E-09	4.31E-09	4.68E-09
Cd-113m	5.20E-05	3.71E-02	6.89	2.87E-05	2.87E-05	6.04E-05	6.85E-05
Sb-125	9.29E-05	6.64E-02	12.3	3.27E-05	3.27E-05	9.69E-05	1.01E-04
Sn-126	3.10E-06	2.21E-03	0.410	1.93E-06	1.93E-06	3.52E-06	3.92E-06
I-129	2.75E-07	1.96E-04	3.64E-02	1.87E-07	2.30E-07	3.20E-07	3.64E-07
Cs-134	1.59E-06	1.13E-03	0.210	1.18E-06	1.38E-06	1.80E-06	2.00E-06
Cs-137	0.196	140	2.60E+04	0.164	0.180	0.213	0.229
Ba-137m	0.186	133	2.46E+04	0.155	0.165	0.201	0.217
Sm-151	7.23E-03	5.16	957	4.51E-03	4.51E-03	8.21E-03	9.15E-03
Eu-152	2.23E-06	1.59E-03	0.296	1.27E-06	1.27E-06	2.34E-06	2.44E-06
Eu-154	3.52E-04	0.251	46.6	1.58E-04	1.58E-04	4.22E-04	4.50E-04
Eu-155	1.32E-04	9.45E-02	17.5	7.51E-05	7.51E-05	1.40E-04	1.48E-04
Ra-226	9.77E-11	6.98E-08	1.29E-05	7.36E-11	7.36E-11	1.06E-10	1.15E-10
Ra-228	1.62E-07	1.16E-04	2.15E-02	6.20E-08	1.11E-07	2.22E-07	2.85E-07
Ac-227	6.40E-10	4.57E-07	8.48E-05	5.00E-10	5.00E-10	6.90E-10	7.39E-10
Pa-231	2.83E-09	2.02E-06	3.75E-04	2.05E-09	2.05E-09	3.11E-09	3.38E-09
Th-229	3.76E-09	2.68E-06	4.98E-04	1.56E-09	2.64E-09	5.06E-09	6.45E-09
Th-232	9.96E-09	7.11E-06	1.32E-03	4.42E-09	7.13E-09	1.28E-08	1.55E-08
U-232	8.11E-07	5.79E-04	0.107	4.10E-07	6.06E-07	1.05E-06	1.30E-06
U-233	3.11E-06	2.22E-03	0.412	1.57E-06	2.32E-06	4.02E-06	4.99E-06
U-234	6.62E-07	4.73E-04	8.77E-02	6.31E-07	6.51E-07	6.70E-07	6.75E-07
U-235	2.66E-08	1.90E-05	3.52E-03	2.53E-08	2.61E-08	2.69E-08	2.71E-08
U-236	2.15E-08	1.53E-05	2.84E-03	2.05E-08	2.13E-08	2.17E-08	2.19E-08
U-238	8.06E-07	5.76E-04	0.107	7.77E-07	7.95E-07	8.14E-07	8.19E-07
Np-237	5.14E-07	3.67E-04	6.82E-02	3.66E-07	4.39E-07	5.91E-07	6.65E-07
Pu-238	8.25E-07	5.89E-04	0.109	6.51E-07	7.36E-07	9.14E-07	9.99E-07
Pu-239	2.98E-05	2.13E-02	3.95	2.53E-05	2.75E-05	3.21E-05	3.42E-05
Pu-240	4.93E-06	3.52E-03	0.654	4.10E-06	4.51E-06	5.36E-06	5.76E-06
Pu-241	5.43E-05	3.88E-02	7.20	4.25E-05	4.83E-05	6.04E-05	6.62E-05
Pu-242	2.96E-10	2.11E-07	3.92E-05	2.25E-10	2.60E-10	3.32E-10	3.67E-10
Am-241	3.73E-05	2.66E-02	4.94	2.91E-05	3.31E-05	4.15E-05	4.56E-05
Am-243	1.26E-09	8.99E-07	1.67E-04	9.98E-10	1.12E-09	1.42E-09	1.56E-09
Cm-242	8.63E-08	6.16E-05	1.14E-02	4.68E-08	4.68E-08	8.92E-08	9.20E-08
Cm-243	8.02E-09	5.73E-06	1.06E-03	4.25E-09	4.25E-09	8.37E-09	8.71E-09
Cm-244	8.32E-08	5.94E-05	1.10E-02	4.44E-08	4.44E-08	9.64E-08	1.05E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.10E-04 (g/L)	----	5.43E-02	3.25E-04	3.67E-04	4.52E-04	4.94E-04
U	7.42E-03	1.26E+03	234	7.05E-03	7.27E-03	7.52E-03	7.57E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.77E+05 (kg)	(64.0 kgal)	----	----	----	----	----
Heat Load	0.220 (kW)	(751 BTU/hr)	----	0.183	0.192	0.244	0.300
Bulk Density†	1.56 (g/cc)	----	----	1.23	1.30	1.59	1.64
Water wt%†	43.2	----	----	39.5	41.6	60.5	66.5
TOC wt% C (wet)†	0.160	----	----	0.135	0.147	0.191	0.202
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.79E-05	5.01E-02	18.9	4.61E-05	4.61E-05	8.22E-05	8.74E-05
C-14	1.11E-05	7.15E-03	2.69	4.47E-06	4.47E-06	1.15E-05	1.18E-05
Ni-59	1.24E-06	8.00E-04	0.301	8.11E-07	8.11E-07	1.27E-06	1.28E-06
Ni-63	1.19E-04	7.62E-02	28.7	7.97E-05	7.97E-05	1.20E-04	1.22E-04
Co-60	1.20E-05	7.72E-03	2.91	4.40E-06	4.40E-06	1.25E-05	1.30E-05
Se-79	1.17E-06	7.50E-04	0.282	7.42E-07	7.42E-07	1.32E-06	1.47E-06
Sr-90	4.13E-02	26.5	9.99E+03	3.66E-02	3.96E-02	4.51E-02	6.99E-02
Y-90	4.13E-02	26.5	1.00E+04	2.66E-02	2.66E-02	4.23E-02	4.34E-02
Zr-93	5.72E-06	3.68E-03	1.38	3.59E-06	3.59E-06	6.48E-06	7.22E-06
Nb-93m	4.17E-06	2.68E-03	1.01	2.69E-06	2.69E-06	4.71E-06	5.23E-06
Tc-99	7.94E-05	5.10E-02	19.2	5.46E-05	6.67E-05	9.21E-05	1.04E-04
Ru-106	2.14E-09	1.37E-06	5.18E-04	1.15E-09	1.15E-09	2.36E-09	2.56E-09
Cd-113m	2.89E-05	1.86E-02	7.01	1.62E-05	1.62E-05	3.35E-05	3.80E-05
Sb-125	5.09E-05	3.27E-02	12.3	1.79E-05	1.79E-05	5.30E-05	5.51E-05
Sn-126	1.76E-06	1.13E-03	0.426	1.12E-06	1.12E-06	1.99E-06	2.21E-06
I-129	1.53E-07	9.83E-05	3.70E-02	1.05E-07	1.28E-07	1.78E-07	2.01E-07
Cs-134	8.70E-07	5.60E-04	0.211	6.48E-07	7.56E-07	9.85E-07	1.10E-06
Cs-137	0.134	86.5	3.26E+04	0.109	0.112	0.150	0.163
Ba-137m	0.127	81.8	3.08E+04	9.88E-02	9.88E-02	0.136	0.144
Sm-151	4.11E-03	2.64	996	2.63E-03	2.63E-03	4.65E-03	5.17E-03
Eu-152	1.27E-06	8.18E-04	0.308	7.46E-07	7.46E-07	1.33E-06	1.39E-06
Eu-154	1.93E-04	0.124	46.8	8.72E-05	8.72E-05	2.32E-04	2.47E-04
Eu-155	7.63E-05	4.90E-02	18.5	4.50E-05	4.50E-05	8.06E-05	8.47E-05
Ra-226	6.56E-11	4.22E-08	1.59E-05	4.52E-11	4.52E-11	9.80E-11	8.53E-11
Ra-228	8.87E-08	5.70E-05	2.15E-02	3.39E-08	6.07E-08	1.21E-07	1.56E-07
Ac-227	4.13E-10	2.65E-07	1.00E-04	3.08E-10	3.08E-10	5.04E-10	5.19E-10
Pa-231	1.68E-09	1.08E-06	4.08E-04	1.26E-09	1.26E-09	1.84E-09	1.99E-09
Th-229	2.06E-09	1.32E-06	4.98E-04	8.53E-10	1.44E-09	2.77E-09	3.53E-09
Th-232	5.45E-09	3.50E-06	1.32E-03	2.42E-09	3.90E-09	7.00E-09	8.48E-09
U-232	4.44E-07	2.85E-04	0.108	2.24E-07	3.32E-07	5.74E-07	7.13E-07
U-233	1.70E-06	1.09E-03	0.412	8.60E-07	1.27E-06	2.20E-06	2.73E-06
U-234	2.88E-06	1.85E-03	0.699	2.09E-06	2.48E-06	3.32E-06	3.61E-06
U-235	1.26E-07	8.13E-05	3.06E-02	9.12E-08	1.08E-07	1.46E-07	1.59E-07
U-236	3.54E-08	2.27E-05	8.57E-03	2.80E-08	3.16E-08	3.93E-08	4.19E-08
U-238	3.00E-06	1.93E-03	0.728	2.20E-06	2.59E-06	3.45E-06	3.74E-06
Np-237	2.90E-07	1.87E-04	7.03E-02	2.09E-07	2.49E-07	3.32E-07	3.72E-07
Pu-238	6.18E-07	3.98E-04	0.150	4.63E-07	5.03E-07	7.03E-07	7.14E-07
Pu-239	4.41E-05	2.84E-02	10.7	1.88E-05	2.56E-05	5.72E-05	5.85E-05
Pu-240	4.96E-06	3.19E-03	1.20	2.88E-06	3.43E-06	6.07E-06	6.19E-06
Pu-241	3.59E-05	2.31E-02	8.69	2.94E-05	3.15E-05	3.92E-05	4.24E-05
Pu-242	1.89E-10	1.22E-07	4.59E-05	1.51E-10	1.70E-10	2.09E-10	2.28E-10
Am-241	2.08E-05	1.34E-02	5.03	1.63E-05	1.85E-05	2.31E-05	2.53E-05
Am-243	6.91E-10	4.45E-07	1.67E-04	5.48E-10	6.14E-10	7.81E-10	8.58E-10
Cm-242	4.81E-08	3.09E-05	1.16E-02	2.65E-08	2.65E-08	4.96E-08	5.12E-08
Cm-243	4.40E-09	2.83E-06	1.07E-03	2.34E-09	2.34E-09	4.60E-09	4.78E-09
Cm-244	4.56E-08	2.93E-05	1.10E-02	2.43E-08	2.43E-08	5.28E-08	5.73E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.82E-04 (g/L)	----	0.165	2.65E-04	3.76E-04	8.97E-04	9.19E-04
U	3.63E-02	5.56E+03	2.09E+03	2.62E-02	3.11E-02	4.19E-02	4.56E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.63E+05 (kg)	(108 kgal)	----	----	----	----	----
Heat Load	0.473 (kW)	(1.61E+03 BTU/hr)	----	0.459	0.460	0.485	0.487
Bulk Density	1.62 (g/cc)	----	----	1.19	1.26	1.87	1.64
Void Fraction	0.662	----	----	0.648	0.438	0.947	0.971
Water wt%	40.2	----	----	39.3	24.8	73.1	83.9
TOC wt% C (wet)	0.201	----	----	0.199	0.175	0.258	0.275

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.85	1.26E+05	8.32E+04	0.947	1.74	13.9	9.40
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.935	3.22E+04	2.13E+04	4.65E-02	0.863	0.944	0.952
Cr^{3+}	1.65E-03	52.8	35.0	8.34E-04	9.19E-04	2.37E-03	2.47E-03
Bi^{3+}	9.24E-02	1.19E+04	7.89E+03	8.70E-02	8.97E-02	9.51E-02	9.78E-02
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	1.04E-02	584	387	6.98E-03	8.64E-03	1.21E-02	1.38E-02
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	8.37E-02	3.03E+03	2.01E+03	8.29E-02	8.33E-02	8.41E-02	8.44E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.298	7.36E+03	4.88E+03	0.104	0.107	0.333	0.367
K^{+}	5.80E-03	140	92.8	1.80E-03	2.22E-03	9.39E-03	9.87E-03
OH^{-}	4.26	4.46E+04	2.96E+04	1.59	4.04	4.28	4.31
$NO3^{-}$	7.61	2.91E+05	1.93E+05	7.09E-02	0.619	13.0	7.62
$NO2^{-}$	0.323	9.18E+03	6.08E+03	0.238	0.245	0.455	0.477
$CO3^{2-}$	0.342	1.26E+04	8.38E+03	0.101	0.139	0.383	0.409
$PO4^{3-}$	0.225	1.32E+04	8.72E+03	0.192	0.195	0.254	0.317
$SO4^{2-}$	4.49E-02	2.66E+03	1.76E+03	8.96E-03	1.27E-02	7.71E-02	8.15E-02
Si (as SiO_x^{2-})	5.10E-02	884	585	1.56E-02	1.56E-02	0.125	0.196
F^{-}	9.30E-02	1.09E+03	722	9.12E-02	9.21E-02	0.329	0.650
Cl^{-}	3.27E-02	714	473	8.42E-03	1.10E-02	5.44E-02	0.143
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	7.88E-06	1.02	0.677	1.71E-07	9.83E-07	1.48E-05	1.57E-05
butanol	7.88E-06	0.360	0.239	1.71E-07	9.83E-07	1.48E-05	1.57E-05
NH_3	8.62E-03	90.4	59.9	8.21E-03	8.38E-03	9.00E-03	9.02E-03
$Fe(CN)_6^{4-}$	4.53E-02	7.57E+03	5.01E+03	4.53E-02	4.53E-02	4.53E-02	4.53E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.71E+05 (kg)	(54.0 kgal)	----	----	----	----	----
Heat Load	0.232 (kW)	(793 BTU/hr)	----	0.205	0.218	0.246	0.260
Bulk Density*	1.33 (g/cc)	----	----	1.29	1.31	1.33	1.34
Water wt%	56.1	----	----	54.5	55.2	57.9	59.9
TOC wt% C (wet)	0.215	----	----	0.192	0.203	0.227	0.238

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.58	1.31E+05	3.56E+04	6.74	7.16	7.80	7.97
Al^{3+}	0.854	1.74E+04	4.71E+03	0.755	0.803	0.905	0.954
Fe^{3+} (total Fe)	5.86E-03	247	66.9	5.07E-03	5.46E-03	6.26E-03	6.65E-03
Cr^{3+}	6.68E-02	2.62E+03	711	5.82E-02	6.29E-02	6.84E-02	6.97E-02
Bi^{3+}	1.43E-03	225	60.9	1.26E-03	1.34E-03	1.51E-03	1.59E-03
La^{3+}	6.93E-10	7.26E-05	1.97E-05	5.64E-10	6.27E-10	7.60E-10	8.23E-10
Hg^{2+}	8.17E-06	1.24	0.335	7.32E-06	7.81E-06	8.29E-06	8.39E-06
Zr (as $ZrO(OH)_2$)	3.11E-04	21.4	5.79	2.81E-04	2.92E-04	3.23E-04	3.40E-04
Pb^{2+}	7.61E-04	119	32.2	6.01E-04	6.79E-04	8.42E-04	9.20E-04
Ni^{2+}	4.13E-03	183	49.6	3.89E-03	4.01E-03	4.19E-03	4.19E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.75E-03	72.4	19.6	1.37E-03	1.55E-03	1.94E-03	2.13E-03
Ca^{2+}	2.14E-02	646	175	2.03E-02	2.08E-02	2.20E-02	2.25E-02
K^{+}	3.70E-02	1.09E+03	296	3.22E-02	3.39E-02	4.08E-02	4.37E-02
OH^{-}	4.84	6.20E+04	1.68E+04	4.44	4.63	5.04	5.23
$NO3^{-}$	3.03	1.42E+05	3.84E+04	2.51	2.82	3.10	3.17
$NO2^{-}$	1.25	4.34E+04	1.18E+04	1.09	1.16	1.34	1.41
$CO3^{2-}$	0.246	1.11E+04	3.02E+03	0.198	0.214	0.286	0.292
$PO4^{3-}$	7.46E-02	5.34E+03	1.45E+03	5.94E-02	6.47E-02	7.76E-02	8.05E-02
$SO4^{2-}$	0.157	1.14E+04	3.09E+03	0.114	0.129	0.191	0.195
Si (as SiO_x^{2-})	4.28E-02	907	246	3.74E-02	4.01E-02	4.56E-02	4.82E-02
F^{-}	7.02E-02	1.00E+03	273	5.60E-02	6.20E-02	7.71E-02	8.26E-02
Cl^{-}	0.136	3.62E+03	983	0.108	0.117	0.146	0.146
$C_6H_5O_7^{3-}$	1.08E-02	1.54E+03	417	9.98E-03	1.04E-02	1.12E-02	1.16E-02
$EDTA^{4-}$	4.66E-04	101	27.4	3.45E-04	4.04E-04	5.28E-04	5.89E-04
$HEDTA^{3-}$	3.28E-04	67.8	18.4	8.74E-05	2.05E-04	4.52E-04	5.73E-04
$glycolate^{-}$	2.16E-02	1.22E+03	331	1.09E-02	1.61E-02	2.71E-02	3.23E-02
$acetate^{-}$	1.94E-03	86.2	23.4	1.57E-03	1.75E-03	2.13E-03	2.31E-03
$oxalate^{2-}$	9.08E-10	6.03E-05	1.63E-05	8.38E-10	8.73E-10	9.44E-10	9.78E-10
DBP	9.83E-03	1.56E+03	423	8.50E-03	9.16E-03	1.05E-02	1.11E-02
butanol	9.83E-03	549	149	8.50E-03	9.16E-03	1.05E-02	1.11E-02
NH_3	6.84E-02	877	238	5.18E-02	5.99E-02	7.71E-02	8.56E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.34E+05 (kg)	(162 kgal)	----	----	----	----	----
Heat Load	0.705 (kW)	(2.41E+03 BTU/hr)	----	0.678	0.691	0.719	0.732
Bulk Density†	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.54
Water wt%†	44.8	----	----	44.1	33.0	67.7	74.7
TOC wt% C (wet)†	0.205	----	----	0.199	0.185	0.244	0.255

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	8.43	1.27E+05	1.19E+05	3.01	3.60	11.8	8.80
Al^{3+}	0.285	5.04E+03	4.71E+03	0.252	0.268	0.302	0.318
Fe^{3+} (total Fe)	0.625	2.29E+04	2.14E+04	3.29E-02	0.578	0.631	0.637
Cr^{3+}	2.34E-02	798	746	2.05E-02	2.21E-02	2.39E-02	2.43E-02
Bi^{3+}	6.21E-02	8.52E+03	7.95E+03	5.85E-02	6.02E-02	6.39E-02	6.56E-02
La^{3+}	2.31E-10	2.11E-05	1.97E-05	1.88E-10	2.09E-10	2.53E-10	2.75E-10
Hg^{2+}	2.73E-06	0.359	0.335	2.44E-06	2.60E-06	2.76E-06	2.80E-06
Zr (as $ZrO(OH)_2$)	7.02E-03	420	392	4.76E-03	5.86E-03	8.17E-03	9.28E-03
Pb^{2+}	2.54E-04	34.5	32.2	2.00E-04	2.26E-04	2.81E-04	3.07E-04
Ni^{2+}	5.72E-02	2.20E+03	2.06E+03	5.67E-02	5.69E-02	5.74E-02	5.76E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.83E-04	21.0	19.6	4.56E-04	5.18E-04	6.47E-04	7.09E-04
Ca^{2+}	0.206	5.41E+03	5.05E+03	7.59E-02	7.85E-02	0.229	0.251
K^{+}	1.62E-02	416	389	1.29E-02	1.38E-02	1.86E-02	1.89E-02
OH^{-}	4.45	4.97E+04	4.64E+04	2.67	4.31	4.52	4.58
$NO3^{-}$	6.08	2.48E+05	2.31E+05	0.959	1.37	9.67	6.13
$NO2^{-}$	0.633	1.91E+04	1.78E+04	0.568	0.580	0.721	0.736
$CO3^{2-}$	0.310	1.22E+04	1.14E+04	0.142	0.170	0.337	0.355
$PO4^{3-}$	0.175	1.09E+04	1.02E+04	0.148	0.155	0.194	0.236
$SO4^{2-}$	8.24E-02	5.20E+03	4.85E+03	5.29E-02	6.10E-02	0.104	0.107
Si (as SiO_x^{2-})	4.83E-02	890	831	2.47E-02	2.47E-02	9.76E-02	0.145
F^{-}	8.54E-02	1.07E+03	995	8.07E-02	8.26E-02	0.243	0.457
Cl^{-}	6.70E-02	1.56E+03	1.46E+03	4.71E-02	5.26E-02	8.14E-02	0.140
$C_6H_5O_7^{3-}$	3.60E-03	446	417	3.33E-03	3.46E-03	3.73E-03	3.86E-03
$EDTA^{4-}$	1.55E-04	29.4	27.4	1.15E-04	1.35E-04	1.76E-04	1.96E-04
$HEDTA^{3-}$	1.09E-04	19.7	18.4	2.91E-05	6.83E-05	1.51E-04	1.91E-04
$glycolate^{-}$	7.20E-03	355	331	3.64E-03	5.38E-03	9.02E-03	1.08E-02
$acetate^{-}$	6.46E-04	25.0	23.4	5.23E-04	5.83E-04	7.09E-04	7.69E-04
$oxalate^{2-}$	3.03E-10	1.75E-05	1.63E-05	2.80E-10	2.91E-10	3.15E-10	3.26E-10
DBP	3.28E-03	453	423	2.84E-03	3.06E-03	3.51E-03	3.72E-03
butanol	3.28E-03	160	149	2.84E-03	3.06E-03	3.51E-03	3.72E-03
NH_3	2.86E-02	319	298	2.30E-02	2.57E-02	3.14E-02	3.43E-02
$Fe(CN)_6^{4-}$	3.02E-02	5.37E+03	5.01E+03	3.02E-02	3.02E-02	3.02E-02	3.02E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.63E+05 (kg)	(108 kgal)	----	----	----	----	----
Heat Load	0.473 (kW)	(1.61E+03 BTU/hr)	----	0.459	0.460	0.485	0.487
Bulk Density	1.62 (g/cc)	----	----	1.19	1.26	1.87	1.64
Void Fraction	0.662	----	----	0.648	0.438	0.947	0.971
Water wt%	40.2	----	----	39.3	24.8	73.1	83.9
TOC wt% C (wet)	0.201	----	----	0.199	0.175	0.258	0.275

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.53E-06	9.44E-04	0.626	2.34E-07	3.85E-07	2.83E-06	3.01E-06
C-14	2.53E-07	1.56E-04	0.103	7.78E-08	9.62E-08	4.10E-07	4.31E-07
Ni-59	4.38E-07	2.70E-04	0.179	3.88E-07	3.93E-07	4.82E-07	4.88E-07
Ni-63	3.99E-05	2.46E-02	16.3	3.54E-05	3.59E-05	4.39E-05	4.44E-05
Co-60	6.09E-08	3.76E-05	2.49E-02	2.08E-08	2.50E-08	9.68E-08	1.02E-07
Se-79	5.34E-08	3.30E-05	2.18E-02	1.64E-08	2.03E-08	8.65E-08	9.10E-08
Sr-90	9.48E-02	58.5	3.88E+04	9.20E-02	9.23E-02	9.74E-02	9.77E-02
Y-90	9.49E-02	58.5	3.88E+04	9.20E-02	9.23E-02	9.74E-02	9.78E-02
Zr-93	2.54E-07	1.56E-04	0.104	7.79E-08	9.64E-08	4.11E-07	4.32E-07
Nb-93m	2.13E-07	1.32E-04	8.72E-02	6.51E-08	8.07E-08	3.46E-07	3.64E-07
Tc-99	1.76E-06	1.08E-03	0.719	5.41E-07	6.69E-07	2.85E-06	2.99E-06
Ru-106	2.72E-14	1.68E-11	1.11E-08	1.05E-14	1.23E-14	4.21E-14	4.42E-14
Cd-113m	6.34E-07	3.91E-04	0.259	2.04E-07	2.49E-07	1.02E-06	1.07E-06
Sb-125	5.82E-08	3.59E-05	2.38E-02	2.11E-08	2.50E-08	9.15E-08	9.60E-08
Sn-126	8.05E-08	4.97E-05	3.29E-02	2.48E-08	3.07E-08	1.30E-07	1.37E-07
I-129	3.32E-09	2.05E-06	1.36E-03	1.02E-09	1.26E-09	5.37E-09	5.65E-09
Cs-134	1.20E-08	7.37E-06	4.89E-03	1.17E-08	1.17E-08	1.22E-08	1.22E-08
Cs-137	0.111	68.2	4.52E+04	0.107	0.108	0.113	0.114
Ba-137m	0.105	64.5	4.27E+04	0.102	0.102	0.107	0.108
Sm-151	1.98E-04	0.122	81.1	6.07E-05	7.52E-05	3.22E-04	3.38E-04
Eu-152	4.76E-07	2.93E-04	0.194	4.70E-07	4.71E-07	4.80E-07	4.81E-07
Eu-154	1.12E-06	6.90E-04	0.457	3.96E-07	4.72E-07	1.77E-06	1.85E-06
Eu-155	3.53E-05	2.18E-02	14.4	3.49E-05	3.50E-05	3.56E-05	3.57E-05
Ra-226	1.35E-11	8.32E-09	5.51E-06	3.39E-12	4.45E-12	2.86E-11	4.51E-10
Ra-228	1.75E-15	1.08E-12	7.14E-10	1.73E-15	1.73E-15	1.76E-15	1.77E-15
Ac-227	6.91E-11	4.26E-08	2.82E-05	1.75E-11	2.29E-11	1.15E-10	2.06E-09
Pa-231	1.51E-10	9.34E-08	6.19E-05	3.94E-11	5.12E-11	2.52E-10	2.65E-10
Th-229	3.39E-13	2.09E-10	1.39E-07	3.36E-13	3.36E-13	3.43E-13	3.43E-13
Th-232	7.13E-17	4.40E-14	2.92E-11	2.13E-17	2.66E-17	1.16E-16	1.22E-16
U-232	4.49E-10	2.77E-07	1.84E-04	4.43E-10	4.46E-10	4.52E-10	4.56E-10
U-233	2.06E-11	1.27E-08	8.41E-06	2.03E-11	2.04E-11	2.07E-11	2.09E-11
U-234	1.87E-05	1.15E-02	7.63	1.84E-05	1.85E-05	1.88E-05	1.89E-05
U-235	8.25E-07	5.09E-04	0.337	8.13E-07	8.19E-07	8.31E-07	8.37E-07
U-236	1.91E-07	1.18E-04	7.82E-02	1.88E-07	1.90E-07	1.93E-07	1.94E-07
U-238	1.90E-05	1.17E-02	7.76	1.87E-05	1.88E-05	1.91E-05	1.93E-05
Np-237	1.09E-08	6.72E-06	4.45E-03	3.37E-09	4.17E-09	1.76E-08	1.85E-08
Pu-238	5.29E-07	3.26E-04	0.216	8.68E-08	3.03E-07	7.54E-07	9.71E-07
Pu-239	6.59E-05	4.07E-02	26.9	1.11E-05	3.79E-05	9.39E-05	1.33E-04
Pu-240	6.42E-06	3.96E-03	2.62	1.06E-06	3.68E-06	9.15E-06	1.22E-05
Pu-241	2.31E-05	1.43E-02	9.46	3.76E-06	1.33E-05	3.30E-05	4.25E-05
Pu-242	1.06E-10	6.53E-08	4.32E-05	1.72E-11	6.05E-11	1.51E-10	1.94E-10
Am-241	5.40E-07	3.33E-04	0.221	2.03E-07	2.38E-07	8.42E-07	8.83E-07
Am-243	3.82E-12	2.35E-09	1.56E-06	1.46E-12	1.71E-12	5.92E-12	6.21E-12
Cm-242	8.81E-09	5.43E-06	3.60E-03	8.72E-09	8.72E-09	8.89E-09	8.90E-09
Cm-243	1.81E-10	1.11E-07	7.38E-05	1.79E-10	1.79E-10	1.82E-10	1.82E-10
Cm-244	9.05E-11	5.58E-08	3.70E-05	3.49E-11	4.07E-11	1.40E-10	1.47E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.09E-03 (g/L)	----	0.445	1.83E-04	6.26E-04	1.55E-03	2.20E-03
U	0.239	3.51E+04	2.32E+04	0.235	0.237	0.241	0.242

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.71E+05 (kg)	(54.0 kgal)	----	----	----	----	----
Heat Load	0.232 (kW)	(793 BTU/hr)	----	0.205	0.218	0.246	0.260
Bulk Density*	1.33 (g/cc)	----	----	1.29	1.31	1.33	1.34
Water wt%†	56.1	----	----	54.5	55.2	57.9	59.9
TOC wt% C (wet)	0.215	----	----	0.192	0.203	0.227	0.238

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.17E-04	8.81E-02	23.9	6.87E-05	6.87E-05	1.24E-04	1.32E-04
C-14	1.67E-05	1.26E-02	3.40	6.57E-06	6.57E-06	1.72E-05	1.78E-05
Ni-59	1.28E-06	9.66E-04	0.262	8.08E-07	8.08E-07	1.31E-06	1.33E-06
Ni-63	1.26E-04	9.47E-02	25.7	7.87E-05	7.87E-05	1.28E-04	1.30E-04
Co-60	1.81E-05	1.36E-02	3.70	6.55E-06	6.55E-06	1.89E-05	1.96E-05
Se-79	1.67E-06	1.26E-03	0.342	1.03E-06	1.03E-06	1.90E-06	2.13E-06
Sr-90	5.29E-02	39.9	1.08E+04	4.90E-02	5.04E-02	5.58E-02	5.62E-02
Y-90	5.29E-02	39.9	1.08E+04	3.07E-02	3.07E-02	5.45E-02	5.61E-02
Zr-93	8.22E-06	6.19E-03	1.68	5.00E-06	5.00E-06	9.38E-06	1.05E-05
Nb-93m	5.95E-06	4.49E-03	1.22	3.70E-06	3.70E-06	6.77E-06	7.55E-06
Tc-99	1.19E-04	8.97E-02	24.3	8.14E-05	9.97E-05	1.38E-04	1.57E-04
Ru-106	3.07E-09	2.32E-06	6.29E-04	1.58E-09	1.58E-09	3.41E-09	3.71E-09
Cd-113m	4.26E-05	3.21E-02	8.72	2.33E-05	2.33E-05	4.96E-05	5.63E-05
Sb-125	7.63E-05	5.75E-02	15.6	2.63E-05	2.63E-05	7.97E-05	8.31E-05
Sn-126	2.52E-06	1.90E-03	0.515	1.55E-06	1.55E-06	2.87E-06	3.20E-06
I-129	2.29E-07	1.73E-04	4.69E-02	1.57E-07	1.92E-07	2.67E-07	3.03E-07
Cs-134	1.23E-06	9.29E-04	0.252	8.75E-07	1.05E-06	1.42E-06	1.59E-06
Cs-137	0.166	125	3.40E+04	0.138	0.152	0.181	0.195
Ba-137m	0.157	119	3.22E+04	0.130	0.138	0.171	0.185
Sm-151	5.88E-03	4.43	1.20E+03	3.62E-03	3.62E-03	6.69E-03	7.47E-03
Eu-152	1.75E-06	1.32E-03	0.358	9.53E-07	9.53E-07	1.84E-06	1.93E-06
Eu-154	2.87E-04	0.216	58.7	1.26E-04	1.26E-04	3.45E-04	3.68E-04
Eu-155	1.04E-04	7.82E-02	21.2	5.62E-05	5.62E-05	1.11E-04	1.17E-04
Ra-226	7.98E-11	6.02E-08	1.63E-05	5.98E-11	5.98E-11	8.70E-11	9.40E-11
Ra-228	1.49E-07	1.12E-04	3.05E-02	5.63E-08	1.02E-07	2.04E-07	2.63E-07
Ac-227	5.26E-10	3.97E-07	1.08E-04	4.10E-10	4.10E-10	5.68E-10	6.09E-10
Pa-231	2.34E-09	1.77E-06	4.79E-04	1.70E-09	1.70E-09	2.58E-09	2.80E-09
Th-229	3.44E-09	2.60E-06	7.04E-04	1.41E-09	2.40E-09	4.65E-09	5.94E-09
Th-232	9.05E-09	6.82E-06	1.85E-03	3.91E-09	6.43E-09	1.17E-08	1.42E-08
U-232	7.43E-07	5.60E-04	0.152	3.70E-07	5.52E-07	9.63E-07	1.20E-06
U-233	2.85E-06	2.15E-03	0.582	1.42E-06	2.12E-06	3.69E-06	4.59E-06
U-234	5.72E-07	4.31E-04	0.117	5.45E-07	5.63E-07	5.79E-07	5.84E-07
U-235	2.29E-08	1.73E-05	4.68E-03	2.18E-08	2.25E-08	2.32E-08	2.34E-08
U-236	1.87E-08	1.41E-05	3.83E-03	1.79E-08	1.86E-08	1.89E-08	1.90E-08
U-238	6.81E-07	5.14E-04	0.139	6.56E-07	6.72E-07	6.88E-07	6.92E-07
Np-237	4.30E-07	3.24E-04	8.78E-02	3.07E-07	3.67E-07	4.93E-07	5.54E-07
Pu-238	6.64E-07	5.01E-04	0.136	5.20E-07	5.90E-07	7.38E-07	8.09E-07
Pu-239	2.38E-05	1.80E-02	4.87	2.01E-05	2.20E-05	2.57E-05	2.75E-05
Pu-240	3.88E-06	2.92E-03	0.792	3.19E-06	3.53E-06	4.23E-06	4.56E-06
Pu-241	4.35E-05	3.28E-02	8.89	3.36E-05	3.85E-05	4.85E-05	5.33E-05
Pu-242	2.35E-10	1.77E-07	4.80E-05	1.76E-10	2.05E-10	2.65E-10	2.94E-10
Am-241	2.82E-05	2.13E-02	5.77	2.14E-05	2.47E-05	3.17E-05	3.51E-05
Am-243	9.75E-10	7.35E-07	1.99E-04	7.60E-10	8.63E-10	1.09E-09	1.20E-09
Cm-242	6.71E-08	5.06E-05	1.37E-02	3.44E-08	3.44E-08	6.96E-08	7.21E-08
Cm-243	6.22E-09	4.69E-06	1.27E-03	3.10E-09	3.10E-09	6.52E-09	6.81E-09
Cm-244	6.55E-08	4.94E-05	1.34E-02	3.33E-08	3.33E-08	7.64E-08	8.34E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.26E-04 (g/L)	----	6.67E-02	2.56E-04	2.91E-04	3.62E-04	3.96E-04
U	6.38E-03	1.15E+03	311	6.06E-03	6.27E-03	6.47E-03	6.51E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	9.34E+05 (kg)	(162 kgal)	----	----	----	----	----
Heat Load	0.705 (kW)	(2.41E+03 BTU/hr)	----	0.678	0.691	0.719	0.732
Bulk Density†	1.52 (g/cc)	----	----	1.23	1.28	1.69	1.54
Water wt%†	44.8	----	----	44.1	33.0	67.7	74.7
TOC wt% C (wet)†	0.205	----	----	0.199	0.185	0.244	0.255

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	4.00E-05	2.63E-02	24.5	2.39E-05	2.39E-05	4.23E-05	4.51E-05
C-14	5.72E-06	3.76E-03	3.51	2.36E-06	2.36E-06	5.91E-06	6.09E-06
Ni-59	7.19E-07	4.72E-04	0.441	5.61E-07	5.61E-07	7.49E-07	7.53E-07
Ni-63	6.85E-05	4.50E-02	42.0	5.28E-05	5.28E-05	7.11E-05	7.15E-05
Co-60	6.07E-06	3.99E-03	3.72	2.22E-06	2.22E-06	6.33E-06	6.58E-06
Se-79	5.93E-07	3.89E-04	0.364	3.78E-07	3.78E-07	6.71E-07	7.45E-07
Sr-90	8.08E-02	53.1	4.96E+04	7.85E-02	7.92E-02	8.25E-02	8.28E-02
Y-90	8.09E-02	53.1	4.96E+04	7.35E-02	7.35E-02	8.26E-02	8.28E-02
Zr-93	2.91E-06	1.91E-03	1.78	1.84E-06	1.84E-06	3.30E-06	3.67E-06
Nb-93m	2.13E-06	1.40E-03	1.30	1.37E-06	1.37E-06	2.40E-06	2.66E-06
Tc-99	4.08E-05	2.68E-02	25.0	2.83E-05	3.44E-05	4.73E-05	5.35E-05
Ru-106	1.03E-09	6.73E-07	6.29E-04	5.27E-10	5.27E-10	1.14E-09	1.24E-09
Cd-113m	1.46E-05	9.61E-03	8.98	8.20E-06	8.20E-06	1.70E-05	1.92E-05
Sb-125	2.55E-05	1.67E-02	15.6	8.80E-06	8.80E-06	2.66E-05	2.77E-05
Sn-126	8.94E-07	5.87E-04	0.548	5.72E-07	5.72E-07	1.01E-06	1.12E-06
I-129	7.87E-08	5.16E-05	4.82E-02	5.44E-08	6.62E-08	9.11E-08	1.03E-07
Cs-134	4.19E-07	2.75E-04	0.257	3.00E-07	3.58E-07	4.80E-07	5.39E-07
Cs-137	0.129	84.8	7.92E+04	0.120	0.124	0.134	0.139
Ba-137m	0.122	80.2	7.49E+04	0.113	0.116	0.127	0.131
Sm-151	2.09E-03	1.37	1.28E+03	1.34E-03	1.34E-03	2.36E-03	2.62E-03
Eu-152	9.01E-07	5.92E-04	0.552	6.35E-07	6.35E-07	9.32E-07	9.61E-07
Eu-154	9.64E-05	6.33E-02	59.1	4.28E-05	4.28E-05	1.16E-04	1.24E-04
Eu-155	5.81E-05	3.81E-02	35.6	4.23E-05	4.23E-05	6.04E-05	6.26E-05
Ra-226	3.56E-11	2.34E-08	2.18E-05	2.73E-11	2.89E-11	4.56E-11	3.26E-10
Ra-228	4.97E-08	3.26E-05	3.05E-02	1.88E-08	3.39E-08	6.81E-08	8.76E-08
Ac-227	2.22E-10	1.45E-07	1.36E-04	1.79E-10	1.83E-10	2.52E-10	1.54E-09
Pa-231	8.83E-10	5.80E-07	5.41E-04	6.68E-10	6.68E-10	9.60E-10	1.04E-09
Th-229	1.15E-09	7.54E-07	7.04E-04	4.69E-10	8.02E-10	1.55E-09	1.98E-09
Th-232	3.02E-09	1.98E-06	1.85E-03	1.30E-09	2.14E-09	3.89E-09	4.73E-09
U-232	2.48E-07	1.63E-04	0.152	1.24E-07	1.84E-07	3.21E-07	4.00E-07
U-233	9.49E-07	6.23E-04	0.582	4.74E-07	7.06E-07	1.23E-06	1.53E-06
U-234	1.26E-05	8.30E-03	7.75	1.25E-05	1.25E-05	1.27E-05	1.28E-05
U-235	5.57E-07	3.66E-04	0.342	5.49E-07	5.53E-07	5.61E-07	5.65E-07
U-236	1.34E-07	8.78E-05	8.20E-02	1.32E-07	1.33E-07	1.35E-07	1.36E-07
U-238	1.29E-05	8.46E-03	7.90	1.27E-05	1.28E-05	1.30E-05	1.31E-05
Np-237	1.51E-07	9.88E-05	9.23E-02	1.10E-07	1.30E-07	1.72E-07	1.92E-07
Pu-238	5.74E-07	3.77E-04	0.352	2.79E-07	4.23E-07	7.24E-07	8.68E-07
Pu-239	5.19E-05	3.41E-02	31.8	1.53E-05	3.32E-05	7.05E-05	9.66E-05
Pu-240	5.57E-06	3.66E-03	3.42	2.00E-06	3.75E-06	7.39E-06	9.41E-06
Pu-241	2.99E-05	1.97E-02	18.4	1.70E-05	2.33E-05	3.65E-05	4.28E-05
Pu-242	1.49E-10	9.77E-08	9.13E-05	8.98E-11	1.19E-10	1.79E-10	2.08E-10
Am-241	9.77E-06	6.42E-03	5.99	7.49E-06	8.61E-06	1.09E-05	1.21E-05
Am-243	3.28E-10	2.15E-07	2.01E-04	2.56E-10	2.90E-10	3.66E-10	4.03E-10
Cm-242	2.82E-08	1.85E-05	1.73E-02	1.73E-08	1.73E-08	2.91E-08	2.99E-08
Cm-243	2.20E-09	1.44E-06	1.35E-03	1.15E-09	1.15E-09	2.30E-09	2.39E-09
Cm-244	2.19E-08	1.44E-05	1.34E-02	1.12E-08	1.12E-08	2.55E-08	2.79E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.35E-04 (g/L)	----	0.512	2.31E-04	5.26E-04	1.14E-03	1.57E-03
U	0.161	2.52E+04	2.36E+04	0.159	0.160	0.163	0.164

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.49E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	0.294 (kW)	(1.00E+03 BTU/hr)	----	0.291	0.291	0.296	0.297
Bulk Density	1.53 (g/cc)	----	----	1.30	1.34	1.66	1.55
Void Fraction	0.789	----	----	0.772	0.669	0.941	0.954
Water wt%	52.9	----	----	51.2	42.6	71.3	76.6
TOC wt% C (wet)	0.342	----	----	0.337	0.315	0.391	0.404

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.72	8.60E+04	2.14E+04	1.49	1.92	8.44	6.61
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.550	2.01E+04	5.00E+03	7.42E-02	0.511	0.554	0.559
Cr^{3+}	1.75E-03	59.6	14.8	1.32E-03	1.36E-03	2.14E-03	2.19E-03
Bi^{3+}	0.148	2.02E+04	5.04E+03	0.140	0.144	0.153	0.157
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	1.66E-02	992	247	1.12E-02	1.39E-02	1.94E-02	2.21E-02
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.134	5.13E+03	1.28E+03	0.133	0.133	0.134	0.135
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.270	7.08E+03	1.76E+03	0.166	0.168	0.295	0.319
K^+	4.94E-03	126	31.4	2.79E-03	3.02E-03	6.85E-03	7.11E-03
OH^-	3.97	4.42E+04	1.10E+04	2.55	3.86	3.99	4.01
$NO3^-$	4.13	1.67E+05	4.17E+04	9.53E-02	0.389	7.02	4.13
$NO2^-$	0.427	1.28E+04	3.20E+03	0.381	0.385	0.497	0.509
$CO3^{2-}$	0.290	1.14E+04	2.83E+03	0.161	0.182	0.314	0.336
$PO4^{3-}$	0.324	2.01E+04	5.01E+03	0.307	0.308	0.340	0.374
$SO4^{2-}$	3.28E-02	2.06E+03	512	1.35E-02	1.55E-02	5.00E-02	5.23E-02
Si (as SiO_x^{2-})	8.18E-02	1.50E+03	374	2.50E-02	2.50E-02	0.200	0.314
F^-	0.149	1.85E+03	461	0.146	0.148	0.527	1.04
Cl^-	2.59E-02	600	149	1.29E-02	1.43E-02	3.75E-02	8.48E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	4.22E-06	0.580	0.144	9.18E-08	5.26E-07	7.91E-06	8.41E-06
butanol	4.22E-06	0.204	5.09E-02	9.18E-08	5.26E-07	7.91E-06	8.41E-06
NH_3	1.36E-02	151	37.5	1.29E-02	1.33E-02	1.38E-02	1.38E-02
$Fe(CN)_6^{4-}$	7.27E-02	1.29E+04	3.20E+03	7.27E-02	7.27E-02	7.27E-02	7.27E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.14E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.60E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	0.294 (kW)	(1.00E+03 BTU/hr)	----	0.291	0.291	0.296	0.297
Bulk Density†	1.49 (g/cc)	----	----	1.28	1.32	1.62	1.52
Water wt%†	55.0	----	----	53.3	44.9	72.8	77.8
TOC wt% C (wet)†	0.327	----	----	0.323	0.302	0.372	0.383

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.35	8.23E+04	2.14E+04	1.40	1.79	7.89	6.18
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.514	1.92E+04	5.00E+03	6.94E-02	0.478	0.518	0.523
Cr^{3+}	1.64E-03	57.0	14.8	1.23E-03	1.27E-03	2.00E-03	2.05E-03
Bi^{3+}	0.138	1.94E+04	5.04E+03	0.130	0.134	0.143	0.147
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	1.55E-02	948	247	1.05E-02	1.30E-02	1.81E-02	2.06E-02
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0.125	4.91E+03	1.28E+03	0.124	0.124	0.126	0.126
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.252	6.77E+03	1.76E+03	0.155	0.157	0.276	0.298
K^+	4.61E-03	121	31.4	2.61E-03	2.82E-03	6.41E-03	6.65E-03
OH^-	3.72	4.22E+04	1.10E+04	2.38	3.61	3.73	3.75
$NO3^-$	3.86	1.60E+05	4.17E+04	8.91E-02	0.363	6.56	3.86
$NO2^-$	0.399	1.23E+04	3.20E+03	0.356	0.360	0.465	0.476
$CO3^{2-}$	0.271	1.09E+04	2.83E+03	0.151	0.170	0.293	0.314
$PO4^{3-}$	0.303	1.93E+04	5.01E+03	0.287	0.288	0.318	0.349
$SO4^{2-}$	3.06E-02	1.97E+03	512	1.26E-02	1.45E-02	4.67E-02	4.89E-02
Si (as SiO_x^{2-})	7.64E-02	1.44E+03	374	2.33E-02	2.33E-02	0.187	0.294
F^-	0.139	1.77E+03	461	0.137	0.138	0.493	0.975
Cl^-	2.42E-02	574	149	1.21E-02	1.34E-02	3.51E-02	7.92E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.94E-06	0.554	0.144	8.58E-08	4.92E-07	7.39E-06	7.86E-06
butanol	3.94E-06	0.196	5.09E-02	8.58E-08	4.92E-07	7.39E-06	7.86E-06
NH_3	1.27E-02	144	37.5	1.21E-02	1.24E-02	1.29E-02	1.29E-02
$Fe(CN)_6^{4-}$	6.79E-02	1.23E+04	3.20E+03	6.79E-02	6.79E-02	6.79E-02	6.79E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.49E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	0.294 (kW)	(1.00E+03 BTU/hr)	----	0.291	0.291	0.296	0.297
Bulk Density	1.53 (g/cc)	----	----	1.30	1.34	1.66	1.55
Void Fraction	0.789	----	----	0.772	0.669	0.941	0.954
Water wt%	52.9	----	----	51.2	42.6	71.3	76.6
TOC wt% C (wet)	0.342	----	----	0.337	0.315	0.391	0.404

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.07E-06	6.99E-04	0.174	3.75E-07	4.56E-07	1.76E-06	1.86E-06
C-14	2.14E-07	1.40E-04	3.49E-02	1.21E-07	1.30E-07	2.98E-07	3.10E-07
Ni-59	6.47E-07	4.23E-04	0.105	6.21E-07	6.23E-07	6.71E-07	6.74E-07
Ni-63	5.90E-05	3.86E-02	9.61	5.66E-05	5.69E-05	6.12E-05	6.15E-05
Co-60	5.39E-08	3.52E-05	8.77E-03	3.24E-08	3.47E-08	7.31E-08	7.57E-08
Se-79	4.52E-08	2.96E-05	7.36E-03	2.54E-08	2.75E-08	6.30E-08	6.54E-08
Sr-90	0.149	97.4	2.42E+04	0.147	0.148	0.150	0.150
Y-90	0.149	97.4	2.42E+04	0.147	0.148	0.150	0.151
Zr-93	2.15E-07	1.40E-04	3.49E-02	1.21E-07	1.31E-07	2.99E-07	3.10E-07
Nb-93m	1.80E-07	1.18E-04	2.93E-02	1.01E-07	1.09E-07	2.51E-07	2.61E-07
Tc-99	1.49E-06	9.74E-04	0.242	8.38E-07	9.06E-07	2.07E-06	2.15E-06
Ru-106	2.54E-14	1.66E-11	4.13E-09	1.64E-14	1.74E-14	3.34E-14	3.44E-14
Cd-113m	5.47E-07	3.58E-04	8.90E-02	3.17E-07	3.41E-07	7.53E-07	7.80E-07
Sb-125	5.28E-08	3.45E-05	8.59E-03	3.29E-08	3.50E-08	7.06E-08	7.30E-08
Sn-126	6.83E-08	4.47E-05	1.11E-02	3.85E-08	4.16E-08	9.49E-08	9.86E-08
I-129	2.81E-09	1.84E-06	4.58E-04	1.59E-09	1.72E-09	3.91E-09	4.06E-09
Cs-134	1.87E-08	1.22E-05	3.04E-03	1.85E-08	1.85E-08	1.88E-08	1.88E-08
Cs-137	0.171	112	2.78E+04	0.169	0.169	0.172	0.173
Ba-137m	0.162	106	2.63E+04	0.160	0.160	0.163	0.163
Sm-151	1.68E-04	0.110	27.3	9.41E-05	1.02E-04	2.34E-04	2.43E-04
Eu-152	3.24E-07	2.12E-04	5.28E-02	3.22E-07	3.22E-07	3.27E-07	3.27E-07
Eu-154	1.01E-06	6.57E-04	0.164	6.18E-07	6.59E-07	1.35E-06	1.40E-06
Eu-155	2.36E-05	1.54E-02	3.84	2.34E-05	2.34E-05	2.38E-05	2.38E-05
Ra-226	1.06E-11	6.93E-09	1.72E-06	5.19E-12	5.76E-12	1.87E-11	2.45E-10
Ra-228	1.13E-15	7.38E-13	1.84E-10	1.12E-15	1.12E-15	1.14E-15	1.14E-15
Ac-227	5.45E-11	3.56E-08	8.86E-06	2.69E-11	2.98E-11	7.91E-11	1.12E-09
Pa-231	1.20E-10	7.88E-08	1.96E-05	6.05E-11	6.69E-11	1.74E-10	1.81E-10
Th-229	2.19E-13	1.43E-10	3.57E-08	2.17E-13	2.17E-13	2.21E-13	2.21E-13
Th-232	5.97E-17	3.91E-14	9.72E-12	3.30E-17	3.58E-17	8.37E-17	8.69E-17
U-232	7.20E-10	4.70E-07	1.17E-04	7.09E-10	7.14E-10	7.25E-10	7.30E-10
U-233	3.29E-11	2.15E-08	5.36E-06	3.25E-11	3.27E-11	3.32E-11	3.34E-11
U-234	2.99E-05	1.96E-02	4.87	2.95E-05	2.97E-05	3.01E-05	3.03E-05
U-235	1.32E-06	8.64E-04	0.215	1.30E-06	1.31E-06	1.33E-06	1.34E-06
U-236	3.06E-07	2.00E-04	4.99E-02	3.02E-07	3.04E-07	3.09E-07	3.11E-07
U-238	3.04E-05	1.99E-02	4.95	3.00E-05	3.02E-05	3.06E-05	3.08E-05
Np-237	9.25E-09	6.05E-06	1.51E-03	5.23E-09	5.66E-09	1.29E-08	1.33E-08
Pu-238	8.37E-07	5.47E-04	0.136	1.28E-07	4.75E-07	1.20E-06	1.54E-06
Pu-239	1.04E-04	6.80E-02	16.9	1.61E-05	5.91E-05	1.49E-04	1.92E-04
Pu-240	1.01E-05	6.63E-03	1.65	1.56E-06	5.76E-06	1.45E-05	1.87E-05
Pu-241	3.67E-05	2.40E-02	5.97	5.61E-06	2.08E-05	5.25E-05	6.77E-05
Pu-242	1.68E-10	1.10E-07	2.73E-05	2.56E-11	9.52E-11	2.40E-10	3.10E-10
Am-241	4.97E-07	3.25E-04	8.09E-02	3.17E-07	3.36E-07	6.59E-07	6.81E-07
Am-243	3.55E-12	2.32E-09	5.78E-07	2.29E-12	2.42E-12	4.68E-12	4.83E-12
Cm-242	6.10E-09	3.99E-06	9.93E-04	6.05E-09	6.06E-09	6.15E-09	6.15E-09
Cm-243	1.25E-10	8.19E-08	2.04E-05	1.24E-10	1.24E-10	1.26E-10	1.26E-10
Cm-244	8.44E-11	5.52E-08	1.37E-05	5.46E-11	5.77E-11	1.11E-10	1.15E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.72E-03 (g/L)	----	0.280	2.66E-04	9.77E-04	2.46E-03	3.17E-03
U	0.383	5.95E+04	1.48E+04	0.377	0.380	0.385	0.388

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.14E+04 (kg)	(3.00 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	100	----	----	100	100	100	100
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.60E+05 (kg)	(46.0 kgal)	----	----	----	----	----
Heat Load	0.294 (kW)	(1.00E+03 BTU/hr)	----	0.291	0.291	0.296	0.297
Bulk Density†	1.49 (g/cc)	----	----	1.28	1.32	1.62	1.52
Water wt%†	55.0	----	----	53.3	44.9	72.8	77.8
TOC wt% C (wet)†	0.327	----	----	0.323	0.302	0.372	0.383

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.99E-07	6.68E-04	0.174	3.50E-07	4.26E-07	1.65E-06	1.74E-06
C-14	2.00E-07	1.34E-04	3.49E-02	1.13E-07	1.22E-07	2.79E-07	2.90E-07
Ni-59	6.05E-07	4.05E-04	0.105	5.80E-07	5.83E-07	6.27E-07	6.30E-07
Ni-63	5.52E-05	3.69E-02	9.61	5.29E-05	5.32E-05	5.72E-05	5.75E-05
Co-60	5.04E-08	3.37E-05	8.77E-03	3.03E-08	3.24E-08	6.83E-08	7.08E-08
Se-79	4.23E-08	2.83E-05	7.36E-03	2.38E-08	2.57E-08	5.89E-08	6.11E-08
Sr-90	0.139	93.1	2.42E+04	0.138	0.138	0.140	0.141
Y-90	0.139	93.1	2.42E+04	0.138	0.138	0.141	0.141
Zr-93	2.01E-07	1.34E-04	3.49E-02	1.13E-07	1.22E-07	2.79E-07	2.90E-07
Nb-93m	1.68E-07	1.13E-04	2.93E-02	9.43E-08	1.02E-07	2.35E-07	2.44E-07
Tc-99	1.39E-06	9.31E-04	0.242	7.83E-07	8.47E-07	1.94E-06	2.01E-06
Ru-106	2.37E-14	1.59E-11	4.13E-09	1.54E-14	1.62E-14	3.12E-14	3.22E-14
Cd-113m	5.11E-07	3.42E-04	8.90E-02	2.96E-07	3.19E-07	7.04E-07	7.30E-07
Sb-125	4.94E-08	3.30E-05	8.59E-03	3.08E-08	3.27E-08	6.60E-08	6.82E-08
Sn-126	6.38E-08	4.27E-05	1.11E-02	3.60E-08	3.89E-08	8.88E-08	9.21E-08
I-129	2.63E-09	1.76E-06	4.58E-04	1.48E-09	1.60E-09	3.66E-09	3.80E-09
Cs-134	1.74E-08	1.17E-05	3.04E-03	1.73E-08	1.73E-08	1.76E-08	1.76E-08
Cs-137	0.160	107	2.78E+04	0.158	0.158	0.161	0.161
Ba-137m	0.151	101	2.63E+04	0.150	0.150	0.153	0.153
Sm-151	1.57E-04	0.105	27.3	8.79E-05	9.52E-05	2.18E-04	2.27E-04
Eu-152	3.03E-07	2.03E-04	5.28E-02	3.01E-07	3.01E-07	3.06E-07	3.06E-07
Eu-154	9.39E-07	6.28E-04	0.164	5.78E-07	6.16E-07	1.26E-06	1.31E-06
Eu-155	2.20E-05	1.47E-02	3.84	2.19E-05	2.19E-05	2.22E-05	2.22E-05
Ra-226	9.90E-12	6.62E-09	1.72E-06	4.86E-12	5.39E-12	1.75E-11	2.29E-10
Ra-228	1.05E-15	7.06E-13	1.84E-10	1.04E-15	1.05E-15	1.06E-15	1.06E-15
Ac-227	5.09E-11	3.40E-08	8.86E-06	2.51E-11	2.78E-11	7.40E-11	1.04E-09
Pa-231	1.13E-10	7.53E-08	1.96E-05	5.66E-11	6.25E-11	1.63E-10	1.69E-10
Th-229	2.05E-13	1.37E-10	3.57E-08	2.03E-13	2.03E-13	2.07E-13	2.07E-13
Th-232	5.58E-17	3.74E-14	9.72E-12	3.08E-17	3.35E-17	7.82E-17	8.13E-17
U-232	6.73E-10	4.50E-07	1.17E-04	6.63E-10	6.68E-10	6.78E-10	6.82E-10
U-233	3.08E-11	2.06E-08	5.36E-06	3.03E-11	3.06E-11	3.10E-11	3.12E-11
U-234	2.80E-05	1.87E-02	4.87	2.75E-05	2.77E-05	2.82E-05	2.84E-05
U-235	1.23E-06	8.26E-04	0.215	1.22E-06	1.23E-06	1.24E-06	1.25E-06
U-236	2.86E-07	1.92E-04	4.99E-02	2.82E-07	2.84E-07	2.88E-07	2.91E-07
U-238	2.84E-05	1.90E-02	4.95	2.80E-05	2.82E-05	2.86E-05	2.88E-05
Np-237	8.65E-09	5.79E-06	1.51E-03	4.89E-09	5.29E-09	1.20E-08	1.25E-08
Pu-238	7.82E-07	5.23E-04	0.136	1.20E-07	4.44E-07	1.12E-06	1.44E-06
Pu-239	9.72E-05	6.50E-02	16.9	1.50E-05	5.53E-05	1.39E-04	1.79E-04
Pu-240	9.49E-06	6.35E-03	1.65	1.46E-06	5.39E-06	1.36E-05	1.75E-05
Pu-241	3.43E-05	2.29E-02	5.97	5.24E-06	1.95E-05	4.91E-05	6.33E-05
Pu-242	1.57E-10	1.05E-07	2.73E-05	2.39E-11	8.89E-11	2.24E-10	2.89E-10
Am-241	4.65E-07	3.11E-04	8.09E-02	2.96E-07	3.14E-07	6.16E-07	6.36E-07
Am-243	3.32E-12	2.22E-09	5.78E-07	2.14E-12	2.26E-12	4.37E-12	4.51E-12
Cm-242	5.70E-09	3.82E-06	9.93E-04	5.66E-09	5.66E-09	5.75E-09	5.75E-09
Cm-243	1.17E-10	7.83E-08	2.04E-05	1.16E-10	1.16E-10	1.18E-10	1.18E-10
Cm-244	7.89E-11	5.27E-08	1.37E-05	5.10E-11	5.39E-11	1.04E-10	1.07E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.61E-03 (g/L)	----	0.280	2.48E-04	9.13E-04	2.30E-03	2.96E-03
U	0.358	5.69E+04	1.48E+04	0.352	0.355	0.360	0.363

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.06E+06 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	4.98E-02 (kW)	(170 BTU/hr)	----	1.36E-02	1.74E-02	8.22E-02	8.66E-02
Bulk Density	1.77 (g/cc)	----	----	1.00	1.14	2.21	1.81
Void Fraction	0.453	----	----	0.427	5.58E-02	0.957	1.00
Water wt%	22.1	----	----	21.7	2.56	76.4	99.7
TOC wt% C (wet)	1.13E-04	----	----	4.36E-06	1.13E-05	2.83E-04	3.15E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	14.0	1.82E+05	1.93E+05	4.20E-02	1.45	23.0	14.5
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.57	4.96E+04	5.25E+04	4.60E-04	1.45	1.59	1.60
Cr^{3+}	1.47E-03	43.1	45.7	3.20E-05	1.83E-04	2.76E-03	2.93E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	7.36E-04	24.4	25.8	1.60E-05	9.17E-05	1.38E-03	1.47E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.344	7.77E+03	8.24E+03	1.84E-04	6.36E-03	0.406	0.466
K^{+}	7.24E-03	160	169	1.58E-04	9.03E-04	1.36E-02	1.44E-02
OH^{-}	4.72	4.53E+04	4.80E+04	1.43E-03	4.34	4.77	4.82
$NO3^{-}$	13.4	4.68E+05	4.96E+05	3.05E-02	1.00	22.9	13.4
$NO2^{-}$	0.152	3.94E+03	4.18E+03	4.97E-04	1.31E-02	0.384	0.424
$CO3^{2-}$	0.427	1.45E+04	1.53E+04	2.00E-03	6.92E-02	0.501	0.546
$PO4^{3-}$	5.98E-02	3.20E+03	3.39E+03	1.30E-03	7.45E-03	0.112	0.224
$SO4^{2-}$	6.51E-02	3.53E+03	3.74E+03	1.42E-03	8.12E-03	0.122	0.130
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.39E-02	877	930	9.55E-04	5.47E-03	8.23E-02	0.239
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.40E-05	1.65	1.75	3.04E-07	1.74E-06	2.62E-05	2.78E-05
butanol	1.40E-05	0.583	0.619	3.04E-07	1.74E-06	2.62E-05	2.78E-05
NH_3	4.34E-04	4.16	4.41	3.55E-07	1.13E-05	1.12E-03	1.15E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.31E+05 (kg)	(73.0 kgal)	----	----	----	----	----
Heat Load	5.04E-02 (kW)	(172 BTU/hr)	----	4.96E-04	1.79E-02	5.09E-02	5.04E-02
Bulk Density*	1.20 (g/cc)	----	----	1.00	1.08	1.21	1.21
Water wt%	66.3	----	----	63.9	64.2	85.2	99.6
TOC wt% C (wet)	4.94E-04	----	----	5.81E-06	1.95E-04	5.05E-04	4.94E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.22	1.00E+05	3.31E+04	5.60E-02	2.02	5.56	5.61
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.66E-03	124	41.1	6.13E-04	2.06E-03	3.27E-03	3.86E-03
Cr^{3+}	4.33E-03	188	62.2	4.26E-05	1.54E-03	4.38E-03	4.33E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	2.16E-03	106	35.1	2.13E-05	7.70E-04	2.19E-03	2.17E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	1.20E-02	401	133	2.45E-04	8.84E-03	1.44E-02	1.67E-02
K^{+}	2.13E-02	696	230	2.10E-04	7.58E-03	2.16E-02	2.13E-02
OH^{-}	1.50E-02	212	70.3	1.91E-03	1.05E-02	1.68E-02	1.85E-02
$NO3^{-}$	3.45	1.79E+05	5.91E+04	4.13E-02	1.45	3.79	3.83
$NO2^{-}$	0.279	1.07E+04	3.55E+03	3.16E-05	4.07E-02	0.303	0.306
$CO3^{2-}$	0.258	1.29E+04	4.27E+03	2.66E-03	9.62E-02	0.261	0.262
$PO4^{3-}$	0.176	1.39E+04	4.62E+03	1.73E-03	6.25E-02	0.178	0.176
$SO4^{2-}$	0.192	1.54E+04	5.09E+03	1.89E-03	6.81E-02	0.194	0.192
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0.129	3.82E+03	1.26E+03	1.27E-03	4.59E-02	0.131	0.129
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	4.11E-05	7.21	2.39	4.04E-07	1.46E-05	4.15E-05	4.11E-05
butanol	4.11E-05	2.54	0.841	4.04E-07	1.46E-05	4.15E-05	4.11E-05
NH_3	1.02E-03	14.4	4.78	1.16E-09	5.33E-05	1.08E-03	1.09E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.39E+06 (kg)	(231 kgal)	----	----	----	----	----
Heat Load	0.100 (kW)	(342 BTU/hr)	----	1.41E-02	5.85E-02	0.132	0.136
Bulk Density†	1.59 (g/cc)	----	----	1.00	1.12	1.89	1.61
Water wt%†	32.6	----	----	32.3	15.6	79.1	99.6
TOC wt% C (wet)†	2.04E-04	----	----	4.82E-06	1.09E-04	3.42E-04	3.66E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.3	1.63E+05	2.26E+05	4.64E-02	1.63	17.3	11.6
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.08	3.78E+04	5.26E+04	5.08E-04	0.990	1.09	1.10
Cr^{3+}	2.37E-03	77.6	108	3.54E-05	1.24E-03	3.24E-03	3.36E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.19E-03	43.8	60.9	1.77E-05	6.22E-04	1.62E-03	1.68E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.239	6.02E+03	8.37E+03	2.03E-04	7.14E-03	0.281	0.321
K^{+}	1.17E-02	287	400	1.74E-04	6.12E-03	1.60E-02	1.65E-02
OH^{-}	3.23	3.46E+04	4.81E+04	1.58E-03	2.97	3.27	3.30
$NO3^{-}$	10.2	3.99E+05	5.55E+05	3.39E-02	1.14	16.7	10.2
$NO2^{-}$	0.192	5.55E+03	7.73E+03	3.50E-04	6.16E-02	0.359	0.387
$CO3^{2-}$	0.374	1.41E+04	1.96E+04	2.21E-03	7.77E-02	0.423	0.454
$PO4^{3-}$	9.65E-02	5.76E+03	8.01E+03	1.44E-03	5.05E-02	0.132	0.207
$SO4^{2-}$	0.105	6.34E+03	8.83E+03	1.56E-03	5.50E-02	0.143	0.149
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	7.09E-02	1.58E+03	2.19E+03	1.06E-03	3.71E-02	9.67E-02	0.202
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	2.25E-05	2.98	4.14	3.35E-07	1.18E-05	3.07E-05	3.18E-05
butanol	2.25E-05	1.05	1.46	3.35E-07	1.18E-05	3.07E-05	3.18E-05
NH_3	6.19E-04	6.61	9.20	2.44E-07	8.89E-05	1.11E-03	1.13E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.06E+06 (kg)	(158 kgal)	----	----	----	----	----
Heat Load	4.98E-02 (kW)	(170 BTU/hr)	----	1.36E-02	1.74E-02	8.22E-02	8.66E-02
Bulk Density	1.77 (g/cc)	----	----	1.00	1.14	2.21	1.81
Void Fraction	0.453	----	----	0.427	5.58E-02	0.957	1.00
Water wt%	22.1	----	----	21.7	2.56	76.4	99.7
TOC wt% C (wet)	1.13E-04	----	----	4.36E-06	1.13E-05	2.83E-04	3.15E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.30E-06	1.30E-03	1.37	5.36E-10	2.67E-07	4.59E-06	4.92E-06
C-14	3.17E-07	1.79E-04	0.190	6.90E-09	3.96E-08	5.95E-07	6.33E-07
Ni-59	9.03E-08	5.09E-05	5.40E-02	1.96E-09	1.13E-08	1.69E-07	1.80E-07
Ni-63	8.14E-06	4.59E-03	4.87	1.77E-07	1.02E-06	1.53E-05	1.62E-05
Co-60	7.26E-08	4.10E-05	4.34E-02	1.58E-09	9.06E-09	1.36E-07	1.45E-07
Se-79	6.70E-08	3.78E-05	4.00E-02	1.46E-09	8.35E-09	1.26E-07	1.33E-07
Sr-90	5.16E-03	2.91	3.09E+03	1.12E-04	6.44E-04	9.68E-03	1.03E-02
Y-90	5.16E-03	2.91	3.09E+03	1.12E-04	6.44E-04	9.68E-03	1.03E-02
Zr-93	3.18E-07	1.79E-04	0.190	6.92E-09	3.97E-08	5.96E-07	6.34E-07
Nb-93m	2.68E-07	1.51E-04	0.161	5.84E-09	3.35E-08	5.03E-07	5.35E-07
Tc-99	2.20E-06	1.24E-03	1.32	4.79E-08	2.75E-07	4.13E-06	4.39E-06
Ru-106	3.02E-14	1.70E-11	1.81E-08	6.57E-16	3.77E-15	5.67E-14	6.02E-14
Cd-113m	7.77E-07	4.38E-04	0.465	1.69E-08	9.69E-08	1.46E-06	1.55E-06
Sb-125	6.73E-08	3.79E-05	4.02E-02	1.46E-09	8.39E-09	1.26E-07	1.34E-07
Sn-126	1.01E-07	5.68E-05	6.02E-02	2.19E-09	1.26E-08	1.89E-07	2.01E-07
I-129	4.15E-09	2.34E-06	2.48E-03	9.03E-11	5.18E-10	7.78E-09	8.28E-09
Cs-134	8.45E-10	4.76E-07	5.05E-04	3.82E-10	4.30E-10	1.26E-09	1.31E-09
Cs-137	1.04E-02	5.84	6.19E+03	4.68E-03	5.27E-03	1.54E-02	1.61E-02
Ba-137m	9.79E-03	5.52	5.86E+03	4.42E-03	4.99E-03	1.46E-02	1.52E-02
Sm-151	2.49E-04	0.141	149	5.42E-06	3.11E-05	4.67E-04	4.97E-04
Eu-152	7.26E-07	4.09E-04	0.434	7.17E-07	7.18E-07	7.34E-07	7.35E-07
Eu-154	1.31E-06	7.38E-04	0.782	2.85E-08	1.63E-07	2.45E-06	2.61E-06
Eu-155	5.47E-05	3.09E-02	32.7	5.40E-05	5.41E-05	5.53E-05	5.54E-05
Ra-226	1.83E-11	1.03E-08	1.09E-05	3.97E-13	2.28E-12	4.51E-11	7.93E-10
Ra-228	2.77E-15	1.56E-12	1.66E-09	2.74E-15	2.74E-15	2.80E-15	2.81E-15
Ac-227	9.33E-11	5.26E-08	5.58E-05	2.03E-12	1.16E-11	1.75E-10	3.61E-09
Pa-231	2.03E-10	1.14E-07	1.21E-04	4.41E-12	2.53E-11	3.80E-10	4.04E-10
Th-229	5.38E-13	3.04E-10	3.22E-07	5.32E-13	5.32E-13	5.44E-13	5.45E-13
Th-232	9.05E-17	5.11E-14	5.41E-11	1.97E-18	1.13E-17	1.70E-16	1.80E-16
U-232	1.04E-12	5.84E-10	6.19E-07	2.25E-14	1.29E-13	1.94E-12	2.06E-12
U-233	5.13E-14	2.89E-11	3.07E-08	1.12E-15	6.40E-15	9.62E-14	1.02E-13
U-234	5.49E-08	3.10E-05	3.28E-02	1.19E-09	6.85E-09	1.03E-07	1.09E-07
U-235	2.44E-09	1.38E-06	1.46E-03	5.31E-11	3.05E-10	4.58E-09	4.87E-09
U-236	4.72E-10	2.66E-07	2.82E-04	1.03E-11	5.89E-11	8.85E-10	9.41E-10
U-238	5.57E-08	3.14E-05	3.33E-02	1.21E-09	6.95E-09	1.04E-07	1.11E-07
Np-237	1.36E-08	7.67E-06	8.13E-03	2.96E-10	1.70E-09	2.55E-08	2.71E-08
Pu-238	1.80E-08	1.02E-05	1.08E-02	3.91E-10	2.24E-09	8.87E-08	8.01E-07
Pu-239	2.74E-06	1.54E-03	1.64	5.95E-08	3.41E-07	1.35E-05	1.22E-04
Pu-240	2.35E-07	1.32E-04	0.140	5.11E-09	2.93E-08	1.16E-06	1.05E-05
Pu-241	7.08E-07	3.99E-04	0.423	1.54E-08	8.83E-08	3.49E-06	3.15E-05
Pu-242	3.19E-12	1.80E-09	1.91E-06	6.93E-14	3.98E-13	1.57E-11	1.42E-10
Am-241	6.11E-07	3.44E-04	0.365	1.33E-08	7.61E-08	1.14E-06	1.22E-06
Am-243	4.26E-12	2.40E-09	2.55E-06	9.27E-14	5.31E-13	7.99E-12	8.49E-12
Cm-242	1.33E-08	7.50E-06	7.95E-03	1.31E-08	1.31E-08	1.34E-08	1.35E-08
Cm-243	2.72E-10	1.54E-07	1.63E-04	2.69E-10	2.69E-10	2.75E-10	2.76E-10
Cm-244	1.01E-10	5.68E-08	6.02E-05	2.19E-12	1.26E-11	1.89E-10	2.01E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.51E-05 (g/L)	----	2.70E-02	9.80E-07	5.62E-06	2.22E-04	2.01E-03
U	7.01E-04	94.1	99.8	1.52E-05	8.74E-05	1.31E-03	1.40E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.31E+05 (kg)	(73.0 kgal)	----	----	----	----	----
Heat Load	5.04E-02 (kW)	(172 BTU/hr)	----	4.96E-04	1.79E-02	5.09E-02	5.04E-02
Bulk Density*	1.20 (g/cc)	----	----	1.00	1.08	1.21	1.21
Water wt%†	66.3	----	----	63.9	64.2	85.2	99.6
TOC wt% C (wet)	4.94E-04	----	----	5.81E-06	1.95E-04	5.05E-04	4.94E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.76E-06	5.64E-03	1.87	7.14E-10	9.31E-07	7.12E-06	7.17E-06
C-14	9.34E-07	7.80E-04	0.258	9.20E-09	3.32E-07	9.45E-07	9.35E-07
Ni-59	2.66E-07	2.22E-04	7.34E-02	2.62E-09	9.45E-08	2.69E-07	2.66E-07
Ni-63	2.40E-05	2.00E-02	6.62	2.36E-07	8.52E-06	2.42E-05	2.40E-05
Co-60	2.14E-07	1.78E-04	5.91E-02	2.10E-09	7.60E-08	2.16E-07	2.14E-07
Se-79	1.97E-07	1.64E-04	5.45E-02	1.94E-09	7.01E-08	1.99E-07	1.97E-07
Sr-90	1.52E-02	12.7	4.20E+03	1.50E-04	5.40E-03	1.54E-02	1.52E-02
Y-90	1.52E-02	12.7	4.20E+03	1.50E-04	5.40E-03	1.54E-02	1.52E-02
Zr-93	9.36E-07	7.81E-04	0.259	9.22E-09	3.33E-07	9.47E-07	9.37E-07
Nb-93m	7.90E-07	6.59E-04	0.218	7.78E-09	2.81E-07	7.99E-07	7.90E-07
Tc-99	6.48E-06	5.41E-03	1.79	6.38E-08	2.31E-06	6.56E-06	6.49E-06
Ru-106	8.89E-14	7.42E-11	2.46E-08	8.76E-16	3.16E-14	9.00E-14	8.90E-14
Cd-113m	2.29E-06	1.91E-03	0.632	2.25E-08	8.13E-07	2.31E-06	2.29E-06
Sb-125	1.98E-07	1.65E-04	5.47E-02	1.95E-09	7.04E-08	2.00E-07	1.98E-07
Sn-126	2.96E-07	2.47E-04	8.19E-02	2.92E-09	1.05E-07	3.00E-07	2.97E-07
I-129	1.22E-08	1.02E-05	3.38E-03	1.20E-10	4.34E-09	1.24E-08	1.22E-08
Cs-134	1.39E-09	1.16E-06	3.85E-04	1.37E-11	4.95E-10	1.41E-09	1.39E-09
Cs-137	1.71E-02	14.2	4.72E+03	1.68E-04	6.07E-03	1.73E-02	1.71E-02
Ba-137m	1.61E-02	13.5	4.46E+03	1.59E-04	5.74E-03	1.63E-02	1.62E-02
Sm-151	7.34E-04	0.612	203	7.22E-06	2.61E-04	7.42E-04	7.34E-04
Eu-152	2.72E-08	2.27E-05	7.50E-03	2.67E-10	9.66E-09	2.75E-08	2.72E-08
Eu-154	3.85E-06	3.21E-03	1.06	3.79E-08	1.37E-06	3.89E-06	3.85E-06
Eu-155	2.05E-06	1.71E-03	0.565	2.01E-08	7.28E-07	2.07E-06	2.05E-06
Ra-226	5.37E-11	4.49E-08	1.49E-05	5.29E-13	1.91E-11	5.44E-11	5.38E-11
Ra-228	1.04E-16	8.66E-14	2.87E-11	1.02E-18	3.69E-17	1.05E-16	1.04E-16
Ac-227	2.75E-10	2.29E-07	7.59E-05	2.70E-12	9.76E-11	2.78E-10	2.75E-10
Pa-231	5.96E-10	4.98E-07	1.65E-04	5.87E-12	2.12E-10	6.03E-10	5.97E-10
Th-229	2.01E-14	1.68E-11	5.56E-09	1.98E-16	7.16E-15	2.04E-14	2.01E-14
Th-232	2.66E-16	2.22E-13	7.36E-11	2.62E-18	9.47E-17	2.69E-16	2.67E-16
U-232	3.05E-12	2.54E-09	8.42E-07	3.00E-14	1.08E-12	3.08E-12	3.05E-12
U-233	1.51E-13	1.26E-10	4.17E-08	1.49E-15	5.37E-14	1.53E-13	1.51E-13
U-234	1.62E-07	1.35E-04	4.46E-02	1.59E-09	5.74E-08	1.63E-07	1.62E-07
U-235	7.19E-09	6.00E-06	1.99E-03	7.08E-11	2.56E-09	7.27E-09	7.20E-09
U-236	1.39E-09	1.16E-06	3.84E-04	1.37E-11	4.94E-10	1.40E-09	1.39E-09
U-238	1.64E-07	1.37E-04	4.53E-02	1.61E-09	5.83E-08	1.66E-07	1.64E-07
Np-237	4.00E-08	3.34E-05	1.11E-02	3.94E-10	1.42E-08	4.05E-08	4.00E-08
Pu-238	5.30E-08	4.42E-05	1.46E-02	5.21E-10	1.88E-08	5.36E-08	5.30E-08
Pu-239	8.06E-06	6.72E-03	2.23	7.93E-08	2.86E-06	8.15E-06	8.06E-06
Pu-240	6.91E-07	5.77E-04	0.191	6.81E-09	2.46E-07	6.99E-07	6.92E-07
Pu-241	2.08E-06	1.74E-03	0.576	2.05E-08	7.41E-07	2.11E-06	2.08E-06
Pu-242	9.38E-12	7.83E-09	2.59E-06	9.24E-14	3.34E-12	9.49E-12	9.39E-12
Am-241	1.80E-06	1.50E-03	0.496	1.77E-08	6.39E-07	1.82E-06	1.80E-06
Am-243	1.25E-11	1.05E-08	3.46E-06	1.23E-13	4.46E-12	1.27E-11	1.25E-11
Cm-242	4.97E-10	4.15E-07	1.37E-04	4.90E-12	1.77E-10	5.03E-10	4.98E-10
Cm-243	1.02E-11	8.50E-09	2.81E-06	1.00E-13	3.62E-12	1.03E-11	1.02E-11
Cm-244	2.96E-10	2.47E-07	8.19E-05	2.92E-12	1.05E-10	3.00E-10	2.97E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.33E-04 (g/L)	----	3.67E-02	1.31E-06	4.72E-05	1.34E-04	1.33E-04
U	2.06E-03	410	136	2.03E-05	7.34E-04	2.09E-03	2.06E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.39E+06 (kg)	(231 kgal)	----	----	----	----	----
Heat Load	0.100 (kW)	(342 BTU/hr)	----	1.41E-02	5.85E-02	0.132	0.136
Bulk Density†	1.59 (g/cc)	----	----	1.00	1.12	1.89	1.61
Water wt%†	32.6	----	----	32.3	15.6	79.1	99.6
TOC wt% C (wet)†	2.04E-04	----	----	4.82E-06	1.09E-04	3.42E-04	3.66E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.71E-06	2.33E-03	3.24	5.92E-10	7.52E-07	5.39E-06	5.63E-06
C-14	5.12E-07	3.22E-04	0.448	7.63E-09	2.68E-07	6.99E-07	7.24E-07
Ni-59	1.46E-07	9.16E-05	0.127	2.17E-09	7.63E-08	1.99E-07	2.06E-07
Ni-63	1.31E-05	8.26E-03	11.5	1.96E-07	6.88E-06	1.79E-05	1.86E-05
Co-60	1.17E-07	7.37E-05	0.103	1.75E-09	6.14E-08	1.60E-07	1.66E-07
Se-79	1.08E-07	6.79E-05	9.45E-02	1.61E-09	5.66E-08	1.47E-07	1.53E-07
Sr-90	8.33E-03	5.23	7.28E+03	1.24E-04	4.36E-03	1.14E-02	1.18E-02
Y-90	8.33E-03	5.24	7.28E+03	1.24E-04	4.36E-03	1.14E-02	1.18E-02
Zr-93	5.13E-07	3.23E-04	0.449	7.64E-09	2.69E-07	7.00E-07	7.26E-07
Nb-93m	4.33E-07	2.72E-04	0.379	6.45E-09	2.27E-07	5.91E-07	6.12E-07
Tc-99	3.56E-06	2.23E-03	3.11	5.30E-08	1.86E-06	4.85E-06	5.03E-06
Ru-106	4.88E-14	3.07E-11	4.27E-08	7.26E-16	2.55E-14	6.66E-14	6.90E-14
Cd-113m	1.25E-06	7.88E-04	1.10	1.87E-08	6.57E-07	1.71E-06	1.77E-06
Sb-125	1.09E-07	6.82E-05	9.49E-02	1.62E-09	5.68E-08	1.48E-07	1.53E-07
Sn-126	1.63E-07	1.02E-04	0.142	2.42E-09	8.51E-08	2.22E-07	2.30E-07
I-129	6.70E-09	4.21E-06	5.86E-03	9.98E-11	3.51E-09	9.14E-09	9.47E-09
Cs-134	1.02E-09	6.40E-07	8.90E-04	2.65E-10	6.54E-10	1.30E-09	1.33E-09
Cs-137	1.25E-02	7.84	1.09E+04	3.25E-03	8.02E-03	1.59E-02	1.63E-02
Ba-137m	1.18E-02	7.42	1.03E+04	3.08E-03	7.58E-03	1.50E-02	1.55E-02
Sm-151	4.02E-04	0.253	352	5.99E-06	2.11E-04	5.49E-04	5.69E-04
Eu-152	5.05E-07	3.17E-04	0.442	4.90E-07	4.98E-07	5.10E-07	5.11E-07
Eu-154	2.11E-06	1.33E-03	1.85	3.14E-08	1.11E-06	2.88E-06	2.99E-06
Eu-155	3.81E-05	2.39E-02	33.3	3.70E-05	3.75E-05	3.85E-05	3.85E-05
Ra-226	2.95E-11	1.85E-08	2.58E-05	4.39E-13	1.54E-11	4.75E-11	5.50E-10
Ra-228	1.93E-15	1.21E-12	1.69E-09	1.87E-15	1.90E-15	1.95E-15	1.95E-15
Ac-227	1.51E-10	9.46E-08	1.32E-04	2.24E-12	7.88E-11	2.05E-10	2.51E-09
Pa-231	3.27E-10	2.06E-07	2.86E-04	4.87E-12	1.71E-10	4.46E-10	4.62E-10
Th-229	3.75E-13	2.35E-10	3.27E-07	3.64E-13	3.69E-13	3.79E-13	3.79E-13
Th-232	1.46E-16	9.18E-14	1.28E-10	2.18E-18	7.65E-17	1.99E-16	2.07E-16
U-232	1.67E-12	1.05E-09	1.46E-06	2.49E-14	8.75E-13	2.28E-12	2.36E-12
U-233	8.28E-14	5.20E-11	7.24E-08	1.23E-15	4.34E-14	1.13E-13	1.17E-13
U-234	8.86E-08	5.57E-05	7.75E-02	1.32E-09	4.64E-08	1.21E-07	1.25E-07
U-235	3.94E-09	2.48E-06	3.45E-03	5.87E-11	2.06E-09	5.38E-09	5.57E-09
U-236	7.62E-10	4.79E-07	6.66E-04	1.13E-11	3.99E-10	1.04E-09	1.08E-09
U-238	8.99E-08	5.65E-05	7.86E-02	1.34E-09	4.71E-08	1.23E-07	1.27E-07
Np-237	2.20E-08	1.38E-05	1.92E-02	3.27E-10	1.15E-08	2.99E-08	3.10E-08
Pu-238	2.90E-08	1.83E-05	2.54E-02	4.33E-10	1.52E-08	7.65E-08	5.55E-07
Pu-239	4.42E-06	2.78E-03	3.86	6.58E-08	2.31E-06	1.16E-05	8.44E-05
Pu-240	3.79E-07	2.38E-04	0.331	5.64E-09	1.99E-07	9.99E-07	7.25E-06
Pu-241	1.14E-06	7.18E-04	0.999	1.70E-08	5.98E-07	3.01E-06	2.18E-05
Pu-242	5.15E-12	3.23E-09	4.50E-06	7.66E-14	2.69E-12	1.36E-11	9.83E-11
Am-241	9.85E-07	6.19E-04	0.862	1.47E-08	5.16E-07	1.34E-06	1.39E-06
Am-243	6.88E-12	4.32E-09	6.01E-06	1.02E-13	3.60E-12	9.38E-12	9.72E-12
Cm-242	9.25E-09	5.81E-06	8.09E-03	8.98E-09	9.12E-09	9.35E-09	9.36E-09
Cm-243	1.89E-10	1.19E-07	1.66E-04	1.84E-10	1.87E-10	1.91E-10	1.92E-10
Cm-244	1.63E-10	1.02E-07	1.42E-04	2.42E-12	8.51E-11	2.22E-10	2.30E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.27E-05 (g/L)	----	6.36E-02	1.08E-06	3.81E-05	1.92E-04	1.39E-03
U	1.13E-03	169	235	1.69E-05	5.93E-04	1.54E-03	1.60E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.62E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	3.13E-04 (kW)	(1.07 BTU/hr)	----	8.52E-05	1.09E-04	5.17E-04	5.44E-04
Bulk Density	0.455 (g/cc)	----	----	0.419	0.426	0.476	0.457
Void Fraction	2.14E-02	----	----	2.02E-02	2.64E-03	4.53E-02	4.73E-02
Water wt%	-0.834	----	----	-0.885	-4.12	4.45	5.95
TOC wt% C (wet)	2.09E-05	----	----	4.94E-07	2.49E-06	4.10E-05	4.39E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.8	5.47E+05	1.98E+04	10.2	10.2	11.3	10.9
Al^{3+}	7.62E-02	4.52E+03	163	7.62E-02	7.62E-02	7.62E-02	7.62E-02
Fe^{3+} (total Fe)	0.160	1.96E+04	711	8.58E-02	0.154	0.161	0.162
Cr^{3+}	6.96E-05	7.95	0.288	1.51E-06	8.68E-06	1.30E-04	1.39E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	3.48E-05	4.49	0.162	7.57E-07	4.34E-06	6.52E-05	6.94E-05
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.25E-02	8.14E+03	295	7.62E-02	7.65E-02	9.54E-02	9.82E-02
K^+	3.43E-04	29.4	1.06	7.45E-06	4.27E-05	6.43E-04	6.83E-04
OH^-	0.223	8.34E+03	302	6.77E-05	0.205	0.226	0.228
$NO3^-$	0.633	8.62E+04	3.12E+03	1.44E-03	4.73E-02	1.09	0.633
$NO2^-$	7.18E-03	726	26.3	2.35E-05	6.21E-04	1.82E-02	2.01E-02
$CO3^{2-}$	2.02E-02	2.66E+03	96.4	9.46E-05	3.27E-03	2.37E-02	2.58E-02
$PO4^{3-}$	2.83E-03	590	21.3	6.15E-05	3.53E-04	5.30E-03	1.06E-02
$SO4^{2-}$	3.08E-03	650	23.5	6.70E-05	3.84E-04	5.77E-03	6.14E-03
Si (as SiO_x^{2-})	5.40	3.33E+05	1.21E+04	5.40	5.40	5.40	5.40
F^-	0	0	0	0	0	0	0
Cl^-	2.08E-03	162	5.85	4.52E-05	2.59E-04	3.89E-03	1.13E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	6.60E-07	0.305	1.10E-02	1.44E-08	8.23E-08	1.24E-06	1.32E-06
butanol	6.60E-07	0.107	3.89E-03	1.44E-08	8.23E-08	1.24E-06	1.32E-06
NH_3	2.05E-05	0.767	2.77E-02	1.68E-08	5.36E-07	5.29E-05	5.46E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.62E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	3.13E-04 (kW)	(1.07 BTU/hr)	----	8.52E-05	1.09E-04	5.17E-04	5.44E-04
Bulk Density†	0.455 (g/cc)	----	----	0.419	0.426	0.476	0.457
Water wt%†	-0.834	----	----	-0.885	-4.12	4.45	5.95
TOC wt% C (wet)†	2.09E-05	----	----	4.94E-07	2.49E-06	4.10E-05	4.39E-05

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.8	5.47E+05	1.98E+04	10.2	10.2	11.3	10.9
Al^{3+}	7.62E-02	4.52E+03	163	7.62E-02	7.62E-02	7.62E-02	7.62E-02
Fe^{3+} (total Fe)	0.160	1.96E+04	711	8.58E-02	0.154	0.161	0.162
Cr^{3+}	6.96E-05	7.95	0.288	1.51E-06	8.68E-06	1.30E-04	1.39E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	3.48E-05	4.49	0.162	7.57E-07	4.34E-06	6.52E-05	6.94E-05
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.25E-02	8.14E+03	295	7.62E-02	7.65E-02	9.54E-02	9.82E-02
K^+	3.43E-04	29.4	1.06	7.45E-06	4.27E-05	6.43E-04	6.83E-04
OH^-	0.223	8.34E+03	302	6.77E-05	0.205	0.226	0.228
$NO3^-$	0.633	8.62E+04	3.12E+03	1.44E-03	4.73E-02	1.09	0.633
$NO2^-$	7.18E-03	726	26.3	2.35E-05	6.21E-04	1.82E-02	2.01E-02
$CO3^{2-}$	2.02E-02	2.66E+03	96.4	9.46E-05	3.27E-03	2.37E-02	2.58E-02
$PO4^{3-}$	2.83E-03	590	21.3	6.15E-05	3.53E-04	5.30E-03	1.06E-02
$SO4^{2-}$	3.08E-03	650	23.5	6.70E-05	3.84E-04	5.77E-03	6.14E-03
Si (as SiO_x^{2-})	5.40	3.33E+05	1.21E+04	5.40	5.40	5.40	5.40
F^-	0	0	0	0	0	0	0
Cl^-	2.08E-03	162	5.85	4.52E-05	2.59E-04	3.89E-03	1.13E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	6.60E-07	0.305	1.10E-02	1.44E-08	8.23E-08	1.24E-06	1.32E-06
butanol	6.60E-07	0.107	3.89E-03	1.44E-08	8.23E-08	1.24E-06	1.32E-06
NH_3	2.05E-05	0.767	2.77E-02	1.68E-08	5.36E-07	5.29E-05	5.46E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	3.62E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	3.13E-04 (kW)	(1.07 BTU/hr)	----	8.52E-05	1.09E-04	5.17E-04	5.44E-04
Bulk Density	0.455 (g/cc)	----	----	0.419	0.426	0.476	0.457
Void Fraction	2.14E-02	----	----	2.02E-02	2.64E-03	4.53E-02	4.73E-02
Water wt%	-0.834	----	----	-0.885	-4.12	4.45	5.95
TOC wt% C (wet)	2.09E-05	----	----	4.94E-07	2.49E-06	4.10E-05	4.39E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.09E-07	2.39E-04	8.63E-03	2.53E-11	1.27E-08	2.17E-07	2.33E-07
C-14	1.50E-08	3.30E-05	1.19E-03	3.27E-10	1.87E-09	2.82E-08	2.99E-08
Ni-59	4.27E-09	9.38E-06	3.39E-04	9.29E-11	5.33E-10	8.01E-09	8.51E-09
Ni-63	3.85E-07	8.45E-04	3.06E-02	8.37E-09	4.80E-08	7.22E-07	7.68E-07
Co-60	3.44E-09	7.54E-06	2.73E-04	7.47E-11	4.28E-10	6.44E-09	6.85E-09
Se-79	3.17E-09	6.96E-06	2.52E-04	6.89E-11	3.95E-10	5.94E-09	6.31E-09
Sr-90	2.44E-04	0.536	19.4	5.31E-06	3.04E-05	4.58E-04	4.87E-04
Y-90	2.44E-04	0.536	19.4	5.31E-06	3.04E-05	4.58E-04	4.87E-04
Zr-93	1.50E-08	3.30E-05	1.20E-03	3.27E-10	1.88E-09	2.82E-08	3.00E-08
Nb-93m	1.27E-08	2.79E-05	1.01E-03	2.76E-10	1.58E-09	2.38E-08	2.53E-08
Tc-99	1.04E-07	2.29E-04	8.28E-03	2.27E-09	1.30E-08	1.95E-07	2.08E-07
Ru-106	1.43E-15	3.14E-12	1.14E-10	3.11E-17	1.78E-16	2.68E-15	2.85E-15
Cd-113m	3.68E-08	8.07E-05	2.92E-03	8.00E-10	4.59E-09	6.89E-08	7.33E-08
Sb-125	3.18E-09	6.99E-06	2.53E-04	6.92E-11	3.97E-10	5.97E-09	6.34E-09
Sn-126	4.77E-09	1.05E-05	3.79E-04	1.04E-10	5.94E-10	8.94E-09	9.50E-09
I-129	1.96E-10	4.31E-07	1.56E-05	4.27E-12	2.45E-11	3.68E-10	3.91E-10
Cs-134	4.00E-11	8.77E-08	3.17E-06	1.81E-11	2.04E-11	5.95E-11	6.22E-11
Cs-137	4.90E-04	1.08	38.9	2.21E-04	2.50E-04	7.30E-04	7.62E-04
Ba-137m	4.63E-04	1.02	36.8	2.09E-04	2.36E-04	6.90E-04	7.21E-04
Sm-151	1.18E-05	2.59E-02	0.937	2.56E-07	1.47E-06	2.21E-05	2.35E-05
Eu-152	3.43E-08	7.54E-05	2.73E-03	3.39E-08	3.40E-08	3.47E-08	3.48E-08
Eu-154	6.19E-08	1.36E-04	4.92E-03	1.35E-09	7.72E-09	1.16E-07	1.23E-07
Eu-155	2.59E-06	5.68E-03	0.206	2.56E-06	2.56E-06	2.62E-06	2.62E-06
Ra-226	8.64E-13	1.90E-09	6.86E-08	1.88E-14	1.08E-13	2.13E-12	3.75E-11
Ra-228	1.31E-16	2.88E-13	1.04E-11	1.30E-16	1.30E-16	1.33E-16	1.33E-16
Ac-227	4.41E-12	9.69E-09	3.51E-07	9.60E-14	5.50E-13	8.27E-12	1.71E-10
Pa-231	9.59E-12	2.10E-08	7.62E-07	2.09E-13	1.20E-12	1.80E-11	1.91E-11
Th-229	2.55E-14	5.59E-11	2.02E-09	2.51E-14	2.52E-14	2.57E-14	2.58E-14
Th-232	4.28E-18	9.40E-15	3.40E-13	9.31E-20	5.34E-19	8.03E-18	8.54E-18
U-232	4.90E-14	1.08E-10	3.89E-09	1.07E-15	6.11E-15	9.18E-14	9.76E-14
U-233	2.43E-15	5.33E-12	1.93E-10	5.28E-17	3.03E-16	4.55E-15	4.84E-15
U-234	2.60E-09	5.70E-06	2.06E-04	5.65E-11	3.24E-10	4.87E-09	5.18E-09
U-235	1.16E-10	2.54E-07	9.18E-06	2.51E-12	1.44E-11	2.17E-10	2.30E-10
U-236	2.23E-11	4.90E-08	1.77E-06	4.86E-13	2.78E-12	4.19E-11	4.45E-11
U-238	2.64E-09	5.79E-06	2.09E-04	5.73E-11	3.29E-10	4.94E-09	5.25E-09
Np-237	6.43E-10	1.41E-06	5.11E-05	1.40E-11	8.02E-11	1.21E-09	1.28E-09
Pu-238	8.51E-10	1.87E-06	6.76E-05	1.85E-11	1.06E-10	4.20E-09	3.79E-08
Pu-239	1.29E-07	2.84E-04	1.03E-02	2.82E-09	1.61E-08	6.38E-07	5.76E-06
Pu-240	1.11E-08	2.44E-05	8.83E-04	2.42E-10	1.39E-09	5.48E-08	4.95E-07
Pu-241	3.35E-08	7.35E-05	2.66E-03	7.28E-10	4.17E-09	1.65E-07	1.49E-06
Pu-242	1.51E-13	3.31E-10	1.20E-08	3.28E-15	1.88E-14	7.43E-13	6.71E-12
Am-241	2.89E-08	6.34E-05	2.29E-03	6.28E-10	3.60E-09	5.42E-08	5.76E-08
Am-243	2.02E-13	4.43E-10	1.60E-08	4.38E-15	2.51E-14	3.78E-13	4.02E-13
Cm-242	6.29E-10	1.38E-06	5.00E-05	6.21E-10	6.22E-10	6.36E-10	6.37E-10
Cm-243	1.29E-11	2.83E-08	1.02E-06	1.27E-11	1.27E-11	1.30E-11	1.30E-11
Cm-244	4.77E-12	1.05E-08	3.79E-07	1.04E-13	5.94E-13	8.94E-12	9.50E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.13E-06 (g/L)	----	1.69E-04	4.64E-08	2.66E-07	1.05E-05	9.49E-05
U	3.32E-05	17.3	0.627	7.21E-07	4.14E-06	6.22E-05	6.61E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	0 (g/cc)	----	----	0	0	0	0
Water wt%†	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Single-Shell Tank 241-TY-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.62E+04 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	3.13E-04 (kW)	(1.07 BTU/hr)	----	8.52E-05	1.09E-04	5.17E-04	5.44E-04
Bulk Density†	0.455 (g/cc)	----	----	0.419	0.426	0.476	0.457
Water wt%†	-0.834	----	----	-0.885	-4.12	4.45	5.95
TOC wt% C (wet)†	2.09E-05	----	----	4.94E-07	2.49E-06	4.10E-05	4.39E-05

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.09E-07	2.39E-04	8.63E-03	2.53E-11	1.27E-08	2.17E-07	2.33E-07
C-14	1.50E-08	3.30E-05	1.19E-03	3.27E-10	1.87E-09	2.82E-08	2.99E-08
Ni-59	4.27E-09	9.38E-06	3.39E-04	9.29E-11	5.33E-10	8.01E-09	8.51E-09
Ni-63	3.85E-07	8.45E-04	3.06E-02	8.37E-09	4.80E-08	7.22E-07	7.68E-07
Co-60	3.44E-09	7.54E-06	2.73E-04	7.47E-11	4.28E-10	6.44E-09	6.85E-09
Se-79	3.17E-09	6.96E-06	2.52E-04	6.89E-11	3.95E-10	5.94E-09	6.31E-09
Sr-90	2.44E-04	0.536	19.4	5.31E-06	3.04E-05	4.58E-04	4.87E-04
Y-90	2.44E-04	0.536	19.4	5.31E-06	3.04E-05	4.58E-04	4.87E-04
Zr-93	1.50E-08	3.30E-05	1.20E-03	3.27E-10	1.88E-09	2.82E-08	3.00E-08
Nb-93m	1.27E-08	2.79E-05	1.01E-03	2.76E-10	1.58E-09	2.38E-08	2.53E-08
Tc-99	1.04E-07	2.29E-04	8.28E-03	2.27E-09	1.30E-08	1.95E-07	2.08E-07
Ru-106	1.43E-15	3.14E-12	1.14E-10	3.11E-17	1.78E-16	2.68E-15	2.85E-15
Cd-113m	3.68E-08	8.07E-05	2.92E-03	8.00E-10	4.59E-09	6.89E-08	7.33E-08
Sb-125	3.18E-09	6.99E-06	2.53E-04	6.92E-11	3.97E-10	5.97E-09	6.34E-09
Sn-126	4.77E-09	1.05E-05	3.79E-04	1.04E-10	5.94E-10	8.94E-09	9.50E-09
I-129	1.96E-10	4.31E-07	1.56E-05	4.27E-12	2.45E-11	3.68E-10	3.91E-10
Cs-134	4.00E-11	8.77E-08	3.17E-06	1.81E-11	2.04E-11	5.95E-11	6.22E-11
Cs-137	4.90E-04	1.08	38.9	2.21E-04	2.50E-04	7.30E-04	7.62E-04
Ba-137m	4.63E-04	1.02	36.8	2.09E-04	2.36E-04	6.90E-04	7.21E-04
Sm-151	1.18E-05	2.59E-02	0.937	2.56E-07	1.47E-06	2.21E-05	2.35E-05
Eu-152	3.43E-08	7.54E-05	2.73E-03	3.39E-08	3.40E-08	3.47E-08	3.48E-08
Eu-154	6.19E-08	1.36E-04	4.92E-03	1.35E-09	7.72E-09	1.16E-07	1.23E-07
Eu-155	2.59E-06	5.68E-03	0.206	2.56E-06	2.56E-06	2.62E-06	2.62E-06
Ra-226	8.64E-13	1.90E-09	6.86E-08	1.88E-14	1.08E-13	2.13E-12	3.75E-11
Ra-228	1.31E-16	2.88E-13	1.04E-11	1.30E-16	1.30E-16	1.33E-16	1.33E-16
Ac-227	4.41E-12	9.69E-09	3.51E-07	9.60E-14	5.50E-13	8.27E-12	1.71E-10
Pa-231	9.59E-12	2.10E-08	7.62E-07	2.09E-13	1.20E-12	1.80E-11	1.91E-11
Th-229	2.55E-14	5.59E-11	2.02E-09	2.51E-14	2.52E-14	2.57E-14	2.58E-14
Th-232	4.28E-18	9.40E-15	3.40E-13	9.31E-20	5.34E-19	8.03E-18	8.54E-18
U-232	4.90E-14	1.08E-10	3.89E-09	1.07E-15	6.11E-15	9.18E-14	9.76E-14
U-233	2.43E-15	5.33E-12	1.93E-10	5.28E-17	3.03E-16	4.55E-15	4.84E-15
U-234	2.60E-09	5.70E-06	2.06E-04	5.65E-11	3.24E-10	4.87E-09	5.18E-09
U-235	1.16E-10	2.54E-07	9.18E-06	2.51E-12	1.44E-11	2.17E-10	2.30E-10
U-236	2.23E-11	4.90E-08	1.77E-06	4.86E-13	2.78E-12	4.19E-11	4.45E-11
U-238	2.64E-09	5.79E-06	2.09E-04	5.73E-11	3.29E-10	4.94E-09	5.25E-09
Np-237	6.43E-10	1.41E-06	5.11E-05	1.40E-11	8.02E-11	1.21E-09	1.28E-09
Pu-238	8.51E-10	1.87E-06	6.76E-05	1.85E-11	1.06E-10	4.20E-09	3.79E-08
Pu-239	1.29E-07	2.84E-04	1.03E-02	2.82E-09	1.61E-08	6.38E-07	5.76E-06
Pu-240	1.11E-08	2.44E-05	8.83E-04	2.42E-10	1.39E-09	5.48E-08	4.95E-07
Pu-241	3.35E-08	7.35E-05	2.66E-03	7.28E-10	4.17E-09	1.65E-07	1.49E-06
Pu-242	1.51E-13	3.31E-10	1.20E-08	3.28E-15	1.88E-14	7.43E-13	6.71E-12
Am-241	2.89E-08	6.34E-05	2.29E-03	6.28E-10	3.60E-09	5.42E-08	5.76E-08
Am-243	2.02E-13	4.43E-10	1.60E-08	4.38E-15	2.51E-14	3.78E-13	4.02E-13
Cm-242	6.29E-10	1.38E-06	5.00E-05	6.21E-10	6.22E-10	6.36E-10	6.37E-10
Cm-243	1.29E-11	2.83E-08	1.02E-06	1.27E-11	1.27E-11	1.30E-11	1.30E-11
Cm-244	4.77E-12	1.05E-08	3.79E-07	1.04E-13	5.94E-13	8.94E-12	9.50E-12

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.13E-06 (g/L)	----	1.69E-04	4.64E-08	2.66E-07	1.05E-05	9.49E-05
U	3.32E-05	17.3	0.627	7.21E-07	4.14E-06	6.22E-05	6.61E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.50E+06 (kg)	(740 kgal)	----	----	----	----	----
Heat Load	2.11 (kW)	(7.20E+03 BTU/hr)	----	2.01	2.05	2.17	2.19
Bulk Density*	1.25 (g/cc)	----	----	1.23	1.24	1.26	1.26
Water wt%	64.8	----	----	63.5	64.1	65.6	66.8
TOC wt% C (wet)	0.273	----	----	0.210	0.240	0.305	0.336

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.78	1.06E+05	3.72E+05	5.35	5.59	5.93	6.07
Al^{3+}	0.750	1.62E+04	5.67E+04	0.673	0.710	0.795	0.778
Fe^{3+} (total Fe)	3.72E-03	166	582	3.14E-03	3.42E-03	4.01E-03	4.29E-03
Cr^{3+}	6.96E-02	2.90E+03	1.01E+04	5.39E-02	6.24E-02	7.12E-02	7.27E-02
Bi^{3+}	6.06E-04	101	355	5.71E-04	5.88E-04	6.24E-04	6.41E-04
La^{3+}	3.37E-06	0.374	1.31	2.48E-06	2.91E-06	3.82E-06	4.26E-06
Hg^{2+}	3.76E-06	0.603	2.11	3.55E-06	3.71E-06	3.79E-06	3.82E-06
Zr (as $ZrO(OH)_2$)	1.58E-04	11.5	40.2	1.09E-04	1.51E-04	1.64E-04	1.70E-04
Pb^{2+}	3.83E-04	63.5	223	3.38E-04	3.60E-04	4.07E-04	4.29E-04
Ni^{2+}	2.39E-03	112	393	2.32E-03	2.36E-03	2.42E-03	2.45E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.69E-03	74.2	260	1.41E-03	1.55E-03	1.83E-03	1.97E-03
Ca^{2+}	1.26E-02	404	1.42E+03	1.14E-02	1.20E-02	1.32E-02	1.38E-02
K^+	3.25E-02	1.02E+03	3.56E+03	2.57E-02	2.90E-02	3.61E-02	3.96E-02
OH^-	4.44	6.03E+04	2.11E+05	3.95	4.18	4.70	4.61
$NO3^-$	1.99	9.84E+04	3.45E+05	1.86	1.92	2.04	2.04
$NO2^-$	1.04	3.84E+04	1.34E+05	0.925	0.980	1.10	1.16
$CO3^{2-}$	0.150	7.18E+03	2.52E+04	0.139	0.142	0.159	0.160
$PO4^{3-}$	3.99E-02	3.03E+03	1.06E+04	3.73E-02	3.84E-02	4.12E-02	4.25E-02
$SO4^{2-}$	9.22E-02	7.08E+03	2.48E+04	7.69E-02	8.42E-02	0.100	0.108
Si (as SiO_x^{2-})	2.83E-02	637	2.23E+03	2.44E-02	2.63E-02	3.04E-02	3.23E-02
F^-	3.51E-02	534	1.87E+03	2.81E-02	3.31E-02	3.68E-02	3.86E-02
Cl^-	0.101	2.85E+03	9.99E+03	9.20E-02	9.61E-02	0.106	0.106
$C_6H_5O_7^{3-}$	9.78E-03	1.48E+03	5.18E+03	9.22E-03	9.50E-03	1.01E-02	1.05E-02
$EDTA^{4-}$	3.28E-03	756	2.65E+03	1.35E-03	2.29E-03	4.28E-03	5.25E-03
$HEDTA^{3-}$	5.36E-03	1.17E+03	4.11E+03	1.49E-03	3.38E-03	7.35E-03	9.30E-03
$glycolate^-$	2.16E-02	1.30E+03	4.55E+03	1.42E-02	1.78E-02	2.55E-02	2.92E-02
$acetate^-$	3.85E-03	182	637	3.15E-03	3.45E-03	4.29E-03	4.95E-03
$oxalate^{2-}$	4.41E-06	0.310	1.09	3.93E-06	4.17E-06	4.65E-06	4.89E-06
DBP	7.33E-03	1.23E+03	4.31E+03	6.36E-03	6.83E-03	7.81E-03	8.34E-03
butanol	7.33E-03	434	1.52E+03	6.36E-03	6.83E-03	7.81E-03	8.34E-03
NH_3	5.35E-02	727	2.55E+03	2.99E-02	4.13E-02	6.59E-02	7.81E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.50E+06 (kg)	(740 kgal)	----	----	----	----	----
Heat Load	2.11 (kW)	(7.20E+03 BTU/hr)	----	2.01	2.05	2.17	2.19
Bulk Density†	1.25 (g/cc)	----	----	1.23	1.24	1.26	1.26
Water wt%†	64.8	----	----	63.5	64.1	65.6	66.8
TOC wt% C (wet)†	0.273	----	----	0.210	0.240	0.305	0.336

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.78	1.06E+05	3.72E+05	5.35	5.59	5.93	6.07
Al^{3+}	0.750	1.62E+04	5.67E+04	0.673	0.710	0.795	0.778
Fe^{3+} (total Fe)	3.72E-03	166	582	3.14E-03	3.42E-03	4.01E-03	4.29E-03
Cr^{3+}	6.96E-02	2.90E+03	1.01E+04	5.39E-02	6.24E-02	7.12E-02	7.27E-02
Bi^{3+}	6.06E-04	101	355	5.71E-04	5.88E-04	6.24E-04	6.41E-04
La^{3+}	3.37E-06	0.374	1.31	2.48E-06	2.91E-06	3.82E-06	4.26E-06
Hg^{2+}	3.76E-06	0.603	2.11	3.55E-06	3.71E-06	3.79E-06	3.82E-06
Zr (as $ZrO(OH)_2$)	1.58E-04	11.5	40.2	1.09E-04	1.51E-04	1.64E-04	1.70E-04
Pb^{2+}	3.83E-04	63.5	223	3.38E-04	3.60E-04	4.07E-04	4.29E-04
Ni^{2+}	2.39E-03	112	393	2.32E-03	2.36E-03	2.42E-03	2.45E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.69E-03	74.2	260	1.41E-03	1.55E-03	1.83E-03	1.97E-03
Ca^{2+}	1.26E-02	404	1.42E+03	1.14E-02	1.20E-02	1.32E-02	1.38E-02
K^+	3.25E-02	1.02E+03	3.56E+03	2.57E-02	2.90E-02	3.61E-02	3.96E-02
OH^-	4.44	6.03E+04	2.11E+05	3.95	4.18	4.70	4.61
$NO3^-$	1.99	9.84E+04	3.45E+05	1.86	1.92	2.04	2.04
$NO2^-$	1.04	3.84E+04	1.34E+05	0.925	0.980	1.10	1.16
$CO3^{2-}$	0.150	7.18E+03	2.52E+04	0.139	0.142	0.159	0.160
$PO4^{3-}$	3.99E-02	3.03E+03	1.06E+04	3.73E-02	3.84E-02	4.12E-02	4.25E-02
$SO4^{2-}$	9.22E-02	7.08E+03	2.48E+04	7.69E-02	8.42E-02	0.100	0.108
Si (as SiO_x^{2-})	2.83E-02	637	2.23E+03	2.44E-02	2.63E-02	3.04E-02	3.23E-02
F^-	3.51E-02	534	1.87E+03	2.81E-02	3.31E-02	3.68E-02	3.86E-02
Cl^-	0.101	2.85E+03	9.99E+03	9.20E-02	9.61E-02	0.106	0.106
$C_6H_5O_7^{3-}$	9.78E-03	1.48E+03	5.18E+03	9.22E-03	9.50E-03	1.01E-02	1.05E-02
$EDTA^{4-}$	3.28E-03	756	2.65E+03	1.35E-03	2.29E-03	4.28E-03	5.25E-03
$HEDTA^{3-}$	5.36E-03	1.17E+03	4.11E+03	1.49E-03	3.38E-03	7.35E-03	9.30E-03
$glycolate^-$	2.16E-02	1.30E+03	4.55E+03	1.42E-02	1.78E-02	2.55E-02	2.92E-02
$acetate^-$	3.85E-03	182	637	3.15E-03	3.45E-03	4.29E-03	4.95E-03
$oxalate^{2-}$	4.41E-06	0.310	1.09	3.93E-06	4.17E-06	4.65E-06	4.89E-06
DBP	7.33E-03	1.23E+03	4.31E+03	6.36E-03	6.83E-03	7.81E-03	8.34E-03
butanol	7.33E-03	434	1.52E+03	6.36E-03	6.83E-03	7.81E-03	8.34E-03
NH_3	5.35E-02	727	2.55E+03	2.99E-02	4.13E-02	6.59E-02	7.81E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.50E+06 (kg)	(740 kgal)	----	----	----	----	----
Heat Load	2.11 (kW)	(7.20E+03 BTU/hr)	----	2.01	2.05	2.17	2.19
Bulk Density*	1.25 (g/cc)	----	----	1.23	1.24	1.26	1.26
Water wt%†	64.8	----	----	63.5	64.1	65.6	66.8
TOC wt% C (wet)	0.273	----	----	0.210	0.240	0.305	0.336

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.46E-05	7.56E-02	265	5.93E-05	5.93E-05	9.90E-05	9.80E-05
C-14	1.30E-05	1.04E-02	36.3	5.59E-06	5.59E-06	1.32E-05	1.32E-05
Ni-59	8.03E-07	6.42E-04	2.25	4.56E-07	4.56E-07	8.21E-07	8.38E-07
Ni-63	7.84E-05	6.27E-02	219	4.40E-05	4.40E-05	8.01E-05	8.18E-05
Co-60	1.46E-05	1.16E-02	40.8	6.12E-06	6.12E-06	1.48E-05	1.49E-05
Se-79	1.31E-06	1.05E-03	3.67	8.39E-07	8.39E-07	1.48E-06	1.64E-06
Sr-90	4.21E-02	33.7	1.18E+05	3.98E-02	4.09E-02	4.33E-02	4.44E-02
Y-90	4.21E-02	33.7	1.18E+05	2.58E-02	2.58E-02	4.33E-02	4.44E-02
Zr-93	6.41E-06	5.13E-03	18.0	4.06E-06	4.06E-06	7.26E-06	8.08E-06
Nb-93m	4.71E-06	3.76E-03	13.2	3.06E-06	3.06E-06	5.30E-06	5.88E-06
Tc-99	9.51E-05	7.60E-02	266	6.76E-05	8.10E-05	1.09E-04	1.23E-04
Ru-106	2.46E-09	1.96E-06	6.88E-03	1.37E-09	1.37E-09	2.70E-09	2.92E-09
Cd-113m	3.26E-05	2.61E-02	91.3	1.85E-05	1.85E-05	3.77E-05	4.26E-05
Sb-125	6.51E-05	5.21E-02	182	2.86E-05	2.86E-05	6.66E-05	6.81E-05
Sn-126	1.98E-06	1.58E-03	5.55	1.28E-06	1.28E-06	2.24E-06	2.48E-06
I-129	1.83E-07	1.47E-04	0.513	1.30E-07	1.56E-07	2.11E-07	2.37E-07
Cs-134	2.40E-06	1.92E-03	6.72	1.13E-06	1.75E-06	3.06E-06	3.72E-06
Cs-137	0.100	80.1	2.80E+05	9.23E-02	9.60E-02	0.105	0.106
Ba-137m	9.47E-02	75.7	2.65E+05	7.43E-02	7.43E-02	9.90E-02	0.100
Sm-151	4.62E-03	3.69	1.29E+04	2.97E-03	2.97E-03	5.21E-03	5.78E-03
Eu-152	1.30E-06	1.04E-03	3.65	7.18E-07	7.18E-07	1.36E-06	1.41E-06
Eu-154	2.25E-04	0.180	629	1.07E-04	1.07E-04	2.67E-04	2.84E-04
Eu-155	7.61E-05	6.09E-02	213	4.14E-05	4.14E-05	7.94E-05	8.26E-05
Ra-226	5.96E-11	4.76E-08	1.67E-04	4.48E-11	4.50E-11	6.71E-11	7.43E-11
Ra-228	6.88E-08	5.50E-05	0.193	2.81E-08	2.81E-08	7.88E-08	8.95E-08
Ac-227	3.63E-10	2.90E-07	1.02E-03	2.78E-10	2.78E-10	4.07E-10	4.34E-10
Pa-231	1.62E-09	1.29E-06	4.54E-03	1.15E-09	1.15E-09	1.79E-09	1.95E-09
Th-229	1.61E-09	1.29E-06	4.50E-03	6.68E-10	6.68E-10	1.83E-09	2.06E-09
Th-232	6.90E-09	5.52E-06	1.93E-02	1.87E-09	1.87E-09	8.28E-09	9.60E-09
U-232	2.44E-07	1.95E-04	0.684	1.76E-07	2.09E-07	2.84E-07	3.27E-07
U-233	9.36E-07	7.49E-04	2.62	6.76E-07	8.03E-07	1.09E-06	1.25E-06
U-234	3.61E-07	2.89E-04	1.01	3.41E-07	3.50E-07	3.72E-07	3.69E-07
U-235	1.47E-08	1.17E-05	4.11E-02	1.38E-08	1.42E-08	1.52E-08	1.50E-08
U-236	1.25E-08	1.00E-05	3.51E-02	1.14E-08	1.23E-08	1.27E-08	1.28E-08
U-238	3.93E-07	3.14E-04	1.10	3.72E-07	3.82E-07	4.04E-07	4.00E-07
Np-237	3.60E-07	2.88E-04	1.01	2.71E-07	3.14E-07	4.07E-07	4.51E-07
Pu-238	5.60E-07	4.48E-04	1.57	4.54E-07	5.06E-07	6.14E-07	6.65E-07
Pu-239	1.77E-05	1.42E-02	49.6	1.50E-05	1.63E-05	1.91E-05	2.04E-05
Pu-240	3.03E-06	2.42E-03	8.48	2.52E-06	2.77E-06	3.28E-06	3.53E-06
Pu-241	4.10E-05	3.28E-02	115	3.38E-05	3.74E-05	4.47E-05	4.83E-05
Pu-242	2.06E-10	1.64E-07	5.76E-04	1.63E-10	1.84E-10	2.28E-10	2.49E-10
Am-241	2.20E-05	1.76E-02	61.5	1.70E-05	1.94E-05	2.45E-05	2.70E-05
Am-243	8.06E-10	6.45E-07	2.26E-03	6.49E-10	7.24E-10	8.90E-10	9.70E-10
Cm-242	4.62E-08	3.69E-05	0.129	2.22E-08	2.22E-08	4.85E-08	5.07E-08
Cm-243	4.32E-09	3.46E-06	1.21E-02	2.04E-09	2.04E-09	4.60E-09	4.88E-09
Cm-244	4.28E-08	3.42E-05	0.120	1.93E-08	1.93E-08	5.08E-08	5.59E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.28E-04 (g/L)	----	0.640	1.77E-04	2.02E-04	2.54E-04	2.79E-04
U	4.09E-03	778	2.72E+03	3.83E-03	3.95E-03	4.24E-03	4.18E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.50E+06 (kg)	(740 kgal)	----	----	----	----	----
Heat Load	2.11 (kW)	(7.20E+03 BTU/hr)	----	2.01	2.05	2.17	2.19
Bulk Density†	1.25 (g/cc)	----	----	1.23	1.24	1.26	1.26
Water wt%†	64.8	----	----	63.5	64.1	65.6	66.8
TOC wt% C (wet)†	0.273	----	----	0.210	0.240	0.305	0.336

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.46E-05	7.56E-02	265	5.93E-05	5.93E-05	9.90E-05	9.80E-05
C-14	1.30E-05	1.04E-02	36.3	5.59E-06	5.59E-06	1.32E-05	1.32E-05
Ni-59	8.03E-07	6.42E-04	2.25	4.56E-07	4.56E-07	8.21E-07	8.38E-07
Ni-63	7.84E-05	6.27E-02	219	4.40E-05	4.40E-05	8.01E-05	8.18E-05
Co-60	1.46E-05	1.16E-02	40.8	6.12E-06	6.12E-06	1.48E-05	1.49E-05
Se-79	1.31E-06	1.05E-03	3.67	8.39E-07	8.39E-07	1.48E-06	1.64E-06
Sr-90	4.21E-02	33.7	1.18E+05	3.98E-02	4.09E-02	4.33E-02	4.44E-02
Y-90	4.21E-02	33.7	1.18E+05	2.58E-02	2.58E-02	4.33E-02	4.44E-02
Zr-93	6.41E-06	5.13E-03	18.0	4.06E-06	4.06E-06	7.26E-06	8.08E-06
Nb-93m	4.71E-06	3.76E-03	13.2	3.06E-06	3.06E-06	5.30E-06	5.88E-06
Tc-99	9.51E-05	7.60E-02	266	6.76E-05	8.10E-05	1.09E-04	1.23E-04
Ru-106	2.46E-09	1.96E-06	6.88E-03	1.37E-09	1.37E-09	2.70E-09	2.92E-09
Cd-113m	3.26E-05	2.61E-02	91.3	1.85E-05	1.85E-05	3.77E-05	4.26E-05
Sb-125	6.51E-05	5.21E-02	182	2.86E-05	2.86E-05	6.66E-05	6.81E-05
Sn-126	1.98E-06	1.58E-03	5.55	1.28E-06	1.28E-06	2.24E-06	2.48E-06
I-129	1.83E-07	1.47E-04	0.513	1.30E-07	1.56E-07	2.11E-07	2.37E-07
Cs-134	2.40E-06	1.92E-03	6.72	1.13E-06	1.75E-06	3.06E-06	3.72E-06
Cs-137	0.100	80.1	2.80E+05	9.23E-02	9.60E-02	0.105	0.106
Ba-137m	9.47E-02	75.7	2.65E+05	7.43E-02	7.43E-02	9.90E-02	0.100
Sm-151	4.62E-03	3.69	1.29E+04	2.97E-03	2.97E-03	5.21E-03	5.78E-03
Eu-152	1.30E-06	1.04E-03	3.65	7.18E-07	7.18E-07	1.36E-06	1.41E-06
Eu-154	2.25E-04	0.180	629	1.07E-04	1.07E-04	2.67E-04	2.84E-04
Eu-155	7.61E-05	6.09E-02	213	4.14E-05	4.14E-05	7.94E-05	8.26E-05
Ra-226	5.96E-11	4.76E-08	1.67E-04	4.48E-11	4.50E-11	6.71E-11	7.43E-11
Ra-228	6.88E-08	5.50E-05	0.193	2.81E-08	2.81E-08	7.88E-08	8.95E-08
Ac-227	3.63E-10	2.90E-07	1.02E-03	2.78E-10	2.78E-10	4.07E-10	4.34E-10
Pa-231	1.62E-09	1.29E-06	4.54E-03	1.15E-09	1.15E-09	1.79E-09	1.95E-09
Th-229	1.61E-09	1.29E-06	4.50E-03	6.68E-10	6.68E-10	1.83E-09	2.06E-09
Th-232	6.90E-09	5.52E-06	1.93E-02	1.87E-09	1.87E-09	8.28E-09	9.60E-09
U-232	2.44E-07	1.95E-04	0.684	1.76E-07	2.09E-07	2.84E-07	3.27E-07
U-233	9.36E-07	7.49E-04	2.62	6.76E-07	8.03E-07	1.09E-06	1.25E-06
U-234	3.61E-07	2.89E-04	1.01	3.41E-07	3.50E-07	3.72E-07	3.69E-07
U-235	1.47E-08	1.17E-05	4.11E-02	1.38E-08	1.42E-08	1.52E-08	1.50E-08
U-236	1.25E-08	1.00E-05	3.51E-02	1.14E-08	1.23E-08	1.27E-08	1.28E-08
U-238	3.93E-07	3.14E-04	1.10	3.72E-07	3.82E-07	4.04E-07	4.00E-07
Np-237	3.60E-07	2.88E-04	1.01	2.71E-07	3.14E-07	4.07E-07	4.51E-07
Pu-238	5.60E-07	4.48E-04	1.57	4.54E-07	5.06E-07	6.14E-07	6.65E-07
Pu-239	1.77E-05	1.42E-02	49.6	1.50E-05	1.63E-05	1.91E-05	2.04E-05
Pu-240	3.03E-06	2.42E-03	8.48	2.52E-06	2.77E-06	3.28E-06	3.53E-06
Pu-241	4.10E-05	3.28E-02	115	3.38E-05	3.74E-05	4.47E-05	4.83E-05
Pu-242	2.06E-10	1.64E-07	5.76E-04	1.63E-10	1.84E-10	2.28E-10	2.49E-10
Am-241	2.20E-05	1.76E-02	61.5	1.70E-05	1.94E-05	2.45E-05	2.70E-05
Am-243	8.06E-10	6.45E-07	2.26E-03	6.49E-10	7.24E-10	8.90E-10	9.70E-10
Cm-242	4.62E-08	3.69E-05	0.129	2.22E-08	2.22E-08	4.85E-08	5.07E-08
Cm-243	4.32E-09	3.46E-06	1.21E-02	2.04E-09	2.04E-09	4.60E-09	4.88E-09
Cm-244	4.28E-08	3.42E-05	0.120	1.93E-08	1.93E-08	5.08E-08	5.59E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.28E-04 (g/L)	----	0.640	1.77E-04	2.02E-04	2.54E-04	2.79E-04
U	4.09E-03	778	2.72E+03	3.83E-03	3.95E-03	4.24E-03	4.18E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.28E+06 (kg)	(1.09E+03 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.75E+04 BTU/hr)	----	10.1	10.6	11.3	11.9
Bulk Density*	1.76 (g/cc)	----	----	1.70	1.74	1.79	1.81
Water wt%	23.6	----	----	21.1	22.2	25.1	26.8
TOC wt% C (wet)	1.45	----	----	0.890	1.17	1.74	2.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	17.7	2.31E+05	1.68E+06	16.3	17.0	18.3	18.8
Al^{3+}	2.12	3.24E+04	2.36E+05	1.82	2.05	2.17	2.22
Fe^{3+} (total Fe)	1.31E-02	416	3.03E+03	1.09E-02	1.20E-02	1.43E-02	1.54E-02
Cr^{3+}	0.157	4.63E+03	3.37E+04	0.140	0.149	0.163	0.172
Bi^{3+}	1.49E-03	177	1.29E+03	1.41E-03	1.45E-03	1.53E-03	1.59E-03
La^{3+}	2.50E-05	1.97	14.3	1.84E-05	2.16E-05	2.83E-05	3.16E-05
Hg^{2+}	1.17E-05	1.33	9.67	1.12E-05	1.15E-05	1.19E-05	1.21E-05
Zr (as $ZrO(OH)_2$)	2.03E-04	10.5	76.6	1.89E-04	1.94E-04	2.09E-04	2.18E-04
Pb^{2+}	1.56E-03	183	1.33E+03	1.23E-03	1.39E-03	1.73E-03	1.89E-03
Ni^{2+}	7.27E-03	242	1.76E+03	7.03E-03	7.14E-03	7.35E-03	7.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.17E-03	223	1.63E+03	6.08E-03	6.61E-03	7.73E-03	8.26E-03
Ca^{2+}	3.89E-02	884	6.43E+03	3.56E-02	3.72E-02	4.06E-02	4.22E-02
K^+	8.56E-02	1.90E+03	1.38E+04	7.56E-02	7.98E-02	9.24E-02	0.102
OH^-	12.3	1.18E+05	8.60E+05	10.8	11.9	12.6	13.0
$NO3^-$	5.65	1.98E+05	1.44E+06	5.36	5.53	5.77	5.89
$NO2^-$	3.16	8.25E+04	6.00E+05	2.63	2.86	3.50	3.64
$CO3^{2-}$	0.701	2.38E+04	1.74E+05	0.635	0.668	0.734	0.757
$PO4^{3-}$	0.125	6.74E+03	4.91E+04	0.112	0.118	0.131	0.139
$SO4^{2-}$	0.367	2.00E+04	1.45E+05	0.305	0.331	0.409	0.428
Si (as SiO_x^{2-})	0.101	1.61E+03	1.17E+04	8.57E-02	9.34E-02	0.109	0.117
F^-	8.03E-02	864	6.29E+03	6.95E-02	7.40E-02	8.72E-02	9.76E-02
Cl^-	0.306	6.14E+03	4.47E+04	0.270	0.286	0.318	0.328
$C_6H_5O_7^{3-}$	4.78E-02	5.12E+03	3.72E+04	4.40E-02	4.58E-02	4.97E-02	5.27E-02
$EDTA^{4-}$	3.69E-02	6.03E+03	4.39E+04	1.22E-02	2.43E-02	4.97E-02	6.21E-02
$HEDTA^{3-}$	6.61E-02	1.03E+04	7.47E+04	1.66E-02	4.07E-02	9.15E-02	0.116
$glycolate^-$	0.171	7.28E+03	5.30E+04	0.122	0.146	0.197	0.222
$acetate^-$	2.48E-02	831	6.05E+03	1.97E-02	2.19E-02	2.80E-02	3.28E-02
$oxalate^{2-}$	3.27E-05	1.63	11.9	2.91E-05	3.09E-05	3.45E-05	3.63E-05
DBP	3.55E-02	4.23E+03	3.08E+04	3.07E-02	3.28E-02	3.84E-02	4.28E-02
butanol	3.55E-02	1.49E+03	1.08E+04	3.07E-02	3.28E-02	3.84E-02	4.28E-02
NH_3	8.36E-02	805	5.86E+03	6.60E-02	7.29E-02	9.71E-02	0.113
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.28E+06 (kg)	(1.09E+03 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.75E+04 BTU/hr)	----	10.1	10.6	11.3	11.9
Bulk Density†	1.76 (g/cc)	----	----	1.70	1.74	1.79	1.81
Water wt%†	23.6	----	----	21.1	22.2	25.1	26.8
TOC wt% C (wet)†	1.45	----	----	0.890	1.17	1.74	2.01

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	17.7	2.31E+05	1.68E+06	16.3	17.0	18.3	18.8
Al^{3+}	2.12	3.24E+04	2.36E+05	1.82	2.05	2.17	2.22
Fe^{3+} (total Fe)	1.31E-02	416	3.03E+03	1.09E-02	1.20E-02	1.43E-02	1.54E-02
Cr^{3+}	0.157	4.63E+03	3.37E+04	0.140	0.149	0.163	0.172
Bi^{3+}	1.49E-03	177	1.29E+03	1.41E-03	1.45E-03	1.53E-03	1.59E-03
La^{3+}	2.50E-05	1.97	14.3	1.84E-05	2.16E-05	2.83E-05	3.16E-05
Hg^{2+}	1.17E-05	1.33	9.67	1.12E-05	1.15E-05	1.19E-05	1.21E-05
Zr (as $ZrO(OH)_2$)	2.03E-04	10.5	76.6	1.89E-04	1.94E-04	2.09E-04	2.18E-04
Pb^{2+}	1.56E-03	183	1.33E+03	1.23E-03	1.39E-03	1.73E-03	1.89E-03
Ni^{2+}	7.27E-03	242	1.76E+03	7.03E-03	7.14E-03	7.35E-03	7.43E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.17E-03	223	1.63E+03	6.08E-03	6.61E-03	7.73E-03	8.26E-03
Ca^{2+}	3.89E-02	884	6.43E+03	3.56E-02	3.72E-02	4.06E-02	4.22E-02
K^+	8.56E-02	1.90E+03	1.38E+04	7.56E-02	7.98E-02	9.24E-02	0.102
OH^-	12.3	1.18E+05	8.60E+05	10.8	11.9	12.6	13.0
$NO3^-$	5.65	1.98E+05	1.44E+06	5.36	5.53	5.77	5.89
$NO2^-$	3.16	8.25E+04	6.00E+05	2.63	2.86	3.50	3.64
$CO3^{2-}$	0.701	2.38E+04	1.74E+05	0.635	0.668	0.734	0.757
$PO4^{3-}$	0.125	6.74E+03	4.91E+04	0.112	0.118	0.131	0.139
$SO4^{2-}$	0.367	2.00E+04	1.45E+05	0.305	0.331	0.409	0.428
Si (as SiO_x^{2-})	0.101	1.61E+03	1.17E+04	8.57E-02	9.34E-02	0.109	0.117
F^-	8.03E-02	864	6.29E+03	6.95E-02	7.40E-02	8.72E-02	9.76E-02
Cl^-	0.306	6.14E+03	4.47E+04	0.270	0.286	0.318	0.328
$C_6H_5O_7^{3-}$	4.78E-02	5.12E+03	3.72E+04	4.40E-02	4.58E-02	4.97E-02	5.27E-02
$EDTA^{4-}$	3.69E-02	6.03E+03	4.39E+04	1.22E-02	2.43E-02	4.97E-02	6.21E-02
$HEDTA^{3-}$	6.61E-02	1.03E+04	7.47E+04	1.66E-02	4.07E-02	9.15E-02	0.116
$glycolate^-$	0.171	7.28E+03	5.30E+04	0.122	0.146	0.197	0.222
$acetate^-$	2.48E-02	831	6.05E+03	1.97E-02	2.19E-02	2.80E-02	3.28E-02
$oxalate^{2-}$	3.27E-05	1.63	11.9	2.91E-05	3.09E-05	3.45E-05	3.63E-05
DBP	3.55E-02	4.23E+03	3.08E+04	3.07E-02	3.28E-02	3.84E-02	4.28E-02
butanol	3.55E-02	1.49E+03	1.08E+04	3.07E-02	3.28E-02	3.84E-02	4.28E-02
NH_3	8.36E-02	805	5.86E+03	6.60E-02	7.29E-02	9.71E-02	0.113
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.28E+06 (kg)	(1.09E+03 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.75E+04 BTU/hr)	----	10.1	10.6	11.3	11.9
Bulk Density*	1.76 (g/cc)	----	----	1.70	1.74	1.79	1.81
Water wt%†	23.6	----	----	21.1	22.2	25.1	26.8
TOC wt% C (wet)	1.45	----	----	0.890	1.17	1.74	2.01

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.33E-04	0.189	1.37E+03	1.94E-04	1.94E-04	3.53E-04	3.77E-04
C-14	5.33E-05	3.02E-02	220	2.42E-05	2.42E-05	5.41E-05	5.48E-05
Ni-59	2.79E-06	1.58E-03	11.5	1.43E-06	1.43E-06	2.86E-06	2.93E-06
Ni-63	2.75E-04	0.156	1.14E+03	1.40E-04	1.40E-04	2.82E-04	2.89E-04
Co-60	6.64E-05	3.76E-02	274	3.31E-05	3.31E-05	6.77E-05	6.92E-05
Se-79	5.06E-06	2.87E-03	20.9	3.21E-06	3.21E-06	5.73E-06	6.38E-06
Sr-90	0.159	90.1	6.56E+05	0.149	0.154	0.164	0.168
Y-90	0.159	90.1	6.56E+05	9.49E-02	9.49E-02	0.164	0.168
Zr-93	2.49E-05	1.41E-02	103	1.56E-05	1.56E-05	2.83E-05	3.15E-05
Nb-93m	1.79E-05	1.01E-02	73.8	1.14E-05	1.14E-05	2.02E-05	2.25E-05
Tc-99	3.98E-04	0.226	1.64E+03	2.90E-04	3.43E-04	4.54E-04	5.08E-04
Ru-106	1.18E-08	6.67E-06	4.85E-02	7.46E-09	7.46E-09	1.27E-08	1.36E-08
Cd-113m	1.37E-04	7.76E-02	565	8.12E-05	8.12E-05	1.57E-04	1.76E-04
Sb-125	3.06E-04	0.174	1.26E+03	1.62E-04	1.62E-04	3.14E-04	3.22E-04
Sn-126	7.64E-06	4.33E-03	31.5	4.86E-06	4.86E-06	8.65E-06	9.62E-06
I-129	7.69E-07	4.36E-04	3.17	5.59E-07	6.62E-07	8.77E-07	9.81E-07
Cs-134	1.50E-05	8.50E-03	61.9	1.19E-05	1.34E-05	1.66E-05	1.81E-05
Cs-137	0.340	193	1.40E+06	0.304	0.319	0.358	0.386
Ba-137m	0.321	182	1.33E+06	0.269	0.269	0.338	0.354
Sm-151	1.78E-02	10.1	7.34E+04	1.13E-02	1.13E-02	2.02E-02	2.24E-02
Eu-152	6.62E-06	3.75E-03	27.3	4.32E-06	4.32E-06	7.31E-06	7.98E-06
Eu-154	1.02E-03	0.580	4.22E+03	5.59E-04	5.59E-04	1.19E-03	1.26E-03
Eu-155	3.98E-04	0.226	1.64E+03	2.62E-04	2.62E-04	4.40E-04	4.82E-04
Ra-226	1.93E-10	1.09E-07	7.95E-04	1.35E-10	1.35E-10	2.14E-10	2.34E-10
Ra-228	4.17E-07	2.36E-04	1.72	1.21E-07	1.21E-07	4.60E-07	5.06E-07
Ac-227	1.19E-09	6.73E-07	4.90E-03	8.54E-10	8.54E-10	1.31E-09	1.43E-09
Pa-231	5.70E-09	3.23E-06	2.35E-02	3.84E-09	3.84E-09	6.37E-09	7.02E-09
Th-229	9.68E-09	5.48E-06	3.99E-02	2.86E-09	2.86E-09	1.06E-08	1.16E-08
Th-232	4.45E-08	2.52E-05	0.183	7.97E-09	7.97E-09	5.44E-08	6.40E-08
U-232	1.29E-06	7.33E-04	5.33	1.00E-06	1.13E-06	1.48E-06	1.68E-06
U-233	4.96E-06	2.81E-03	20.4	3.84E-06	4.32E-06	5.68E-06	6.45E-06
U-234	1.02E-06	5.79E-04	4.22	9.90E-07	1.01E-06	1.04E-06	1.05E-06
U-235	4.06E-08	2.30E-05	0.168	3.94E-08	4.00E-08	4.13E-08	4.19E-08
U-236	3.63E-08	2.06E-05	0.150	3.37E-08	3.57E-08	3.68E-08	3.73E-08
U-238	1.30E-06	7.36E-04	5.36	1.27E-06	1.28E-06	1.31E-06	1.34E-06
Np-237	1.39E-06	7.86E-04	5.72	1.03E-06	1.21E-06	1.57E-06	1.75E-06
Pu-238	2.28E-06	1.29E-03	9.39	1.86E-06	2.06E-06	2.49E-06	2.69E-06
Pu-239	7.02E-05	3.98E-02	290	5.95E-05	6.48E-05	7.56E-05	8.08E-05
Pu-240	1.24E-05	7.01E-03	51.1	1.04E-05	1.14E-05	1.34E-05	1.44E-05
Pu-241	1.63E-04	9.23E-02	672	1.35E-04	1.48E-04	1.77E-04	1.91E-04
Pu-242	8.71E-10	4.94E-07	3.59E-03	7.02E-10	7.85E-10	9.57E-10	1.04E-09
Am-241	8.49E-05	4.81E-02	350	6.52E-05	7.48E-05	9.50E-05	1.05E-04
Am-243	3.34E-09	1.89E-06	1.38E-02	2.58E-09	2.93E-09	3.81E-09	4.22E-09
Cm-242	2.36E-07	1.34E-04	0.975	1.42E-07	1.42E-07	2.62E-07	2.88E-07
Cm-243	2.25E-08	1.27E-05	9.28E-02	1.35E-08	1.35E-08	2.48E-08	2.71E-08
Cm-244	1.95E-07	1.10E-04	0.804	1.02E-07	1.02E-07	2.26E-07	2.46E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.98E-04 (g/L)	----	3.29	5.96E-04	6.95E-04	9.00E-04	9.98E-04
U	1.14E-02	1.53E+03	1.12E+04	1.10E-02	1.12E-02	1.15E-02	1.17E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.28E+06 (kg)	(1.09E+03 kgal)	----	----	----	----	----
Heat Load	11.0 (kW)	(3.75E+04 BTU/hr)	----	10.1	10.6	11.3	11.9
Bulk Density†	1.76 (g/cc)	----	----	1.70	1.74	1.79	1.81
Water wt%†	23.6	----	----	21.1	22.2	25.1	26.8
TOC wt% C (wet)†	1.45	----	----	0.890	1.17	1.74	2.01

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.33E-04	0.189	1.37E+03	1.94E-04	1.94E-04	3.53E-04	3.77E-04
C-14	5.33E-05	3.02E-02	220	2.42E-05	2.42E-05	5.41E-05	5.48E-05
Ni-59	2.79E-06	1.58E-03	11.5	1.43E-06	1.43E-06	2.86E-06	2.93E-06
Ni-63	2.75E-04	0.156	1.14E+03	1.40E-04	1.40E-04	2.82E-04	2.89E-04
Co-60	6.64E-05	3.76E-02	274	3.31E-05	3.31E-05	6.77E-05	6.92E-05
Se-79	5.06E-06	2.87E-03	20.9	3.21E-06	3.21E-06	5.73E-06	6.38E-06
Sr-90	0.159	90.1	6.56E+05	0.149	0.154	0.164	0.168
Y-90	0.159	90.1	6.56E+05	9.49E-02	9.49E-02	0.164	0.168
Zr-93	2.49E-05	1.41E-02	103	1.56E-05	1.56E-05	2.83E-05	3.15E-05
Nb-93m	1.79E-05	1.01E-02	73.8	1.14E-05	1.14E-05	2.02E-05	2.25E-05
Tc-99	3.98E-04	0.226	1.64E+03	2.90E-04	3.43E-04	4.54E-04	5.08E-04
Ru-106	1.18E-08	6.67E-06	4.85E-02	7.46E-09	7.46E-09	1.27E-08	1.36E-08
Cd-113m	1.37E-04	7.76E-02	565	8.12E-05	8.12E-05	1.57E-04	1.76E-04
Sb-125	3.06E-04	0.174	1.26E+03	1.62E-04	1.62E-04	3.14E-04	3.22E-04
Sn-126	7.64E-06	4.33E-03	31.5	4.86E-06	4.86E-06	8.65E-06	9.62E-06
I-129	7.69E-07	4.36E-04	3.17	5.59E-07	6.62E-07	8.77E-07	9.81E-07
Cs-134	1.50E-05	8.50E-03	61.9	1.19E-05	1.34E-05	1.66E-05	1.81E-05
Cs-137	0.340	193	1.40E+06	0.304	0.319	0.358	0.386
Ba-137m	0.321	182	1.33E+06	0.269	0.269	0.338	0.354
Sm-151	1.78E-02	10.1	7.34E+04	1.13E-02	1.13E-02	2.02E-02	2.24E-02
Eu-152	6.62E-06	3.75E-03	27.3	4.32E-06	4.32E-06	7.31E-06	7.98E-06
Eu-154	1.02E-03	0.580	4.22E+03	5.59E-04	5.59E-04	1.19E-03	1.26E-03
Eu-155	3.98E-04	0.226	1.64E+03	2.62E-04	2.62E-04	4.40E-04	4.82E-04
Ra-226	1.93E-10	1.09E-07	7.95E-04	1.35E-10	1.35E-10	2.14E-10	2.34E-10
Ra-228	4.17E-07	2.36E-04	1.72	1.21E-07	1.21E-07	4.60E-07	5.06E-07
Ac-227	1.19E-09	6.73E-07	4.90E-03	8.54E-10	8.54E-10	1.31E-09	1.43E-09
Pa-231	5.70E-09	3.23E-06	2.35E-02	3.84E-09	3.84E-09	6.37E-09	7.02E-09
Th-229	9.68E-09	5.48E-06	3.99E-02	2.86E-09	2.86E-09	1.06E-08	1.16E-08
Th-232	4.45E-08	2.52E-05	0.183	7.97E-09	7.97E-09	5.44E-08	6.40E-08
U-232	1.29E-06	7.33E-04	5.33	1.00E-06	1.13E-06	1.48E-06	1.68E-06
U-233	4.96E-06	2.81E-03	20.4	3.84E-06	4.32E-06	5.68E-06	6.45E-06
U-234	1.02E-06	5.79E-04	4.22	9.90E-07	1.01E-06	1.04E-06	1.05E-06
U-235	4.06E-08	2.30E-05	0.168	3.94E-08	4.00E-08	4.13E-08	4.19E-08
U-236	3.63E-08	2.06E-05	0.150	3.37E-08	3.57E-08	3.68E-08	3.73E-08
U-238	1.30E-06	7.36E-04	5.36	1.27E-06	1.28E-06	1.31E-06	1.34E-06
Np-237	1.39E-06	7.86E-04	5.72	1.03E-06	1.21E-06	1.57E-06	1.75E-06
Pu-238	2.28E-06	1.29E-03	9.39	1.86E-06	2.06E-06	2.49E-06	2.69E-06
Pu-239	7.02E-05	3.98E-02	290	5.95E-05	6.48E-05	7.56E-05	8.08E-05
Pu-240	1.24E-05	7.01E-03	51.1	1.04E-05	1.14E-05	1.34E-05	1.44E-05
Pu-241	1.63E-04	9.23E-02	672	1.35E-04	1.48E-04	1.77E-04	1.91E-04
Pu-242	8.71E-10	4.94E-07	3.59E-03	7.02E-10	7.85E-10	9.57E-10	1.04E-09
Am-241	8.49E-05	4.81E-02	350	6.52E-05	7.48E-05	9.50E-05	1.05E-04
Am-243	3.34E-09	1.89E-06	1.38E-02	2.58E-09	2.93E-09	3.81E-09	4.22E-09
Cm-242	2.36E-07	1.34E-04	0.975	1.42E-07	1.42E-07	2.62E-07	2.88E-07
Cm-243	2.25E-08	1.27E-05	9.28E-02	1.35E-08	1.35E-08	2.48E-08	2.71E-08
Cm-244	1.95E-07	1.10E-04	0.804	1.02E-07	1.02E-07	2.26E-07	2.46E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.98E-04 (g/L)	----	3.29	5.96E-04	6.95E-04	9.00E-04	9.98E-04
U	1.14E-02	1.53E+03	1.12E+04	1.10E-02	1.12E-02	1.15E-02	1.17E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.22E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.379 (kW)	(1.29E+03 BTU/hr)	----	7.14E-02	0.280	0.434	0.469
Bulk Density	1.62 (g/cc)	----	----	1.35	1.44	1.74	1.78
Void Fraction	0.668	----	----	0.542	0.575	0.796	0.830
Water wt%	45.1	----	----	41.2	41.5	51.5	57.0
TOC wt% C (wet)	0.244	----	----	0.164	0.210	0.281	0.353

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.00	9.96E+04	1.22E+03	1.29	2.82	9.42	11.5
Al^{3+}	3.06	5.10E+04	624	2.98	3.03	3.07	3.16
Fe^{3+} (total Fe)	2.21	7.63E+04	933	1.85	2.09	2.27	2.34
Cr^{3+}	1.34E-07	4.31E-03	5.27E-05	7.53E-08	1.15E-07	1.48E-07	2.12E-07
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21	4.39E+04	536	0.888	1.11	1.27	1.30
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.203	5.04E+03	61.7	3.89E-03	5.93E-03	0.492	0.716
K^{+}	9.02E-03	218	2.67	5.07E-03	7.74E-03	9.94E-03	1.43E-02
OH^{-}	19.2	2.02E+05	2.47E+03	16.8	18.5	19.7	20.6
$NO3^{-}$	8.76E-06	0.336	4.11E-03	9.98E-07	1.91E-06	1.34E-04	3.89E-02
$NO2^{-}$	0.592	1.69E+04	206	0.294	0.508	0.653	0.936
$CO3^{2-}$	0.377	1.40E+04	171	-0.137	0.155	0.684	0.874
$PO4^{3-}$	6.70E-03	394	4.81	3.76E-03	5.74E-03	7.38E-03	1.06E-02
$SO4^{2-}$	2.95E-02	1.75E+03	21.4	1.66E-02	2.53E-02	3.25E-02	4.66E-02
Si (as SiO_x^{2-})	2.38	4.14E+04	506	1.88E-02	0.451	3.64	4.84
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.15E-02	910	11.1	2.33E-02	3.56E-02	4.57E-02	6.56E-02
$C_6H_5O_7^{3-}$	1.00E-02	1.18E+03	14.4	5.65E-03	8.62E-03	1.11E-02	1.59E-02
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0.134	6.22E+03	76.0	7.53E-02	0.115	0.148	0.212
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	9.23E-02	970	11.9	1.33E-02	7.21E-02	0.111	0.179
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.78E+06 (kg)	(951 kgal)	----	----	----	----	----
Heat Load	6.31 (kW)	(2.15E+04 BTU/hr)	----	5.92	6.11	6.48	6.75
Bulk Density*	1.60 (g/cc)	----	----	1.55	1.58	1.63	1.66
Water wt%	32.6	----	----	29.0	30.6	34.2	36.1
TOC wt% C (wet)	1.04	----	----	0.741	0.886	1.19	1.34

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	14.3	2.04E+05	1.18E+06	12.8	13.5	15.0	15.7
Al^{3+}	1.56	2.63E+04	1.52E+05	1.39	1.51	1.62	1.68
Fe^{3+} (total Fe)	1.25E-02	435	2.51E+03	1.14E-02	1.20E-02	1.30E-02	1.35E-02
Cr^{3+}	0.111	3.60E+03	2.08E+04	9.72E-02	0.105	0.115	0.120
Bi^{3+}	1.16E-03	151	874	1.10E-03	1.13E-03	1.20E-03	1.23E-03
La^{3+}	1.24E-05	1.07	6.19	9.15E-06	1.07E-05	1.40E-05	1.56E-05
Hg^{2+}	1.39E-05	1.73	10.0	1.03E-05	1.36E-05	1.41E-05	1.44E-05
Zr (as $ZrO(OH)_2$)	1.72E-03	98.0	566	8.92E-04	1.62E-03	1.83E-03	1.93E-03
Pb^{2+}	1.16E-03	149	862	9.70E-04	1.06E-03	1.25E-03	1.34E-03
Ni^{2+}	8.11E-03	297	1.71E+03	7.87E-03	7.99E-03	8.20E-03	8.29E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.26E-03	317	1.83E+03	5.76E-03	7.47E-03	1.11E-02	1.23E-02
Ca^{2+}	4.68E-02	1.17E+03	6.75E+03	4.22E-02	4.50E-02	4.86E-02	5.03E-02
K^{+}	0.185	4.51E+03	2.60E+04	6.91E-02	0.125	0.246	0.306
OH^{-}	9.38	9.94E+04	5.74E+05	8.40	8.88	9.89	10.4
$NO3^{-}$	4.98	1.93E+05	1.11E+06	4.63	4.80	5.16	5.34
$NO2^{-}$	1.99	5.71E+04	3.30E+05	1.69	1.82	2.18	2.23
$CO3^{2-}$	0.675	2.52E+04	1.46E+05	0.561	0.617	0.732	0.772
$PO4^{3-}$	0.163	9.64E+03	5.57E+04	0.122	0.142	0.184	0.204
$SO4^{2-}$	0.246	1.47E+04	8.50E+04	0.211	0.225	0.270	0.274
Si (as SiO_x^{2-})	7.74E-02	1.35E+03	7.83E+03	6.43E-02	7.07E-02	8.40E-02	8.99E-02
F^{-}	0.185	2.19E+03	1.27E+04	6.51E-02	0.165	0.205	0.225
Cl^{-}	0.242	5.35E+03	3.09E+04	0.216	0.229	0.256	0.269
$C_6H_5O_7^{3-}$	3.22E-02	3.80E+03	2.19E+04	2.58E-02	2.90E-02	3.55E-02	3.87E-02
$EDTA^{4-}$	1.83E-02	3.28E+03	1.90E+04	6.43E-03	1.22E-02	2.44E-02	3.03E-02
$HEDTA^{3-}$	3.16E-02	5.40E+03	3.12E+04	7.94E-03	1.95E-02	4.38E-02	5.57E-02
$glycolate^{-}$	0.196	9.15E+03	5.28E+04	0.110	0.152	0.240	0.281
$acetate^{-}$	1.57E-02	579	3.34E+03	1.28E-02	1.41E-02	1.75E-02	2.02E-02
$oxalate^{2-}$	1.62E-05	0.890	5.14	1.45E-05	1.53E-05	1.71E-05	1.80E-05
DBP	2.27E-02	2.97E+03	1.71E+04	2.00E-02	2.11E-02	2.43E-02	2.68E-02
butanol	2.27E-02	1.05E+03	6.04E+03	2.00E-02	2.11E-02	2.43E-02	2.68E-02
NH_3	0.463	4.90E+03	2.83E+04	5.89E-02	0.255	0.676	0.884
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.79E+06 (kg)	(953 kgal)	----	----	----	----	----
Heat Load	6.69 (kW)	(2.28E+04 BTU/hr)	----	6.30	6.49	6.86	7.13
Bulk Density†	1.60 (g/cc)	----	----	1.55	1.58	1.63	1.66
Water wt%†	32.6	----	----	29.0	30.6	34.3	36.1
TOC wt% C (wet)†	1.04	----	----	0.740	0.885	1.19	1.33

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	14.2	2.04E+05	1.18E+06	12.8	13.5	15.0	15.6
Al^{3+}	1.57	2.63E+04	1.52E+05	1.39	1.51	1.62	1.68
Fe^{3+} (total Fe)	1.71E-02	595	3.44E+03	1.61E-02	1.66E-02	1.76E-02	1.81E-02
Cr^{3+}	0.111	3.59E+03	2.08E+04	9.70E-02	0.104	0.114	0.119
Bi^{3+}	1.16E-03	151	874	1.09E-03	1.13E-03	1.19E-03	1.23E-03
La^{3+}	1.24E-05	1.07	6.19	9.13E-06	1.07E-05	1.40E-05	1.56E-05
Hg^{2+}	1.38E-05	1.73	10.0	1.03E-05	1.36E-05	1.41E-05	1.44E-05
Zr (as $ZrO(OH)_2$)	1.72E-03	97.8	566	8.91E-04	1.62E-03	1.83E-03	1.93E-03
Pb^{2+}	1.15E-03	149	862	9.68E-04	1.06E-03	1.25E-03	1.34E-03
Ni^{2+}	1.06E-02	389	2.25E+03	9.96E-03	1.04E-02	1.07E-02	1.08E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.24E-03	316	1.83E+03	5.75E-03	7.46E-03	1.10E-02	1.22E-02
Ca^{2+}	4.71E-02	1.18E+03	6.81E+03	4.25E-02	4.53E-02	4.89E-02	5.06E-02
K^{+}	0.185	4.50E+03	2.61E+04	6.90E-02	0.125	0.246	0.305
OH^{-}	9.40	9.96E+04	5.77E+05	8.41	8.90	9.91	10.4
$NO3^{-}$	4.97	1.92E+05	1.11E+06	4.62	4.79	5.15	5.33
$NO2^{-}$	1.99	5.70E+04	3.30E+05	1.69	1.82	2.18	2.23
$CO3^{2-}$	0.674	2.52E+04	1.46E+05	0.560	0.616	0.732	0.770
$PO4^{3-}$	0.162	9.62E+03	5.57E+04	0.122	0.142	0.183	0.203
$SO4^{2-}$	0.245	1.47E+04	8.50E+04	0.210	0.225	0.269	0.273
Si (as SiO_x^{2-})	8.22E-02	1.44E+03	8.33E+03	6.84E-02	7.82E-02	8.63E-02	8.98E-02
F^{-}	0.185	2.19E+03	1.27E+04	6.50E-02	0.165	0.205	0.224
Cl^{-}	0.242	5.34E+03	3.09E+04	0.215	0.228	0.256	0.269
$C_6H_5O_7^{3-}$	3.22E-02	3.79E+03	2.20E+04	2.58E-02	2.89E-02	3.55E-02	3.86E-02
$EDTA^{4-}$	1.82E-02	3.28E+03	1.90E+04	6.42E-03	1.22E-02	2.43E-02	3.03E-02
$HEDTA^{3-}$	3.16E-02	5.39E+03	3.12E+04	7.92E-03	1.95E-02	4.37E-02	5.56E-02
$glycolate^{-}$	0.196	9.14E+03	5.29E+04	0.110	0.152	0.239	0.281
$acetate^{-}$	1.57E-02	578	3.34E+03	1.28E-02	1.40E-02	1.75E-02	2.02E-02
$oxalate^{2-}$	1.62E-05	0.888	5.14	1.44E-05	1.53E-05	1.71E-05	1.79E-05
DBP	2.26E-02	2.96E+03	1.71E+04	1.99E-02	2.11E-02	2.43E-02	2.67E-02
butanol	2.26E-02	1.04E+03	6.04E+03	1.99E-02	2.11E-02	2.43E-02	2.67E-02
NH_3	0.462	4.90E+03	2.83E+04	5.90E-02	0.254	0.674	0.883
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.22E+04 (kg)	(2.00 kgal)	----	----	----	----	----
Heat Load	0.379 (kW)	(1.29E+03 BTU/hr)	----	7.14E-02	0.280	0.434	0.469
Bulk Density	1.62 (g/cc)	----	----	1.35	1.44	1.74	1.78
Void Fraction	0.668	----	----	0.542	0.575	0.796	0.830
Water wt%	45.1	----	----	41.2	41.5	51.5	57.0
TOC wt% C (wet)	0.244	----	----	0.164	0.210	0.281	0.353

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.65E-05	1.02E-02	0.125	4.24E-06	1.03E-05	2.32E-05	3.99E-05
C-14	1.11E-06	6.88E-04	8.42E-03	6.25E-07	9.54E-07	1.23E-06	1.28E-05
Ni-59	1.89E-04	0.117	1.43	1.39E-04	1.73E-04	1.98E-04	2.05E-04
Ni-63	1.87E-02	11.6	142	1.38E-02	1.71E-02	1.96E-02	2.03E-02
Co-60	2.50E-06	1.55E-03	1.89E-02	1.41E-06	2.15E-06	2.76E-06	3.96E-06
Se-79	7.55E-07	4.67E-04	5.71E-03	4.22E-07	5.41E-07	2.62E-05	1.73E-04
Sr-90	7.43	4.60E+03	5.62E+04	1.40	5.50	8.52	9.20
Y-90	7.44	4.60E+03	5.63E+04	1.40	5.50	8.53	9.20
Zr-93	3.39E-06	2.10E-03	2.57E-02	1.91E-06	2.33E-06	4.76E-05	7.80E-04
Nb-93m	2.72E-06	1.68E-03	2.06E-02	1.42E-06	1.97E-06	1.08E-04	6.21E-04
Tc-99	7.44E-06	4.61E-03	5.63E-02	4.18E-06	6.38E-06	8.20E-06	1.18E-05
Ru-106	1.59E-06	9.87E-04	1.21E-02	7.07E-07	1.30E-06	1.89E-06	2.17E-06
Cd-113m	1.16E-05	7.16E-03	8.76E-02	6.51E-06	9.93E-06	1.68E-05	2.50E-03
Sb-125	1.53E-05	9.47E-03	0.116	8.60E-06	1.31E-05	1.69E-05	2.42E-05
Sn-126	1.19E-06	7.37E-04	9.02E-03	6.58E-07	8.71E-07	5.23E-05	2.72E-04
I-129	1.45E-08	8.96E-06	1.10E-04	8.14E-09	1.24E-08	1.60E-08	2.29E-08
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	2.73E-03	1.69	20.7	1.50E-03	1.99E-03	0.112	0.625
Eu-152	1.51E-04	9.31E-02	1.14	1.50E-04	1.50E-04	1.51E-04	1.51E-04
Eu-154	7.57E-05	4.68E-02	0.573	4.25E-05	6.33E-05	8.81E-05	4.54E-03
Eu-155	8.62E-03	5.34	65.3	8.61E-03	8.62E-03	8.63E-03	8.65E-03
Ra-226	6.30E-09	3.90E-06	4.77E-05	3.93E-11	1.57E-09	1.10E-08	1.56E-08
Ra-228	8.01E-14	4.95E-11	6.06E-10	7.99E-14	8.00E-14	8.01E-14	8.03E-14
Ac-227	2.75E-08	1.70E-05	2.08E-04	2.05E-10	3.26E-10	5.50E-08	8.14E-08
Pa-231	6.70E-10	4.15E-07	5.07E-06	2.86E-10	4.57E-10	7.59E-09	1.54E-07
Th-229	1.19E-11	7.37E-09	9.01E-08	1.19E-11	1.19E-11	1.19E-11	1.19E-11
Th-232	4.46E-16	2.76E-13	3.37E-12	2.51E-16	3.83E-16	4.92E-16	7.05E-16
U-232	1.59E-12	9.84E-10	1.20E-08	8.93E-13	1.36E-12	1.75E-12	2.51E-12
U-233	2.15E-14	1.33E-11	1.62E-10	1.21E-14	1.84E-14	2.36E-14	3.39E-14
U-234	5.99E-09	3.71E-06	4.53E-05	3.37E-09	5.14E-09	6.60E-09	9.47E-09
U-235	2.32E-10	1.43E-07	1.75E-06	1.30E-10	1.99E-10	2.55E-10	3.67E-10
U-236	4.36E-10	2.70E-07	3.30E-06	2.45E-10	3.74E-10	4.80E-10	6.89E-10
U-238	4.62E-09	2.86E-06	3.49E-05	2.59E-09	3.96E-09	5.09E-09	7.30E-09
Np-237	2.38E-08	1.47E-05	1.80E-04	1.34E-08	2.04E-08	2.62E-08	3.76E-08
Pu-238	2.52E-04	0.156	1.91	1.65E-04	2.20E-04	2.84E-04	3.13E-04
Pu-239	4.42E-03	2.73	33.4	2.88E-03	3.76E-03	5.08E-03	5.72E-03
Pu-240	9.59E-04	0.593	7.26	6.26E-04	8.23E-04	1.09E-03	1.22E-03
Pu-241	1.77E-02	10.9	134	1.15E-02	1.54E-02	1.99E-02	2.19E-02
Pu-242	1.15E-07	7.12E-05	8.71E-04	7.51E-08	1.01E-07	1.29E-07	1.42E-07
Am-241	4.08E-03	2.52	30.9	2.17E-05	1.79E-03	6.37E-03	8.56E-03
Am-243	3.09E-07	1.91E-04	2.34E-03	1.64E-09	1.45E-07	4.52E-07	5.75E-07
Cm-242	8.00E-06	4.95E-03	6.06E-02	7.99E-06	8.00E-06	8.01E-06	8.02E-06
Cm-243	8.52E-07	5.27E-04	6.45E-03	8.50E-07	8.52E-07	8.53E-07	8.54E-07
Cm-244	2.28E-05	1.41E-02	0.173	5.08E-06	1.70E-05	2.87E-05	3.43E-05

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.55E-02 (g/L)	----	0.571	4.93E-02	6.42E-02	8.68E-02	9.77E-02
U	5.82E-05	8.57	0.105	3.27E-05	4.99E-05	6.41E-05	9.20E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.78E+06 (kg)	(951 kgal)	----	----	----	----	----
Heat Load	6.31 (kW)	(2.15E+04 BTU/hr)	----	5.92	6.11	6.48	6.75
Bulk Density*	1.60 (g/cc)	----	----	1.55	1.58	1.63	1.66
Water wt%†	32.6	----	----	29.0	30.6	34.2	36.1
TOC wt% C (wet)	1.04	----	----	0.741	0.886	1.19	1.34

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.23E-04	0.139	804	1.59E-04	1.59E-04	2.36E-04	2.50E-04
C-14	2.92E-05	1.82E-02	105	1.58E-05	1.58E-05	2.96E-05	3.00E-05
Ni-59	1.71E-06	1.07E-03	6.15	1.08E-06	1.08E-06	1.74E-06	1.77E-06
Ni-63	1.68E-04	0.105	605	1.06E-04	1.06E-04	1.71E-04	1.74E-04
Co-60	3.85E-05	2.40E-02	139	2.32E-05	2.32E-05	3.96E-05	4.06E-05
Se-79	3.42E-06	2.13E-03	12.3	2.57E-06	2.57E-06	3.73E-06	4.03E-06
Sr-90	0.108	67.2	3.88E+05	0.103	0.106	0.110	0.112
Y-90	0.108	67.2	3.88E+05	7.82E-02	7.82E-02	0.110	0.112
Zr-93	1.66E-05	1.03E-02	59.6	1.23E-05	1.23E-05	1.81E-05	1.96E-05
Nb-93m	1.22E-05	7.57E-03	43.7	9.15E-06	9.15E-06	1.32E-05	1.43E-05
Tc-99	2.18E-04	0.136	784	1.68E-04	1.92E-04	2.44E-04	2.72E-04
Ru-106	1.14E-08	7.13E-06	4.12E-02	8.68E-09	9.46E-09	1.29E-08	1.42E-08
Cd-113m	8.38E-05	5.23E-02	302	5.81E-05	5.81E-05	9.31E-05	1.02E-04
Sb-125	2.40E-04	0.150	865	1.74E-04	1.74E-04	2.66E-04	2.91E-04
Sn-126	5.21E-06	3.25E-03	18.8	3.93E-06	3.93E-06	5.68E-06	6.12E-06
I-129	4.21E-07	2.62E-04	1.51	3.24E-07	3.71E-07	4.71E-07	5.25E-07
Cs-134	5.24E-05	3.26E-02	189	3.07E-05	4.12E-05	6.38E-05	7.49E-05
Cs-137	0.219	137	7.89E+05	0.199	0.207	0.229	0.245
Ba-137m	0.207	129	7.46E+05	0.178	0.178	0.216	0.225
Sm-151	1.21E-02	7.54	4.36E+04	9.10E-03	9.10E-03	1.32E-02	1.42E-02
Eu-152	4.08E-06	2.54E-03	14.7	3.02E-06	3.02E-06	4.41E-06	4.73E-06
Eu-154	6.11E-04	0.381	2.20E+03	3.97E-04	3.97E-04	6.88E-04	7.19E-04
Eu-155	2.57E-04	0.160	926	1.94E-04	1.94E-04	2.77E-04	2.97E-04
Ra-226	1.48E-10	9.20E-08	5.31E-04	1.13E-10	1.21E-10	1.65E-10	1.66E-10
Ra-228	2.91E-07	1.81E-04	1.05	1.24E-07	1.24E-07	3.35E-07	3.82E-07
Ac-227	9.27E-10	5.78E-07	3.34E-03	7.28E-10	7.73E-10	1.03E-09	1.04E-09
Pa-231	3.98E-09	2.48E-06	1.43E-02	3.12E-09	3.12E-09	4.29E-09	4.58E-09
Th-229	6.75E-09	4.21E-06	2.43E-02	2.90E-09	2.90E-09	7.72E-09	8.75E-09
Th-232	2.85E-08	1.78E-05	0.103	7.91E-09	7.91E-09	3.42E-08	3.96E-08
U-232	9.99E-07	6.22E-04	3.59	7.00E-07	8.46E-07	1.18E-06	1.36E-06
U-233	3.83E-06	2.39E-03	13.8	2.69E-06	3.24E-06	4.50E-06	5.22E-06
U-234	1.35E-06	8.43E-04	4.87	1.12E-06	1.30E-06	1.38E-06	1.40E-06
U-235	5.25E-08	3.27E-05	0.189	4.36E-08	5.06E-08	5.34E-08	5.43E-08
U-236	7.90E-08	4.93E-05	0.285	5.97E-08	7.48E-08	8.10E-08	8.29E-08
U-238	1.35E-06	8.39E-04	4.84	1.18E-06	1.31E-06	1.36E-06	1.38E-06
Np-237	7.83E-07	4.88E-04	2.82	6.20E-07	6.99E-07	8.67E-07	9.58E-07
Pu-238	2.96E-06	1.84E-03	10.6	2.22E-06	2.58E-06	3.34E-06	3.70E-06
Pu-239	5.59E-05	3.48E-02	201	4.99E-05	5.28E-05	5.90E-05	6.19E-05
Pu-240	1.16E-05	7.21E-03	41.6	9.74E-06	1.06E-05	1.25E-05	1.34E-05
Pu-241	2.57E-04	0.160	925	1.81E-04	2.18E-04	2.96E-04	3.33E-04
Pu-242	1.14E-09	7.10E-07	4.10E-03	8.57E-10	9.95E-10	1.28E-09	1.42E-09
Am-241	7.71E-05	4.81E-02	278	6.05E-05	6.87E-05	8.56E-05	9.14E-05
Am-243	5.16E-09	3.21E-06	1.86E-02	3.04E-09	4.06E-09	6.27E-09	6.68E-09
Cm-242	1.56E-07	9.74E-05	0.562	1.13E-07	1.13E-07	1.69E-07	1.81E-07
Cm-243	1.58E-08	9.83E-06	5.68E-02	1.16E-08	1.16E-08	1.70E-08	1.82E-08
Cm-244	1.92E-07	1.19E-04	0.690	1.36E-07	1.49E-07	2.20E-07	2.47E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.78E-04 (g/L)	----	2.80	6.73E-04	7.25E-04	8.32E-04	8.84E-04
U	1.34E-02	1.98E+03	1.14E+04	1.13E-02	1.29E-02	1.36E-02	1.38E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.79E+06 (kg)	(953 kgal)	----	----	----	----	----
Heat Load	6.69 (kW)	(2.28E+04 BTU/hr)	----	6.30	6.49	6.86	7.13
Bulk Density†	1.60 (g/cc)	----	----	1.55	1.58	1.63	1.66
Water wt%†	32.6	----	----	29.0	30.6	34.3	36.1
TOC wt% C (wet)†	1.04	----	----	0.740	0.885	1.19	1.33

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.23E-04	0.139	805	1.59E-04	1.59E-04	2.35E-04	2.49E-04
C-14	2.91E-05	1.82E-02	105	1.57E-05	1.57E-05	2.96E-05	3.00E-05
Ni-59	2.10E-06	1.31E-03	7.58	1.47E-06	1.47E-06	2.13E-06	2.16E-06
Ni-63	2.07E-04	0.129	747	1.45E-04	1.45E-04	2.10E-04	2.13E-04
Co-60	3.85E-05	2.40E-02	139	2.31E-05	2.31E-05	3.95E-05	4.06E-05
Se-79	3.42E-06	2.13E-03	12.3	2.56E-06	2.56E-06	3.73E-06	4.02E-06
Sr-90	0.123	76.7	4.44E+05	0.110	0.119	0.125	0.127
Y-90	0.123	76.8	4.44E+05	9.36E-02	9.36E-02	0.125	0.127
Zr-93	1.65E-05	1.03E-02	59.6	1.23E-05	1.23E-05	1.81E-05	1.96E-05
Nb-93m	1.21E-05	7.56E-03	43.8	9.14E-06	9.14E-06	1.32E-05	1.43E-05
Tc-99	2.17E-04	0.135	784	1.67E-04	1.92E-04	2.43E-04	2.71E-04
Ru-106	1.48E-08	9.20E-06	5.33E-02	1.28E-08	1.28E-08	1.57E-08	1.66E-08
Cd-113m	8.37E-05	5.22E-02	302	5.80E-05	5.80E-05	9.30E-05	1.02E-04
Sb-125	2.40E-04	0.149	865	1.73E-04	1.73E-04	2.65E-04	2.90E-04
Sn-126	5.20E-06	3.24E-03	18.8	3.92E-06	3.92E-06	5.67E-06	6.11E-06
I-129	4.20E-07	2.62E-04	1.51	3.23E-07	3.70E-07	4.70E-07	5.24E-07
Cs-134	5.23E-05	3.26E-02	189	3.07E-05	4.11E-05	6.36E-05	7.48E-05
Cs-137	0.219	136	7.89E+05	0.198	0.207	0.229	0.245
Ba-137m	0.207	129	7.46E+05	0.177	0.177	0.216	0.225
Sm-151	1.21E-02	7.53	4.36E+04	9.09E-03	9.09E-03	1.32E-02	1.42E-02
Eu-152	4.39E-06	2.74E-03	15.8	3.33E-06	3.33E-06	4.72E-06	5.04E-06
Eu-154	6.10E-04	0.380	2.20E+03	3.96E-04	3.96E-04	6.87E-04	7.18E-04
Eu-155	2.75E-04	0.171	991	2.12E-04	2.12E-04	2.95E-04	3.14E-04
Ra-226	1.61E-10	1.00E-07	5.79E-04	1.34E-10	1.34E-10	1.70E-10	1.79E-10
Ra-228	2.90E-07	1.81E-04	1.05	1.24E-07	1.24E-07	3.34E-07	3.81E-07
Ac-227	9.83E-10	6.12E-07	3.54E-03	8.29E-10	8.29E-10	1.04E-09	1.09E-09
Pa-231	3.97E-09	2.47E-06	1.43E-02	3.11E-09	3.11E-09	4.28E-09	4.58E-09
Th-229	6.73E-09	4.20E-06	2.43E-02	2.89E-09	2.89E-09	7.70E-09	8.73E-09
Th-232	2.85E-08	1.77E-05	0.103	7.89E-09	7.89E-09	3.41E-08	3.95E-08
U-232	9.97E-07	6.21E-04	3.59	6.99E-07	8.44E-07	1.17E-06	1.36E-06
U-233	3.82E-06	2.38E-03	13.8	2.68E-06	3.24E-06	4.49E-06	5.21E-06
U-234	1.35E-06	8.42E-04	4.87	1.12E-06	1.30E-06	1.37E-06	1.40E-06
U-235	5.24E-08	3.27E-05	0.189	4.35E-08	5.05E-08	5.33E-08	5.42E-08
U-236	7.89E-08	4.92E-05	0.285	5.96E-08	7.47E-08	8.08E-08	8.27E-08
U-238	1.34E-06	8.37E-04	4.84	1.18E-06	1.31E-06	1.36E-06	1.37E-06
Np-237	7.82E-07	4.87E-04	2.82	6.18E-07	6.98E-07	8.66E-07	9.56E-07
Pu-238	3.48E-06	2.17E-03	12.6	2.74E-06	3.10E-06	3.86E-06	4.22E-06
Pu-239	6.51E-05	4.06E-02	235	5.91E-05	6.20E-05	6.81E-05	7.11E-05
Pu-240	1.35E-05	8.44E-03	48.9	1.17E-05	1.26E-05	1.45E-05	1.54E-05
Pu-241	2.93E-04	0.183	1.06E+03	2.18E-04	2.55E-04	3.32E-04	3.69E-04
Pu-242	1.38E-09	8.59E-07	4.97E-03	1.10E-09	1.23E-09	1.52E-09	1.66E-09
Am-241	8.55E-05	5.33E-02	308	7.40E-05	8.03E-05	9.08E-05	9.46E-05
Am-243	5.79E-09	3.61E-06	2.09E-02	3.68E-09	4.70E-09	6.91E-09	6.95E-09
Cm-242	1.73E-07	1.08E-04	0.623	1.29E-07	1.29E-07	1.85E-07	1.97E-07
Cm-243	1.75E-08	1.09E-05	6.32E-02	1.34E-08	1.34E-08	1.88E-08	2.00E-08
Cm-244	2.39E-07	1.49E-04	0.863	1.96E-07	1.96E-07	2.55E-07	2.70E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.35E-04 (g/L)	----	3.37	8.30E-04	8.82E-04	9.89E-04	1.04E-03
U	1.33E-02	1.98E+03	1.14E+04	1.13E-02	1.29E-02	1.35E-02	1.37E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.89E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	6.06 (kW)	(2.07E+04 BTU/hr)	----	5.54	5.82	6.27	6.58
Bulk Density*	1.47 (g/cc)	----	----	1.43	1.46	1.49	1.51
Water wt%	42.8	----	----	40.1	41.3	44.0	45.3
TOC wt% C (wet)	1.05	----	----	0.666	0.856	1.25	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.1	1.73E+05	1.02E+06	10.2	10.6	11.5	12.0
Al^{3+}	1.26	2.31E+04	1.36E+05	1.08	1.22	1.30	1.33
Fe^{3+} (total Fe)	9.06E-03	343	2.02E+03	8.19E-03	8.62E-03	9.50E-03	9.92E-03
Cr^{3+}	8.91E-02	3.14E+03	1.85E+04	7.92E-02	8.45E-02	9.29E-02	9.83E-02
Bi^{3+}	9.49E-04	134	793	8.90E-04	9.19E-04	9.79E-04	1.01E-03
La^{3+}	1.27E-05	1.19	7.04	9.38E-06	1.10E-05	1.44E-05	1.60E-05
Hg^{2+}	9.15E-06	1.25	7.34	7.76E-06	9.02E-06	9.29E-06	9.43E-06
Zr (as $ZrO(OH)_2$)	7.49E-04	46.3	273	4.22E-04	7.07E-04	7.90E-04	8.29E-04
Pb^{2+}	9.48E-04	133	785	7.49E-04	8.47E-04	1.05E-03	1.15E-03
Ni^{2+}	5.71E-03	227	1.34E+03	5.56E-03	5.64E-03	5.77E-03	5.83E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	6.70E-03	250	1.47E+03	4.54E-03	5.59E-03	7.80E-03	8.55E-03
Ca^{2+}	3.19E-02	868	5.11E+03	2.97E-02	3.08E-02	3.30E-02	3.41E-02
K^{+}	0.100	2.65E+03	1.56E+04	5.45E-02	7.66E-02	0.124	0.148
OH^{-}	7.38	8.51E+04	5.02E+05	6.50	7.07	7.70	7.99
$NO3^{-}$	3.71	1.56E+05	9.19E+05	3.49	3.60	3.82	3.93
$NO2^{-}$	1.72	5.35E+04	3.16E+05	1.39	1.53	1.92	1.97
$CO3^{2-}$	0.504	2.05E+04	1.21E+05	0.434	0.469	0.540	0.564
$PO4^{3-}$	0.115	7.42E+03	4.37E+04	9.01E-02	0.102	0.128	0.140
$SO4^{2-}$	0.210	1.37E+04	8.08E+04	0.173	0.188	0.236	0.238
Si (as SiO_x^{2-})	6.10E-02	1.16E+03	6.85E+03	5.30E-02	5.69E-02	6.51E-02	6.88E-02
F^{-}	9.99E-02	1.29E+03	7.59E+03	5.28E-02	9.20E-02	0.108	0.116
Cl^{-}	0.190	4.56E+03	2.69E+04	0.168	0.178	0.198	0.206
$C_6H_5O_7^{3-}$	2.61E-02	3.34E+03	1.97E+04	2.21E-02	2.41E-02	2.81E-02	3.00E-02
$EDTA^{4-}$	2.12E-02	4.14E+03	2.44E+04	6.95E-03	1.39E-02	2.85E-02	3.56E-02
$HEDTA^{3-}$	3.78E-02	7.02E+03	4.14E+04	9.34E-03	2.32E-02	5.24E-02	6.67E-02
$glycolate^{-}$	0.142	7.22E+03	4.25E+04	8.90E-02	0.115	0.169	0.195
$acetate^{-}$	1.46E-02	584	3.44E+03	1.15E-02	1.28E-02	1.65E-02	1.94E-02
$oxalate^{2-}$	1.66E-05	0.991	5.84	1.48E-05	1.57E-05	1.75E-05	1.84E-05
DBP	1.97E-02	2.81E+03	1.65E+04	1.68E-02	1.80E-02	2.15E-02	2.41E-02
butanol	1.97E-02	989	5.83E+03	1.68E-02	1.80E-02	2.15E-02	2.41E-02
NH_3	0.206	2.37E+03	1.40E+04	4.68E-02	0.124	0.289	0.371
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.89E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	6.06 (kW)	(2.07E+04 BTU/hr)	----	5.54	5.82	6.27	6.58
Bulk Density†	1.47 (g/cc)	----	----	1.43	1.46	1.49	1.51
Water wt%†	42.8	----	----	40.1	41.3	44.0	45.3
TOC wt% C (wet)†	1.05	----	----	0.666	0.856	1.25	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	11.1	1.73E+05	1.02E+06	10.2	10.6	11.5	12.0
Al^{3+}	1.26	2.31E+04	1.36E+05	1.08	1.22	1.30	1.33
Fe^{3+} (total Fe)	9.06E-03	343	2.02E+03	8.19E-03	8.62E-03	9.50E-03	9.92E-03
Cr^{3+}	8.91E-02	3.14E+03	1.85E+04	7.92E-02	8.45E-02	9.29E-02	9.83E-02
Bi^{3+}	9.49E-04	134	793	8.90E-04	9.19E-04	9.79E-04	1.01E-03
La^{3+}	1.27E-05	1.19	7.04	9.38E-06	1.10E-05	1.44E-05	1.60E-05
Hg^{2+}	9.15E-06	1.25	7.34	7.76E-06	9.02E-06	9.29E-06	9.43E-06
Zr (as $ZrO(OH)_2$)	7.49E-04	46.3	273	4.22E-04	7.07E-04	7.90E-04	8.29E-04
Pb^{2+}	9.48E-04	133	785	7.49E-04	8.47E-04	1.05E-03	1.15E-03
Ni^{2+}	5.71E-03	227	1.34E+03	5.56E-03	5.64E-03	5.77E-03	5.83E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	6.70E-03	250	1.47E+03	4.54E-03	5.59E-03	7.80E-03	8.55E-03
Ca^{2+}	3.19E-02	868	5.11E+03	2.97E-02	3.08E-02	3.30E-02	3.41E-02
K^{+}	0.100	2.65E+03	1.56E+04	5.45E-02	7.66E-02	0.124	0.148
OH^{-}	7.38	8.51E+04	5.02E+05	6.50	7.07	7.70	7.99
$NO3^{-}$	3.71	1.56E+05	9.19E+05	3.49	3.60	3.82	3.93
$NO2^{-}$	1.72	5.35E+04	3.16E+05	1.39	1.53	1.92	1.97
$CO3^{2-}$	0.504	2.05E+04	1.21E+05	0.434	0.469	0.540	0.564
$PO4^{3-}$	0.115	7.42E+03	4.37E+04	9.01E-02	0.102	0.128	0.140
$SO4^{2-}$	0.210	1.37E+04	8.08E+04	0.173	0.188	0.236	0.238
Si (as SiO_x^{2-})	6.10E-02	1.16E+03	6.85E+03	5.30E-02	5.69E-02	6.51E-02	6.88E-02
F^{-}	9.99E-02	1.29E+03	7.59E+03	5.28E-02	9.20E-02	0.108	0.116
Cl^{-}	0.190	4.56E+03	2.69E+04	0.168	0.178	0.198	0.206
$C_6H_5O_7^{3-}$	2.61E-02	3.34E+03	1.97E+04	2.21E-02	2.41E-02	2.81E-02	3.00E-02
$EDTA^{4-}$	2.12E-02	4.14E+03	2.44E+04	6.95E-03	1.39E-02	2.85E-02	3.56E-02
$HEDTA^{3-}$	3.78E-02	7.02E+03	4.14E+04	9.34E-03	2.32E-02	5.24E-02	6.67E-02
$glycolate^{-}$	0.142	7.22E+03	4.25E+04	8.90E-02	0.115	0.169	0.195
$acetate^{-}$	1.46E-02	584	3.44E+03	1.15E-02	1.28E-02	1.65E-02	1.94E-02
$oxalate^{2-}$	1.66E-05	0.991	5.84	1.48E-05	1.57E-05	1.75E-05	1.84E-05
DBP	1.97E-02	2.81E+03	1.65E+04	1.68E-02	1.80E-02	2.15E-02	2.41E-02
butanol	1.97E-02	989	5.83E+03	1.68E-02	1.80E-02	2.15E-02	2.41E-02
NH_3	0.206	2.37E+03	1.40E+04	4.68E-02	0.124	0.289	0.371
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.89E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	6.06 (kW)	(2.07E+04 BTU/hr)	----	5.54	5.82	6.27	6.58
Bulk Density*	1.47 (g/cc)	----	----	1.43	1.46	1.49	1.51
Water wt%†	42.8	----	----	40.1	41.3	44.0	45.3
TOC wt% C (wet)	1.05	----	----	0.666	0.856	1.25	1.44

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.86E-04	0.126	744	1.33E-04	1.33E-04	1.97E-04	2.11E-04
C-14	2.59E-05	1.76E-02	104	1.48E-05	1.48E-05	2.64E-05	2.68E-05
Ni-59	1.40E-06	9.51E-04	5.61	8.82E-07	8.82E-07	1.43E-06	1.45E-06
Ni-63	1.38E-04	9.36E-02	552	8.65E-05	8.65E-05	1.41E-04	1.43E-04
Co-60	3.37E-05	2.29E-02	135	2.11E-05	2.11E-05	3.45E-05	3.54E-05
Se-79	2.83E-06	1.92E-03	11.3	2.13E-06	2.13E-06	3.09E-06	3.34E-06
Sr-90	8.87E-02	60.1	3.54E+05	8.30E-02	8.69E-02	9.05E-02	9.22E-02
Y-90	8.87E-02	60.2	3.55E+05	6.43E-02	6.43E-02	9.05E-02	9.22E-02
Zr-93	1.38E-05	9.38E-03	55.3	1.03E-05	1.03E-05	1.51E-05	1.63E-05
Nb-93m	1.00E-05	6.81E-03	40.2	7.57E-06	7.57E-06	1.09E-05	1.18E-05
Tc-99	1.96E-04	0.133	782	1.54E-04	1.74E-04	2.20E-04	2.54E-04
Ru-106	8.07E-09	5.48E-06	3.23E-02	6.37E-09	6.43E-09	8.94E-09	9.78E-09
Cd-113m	7.26E-05	4.93E-02	290	5.14E-05	5.14E-05	8.03E-05	8.77E-05
Sb-125	1.86E-04	0.126	745	1.31E-04	1.31E-04	1.96E-04	2.06E-04
Sn-126	4.30E-06	2.92E-03	17.2	3.24E-06	3.24E-06	4.69E-06	5.05E-06
I-129	3.78E-07	2.56E-04	1.51	2.98E-07	3.35E-07	4.26E-07	4.90E-07
Cs-134	3.09E-05	2.09E-02	123	2.24E-05	2.65E-05	3.54E-05	3.97E-05
Cs-137	0.196	133	7.83E+05	0.174	0.183	0.207	0.224
Ba-137m	0.185	126	7.41E+05	0.154	0.154	0.195	0.204
Sm-151	1.00E-02	6.78	4.00E+04	7.53E-03	7.53E-03	1.09E-02	1.18E-02
Eu-152	3.63E-06	2.46E-03	14.5	2.75E-06	2.75E-06	4.02E-06	4.41E-06
Eu-154	5.34E-04	0.362	2.13E+03	3.57E-04	3.57E-04	5.98E-04	6.31E-04
Eu-155	2.25E-04	0.153	899	1.73E-04	1.73E-04	2.49E-04	2.73E-04
Ra-226	1.16E-10	7.86E-08	4.63E-04	9.40E-11	9.40E-11	1.27E-10	1.32E-10
Ra-228	2.58E-07	1.75E-04	1.03	7.84E-08	7.84E-08	2.86E-07	3.16E-07
Ac-227	7.15E-10	4.85E-07	2.86E-03	5.88E-10	5.88E-10	7.77E-10	8.06E-10
Pa-231	3.21E-09	2.17E-06	1.28E-02	2.50E-09	2.50E-09	3.46E-09	3.71E-09
Th-229	5.98E-09	4.05E-06	2.39E-02	1.83E-09	1.83E-09	6.59E-09	7.25E-09
Th-232	2.72E-08	1.84E-05	0.109	5.01E-09	5.01E-09	3.32E-08	3.91E-08
U-232	7.93E-07	5.38E-04	3.17	6.03E-07	6.92E-07	9.08E-07	1.03E-06
U-233	3.04E-06	2.06E-03	12.1	2.31E-06	2.65E-06	3.48E-06	3.95E-06
U-234	8.98E-07	6.09E-04	3.59	7.64E-07	8.67E-07	9.13E-07	9.27E-07
U-235	3.50E-08	2.38E-05	0.140	2.99E-08	3.38E-08	3.56E-08	3.61E-08
U-236	4.82E-08	3.27E-05	0.193	3.71E-08	4.56E-08	4.94E-08	5.05E-08
U-238	9.65E-07	6.55E-04	3.86	8.73E-07	9.43E-07	9.75E-07	9.93E-07
Np-237	6.92E-07	4.69E-04	2.77	5.57E-07	6.21E-07	7.72E-07	8.81E-07
Pu-238	1.99E-06	1.35E-03	7.97	1.54E-06	1.76E-06	2.23E-06	2.45E-06
Pu-239	4.29E-05	2.91E-02	172	3.88E-05	4.08E-05	4.50E-05	4.70E-05
Pu-240	8.45E-06	5.73E-03	33.8	7.32E-06	7.87E-06	9.02E-06	9.57E-06
Pu-241	1.66E-04	0.113	664	1.19E-04	1.42E-04	1.90E-04	2.13E-04
Pu-242	7.67E-10	5.20E-07	3.06E-03	5.92E-10	6.78E-10	8.56E-10	9.41E-10
Am-241	5.58E-05	3.79E-02	223	4.56E-05	5.06E-05	6.11E-05	6.46E-05
Am-243	3.10E-09	2.10E-06	1.24E-02	2.26E-09	2.66E-09	3.60E-09	4.04E-09
Cm-242	1.31E-07	8.89E-05	0.524	9.51E-08	9.51E-08	1.46E-07	1.61E-07
Cm-243	1.29E-08	8.72E-06	5.14E-02	9.43E-09	9.43E-09	1.42E-08	1.55E-08
Cm-244	1.31E-07	8.85E-05	0.522	9.52E-08	9.52E-08	1.48E-07	1.65E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.63E-04 (g/L)	----	2.25	4.86E-04	5.24E-04	6.02E-04	6.40E-04
U	9.09E-03	1.47E+03	8.65E+03	7.93E-03	8.82E-03	9.22E-03	9.34E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.89E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	6.06 (kW)	(2.07E+04 BTU/hr)	----	5.54	5.82	6.27	6.58
Bulk Density†	1.47 (g/cc)	----	----	1.43	1.46	1.49	1.51
Water wt%†	42.8	----	----	40.1	41.3	44.0	45.3
TOC wt% C (wet)†	1.05	----	----	0.666	0.856	1.25	1.44

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.86E-04	0.126	744	1.33E-04	1.33E-04	1.97E-04	2.11E-04
C-14	2.59E-05	1.76E-02	104	1.48E-05	1.48E-05	2.64E-05	2.68E-05
Ni-59	1.40E-06	9.51E-04	5.61	8.82E-07	8.82E-07	1.43E-06	1.45E-06
Ni-63	1.38E-04	9.36E-02	552	8.65E-05	8.65E-05	1.41E-04	1.43E-04
Co-60	3.37E-05	2.29E-02	135	2.11E-05	2.11E-05	3.45E-05	3.54E-05
Se-79	2.83E-06	1.92E-03	11.3	2.13E-06	2.13E-06	3.09E-06	3.34E-06
Sr-90	8.87E-02	60.1	3.54E+05	8.30E-02	8.69E-02	9.05E-02	9.22E-02
Y-90	8.87E-02	60.2	3.55E+05	6.43E-02	6.43E-02	9.05E-02	9.22E-02
Zr-93	1.38E-05	9.38E-03	55.3	1.03E-05	1.03E-05	1.51E-05	1.63E-05
Nb-93m	1.00E-05	6.81E-03	40.2	7.57E-06	7.57E-06	1.09E-05	1.18E-05
Tc-99	1.96E-04	0.133	782	1.54E-04	1.74E-04	2.20E-04	2.54E-04
Ru-106	8.07E-09	5.48E-06	3.23E-02	6.37E-09	6.43E-09	8.94E-09	9.78E-09
Cd-113m	7.26E-05	4.93E-02	290	5.14E-05	5.14E-05	8.03E-05	8.77E-05
Sb-125	1.86E-04	0.126	745	1.31E-04	1.31E-04	1.96E-04	2.06E-04
Sn-126	4.30E-06	2.92E-03	17.2	3.24E-06	3.24E-06	4.69E-06	5.05E-06
I-129	3.78E-07	2.56E-04	1.51	2.98E-07	3.35E-07	4.26E-07	4.90E-07
Cs-134	3.09E-05	2.09E-02	123	2.24E-05	2.65E-05	3.54E-05	3.97E-05
Cs-137	0.196	133	7.83E+05	0.174	0.183	0.207	0.224
Ba-137m	0.185	126	7.41E+05	0.154	0.154	0.195	0.204
Sm-151	1.00E-02	6.78	4.00E+04	7.53E-03	7.53E-03	1.09E-02	1.18E-02
Eu-152	3.63E-06	2.46E-03	14.5	2.75E-06	2.75E-06	4.02E-06	4.41E-06
Eu-154	5.34E-04	0.362	2.13E+03	3.57E-04	3.57E-04	5.98E-04	6.31E-04
Eu-155	2.25E-04	0.153	899	1.73E-04	1.73E-04	2.49E-04	2.73E-04
Ra-226	1.16E-10	7.86E-08	4.63E-04	9.40E-11	9.40E-11	1.27E-10	1.32E-10
Ra-228	2.58E-07	1.75E-04	1.03	7.84E-08	7.84E-08	2.86E-07	3.16E-07
Ac-227	7.15E-10	4.85E-07	2.86E-03	5.88E-10	5.88E-10	7.77E-10	8.06E-10
Pa-231	3.21E-09	2.17E-06	1.28E-02	2.50E-09	2.50E-09	3.46E-09	3.71E-09
Th-229	5.98E-09	4.05E-06	2.39E-02	1.83E-09	1.83E-09	6.59E-09	7.25E-09
Th-232	2.72E-08	1.84E-05	0.109	5.01E-09	5.01E-09	3.32E-08	3.91E-08
U-232	7.93E-07	5.38E-04	3.17	6.03E-07	6.92E-07	9.08E-07	1.03E-06
U-233	3.04E-06	2.06E-03	12.1	2.31E-06	2.65E-06	3.48E-06	3.95E-06
U-234	8.98E-07	6.09E-04	3.59	7.64E-07	8.67E-07	9.13E-07	9.27E-07
U-235	3.50E-08	2.38E-05	0.140	2.99E-08	3.38E-08	3.56E-08	3.61E-08
U-236	4.82E-08	3.27E-05	0.193	3.71E-08	4.56E-08	4.94E-08	5.05E-08
U-238	9.65E-07	6.55E-04	3.86	8.73E-07	9.43E-07	9.75E-07	9.93E-07
Np-237	6.92E-07	4.69E-04	2.77	5.57E-07	6.21E-07	7.72E-07	8.81E-07
Pu-238	1.99E-06	1.35E-03	7.97	1.54E-06	1.76E-06	2.23E-06	2.45E-06
Pu-239	4.29E-05	2.91E-02	172	3.88E-05	4.08E-05	4.50E-05	4.70E-05
Pu-240	8.45E-06	5.73E-03	33.8	7.32E-06	7.87E-06	9.02E-06	9.57E-06
Pu-241	1.66E-04	0.113	664	1.19E-04	1.42E-04	1.90E-04	2.13E-04
Pu-242	7.67E-10	5.20E-07	3.06E-03	5.92E-10	6.78E-10	8.56E-10	9.41E-10
Am-241	5.58E-05	3.79E-02	223	4.56E-05	5.06E-05	6.11E-05	6.46E-05
Am-243	3.10E-09	2.10E-06	1.24E-02	2.26E-09	2.66E-09	3.60E-09	4.04E-09
Cm-242	1.31E-07	8.89E-05	0.524	9.51E-08	9.51E-08	1.46E-07	1.61E-07
Cm-243	1.29E-08	8.72E-06	5.14E-02	9.43E-09	9.43E-09	1.42E-08	1.55E-08
Cm-244	1.31E-07	8.85E-05	0.522	9.52E-08	9.52E-08	1.48E-07	1.65E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.63E-04 (g/L)	----	2.25	4.86E-04	5.24E-04	6.02E-04	6.40E-04
U	9.09E-03	1.47E+03	8.65E+03	7.93E-03	8.82E-03	9.22E-03	9.34E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	8.04E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	11.4 (kW)	(3.90E+04 BTU/hr)	----	10.6	11.0	11.8	12.4
Bulk Density*	1.88 (g/cc)	----	----	1.80	1.85	1.91	1.94
Water wt%	17.2	----	----	14.0	15.4	18.7	20.4
TOC wt% C (wet)	1.36	----	----	0.924	1.14	1.58	1.80

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	20.5	2.51E+05	2.02E+06	18.7	19.6	21.4	22.2
Al^{3+}	2.35	3.38E+04	2.71E+05	2.02	2.28	2.42	2.49
Fe^{3+} (total Fe)	1.56E-02	464	3.73E+03	1.41E-02	1.48E-02	1.64E-02	1.71E-02
Cr^{3+}	0.160	4.42E+03	3.56E+04	0.142	0.152	0.167	0.176
Bi^{3+}	1.87E-03	208	1.67E+03	1.74E-03	1.80E-03	1.93E-03	1.99E-03
La^{3+}	1.99E-05	1.47	11.8	1.47E-05	1.72E-05	2.25E-05	2.50E-05
Hg^{2+}	1.38E-05	1.47	11.8	1.32E-05	1.35E-05	1.41E-05	1.43E-05
Zr (as $ZrO(OH)_2$)	3.82E-04	18.5	149	3.22E-04	3.67E-04	3.91E-04	4.04E-04
Pb^{2+}	1.74E-03	191	1.54E+03	1.38E-03	1.55E-03	1.92E-03	2.10E-03
Ni^{2+}	1.06E-02	331	2.66E+03	1.03E-02	1.05E-02	1.07E-02	1.08E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.35E-03	273	2.20E+03	6.99E-03	8.14E-03	1.06E-02	1.14E-02
Ca^{2+}	5.57E-02	1.19E+03	9.56E+03	5.16E-02	5.40E-02	5.72E-02	5.87E-02
K^{+}	0.106	2.22E+03	1.78E+04	9.54E-02	0.100	0.114	0.124
OH^{-}	13.7	1.24E+05	9.97E+05	12.1	13.1	14.3	14.9
$NO3^{-}$	7.08	2.34E+05	1.88E+06	6.60	6.83	7.31	7.52
$NO2^{-}$	3.10	7.58E+04	6.09E+05	2.51	2.76	3.46	3.56
$CO3^{2-}$	0.910	2.91E+04	2.34E+05	0.769	0.839	0.980	1.03
$PO4^{3-}$	0.184	9.29E+03	7.47E+04	0.157	0.170	0.198	0.211
$SO4^{2-}$	0.386	1.97E+04	1.59E+05	0.318	0.347	0.433	0.436
Si (as SiO_x^{2-})	0.113	1.69E+03	1.36E+04	9.68E-02	0.105	0.121	0.128
F^{-}	0.107	1.09E+03	8.72E+03	9.56E-02	0.100	0.115	0.126
Cl^{-}	0.361	6.81E+03	5.48E+04	0.322	0.340	0.378	0.394
$C_6H_5O_7^{3-}$	4.80E-02	4.83E+03	3.88E+04	4.01E-02	4.40E-02	5.21E-02	5.60E-02
$EDTA^{4-}$	3.14E-02	4.82E+03	3.88E+04	1.09E-02	2.09E-02	4.20E-02	5.23E-02
$HEDTA^{3-}$	5.48E-02	7.99E+03	6.42E+04	1.37E-02	3.38E-02	7.59E-02	9.65E-02
$glycolate^{-}$	0.261	1.04E+04	8.38E+04	0.156	0.207	0.315	0.367
$acetate^{-}$	2.59E-02	815	6.55E+03	2.03E-02	2.27E-02	2.94E-02	3.47E-02
$oxalate^{2-}$	2.60E-05	1.22	9.80	2.32E-05	2.46E-05	2.74E-05	2.88E-05
DBP	3.40E-02	3.80E+03	3.06E+04	2.88E-02	3.10E-02	3.72E-02	4.20E-02
butanol	3.40E-02	1.34E+03	1.08E+04	2.88E-02	3.10E-02	3.72E-02	4.20E-02
NH_3	0.114	1.03E+03	8.27E+03	8.48E-02	9.88E-02	0.129	0.144
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.04E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	11.4 (kW)	(3.90E+04 BTU/hr)	----	10.6	11.0	11.8	12.4
Bulk Density†	1.88 (g/cc)	----	----	1.80	1.85	1.91	1.94
Water wt%†	17.2	----	----	14.0	15.4	18.7	20.4
TOC wt% C (wet)†	1.36	----	----	0.924	1.14	1.58	1.80

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	20.5	2.51E+05	2.02E+06	18.7	19.6	21.4	22.2
Al^{3+}	2.35	3.38E+04	2.71E+05	2.02	2.28	2.42	2.49
Fe^{3+} (total Fe)	1.56E-02	464	3.73E+03	1.41E-02	1.48E-02	1.64E-02	1.71E-02
Cr^{3+}	0.160	4.42E+03	3.56E+04	0.142	0.152	0.167	0.176
Bi^{3+}	1.87E-03	208	1.67E+03	1.74E-03	1.80E-03	1.93E-03	1.99E-03
La^{3+}	1.99E-05	1.47	11.8	1.47E-05	1.72E-05	2.25E-05	2.50E-05
Hg^{2+}	1.38E-05	1.47	11.8	1.32E-05	1.35E-05	1.41E-05	1.43E-05
Zr (as $ZrO(OH)_2$)	3.82E-04	18.5	149	3.22E-04	3.67E-04	3.91E-04	4.04E-04
Pb^{2+}	1.74E-03	191	1.54E+03	1.38E-03	1.55E-03	1.92E-03	2.10E-03
Ni^{2+}	1.06E-02	331	2.66E+03	1.03E-02	1.05E-02	1.07E-02	1.08E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.35E-03	273	2.20E+03	6.99E-03	8.14E-03	1.06E-02	1.14E-02
Ca^{2+}	5.57E-02	1.19E+03	9.56E+03	5.16E-02	5.40E-02	5.72E-02	5.87E-02
K^{+}	0.106	2.22E+03	1.78E+04	9.54E-02	0.100	0.114	0.124
OH^{-}	13.7	1.24E+05	9.97E+05	12.1	13.1	14.3	14.9
$NO3^{-}$	7.08	2.34E+05	1.88E+06	6.60	6.83	7.31	7.52
$NO2^{-}$	3.10	7.58E+04	6.09E+05	2.51	2.76	3.46	3.56
$CO3^{2-}$	0.910	2.91E+04	2.34E+05	0.769	0.839	0.980	1.03
$PO4^{3-}$	0.184	9.29E+03	7.47E+04	0.157	0.170	0.198	0.211
$SO4^{2-}$	0.386	1.97E+04	1.59E+05	0.318	0.347	0.433	0.436
Si (as SiO_x^{2-})	0.113	1.69E+03	1.36E+04	9.68E-02	0.105	0.121	0.128
F^{-}	0.107	1.09E+03	8.72E+03	9.56E-02	0.100	0.115	0.126
Cl^{-}	0.361	6.81E+03	5.48E+04	0.322	0.340	0.378	0.394
$C_6H_5O_7^{3-}$	4.80E-02	4.83E+03	3.88E+04	4.01E-02	4.40E-02	5.21E-02	5.60E-02
$EDTA^{4-}$	3.14E-02	4.82E+03	3.88E+04	1.09E-02	2.09E-02	4.20E-02	5.23E-02
$HEDTA^{3-}$	5.48E-02	7.99E+03	6.42E+04	1.37E-02	3.38E-02	7.59E-02	9.65E-02
$glycolate^{-}$	0.261	1.04E+04	8.38E+04	0.156	0.207	0.315	0.367
$acetate^{-}$	2.59E-02	815	6.55E+03	2.03E-02	2.27E-02	2.94E-02	3.47E-02
$oxalate^{2-}$	2.60E-05	1.22	9.80	2.32E-05	2.46E-05	2.74E-05	2.88E-05
DBP	3.40E-02	3.80E+03	3.06E+04	2.88E-02	3.10E-02	3.72E-02	4.20E-02
butanol	3.40E-02	1.34E+03	1.08E+04	2.88E-02	3.10E-02	3.72E-02	4.20E-02
NH_3	0.114	1.03E+03	8.27E+03	8.48E-02	9.88E-02	0.129	0.144
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	8.04E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	11.4 (kW)	(3.90E+04 BTU/hr)	----	10.6	11.0	11.8	12.4
Bulk Density*	1.88 (g/cc)	----	----	1.80	1.85	1.91	1.94
Water wt%†	17.2	----	----	14.0	15.4	18.7	20.4
TOC wt% C (wet)	1.36	----	----	0.924	1.14	1.58	1.80

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.30E-04	0.176	1.41E+03	2.38E-04	2.38E-04	3.46E-04	3.66E-04
C-14	4.62E-05	2.46E-02	198	2.68E-05	2.68E-05	4.70E-05	4.78E-05
Ni-59	2.59E-06	1.38E-03	11.1	1.67E-06	1.67E-06	2.63E-06	2.68E-06
Ni-63	2.55E-04	0.136	1.09E+03	1.64E-04	1.64E-04	2.59E-04	2.64E-04
Co-60	5.92E-05	3.15E-02	253	3.70E-05	3.70E-05	6.03E-05	6.15E-05
Se-79	5.11E-06	2.72E-03	21.9	3.87E-06	3.87E-06	5.56E-06	5.99E-06
Sr-90	0.155	82.7	6.65E+05	0.147	0.152	0.159	0.162
Y-90	0.155	82.7	6.65E+05	0.113	0.113	0.159	0.162
Zr-93	2.49E-05	1.32E-02	106	1.87E-05	1.87E-05	2.71E-05	2.93E-05
Nb-93m	1.82E-05	9.66E-03	77.6	1.38E-05	1.38E-05	1.97E-05	2.12E-05
Tc-99	3.50E-04	0.186	1.50E+03	2.77E-04	3.10E-04	3.94E-04	4.54E-04
Ru-106	1.31E-08	6.97E-06	5.60E-02	9.69E-09	1.02E-08	1.48E-08	1.65E-08
Cd-113m	1.29E-04	6.87E-02	552	9.19E-05	9.19E-05	1.43E-04	1.55E-04
Sb-125	3.10E-04	0.165	1.33E+03	2.14E-04	2.14E-04	3.25E-04	3.39E-04
Sn-126	7.77E-06	4.13E-03	33.2	5.91E-06	5.91E-06	8.44E-06	9.09E-06
I-129	6.75E-07	3.59E-04	2.89	5.35E-07	5.98E-07	7.62E-07	8.78E-07
Cs-134	4.86E-05	2.59E-02	208	3.57E-05	4.20E-05	5.52E-05	6.16E-05
Cs-137	0.346	184	1.48E+06	0.307	0.323	0.366	0.397
Ba-137m	0.328	174	1.40E+06	0.270	0.270	0.342	0.356
Sm-151	1.81E-02	9.61	7.72E+04	1.37E-02	1.37E-02	1.96E-02	2.11E-02
Eu-152	6.30E-06	3.35E-03	26.9	4.76E-06	4.76E-06	6.87E-06	7.42E-06
Eu-154	9.39E-04	0.500	4.02E+03	6.30E-04	6.30E-04	1.05E-03	1.11E-03
Eu-155	3.88E-04	0.206	1.66E+03	2.96E-04	2.96E-04	4.22E-04	4.57E-04
Ra-226	2.14E-10	1.14E-07	9.14E-04	1.71E-10	1.75E-10	2.35E-10	2.41E-10
Ra-228	4.75E-07	2.53E-04	2.03	1.51E-07	1.51E-07	5.29E-07	5.87E-07
Ac-227	1.32E-09	7.02E-07	5.65E-03	1.07E-09	1.10E-09	1.44E-09	1.48E-09
Pa-231	5.82E-09	3.10E-06	2.49E-02	4.58E-09	4.58E-09	6.27E-09	6.70E-09
Th-229	1.10E-08	5.86E-06	4.71E-02	3.53E-09	3.53E-09	1.22E-08	1.35E-08
Th-232	4.96E-08	2.64E-05	0.212	9.60E-09	9.60E-09	6.05E-08	7.11E-08
U-232	1.48E-06	7.86E-04	6.32	1.11E-06	1.29E-06	1.70E-06	1.93E-06
U-233	5.66E-06	3.01E-03	24.2	4.25E-06	4.94E-06	6.50E-06	7.38E-06
U-234	1.29E-06	6.84E-04	5.50	1.14E-06	1.25E-06	1.30E-06	1.32E-06
U-235	5.05E-08	2.69E-05	0.216	4.49E-08	4.92E-08	5.11E-08	5.17E-08
U-236	5.83E-08	3.10E-05	0.249	4.62E-08	5.55E-08	5.96E-08	6.09E-08
U-238	1.53E-06	8.12E-04	6.53	1.43E-06	1.50E-06	1.54E-06	1.58E-06
Np-237	1.23E-06	6.57E-04	5.28	9.98E-07	1.11E-06	1.38E-06	1.57E-06
Pu-238	2.76E-06	1.47E-03	11.8	2.26E-06	2.51E-06	3.02E-06	3.26E-06
Pu-239	7.05E-05	3.75E-02	302	6.34E-05	6.69E-05	7.41E-05	7.76E-05
Pu-240	1.33E-05	7.08E-03	56.9	1.20E-05	1.26E-05	1.40E-05	1.46E-05
Pu-241	2.15E-04	0.115	920	1.64E-04	1.89E-04	2.41E-04	2.66E-04
Pu-242	1.07E-09	5.68E-07	4.57E-03	8.77E-10	9.71E-10	1.16E-09	1.26E-09
Am-241	1.00E-04	5.34E-02	429	7.99E-05	8.99E-05	1.11E-04	1.18E-04
Am-243	4.40E-09	2.34E-06	1.88E-02	2.78E-09	3.52E-09	5.40E-09	6.28E-09
Cm-242	2.31E-07	1.23E-04	0.987	1.68E-07	1.68E-07	2.52E-07	2.74E-07
Cm-243	2.29E-08	1.22E-05	9.78E-02	1.68E-08	1.68E-08	2.48E-08	2.67E-08
Cm-244	2.15E-07	1.14E-04	0.920	1.47E-07	1.53E-07	2.50E-07	2.83E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.21E-04 (g/L)	----	3.94	7.86E-04	8.52E-04	9.89E-04	1.05E-03
U	1.35E-02	1.71E+03	1.38E+04	1.23E-02	1.32E-02	1.37E-02	1.38E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	8.04E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	11.4 (kW)	(3.90E+04 BTU/hr)	----	10.6	11.0	11.8	12.4
Bulk Density†	1.88 (g/cc)	----	----	1.80	1.85	1.91	1.94
Water wt%†	17.2	----	----	14.0	15.4	18.7	20.4
TOC wt% C (wet)†	1.36	----	----	0.924	1.14	1.58	1.80

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.30E-04	0.176	1.41E+03	2.38E-04	2.38E-04	3.46E-04	3.66E-04
C-14	4.62E-05	2.46E-02	198	2.68E-05	2.68E-05	4.70E-05	4.78E-05
Ni-59	2.59E-06	1.38E-03	11.1	1.67E-06	1.67E-06	2.63E-06	2.68E-06
Ni-63	2.55E-04	0.136	1.09E+03	1.64E-04	1.64E-04	2.59E-04	2.64E-04
Co-60	5.92E-05	3.15E-02	253	3.70E-05	3.70E-05	6.03E-05	6.15E-05
Se-79	5.11E-06	2.72E-03	21.9	3.87E-06	3.87E-06	5.56E-06	5.99E-06
Sr-90	0.155	82.7	6.65E+05	0.147	0.152	0.159	0.162
Y-90	0.155	82.7	6.65E+05	0.113	0.113	0.159	0.162
Zr-93	2.49E-05	1.32E-02	106	1.87E-05	1.87E-05	2.71E-05	2.93E-05
Nb-93m	1.82E-05	9.66E-03	77.6	1.38E-05	1.38E-05	1.97E-05	2.12E-05
Tc-99	3.50E-04	0.186	1.50E+03	2.77E-04	3.10E-04	3.94E-04	4.54E-04
Ru-106	1.31E-08	6.97E-06	5.60E-02	9.69E-09	1.02E-08	1.48E-08	1.65E-08
Cd-113m	1.29E-04	6.87E-02	552	9.19E-05	9.19E-05	1.43E-04	1.55E-04
Sb-125	3.10E-04	0.165	1.33E+03	2.14E-04	2.14E-04	3.25E-04	3.39E-04
Sn-126	7.77E-06	4.13E-03	33.2	5.91E-06	5.91E-06	8.44E-06	9.09E-06
I-129	6.75E-07	3.59E-04	2.89	5.35E-07	5.98E-07	7.62E-07	8.78E-07
Cs-134	4.86E-05	2.59E-02	208	3.57E-05	4.20E-05	5.52E-05	6.16E-05
Cs-137	0.346	184	1.48E+06	0.307	0.323	0.366	0.397
Ba-137m	0.328	174	1.40E+06	0.270	0.270	0.342	0.356
Sm-151	1.81E-02	9.61	7.72E+04	1.37E-02	1.37E-02	1.96E-02	2.11E-02
Eu-152	6.30E-06	3.35E-03	26.9	4.76E-06	4.76E-06	6.87E-06	7.42E-06
Eu-154	9.39E-04	0.500	4.02E+03	6.30E-04	6.30E-04	1.05E-03	1.11E-03
Eu-155	3.88E-04	0.206	1.66E+03	2.96E-04	2.96E-04	4.22E-04	4.57E-04
Ra-226	2.14E-10	1.14E-07	9.14E-04	1.71E-10	1.75E-10	2.35E-10	2.41E-10
Ra-228	4.75E-07	2.53E-04	2.03	1.51E-07	1.51E-07	5.29E-07	5.87E-07
Ac-227	1.32E-09	7.02E-07	5.65E-03	1.07E-09	1.10E-09	1.44E-09	1.48E-09
Pa-231	5.82E-09	3.10E-06	2.49E-02	4.58E-09	4.58E-09	6.27E-09	6.70E-09
Th-229	1.10E-08	5.86E-06	4.71E-02	3.53E-09	3.53E-09	1.22E-08	1.35E-08
Th-232	4.96E-08	2.64E-05	0.212	9.60E-09	9.60E-09	6.05E-08	7.11E-08
U-232	1.48E-06	7.86E-04	6.32	1.11E-06	1.29E-06	1.70E-06	1.93E-06
U-233	5.66E-06	3.01E-03	24.2	4.25E-06	4.94E-06	6.50E-06	7.38E-06
U-234	1.29E-06	6.84E-04	5.50	1.14E-06	1.25E-06	1.30E-06	1.32E-06
U-235	5.05E-08	2.69E-05	0.216	4.49E-08	4.92E-08	5.11E-08	5.17E-08
U-236	5.83E-08	3.10E-05	0.249	4.62E-08	5.55E-08	5.96E-08	6.09E-08
U-238	1.53E-06	8.12E-04	6.53	1.43E-06	1.50E-06	1.54E-06	1.58E-06
Np-237	1.23E-06	6.57E-04	5.28	9.98E-07	1.11E-06	1.38E-06	1.57E-06
Pu-238	2.76E-06	1.47E-03	11.8	2.26E-06	2.51E-06	3.02E-06	3.26E-06
Pu-239	7.05E-05	3.75E-02	302	6.34E-05	6.69E-05	7.41E-05	7.76E-05
Pu-240	1.33E-05	7.08E-03	56.9	1.20E-05	1.26E-05	1.40E-05	1.46E-05
Pu-241	2.15E-04	0.115	920	1.64E-04	1.89E-04	2.41E-04	2.66E-04
Pu-242	1.07E-09	5.68E-07	4.57E-03	8.77E-10	9.71E-10	1.16E-09	1.26E-09
Am-241	1.00E-04	5.34E-02	429	7.99E-05	8.99E-05	1.11E-04	1.18E-04
Am-243	4.40E-09	2.34E-06	1.88E-02	2.78E-09	3.52E-09	5.40E-09	6.28E-09
Cm-242	2.31E-07	1.23E-04	0.987	1.68E-07	1.68E-07	2.52E-07	2.74E-07
Cm-243	2.29E-08	1.22E-05	9.78E-02	1.68E-08	1.68E-08	2.48E-08	2.67E-08
Cm-244	2.15E-07	1.14E-04	0.920	1.47E-07	1.53E-07	2.50E-07	2.83E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	9.21E-04 (g/L)	----	3.94	7.86E-04	8.52E-04	9.89E-04	1.05E-03
U	1.35E-02	1.71E+03	1.38E+04	1.23E-02	1.32E-02	1.37E-02	1.38E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.15E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	0.121 (kW)	(413 BTU/hr)	----	0.113	0.117	0.125	0.128
Bulk Density*	1.45 (g/cc)	----	----	1.42	1.43	1.46	1.47
Water wt%	45.5	----	----	43.7	44.5	46.5	47.7
TOC wt% C (wet)	0.829	----	----	0.505	0.664	0.994	1.15

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.4	1.65E+05	1.90E+04	9.75	10.1	10.7	10.9
Al^{3+}	1.20	2.24E+04	2.57E+03	1.08	1.16	1.23	1.27
Fe^{3+} (total Fe)	8.85E-03	342	39.3	7.78E-03	8.30E-03	9.39E-03	9.92E-03
Cr^{3+}	9.91E-02	3.56E+03	410	8.61E-02	9.31E-02	0.102	0.105
Bi^{3+}	9.01E-04	130	15.0	8.37E-04	8.68E-04	9.34E-04	9.65E-04
La^{3+}	1.81E-05	1.74	0.200	1.33E-05	1.56E-05	2.06E-05	2.30E-05
Hg^{2+}	6.73E-06	0.934	0.107	6.39E-06	6.59E-06	6.82E-06	6.91E-06
Zr (as $ZrO(OH)_2$)	1.53E-04	9.63	1.11	1.41E-04	1.45E-04	1.58E-04	1.64E-04
Pb^{2+}	8.32E-04	119	13.7	7.05E-04	7.67E-04	8.96E-04	9.59E-04
Ni^{2+}	5.78E-03	235	27.0	5.62E-03	5.70E-03	5.86E-03	5.93E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.98E-03	113	13.0	2.47E-03	2.72E-03	3.24E-03	3.49E-03
Ca^{2+}	3.03E-02	840	96.5	2.73E-02	2.88E-02	3.18E-02	3.32E-02
K^+	4.80E-02	1.30E+03	149	4.41E-02	4.57E-02	5.06E-02	5.41E-02
OH^-	7.00	8.23E+04	9.46E+03	6.44	6.79	7.22	7.33
$NO3^-$	3.46	1.48E+05	1.71E+04	3.25	3.38	3.52	3.57
$NO2^-$	1.73	5.52E+04	6.34E+03	1.52	1.62	1.86	1.96
$CO3^{2-}$	0.352	1.46E+04	1.68E+03	0.317	0.334	0.369	0.381
$PO4^{3-}$	0.184	1.21E+04	1.39E+03	0.165	0.174	0.193	0.203
$SO4^{2-}$	0.192	1.27E+04	1.46E+03	0.163	0.177	0.208	0.220
Si (as SiO_x^{2-})	5.50E-02	1.07E+03	123	4.77E-02	5.13E-02	5.88E-02	6.24E-02
F^-	4.78E-02	629	72.2	4.22E-02	4.46E-02	5.06E-02	5.46E-02
Cl^-	0.175	4.28E+03	492	0.161	0.167	0.181	0.185
$C_6H_5O_7^{3-}$	2.18E-02	2.85E+03	327	1.98E-02	2.08E-02	2.28E-02	2.37E-02
$EDTA^{4-}$	1.72E-02	3.43E+03	394	5.59E-03	1.13E-02	2.32E-02	2.90E-02
$HEDTA^{3-}$	3.09E-02	5.86E+03	674	7.73E-03	1.91E-02	4.29E-02	5.45E-02
$glycolate^-$	8.45E-02	4.39E+03	504	5.85E-02	7.12E-02	9.79E-02	0.111
$acetate^-$	1.10E-02	450	51.7	9.04E-03	9.88E-03	1.22E-02	1.41E-02
$oxalate^{2-}$	2.37E-05	1.45	0.166	2.11E-05	2.24E-05	2.51E-05	2.64E-05
DBP	1.64E-02	2.38E+03	273	1.45E-02	1.53E-02	1.75E-02	1.92E-02
butanol	1.64E-02	838	96.3	1.45E-02	1.53E-02	1.75E-02	1.92E-02
NH_3	5.30E-02	623	71.6	4.47E-02	4.80E-02	5.94E-02	6.69E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.15E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	0.121 (kW)	(413 BTU/hr)	----	0.113	0.117	0.125	0.128
Bulk Density†	1.45 (g/cc)	----	----	1.42	1.43	1.46	1.47
Water wt%†	45.5	----	----	43.7	44.5	46.5	47.7
TOC wt% C (wet)†	0.829	----	----	0.505	0.664	0.994	1.15

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	10.4	1.65E+05	1.90E+04	9.75	10.1	10.7	10.9
Al^{3+}	1.20	2.24E+04	2.57E+03	1.08	1.16	1.23	1.27
Fe^{3+} (total Fe)	8.85E-03	342	39.3	7.78E-03	8.30E-03	9.39E-03	9.92E-03
Cr^{3+}	9.91E-02	3.56E+03	410	8.61E-02	9.31E-02	0.102	0.105
Bi^{3+}	9.01E-04	130	15.0	8.37E-04	8.68E-04	9.34E-04	9.65E-04
La^{3+}	1.81E-05	1.74	0.200	1.33E-05	1.56E-05	2.06E-05	2.30E-05
Hg^{2+}	6.73E-06	0.934	0.107	6.39E-06	6.59E-06	6.82E-06	6.91E-06
Zr (as $ZrO(OH)_2$)	1.53E-04	9.63	1.11	1.41E-04	1.45E-04	1.58E-04	1.64E-04
Pb^{2+}	8.32E-04	119	13.7	7.05E-04	7.67E-04	8.96E-04	9.59E-04
Ni^{2+}	5.78E-03	235	27.0	5.62E-03	5.70E-03	5.86E-03	5.93E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.98E-03	113	13.0	2.47E-03	2.72E-03	3.24E-03	3.49E-03
Ca^{2+}	3.03E-02	840	96.5	2.73E-02	2.88E-02	3.18E-02	3.32E-02
K^+	4.80E-02	1.30E+03	149	4.41E-02	4.57E-02	5.06E-02	5.41E-02
OH^-	7.00	8.23E+04	9.46E+03	6.44	6.79	7.22	7.33
$NO3^-$	3.46	1.48E+05	1.71E+04	3.25	3.38	3.52	3.57
$NO2^-$	1.73	5.52E+04	6.34E+03	1.52	1.62	1.86	1.96
$CO3^{2-}$	0.352	1.46E+04	1.68E+03	0.317	0.334	0.369	0.381
$PO4^{3-}$	0.184	1.21E+04	1.39E+03	0.165	0.174	0.193	0.203
$SO4^{2-}$	0.192	1.27E+04	1.46E+03	0.163	0.177	0.208	0.220
Si (as SiO_x^{2-})	5.50E-02	1.07E+03	123	4.77E-02	5.13E-02	5.88E-02	6.24E-02
F^-	4.78E-02	629	72.2	4.22E-02	4.46E-02	5.06E-02	5.46E-02
Cl^-	0.175	4.28E+03	492	0.161	0.167	0.181	0.185
$C_6H_5O_7^{3-}$	2.18E-02	2.85E+03	327	1.98E-02	2.08E-02	2.28E-02	2.37E-02
$EDTA^{4-}$	1.72E-02	3.43E+03	394	5.59E-03	1.13E-02	2.32E-02	2.90E-02
$HEDTA^{3-}$	3.09E-02	5.86E+03	674	7.73E-03	1.91E-02	4.29E-02	5.45E-02
$glycolate^-$	8.45E-02	4.39E+03	504	5.85E-02	7.12E-02	9.79E-02	0.111
$acetate^-$	1.10E-02	450	51.7	9.04E-03	9.88E-03	1.22E-02	1.41E-02
$oxalate^{2-}$	2.37E-05	1.45	0.166	2.11E-05	2.24E-05	2.51E-05	2.64E-05
DBP	1.64E-02	2.38E+03	273	1.45E-02	1.53E-02	1.75E-02	1.92E-02
butanol	1.64E-02	838	96.3	1.45E-02	1.53E-02	1.75E-02	1.92E-02
NH_3	5.30E-02	623	71.6	4.47E-02	4.80E-02	5.94E-02	6.69E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.15E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	0.121 (kW)	(413 BTU/hr)	----	0.113	0.117	0.125	0.128
Bulk Density*	1.45 (g/cc)	----	----	1.42	1.43	1.46	1.47
Water wt%†	45.5	----	----	43.7	44.5	46.5	47.7
TOC wt% C (wet)	0.829	----	----	0.505	0.664	0.994	1.15

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.75E-04	0.121	13.9	1.10E-04	1.10E-04	1.84E-04	1.96E-04
C-14	2.62E-05	1.81E-02	2.08	1.25E-05	1.25E-05	2.66E-05	2.69E-05
Ni-59	1.54E-06	1.07E-03	0.123	9.00E-07	9.00E-07	1.58E-06	1.61E-06
Ni-63	1.52E-04	0.105	12.1	8.80E-05	8.80E-05	1.55E-04	1.58E-04
Co-60	3.16E-05	2.19E-02	2.51	1.59E-05	1.59E-05	3.22E-05	3.29E-05
Se-79	2.64E-06	1.83E-03	0.210	1.77E-06	1.77E-06	2.96E-06	3.26E-06
Sr-90	8.32E-02	57.5	6.61E+03	7.85E-02	8.10E-02	8.54E-02	8.75E-02
Y-90	8.32E-02	57.5	6.61E+03	5.30E-02	5.30E-02	8.54E-02	8.75E-02
Zr-93	1.30E-05	8.98E-03	1.03	8.62E-06	8.62E-06	1.46E-05	1.61E-05
Nb-93m	9.38E-06	6.49E-03	0.746	6.33E-06	6.33E-06	1.05E-05	1.16E-05
Tc-99	1.94E-04	0.134	15.4	1.43E-04	1.68E-04	2.20E-04	2.45E-04
Ru-106	5.74E-09	3.97E-06	4.56E-04	3.71E-09	3.71E-09	6.19E-09	6.60E-09
Cd-113m	6.96E-05	4.81E-02	5.53	4.34E-05	4.34E-05	7.91E-05	8.82E-05
Sb-125	1.42E-04	9.85E-02	11.3	7.45E-05	7.45E-05	1.46E-04	1.50E-04
Sn-126	4.00E-06	2.76E-03	0.318	2.68E-06	2.68E-06	4.47E-06	4.92E-06
I-129	3.74E-07	2.59E-04	2.97E-02	2.75E-07	3.24E-07	4.25E-07	4.74E-07
Cs-134	4.90E-06	3.39E-03	0.389	4.02E-06	4.45E-06	5.35E-06	5.79E-06
Cs-137	0.205	142	1.63E+04	0.185	0.195	0.215	0.225
Ba-137m	0.194	134	1.54E+04	0.164	0.164	0.204	0.213
Sm-151	9.31E-03	6.44	740	6.25E-03	6.25E-03	1.04E-02	1.15E-02
Eu-152	3.31E-06	2.29E-03	0.263	2.22E-06	2.22E-06	3.63E-06	3.94E-06
Eu-154	5.01E-04	0.346	39.8	2.82E-04	2.82E-04	5.80E-04	6.11E-04
Eu-155	1.97E-04	0.137	15.7	1.33E-04	1.33E-04	2.17E-04	2.36E-04
Ra-226	1.07E-10	7.38E-08	8.48E-06	7.97E-11	7.97E-11	1.17E-10	1.26E-10
Ra-228	1.97E-07	1.36E-04	1.57E-02	8.32E-08	8.32E-08	2.27E-07	2.59E-07
Ac-227	6.66E-10	4.61E-07	5.29E-05	5.09E-10	5.09E-10	7.23E-10	7.77E-10
Pa-231	3.11E-09	2.15E-06	2.47E-04	2.24E-09	2.24E-09	3.43E-09	3.73E-09
Th-229	4.59E-09	3.17E-06	3.65E-04	1.95E-09	1.95E-09	5.24E-09	5.93E-09
Th-232	1.95E-08	1.35E-05	1.55E-03	5.35E-09	5.35E-09	2.33E-08	2.70E-08
U-232	6.83E-07	4.73E-04	5.43E-02	4.82E-07	5.80E-07	8.02E-07	9.29E-07
U-233	2.62E-06	1.81E-03	0.208	1.85E-06	2.23E-06	3.08E-06	3.56E-06
U-234	5.56E-07	3.84E-04	4.42E-02	5.37E-07	5.47E-07	5.65E-07	5.71E-07
U-235	2.23E-08	1.54E-05	1.77E-03	2.15E-08	2.19E-08	2.27E-08	2.29E-08
U-236	1.79E-08	1.24E-05	1.42E-03	1.73E-08	1.77E-08	1.81E-08	1.83E-08
U-238	7.05E-07	4.88E-04	5.61E-02	6.88E-07	6.97E-07	7.15E-07	7.23E-07
Np-237	6.89E-07	4.76E-04	5.48E-02	5.22E-07	6.03E-07	7.75E-07	8.58E-07
Pu-238	1.06E-06	7.34E-04	8.43E-02	8.65E-07	9.61E-07	1.16E-06	1.26E-06
Pu-239	3.51E-05	2.43E-02	2.79	3.01E-05	3.25E-05	3.76E-05	4.01E-05
Pu-240	6.07E-06	4.20E-03	0.482	5.13E-06	5.59E-06	6.54E-06	7.00E-06
Pu-241	7.31E-05	5.05E-02	5.81	5.97E-05	6.63E-05	7.99E-05	8.65E-05
Pu-242	4.01E-10	2.77E-07	3.19E-05	3.21E-10	3.60E-10	4.42E-10	4.81E-10
Am-241	4.54E-05	3.14E-02	3.61	3.62E-05	4.07E-05	5.02E-05	5.47E-05
Am-243	1.72E-09	1.19E-06	1.36E-04	1.32E-09	1.50E-09	1.97E-09	2.18E-09
Cm-242	1.19E-07	8.20E-05	9.43E-03	7.41E-08	7.41E-08	1.31E-07	1.43E-07
Cm-243	1.12E-08	7.72E-06	8.87E-04	6.92E-09	6.92E-09	1.23E-08	1.33E-08
Cm-244	9.89E-08	6.84E-05	7.86E-03	5.52E-08	5.52E-08	1.14E-07	1.23E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.26E-04 (g/L)	----	3.38E-02	3.31E-04	3.77E-04	4.74E-04	5.20E-04
U	6.28E-03	1.03E+03	119	6.07E-03	6.17E-03	6.41E-03	6.46E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AN-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	1.15E+05 (kg)	(21.0 kgal)	----	----	----	----	----
Heat Load	0.121 (kW)	(413 BTU/hr)	----	0.113	0.117	0.125	0.128
Bulk Density†	1.45 (g/cc)	----	----	1.42	1.43	1.46	1.47
Water wt%†	45.5	----	----	43.7	44.5	46.5	47.7
TOC wt% C (wet)†	0.829	----	----	0.505	0.664	0.994	1.15

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.75E-04	0.121	13.9	1.10E-04	1.10E-04	1.84E-04	1.96E-04
C-14	2.62E-05	1.81E-02	2.08	1.25E-05	1.25E-05	2.66E-05	2.69E-05
Ni-59	1.54E-06	1.07E-03	0.123	9.00E-07	9.00E-07	1.58E-06	1.61E-06
Ni-63	1.52E-04	0.105	12.1	8.80E-05	8.80E-05	1.55E-04	1.58E-04
Co-60	3.16E-05	2.19E-02	2.51	1.59E-05	1.59E-05	3.22E-05	3.29E-05
Se-79	2.64E-06	1.83E-03	0.210	1.77E-06	1.77E-06	2.96E-06	3.26E-06
Sr-90	8.32E-02	57.5	6.61E+03	7.85E-02	8.10E-02	8.54E-02	8.75E-02
Y-90	8.32E-02	57.5	6.61E+03	5.30E-02	5.30E-02	8.54E-02	8.75E-02
Zr-93	1.30E-05	8.98E-03	1.03	8.62E-06	8.62E-06	1.46E-05	1.61E-05
Nb-93m	9.38E-06	6.49E-03	0.746	6.33E-06	6.33E-06	1.05E-05	1.16E-05
Tc-99	1.94E-04	0.134	15.4	1.43E-04	1.68E-04	2.20E-04	2.45E-04
Ru-106	5.74E-09	3.97E-06	4.56E-04	3.71E-09	3.71E-09	6.19E-09	6.60E-09
Cd-113m	6.96E-05	4.81E-02	5.53	4.34E-05	4.34E-05	7.91E-05	8.82E-05
Sb-125	1.42E-04	9.85E-02	11.3	7.45E-05	7.45E-05	1.46E-04	1.50E-04
Sn-126	4.00E-06	2.76E-03	0.318	2.68E-06	2.68E-06	4.47E-06	4.92E-06
I-129	3.74E-07	2.59E-04	2.97E-02	2.75E-07	3.24E-07	4.25E-07	4.74E-07
Cs-134	4.90E-06	3.39E-03	0.389	4.02E-06	4.45E-06	5.35E-06	5.79E-06
Cs-137	0.205	142	1.63E+04	0.185	0.195	0.215	0.225
Ba-137m	0.194	134	1.54E+04	0.164	0.164	0.204	0.213
Sm-151	9.31E-03	6.44	740	6.25E-03	6.25E-03	1.04E-02	1.15E-02
Eu-152	3.31E-06	2.29E-03	0.263	2.22E-06	2.22E-06	3.63E-06	3.94E-06
Eu-154	5.01E-04	0.346	39.8	2.82E-04	2.82E-04	5.80E-04	6.11E-04
Eu-155	1.97E-04	0.137	15.7	1.33E-04	1.33E-04	2.17E-04	2.36E-04
Ra-226	1.07E-10	7.38E-08	8.48E-06	7.97E-11	7.97E-11	1.17E-10	1.26E-10
Ra-228	1.97E-07	1.36E-04	1.57E-02	8.32E-08	8.32E-08	2.27E-07	2.59E-07
Ac-227	6.66E-10	4.61E-07	5.29E-05	5.09E-10	5.09E-10	7.23E-10	7.77E-10
Pa-231	3.11E-09	2.15E-06	2.47E-04	2.24E-09	2.24E-09	3.43E-09	3.73E-09
Th-229	4.59E-09	3.17E-06	3.65E-04	1.95E-09	1.95E-09	5.24E-09	5.93E-09
Th-232	1.95E-08	1.35E-05	1.55E-03	5.35E-09	5.35E-09	2.33E-08	2.70E-08
U-232	6.83E-07	4.73E-04	5.43E-02	4.82E-07	5.80E-07	8.02E-07	9.29E-07
U-233	2.62E-06	1.81E-03	0.208	1.85E-06	2.23E-06	3.08E-06	3.56E-06
U-234	5.56E-07	3.84E-04	4.42E-02	5.37E-07	5.47E-07	5.65E-07	5.71E-07
U-235	2.23E-08	1.54E-05	1.77E-03	2.15E-08	2.19E-08	2.27E-08	2.29E-08
U-236	1.79E-08	1.24E-05	1.42E-03	1.73E-08	1.77E-08	1.81E-08	1.83E-08
U-238	7.05E-07	4.88E-04	5.61E-02	6.88E-07	6.97E-07	7.15E-07	7.23E-07
Np-237	6.89E-07	4.76E-04	5.48E-02	5.22E-07	6.03E-07	7.75E-07	8.58E-07
Pu-238	1.06E-06	7.34E-04	8.43E-02	8.65E-07	9.61E-07	1.16E-06	1.26E-06
Pu-239	3.51E-05	2.43E-02	2.79	3.01E-05	3.25E-05	3.76E-05	4.01E-05
Pu-240	6.07E-06	4.20E-03	0.482	5.13E-06	5.59E-06	6.54E-06	7.00E-06
Pu-241	7.31E-05	5.05E-02	5.81	5.97E-05	6.63E-05	7.99E-05	8.65E-05
Pu-242	4.01E-10	2.77E-07	3.19E-05	3.21E-10	3.60E-10	4.42E-10	4.81E-10
Am-241	4.54E-05	3.14E-02	3.61	3.62E-05	4.07E-05	5.02E-05	5.47E-05
Am-243	1.72E-09	1.19E-06	1.36E-04	1.32E-09	1.50E-09	1.97E-09	2.18E-09
Cm-242	1.19E-07	8.20E-05	9.43E-03	7.41E-08	7.41E-08	1.31E-07	1.43E-07
Cm-243	1.12E-08	7.72E-06	8.87E-04	6.92E-09	6.92E-09	1.23E-08	1.33E-08
Cm-244	9.89E-08	6.84E-05	7.86E-03	5.52E-08	5.52E-08	1.14E-07	1.23E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.26E-04 (g/L)	----	3.38E-02	3.31E-04	3.77E-04	4.74E-04	5.20E-04
U	6.28E-03	1.03E+03	119	6.07E-03	6.17E-03	6.41E-03	6.46E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.14E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	0.301 (kW)	(1.03E+03 BTU/hr)	----	0.284	0.293	0.309	0.318
Bulk Density*	1.03 (g/cc)	----	----	1.03	1.03	1.04	1.04
Water wt%	94.0	----	----	93.2	93.5	94.3	94.7
TOC wt% C (wet)	8.87E-02	----	----	6.69E-02	7.75E-02	9.98E-02	0.110

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.811	1.80E+04	7.48E+04	0.679	0.744	0.877	0.938
Al^{3+}	6.67E-02	1.74E+03	7.21E+03	5.65E-02	6.15E-02	7.18E-02	7.68E-02
Fe^{3+} (total Fe)	2.72E-03	147	609	1.88E-03	2.29E-03	3.15E-03	3.56E-03
Cr^{3+}	4.69E-03	236	978	4.12E-03	4.40E-03	4.98E-03	5.26E-03
Bi^{3+}	3.90E-05	7.89	32.7	3.68E-05	3.78E-05	4.01E-05	4.12E-05
La^{3+}	1.16E-06	0.157	0.649	8.49E-07	1.00E-06	1.33E-06	1.48E-06
Hg^{2+}	9.64E-07	0.187	0.776	5.14E-07	9.30E-07	9.98E-07	1.03E-06
Zr (as $ZrO(OH)_2$)	2.05E-04	18.1	75.0	9.92E-05	1.92E-04	2.18E-04	2.31E-04
Pb^{2+}	4.37E-05	8.77	36.3	3.78E-05	4.07E-05	4.68E-05	4.97E-05
Ni^{2+}	5.54E-04	31.5	130	5.32E-04	5.42E-04	5.65E-04	5.76E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.50E-04	45.2	187	4.26E-04	6.33E-04	1.07E-03	1.21E-03
Ca^{2+}	1.19E-02	461	1.91E+03	8.57E-03	1.02E-02	1.35E-02	1.51E-02
K^+	1.88E-02	713	2.95E+03	4.08E-03	1.12E-02	2.66E-02	3.42E-02
OH^-	0.457	7.52E+03	3.12E+04	0.368	0.411	0.503	0.547
$NO3^-$	0.335	2.01E+04	8.33E+04	0.302	0.318	0.351	0.367
$NO2^-$	7.35E-02	3.27E+03	1.36E+04	6.38E-02	6.79E-02	7.96E-02	8.21E-02
$CO3^{2-}$	4.76E-02	2.76E+03	1.15E+04	3.72E-02	4.23E-02	5.27E-02	5.63E-02
$PO4^{3-}$	1.20E-02	1.11E+03	4.58E+03	7.11E-03	9.51E-03	1.45E-02	1.69E-02
$SO4^{2-}$	1.12E-02	1.04E+03	4.30E+03	9.45E-03	1.03E-02	1.20E-02	1.29E-02
Si (as SiO_x^{2-})	4.22E-03	115	476	3.03E-03	3.61E-03	4.82E-03	5.36E-03
F^-	1.80E-02	331	1.37E+03	2.75E-03	1.54E-02	2.06E-02	2.31E-02
Cl^-	1.33E-02	456	1.89E+03	1.09E-02	1.21E-02	1.45E-02	1.57E-02
$C_6H_5O_7^{3-}$	1.81E-03	332	1.38E+03	1.23E-03	1.52E-03	2.11E-03	2.40E-03
$EDTA^{4-}$	7.15E-04	200	827	2.42E-04	4.73E-04	9.58E-04	1.20E-03
$HEDTA^{3-}$	1.26E-03	335	1.39E+03	3.15E-04	7.77E-04	1.75E-03	2.22E-03
$glycolate^-$	1.57E-02	1.14E+03	4.73E+03	7.94E-03	1.17E-02	1.97E-02	2.35E-02
$acetate^-$	5.43E-04	31.1	129	4.50E-04	4.90E-04	6.01E-04	6.88E-04
$oxalate^{2-}$	1.53E-06	0.130	0.539	1.35E-06	1.44E-06	1.61E-06	1.70E-06
DBP	1.10E-03	223	925	8.56E-04	9.74E-04	1.22E-03	1.34E-03
butanol	1.10E-03	78.7	326	8.56E-04	9.74E-04	1.22E-03	1.34E-03
NH_3	0.101	1.66E+03	6.88E+03	4.95E-02	7.44E-02	0.128	0.154
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.14E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	0.301 (kW)	(1.03E+03 BTU/hr)	----	0.284	0.293	0.309	0.318
Bulk Density†	1.03 (g/cc)	----	----	1.03	1.03	1.04	1.04
Water wt%†	94.0	----	----	93.2	93.5	94.3	94.7
TOC wt% C (wet)†	8.87E-02	----	----	6.69E-02	7.75E-02	9.98E-02	0.110

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.811	1.80E+04	7.48E+04	0.679	0.744	0.877	0.938
Al^{3+}	6.67E-02	1.74E+03	7.21E+03	5.65E-02	6.15E-02	7.18E-02	7.68E-02
Fe^{3+} (total Fe)	2.72E-03	147	609	1.88E-03	2.29E-03	3.15E-03	3.56E-03
Cr^{3+}	4.69E-03	236	978	4.12E-03	4.40E-03	4.98E-03	5.26E-03
Bi^{3+}	3.90E-05	7.89	32.7	3.68E-05	3.78E-05	4.01E-05	4.12E-05
La^{3+}	1.16E-06	0.157	0.649	8.49E-07	1.00E-06	1.33E-06	1.48E-06
Hg^{2+}	9.64E-07	0.187	0.776	5.14E-07	9.30E-07	9.98E-07	1.03E-06
Zr (as $ZrO(OH)_2$)	2.05E-04	18.1	75.0	9.92E-05	1.92E-04	2.18E-04	2.31E-04
Pb^{2+}	4.37E-05	8.77	36.3	3.78E-05	4.07E-05	4.68E-05	4.97E-05
Ni^{2+}	5.54E-04	31.5	130	5.32E-04	5.42E-04	5.65E-04	5.76E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.50E-04	45.2	187	4.26E-04	6.33E-04	1.07E-03	1.21E-03
Ca^{2+}	1.19E-02	461	1.91E+03	8.57E-03	1.02E-02	1.35E-02	1.51E-02
K^+	1.88E-02	713	2.95E+03	4.08E-03	1.12E-02	2.66E-02	3.42E-02
OH^-	0.457	7.52E+03	3.12E+04	0.368	0.411	0.503	0.547
$NO3^-$	0.335	2.01E+04	8.33E+04	0.302	0.318	0.351	0.367
$NO2^-$	7.35E-02	3.27E+03	1.36E+04	6.38E-02	6.79E-02	7.96E-02	8.21E-02
$CO3^{2-}$	4.76E-02	2.76E+03	1.15E+04	3.72E-02	4.23E-02	5.27E-02	5.63E-02
$PO4^{3-}$	1.20E-02	1.11E+03	4.58E+03	7.11E-03	9.51E-03	1.45E-02	1.69E-02
$SO4^{2-}$	1.12E-02	1.04E+03	4.30E+03	9.45E-03	1.03E-02	1.20E-02	1.29E-02
Si (as SiO_x^{2-})	4.22E-03	115	476	3.03E-03	3.61E-03	4.82E-03	5.36E-03
F^-	1.80E-02	331	1.37E+03	2.75E-03	1.54E-02	2.06E-02	2.31E-02
Cl^-	1.33E-02	456	1.89E+03	1.09E-02	1.21E-02	1.45E-02	1.57E-02
$C_6H_5O_7^{3-}$	1.81E-03	332	1.38E+03	1.23E-03	1.52E-03	2.11E-03	2.40E-03
$EDTA^{4-}$	7.15E-04	200	827	2.42E-04	4.73E-04	9.58E-04	1.20E-03
$HEDTA^{3-}$	1.26E-03	335	1.39E+03	3.15E-04	7.77E-04	1.75E-03	2.22E-03
$glycolate^-$	1.57E-02	1.14E+03	4.73E+03	7.94E-03	1.17E-02	1.97E-02	2.35E-02
$acetate^-$	5.43E-04	31.1	129	4.50E-04	4.90E-04	6.01E-04	6.88E-04
$oxalate^{2-}$	1.53E-06	0.130	0.539	1.35E-06	1.44E-06	1.61E-06	1.70E-06
DBP	1.10E-03	223	925	8.56E-04	9.74E-04	1.22E-03	1.34E-03
butanol	1.10E-03	78.7	326	8.56E-04	9.74E-04	1.22E-03	1.34E-03
NH_3	0.101	1.66E+03	6.88E+03	4.95E-02	7.44E-02	0.128	0.154
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.14E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	0.301 (kW)	(1.03E+03 BTU/hr)	----	0.284	0.293	0.309	0.318
Bulk Density*	1.03 (g/cc)	----	----	1.03	1.03	1.04	1.04
Water wt%†	94.0	----	----	93.2	93.5	94.3	94.7
TOC wt% C (wet)	8.87E-02	----	----	6.69E-02	7.75E-02	9.98E-02	0.110

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.75E-06	9.44E-03	39.1	7.23E-06	7.23E-06	1.09E-05	1.21E-05
C-14	1.14E-06	1.11E-03	4.58	6.16E-07	6.16E-07	1.17E-06	1.20E-06
Ni-59	7.42E-08	7.19E-05	0.298	4.95E-08	4.95E-08	7.55E-08	7.67E-08
Ni-63	7.31E-06	7.08E-03	29.3	4.86E-06	4.86E-06	7.43E-06	7.55E-06
Co-60	1.74E-06	1.69E-03	6.99	1.14E-06	1.14E-06	1.88E-06	2.01E-06
Se-79	1.73E-07	1.68E-04	0.694	1.29E-07	1.39E-07	1.96E-07	2.17E-07
Sr-90	5.64E-03	5.46	2.26E+04	5.29E-03	5.46E-03	5.82E-03	5.99E-03
Y-90	5.64E-03	5.46	2.26E+04	4.48E-03	4.48E-03	5.82E-03	5.99E-03
Zr-93	8.21E-07	7.95E-04	3.29	6.24E-07	6.53E-07	9.22E-07	1.02E-06
Nb-93m	6.14E-07	5.95E-04	2.46	4.57E-07	4.97E-07	6.95E-07	7.72E-07
Tc-99	8.38E-06	8.12E-03	33.6	6.42E-06	7.38E-06	9.39E-06	1.04E-05
Ru-106	8.67E-10	8.40E-07	3.48E-03	6.16E-10	7.39E-10	9.95E-10	1.12E-09
Cd-113m	3.86E-06	3.74E-03	15.5	2.85E-06	2.85E-06	4.41E-06	4.57E-06
Sb-125	1.37E-05	1.32E-02	54.8	7.46E-06	1.05E-05	1.69E-05	2.01E-05
Sn-126	2.66E-07	2.58E-04	1.07	1.97E-07	2.16E-07	3.02E-07	3.36E-07
I-129	1.62E-08	1.57E-05	6.50E-02	1.24E-08	1.43E-08	1.82E-08	2.00E-08
Cs-134	3.32E-06	3.22E-03	13.3	5.71E-07	1.90E-06	4.77E-06	6.19E-06
Cs-137	7.90E-03	7.65	3.17E+04	7.24E-03	7.52E-03	8.23E-03	8.74E-03
Ba-137m	7.47E-03	7.24	3.00E+04	6.50E-03	6.50E-03	7.79E-03	8.10E-03
Sm-151	6.16E-04	0.597	2.47E+03	4.58E-04	4.98E-04	6.97E-04	7.75E-04
Eu-152	1.98E-07	1.92E-04	0.796	1.57E-07	1.57E-07	2.19E-07	2.38E-07
Eu-154	2.85E-05	2.76E-02	114	2.01E-05	2.01E-05	3.15E-05	3.29E-05
Eu-155	1.27E-05	1.23E-02	50.8	1.02E-05	1.02E-05	1.38E-05	1.49E-05
Ra-226	7.95E-12	7.70E-09	3.19E-05	4.84E-12	6.37E-12	9.54E-12	9.60E-12
Ra-228	9.92E-09	9.61E-06	3.98E-02	4.54E-09	4.54E-09	1.15E-08	1.33E-08
Ac-227	4.87E-11	4.72E-08	1.95E-04	3.06E-11	3.95E-11	5.78E-11	5.39E-11
Pa-231	1.86E-10	1.80E-07	7.48E-04	1.46E-10	1.53E-10	2.06E-10	2.25E-10
Th-229	2.31E-10	2.23E-07	9.25E-04	1.06E-10	1.06E-10	2.66E-10	3.04E-10
Th-232	9.55E-10	9.25E-07	3.83E-03	2.91E-10	2.91E-10	1.14E-09	1.31E-09
U-232	3.49E-08	3.38E-05	0.140	2.39E-08	2.93E-08	4.13E-08	4.82E-08
U-233	1.34E-07	1.29E-04	0.536	9.18E-08	1.12E-07	1.58E-07	1.85E-07
U-234	1.10E-07	1.07E-04	0.442	8.03E-08	1.04E-07	1.13E-07	1.16E-07
U-235	4.23E-09	4.09E-06	1.70E-02	3.09E-09	3.99E-09	4.34E-09	4.44E-09
U-236	7.92E-09	7.67E-06	3.18E-02	5.46E-09	7.41E-09	8.16E-09	8.38E-09
U-238	9.03E-08	8.75E-05	0.362	6.98E-08	8.61E-08	9.23E-08	9.42E-08
Np-237	3.02E-08	2.93E-05	0.121	2.38E-08	2.69E-08	3.35E-08	3.67E-08
Pu-238	2.68E-07	2.59E-04	1.07	1.78E-07	2.22E-07	3.13E-07	3.57E-07
Pu-239	3.60E-06	3.49E-03	14.5	2.88E-06	3.23E-06	3.97E-06	4.33E-06
Pu-240	8.59E-07	8.32E-04	3.45	6.38E-07	7.46E-07	9.72E-07	1.08E-06
Pu-241	2.50E-05	2.42E-02	100	1.58E-05	2.03E-05	2.97E-05	3.42E-05
Pu-242	1.04E-10	1.01E-07	4.17E-04	6.98E-11	8.66E-11	1.21E-10	1.38E-10
Am-241	5.18E-06	5.02E-03	20.8	3.68E-06	4.42E-06	5.95E-06	6.48E-06
Am-243	4.79E-10	4.63E-07	1.92E-03	2.09E-10	3.40E-10	6.20E-10	6.26E-10
Cm-242	8.50E-09	8.23E-06	3.41E-02	6.39E-09	6.79E-09	9.58E-09	1.06E-08
Cm-243	8.89E-10	8.61E-07	3.57E-03	6.65E-10	7.26E-10	1.00E-09	1.11E-09
Cm-244	1.49E-08	1.44E-05	5.98E-02	9.88E-09	1.23E-08	1.75E-08	1.99E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.53E-05 (g/L)	----	0.222	4.25E-05	4.87E-05	6.18E-05	6.80E-05
U	1.01E-03	233	967	7.54E-04	9.59E-04	1.04E-03	1.06E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.14E+06 (kg)	(1.06E+03 kgal)	----	----	----	----	----
Heat Load	0.301 (kW)	(1.03E+03 BTU/hr)	----	0.284	0.293	0.309	0.318
Bulk Density†	1.03 (g/cc)	----	----	1.03	1.03	1.04	1.04
Water wt%†	94.0	----	----	93.2	93.5	94.3	94.7
TOC wt% C (wet)†	8.87E-02	----	----	6.69E-02	7.75E-02	9.98E-02	0.110

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	9.75E-06	9.44E-03	39.1	7.23E-06	7.23E-06	1.09E-05	1.21E-05
C-14	1.14E-06	1.11E-03	4.58	6.16E-07	6.16E-07	1.17E-06	1.20E-06
Ni-59	7.42E-08	7.19E-05	0.298	4.95E-08	4.95E-08	7.55E-08	7.67E-08
Ni-63	7.31E-06	7.08E-03	29.3	4.86E-06	4.86E-06	7.43E-06	7.55E-06
Co-60	1.74E-06	1.69E-03	6.99	1.14E-06	1.14E-06	1.88E-06	2.01E-06
Se-79	1.73E-07	1.68E-04	0.694	1.29E-07	1.39E-07	1.96E-07	2.17E-07
Sr-90	5.64E-03	5.46	2.26E+04	5.29E-03	5.46E-03	5.82E-03	5.99E-03
Y-90	5.64E-03	5.46	2.26E+04	4.48E-03	4.48E-03	5.82E-03	5.99E-03
Zr-93	8.21E-07	7.95E-04	3.29	6.24E-07	6.53E-07	9.22E-07	1.02E-06
Nb-93m	6.14E-07	5.95E-04	2.46	4.57E-07	4.97E-07	6.95E-07	7.72E-07
Tc-99	8.38E-06	8.12E-03	33.6	6.42E-06	7.38E-06	9.39E-06	1.04E-05
Ru-106	8.67E-10	8.40E-07	3.48E-03	6.16E-10	7.39E-10	9.95E-10	1.12E-09
Cd-113m	3.86E-06	3.74E-03	15.5	2.85E-06	2.85E-06	4.41E-06	4.57E-06
Sb-125	1.37E-05	1.32E-02	54.8	7.46E-06	1.05E-05	1.69E-05	2.01E-05
Sn-126	2.66E-07	2.58E-04	1.07	1.97E-07	2.16E-07	3.02E-07	3.36E-07
I-129	1.62E-08	1.57E-05	6.50E-02	1.24E-08	1.43E-08	1.82E-08	2.00E-08
Cs-134	3.32E-06	3.22E-03	13.3	5.71E-07	1.90E-06	4.77E-06	6.19E-06
Cs-137	7.90E-03	7.65	3.17E+04	7.24E-03	7.52E-03	8.23E-03	8.74E-03
Ba-137m	7.47E-03	7.24	3.00E+04	6.50E-03	6.50E-03	7.79E-03	8.10E-03
Sm-151	6.16E-04	0.597	2.47E+03	4.58E-04	4.98E-04	6.97E-04	7.75E-04
Eu-152	1.98E-07	1.92E-04	0.796	1.57E-07	1.57E-07	2.19E-07	2.38E-07
Eu-154	2.85E-05	2.76E-02	114	2.01E-05	2.01E-05	3.15E-05	3.29E-05
Eu-155	1.27E-05	1.23E-02	50.8	1.02E-05	1.02E-05	1.38E-05	1.49E-05
Ra-226	7.95E-12	7.70E-09	3.19E-05	4.84E-12	6.37E-12	9.54E-12	9.60E-12
Ra-228	9.92E-09	9.61E-06	3.98E-02	4.54E-09	4.54E-09	1.15E-08	1.33E-08
Ac-227	4.87E-11	4.72E-08	1.95E-04	3.06E-11	3.95E-11	5.78E-11	5.39E-11
Pa-231	1.86E-10	1.80E-07	7.48E-04	1.46E-10	1.53E-10	2.06E-10	2.25E-10
Th-229	2.31E-10	2.23E-07	9.25E-04	1.06E-10	1.06E-10	2.66E-10	3.04E-10
Th-232	9.55E-10	9.25E-07	3.83E-03	2.91E-10	2.91E-10	1.14E-09	1.31E-09
U-232	3.49E-08	3.38E-05	0.140	2.39E-08	2.93E-08	4.13E-08	4.82E-08
U-233	1.34E-07	1.29E-04	0.536	9.18E-08	1.12E-07	1.58E-07	1.85E-07
U-234	1.10E-07	1.07E-04	0.442	8.03E-08	1.04E-07	1.13E-07	1.16E-07
U-235	4.23E-09	4.09E-06	1.70E-02	3.09E-09	3.99E-09	4.34E-09	4.44E-09
U-236	7.92E-09	7.67E-06	3.18E-02	5.46E-09	7.41E-09	8.16E-09	8.38E-09
U-238	9.03E-08	8.75E-05	0.362	6.98E-08	8.61E-08	9.23E-08	9.42E-08
Np-237	3.02E-08	2.93E-05	0.121	2.38E-08	2.69E-08	3.35E-08	3.67E-08
Pu-238	2.68E-07	2.59E-04	1.07	1.78E-07	2.22E-07	3.13E-07	3.57E-07
Pu-239	3.60E-06	3.49E-03	14.5	2.88E-06	3.23E-06	3.97E-06	4.33E-06
Pu-240	8.59E-07	8.32E-04	3.45	6.38E-07	7.46E-07	9.72E-07	1.08E-06
Pu-241	2.50E-05	2.42E-02	100	1.58E-05	2.03E-05	2.97E-05	3.42E-05
Pu-242	1.04E-10	1.01E-07	4.17E-04	6.98E-11	8.66E-11	1.21E-10	1.38E-10
Am-241	5.18E-06	5.02E-03	20.8	3.68E-06	4.42E-06	5.95E-06	6.48E-06
Am-243	4.79E-10	4.63E-07	1.92E-03	2.09E-10	3.40E-10	6.20E-10	6.26E-10
Cm-242	8.50E-09	8.23E-06	3.41E-02	6.39E-09	6.79E-09	9.58E-09	1.06E-08
Cm-243	8.89E-10	8.61E-07	3.57E-03	6.65E-10	7.26E-10	1.00E-09	1.11E-09
Cm-244	1.49E-08	1.44E-05	5.98E-02	9.88E-09	1.23E-08	1.75E-08	1.99E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	5.53E-05 (g/L)	----	0.222	4.25E-05	4.87E-05	6.18E-05	6.80E-05
U	1.01E-03	233	967	7.54E-04	9.59E-04	1.04E-03	1.06E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.49E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	4.48 (kW)	(1.53E+04 BTU/hr)	----	4.17	4.34	4.62	4.75
Bulk Density*	1.32 (g/cc)	----	----	1.30	1.31	1.32	1.33
Water wt%	57.6	----	----	56.1	56.8	58.4	59.4
TOC wt% C (wet)	0.643	----	----	0.391	0.515	0.772	0.897

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.37	1.29E+05	7.07E+05	6.91	7.14	7.56	7.74
Al^{3+}	0.845	1.73E+04	9.52E+04	0.762	0.821	0.871	0.893
Fe^{3+} (total Fe)	6.35E-03	269	1.48E+03	5.59E-03	5.96E-03	6.73E-03	7.10E-03
Cr^{3+}	7.03E-02	2.78E+03	1.53E+04	6.11E-02	6.61E-02	7.20E-02	7.44E-02
Bi^{3+}	6.36E-04	101	555	5.90E-04	6.12E-04	6.59E-04	6.81E-04
La^{3+}	1.28E-05	1.35	7.42	9.35E-06	1.10E-05	1.46E-05	1.63E-05
Hg^{2+}	4.75E-06	0.724	3.98	4.51E-06	4.65E-06	4.81E-06	4.87E-06
Zr (as $ZrO(OH)_2$)	1.08E-04	7.47	41.0	9.94E-05	1.02E-04	1.11E-04	1.16E-04
Pb^{2+}	5.87E-04	92.4	508	4.97E-04	5.41E-04	6.32E-04	6.76E-04
Ni^{2+}	4.17E-03	186	1.02E+03	4.05E-03	4.11E-03	4.22E-03	4.28E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.10E-03	87.8	482	1.74E-03	1.92E-03	2.29E-03	2.46E-03
Ca^{2+}	2.18E-02	665	3.65E+03	1.96E-02	2.07E-02	2.30E-02	2.41E-02
K^+	3.39E-02	1.01E+03	5.53E+03	3.11E-02	3.23E-02	3.57E-02	3.82E-02
OH^-	4.94	6.38E+04	3.51E+05	4.55	4.79	5.10	5.17
$NO3^-$	2.45	1.15E+05	6.34E+05	2.30	2.39	2.49	2.53
$NO2^-$	1.22	4.28E+04	2.35E+05	1.07	1.14	1.32	1.38
$CO3^{2-}$	0.248	1.13E+04	6.22E+04	0.224	0.236	0.261	0.269
$PO4^{3-}$	0.137	9.87E+03	5.42E+04	0.122	0.129	0.144	0.151
$SO4^{2-}$	0.135	9.89E+03	5.43E+04	0.116	0.125	0.147	0.156
Si (as SiO_x^{2-})	3.88E-02	829	4.55E+03	3.36E-02	3.62E-02	4.15E-02	4.40E-02
F^-	3.38E-02	487	2.68E+03	2.98E-02	3.15E-02	3.57E-02	3.85E-02
Cl^-	0.123	3.32E+03	1.83E+04	0.114	0.118	0.128	0.131
$C_6H_5O_7^{3-}$	1.54E-02	2.21E+03	1.21E+04	1.40E-02	1.47E-02	1.61E-02	1.68E-02
$EDTA^{4-}$	1.21E-02	2.66E+03	1.46E+04	3.94E-03	7.94E-03	1.63E-02	2.04E-02
$HEDTA^{3-}$	2.18E-02	4.55E+03	2.50E+04	5.45E-03	1.34E-02	3.02E-02	3.85E-02
$glycolate^-$	5.96E-02	3.40E+03	1.87E+04	4.13E-02	5.02E-02	6.91E-02	7.80E-02
$acetate^-$	7.77E-03	349	1.92E+03	6.38E-03	6.97E-03	8.63E-03	9.94E-03
$oxalate^{2-}$	1.68E-05	1.12	6.16	1.49E-05	1.58E-05	1.77E-05	1.86E-05
DBP	1.15E-02	1.84E+03	1.01E+04	1.02E-02	1.08E-02	1.23E-02	1.35E-02
butanol	1.15E-02	650	3.57E+03	1.02E-02	1.08E-02	1.23E-02	1.35E-02
NH_3	3.76E-02	486	2.67E+03	3.18E-02	3.41E-02	4.21E-02	4.74E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.49E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	4.48 (kW)	(1.53E+04 BTU/hr)	----	4.17	4.34	4.62	4.75
Bulk Density†	1.32 (g/cc)	----	----	1.30	1.31	1.32	1.33
Water wt%†	57.6	----	----	56.1	56.8	58.4	59.4
TOC wt% C (wet)†	0.643	----	----	0.391	0.515	0.772	0.897

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	7.37	1.29E+05	7.07E+05	6.91	7.14	7.56	7.74
Al^{3+}	0.845	1.73E+04	9.52E+04	0.762	0.821	0.871	0.893
Fe^{3+} (total Fe)	6.35E-03	269	1.48E+03	5.59E-03	5.96E-03	6.73E-03	7.10E-03
Cr^{3+}	7.03E-02	2.78E+03	1.53E+04	6.11E-02	6.61E-02	7.20E-02	7.44E-02
Bi^{3+}	6.36E-04	101	555	5.90E-04	6.12E-04	6.59E-04	6.81E-04
La^{3+}	1.28E-05	1.35	7.42	9.35E-06	1.10E-05	1.46E-05	1.63E-05
Hg^{2+}	4.75E-06	0.724	3.98	4.51E-06	4.65E-06	4.81E-06	4.87E-06
Zr (as $ZrO(OH)_2$)	1.08E-04	7.47	41.0	9.94E-05	1.02E-04	1.11E-04	1.16E-04
Pb^{2+}	5.87E-04	92.4	508	4.97E-04	5.41E-04	6.32E-04	6.76E-04
Ni^{2+}	4.17E-03	186	1.02E+03	4.05E-03	4.11E-03	4.22E-03	4.28E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.10E-03	87.8	482	1.74E-03	1.92E-03	2.29E-03	2.46E-03
Ca^{2+}	2.18E-02	665	3.65E+03	1.96E-02	2.07E-02	2.30E-02	2.41E-02
K^+	3.39E-02	1.01E+03	5.53E+03	3.11E-02	3.23E-02	3.57E-02	3.82E-02
OH^-	4.94	6.38E+04	3.51E+05	4.55	4.79	5.10	5.17
$NO3^-$	2.45	1.15E+05	6.34E+05	2.30	2.39	2.49	2.53
$NO2^-$	1.22	4.28E+04	2.35E+05	1.07	1.14	1.32	1.38
$CO3^{2-}$	0.248	1.13E+04	6.22E+04	0.224	0.236	0.261	0.269
$PO4^{3-}$	0.137	9.87E+03	5.42E+04	0.122	0.129	0.144	0.151
$SO4^{2-}$	0.135	9.89E+03	5.43E+04	0.116	0.125	0.147	0.156
Si (as SiO_x^{2-})	3.88E-02	829	4.55E+03	3.36E-02	3.62E-02	4.15E-02	4.40E-02
F^-	3.38E-02	487	2.68E+03	2.98E-02	3.15E-02	3.57E-02	3.85E-02
Cl^-	0.123	3.32E+03	1.83E+04	0.114	0.118	0.128	0.131
$C_6H_5O_7^{3-}$	1.54E-02	2.21E+03	1.21E+04	1.40E-02	1.47E-02	1.61E-02	1.68E-02
$EDTA^{4-}$	1.21E-02	2.66E+03	1.46E+04	3.94E-03	7.94E-03	1.63E-02	2.04E-02
$HEDTA^{3-}$	2.18E-02	4.55E+03	2.50E+04	5.45E-03	1.34E-02	3.02E-02	3.85E-02
$glycolate^-$	5.96E-02	3.40E+03	1.87E+04	4.13E-02	5.02E-02	6.91E-02	7.80E-02
$acetate^-$	7.77E-03	349	1.92E+03	6.38E-03	6.97E-03	8.63E-03	9.94E-03
$oxalate^{2-}$	1.68E-05	1.12	6.16	1.49E-05	1.58E-05	1.77E-05	1.86E-05
DBP	1.15E-02	1.84E+03	1.01E+04	1.02E-02	1.08E-02	1.23E-02	1.35E-02
butanol	1.15E-02	650	3.57E+03	1.02E-02	1.08E-02	1.23E-02	1.35E-02
NH_3	3.76E-02	486	2.67E+03	3.18E-02	3.41E-02	4.21E-02	4.74E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.49E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	4.48 (kW)	(1.53E+04 BTU/hr)	----	4.17	4.34	4.62	4.75
Bulk Density*	1.32 (g/cc)	----	----	1.30	1.31	1.32	1.33
Water wt%†	57.6	----	----	56.1	56.8	58.4	59.4
TOC wt% C (wet)	0.643	----	----	0.391	0.515	0.772	0.897

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.24E-04	9.39E-02	516	7.74E-05	7.74E-05	1.30E-04	1.38E-04
C-14	1.85E-05	1.40E-02	77.1	8.81E-06	8.81E-06	1.87E-05	1.90E-05
Ni-59	1.09E-06	8.28E-04	4.55	6.35E-07	6.35E-07	1.11E-06	1.13E-06
Ni-63	1.07E-04	8.13E-02	447	6.21E-05	6.21E-05	1.09E-04	1.11E-04
Co-60	2.23E-05	1.70E-02	93.1	1.12E-05	1.12E-05	2.28E-05	2.32E-05
Se-79	1.87E-06	1.42E-03	7.79	1.25E-06	1.25E-06	2.09E-06	2.30E-06
Sr-90	5.87E-02	44.6	2.45E+05	5.54E-02	5.71E-02	6.02E-02	6.17E-02
Y-90	5.87E-02	44.6	2.45E+05	3.74E-02	3.74E-02	6.02E-02	6.17E-02
Zr-93	9.16E-06	6.97E-03	38.3	6.08E-06	6.08E-06	1.03E-05	1.14E-05
Nb-93m	6.62E-06	5.03E-03	27.6	4.46E-06	4.46E-06	7.40E-06	8.15E-06
Tc-99	1.37E-04	0.104	571	1.01E-04	1.18E-04	1.55E-04	1.73E-04
Ru-106	4.05E-09	3.08E-06	1.69E-02	2.62E-09	2.62E-09	4.37E-09	4.66E-09
Cd-113m	4.91E-05	3.73E-02	205	3.06E-05	3.06E-05	5.58E-05	6.22E-05
Sb-125	1.00E-04	7.63E-02	419	5.26E-05	5.26E-05	1.03E-04	1.06E-04
Sn-126	2.82E-06	2.14E-03	11.8	1.89E-06	1.89E-06	3.15E-06	3.47E-06
I-129	2.64E-07	2.01E-04	1.10	1.94E-07	2.28E-07	3.00E-07	3.35E-07
Cs-134	3.45E-06	2.63E-03	14.4	2.84E-06	3.14E-06	3.77E-06	4.08E-06
Cs-137	0.145	110	6.04E+05	0.131	0.138	0.152	0.159
Ba-137m	0.137	104	5.71E+05	0.116	0.116	0.144	0.150
Sm-151	6.57E-03	4.99	2.74E+04	4.41E-03	4.41E-03	7.35E-03	8.09E-03
Eu-152	2.33E-06	1.77E-03	9.74	1.57E-06	1.57E-06	2.56E-06	2.78E-06
Eu-154	3.53E-04	0.268	1.47E+03	1.99E-04	1.99E-04	4.09E-04	4.31E-04
Eu-155	1.39E-04	0.106	582	9.38E-05	9.38E-05	1.53E-04	1.67E-04
Ra-226	7.53E-11	5.72E-08	3.14E-04	5.62E-11	5.62E-11	8.22E-11	8.89E-11
Ra-228	1.39E-07	1.06E-04	0.581	5.87E-08	5.87E-08	1.60E-07	1.83E-07
Ac-227	4.70E-10	3.57E-07	1.96E-03	3.59E-10	3.59E-10	5.10E-10	5.48E-10
Pa-231	2.20E-09	1.67E-06	9.17E-03	1.58E-09	1.58E-09	2.42E-09	2.63E-09
Th-229	3.24E-09	2.46E-06	1.35E-02	1.38E-09	1.38E-09	3.70E-09	4.19E-09
Th-232	1.37E-08	1.04E-05	5.73E-02	3.78E-09	3.78E-09	1.65E-08	1.91E-08
U-232	4.82E-07	3.66E-04	2.01	3.40E-07	4.10E-07	5.66E-07	6.56E-07
U-233	1.85E-06	1.40E-03	7.71	1.30E-06	1.57E-06	2.17E-06	2.51E-06
U-234	3.92E-07	2.98E-04	1.64	3.79E-07	3.86E-07	3.99E-07	4.03E-07
U-235	1.57E-08	1.19E-05	6.56E-02	1.52E-08	1.55E-08	1.60E-08	1.61E-08
U-236	1.26E-08	9.60E-06	5.27E-02	1.22E-08	1.25E-08	1.28E-08	1.29E-08
U-238	4.98E-07	3.78E-04	2.08	4.85E-07	4.91E-07	5.05E-07	5.10E-07
Np-237	4.86E-07	3.69E-04	2.03	3.68E-07	4.26E-07	5.47E-07	6.05E-07
Pu-238	7.48E-07	5.69E-04	3.12	6.10E-07	6.78E-07	8.19E-07	8.87E-07
Pu-239	2.48E-05	1.88E-02	103	2.12E-05	2.30E-05	2.66E-05	2.83E-05
Pu-240	4.28E-06	3.25E-03	17.9	3.62E-06	3.94E-06	4.61E-06	4.94E-06
Pu-241	5.16E-05	3.92E-02	215	4.21E-05	4.68E-05	5.64E-05	6.10E-05
Pu-242	2.83E-10	2.15E-07	1.18E-03	2.27E-10	2.54E-10	3.12E-10	3.39E-10
Am-241	3.21E-05	2.44E-02	134	2.55E-05	2.87E-05	3.54E-05	3.86E-05
Am-243	1.21E-09	9.21E-07	5.06E-03	9.29E-10	1.06E-09	1.39E-09	1.54E-09
Cm-242	8.37E-08	6.36E-05	0.349	5.23E-08	5.23E-08	9.23E-08	1.01E-07
Cm-243	7.87E-09	5.98E-06	3.29E-02	4.88E-09	4.88E-09	8.65E-09	9.41E-09
Cm-244	6.98E-08	5.30E-05	0.291	3.89E-08	3.89E-08	8.02E-08	8.69E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.00E-04 (g/L)	----	1.25	2.33E-04	2.66E-04	3.34E-04	3.67E-04
U	4.43E-03	802	4.41E+03	4.28E-03	4.35E-03	4.52E-03	4.56E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.49E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	4.48 (kW)	(1.53E+04 BTU/hr)	----	4.17	4.34	4.62	4.75
Bulk Density†	1.32 (g/cc)	----	----	1.30	1.31	1.32	1.33
Water wt%†	57.6	----	----	56.1	56.8	58.4	59.4
TOC wt% C (wet)†	0.643	----	----	0.391	0.515	0.772	0.897

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.24E-04	9.39E-02	516	7.74E-05	7.74E-05	1.30E-04	1.38E-04
C-14	1.85E-05	1.40E-02	77.1	8.81E-06	8.81E-06	1.87E-05	1.90E-05
Ni-59	1.09E-06	8.28E-04	4.55	6.35E-07	6.35E-07	1.11E-06	1.13E-06
Ni-63	1.07E-04	8.13E-02	447	6.21E-05	6.21E-05	1.09E-04	1.11E-04
Co-60	2.23E-05	1.70E-02	93.1	1.12E-05	1.12E-05	2.28E-05	2.32E-05
Se-79	1.87E-06	1.42E-03	7.79	1.25E-06	1.25E-06	2.09E-06	2.30E-06
Sr-90	5.87E-02	44.6	2.45E+05	5.54E-02	5.71E-02	6.02E-02	6.17E-02
Y-90	5.87E-02	44.6	2.45E+05	3.74E-02	3.74E-02	6.02E-02	6.17E-02
Zr-93	9.16E-06	6.97E-03	38.3	6.08E-06	6.08E-06	1.03E-05	1.14E-05
Nb-93m	6.62E-06	5.03E-03	27.6	4.46E-06	4.46E-06	7.40E-06	8.15E-06
Tc-99	1.37E-04	0.104	571	1.01E-04	1.18E-04	1.55E-04	1.73E-04
Ru-106	4.05E-09	3.08E-06	1.69E-02	2.62E-09	2.62E-09	4.37E-09	4.66E-09
Cd-113m	4.91E-05	3.73E-02	205	3.06E-05	3.06E-05	5.58E-05	6.22E-05
Sb-125	1.00E-04	7.63E-02	419	5.26E-05	5.26E-05	1.03E-04	1.06E-04
Sn-126	2.82E-06	2.14E-03	11.8	1.89E-06	1.89E-06	3.15E-06	3.47E-06
I-129	2.64E-07	2.01E-04	1.10	1.94E-07	2.28E-07	3.00E-07	3.35E-07
Cs-134	3.45E-06	2.63E-03	14.4	2.84E-06	3.14E-06	3.77E-06	4.08E-06
Cs-137	0.145	110	6.04E+05	0.131	0.138	0.152	0.159
Ba-137m	0.137	104	5.71E+05	0.116	0.116	0.144	0.150
Sm-151	6.57E-03	4.99	2.74E+04	4.41E-03	4.41E-03	7.35E-03	8.09E-03
Eu-152	2.33E-06	1.77E-03	9.74	1.57E-06	1.57E-06	2.56E-06	2.78E-06
Eu-154	3.53E-04	0.268	1.47E+03	1.99E-04	1.99E-04	4.09E-04	4.31E-04
Eu-155	1.39E-04	0.106	582	9.38E-05	9.38E-05	1.53E-04	1.67E-04
Ra-226	7.53E-11	5.72E-08	3.14E-04	5.62E-11	5.62E-11	8.22E-11	8.89E-11
Ra-228	1.39E-07	1.06E-04	0.581	5.87E-08	5.87E-08	1.60E-07	1.83E-07
Ac-227	4.70E-10	3.57E-07	1.96E-03	3.59E-10	3.59E-10	5.10E-10	5.48E-10
Pa-231	2.20E-09	1.67E-06	9.17E-03	1.58E-09	1.58E-09	2.42E-09	2.63E-09
Th-229	3.24E-09	2.46E-06	1.35E-02	1.38E-09	1.38E-09	3.70E-09	4.19E-09
Th-232	1.37E-08	1.04E-05	5.73E-02	3.78E-09	3.78E-09	1.65E-08	1.91E-08
U-232	4.82E-07	3.66E-04	2.01	3.40E-07	4.10E-07	5.66E-07	6.56E-07
U-233	1.85E-06	1.40E-03	7.71	1.30E-06	1.57E-06	2.17E-06	2.51E-06
U-234	3.92E-07	2.98E-04	1.64	3.79E-07	3.86E-07	3.99E-07	4.03E-07
U-235	1.57E-08	1.19E-05	6.56E-02	1.52E-08	1.55E-08	1.60E-08	1.61E-08
U-236	1.26E-08	9.60E-06	5.27E-02	1.22E-08	1.25E-08	1.28E-08	1.29E-08
U-238	4.98E-07	3.78E-04	2.08	4.85E-07	4.91E-07	5.05E-07	5.10E-07
Np-237	4.86E-07	3.69E-04	2.03	3.68E-07	4.26E-07	5.47E-07	6.05E-07
Pu-238	7.48E-07	5.69E-04	3.12	6.10E-07	6.78E-07	8.19E-07	8.87E-07
Pu-239	2.48E-05	1.88E-02	103	2.12E-05	2.30E-05	2.66E-05	2.83E-05
Pu-240	4.28E-06	3.25E-03	17.9	3.62E-06	3.94E-06	4.61E-06	4.94E-06
Pu-241	5.16E-05	3.92E-02	215	4.21E-05	4.68E-05	5.64E-05	6.10E-05
Pu-242	2.83E-10	2.15E-07	1.18E-03	2.27E-10	2.54E-10	3.12E-10	3.39E-10
Am-241	3.21E-05	2.44E-02	134	2.55E-05	2.87E-05	3.54E-05	3.86E-05
Am-243	1.21E-09	9.21E-07	5.06E-03	9.29E-10	1.06E-09	1.39E-09	1.54E-09
Cm-242	8.37E-08	6.36E-05	0.349	5.23E-08	5.23E-08	9.23E-08	1.01E-07
Cm-243	7.87E-09	5.98E-06	3.29E-02	4.88E-09	4.88E-09	8.65E-09	9.41E-09
Cm-244	6.98E-08	5.30E-05	0.291	3.89E-08	3.89E-08	8.02E-08	8.69E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.00E-04 (g/L)	----	1.25	2.33E-04	2.66E-04	3.34E-04	3.67E-04
U	4.43E-03	802	4.41E+03	4.28E-03	4.35E-03	4.52E-03	4.56E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.54E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.68 (kW)	(5.73E+03 BTU/hr)	----	1.29	1.48	1.87	2.06
Bulk Density*	1.06 (g/cc)	----	----	1.04	1.05	1.07	1.08
Water wt%	89.9	----	----	86.6	88.2	91.8	93.6
TOC wt% C (wet)	0.194	----	----	9.61E-02	0.145	0.243	0.288

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.55	3.36E+04	1.52E+05	0.937	1.24	1.86	2.14
Al^{3+}	0.119	3.02E+03	1.37E+04	7.17E-02	9.47E-02	0.143	0.166
Fe^{3+} (total Fe)	1.43E-03	75.2	341	1.13E-03	1.28E-03	1.58E-03	1.72E-03
Cr^{3+}	3.16E-03	155	703	2.82E-03	2.99E-03	3.23E-03	3.29E-03
Bi^{3+}	8.93E-06	1.76	7.99	8.40E-06	8.66E-06	9.20E-06	9.46E-06
La^{3+}	1.95E-07	2.55E-02	0.116	1.43E-07	1.68E-07	2.22E-07	2.48E-07
Hg^{2+}	2.05E-07	3.88E-02	0.176	1.13E-07	1.98E-07	2.12E-07	2.19E-07
Zr (as $ZrO(OH)_2$)	4.21E-05	3.63	16.4	2.05E-05	3.94E-05	4.48E-05	4.75E-05
Pb^{2+}	1.00E-05	1.96	8.91	8.60E-06	9.31E-06	1.08E-05	1.15E-05
Ni^{2+}	1.13E-03	62.8	285	1.07E-03	1.10E-03	1.16E-03	1.19E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.98E-04	10.2	46.5	9.92E-05	1.47E-04	2.48E-04	2.82E-04
Ca^{2+}	6.34E-03	240	1.09E+03	4.92E-03	5.75E-03	6.78E-03	7.02E-03
K^+	9.25E-03	341	1.55E+03	6.23E-03	7.70E-03	1.08E-02	1.24E-02
OH^-	0.973	1.56E+04	7.08E+04	0.558	0.761	1.19	1.39
$NO3^-$	0.507	2.97E+04	1.35E+05	0.357	0.430	0.584	0.657
$NO2^-$	4.96E-02	2.15E+03	9.77E+03	4.01E-02	4.47E-02	5.46E-02	5.92E-02
$CO3^{2-}$	0.107	6.04E+03	2.74E+04	5.84E-02	8.22E-02	0.131	0.147
$PO4^{3-}$	5.93E-03	531	2.41E+03	4.12E-03	5.00E-03	6.85E-03	7.73E-03
$SO4^{2-}$	2.06E-02	1.87E+03	8.47E+03	1.26E-02	1.65E-02	2.47E-02	2.85E-02
Si (as SiO_x^{2-})	1.24E-02	328	1.49E+03	6.85E-03	9.55E-03	1.52E-02	1.77E-02
F^-	4.42E-03	79.2	359	1.30E-03	3.89E-03	4.94E-03	5.45E-03
Cl^-	2.92E-02	977	4.43E+03	1.80E-02	2.35E-02	3.50E-02	4.04E-02
$C_6H_5O_7^{3-}$	5.12E-03	913	4.14E+03	2.41E-03	3.73E-03	6.51E-03	7.83E-03
$EDTA^{4-}$	1.74E-04	47.4	215	5.84E-05	1.15E-04	2.34E-04	2.92E-04
$HEDTA^{3-}$	3.09E-04	79.9	363	7.70E-05	1.90E-04	4.28E-04	5.45E-04
$glycolate^-$	6.63E-02	4.69E+03	2.13E+04	3.02E-02	4.78E-02	8.48E-02	0.102
$acetate^-$	1.27E-04	7.08	32.1	1.05E-04	1.14E-04	1.41E-04	1.62E-04
$oxalate^{2-}$	2.55E-07	2.12E-02	9.62E-02	2.27E-07	2.41E-07	2.70E-07	2.84E-07
DBP	2.56E-04	50.7	230	2.00E-04	2.27E-04	2.84E-04	3.12E-04
butanol	2.56E-04	17.9	81.1	2.00E-04	2.27E-04	2.84E-04	3.12E-04
NH_3	1.34E-02	215	973	2.86E-03	7.96E-03	1.89E-02	2.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.54E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.68 (kW)	(5.73E+03 BTU/hr)	----	1.29	1.48	1.87	2.06
Bulk Density†	1.06 (g/cc)	----	----	1.04	1.05	1.07	1.08
Water wt%†	89.9	----	----	86.6	88.2	91.8	93.6
TOC wt% C (wet)†	0.194	----	----	9.61E-02	0.145	0.243	0.288

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.55	3.36E+04	1.52E+05	0.937	1.24	1.86	2.14
Al^{3+}	0.119	3.02E+03	1.37E+04	7.17E-02	9.47E-02	0.143	0.166
Fe^{3+} (total Fe)	1.43E-03	75.2	341	1.13E-03	1.28E-03	1.58E-03	1.72E-03
Cr^{3+}	3.16E-03	155	703	2.82E-03	2.99E-03	3.23E-03	3.29E-03
Bi^{3+}	8.93E-06	1.76	7.99	8.40E-06	8.66E-06	9.20E-06	9.46E-06
La^{3+}	1.95E-07	2.55E-02	0.116	1.43E-07	1.68E-07	2.22E-07	2.48E-07
Hg^{2+}	2.05E-07	3.88E-02	0.176	1.13E-07	1.98E-07	2.12E-07	2.19E-07
Zr (as $ZrO(OH)_2$)	4.21E-05	3.63	16.4	2.05E-05	3.94E-05	4.48E-05	4.75E-05
Pb^{2+}	1.00E-05	1.96	8.91	8.60E-06	9.31E-06	1.08E-05	1.15E-05
Ni^{2+}	1.13E-03	62.8	285	1.07E-03	1.10E-03	1.16E-03	1.19E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.98E-04	10.2	46.5	9.92E-05	1.47E-04	2.48E-04	2.82E-04
Ca^{2+}	6.34E-03	240	1.09E+03	4.92E-03	5.75E-03	6.78E-03	7.02E-03
K^+	9.25E-03	341	1.55E+03	6.23E-03	7.70E-03	1.08E-02	1.24E-02
OH^-	0.973	1.56E+04	7.08E+04	0.558	0.761	1.19	1.39
$NO3^-$	0.507	2.97E+04	1.35E+05	0.357	0.430	0.584	0.657
$NO2^-$	4.96E-02	2.15E+03	9.77E+03	4.01E-02	4.47E-02	5.46E-02	5.92E-02
$CO3^{2-}$	0.107	6.04E+03	2.74E+04	5.84E-02	8.22E-02	0.131	0.147
$PO4^{3-}$	5.93E-03	531	2.41E+03	4.12E-03	5.00E-03	6.85E-03	7.73E-03
$SO4^{2-}$	2.06E-02	1.87E+03	8.47E+03	1.26E-02	1.65E-02	2.47E-02	2.85E-02
Si (as SiO_x^{2-})	1.24E-02	328	1.49E+03	6.85E-03	9.55E-03	1.52E-02	1.77E-02
F^-	4.42E-03	79.2	359	1.30E-03	3.89E-03	4.94E-03	5.45E-03
Cl^-	2.92E-02	977	4.43E+03	1.80E-02	2.35E-02	3.50E-02	4.04E-02
$C_6H_5O_7^{3-}$	5.12E-03	913	4.14E+03	2.41E-03	3.73E-03	6.51E-03	7.83E-03
$EDTA^{4-}$	1.74E-04	47.4	215	5.84E-05	1.15E-04	2.34E-04	2.92E-04
$HEDTA^{3-}$	3.09E-04	79.9	363	7.70E-05	1.90E-04	4.28E-04	5.45E-04
$glycolate^-$	6.63E-02	4.69E+03	2.13E+04	3.02E-02	4.78E-02	8.48E-02	0.102
$acetate^-$	1.27E-04	7.08	32.1	1.05E-04	1.14E-04	1.41E-04	1.62E-04
$oxalate^{2-}$	2.55E-07	2.12E-02	9.62E-02	2.27E-07	2.41E-07	2.70E-07	2.84E-07
DBP	2.56E-04	50.7	230	2.00E-04	2.27E-04	2.84E-04	3.12E-04
butanol	2.56E-04	17.9	81.1	2.00E-04	2.27E-04	2.84E-04	3.12E-04
NH_3	1.34E-02	215	973	2.86E-03	7.96E-03	1.89E-02	2.43E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.54E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.68 (kW)	(5.73E+03 BTU/hr)	----	1.29	1.48	1.87	2.06
Bulk Density*	1.06 (g/cc)	----	----	1.04	1.05	1.07	1.08
Water wt%†	89.9	----	----	86.6	88.2	91.8	93.6
TOC wt% C (wet)	0.194	----	----	9.61E-02	0.145	0.243	0.288

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.35E-04	0.222	1.01E+03	1.67E-04	2.00E-04	2.70E-04	3.03E-04
C-14	3.56E-06	3.36E-03	15.2	2.72E-06	3.13E-06	3.99E-06	4.40E-06
Ni-59	1.05E-07	9.94E-05	0.451	9.97E-08	9.97E-08	1.07E-07	1.08E-07
Ni-63	1.04E-05	9.84E-03	44.6	9.87E-06	9.87E-06	1.06E-05	1.07E-05
Co-60	3.82E-06	3.61E-03	16.4	2.23E-06	3.01E-06	4.64E-06	5.42E-06
Se-79	4.38E-07	4.14E-04	1.88	2.35E-07	3.33E-07	5.43E-07	6.42E-07
Sr-90	1.27E-02	12.0	5.43E+04	1.11E-02	1.19E-02	1.35E-02	1.43E-02
Y-90	1.27E-02	12.0	5.44E+04	1.11E-02	1.19E-02	1.35E-02	1.43E-02
Zr-93	2.00E-06	1.89E-03	8.58	1.09E-06	1.48E-06	2.47E-06	2.92E-06
Nb-93m	1.57E-06	1.48E-03	6.73	8.39E-07	1.20E-06	1.95E-06	2.30E-06
Tc-99	1.70E-05	1.61E-02	72.8	1.35E-05	1.52E-05	1.88E-05	2.05E-05
Ru-106	1.87E-09	1.76E-06	7.99E-03	7.02E-10	1.27E-09	2.46E-09	3.03E-09
Cd-113m	7.66E-06	7.23E-03	32.8	4.55E-06	6.07E-06	1.03E-05	1.08E-05
Sb-125	4.38E-04	0.413	1.87E+03	1.35E-04	2.83E-04	5.92E-04	7.41E-04
Sn-126	6.87E-07	6.48E-04	2.94	3.66E-07	5.23E-07	8.52E-07	1.01E-06
I-129	3.38E-08	3.19E-05	0.145	2.68E-08	3.02E-08	3.74E-08	4.09E-08
Cs-134	4.55E-04	0.430	1.95E+03	3.18E-04	3.85E-04	5.26E-04	5.94E-04
Cs-137	6.54E-02	61.7	2.80E+05	4.62E-02	5.56E-02	7.52E-02	8.47E-02
Ba-137m	6.18E-02	58.4	2.65E+05	4.37E-02	5.26E-02	7.11E-02	8.01E-02
Sm-151	1.58E-03	1.49	6.76E+03	8.43E-04	1.20E-03	1.96E-03	2.32E-03
Eu-152	1.49E-06	1.40E-03	6.37	1.15E-06	1.31E-06	1.66E-06	1.83E-06
Eu-154	5.33E-05	5.03E-02	228	3.29E-05	4.28E-05	6.37E-05	7.37E-05
Eu-155	2.25E-04	0.212	963	1.63E-04	1.93E-04	2.57E-04	2.87E-04
Ra-226	2.26E-11	2.13E-08	9.68E-05	8.16E-12	1.52E-11	3.00E-11	3.03E-11
Ra-228	2.29E-09	2.16E-06	9.81E-03	9.91E-10	9.91E-10	2.64E-09	3.02E-09
Ac-227	1.32E-10	1.24E-07	5.65E-04	4.79E-11	8.91E-11	1.74E-10	1.56E-10
Pa-231	4.02E-10	3.79E-07	1.72E-03	2.13E-10	2.97E-10	4.94E-10	5.82E-10
Th-229	5.32E-11	5.02E-08	2.28E-04	2.32E-11	2.32E-11	6.10E-11	6.92E-11
Th-232	2.24E-10	2.11E-07	9.59E-04	6.34E-11	6.34E-11	2.68E-10	3.10E-10
U-232	7.90E-09	7.46E-06	3.38E-02	5.52E-09	6.68E-09	9.32E-09	1.08E-08
U-233	3.03E-08	2.86E-05	0.130	2.11E-08	2.56E-08	3.57E-08	4.14E-08
U-234	3.79E-08	3.58E-05	0.162	3.18E-08	3.65E-08	3.87E-08	3.95E-08
U-235	1.45E-09	1.37E-06	6.22E-03	1.22E-09	1.40E-09	1.48E-09	1.51E-09
U-236	2.83E-09	2.67E-06	1.21E-02	2.33E-09	2.71E-09	2.89E-09	2.95E-09
U-238	2.97E-08	2.80E-05	0.127	2.54E-08	2.87E-08	3.03E-08	3.09E-08
Np-237	1.88E-07	1.77E-04	0.803	1.36E-07	1.62E-07	2.14E-07	2.39E-07
Pu-238	2.38E-07	2.25E-04	1.02	1.21E-07	1.77E-07	3.02E-07	3.67E-07
Pu-239	4.20E-06	3.97E-03	18.0	2.19E-06	3.17E-06	5.23E-06	6.22E-06
Pu-240	9.61E-07	9.07E-04	4.11	5.20E-07	7.34E-07	1.19E-06	1.42E-06
Pu-241	1.88E-05	1.78E-02	80.6	1.06E-05	1.46E-05	2.33E-05	2.78E-05
Pu-242	1.03E-10	9.71E-08	4.40E-04	4.92E-11	7.48E-11	1.32E-10	1.62E-10
Am-241	1.29E-05	1.22E-02	55.4	5.94E-06	9.37E-06	1.65E-05	1.89E-05
Am-243	9.56E-10	9.02E-07	4.09E-03	4.02E-10	6.56E-10	1.30E-09	1.60E-09
Cm-242	1.18E-07	1.11E-04	0.504	8.79E-08	1.03E-07	1.33E-07	1.48E-07
Cm-243	1.86E-08	1.75E-05	7.95E-02	1.36E-08	1.60E-08	2.11E-08	2.36E-08
Cm-244	3.68E-08	3.47E-05	0.158	1.35E-08	2.49E-08	4.87E-08	6.01E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.06E-05 (g/L)	----	0.302	3.61E-05	5.30E-05	8.82E-05	1.05E-04
U	3.45E-04	77.4	351	2.92E-04	3.32E-04	3.53E-04	3.61E-04

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.54E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.68 (kW)	(5.73E+03 BTU/hr)	----	1.29	1.48	1.87	2.06
Bulk Density†	1.06 (g/cc)	----	----	1.04	1.05	1.07	1.08
Water wt%†	89.9	----	----	86.6	88.2	91.8	93.6
TOC wt% C (wet)†	0.194	----	----	9.61E-02	0.145	0.243	0.288

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.35E-04	0.222	1.01E+03	1.67E-04	2.00E-04	2.70E-04	3.03E-04
C-14	3.56E-06	3.36E-03	15.2	2.72E-06	3.13E-06	3.99E-06	4.40E-06
Ni-59	1.05E-07	9.94E-05	0.451	9.97E-08	9.97E-08	1.07E-07	1.08E-07
Ni-63	1.04E-05	9.84E-03	44.6	9.87E-06	9.87E-06	1.06E-05	1.07E-05
Co-60	3.82E-06	3.61E-03	16.4	2.23E-06	3.01E-06	4.64E-06	5.42E-06
Se-79	4.38E-07	4.14E-04	1.88	2.35E-07	3.33E-07	5.43E-07	6.42E-07
Sr-90	1.27E-02	12.0	5.43E+04	1.11E-02	1.19E-02	1.35E-02	1.43E-02
Y-90	1.27E-02	12.0	5.44E+04	1.11E-02	1.19E-02	1.35E-02	1.43E-02
Zr-93	2.00E-06	1.89E-03	8.58	1.09E-06	1.48E-06	2.47E-06	2.92E-06
Nb-93m	1.57E-06	1.48E-03	6.73	8.39E-07	1.20E-06	1.95E-06	2.30E-06
Tc-99	1.70E-05	1.61E-02	72.8	1.35E-05	1.52E-05	1.88E-05	2.05E-05
Ru-106	1.87E-09	1.76E-06	7.99E-03	7.02E-10	1.27E-09	2.46E-09	3.03E-09
Cd-113m	7.66E-06	7.23E-03	32.8	4.55E-06	6.07E-06	1.03E-05	1.08E-05
Sb-125	4.38E-04	0.413	1.87E+03	1.35E-04	2.83E-04	5.92E-04	7.41E-04
Sn-126	6.87E-07	6.48E-04	2.94	3.66E-07	5.23E-07	8.52E-07	1.01E-06
I-129	3.38E-08	3.19E-05	0.145	2.68E-08	3.02E-08	3.74E-08	4.09E-08
Cs-134	4.55E-04	0.430	1.95E+03	3.18E-04	3.85E-04	5.26E-04	5.94E-04
Cs-137	6.54E-02	61.7	2.80E+05	4.62E-02	5.56E-02	7.52E-02	8.47E-02
Ba-137m	6.18E-02	58.4	2.65E+05	4.37E-02	5.26E-02	7.11E-02	8.01E-02
Sm-151	1.58E-03	1.49	6.76E+03	8.43E-04	1.20E-03	1.96E-03	2.32E-03
Eu-152	1.49E-06	1.40E-03	6.37	1.15E-06	1.31E-06	1.66E-06	1.83E-06
Eu-154	5.33E-05	5.03E-02	228	3.29E-05	4.28E-05	6.37E-05	7.37E-05
Eu-155	2.25E-04	0.212	963	1.63E-04	1.93E-04	2.57E-04	2.87E-04
Ra-226	2.26E-11	2.13E-08	9.68E-05	8.16E-12	1.52E-11	3.00E-11	3.03E-11
Ra-228	2.29E-09	2.16E-06	9.81E-03	9.91E-10	9.91E-10	2.64E-09	3.02E-09
Ac-227	1.32E-10	1.24E-07	5.65E-04	4.79E-11	8.91E-11	1.74E-10	1.56E-10
Pa-231	4.02E-10	3.79E-07	1.72E-03	2.13E-10	2.97E-10	4.94E-10	5.82E-10
Th-229	5.32E-11	5.02E-08	2.28E-04	2.32E-11	2.32E-11	6.10E-11	6.92E-11
Th-232	2.24E-10	2.11E-07	9.59E-04	6.34E-11	6.34E-11	2.68E-10	3.10E-10
U-232	7.90E-09	7.46E-06	3.38E-02	5.52E-09	6.68E-09	9.32E-09	1.08E-08
U-233	3.03E-08	2.86E-05	0.130	2.11E-08	2.56E-08	3.57E-08	4.14E-08
U-234	3.79E-08	3.58E-05	0.162	3.18E-08	3.65E-08	3.87E-08	3.95E-08
U-235	1.45E-09	1.37E-06	6.22E-03	1.22E-09	1.40E-09	1.48E-09	1.51E-09
U-236	2.83E-09	2.67E-06	1.21E-02	2.33E-09	2.71E-09	2.89E-09	2.95E-09
U-238	2.97E-08	2.80E-05	0.127	2.54E-08	2.87E-08	3.03E-08	3.09E-08
Np-237	1.88E-07	1.77E-04	0.803	1.36E-07	1.62E-07	2.14E-07	2.39E-07
Pu-238	2.38E-07	2.25E-04	1.02	1.21E-07	1.77E-07	3.02E-07	3.67E-07
Pu-239	4.20E-06	3.97E-03	18.0	2.19E-06	3.17E-06	5.23E-06	6.22E-06
Pu-240	9.61E-07	9.07E-04	4.11	5.20E-07	7.34E-07	1.19E-06	1.42E-06
Pu-241	1.88E-05	1.78E-02	80.6	1.06E-05	1.46E-05	2.33E-05	2.78E-05
Pu-242	1.03E-10	9.71E-08	4.40E-04	4.92E-11	7.48E-11	1.32E-10	1.62E-10
Am-241	1.29E-05	1.22E-02	55.4	5.94E-06	9.37E-06	1.65E-05	1.89E-05
Am-243	9.56E-10	9.02E-07	4.09E-03	4.02E-10	6.56E-10	1.30E-09	1.60E-09
Cm-242	1.18E-07	1.11E-04	0.504	8.79E-08	1.03E-07	1.33E-07	1.48E-07
Cm-243	1.86E-08	1.75E-05	7.95E-02	1.36E-08	1.60E-08	2.11E-08	2.36E-08
Cm-244	3.68E-08	3.47E-05	0.158	1.35E-08	2.49E-08	4.87E-08	6.01E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.06E-05 (g/L)	----	0.302	3.61E-05	5.30E-05	8.82E-05	1.05E-04
U	3.45E-04	77.4	351	2.92E-04	3.32E-04	3.53E-04	3.61E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.95E+04 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.02 (g/cc)	----	----	1.02	1.02	1.02	1.02
Water wt%	96.5	----	----	96.2	96.3	96.6	96.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.549	1.24E+04	860	0.490	0.519	0.579	0.608
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.73E-03	94.6	6.58	9.55E-04	1.33E-03	2.12E-03	2.50E-03
Cr^{3+}	6.93E-03	353	24.6	6.93E-03	6.93E-03	6.93E-03	6.94E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.56E-03	89.5	6.22	1.40E-03	1.48E-03	1.63E-03	1.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.78E-03	306	21.2	4.75E-03	6.23E-03	9.32E-03	1.08E-02
K^{+}	5.98E-04	22.9	1.59	5.98E-04	5.98E-04	5.98E-04	5.98E-04
OH^{-}	4.47E-02	745	51.8	4.24E-02	4.35E-02	4.59E-02	4.70E-02
$NO3^{-}$	0.136	8.25E+03	574	0.136	0.136	0.136	0.136
$NO2^{-}$	1.21E-02	547	38.0	1.21E-02	1.21E-02	1.21E-02	1.21E-02
$CO3^{2-}$	1.70E-03	100.0	6.95	-1.34E-03	1.49E-04	3.24E-03	4.73E-03
$PO4^{3-}$	0.130	1.21E+04	839	0.110	0.120	0.140	0.149
$SO4^{2-}$	3.47E-03	326	22.7	3.46E-03	3.47E-03	3.47E-03	3.47E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.75E-03	95.5	6.64	2.75E-03	2.75E-03	2.75E-03	2.75E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.95E+04 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density†	1.02 (g/cc)	----	----	1.02	1.02	1.02	1.02
Water wt%†	96.5	----	----	96.2	96.3	96.6	96.8
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.549	1.24E+04	860	0.490	0.519	0.579	0.608
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.73E-03	94.6	6.58	9.55E-04	1.33E-03	2.12E-03	2.50E-03
Cr^{3+}	6.93E-03	353	24.6	6.93E-03	6.93E-03	6.93E-03	6.94E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.56E-03	89.5	6.22	1.40E-03	1.48E-03	1.63E-03	1.71E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	7.78E-03	306	21.2	4.75E-03	6.23E-03	9.32E-03	1.08E-02
K^{+}	5.98E-04	22.9	1.59	5.98E-04	5.98E-04	5.98E-04	5.98E-04
OH^{-}	4.47E-02	745	51.8	4.24E-02	4.35E-02	4.59E-02	4.70E-02
$NO3^{-}$	0.136	8.25E+03	574	0.136	0.136	0.136	0.136
$NO2^{-}$	1.21E-02	547	38.0	1.21E-02	1.21E-02	1.21E-02	1.21E-02
$CO3^{2-}$	1.70E-03	100.0	6.95	-1.34E-03	1.49E-04	3.24E-03	4.73E-03
$PO4^{3-}$	0.130	1.21E+04	839	0.110	0.120	0.140	0.149
$SO4^{2-}$	3.47E-03	326	22.7	3.46E-03	3.47E-03	3.47E-03	3.47E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	2.75E-03	95.5	6.64	2.75E-03	2.75E-03	2.75E-03	2.75E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.95E+04 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.02 (g/cc)	----	----	1.02	1.02	1.02	1.02
Water wt%†	96.5	----	----	96.2	96.3	96.6	96.8
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	6.95E+04 (kg)	(18.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density†	1.02 (g/cc)	----	----	1.02	1.02	1.02	1.02
Water wt%†	96.5	----	----	96.2	96.3	96.6	96.8
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.39E+06 (kg)	(820 kgal)	----	----	----	----	----
Heat Load	3.09 (kW)	(1.05E+04 BTU/hr)	----	2.91	2.99	3.18	3.27
Bulk Density*	1.41 (g/cc)	----	----	1.35	1.38	1.45	1.48
Water wt%	45.8	----	----	40.4	42.8	48.4	51.3
TOC wt% C (wet)	0.863	----	----	0.681	0.771	0.953	1.04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.2	1.66E+05	7.28E+05	8.47	9.33	11.1	11.9
Al^{3+}	0.879	1.68E+04	7.36E+04	0.746	0.811	0.948	1.01
Fe^{3+} (total Fe)	1.34E-02	528	2.32E+03	1.17E-02	1.25E-02	1.42E-02	1.50E-02
Cr^{3+}	6.38E-02	2.35E+03	1.03E+04	5.52E-02	5.94E-02	6.82E-02	7.24E-02
Bi^{3+}	5.11E-04	75.6	332	4.82E-04	4.96E-04	5.26E-04	5.41E-04
La^{3+}	1.41E-05	1.39	6.09	1.03E-05	1.22E-05	1.61E-05	1.80E-05
Hg^{2+}	1.36E-05	1.94	8.49	7.07E-06	1.31E-05	1.41E-05	1.46E-05
Zr (as $ZrO(OH)_2$)	2.98E-03	193	845	1.44E-03	2.79E-03	3.18E-03	3.37E-03
Pb^{2+}	5.85E-04	85.7	376	5.06E-04	5.45E-04	6.25E-04	6.64E-04
Ni^{2+}	7.75E-03	322	1.41E+03	7.42E-03	7.58E-03	7.92E-03	8.08E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.26E-02	491	2.16E+03	6.22E-03	9.36E-03	1.59E-02	1.82E-02
Ca^{2+}	5.53E-02	1.57E+03	6.88E+03	4.68E-02	5.20E-02	5.86E-02	6.18E-02
K^{+}	0.269	7.43E+03	3.26E+04	5.34E-02	0.158	0.382	0.493
OH^{-}	5.87	7.05E+04	3.10E+05	4.68	5.26	6.47	7.05
$NO3^{-}$	3.75	1.64E+05	7.22E+05	3.32	3.53	3.97	4.18
$NO2^{-}$	0.971	3.16E+04	1.39E+05	0.843	0.897	1.05	1.08
$CO3^{2-}$	0.650	2.76E+04	1.21E+05	0.512	0.580	0.718	0.766
$PO4^{3-}$	0.175	1.18E+04	5.16E+04	0.101	0.137	0.213	0.250
$SO4^{2-}$	0.148	1.01E+04	4.41E+04	0.125	0.136	0.160	0.171
Si (as SiO_x^{2-})	5.57E-02	1.11E+03	4.85E+03	3.99E-02	4.76E-02	6.37E-02	7.07E-02
F^{-}	0.260	3.49E+03	1.53E+04	3.72E-02	0.222	0.297	0.334
Cl^{-}	0.166	4.17E+03	1.83E+04	0.135	0.150	0.183	0.198
$C_6H_5O_7^{3-}$	2.39E-02	3.20E+03	1.40E+04	1.62E-02	2.00E-02	2.79E-02	3.16E-02
$EDTA^{4-}$	9.43E-03	1.92E+03	8.43E+03	3.19E-03	6.24E-03	1.26E-02	1.58E-02
$HEDTA^{3-}$	1.66E-02	3.22E+03	1.41E+04	4.15E-03	1.02E-02	2.30E-02	2.93E-02
$glycolate^{-}$	0.208	1.10E+04	4.84E+04	0.105	0.155	0.260	0.311
$acetate^{-}$	7.16E-03	299	1.31E+03	5.92E-03	6.45E-03	7.91E-03	9.07E-03
$oxalate^{2-}$	1.85E-05	1.15	5.06	1.64E-05	1.75E-05	1.96E-05	2.06E-05
DBP	1.52E-02	2.27E+03	9.94E+03	1.16E-02	1.34E-02	1.71E-02	1.89E-02
butanol	1.52E-02	799	3.51E+03	1.16E-02	1.34E-02	1.71E-02	1.89E-02
NH_3	0.824	9.91E+03	4.35E+04	7.46E-02	0.438	1.22	1.61
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.39E+06 (kg)	(820 kgal)	----	----	----	----	----
Heat Load	3.09 (kW)	(1.05E+04 BTU/hr)	----	2.91	2.99	3.18	3.27
Bulk Density†	1.41 (g/cc)	----	----	1.35	1.38	1.45	1.48
Water wt%†	45.8	----	----	40.4	42.8	48.4	51.3
TOC wt% C (wet)†	0.863	----	----	0.681	0.771	0.953	1.04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	10.2	1.66E+05	7.28E+05	8.47	9.33	11.1	11.9
Al^{3+}	0.879	1.68E+04	7.36E+04	0.746	0.811	0.948	1.01
Fe^{3+} (total Fe)	1.34E-02	528	2.32E+03	1.17E-02	1.25E-02	1.42E-02	1.50E-02
Cr^{3+}	6.38E-02	2.35E+03	1.03E+04	5.52E-02	5.94E-02	6.82E-02	7.24E-02
Bi^{3+}	5.11E-04	75.6	332	4.82E-04	4.96E-04	5.26E-04	5.41E-04
La^{3+}	1.41E-05	1.39	6.09	1.03E-05	1.22E-05	1.61E-05	1.80E-05
Hg^{2+}	1.36E-05	1.94	8.49	7.07E-06	1.31E-05	1.41E-05	1.46E-05
Zr (as $ZrO(OH)_2$)	2.98E-03	193	845	1.44E-03	2.79E-03	3.18E-03	3.37E-03
Pb^{2+}	5.85E-04	85.7	376	5.06E-04	5.45E-04	6.25E-04	6.64E-04
Ni^{2+}	7.75E-03	322	1.41E+03	7.42E-03	7.58E-03	7.92E-03	8.08E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.26E-02	491	2.16E+03	6.22E-03	9.36E-03	1.59E-02	1.82E-02
Ca^{2+}	5.53E-02	1.57E+03	6.88E+03	4.68E-02	5.20E-02	5.86E-02	6.18E-02
K^{+}	0.269	7.43E+03	3.26E+04	5.34E-02	0.158	0.382	0.493
OH^{-}	5.87	7.05E+04	3.10E+05	4.68	5.26	6.47	7.05
$NO3^{-}$	3.75	1.64E+05	7.22E+05	3.32	3.53	3.97	4.18
$NO2^{-}$	0.971	3.16E+04	1.39E+05	0.843	0.897	1.05	1.08
$CO3^{2-}$	0.650	2.76E+04	1.21E+05	0.512	0.580	0.718	0.766
$PO4^{3-}$	0.175	1.18E+04	5.16E+04	0.101	0.137	0.213	0.250
$SO4^{2-}$	0.148	1.01E+04	4.41E+04	0.125	0.136	0.160	0.171
Si (as SiO_x^{2-})	5.57E-02	1.11E+03	4.85E+03	3.99E-02	4.76E-02	6.37E-02	7.07E-02
F^{-}	0.260	3.49E+03	1.53E+04	3.72E-02	0.222	0.297	0.334
Cl^{-}	0.166	4.17E+03	1.83E+04	0.135	0.150	0.183	0.198
$C_6H_5O_7^{3-}$	2.39E-02	3.20E+03	1.40E+04	1.62E-02	2.00E-02	2.79E-02	3.16E-02
$EDTA^{4-}$	9.43E-03	1.92E+03	8.43E+03	3.19E-03	6.24E-03	1.26E-02	1.58E-02
$HEDTA^{3-}$	1.66E-02	3.22E+03	1.41E+04	4.15E-03	1.02E-02	2.30E-02	2.93E-02
$glycolate^{-}$	0.208	1.10E+04	4.84E+04	0.105	0.155	0.260	0.311
$acetate^{-}$	7.16E-03	299	1.31E+03	5.92E-03	6.45E-03	7.91E-03	9.07E-03
$oxalate^{2-}$	1.85E-05	1.15	5.06	1.64E-05	1.75E-05	1.96E-05	2.06E-05
DBP	1.52E-02	2.27E+03	9.94E+03	1.16E-02	1.34E-02	1.71E-02	1.89E-02
butanol	1.52E-02	799	3.51E+03	1.16E-02	1.34E-02	1.71E-02	1.89E-02
NH_3	0.824	9.91E+03	4.35E+04	7.46E-02	0.438	1.22	1.61
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.39E+06 (kg)	(820 kgal)	----	----	----	----	----
Heat Load	3.09 (kW)	(1.05E+04 BTU/hr)	----	2.91	2.99	3.18	3.27
Bulk Density*	1.41 (g/cc)	----	----	1.35	1.38	1.45	1.48
Water wt%†	45.8	----	----	40.4	42.8	48.4	51.3
TOC wt% C (wet)	0.863	----	----	0.681	0.771	0.953	1.04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.30E-04	9.22E-02	405	9.75E-05	9.75E-05	1.45E-04	1.62E-04
C-14	1.50E-05	1.06E-02	46.6	8.15E-06	8.15E-06	1.55E-05	1.58E-05
Ni-59	9.77E-07	6.91E-04	3.03	6.53E-07	6.53E-07	9.93E-07	1.01E-06
Ni-63	9.62E-05	6.80E-02	299	6.42E-05	6.42E-05	9.78E-05	9.94E-05
Co-60	2.33E-05	1.65E-02	72.2	1.54E-05	1.54E-05	2.52E-05	2.72E-05
Se-79	2.28E-06	1.62E-03	7.09	1.71E-06	1.85E-06	2.58E-06	2.86E-06
Sr-90	7.48E-02	52.9	2.32E+05	7.00E-02	7.23E-02	7.73E-02	7.97E-02
Y-90	7.48E-02	52.9	2.32E+05	5.96E-02	5.96E-02	7.73E-02	7.98E-02
Zr-93	1.08E-05	7.67E-03	33.6	8.24E-06	8.65E-06	1.22E-05	1.34E-05
Nb-93m	8.11E-06	5.73E-03	25.2	6.02E-06	6.57E-06	9.18E-06	1.02E-05
Tc-99	1.10E-04	7.80E-02	342	8.46E-05	9.71E-05	1.23E-04	1.36E-04
Ru-106	1.19E-08	8.42E-06	3.70E-02	8.47E-09	1.02E-08	1.37E-08	1.54E-08
Cd-113m	5.10E-05	3.60E-02	158	3.78E-05	3.78E-05	5.83E-05	6.03E-05
Sb-125	1.89E-04	0.134	586	9.83E-05	1.42E-04	2.36E-04	2.83E-04
Sn-126	3.52E-06	2.49E-03	10.9	2.60E-06	2.86E-06	3.99E-06	4.43E-06
I-129	2.13E-07	1.51E-04	0.661	1.64E-07	1.88E-07	2.39E-07	2.63E-07
Cs-134	4.78E-05	3.38E-02	148	7.63E-06	2.71E-05	6.89E-05	8.97E-05
Cs-137	0.105	74.0	3.25E+05	9.60E-02	9.97E-02	0.109	0.116
Ba-137m	9.90E-02	70.0	3.07E+05	8.62E-02	8.62E-02	0.103	0.107
Sm-151	8.13E-03	5.75	2.52E+04	6.04E-03	6.60E-03	9.21E-03	1.02E-02
Eu-152	2.62E-06	1.85E-03	8.14	2.08E-06	2.08E-06	2.89E-06	3.15E-06
Eu-154	3.78E-04	0.267	1.17E+03	2.68E-04	2.68E-04	4.18E-04	4.36E-04
Eu-155	1.68E-04	0.119	523	1.36E-04	1.36E-04	1.84E-04	1.99E-04
Ra-226	1.05E-10	7.42E-08	3.26E-04	6.38E-11	8.40E-11	1.26E-10	1.27E-10
Ra-228	1.30E-07	9.22E-05	0.405	5.94E-08	5.94E-08	1.52E-07	1.74E-07
Ac-227	6.42E-10	4.54E-07	1.99E-03	4.04E-10	5.21E-10	7.63E-10	7.11E-10
Pa-231	2.46E-09	1.74E-06	7.62E-03	1.92E-09	2.02E-09	2.72E-09	2.97E-09
Th-229	3.03E-09	2.14E-06	9.41E-03	1.39E-09	1.39E-09	3.49E-09	3.99E-09
Th-232	1.26E-08	8.89E-06	3.90E-02	3.80E-09	3.80E-09	1.50E-08	1.73E-08
U-232	4.58E-07	3.24E-04	1.42	3.15E-07	3.85E-07	5.42E-07	6.33E-07
U-233	1.75E-06	1.24E-03	5.44	1.21E-06	1.47E-06	2.08E-06	2.42E-06
U-234	1.61E-06	1.14E-03	4.98	1.17E-06	1.51E-06	1.65E-06	1.69E-06
U-235	6.16E-08	4.35E-05	0.191	4.50E-08	5.80E-08	6.32E-08	6.48E-08
U-236	1.17E-07	8.28E-05	0.363	8.12E-08	1.09E-07	1.21E-07	1.24E-07
U-238	1.30E-06	9.16E-04	4.02	9.96E-07	1.23E-06	1.33E-06	1.35E-06
Np-237	3.99E-07	2.82E-04	1.24	3.15E-07	3.56E-07	4.42E-07	4.84E-07
Pu-238	3.88E-06	2.74E-03	12.0	2.52E-06	3.18E-06	4.57E-06	5.24E-06
Pu-239	5.03E-05	3.56E-02	156	3.93E-05	4.47E-05	5.59E-05	6.13E-05
Pu-240	1.22E-05	8.61E-03	37.8	8.83E-06	1.05E-05	1.39E-05	1.55E-05
Pu-241	3.65E-04	0.258	1.13E+03	2.26E-04	2.94E-04	4.36E-04	5.04E-04
Pu-242	1.50E-09	1.06E-06	4.67E-03	9.86E-10	1.24E-09	1.77E-09	2.02E-09
Am-241	7.03E-05	4.97E-02	218	5.04E-05	6.01E-05	8.05E-05	8.74E-05
Am-243	6.70E-09	4.74E-06	2.08E-02	2.77E-09	4.68E-09	8.77E-09	8.86E-09
Cm-242	1.13E-07	7.98E-05	0.350	8.50E-08	9.05E-08	1.27E-07	1.41E-07
Cm-243	1.19E-08	8.39E-06	3.68E-02	8.90E-09	9.74E-09	1.34E-08	1.48E-08
Cm-244	2.04E-07	1.44E-04	0.632	1.32E-07	1.67E-07	2.37E-07	2.70E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.78E-04 (g/L)	----	2.42	5.85E-04	6.79E-04	8.77E-04	9.72E-04
U	1.47E-02	2.47E+03	1.08E+04	1.09E-02	1.39E-02	1.51E-02	1.54E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.39E+06 (kg)	(820 kgal)	----	----	----	----	----
Heat Load	3.09 (kW)	(1.05E+04 BTU/hr)	----	2.91	2.99	3.18	3.27
Bulk Density†	1.41 (g/cc)	----	----	1.35	1.38	1.45	1.48
Water wt%†	45.8	----	----	40.4	42.8	48.4	51.3
TOC wt% C (wet)†	0.863	----	----	0.681	0.771	0.953	1.04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.30E-04	9.22E-02	405	9.75E-05	9.75E-05	1.45E-04	1.62E-04
C-14	1.50E-05	1.06E-02	46.6	8.15E-06	8.15E-06	1.55E-05	1.58E-05
Ni-59	9.77E-07	6.91E-04	3.03	6.53E-07	6.53E-07	9.93E-07	1.01E-06
Ni-63	9.62E-05	6.80E-02	299	6.42E-05	6.42E-05	9.78E-05	9.94E-05
Co-60	2.33E-05	1.65E-02	72.2	1.54E-05	1.54E-05	2.52E-05	2.72E-05
Se-79	2.28E-06	1.62E-03	7.09	1.71E-06	1.85E-06	2.58E-06	2.86E-06
Sr-90	7.48E-02	52.9	2.32E+05	7.00E-02	7.23E-02	7.73E-02	7.97E-02
Y-90	7.48E-02	52.9	2.32E+05	5.96E-02	5.96E-02	7.73E-02	7.98E-02
Zr-93	1.08E-05	7.67E-03	33.6	8.24E-06	8.65E-06	1.22E-05	1.34E-05
Nb-93m	8.11E-06	5.73E-03	25.2	6.02E-06	6.57E-06	9.18E-06	1.02E-05
Tc-99	1.10E-04	7.80E-02	342	8.46E-05	9.71E-05	1.23E-04	1.36E-04
Ru-106	1.19E-08	8.42E-06	3.70E-02	8.47E-09	1.02E-08	1.37E-08	1.54E-08
Cd-113m	5.10E-05	3.60E-02	158	3.78E-05	3.78E-05	5.83E-05	6.03E-05
Sb-125	1.89E-04	0.134	586	9.83E-05	1.42E-04	2.36E-04	2.83E-04
Sn-126	3.52E-06	2.49E-03	10.9	2.60E-06	2.86E-06	3.99E-06	4.43E-06
I-129	2.13E-07	1.51E-04	0.661	1.64E-07	1.88E-07	2.39E-07	2.63E-07
Cs-134	4.78E-05	3.38E-02	148	7.63E-06	2.71E-05	6.89E-05	8.97E-05
Cs-137	0.105	74.0	3.25E+05	9.60E-02	9.97E-02	0.109	0.116
Ba-137m	9.90E-02	70.0	3.07E+05	8.62E-02	8.62E-02	0.103	0.107
Sm-151	8.13E-03	5.75	2.52E+04	6.04E-03	6.60E-03	9.21E-03	1.02E-02
Eu-152	2.62E-06	1.85E-03	8.14	2.08E-06	2.08E-06	2.89E-06	3.15E-06
Eu-154	3.78E-04	0.267	1.17E+03	2.68E-04	2.68E-04	4.18E-04	4.36E-04
Eu-155	1.68E-04	0.119	523	1.36E-04	1.36E-04	1.84E-04	1.99E-04
Ra-226	1.05E-10	7.42E-08	3.26E-04	6.38E-11	8.40E-11	1.26E-10	1.27E-10
Ra-228	1.30E-07	9.22E-05	0.405	5.94E-08	5.94E-08	1.52E-07	1.74E-07
Ac-227	6.42E-10	4.54E-07	1.99E-03	4.04E-10	5.21E-10	7.63E-10	7.11E-10
Pa-231	2.46E-09	1.74E-06	7.62E-03	1.92E-09	2.02E-09	2.72E-09	2.97E-09
Th-229	3.03E-09	2.14E-06	9.41E-03	1.39E-09	1.39E-09	3.49E-09	3.99E-09
Th-232	1.26E-08	8.89E-06	3.90E-02	3.80E-09	3.80E-09	1.50E-08	1.73E-08
U-232	4.58E-07	3.24E-04	1.42	3.15E-07	3.85E-07	5.42E-07	6.33E-07
U-233	1.75E-06	1.24E-03	5.44	1.21E-06	1.47E-06	2.08E-06	2.42E-06
U-234	1.61E-06	1.14E-03	4.98	1.17E-06	1.51E-06	1.65E-06	1.69E-06
U-235	6.16E-08	4.35E-05	0.191	4.50E-08	5.80E-08	6.32E-08	6.48E-08
U-236	1.17E-07	8.28E-05	0.363	8.12E-08	1.09E-07	1.21E-07	1.24E-07
U-238	1.30E-06	9.16E-04	4.02	9.96E-07	1.23E-06	1.33E-06	1.35E-06
Np-237	3.99E-07	2.82E-04	1.24	3.15E-07	3.56E-07	4.42E-07	4.84E-07
Pu-238	3.88E-06	2.74E-03	12.0	2.52E-06	3.18E-06	4.57E-06	5.24E-06
Pu-239	5.03E-05	3.56E-02	156	3.93E-05	4.47E-05	5.59E-05	6.13E-05
Pu-240	1.22E-05	8.61E-03	37.8	8.83E-06	1.05E-05	1.39E-05	1.55E-05
Pu-241	3.65E-04	0.258	1.13E+03	2.26E-04	2.94E-04	4.36E-04	5.04E-04
Pu-242	1.50E-09	1.06E-06	4.67E-03	9.86E-10	1.24E-09	1.77E-09	2.02E-09
Am-241	7.03E-05	4.97E-02	218	5.04E-05	6.01E-05	8.05E-05	8.74E-05
Am-243	6.70E-09	4.74E-06	2.08E-02	2.77E-09	4.68E-09	8.77E-09	8.86E-09
Cm-242	1.13E-07	7.98E-05	0.350	8.50E-08	9.05E-08	1.27E-07	1.41E-07
Cm-243	1.19E-08	8.39E-06	3.68E-02	8.90E-09	9.74E-09	1.34E-08	1.48E-08
Cm-244	2.04E-07	1.44E-04	0.632	1.32E-07	1.67E-07	2.37E-07	2.70E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	7.78E-04 (g/L)	----	2.42	5.85E-04	6.79E-04	8.77E-04	9.72E-04
U	1.47E-02	2.47E+03	1.08E+04	1.09E-02	1.39E-02	1.51E-02	1.54E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.86E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.95E+03 BTU/hr)	----	1.38	1.42	1.48	1.52
Bulk Density*	1.14 (g/cc)	----	----	1.11	1.12	1.16	1.17
Water wt%	77.5	----	----	73.4	75.3	79.6	81.8
TOC wt% C (wet)	0.392	----	----	0.269	0.330	0.453	0.509

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.50	7.06E+04	3.43E+05	2.65	3.07	3.93	4.33
Al^{3+}	0.293	6.93E+03	3.37E+04	0.227	0.259	0.326	0.359
Fe^{3+} (total Fe)	4.19E-03	206	999	3.76E-03	3.97E-03	4.42E-03	4.63E-03
Cr^{3+}	1.75E-02	798	3.88E+03	1.52E-02	1.63E-02	1.86E-02	1.98E-02
Bi^{3+}	1.34E-04	24.6	120	1.26E-04	1.30E-04	1.38E-04	1.42E-04
La^{3+}	3.50E-06	0.426	2.07	2.55E-06	3.02E-06	3.98E-06	4.45E-06
Hg^{2+}	3.54E-06	0.623	3.03	1.84E-06	3.41E-06	3.67E-06	3.79E-06
Zr (as $ZrO(OH)_2$)	7.71E-04	61.7	300	3.73E-04	7.21E-04	8.22E-04	8.70E-04
Pb^{2+}	1.54E-04	27.9	136	1.33E-04	1.43E-04	1.64E-04	1.74E-04
Ni^{2+}	2.57E-03	133	645	2.49E-03	2.53E-03	2.62E-03	2.66E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.34E-03	161	782	1.64E-03	2.47E-03	4.21E-03	4.80E-03
Ca^{2+}	1.76E-02	619	3.01E+03	1.54E-02	1.67E-02	1.85E-02	1.93E-02
K^+	7.28E-02	2.50E+03	1.21E+04	1.72E-02	4.42E-02	0.102	0.131
OH^-	2.07	3.09E+04	1.50E+05	1.49	1.78	2.37	2.66
$NO3^-$	1.23	6.66E+04	3.24E+05	1.02	1.12	1.33	1.44
$NO2^-$	0.270	1.09E+04	5.29E+04	0.236	0.250	0.291	0.299
$CO3^{2-}$	0.233	1.22E+04	5.95E+04	0.165	0.198	0.266	0.290
$PO4^{3-}$	4.84E-02	4.03E+03	1.96E+04	2.87E-02	3.83E-02	5.85E-02	6.81E-02
$SO4^{2-}$	4.90E-02	4.13E+03	2.01E+04	3.79E-02	4.33E-02	5.47E-02	6.02E-02
Si (as SiO_x^{2-})	2.20E-02	542	2.64E+03	1.43E-02	1.81E-02	2.59E-02	2.94E-02
F^-	6.73E-02	1.12E+03	5.46E+03	9.78E-03	5.76E-02	7.70E-02	8.64E-02
Cl^-	5.91E-02	1.84E+03	8.93E+03	4.34E-02	5.11E-02	6.71E-02	7.48E-02
$C_6H_5O_7^{3-}$	9.50E-03	1.58E+03	7.66E+03	5.71E-03	7.56E-03	1.14E-02	1.33E-02
$EDTA^{4-}$	2.48E-03	627	3.05E+03	8.40E-04	1.64E-03	3.32E-03	4.15E-03
$HEDTA^{3-}$	4.37E-03	1.05E+03	5.11E+03	1.09E-03	2.69E-03	6.06E-03	7.71E-03
$glycolate^-$	9.76E-02	6.42E+03	3.12E+04	4.70E-02	7.18E-02	0.124	0.148
$acetate^-$	1.88E-03	97.2	473	1.55E-03	1.69E-03	2.08E-03	2.38E-03
$oxalate^{2-}$	4.58E-06	0.354	1.72	4.07E-06	4.32E-06	4.84E-06	5.10E-06
DBP	4.01E-03	740	3.60E+03	3.05E-03	3.52E-03	4.50E-03	4.98E-03
butanol	4.01E-03	261	1.27E+03	3.05E-03	3.52E-03	4.50E-03	4.98E-03
NH_3	0.216	3.21E+03	1.56E+04	2.18E-02	0.116	0.318	0.418
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.86E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.95E+03 BTU/hr)	----	1.38	1.42	1.48	1.52
Bulk Density†	1.14 (g/cc)	----	----	1.11	1.12	1.16	1.17
Water wt%†	77.5	----	----	73.4	75.3	79.6	81.8
TOC wt% C (wet)†	0.392	----	----	0.269	0.330	0.453	0.509

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.50	7.06E+04	3.43E+05	2.65	3.07	3.93	4.33
Al^{3+}	0.293	6.93E+03	3.37E+04	0.227	0.259	0.326	0.359
Fe^{3+} (total Fe)	4.19E-03	206	999	3.76E-03	3.97E-03	4.42E-03	4.63E-03
Cr^{3+}	1.75E-02	798	3.88E+03	1.52E-02	1.63E-02	1.86E-02	1.98E-02
Bi^{3+}	1.34E-04	24.6	120	1.26E-04	1.30E-04	1.38E-04	1.42E-04
La^{3+}	3.50E-06	0.426	2.07	2.55E-06	3.02E-06	3.98E-06	4.45E-06
Hg^{2+}	3.54E-06	0.623	3.03	1.84E-06	3.41E-06	3.67E-06	3.79E-06
Zr (as $ZrO(OH)_2$)	7.71E-04	61.7	300	3.73E-04	7.21E-04	8.22E-04	8.70E-04
Pb^{2+}	1.54E-04	27.9	136	1.33E-04	1.43E-04	1.64E-04	1.74E-04
Ni^{2+}	2.57E-03	133	645	2.49E-03	2.53E-03	2.62E-03	2.66E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.34E-03	161	782	1.64E-03	2.47E-03	4.21E-03	4.80E-03
Ca^{2+}	1.76E-02	619	3.01E+03	1.54E-02	1.67E-02	1.85E-02	1.93E-02
K^+	7.28E-02	2.50E+03	1.21E+04	1.72E-02	4.42E-02	0.102	0.131
OH^-	2.07	3.09E+04	1.50E+05	1.49	1.78	2.37	2.66
$NO3^-$	1.23	6.66E+04	3.24E+05	1.02	1.12	1.33	1.44
$NO2^-$	0.270	1.09E+04	5.29E+04	0.236	0.250	0.291	0.299
$CO3^{2-}$	0.233	1.22E+04	5.95E+04	0.165	0.198	0.266	0.290
$PO4^{3-}$	4.84E-02	4.03E+03	1.96E+04	2.87E-02	3.83E-02	5.85E-02	6.81E-02
$SO4^{2-}$	4.90E-02	4.13E+03	2.01E+04	3.79E-02	4.33E-02	5.47E-02	6.02E-02
Si (as SiO_x^{2-})	2.20E-02	542	2.64E+03	1.43E-02	1.81E-02	2.59E-02	2.94E-02
F^-	6.73E-02	1.12E+03	5.46E+03	9.78E-03	5.76E-02	7.70E-02	8.64E-02
Cl^-	5.91E-02	1.84E+03	8.93E+03	4.34E-02	5.11E-02	6.71E-02	7.48E-02
$C_6H_5O_7^{3-}$	9.50E-03	1.58E+03	7.66E+03	5.71E-03	7.56E-03	1.14E-02	1.33E-02
$EDTA^{4-}$	2.48E-03	627	3.05E+03	8.40E-04	1.64E-03	3.32E-03	4.15E-03
$HEDTA^{3-}$	4.37E-03	1.05E+03	5.11E+03	1.09E-03	2.69E-03	6.06E-03	7.71E-03
$glycolate^-$	9.76E-02	6.42E+03	3.12E+04	4.70E-02	7.18E-02	0.124	0.148
$acetate^-$	1.88E-03	97.2	473	1.55E-03	1.69E-03	2.08E-03	2.38E-03
$oxalate^{2-}$	4.58E-06	0.354	1.72	4.07E-06	4.32E-06	4.84E-06	5.10E-06
DBP	4.01E-03	740	3.60E+03	3.05E-03	3.52E-03	4.50E-03	4.98E-03
butanol	4.01E-03	261	1.27E+03	3.05E-03	3.52E-03	4.50E-03	4.98E-03
NH_3	0.216	3.21E+03	1.56E+04	2.18E-02	0.116	0.318	0.418
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.86E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.95E+03 BTU/hr)	----	1.38	1.42	1.48	1.52
Bulk Density*	1.14 (g/cc)	----	----	1.11	1.12	1.16	1.17
Water wt%†	77.5	----	----	73.4	75.3	79.6	81.8
TOC wt% C (wet)	0.392	----	----	0.269	0.330	0.453	0.509

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.13E-05	5.38E-02	262	5.23E-05	5.27E-05	6.85E-05	7.69E-05
C-14	4.57E-06	4.01E-03	19.5	2.77E-06	2.77E-06	4.79E-06	4.94E-06
Ni-59	3.17E-07	2.78E-04	1.35	2.32E-07	2.32E-07	3.21E-07	3.25E-07
Ni-63	3.13E-05	2.74E-02	133	2.29E-05	2.29E-05	3.17E-05	3.21E-05
Co-60	7.12E-06	6.24E-03	30.4	5.06E-06	5.06E-06	7.63E-06	8.12E-06
Se-79	8.47E-07	7.43E-04	3.61	5.62E-07	7.00E-07	9.93E-07	1.13E-06
Sr-90	2.70E-02	23.7	1.15E+05	2.47E-02	2.59E-02	2.82E-02	2.93E-02
Y-90	2.70E-02	23.7	1.15E+05	2.30E-02	2.30E-02	2.82E-02	2.93E-02
Zr-93	3.96E-06	3.47E-03	16.9	2.68E-06	3.22E-06	4.62E-06	5.24E-06
Nb-93m	3.02E-06	2.65E-03	12.9	1.99E-06	2.49E-06	3.54E-06	4.05E-06
Tc-99	3.25E-05	2.85E-02	138	2.57E-05	2.90E-05	3.59E-05	3.93E-05
Ru-106	4.19E-09	3.68E-06	1.79E-02	2.56E-09	3.36E-09	5.02E-09	5.82E-09
Cd-113m	1.72E-05	1.51E-02	73.5	1.29E-05	1.38E-05	2.09E-05	2.16E-05
Sb-125	9.56E-05	8.39E-02	408	6.52E-05	8.01E-05	1.11E-04	1.26E-04
Sn-126	1.31E-06	1.15E-03	5.60	8.64E-07	1.08E-06	1.54E-06	1.76E-06
I-129	6.29E-08	5.51E-05	0.268	4.99E-08	5.62E-08	6.95E-08	7.60E-08
Cs-134	5.65E-05	4.96E-02	241	4.27E-05	4.95E-05	6.36E-05	7.04E-05
Cs-137	3.37E-02	29.6	1.44E+05	3.14E-02	3.24E-02	3.49E-02	3.66E-02
Ba-137m	3.19E-02	28.0	1.36E+05	2.85E-02	2.85E-02	3.30E-02	3.41E-02
Sm-151	3.03E-03	2.66	1.29E+04	2.00E-03	2.50E-03	3.56E-03	4.06E-03
Eu-152	1.02E-06	8.92E-04	4.34	7.59E-07	8.74E-07	1.15E-06	1.27E-06
Eu-154	1.25E-04	0.109	531	9.58E-05	9.58E-05	1.39E-04	1.53E-04
Eu-155	7.65E-05	6.71E-02	326	6.18E-05	6.80E-05	8.41E-05	9.13E-05
Ra-226	4.10E-11	3.60E-08	1.75E-04	2.08E-11	3.07E-11	5.14E-11	5.17E-11
Ra-228	3.42E-08	3.00E-05	0.146	1.55E-08	1.55E-08	3.97E-08	4.56E-08
Ac-227	2.47E-10	2.17E-07	1.05E-03	1.29E-10	1.87E-10	3.06E-10	2.81E-10
Pa-231	8.65E-10	7.58E-07	3.69E-03	6.00E-10	7.17E-10	9.94E-10	1.12E-09
Th-229	7.94E-10	6.97E-07	3.39E-03	3.64E-10	3.64E-10	9.16E-10	1.05E-09
Th-232	3.30E-09	2.89E-06	1.41E-02	9.94E-10	9.94E-10	3.93E-09	4.54E-09
U-232	1.20E-07	1.05E-04	0.512	8.25E-08	1.01E-07	1.42E-07	1.66E-07
U-233	4.59E-07	4.03E-04	1.96	3.16E-07	3.86E-07	5.44E-07	6.35E-07
U-234	4.24E-07	3.72E-04	1.81	3.11E-07	3.99E-07	4.36E-07	4.47E-07
U-235	1.63E-08	1.43E-05	6.94E-02	1.20E-08	1.53E-08	1.67E-08	1.71E-08
U-236	3.09E-08	2.71E-05	0.132	2.17E-08	2.89E-08	3.19E-08	3.28E-08
U-238	3.42E-07	3.00E-04	1.46	2.65E-07	3.25E-07	3.50E-07	3.58E-07
Np-237	1.29E-07	1.13E-04	0.549	1.07E-07	1.18E-07	1.40E-07	1.51E-07
Pu-238	1.13E-06	9.87E-04	4.80	7.66E-07	9.42E-07	1.31E-06	1.48E-06
Pu-239	1.52E-05	1.34E-02	65.0	1.23E-05	1.37E-05	1.67E-05	1.81E-05
Pu-240	3.65E-06	3.20E-03	15.6	2.76E-06	3.19E-06	4.10E-06	4.53E-06
Pu-241	1.03E-04	9.07E-02	441	6.67E-05	8.47E-05	1.22E-04	1.40E-04
Pu-242	4.44E-10	3.89E-07	1.89E-03	3.07E-10	3.74E-10	5.14E-10	5.81E-10
Am-241	2.55E-05	2.23E-02	109	1.57E-05	2.05E-05	3.05E-05	3.39E-05
Am-243	2.24E-09	1.97E-06	9.58E-03	1.23E-09	1.72E-09	2.78E-09	3.15E-09
Cm-242	5.09E-08	4.46E-05	0.217	3.72E-08	4.39E-08	5.79E-08	6.46E-08
Cm-243	5.96E-09	5.23E-06	2.54E-02	4.50E-09	5.21E-09	6.71E-09	7.42E-09
Cm-244	7.48E-08	6.56E-05	0.319	4.22E-08	5.82E-08	9.15E-08	1.07E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.39E-04 (g/L)	----	1.02	1.88E-04	2.13E-04	2.65E-04	2.90E-04
U	3.88E-03	810	3.94E+03	2.90E-03	3.66E-03	3.98E-03	4.07E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.86E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	1.45 (kW)	(4.95E+03 BTU/hr)	----	1.38	1.42	1.48	1.52
Bulk Density†	1.14 (g/cc)	----	----	1.11	1.12	1.16	1.17
Water wt%†	77.5	----	----	73.4	75.3	79.6	81.8
TOC wt% C (wet)†	0.392	----	----	0.269	0.330	0.453	0.509

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.13E-05	5.38E-02	262	5.23E-05	5.27E-05	6.85E-05	7.69E-05
C-14	4.57E-06	4.01E-03	19.5	2.77E-06	2.77E-06	4.79E-06	4.94E-06
Ni-59	3.17E-07	2.78E-04	1.35	2.32E-07	2.32E-07	3.21E-07	3.25E-07
Ni-63	3.13E-05	2.74E-02	133	2.29E-05	2.29E-05	3.17E-05	3.21E-05
Co-60	7.12E-06	6.24E-03	30.4	5.06E-06	5.06E-06	7.63E-06	8.12E-06
Se-79	8.47E-07	7.43E-04	3.61	5.62E-07	7.00E-07	9.93E-07	1.13E-06
Sr-90	2.70E-02	23.7	1.15E+05	2.47E-02	2.59E-02	2.82E-02	2.93E-02
Y-90	2.70E-02	23.7	1.15E+05	2.30E-02	2.30E-02	2.82E-02	2.93E-02
Zr-93	3.96E-06	3.47E-03	16.9	2.68E-06	3.22E-06	4.62E-06	5.24E-06
Nb-93m	3.02E-06	2.65E-03	12.9	1.99E-06	2.49E-06	3.54E-06	4.05E-06
Tc-99	3.25E-05	2.85E-02	138	2.57E-05	2.90E-05	3.59E-05	3.93E-05
Ru-106	4.19E-09	3.68E-06	1.79E-02	2.56E-09	3.36E-09	5.02E-09	5.82E-09
Cd-113m	1.72E-05	1.51E-02	73.5	1.29E-05	1.38E-05	2.09E-05	2.16E-05
Sb-125	9.56E-05	8.39E-02	408	6.52E-05	8.01E-05	1.11E-04	1.26E-04
Sn-126	1.31E-06	1.15E-03	5.60	8.64E-07	1.08E-06	1.54E-06	1.76E-06
I-129	6.29E-08	5.51E-05	0.268	4.99E-08	5.62E-08	6.95E-08	7.60E-08
Cs-134	5.65E-05	4.96E-02	241	4.27E-05	4.95E-05	6.36E-05	7.04E-05
Cs-137	3.37E-02	29.6	1.44E+05	3.14E-02	3.24E-02	3.49E-02	3.66E-02
Ba-137m	3.19E-02	28.0	1.36E+05	2.85E-02	2.85E-02	3.30E-02	3.41E-02
Sm-151	3.03E-03	2.66	1.29E+04	2.00E-03	2.50E-03	3.56E-03	4.06E-03
Eu-152	1.02E-06	8.92E-04	4.34	7.59E-07	8.74E-07	1.15E-06	1.27E-06
Eu-154	1.25E-04	0.109	531	9.58E-05	9.58E-05	1.39E-04	1.53E-04
Eu-155	7.65E-05	6.71E-02	326	6.18E-05	6.80E-05	8.41E-05	9.13E-05
Ra-226	4.10E-11	3.60E-08	1.75E-04	2.08E-11	3.07E-11	5.14E-11	5.17E-11
Ra-228	3.42E-08	3.00E-05	0.146	1.55E-08	1.55E-08	3.97E-08	4.56E-08
Ac-227	2.47E-10	2.17E-07	1.05E-03	1.29E-10	1.87E-10	3.06E-10	2.81E-10
Pa-231	8.65E-10	7.58E-07	3.69E-03	6.00E-10	7.17E-10	9.94E-10	1.12E-09
Th-229	7.94E-10	6.97E-07	3.39E-03	3.64E-10	3.64E-10	9.16E-10	1.05E-09
Th-232	3.30E-09	2.89E-06	1.41E-02	9.94E-10	9.94E-10	3.93E-09	4.54E-09
U-232	1.20E-07	1.05E-04	0.512	8.25E-08	1.01E-07	1.42E-07	1.66E-07
U-233	4.59E-07	4.03E-04	1.96	3.16E-07	3.86E-07	5.44E-07	6.35E-07
U-234	4.24E-07	3.72E-04	1.81	3.11E-07	3.99E-07	4.36E-07	4.47E-07
U-235	1.63E-08	1.43E-05	6.94E-02	1.20E-08	1.53E-08	1.67E-08	1.71E-08
U-236	3.09E-08	2.71E-05	0.132	2.17E-08	2.89E-08	3.19E-08	3.28E-08
U-238	3.42E-07	3.00E-04	1.46	2.65E-07	3.25E-07	3.50E-07	3.58E-07
Np-237	1.29E-07	1.13E-04	0.549	1.07E-07	1.18E-07	1.40E-07	1.51E-07
Pu-238	1.13E-06	9.87E-04	4.80	7.66E-07	9.42E-07	1.31E-06	1.48E-06
Pu-239	1.52E-05	1.34E-02	65.0	1.23E-05	1.37E-05	1.67E-05	1.81E-05
Pu-240	3.65E-06	3.20E-03	15.6	2.76E-06	3.19E-06	4.10E-06	4.53E-06
Pu-241	1.03E-04	9.07E-02	441	6.67E-05	8.47E-05	1.22E-04	1.40E-04
Pu-242	4.44E-10	3.89E-07	1.89E-03	3.07E-10	3.74E-10	5.14E-10	5.81E-10
Am-241	2.55E-05	2.23E-02	109	1.57E-05	2.05E-05	3.05E-05	3.39E-05
Am-243	2.24E-09	1.97E-06	9.58E-03	1.23E-09	1.72E-09	2.78E-09	3.15E-09
Cm-242	5.09E-08	4.46E-05	0.217	3.72E-08	4.39E-08	5.79E-08	6.46E-08
Cm-243	5.96E-09	5.23E-06	2.54E-02	4.50E-09	5.21E-09	6.71E-09	7.42E-09
Cm-244	7.48E-08	6.56E-05	0.319	4.22E-08	5.82E-08	9.15E-08	1.07E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.39E-04 (g/L)	----	1.02	1.88E-04	2.13E-04	2.65E-04	2.90E-04
U	3.88E-03	810	3.94E+03	2.90E-03	3.66E-03	3.98E-03	4.07E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.21E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%	99.4	----	----	99.3	99.3	99.4	99.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.03E-02	1.38E+03	5.82E+03	5.20E-02	5.60E-02	6.45E-02	6.86E-02
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.01E-03	112	471	1.11E-03	1.55E-03	2.47E-03	2.91E-03
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.04E-03	362	1.52E+03	5.52E-03	7.24E-03	1.08E-02	1.26E-02
K^{+}	2.01E-04	7.85	33.0	1.74E-04	1.87E-04	2.15E-04	2.29E-04
OH^{-}	1.61E-02	273	1.15E+03	1.34E-02	1.47E-02	1.75E-02	1.88E-02
$NO3^{-}$	6.66E-02	4.12E+03	1.73E+04	5.74E-02	6.19E-02	7.13E-02	7.58E-02
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	4.90E-04	29.3	124	-3.04E-03	-1.31E-03	2.29E-03	4.01E-03
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	9.25E-04	32.7	138	7.98E-04	8.60E-04	9.90E-04	1.05E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.03E-02	853	3.59E+03	4.34E-02	4.68E-02	5.38E-02	5.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.21E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density†	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	99.4	----	----	99.3	99.3	99.4	99.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.03E-02	1.38E+03	5.82E+03	5.20E-02	5.60E-02	6.45E-02	6.86E-02
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	2.01E-03	112	471	1.11E-03	1.55E-03	2.47E-03	2.91E-03
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.04E-03	362	1.52E+03	5.52E-03	7.24E-03	1.08E-02	1.26E-02
K^{+}	2.01E-04	7.85	33.0	1.74E-04	1.87E-04	2.15E-04	2.29E-04
OH^{-}	1.61E-02	273	1.15E+03	1.34E-02	1.47E-02	1.75E-02	1.88E-02
$NO3^{-}$	6.66E-02	4.12E+03	1.73E+04	5.74E-02	6.19E-02	7.13E-02	7.58E-02
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	4.90E-04	29.3	124	-3.04E-03	-1.31E-03	2.29E-03	4.01E-03
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	9.25E-04	32.7	138	7.98E-04	8.60E-04	9.90E-04	1.05E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	5.03E-02	853	3.59E+03	4.34E-02	4.68E-02	5.38E-02	5.72E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.21E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density*	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	99.4	----	----	99.3	99.3	99.4	99.4
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-107

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.21E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density†	1.00 (g/cc)	----	----	1.00	1.00	1.00	1.00
Water wt%†	99.4	----	----	99.3	99.3	99.4	99.4
TOC wt% C (wet)†	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.48E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	0.992 (kW)	(3.39E+03 BTU/hr)	----	0.795	0.891	1.09	1.19
Bulk Density*	1.05 (g/cc)	----	----	1.02	1.04	1.06	1.07
Water wt%	92.1	----	----	88.6	90.3	93.9	95.7
TOC wt% C (wet)	0.189	----	----	9.06E-02	0.139	0.238	0.283

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.25	2.75E+04	1.23E+05	0.647	0.946	1.56	1.84
Al^{3+}	9.20E-02	2.37E+03	1.06E+04	4.55E-02	6.82E-02	0.116	0.139
Fe^{3+} (total Fe)	1.18E-03	62.9	282	8.88E-04	1.03E-03	1.33E-03	1.47E-03
Cr^{3+}	1.32E-03	65.6	294	9.29E-04	1.12E-03	1.52E-03	1.72E-03
Bi^{3+}	1.45E-06	0.289	1.29	1.36E-06	1.40E-06	1.49E-06	1.53E-06
La^{3+}	3.06E-08	4.05E-03	1.82E-02	2.24E-08	2.64E-08	3.48E-08	3.88E-08
Hg^{2+}	2.56E-08	4.90E-03	2.20E-02	1.58E-08	2.49E-08	2.63E-08	2.70E-08
Zr (as $ZrO(OH)_2$)	4.53E-06	0.395	1.77	2.24E-06	4.24E-06	4.82E-06	5.10E-06
Pb^{2+}	5.12E-06	1.01	4.54	2.99E-06	4.03E-06	6.21E-06	7.26E-06
Ni^{2+}	8.56E-04	48.0	215	7.97E-04	8.26E-04	8.86E-04	9.14E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.13E-04	26.9	121	2.19E-04	3.63E-04	6.63E-04	7.65E-04
Ca^{2+}	5.29E-03	203	908	3.89E-03	4.71E-03	5.73E-03	5.73E-03
K^+	5.63E-03	210	943	3.23E-03	4.40E-03	6.87E-03	8.04E-03
OH^-	0.812	1.32E+04	5.91E+04	0.400	0.601	1.02	1.22
$NO3^-$	0.332	1.96E+04	8.81E+04	0.183	0.256	0.408	0.481
$NO2^-$	2.76E-02	1.21E+03	5.43E+03	1.81E-02	2.27E-02	3.25E-02	3.71E-02
$CO3^{2-}$	9.90E-02	5.67E+03	2.54E+04	5.12E-02	7.48E-02	0.123	0.139
$PO4^{3-}$	9.26E-03	839	3.76E+03	5.85E-03	7.51E-03	1.10E-02	1.27E-02
$SO4^{2-}$	1.68E-02	1.54E+03	6.92E+03	8.96E-03	1.28E-02	2.08E-02	2.47E-02
Si (as SiO_x^{2-})	1.15E-02	309	1.39E+03	6.06E-03	8.74E-03	1.43E-02	1.68E-02
F^-	7.71E-04	14.0	62.7	4.40E-04	7.16E-04	8.27E-04	8.81E-04
Cl^-	2.22E-02	752	3.37E+03	1.12E-02	1.66E-02	2.79E-02	3.33E-02
$C_6H_5O_7^{3-}$	4.92E-03	889	3.98E+03	2.24E-03	3.55E-03	6.30E-03	7.61E-03
$EDTA^{4-}$	3.12E-05	8.59	38.5	1.03E-05	2.05E-05	4.20E-05	5.25E-05
$HEDTA^{3-}$	5.57E-05	14.6	65.3	1.38E-05	3.43E-05	7.72E-05	9.83E-05
$glycolate^-$	6.53E-02	4.68E+03	2.10E+04	2.96E-02	4.70E-02	8.36E-02	0.101
$acetate^-$	2.15E-05	1.21	5.43	1.75E-05	1.92E-05	2.39E-05	2.77E-05
$oxalate^{2-}$	4.00E-08	3.36E-03	1.51E-02	3.56E-08	3.78E-08	4.23E-08	4.45E-08
DBP	3.15E-04	63.3	284	1.48E-04	2.30E-04	4.01E-04	4.83E-04
butanol	3.15E-04	22.3	100	1.48E-04	2.30E-04	4.01E-04	4.83E-04
NH_3	6.43E-03	104	468	5.31E-03	5.85E-03	7.01E-03	7.59E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.48E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	0.992 (kW)	(3.39E+03 BTU/hr)	----	0.795	0.891	1.09	1.19
Bulk Density†	1.05 (g/cc)	----	----	1.02	1.04	1.06	1.07
Water wt%†	92.1	----	----	88.6	90.3	93.9	95.7
TOC wt% C (wet)†	0.189	----	----	9.06E-02	0.139	0.238	0.283

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	1.25	2.75E+04	1.23E+05	0.647	0.946	1.56	1.84
Al^{3+}	9.20E-02	2.37E+03	1.06E+04	4.55E-02	6.82E-02	0.116	0.139
Fe^{3+} (total Fe)	1.18E-03	62.9	282	8.88E-04	1.03E-03	1.33E-03	1.47E-03
Cr^{3+}	1.32E-03	65.6	294	9.29E-04	1.12E-03	1.52E-03	1.72E-03
Bi^{3+}	1.45E-06	0.289	1.29	1.36E-06	1.40E-06	1.49E-06	1.53E-06
La^{3+}	3.06E-08	4.05E-03	1.82E-02	2.24E-08	2.64E-08	3.48E-08	3.88E-08
Hg^{2+}	2.56E-08	4.90E-03	2.20E-02	1.58E-08	2.49E-08	2.63E-08	2.70E-08
Zr (as $ZrO(OH)_2$)	4.53E-06	0.395	1.77	2.24E-06	4.24E-06	4.82E-06	5.10E-06
Pb^{2+}	5.12E-06	1.01	4.54	2.99E-06	4.03E-06	6.21E-06	7.26E-06
Ni^{2+}	8.56E-04	48.0	215	7.97E-04	8.26E-04	8.86E-04	9.14E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.13E-04	26.9	121	2.19E-04	3.63E-04	6.63E-04	7.65E-04
Ca^{2+}	5.29E-03	203	908	3.89E-03	4.71E-03	5.73E-03	5.73E-03
K^+	5.63E-03	210	943	3.23E-03	4.40E-03	6.87E-03	8.04E-03
OH^-	0.812	1.32E+04	5.91E+04	0.400	0.601	1.02	1.22
$NO3^-$	0.332	1.96E+04	8.81E+04	0.183	0.256	0.408	0.481
$NO2^-$	2.76E-02	1.21E+03	5.43E+03	1.81E-02	2.27E-02	3.25E-02	3.71E-02
$CO3^{2-}$	9.90E-02	5.67E+03	2.54E+04	5.12E-02	7.48E-02	0.123	0.139
$PO4^{3-}$	9.26E-03	839	3.76E+03	5.85E-03	7.51E-03	1.10E-02	1.27E-02
$SO4^{2-}$	1.68E-02	1.54E+03	6.92E+03	8.96E-03	1.28E-02	2.08E-02	2.47E-02
Si (as SiO_x^{2-})	1.15E-02	309	1.39E+03	6.06E-03	8.74E-03	1.43E-02	1.68E-02
F^-	7.71E-04	14.0	62.7	4.40E-04	7.16E-04	8.27E-04	8.81E-04
Cl^-	2.22E-02	752	3.37E+03	1.12E-02	1.66E-02	2.79E-02	3.33E-02
$C_6H_5O_7^{3-}$	4.92E-03	889	3.98E+03	2.24E-03	3.55E-03	6.30E-03	7.61E-03
$EDTA^{4-}$	3.12E-05	8.59	38.5	1.03E-05	2.05E-05	4.20E-05	5.25E-05
$HEDTA^{3-}$	5.57E-05	14.6	65.3	1.38E-05	3.43E-05	7.72E-05	9.83E-05
$glycolate^-$	6.53E-02	4.68E+03	2.10E+04	2.96E-02	4.70E-02	8.36E-02	0.101
$acetate^-$	2.15E-05	1.21	5.43	1.75E-05	1.92E-05	2.39E-05	2.77E-05
$oxalate^{2-}$	4.00E-08	3.36E-03	1.51E-02	3.56E-08	3.78E-08	4.23E-08	4.45E-08
DBP	3.15E-04	63.3	284	1.48E-04	2.30E-04	4.01E-04	4.83E-04
butanol	3.15E-04	22.3	100	1.48E-04	2.30E-04	4.01E-04	4.83E-04
NH_3	6.43E-03	104	468	5.31E-03	5.85E-03	7.01E-03	7.59E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.48E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	0.992 (kW)	(3.39E+03 BTU/hr)	----	0.795	0.891	1.09	1.19
Bulk Density*	1.05 (g/cc)	----	----	1.02	1.04	1.06	1.07
Water wt%†	92.1	----	----	88.6	90.3	93.9	95.7
TOC wt% C (wet)	0.189	----	----	9.06E-02	0.139	0.238	0.283
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.24E-04	0.118	529	8.87E-05	1.06E-04	1.41E-04	1.59E-04
C-14	2.00E-06	1.91E-03	8.56	1.57E-06	1.78E-06	2.22E-06	2.43E-06
Ni-59	9.38E-08	8.96E-05	0.402	8.99E-08	9.19E-08	9.54E-08	9.66E-08
Ni-63	9.29E-06	8.87E-03	39.8	8.90E-06	9.11E-06	9.45E-06	9.58E-06
Co-60	2.43E-06	2.32E-03	10.4	1.61E-06	2.01E-06	2.84E-06	3.24E-06
Se-79	3.94E-07	3.76E-04	1.69	1.93E-07	2.90E-07	4.98E-07	5.96E-07
Sr-90	1.16E-02	11.1	4.96E+04	9.98E-03	1.08E-02	1.24E-02	1.32E-02
Y-90	1.16E-02	11.1	4.96E+04	9.99E-03	1.08E-02	1.24E-02	1.32E-02
Zr-93	1.79E-06	1.71E-03	7.65	8.81E-07	1.27E-06	2.25E-06	2.69E-06
Nb-93m	1.42E-06	1.35E-03	6.07	6.92E-07	1.05E-06	1.79E-06	2.14E-06
Tc-99	9.85E-06	9.40E-03	42.2	7.86E-06	8.83E-06	1.09E-05	1.18E-05
Ru-106	1.70E-09	1.62E-06	7.27E-03	5.46E-10	1.11E-09	2.29E-09	2.85E-09
Cd-113m	6.43E-06	6.14E-03	27.5	3.35E-06	4.86E-06	8.99E-06	9.53E-06
Sb-125	2.27E-04	0.216	970	7.15E-05	1.47E-04	3.06E-04	3.82E-04
Sn-126	6.21E-07	5.92E-04	2.66	3.03E-07	4.58E-07	7.84E-07	9.39E-07
I-129	1.95E-08	1.86E-05	8.36E-02	1.57E-08	1.76E-08	2.15E-08	2.34E-08
Cs-134	2.33E-04	0.222	996	1.62E-04	1.97E-04	2.69E-04	3.04E-04
Cs-137	3.28E-02	31.3	1.40E+05	2.30E-02	2.78E-02	3.78E-02	4.27E-02
Ba-137m	3.10E-02	29.6	1.33E+05	2.17E-02	2.63E-02	3.58E-02	4.04E-02
Sm-151	1.43E-03	1.36	6.10E+03	6.96E-04	1.05E-03	1.80E-03	2.16E-03
Eu-152	9.12E-07	8.71E-04	3.90	7.30E-07	8.19E-07	1.01E-06	1.09E-06
Eu-154	4.34E-05	4.15E-02	186	2.32E-05	3.31E-05	5.38E-05	6.36E-05
Eu-155	1.24E-04	0.118	529	9.21E-05	1.08E-04	1.40E-04	1.55E-04
Ra-226	2.10E-11	2.01E-08	9.00E-05	6.73E-12	1.37E-11	2.83E-11	2.86E-11
Ra-228	3.79E-10	3.62E-07	1.62E-03	1.50E-10	1.50E-10	4.33E-10	4.90E-10
Ac-227	1.22E-10	1.17E-07	5.23E-04	3.91E-11	7.98E-11	1.64E-10	1.46E-10
Pa-231	3.54E-10	3.38E-07	1.51E-03	1.67E-10	2.50E-10	4.46E-10	5.33E-10
Th-229	8.84E-12	8.44E-09	3.78E-05	3.55E-12	3.55E-12	1.00E-11	1.13E-11
Th-232	3.80E-11	3.62E-08	1.62E-04	9.62E-12	9.62E-12	4.57E-11	5.32E-11
U-232	1.28E-09	1.22E-06	5.48E-03	9.19E-10	1.10E-09	1.49E-09	1.72E-09
U-233	4.86E-09	4.64E-06	2.08E-02	3.48E-09	4.16E-09	5.68E-09	6.56E-09
U-234	4.88E-08	4.66E-05	0.209	3.05E-08	4.45E-08	5.08E-08	5.27E-08
U-235	1.86E-09	1.77E-06	7.95E-03	1.16E-09	1.69E-09	1.93E-09	2.01E-09
U-236	3.95E-09	3.77E-06	1.69E-02	2.44E-09	3.59E-09	4.11E-09	4.27E-09
U-238	3.43E-08	3.27E-05	0.147	2.17E-08	3.13E-08	3.57E-08	3.70E-08
Np-237	9.94E-08	9.49E-05	0.426	7.32E-08	8.60E-08	1.13E-07	1.26E-07
Pu-238	2.64E-07	2.52E-04	1.13	1.48E-07	2.03E-07	3.27E-07	3.91E-07
Pu-239	3.75E-06	3.58E-03	16.0	1.75E-06	2.73E-06	4.76E-06	5.74E-06
Pu-240	8.83E-07	8.43E-04	3.78	4.47E-07	6.59E-07	1.11E-06	1.34E-06
Pu-241	2.17E-05	2.08E-02	93.0	1.36E-05	1.75E-05	2.62E-05	3.06E-05
Pu-242	1.13E-10	1.07E-07	4.82E-04	5.95E-11	8.48E-11	1.42E-10	1.71E-10
Am-241	1.04E-05	9.92E-03	44.5	3.46E-06	6.85E-06	1.39E-05	1.63E-05
Am-243	8.20E-10	7.83E-07	3.51E-03	2.71E-10	5.23E-10	1.16E-09	1.46E-09
Cm-242	6.84E-08	6.54E-05	0.293	5.32E-08	6.06E-08	7.63E-08	8.38E-08
Cm-243	1.04E-08	9.91E-06	4.44E-02	7.81E-09	9.07E-09	1.17E-08	1.30E-08
Cm-244	3.39E-08	3.24E-05	0.145	1.08E-08	2.21E-08	4.57E-08	5.70E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.41E-05 (g/L)	----	0.275	3.00E-05	4.67E-05	8.16E-05	9.83E-05
U	4.28E-04	97.2	436	2.70E-04	3.91E-04	4.45E-04	4.62E-04

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AP-108

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.48E+06 (kg)	(1.13E+03 kgal)	----	----	----	----	----
Heat Load	0.992 (kW)	(3.39E+03 BTU/hr)	----	0.795	0.891	1.09	1.19
Bulk Density†	1.05 (g/cc)	----	----	1.02	1.04	1.06	1.07
Water wt%†	92.1	----	----	88.6	90.3	93.9	95.7
TOC wt% C (wet)†	0.189	----	----	9.06E-02	0.139	0.238	0.283
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.24E-04	0.118	529	8.87E-05	1.06E-04	1.41E-04	1.59E-04
C-14	2.00E-06	1.91E-03	8.56	1.57E-06	1.78E-06	2.22E-06	2.43E-06
Ni-59	9.38E-08	8.96E-05	0.402	8.99E-08	9.19E-08	9.54E-08	9.66E-08
Ni-63	9.29E-06	8.87E-03	39.8	8.90E-06	9.11E-06	9.45E-06	9.58E-06
Co-60	2.43E-06	2.32E-03	10.4	1.61E-06	2.01E-06	2.84E-06	3.24E-06
Se-79	3.94E-07	3.76E-04	1.69	1.93E-07	2.90E-07	4.98E-07	5.96E-07
Sr-90	1.16E-02	11.1	4.96E+04	9.98E-03	1.08E-02	1.24E-02	1.32E-02
Y-90	1.16E-02	11.1	4.96E+04	9.99E-03	1.08E-02	1.24E-02	1.32E-02
Zr-93	1.79E-06	1.71E-03	7.65	8.81E-07	1.27E-06	2.25E-06	2.69E-06
Nb-93m	1.42E-06	1.35E-03	6.07	6.92E-07	1.05E-06	1.79E-06	2.14E-06
Tc-99	9.85E-06	9.40E-03	42.2	7.86E-06	8.83E-06	1.09E-05	1.18E-05
Ru-106	1.70E-09	1.62E-06	7.27E-03	5.46E-10	1.11E-09	2.29E-09	2.85E-09
Cd-113m	6.43E-06	6.14E-03	27.5	3.35E-06	4.86E-06	8.99E-06	9.53E-06
Sb-125	2.27E-04	0.216	970	7.15E-05	1.47E-04	3.06E-04	3.82E-04
Sn-126	6.21E-07	5.92E-04	2.66	3.03E-07	4.58E-07	7.84E-07	9.39E-07
I-129	1.95E-08	1.86E-05	8.36E-02	1.57E-08	1.76E-08	2.15E-08	2.34E-08
Cs-134	2.33E-04	0.222	996	1.62E-04	1.97E-04	2.69E-04	3.04E-04
Cs-137	3.28E-02	31.3	1.40E+05	2.30E-02	2.78E-02	3.78E-02	4.27E-02
Ba-137m	3.10E-02	29.6	1.33E+05	2.17E-02	2.63E-02	3.58E-02	4.04E-02
Sm-151	1.43E-03	1.36	6.10E+03	6.96E-04	1.05E-03	1.80E-03	2.16E-03
Eu-152	9.12E-07	8.71E-04	3.90	7.30E-07	8.19E-07	1.01E-06	1.09E-06
Eu-154	4.34E-05	4.15E-02	186	2.32E-05	3.31E-05	5.38E-05	6.36E-05
Eu-155	1.24E-04	0.118	529	9.21E-05	1.08E-04	1.40E-04	1.55E-04
Ra-226	2.10E-11	2.01E-08	9.00E-05	6.73E-12	1.37E-11	2.83E-11	2.86E-11
Ra-228	3.79E-10	3.62E-07	1.62E-03	1.50E-10	1.50E-10	4.33E-10	4.90E-10
Ac-227	1.22E-10	1.17E-07	5.23E-04	3.91E-11	7.98E-11	1.64E-10	1.46E-10
Pa-231	3.54E-10	3.38E-07	1.51E-03	1.67E-10	2.50E-10	4.46E-10	5.33E-10
Th-229	8.84E-12	8.44E-09	3.78E-05	3.55E-12	3.55E-12	1.00E-11	1.13E-11
Th-232	3.80E-11	3.62E-08	1.62E-04	9.62E-12	9.62E-12	4.57E-11	5.32E-11
U-232	1.28E-09	1.22E-06	5.48E-03	9.19E-10	1.10E-09	1.49E-09	1.72E-09
U-233	4.86E-09	4.64E-06	2.08E-02	3.48E-09	4.16E-09	5.68E-09	6.56E-09
U-234	4.88E-08	4.66E-05	0.209	3.05E-08	4.45E-08	5.08E-08	5.27E-08
U-235	1.86E-09	1.77E-06	7.95E-03	1.16E-09	1.69E-09	1.93E-09	2.01E-09
U-236	3.95E-09	3.77E-06	1.69E-02	2.44E-09	3.59E-09	4.11E-09	4.27E-09
U-238	3.43E-08	3.27E-05	0.147	2.17E-08	3.13E-08	3.57E-08	3.70E-08
Np-237	9.94E-08	9.49E-05	0.426	7.32E-08	8.60E-08	1.13E-07	1.26E-07
Pu-238	2.64E-07	2.52E-04	1.13	1.48E-07	2.03E-07	3.27E-07	3.91E-07
Pu-239	3.75E-06	3.58E-03	16.0	1.75E-06	2.73E-06	4.76E-06	5.74E-06
Pu-240	8.83E-07	8.43E-04	3.78	4.47E-07	6.59E-07	1.11E-06	1.34E-06
Pu-241	2.17E-05	2.08E-02	93.0	1.36E-05	1.75E-05	2.62E-05	3.06E-05
Pu-242	1.13E-10	1.07E-07	4.82E-04	5.95E-11	8.48E-11	1.42E-10	1.71E-10
Am-241	1.04E-05	9.92E-03	44.5	3.46E-06	6.85E-06	1.39E-05	1.63E-05
Am-243	8.20E-10	7.83E-07	3.51E-03	2.71E-10	5.23E-10	1.16E-09	1.46E-09
Cm-242	6.84E-08	6.54E-05	0.293	5.32E-08	6.06E-08	7.63E-08	8.38E-08
Cm-243	1.04E-08	9.91E-06	4.44E-02	7.81E-09	9.07E-09	1.17E-08	1.30E-08
Cm-244	3.39E-08	3.24E-05	0.145	1.08E-08	2.21E-08	4.57E-08	5.70E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.41E-05 (g/L)	----	0.275	3.00E-05	4.67E-05	8.16E-05	9.83E-05
U	4.28E-04	97.2	436	2.70E-04	3.91E-04	4.45E-04	4.62E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-101							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	2.78E+05 (kg)	(61.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	1.20 (g/cc)	----	----	1.11	1.15	1.24	1.27
Void Fraction	0.888	----	----	0.866	0.875	0.913	0.948
Water wt%	73.5	----	----	69.0	70.9	77.2	81.3
TOC wt% C (wet)	3.63E-02	----	----	1.76E-02	2.74E-02	4.49E-02	5.32E-02
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	0.570	1.09E+04	3.03E+03	0.256	0.413	0.728	0.879
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.90	8.82E+04	2.45E+04	1.76	1.86	1.92	1.95
Cr^{3+}	7.12E-03	308	85.5	3.20E-03	5.15E-03	9.09E-03	1.10E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	3.87E-05	6.65	1.85	1.74E-05	2.80E-05	4.94E-05	5.97E-05
Ni^{2+}	0.112	5.45E+03	1.52E+03	1.60E-03	7.41E-02	0.132	0.145
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.34E-03	244	67.7	2.40E-03	3.86E-03	6.82E-03	2.38E-02
Ca^{2+}	0.460	1.53E+04	4.25E+03	7.21E-03	0.271	0.563	0.632
K^{+}	6.10E-03	198	55.0	2.74E-03	4.41E-03	7.79E-03	9.41E-03
OH^{-}	6.27	8.85E+04	2.46E+04	5.31	5.75	6.65	6.95
$NO3^{-}$	0.229	1.18E+04	3.27E+03	0.103	0.165	0.292	0.353
$NO2^{-}$	8.90E-03	340	94.5	4.00E-03	6.44E-03	1.14E-02	1.37E-02
$CO3^{2-}$	0.551	2.74E+04	7.63E+03	4.80E-02	0.337	0.679	0.765
$PO4^{3-}$	6.19E-02	4.88E+03	1.36E+03	2.78E-02	4.48E-02	7.90E-02	9.55E-02
$SO4^{2-}$	3.60E-03	287	79.8	1.62E-03	2.60E-03	4.60E-03	5.55E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	3.48E-03	102	28.5	1.56E-03	2.52E-03	4.44E-03	5.37E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
glycolate^{-}	0	0	0	0	0	0	0
acetate^{-}	0	0	0	0	0	0	0
oxalate^{2-}	0	0	0	0	0	0	0
DBP	3.03E-03	529	147	1.36E-03	2.19E-03	3.87E-03	4.68E-03
butanol	3.03E-03	187	51.9	1.36E-03	2.19E-03	3.87E-03	4.68E-03
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-101							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	6.85E+06 (kg)	(1.08E+03 kgal)	----	----	----	----	----
Heat Load	7.45 (kW)	(2.55E+04 BTU/hr)	----	6.96	7.22	7.67	7.99
Bulk Density*	1.68 (g/cc)	----	----	1.62	1.65	1.71	1.74
Water wt%	26.4	----	----	22.7	24.3	28.1	30.0
TOC wt% C (wet)	1.13	----	----	0.809	0.965	1.29	1.45
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	16.2	2.22E+05	1.52E+06	14.5	15.3	17.0	17.8
Al^{3+}	1.63	2.63E+04	1.80E+05	1.45	1.57	1.70	1.76
Fe^{3+} (total Fe)	1.66E-02	552	3.78E+03	1.47E-02	1.56E-02	1.76E-02	1.85E-02
Cr^{3+}	0.120	3.71E+03	2.54E+04	0.107	0.114	0.125	0.130
Bi^{3+}	1.14E-03	142	973	1.08E-03	1.11E-03	1.17E-03	1.20E-03
La^{3+}	1.46E-05	1.21	8.29	1.08E-05	1.27E-05	1.66E-05	1.85E-05
Hg^{2+}	1.96E-05	2.34	16.0	1.24E-05	1.90E-05	2.01E-05	2.06E-05
Zr (as $ZrO(OH)_2$)	3.31E-03	180	1.23E+03	1.64E-03	3.10E-03	3.52E-03	3.73E-03
Pb^{2+}	1.27E-03	157	1.08E+03	1.07E-03	1.17E-03	1.37E-03	1.47E-03
Ni^{2+}	1.07E-02	375	2.57E+03	1.03E-02	1.05E-02	1.09E-02	1.11E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.60E-02	522	3.58E+03	8.66E-03	1.22E-02	1.97E-02	2.22E-02
Ca^{2+}	6.47E-02	1.55E+03	1.06E+04	5.55E-02	6.10E-02	6.85E-02	7.21E-02
K^{+}	0.316	7.36E+03	5.04E+04	8.23E-02	0.195	0.439	0.560
OH^{-}	9.91	1.00E+05	6.88E+05	8.79	9.34	10.5	11.0
$NO3^{-}$	5.93	2.19E+05	1.50E+06	5.51	5.72	6.15	6.36
$NO2^{-}$	2.04	5.59E+04	3.83E+05	1.72	1.86	2.24	2.30
$CO3^{2-}$	0.871	3.11E+04	2.13E+05	0.740	0.804	0.936	0.995
$PO4^{3-}$	0.240	1.36E+04	9.29E+04	0.155	0.197	0.283	0.325
$SO4^{2-}$	0.265	1.52E+04	1.04E+05	0.228	0.243	0.291	0.294
Si (as SiO_x^{2-})	8.19E-02	1.37E+03	9.39E+03	6.69E-02	7.42E-02	8.95E-02	9.62E-02
F^{-}	0.313	3.54E+03	2.43E+04	7.10E-02	0.272	0.354	0.393
Cl^{-}	0.269	5.69E+03	3.90E+04	0.239	0.254	0.285	0.300
$C_6H_5O_7^{3-}$	3.49E-02	3.93E+03	2.69E+04	2.76E-02	3.11E-02	3.87E-02	4.22E-02
$EDTA^{4-}$	2.05E-02	3.52E+03	2.41E+04	7.19E-03	1.37E-02	2.74E-02	3.41E-02
$HEDTA^{3-}$	3.56E-02	5.81E+03	3.98E+04	8.89E-03	2.19E-02	4.93E-02	6.27E-02
glycolate^{-}	0.222	9.94E+03	6.80E+04	0.124	0.172	0.272	0.320
acetate^{-}	1.75E-02	616	4.22E+03	1.44E-02	1.57E-02	1.94E-02	2.23E-02
oxalate^{2-}	1.92E-05	1.00	6.88	1.71E-05	1.81E-05	2.02E-05	2.12E-05
DBP	2.73E-02	3.42E+03	2.34E+04	2.32E-02	2.52E-02	2.95E-02	3.17E-02
butanol	2.73E-02	1.21E+03	8.27E+03	2.32E-02	2.52E-02	2.95E-02	3.17E-02
NH_3	0.878	8.89E+03	6.09E+04	6.40E-02	0.459	1.31	1.73
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.
†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-101							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	7.13E+06 (kg)	(1.14E+03 kgal)	----	----	----	----	----
Heat Load	7.45 (kW)	(2.55E+04 BTU/hr)	----	6.96	7.22	7.67	7.99
Bulk Density†	1.65 (g/cc)	----	----	1.59	1.62	1.68	1.71
Water wt%†	28.3	----	----	24.6	26.2	29.9	31.7
TOC wt% C (wet)†	1.09	----	----	0.779	0.929	1.24	1.39
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	15.3	2.13E+05	1.52E+06	13.8	14.6	16.1	16.9
Al^{3+}	1.55	2.52E+04	1.80E+05	1.37	1.49	1.61	1.67
Fe^{3+} (total Fe)	0.118	3.97E+03	2.83E+04	0.110	0.115	0.119	0.120
Cr^{3+}	0.114	3.58E+03	2.55E+04	0.102	0.108	0.119	0.123
Bi^{3+}	1.08E-03	137	973	1.02E-03	1.05E-03	1.11E-03	1.14E-03
La^{3+}	1.38E-05	1.16	8.29	1.02E-05	1.20E-05	1.57E-05	1.75E-05
Hg^{2+}	1.85E-05	2.25	16.0	1.18E-05	1.80E-05	1.90E-05	1.95E-05
Zr (as $ZrO(OH)_2$)	3.13E-03	173	1.23E+03	1.55E-03	2.93E-03	3.33E-03	3.53E-03
Pb^{2+}	1.21E-03	151	1.08E+03	1.02E-03	1.11E-03	1.30E-03	1.39E-03
Ni^{2+}	1.61E-02	573	4.08E+03	1.00E-02	1.41E-02	1.72E-02	1.79E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.54E-02	511	3.64E+03	8.32E-03	1.18E-02	1.90E-02	2.23E-02
Ca^{2+}	8.59E-02	2.08E+03	1.48E+04	5.89E-02	7.58E-02	9.14E-02	9.47E-02
K^{+}	0.299	7.08E+03	5.05E+04	7.82E-02	0.185	0.416	0.530
OH^{-}	9.72	9.99E+04	7.12E+05	8.65	9.17	10.3	10.8
$NO3^{-}$	5.63	2.11E+05	1.50E+06	5.22	5.42	5.83	6.03
$NO2^{-}$	1.93	5.37E+04	3.83E+05	1.63	1.76	2.12	2.17
$CO3^{2-}$	0.854	3.10E+04	2.21E+05	0.706	0.782	0.920	0.983
$PO4^{3-}$	0.230	1.32E+04	9.43E+04	0.148	0.189	0.272	0.313
$SO4^{2-}$	0.251	1.46E+04	1.04E+05	0.216	0.230	0.275	0.278
Si (as SiO_x^{2-})	7.75E-02	1.32E+03	9.39E+03	6.33E-02	7.03E-02	8.47E-02	9.10E-02
F^{-}	0.296	3.40E+03	2.43E+04	6.72E-02	0.258	0.335	0.372
Cl^{-}	0.255	5.47E+03	3.90E+04	0.227	0.241	0.270	0.284
$C_6H_5O_7^{3-}$	3.30E-02	3.78E+03	2.69E+04	2.61E-02	2.95E-02	3.66E-02	4.00E-02
$EDTA^{4-}$	1.94E-02	3.39E+03	2.41E+04	6.80E-03	1.30E-02	2.59E-02	3.23E-02
$HEDTA^{3-}$	3.37E-02	5.58E+03	3.98E+04	8.41E-03	2.07E-02	4.67E-02	5.94E-02
glycolate^{-}	0.210	9.55E+03	6.80E+04	0.118	0.163	0.258	0.303
acetate^{-}	1.66E-02	592	4.22E+03	1.37E-02	1.49E-02	1.84E-02	2.11E-02
oxalate^{2-}	1.81E-05	0.966	6.88	1.62E-05	1.71E-05	1.91E-05	2.01E-05
DBP	2.60E-02	3.31E+03	2.36E+04	2.20E-02	2.40E-02	2.81E-02	3.02E-02
butanol	2.60E-02	1.17E+03	8.32E+03	2.20E-02	2.40E-02	2.81E-02	3.02E-02
NH_3	0.831	8.55E+03	6.09E+04	6.05E-02	0.434	1.24	1.63
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).
†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.78E+05 (kg)	(61.0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	1.20 (g/cc)	----	----	1.11	1.15	1.24	1.27
Void Fraction	0.888	----	----	0.866	0.875	0.913	0.948
Water wt%	73.5	----	----	69.0	70.9	77.2	81.3
TOC wt% C (wet)	3.63E-02	----	----	1.76E-02	2.74E-02	4.49E-02	5.32E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	1.44E-09	1.20E-06	3.32E-04	5.18E-11	8.34E-11	2.61E-09	3.32E-09
U-233	1.48E-11	1.23E-08	3.41E-06	5.31E-13	8.55E-13	2.68E-11	3.41E-11
U-234	6.48E-06	5.38E-03	1.50	2.33E-07	3.75E-07	1.17E-05	1.49E-05
U-235	2.46E-07	2.04E-04	5.68E-02	8.85E-09	1.43E-08	4.46E-07	5.68E-07
U-236	5.33E-07	4.43E-04	0.123	1.92E-08	3.09E-08	9.67E-07	1.23E-06
U-238	4.45E-06	3.69E-03	1.03	1.60E-07	2.57E-07	8.06E-06	1.03E-05
Np-237	0	0	0	0	0	0	0
Pu-238	2.78E-04	0.231	64.1	2.06E-04	2.56E-04	2.96E-04	3.14E-04
Pu-239	2.25E-03	1.87	519	1.67E-03	2.07E-03	2.40E-03	2.54E-03
Pu-240	6.83E-04	0.567	158	5.08E-04	6.30E-04	7.29E-04	7.72E-04
Pu-241	2.84E-02	23.6	6.55E+03	2.11E-02	2.61E-02	3.02E-02	3.20E-02
Pu-242	1.06E-07	8.78E-05	2.44E-02	7.86E-08	9.74E-08	1.13E-07	1.19E-07
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.95E-02 (g/L)	----	9.12	2.94E-02	3.64E-02	4.21E-02	4.46E-02
U	5.61E-02	1.11E+04	3.08E+03	2.02E-03	3.25E-03	0.102	0.129

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	6.85E+06 (kg)	(1.08E+03 kgal)	----	----	----	----	----
Heat Load	7.45 (kW)	(2.55E+04 BTU/hr)	----	6.96	7.22	7.67	7.99
Bulk Density*	1.68 (g/cc)	----	----	1.62	1.65	1.71	1.74
Water wt%†	26.4	----	----	22.7	24.3	28.1	30.0
TOC wt% C (wet)	1.13	----	----	0.809	0.965	1.29	1.45
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.35E-04	0.140	958	1.69E-04	1.69E-04	2.49E-04	2.65E-04
C-14	3.03E-05	1.80E-02	124	1.65E-05	1.65E-05	3.07E-05	3.12E-05
Ni-59	1.76E-06	1.05E-03	7.18	1.11E-06	1.11E-06	1.79E-06	1.83E-06
Ni-63	1.73E-04	0.103	707	1.09E-04	1.09E-04	1.76E-04	1.80E-04
Co-60	4.23E-05	2.52E-02	173	2.65E-05	2.65E-05	4.45E-05	4.66E-05
Se-79	3.63E-06	2.16E-03	14.8	2.75E-06	2.75E-06	3.94E-06	4.25E-06
Sr-90	0.117	69.5	4.76E+05	0.111	0.114	0.119	0.122
Y-90	0.117	69.5	4.76E+05	8.62E-02	8.62E-02	0.119	0.122
Zr-93	1.75E-05	1.04E-02	71.5	1.31E-05	1.31E-05	1.91E-05	2.06E-05
Nb-93m	1.28E-05	7.65E-03	52.4	9.76E-06	9.76E-06	1.40E-05	1.50E-05
Tc-99	2.26E-04	0.135	922	1.74E-04	2.00E-04	2.52E-04	2.83E-04
Ru-106	1.49E-08	8.87E-06	6.07E-02	1.11E-08	1.28E-08	1.68E-08	1.86E-08
Cd-113m	8.88E-05	5.29E-02	362	6.24E-05	6.24E-05	9.84E-05	1.08E-04
Sb-125	2.90E-04	0.173	1.18E+03	1.92E-04	2.22E-04	3.42E-04	3.93E-04
Sn-126	5.53E-06	3.29E-03	22.6	4.21E-06	4.21E-06	6.01E-06	6.47E-06
I-129	4.37E-07	2.60E-04	1.78	3.37E-07	3.86E-07	4.88E-07	5.48E-07
Cs-134	6.51E-05	3.88E-02	265	2.14E-05	4.26E-05	8.80E-05	1.11E-04
Cs-137	0.222	132	9.07E+05	0.201	0.210	0.233	0.250
Ba-137m	0.210	125	8.58E+05	0.179	0.179	0.219	0.228
Sm-151	1.28E-02	7.64	5.24E+04	9.75E-03	9.75E-03	1.39E-02	1.50E-02
Eu-152	4.40E-06	2.62E-03	17.9	3.30E-06	3.30E-06	4.76E-06	5.13E-06
Eu-154	6.59E-04	0.392	2.69E+03	4.39E-04	4.39E-04	7.38E-04	7.70E-04
Eu-155	2.80E-04	0.167	1.14E+03	2.15E-04	2.15E-04	3.02E-04	3.24E-04
Ra-226	1.56E-10	9.31E-08	6.38E-04	1.17E-10	1.29E-10	1.76E-10	1.77E-10
Ra-228	3.21E-07	1.91E-04	1.31	1.43E-07	1.43E-07	3.71E-07	4.26E-07
Ac-227	9.86E-10	5.87E-07	4.02E-03	7.58E-10	8.27E-10	1.10E-09	1.10E-09
Pa-231	4.20E-09	2.50E-06	1.71E-02	3.32E-09	3.32E-09	4.52E-09	4.83E-09
Th-229	7.44E-09	4.44E-06	3.04E-02	3.34E-09	3.34E-09	8.56E-09	9.75E-09
Th-232	3.11E-08	1.85E-05	0.127	9.09E-09	9.09E-09	3.71E-08	4.29E-08
U-232	1.11E-06	6.62E-04	4.53	7.67E-07	9.35E-07	1.31E-06	1.53E-06
U-233	4.26E-06	2.54E-03	17.4	2.94E-06	3.58E-06	5.04E-06	5.87E-06
U-234	2.12E-06	1.26E-03	8.65	1.65E-06	2.01E-06	2.17E-06	2.22E-06
U-235	8.16E-08	4.86E-05	0.333	6.36E-08	7.75E-08	8.35E-08	8.53E-08
U-236	1.41E-07	8.42E-05	0.577	1.02E-07	1.33E-07	1.45E-07	1.49E-07
U-238	1.90E-06	1.13E-03	7.77	1.58E-06	1.83E-06	1.94E-06	1.97E-06
Np-237	8.11E-07	4.83E-04	3.31	6.42E-07	7.24E-07	8.97E-07	9.98E-07
Pu-238	4.75E-06	2.83E-03	19.4	3.20E-06	3.96E-06	5.54E-06	6.29E-06
Pu-239	7.29E-05	4.34E-02	298	6.04E-05	6.65E-05	7.93E-05	8.55E-05
Pu-240	1.64E-05	9.78E-03	67.0	1.26E-05	1.45E-05	1.84E-05	2.02E-05
Pu-241	4.37E-04	0.260	1.78E+03	2.79E-04	3.56E-04	5.17E-04	5.95E-04
Pu-242	1.82E-09	1.09E-06	7.45E-03	1.24E-09	1.52E-09	2.13E-09	2.41E-09
Am-241	9.50E-05	5.66E-02	388	7.48E-05	8.46E-05	1.06E-04	1.11E-04
Am-243	7.63E-09	4.55E-06	3.11E-02	3.36E-09	5.43E-09	9.88E-09	9.97E-09
Cm-242	1.71E-07	1.02E-04	0.698	1.26E-07	1.26E-07	1.85E-07	1.99E-07
Cm-243	1.74E-08	1.04E-05	7.12E-02	1.32E-08	1.32E-08	1.89E-08	2.03E-08
Cm-244	2.45E-07	1.46E-04	1.00	1.68E-07	2.01E-07	2.78E-07	3.09E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.06E-03 (g/L)	----	4.34	8.44E-04	9.52E-04	1.18E-03	1.28E-03
U	2.00E-02	2.84E+03	1.94E+04	1.59E-02	1.91E-02	2.04E-02	2.09E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.13E+06 (kg)	(1.14E+03 kgal)	----	----	----	----	----
Heat Load	7.45 (kW)	(2.55E+04 BTU/hr)	----	6.96	7.22	7.67	7.99
Bulk Density†	1.65 (g/cc)	----	----	1.59	1.62	1.68	1.71
Water wt%†	28.3	----	----	24.6	26.2	29.9	31.7
TOC wt% C (wet)†	1.09	----	----	0.779	0.929	1.24	1.39
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.22E-04	0.134	958	1.60E-04	1.60E-04	2.35E-04	2.51E-04
C-14	2.87E-05	1.73E-02	124	1.56E-05	1.56E-05	2.91E-05	2.95E-05
Ni-59	1.67E-06	1.01E-03	7.18	1.05E-06	1.05E-06	1.70E-06	1.73E-06
Ni-63	1.64E-04	9.92E-02	707	1.03E-04	1.03E-04	1.67E-04	1.70E-04
Co-60	4.01E-05	2.42E-02	173	2.51E-05	2.51E-05	4.21E-05	4.41E-05
Se-79	3.43E-06	2.08E-03	14.8	2.60E-06	2.60E-06	3.73E-06	4.02E-06
Sr-90	0.110	66.8	4.76E+05	0.105	0.108	0.113	0.115
Y-90	0.110	66.8	4.76E+05	8.16E-02	8.16E-02	0.113	0.116
Zr-93	1.66E-05	1.00E-02	71.5	1.24E-05	1.24E-05	1.81E-05	1.95E-05
Nb-93m	1.22E-05	7.36E-03	52.4	9.24E-06	9.24E-06	1.32E-05	1.42E-05
Tc-99	2.14E-04	0.129	922	1.65E-04	1.89E-04	2.39E-04	2.68E-04
Ru-106	1.41E-08	8.52E-06	6.07E-02	1.05E-08	1.22E-08	1.59E-08	1.76E-08
Cd-113m	8.40E-05	5.08E-02	362	5.90E-05	5.90E-05	9.31E-05	1.02E-04
Sb-125	2.75E-04	0.166	1.18E+03	1.82E-04	2.10E-04	3.24E-04	3.72E-04
Sn-126	5.23E-06	3.17E-03	22.6	3.98E-06	3.98E-06	5.69E-06	6.12E-06
I-129	4.13E-07	2.50E-04	1.78	3.19E-07	3.65E-07	4.62E-07	5.19E-07
Cs-134	6.16E-05	3.72E-02	265	2.03E-05	4.03E-05	8.33E-05	1.05E-04
Cs-137	0.210	127	9.07E+05	0.190	0.198	0.221	0.237
Ba-137m	0.199	120	8.58E+05	0.169	0.169	0.208	0.216
Sm-151	1.21E-02	7.35	5.24E+04	9.23E-03	9.23E-03	1.32E-02	1.42E-02
Eu-152	4.16E-06	2.52E-03	17.9	3.13E-06	3.13E-06	4.51E-06	4.85E-06
Eu-154	6.23E-04	0.377	2.69E+03	4.15E-04	4.15E-04	6.99E-04	7.29E-04
Eu-155	2.65E-04	0.160	1.14E+03	2.03E-04	2.03E-04	2.86E-04	3.07E-04
Ra-226	1.48E-10	8.95E-08	6.38E-04	1.11E-10	1.22E-10	1.67E-10	1.68E-10
Ra-228	3.03E-07	1.84E-04	1.31	1.35E-07	1.35E-07	3.52E-07	4.03E-07
Ac-227	9.33E-10	5.64E-07	4.02E-03	7.18E-10	7.83E-10	1.04E-09	1.04E-09
Pa-231	3.98E-09	2.41E-06	1.71E-02	3.14E-09	3.14E-09	4.28E-09	4.57E-09
Th-229	7.05E-09	4.26E-06	3.04E-02	3.16E-09	3.16E-09	8.10E-09	9.23E-09
Th-232	2.94E-08	1.78E-05	0.127	8.60E-09	8.60E-09	3.51E-08	4.06E-08
U-232	1.05E-06	6.36E-04	4.53	7.26E-07	8.85E-07	1.24E-06	1.45E-06
U-233	4.03E-06	2.44E-03	17.4	2.78E-06	3.39E-06	4.77E-06	5.55E-06
U-234	2.35E-06	1.42E-03	10.1	1.59E-06	1.93E-06	2.63E-06	2.81E-06
U-235	9.04E-08	5.47E-05	0.390	6.14E-08	7.41E-08	1.01E-07	1.08E-07
U-236	1.62E-07	9.82E-05	0.700	9.95E-08	1.27E-07	1.86E-07	2.00E-07
U-238	2.04E-06	1.23E-03	8.79	1.52E-06	1.75E-06	2.23E-06	2.35E-06
Np-237	7.67E-07	4.64E-04	3.31	6.08E-07	6.86E-07	8.49E-07	9.44E-07
Pu-238	1.94E-05	1.17E-02	83.4	1.55E-05	1.82E-05	2.00E-05	2.04E-05
Pu-239	1.89E-04	0.115	817	1.59E-04	1.80E-04	1.95E-04	1.98E-04
Pu-240	5.21E-05	3.15E-02	225	4.27E-05	4.93E-05	5.37E-05	5.46E-05
Pu-241	1.93E-03	1.17	8.33E+03	1.54E-03	1.81E-03	2.00E-03	2.04E-03
Pu-242	7.39E-09	4.47E-06	3.19E-02	5.94E-09	6.94E-09	7.63E-09	7.78E-09
Am-241	9.00E-05	5.44E-02	388	7.08E-05	8.01E-05	1.00E-04	1.05E-04
Am-243	7.23E-09	4.37E-06	3.11E-02	3.18E-09	5.14E-09	9.35E-09	9.44E-09
Cm-242	1.62E-07	9.79E-05	0.698	1.19E-07	1.19E-07	1.75E-07	1.88E-07
Cm-243	1.65E-08	9.99E-06	7.12E-02	1.25E-08	1.25E-08	1.79E-08	1.92E-08
Cm-244	2.32E-07	1.40E-04	1.00	1.59E-07	1.90E-07	2.63E-07	2.92E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.12E-03 (g/L)	----	13.5	2.58E-03	2.96E-03	3.21E-03	3.27E-03
U	2.19E-02	3.16E+03	2.25E+04	1.53E-02	1.82E-02	2.44E-02	2.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^{+}	0	0	0	0	0	0	0
OH^{-}	0	0	0	0	0	0	0
$NO3^{-}$	0	0	0	0	0	0	0
$NO2^{-}$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0	0	0	0	0	0	0
Cl^{-}	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.65E+06 (kg)	(979 kgal)	----	----	----	----	----
Heat Load	2.36 (kW)	(8.05E+03 BTU/hr)	----	2.23	2.29	2.42	2.48
Bulk Density*	1.26 (g/cc)	----	----	1.22	1.24	1.27	1.29
Water wt%	62.3	----	----	58.4	60.1	64.2	66.2
TOC wt% C (wet)	0.579	----	----	0.454	0.515	0.643	0.705

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.30	1.15E+05	5.36E+05	5.32	5.80	6.79	7.24
Al^{3+}	0.548	1.18E+04	5.48E+04	0.473	0.510	0.587	0.624
Fe^{3+} (total Fe)	8.13E-03	362	1.68E+03	7.10E-03	7.60E-03	8.66E-03	9.17E-03
Cr^{3+}	4.24E-02	1.76E+03	8.17E+03	3.70E-02	3.97E-02	4.51E-02	4.78E-02
Bi^{3+}	3.84E-04	63.9	297	3.62E-04	3.73E-04	3.95E-04	4.05E-04
La^{3+}	9.03E-06	0.999	4.65	6.58E-06	7.78E-06	1.03E-05	1.15E-05
Hg^{2+}	8.16E-06	1.30	6.07	4.42E-06	7.88E-06	8.45E-06	8.72E-06
Zr (as $ZrO(OH)_2$)	1.71E-03	124	579	8.34E-04	1.60E-03	1.82E-03	1.93E-03
Pb^{2+}	3.63E-04	59.9	279	3.14E-04	3.38E-04	3.88E-04	4.12E-04
Ni^{2+}	4.78E-03	223	1.04E+03	4.57E-03	4.67E-03	4.89E-03	4.99E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.94E-03	348	1.62E+03	3.92E-03	5.89E-03	1.00E-02	1.14E-02
Ca^{2+}	3.33E-02	1.06E+03	4.94E+03	2.84E-02	3.12E-02	3.54E-02	3.73E-02
K^{+}	0.156	4.85E+03	2.26E+04	3.30E-02	9.25E-02	0.220	0.284
OH^{-}	3.63	4.92E+04	2.29E+05	2.97	3.29	3.97	4.30
$NO3^{-}$	2.31	1.14E+05	5.31E+05	2.07	2.19	2.44	2.55
$NO2^{-}$	0.635	2.33E+04	1.08E+05	0.558	0.593	0.677	0.714
$CO3^{2-}$	0.389	1.86E+04	8.66E+04	0.312	0.350	0.428	0.458
$PO4^{3-}$	0.112	8.44E+03	3.93E+04	6.49E-02	8.77E-02	0.135	0.158
$SO4^{2-}$	9.21E-02	7.05E+03	3.28E+04	7.94E-02	8.56E-02	9.87E-02	0.105
Si (as SiO_x^{2-})	3.42E-02	765	3.56E+03	2.53E-02	2.97E-02	3.87E-02	4.27E-02
F^{-}	0.153	2.31E+03	1.07E+04	2.56E-02	0.131	0.174	0.195
Cl^{-}	0.102	2.88E+03	1.34E+04	8.42E-02	9.29E-02	0.111	0.120
$C_6H_5O_7^{3-}$	1.42E-02	2.14E+03	9.96E+03	9.88E-03	1.20E-02	1.64E-02	1.86E-02
$EDTA^{4-}$	5.81E-03	1.33E+03	6.21E+03	1.93E-03	3.83E-03	7.81E-03	9.76E-03
$HEDTA^{3-}$	1.03E-02	2.26E+03	1.05E+04	2.59E-03	6.38E-03	1.43E-02	1.82E-02
$glycolate^{-}$	0.118	7.05E+03	3.28E+04	6.02E-02	8.84E-02	0.148	0.176
$acetate^{-}$	4.08E-03	192	892	3.43E-03	3.71E-03	4.48E-03	5.09E-03
$oxalate^{2-}$	1.18E-05	0.829	3.86	1.05E-05	1.12E-05	1.25E-05	1.32E-05
DBP	9.54E-03	1.60E+03	7.43E+03	7.26E-03	8.38E-03	1.07E-02	1.18E-02
butanol	9.54E-03	563	2.62E+03	7.26E-03	8.38E-03	1.07E-02	1.18E-02
NH_3	0.473	6.41E+03	2.98E+04	4.60E-02	0.253	0.698	0.919
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.65E+06 (kg)	(979 kgal)	----	----	----	----	----
Heat Load	2.36 (kW)	(8.05E+03 BTU/hr)	----	2.23	2.29	2.42	2.48
Bulk Density†	1.26 (g/cc)	----	----	1.22	1.24	1.27	1.29
Water wt%†	62.3	----	----	58.4	60.1	64.2	66.2
TOC wt% C (wet)†	0.579	----	----	0.454	0.515	0.643	0.705

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.30	1.15E+05	5.36E+05	5.32	5.80	6.79	7.24
Al^{3+}	0.548	1.18E+04	5.48E+04	0.473	0.510	0.587	0.624
Fe^{3+} (total Fe)	8.13E-03	362	1.68E+03	7.10E-03	7.60E-03	8.66E-03	9.17E-03
Cr^{3+}	4.24E-02	1.76E+03	8.17E+03	3.70E-02	3.97E-02	4.51E-02	4.78E-02
Bi^{3+}	3.84E-04	63.9	297	3.62E-04	3.73E-04	3.95E-04	4.05E-04
La^{3+}	9.03E-06	0.999	4.65	6.58E-06	7.78E-06	1.03E-05	1.15E-05
Hg^{2+}	8.16E-06	1.30	6.07	4.42E-06	7.88E-06	8.45E-06	8.72E-06
Zr (as $ZrO(OH)_2$)	1.71E-03	124	579	8.34E-04	1.60E-03	1.82E-03	1.93E-03
Pb^{2+}	3.63E-04	59.9	279	3.14E-04	3.38E-04	3.88E-04	4.12E-04
Ni^{2+}	4.78E-03	223	1.04E+03	4.57E-03	4.67E-03	4.89E-03	4.99E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.94E-03	348	1.62E+03	3.92E-03	5.89E-03	1.00E-02	1.14E-02
Ca^{2+}	3.33E-02	1.06E+03	4.94E+03	2.84E-02	3.12E-02	3.54E-02	3.73E-02
K^{+}	0.156	4.85E+03	2.26E+04	3.30E-02	9.25E-02	0.220	0.284
OH^{-}	3.63	4.92E+04	2.29E+05	2.97	3.29	3.97	4.30
$NO3^{-}$	2.31	1.14E+05	5.31E+05	2.07	2.19	2.44	2.55
$NO2^{-}$	0.635	2.33E+04	1.08E+05	0.558	0.593	0.677	0.714
$CO3^{2-}$	0.389	1.86E+04	8.66E+04	0.312	0.350	0.428	0.458
$PO4^{3-}$	0.112	8.44E+03	3.93E+04	6.49E-02	8.77E-02	0.135	0.158
$SO4^{2-}$	9.21E-02	7.05E+03	3.28E+04	7.94E-02	8.56E-02	9.87E-02	0.105
Si (as SiO_x^{2-})	3.42E-02	765	3.56E+03	2.53E-02	2.97E-02	3.87E-02	4.27E-02
F^{-}	0.153	2.31E+03	1.07E+04	2.56E-02	0.131	0.174	0.195
Cl^{-}	0.102	2.88E+03	1.34E+04	8.42E-02	9.29E-02	0.111	0.120
$C_6H_5O_7^{3-}$	1.42E-02	2.14E+03	9.96E+03	9.88E-03	1.20E-02	1.64E-02	1.86E-02
$EDTA^{4-}$	5.81E-03	1.33E+03	6.21E+03	1.93E-03	3.83E-03	7.81E-03	9.76E-03
$HEDTA^{3-}$	1.03E-02	2.26E+03	1.05E+04	2.59E-03	6.38E-03	1.43E-02	1.82E-02
$glycolate^{-}$	0.118	7.05E+03	3.28E+04	6.02E-02	8.84E-02	0.148	0.176
$acetate^{-}$	4.08E-03	192	892	3.43E-03	3.71E-03	4.48E-03	5.09E-03
$oxalate^{2-}$	1.18E-05	0.829	3.86	1.05E-05	1.12E-05	1.25E-05	1.32E-05
DBP	9.54E-03	1.60E+03	7.43E+03	7.26E-03	8.38E-03	1.07E-02	1.18E-02
butanol	9.54E-03	563	2.62E+03	7.26E-03	8.38E-03	1.07E-02	1.18E-02
NH_3	0.473	6.41E+03	2.98E+04	4.60E-02	0.253	0.698	0.919
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.65E+06 (kg)	(979 kgal)	----	----	----	----	----
Heat Load	2.36 (kW)	(8.05E+03 BTU/hr)	----	2.23	2.29	2.42	2.48
Bulk Density*	1.26 (g/cc)	----	----	1.22	1.24	1.27	1.29
Water wt%†	62.3	----	----	58.4	60.1	64.2	66.2
TOC wt% C (wet)	0.579	----	----	0.454	0.515	0.643	0.705

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.21E-05	6.54E-02	304	5.90E-05	5.90E-05	9.04E-05	9.99E-05
C-14	9.70E-06	7.72E-03	35.9	4.86E-06	4.86E-06	9.95E-06	1.01E-05
Ni-59	6.33E-07	5.04E-04	2.35	4.06E-07	4.06E-07	6.45E-07	6.56E-07
Ni-63	6.23E-05	4.96E-02	231	3.98E-05	3.98E-05	6.34E-05	6.45E-05
Co-60	1.44E-05	1.15E-02	53.4	8.88E-06	8.88E-06	1.55E-05	1.66E-05
Se-79	1.40E-06	1.12E-03	5.20	1.08E-06	1.09E-06	1.57E-06	1.73E-06
Sr-90	4.64E-02	37.0	1.72E+05	4.37E-02	4.50E-02	4.79E-02	4.93E-02
Y-90	4.65E-02	37.0	1.72E+05	3.58E-02	3.58E-02	4.79E-02	4.93E-02
Zr-93	6.68E-06	5.32E-03	24.7	5.13E-06	5.13E-06	7.43E-06	8.15E-06
Nb-93m	4.98E-06	3.96E-03	18.5	3.81E-06	3.90E-06	5.58E-06	6.15E-06
Tc-99	7.07E-05	5.63E-02	262	5.27E-05	6.15E-05	8.00E-05	8.90E-05
Ru-106	6.93E-09	5.52E-06	2.57E-02	4.97E-09	5.93E-09	7.93E-09	8.89E-09
Cd-113m	3.17E-05	2.53E-02	118	2.25E-05	2.25E-05	3.59E-05	3.83E-05
Sb-125	1.12E-04	8.93E-02	416	6.06E-05	8.56E-05	1.39E-04	1.66E-04
Sn-126	2.16E-06	1.72E-03	7.99	1.64E-06	1.69E-06	2.42E-06	2.67E-06
I-129	1.37E-07	1.09E-04	0.506	1.02E-07	1.19E-07	1.55E-07	1.72E-07
Cs-134	2.71E-05	2.15E-02	100	4.17E-06	1.53E-05	3.91E-05	5.09E-05
Cs-137	6.89E-02	54.9	2.55E+05	6.31E-02	6.60E-02	7.19E-02	7.48E-02
Ba-137m	6.52E-02	51.9	2.42E+05	5.59E-02	5.59E-02	6.81E-02	7.08E-02
Sm-151	4.99E-03	3.97	1.85E+04	3.81E-03	3.91E-03	5.59E-03	6.17E-03
Eu-152	1.61E-06	1.28E-03	5.97	1.23E-06	1.23E-06	1.76E-06	1.91E-06
Eu-154	2.34E-04	0.186	867	1.57E-04	1.57E-04	2.62E-04	2.73E-04
Eu-155	1.03E-04	8.19E-02	381	8.01E-05	8.01E-05	1.12E-04	1.20E-04
Ra-226	6.42E-11	5.11E-08	2.38E-04	4.10E-11	5.23E-11	7.60E-11	7.64E-11
Ra-228	7.54E-08	6.00E-05	0.279	3.80E-08	3.80E-08	8.89E-08	1.03E-07
Ac-227	3.94E-10	3.13E-07	1.46E-03	2.59E-10	3.25E-10	4.61E-10	4.33E-10
Pa-231	1.53E-09	1.22E-06	5.67E-03	1.22E-09	1.22E-09	1.68E-09	1.82E-09
Th-229	1.75E-09	1.40E-06	6.50E-03	8.89E-10	8.89E-10	2.05E-09	2.37E-09
Th-232	7.06E-09	5.62E-06	2.61E-02	2.43E-09	2.43E-09	8.32E-09	9.54E-09
U-232	2.76E-07	2.20E-04	1.02	1.85E-07	2.30E-07	3.30E-07	3.88E-07
U-233	1.06E-06	8.43E-04	3.92	7.08E-07	8.79E-07	1.27E-06	1.49E-06
U-234	9.96E-07	7.93E-04	3.69	7.46E-07	9.37E-07	1.02E-06	1.05E-06
U-235	3.83E-08	3.05E-05	0.142	2.88E-08	3.60E-08	3.93E-08	4.03E-08
U-236	7.16E-08	5.70E-05	0.265	5.11E-08	6.68E-08	7.39E-08	7.60E-08
U-238	8.06E-07	6.42E-04	2.99	6.35E-07	7.66E-07	8.25E-07	8.43E-07
Np-237	2.57E-07	2.04E-04	0.952	1.98E-07	2.27E-07	2.87E-07	3.17E-07
Pu-238	2.36E-06	1.88E-03	8.74	1.51E-06	1.92E-06	2.79E-06	3.21E-06
Pu-239	3.11E-05	2.48E-02	115	2.42E-05	2.76E-05	3.47E-05	3.80E-05
Pu-240	7.46E-06	5.94E-03	27.6	5.36E-06	6.39E-06	8.53E-06	9.56E-06
Pu-241	2.22E-04	0.177	822	1.35E-04	1.77E-04	2.66E-04	3.09E-04
Pu-242	9.13E-10	7.27E-07	3.38E-03	5.89E-10	7.48E-10	1.08E-09	1.24E-09
Am-241	4.14E-05	3.30E-02	153	3.02E-05	3.57E-05	4.71E-05	5.10E-05
Am-243	3.85E-09	3.07E-06	1.43E-02	1.61E-09	2.70E-09	5.03E-09	5.08E-09
Cm-242	6.88E-08	5.47E-05	0.255	5.30E-08	5.30E-08	7.68E-08	8.44E-08
Cm-243	7.16E-09	5.70E-06	2.65E-02	5.49E-09	5.66E-09	8.01E-09	8.83E-09
Cm-244	1.19E-07	9.51E-05	0.443	7.86E-08	9.84E-08	1.38E-07	1.57E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.79E-04 (g/L)	----	1.78	3.58E-04	4.17E-04	5.41E-04	6.00E-04
U	9.17E-03	1.74E+03	8.08E+03	7.00E-03	8.66E-03	9.40E-03	9.63E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.65E+06 (kg)	(979 kgal)	----	----	----	----	----
Heat Load	2.36 (kW)	(8.05E+03 BTU/hr)	----	2.23	2.29	2.42	2.48
Bulk Density†	1.26 (g/cc)	----	----	1.22	1.24	1.27	1.29
Water wt%†	62.3	----	----	58.4	60.1	64.2	66.2
TOC wt% C (wet)†	0.579	----	----	0.454	0.515	0.643	0.705

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.21E-05	6.54E-02	304	5.90E-05	5.90E-05	9.04E-05	9.99E-05
C-14	9.70E-06	7.72E-03	35.9	4.86E-06	4.86E-06	9.95E-06	1.01E-05
Ni-59	6.33E-07	5.04E-04	2.35	4.06E-07	4.06E-07	6.45E-07	6.56E-07
Ni-63	6.23E-05	4.96E-02	231	3.98E-05	3.98E-05	6.34E-05	6.45E-05
Co-60	1.44E-05	1.15E-02	53.4	8.88E-06	8.88E-06	1.55E-05	1.66E-05
Se-79	1.40E-06	1.12E-03	5.20	1.08E-06	1.09E-06	1.57E-06	1.73E-06
Sr-90	4.64E-02	37.0	1.72E+05	4.37E-02	4.50E-02	4.79E-02	4.93E-02
Y-90	4.65E-02	37.0	1.72E+05	3.58E-02	3.58E-02	4.79E-02	4.93E-02
Zr-93	6.68E-06	5.32E-03	24.7	5.13E-06	5.13E-06	7.43E-06	8.15E-06
Nb-93m	4.98E-06	3.96E-03	18.5	3.81E-06	3.90E-06	5.58E-06	6.15E-06
Tc-99	7.07E-05	5.63E-02	262	5.27E-05	6.15E-05	8.00E-05	8.90E-05
Ru-106	6.93E-09	5.52E-06	2.57E-02	4.97E-09	5.93E-09	7.93E-09	8.89E-09
Cd-113m	3.17E-05	2.53E-02	118	2.25E-05	2.25E-05	3.59E-05	3.83E-05
Sb-125	1.12E-04	8.93E-02	416	6.06E-05	8.56E-05	1.39E-04	1.66E-04
Sn-126	2.16E-06	1.72E-03	7.99	1.64E-06	1.69E-06	2.42E-06	2.67E-06
I-129	1.37E-07	1.09E-04	0.506	1.02E-07	1.19E-07	1.55E-07	1.72E-07
Cs-134	2.71E-05	2.15E-02	100	4.17E-06	1.53E-05	3.91E-05	5.09E-05
Cs-137	6.89E-02	54.9	2.55E+05	6.31E-02	6.60E-02	7.19E-02	7.48E-02
Ba-137m	6.52E-02	51.9	2.42E+05	5.59E-02	5.59E-02	6.81E-02	7.08E-02
Sm-151	4.99E-03	3.97	1.85E+04	3.81E-03	3.91E-03	5.59E-03	6.17E-03
Eu-152	1.61E-06	1.28E-03	5.97	1.23E-06	1.23E-06	1.76E-06	1.91E-06
Eu-154	2.34E-04	0.186	867	1.57E-04	1.57E-04	2.62E-04	2.73E-04
Eu-155	1.03E-04	8.19E-02	381	8.01E-05	8.01E-05	1.12E-04	1.20E-04
Ra-226	6.42E-11	5.11E-08	2.38E-04	4.10E-11	5.23E-11	7.60E-11	7.64E-11
Ra-228	7.54E-08	6.00E-05	0.279	3.80E-08	3.80E-08	8.89E-08	1.03E-07
Ac-227	3.94E-10	3.13E-07	1.46E-03	2.59E-10	3.25E-10	4.61E-10	4.33E-10
Pa-231	1.53E-09	1.22E-06	5.67E-03	1.22E-09	1.22E-09	1.68E-09	1.82E-09
Th-229	1.75E-09	1.40E-06	6.50E-03	8.89E-10	8.89E-10	2.05E-09	2.37E-09
Th-232	7.06E-09	5.62E-06	2.61E-02	2.43E-09	2.43E-09	8.32E-09	9.54E-09
U-232	2.76E-07	2.20E-04	1.02	1.85E-07	2.30E-07	3.30E-07	3.88E-07
U-233	1.06E-06	8.43E-04	3.92	7.08E-07	8.79E-07	1.27E-06	1.49E-06
U-234	9.96E-07	7.93E-04	3.69	7.46E-07	9.37E-07	1.02E-06	1.05E-06
U-235	3.83E-08	3.05E-05	0.142	2.88E-08	3.60E-08	3.93E-08	4.03E-08
U-236	7.16E-08	5.70E-05	0.265	5.11E-08	6.68E-08	7.39E-08	7.60E-08
U-238	8.06E-07	6.42E-04	2.99	6.35E-07	7.66E-07	8.25E-07	8.43E-07
Np-237	2.57E-07	2.04E-04	0.952	1.98E-07	2.27E-07	2.87E-07	3.17E-07
Pu-238	2.36E-06	1.88E-03	8.74	1.51E-06	1.92E-06	2.79E-06	3.21E-06
Pu-239	3.11E-05	2.48E-02	115	2.42E-05	2.76E-05	3.47E-05	3.80E-05
Pu-240	7.46E-06	5.94E-03	27.6	5.36E-06	6.39E-06	8.53E-06	9.56E-06
Pu-241	2.22E-04	0.177	822	1.35E-04	1.77E-04	2.66E-04	3.09E-04
Pu-242	9.13E-10	7.27E-07	3.38E-03	5.89E-10	7.48E-10	1.08E-09	1.24E-09
Am-241	4.14E-05	3.30E-02	153	3.02E-05	3.57E-05	4.71E-05	5.10E-05
Am-243	3.85E-09	3.07E-06	1.43E-02	1.61E-09	2.70E-09	5.03E-09	5.08E-09
Cm-242	6.88E-08	5.47E-05	0.255	5.30E-08	5.30E-08	7.68E-08	8.44E-08
Cm-243	7.16E-09	5.70E-06	2.65E-02	5.49E-09	5.66E-09	8.01E-09	8.83E-09
Cm-244	1.19E-07	9.51E-05	0.443	7.86E-08	9.84E-08	1.38E-07	1.57E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	4.79E-04 (g/L)	----	1.78	3.58E-04	4.17E-04	5.41E-04	6.00E-04
U	9.17E-03	1.74E+03	8.08E+03	7.00E-03	8.66E-03	9.40E-03	9.63E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.77E+06 (kg)	(363 kgal)	----	----	----	----	----
Heat Load	7.10E-02 (kW)	(243 BTU/hr)	----	1.16E-03	3.70E-02	0.106	0.140
Bulk Density	1.29 (g/cc)	----	----	1.00	1.20	1.32	1.34
Void Fraction	0.850	----	----	0.826	0.834	0.901	1.00
Water wt%	63.1	----	----	56.6	59.2	72.5	99.9
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.50	9.80E+04	1.74E+05	1.44E-02	3.09	6.37	6.84
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.364	1.57E+04	2.79E+04	5.65E-04	0.345	0.370	0.373
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	2.10E-03	326	578	3.24E-06	2.00E-03	2.13E-03	2.14E-03
Zr (as $ZrO(OH)_2$)	0.927	6.55E+04	1.16E+05	1.41E-03	0.898	0.936	0.941
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	9.49E-02	2.95E+03	5.23E+03	2.54E-04	8.11E-03	0.124	0.137
K^+	0.191	5.78E+03	1.03E+04	3.12E-03	9.94E-02	0.284	0.376
OH^-	5.10	6.72E+04	1.19E+05	8.99E-03	4.68	5.27	5.36
$NO3^-$	0.332	1.59E+04	2.82E+04	5.47E-03	0.174	0.492	0.647
$NO2^-$	9.19E-03	327	580	9.96E-05	3.98E-03	1.60E-02	2.42E-02
$CO3^{2-}$	9.49E-02	4.41E+03	7.82E+03	2.54E-04	8.11E-03	0.124	0.137
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	5.29	7.78E+04	1.38E+05	1.09E-02	2.97	6.05	6.42
Cl^-	3.97E-03	109	193	6.50E-05	2.07E-03	5.92E-03	7.83E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0.655	8.62E+03	1.53E+04	1.09E-02	0.345	0.965	1.26
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	1.09E+06 (kg)	(283 kgal)	----	----	----	----	----
Heat Load	5.22E-02 (kW)	(178 BTU/hr)	----	2.18E-03	2.64E-02	7.86E-02	0.104
Bulk Density*	1.01 (g/cc)	----	----	1.00	1.01	1.02	1.02
Water wt%	95.7	----	----	92.5	94.0	97.2	99.6
TOC wt% C (wet)	3.09E-03	----	----	2.06E-03	2.56E-03	3.61E-03	4.11E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0.418	9.48E+03	1.03E+04	4.64E-02	0.319	0.520	0.620
Al^{3+}	1.38E-03	36.8	40.0	1.23E-03	1.31E-03	1.46E-03	1.54E-03
Fe^{3+} (total Fe)	1.64E-03	90.2	98.1	5.21E-04	1.28E-03	2.00E-03	2.34E-03
Cr^{3+}	3.75E-04	19.2	20.9	2.05E-04	2.88E-04	4.62E-04	5.45E-04
Bi^{3+}	9.90E-07	0.204	0.222	9.46E-07	9.68E-07	1.01E-06	1.03E-06
La^{3+}	8.62E-09	1.18E-03	1.28E-03	6.37E-09	7.47E-09	9.78E-09	1.09E-08
Hg^{2+}	7.80E-06	1.54	1.68	2.53E-06	7.40E-06	8.20E-06	8.58E-06
Zr (as $ZrO(OH)_2$)	2.34E-03	210	228	1.10E-03	2.18E-03	2.49E-03	2.64E-03
Pb^{2+}	2.74E-06	0.560	0.609	1.82E-06	2.27E-06	3.21E-06	3.67E-06
Ni^{2+}	7.15E-05	4.14	4.50	6.49E-05	6.81E-05	7.48E-05	7.81E-05
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.22E-04	12.0	13.1	9.51E-05	1.57E-04	2.87E-04	3.31E-04
Ca^{2+}	7.37E-03	291	317	5.57E-04	5.98E-03	8.76E-03	1.01E-02
K^+	0.175	6.75E+03	7.34E+03	2.73E-03	8.63E-02	0.266	0.355
OH^-	9.74E-02	1.63E+03	1.77E+03	1.66E-02	6.88E-02	0.126	0.154
$NO3^-$	0.319	1.95E+04	2.12E+04	1.77E-02	0.164	0.476	0.629
$NO2^-$	9.10E-03	412	448	2.08E-03	5.10E-03	1.40E-02	1.96E-02
$CO3^{2-}$	1.16E-02	686	746	4.78E-03	1.02E-02	1.30E-02	1.43E-02
$PO4^{3-}$	2.62E-03	245	267	1.15E-03	1.87E-03	3.38E-03	4.10E-03
$SO4^{2-}$	3.57E-04	33.8	36.8	2.72E-04	3.13E-04	4.01E-04	4.43E-04
Si (as SiO_x^{2-})	7.04E-05	1.95	2.12	5.64E-05	6.32E-05	7.75E-05	8.38E-05
F^-	0.187	3.50E+03	3.81E+03	8.52E-03	0.157	0.217	0.246
Cl^-	3.99E-03	139	151	3.99E-04	2.14E-03	5.88E-03	7.73E-03
$C_6H_5O_7^{3-}$	3.00E-05	5.58	6.07	2.31E-05	2.64E-05	3.35E-05	3.68E-05
$EDTA^{4-}$	1.22E-05	3.45	3.76	4.88E-06	8.44E-06	1.59E-05	1.96E-05
$HEDTA^{3-}$	1.96E-05	5.30	5.76	5.04E-06	1.22E-05	2.71E-05	3.44E-05
$glycolate^-$	1.92E-04	14.2	15.5	1.01E-04	1.46E-04	2.39E-04	2.84E-04
$acetate^-$	1.51E-05	0.878	0.954	1.32E-05	1.40E-05	1.63E-05	1.80E-05
$oxalate^{2-}$	1.13E-08	9.80E-04	1.07E-03	1.01E-08	1.07E-08	1.19E-08	1.25E-08
DBP	1.41E-04	29.3	31.8	6.92E-05	1.05E-04	1.78E-04	2.14E-04
butanol	1.41E-04	10.3	11.2	6.92E-05	1.05E-04	1.78E-04	2.14E-04
NH_3	0.609	1.02E+04	1.11E+04	8.51E-03	0.300	0.926	1.24
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.86E+06 (kg)	(646 kgal)	----	----	----	----	----
Heat Load	0.123 (kW)	(421 BTU/hr)	----	3.34E-03	6.34E-02	0.184	0.244
Bulk Density†	1.17 (g/cc)	----	----	1.00	1.12	1.19	1.20
Water wt%†	75.5	----	----	70.0	72.2	82.3	99.8
TOC wt% C (wet)†	1.17E-03	----	----	7.83E-04	9.74E-04	1.37E-03	1.56E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.27	6.43E+04	1.84E+05	2.84E-02	1.87	3.81	4.12
Al^{3+}	6.06E-04	14.0	40.0	5.40E-04	5.73E-04	6.41E-04	6.73E-04
Fe^{3+} (total Fe)	0.205	9.79E+03	2.80E+04	5.46E-04	0.194	0.209	0.210
Cr^{3+}	1.64E-04	7.30	20.9	9.00E-05	1.26E-04	2.02E-04	2.39E-04
Bi^{3+}	4.34E-07	7.75E-02	0.222	4.15E-07	4.24E-07	4.43E-07	4.53E-07
La^{3+}	3.78E-09	4.49E-04	1.28E-03	2.79E-09	3.27E-09	4.29E-09	4.77E-09
Hg^{2+}	1.18E-03	203	580	2.93E-06	1.13E-03	1.20E-03	1.21E-03
Zr (as $ZrO(OH)_2$)	0.522	4.07E+04	1.16E+05	1.28E-03	0.506	0.527	0.530
Pb^{2+}	1.20E-06	0.213	0.609	7.98E-07	9.95E-07	1.41E-06	1.61E-06
Ni^{2+}	3.13E-05	1.57	4.50	2.84E-05	2.98E-05	3.28E-05	3.42E-05
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.74E-05	4.57	13.1	4.17E-05	6.89E-05	1.26E-04	1.45E-04
Ca^{2+}	5.66E-02	1.94E+03	5.54E+03	3.87E-04	7.79E-03	7.27E-02	8.05E-02
K^+	0.184	6.15E+03	1.76E+04	2.95E-03	9.37E-02	0.276	0.367
OH^-	2.91	4.23E+04	1.21E+05	1.23E-02	2.66	3.01	3.08
$NO3^-$	0.326	1.73E+04	4.94E+04	1.08E-02	0.169	0.485	0.639
$NO2^-$	9.15E-03	360	1.03E+03	9.66E-04	4.47E-03	1.51E-02	2.22E-02
$CO3^{2-}$	5.84E-02	3.00E+03	8.57E+03	2.24E-03	9.64E-03	7.45E-02	8.23E-02
$PO4^{3-}$	1.15E-03	93.2	267	5.03E-04	8.19E-04	1.48E-03	1.80E-03
$SO4^{2-}$	1.57E-04	12.8	36.8	1.19E-04	1.37E-04	1.76E-04	1.94E-04
Si (as SiO_x^{2-})	3.08E-05	0.741	2.12	2.47E-05	2.77E-05	3.40E-05	3.67E-05
F^-	3.05	4.96E+04	1.42E+05	9.84E-03	1.75	3.48	3.69
Cl^-	3.98E-03	121	345	2.11E-04	2.10E-03	5.90E-03	7.79E-03
$C_6H_5O_7^{3-}$	1.31E-05	2.12	6.07	1.01E-05	1.16E-05	1.47E-05	1.61E-05
$EDTA^{4-}$	5.33E-06	1.31	3.76	2.14E-06	3.70E-06	6.97E-06	8.58E-06
$HEDTA^{3-}$	8.59E-06	2.01	5.76	2.21E-06	5.32E-06	1.19E-05	1.51E-05
$glycolate^-$	8.43E-05	5.41	15.5	4.42E-05	6.38E-05	1.05E-04	1.25E-04
$acetate^-$	6.61E-06	0.334	0.954	5.78E-06	6.14E-06	7.12E-06	7.90E-06
$oxalate^{2-}$	4.95E-09	3.72E-04	1.07E-03	4.41E-09	4.68E-09	5.22E-09	5.49E-09
DBP	6.20E-05	11.1	31.8	3.03E-05	4.58E-05	7.81E-05	9.37E-05
butanol	6.20E-05	3.92	11.2	3.03E-05	4.58E-05	7.81E-05	9.37E-05
NH_3	0.635	9.22E+03	2.64E+04	9.84E-03	0.325	0.948	1.25
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-103							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	1.77E+06 (kg)	(363 kgal)	----	----	----	----	----
Heat Load	7.10E-02 (kW)	(243 BTU/hr)	----	1.16E-03	3.70E-02	0.106	0.140
Bulk Density	1.29 (g/cc)	----	----	1.00	1.20	1.32	1.34
Void Fraction	0.850	----	----	0.826	0.834	0.901	1.00
Water wt%	63.1	----	----	56.6	59.2	72.5	99.9
TOC wt% C (wet)	0	----	----	0	0	0	0
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.75E-05	1.35E-02	24.0	2.85E-07	9.09E-06	2.60E-05	3.44E-05
C-14	2.15E-07	1.67E-04	0.295	3.51E-09	1.12E-07	3.20E-07	4.23E-07
Ni-59	1.42E-07	1.10E-04	0.195	1.42E-07	1.42E-07	1.42E-07	1.42E-07
Ni-63	1.64E-05	1.27E-02	22.5	1.64E-05	1.64E-05	1.64E-05	1.64E-05
Co-60	3.32E-06	2.57E-03	4.55	5.42E-08	1.73E-06	4.94E-06	6.53E-06
Se-79	2.69E-08	2.08E-05	3.69E-02	4.39E-10	1.40E-08	4.00E-08	5.29E-08
Sr-90	4.21E-03	3.26	5.79E+03	6.89E-05	2.20E-03	6.28E-03	8.30E-03
Y-90	4.22E-03	3.26	5.79E+03	6.89E-05	2.20E-03	6.28E-03	8.30E-03
Zr-93	1.30E-07	1.00E-04	0.178	2.12E-09	6.75E-08	1.93E-07	2.55E-07
Nb-93m	5.47E-08	4.24E-05	7.52E-02	8.95E-10	2.85E-08	8.15E-08	1.08E-07
Tc-99	8.98E-07	6.95E-04	1.23	1.47E-08	4.68E-07	1.34E-06	1.77E-06
Ru-106	5.17E-04	0.400	710	5.14E-04	5.17E-04	5.17E-04	5.17E-04
Cd-113m	1.40E-06	1.08E-03	1.92	2.29E-08	7.29E-07	2.08E-06	2.76E-06
Sb-125	8.03E-05	6.22E-02	110	1.31E-06	4.18E-05	1.20E-04	1.58E-04
Sn-126	4.24E-08	3.28E-05	5.82E-02	6.93E-10	2.21E-08	6.31E-08	8.34E-08
I-129	1.80E-09	1.40E-06	2.48E-03	2.95E-11	9.39E-10	2.69E-09	3.55E-09
Cs-134	3.56E-05	2.76E-02	48.9	5.82E-07	1.86E-05	5.31E-05	7.02E-05
Cs-137	4.98E-03	3.85	6.84E+03	8.13E-05	2.59E-03	7.41E-03	9.80E-03
Ba-137m	4.71E-03	3.65	6.47E+03	7.69E-05	2.45E-03	7.01E-03	9.27E-03
Sm-151	9.30E-05	7.20E-02	128	1.52E-06	4.84E-05	1.38E-04	1.83E-04
Eu-152	1.05E-06	8.11E-04	1.44	9.62E-07	1.01E-06	1.09E-06	1.13E-06
Eu-154	2.48E-05	1.92E-02	34.0	4.05E-07	1.29E-05	3.69E-05	4.88E-05
Eu-155	1.90E-04	0.147	261	1.74E-04	1.82E-04	1.98E-04	2.05E-04
Ra-226	2.17E-13	1.68E-10	2.98E-07	3.54E-15	1.13E-13	3.23E-13	4.27E-13
Ra-228	9.49E-17	7.35E-14	1.30E-10	8.71E-17	9.11E-17	9.87E-17	1.03E-16
Ac-227	1.25E-12	9.65E-10	1.71E-06	2.04E-14	6.49E-13	1.86E-12	2.45E-12
Pa-231	7.11E-12	5.51E-09	9.77E-06	1.16E-13	3.70E-12	1.06E-11	1.40E-11
Th-229	1.09E-14	8.40E-12	1.49E-08	9.96E-15	1.04E-14	1.13E-14	1.17E-14
Th-232	3.63E-17	2.81E-14	4.99E-11	5.93E-19	1.89E-17	5.41E-17	7.15E-17
U-232	1.02E-09	7.93E-07	1.41E-03	2.82E-12	8.97E-11	1.35E-09	1.51E-09
U-233	1.05E-11	8.13E-09	1.44E-05	2.89E-14	9.20E-13	1.39E-11	1.55E-11
U-234	4.60E-06	3.56E-03	6.32	1.27E-08	4.03E-07	6.07E-06	6.79E-06
U-235	1.75E-07	1.35E-04	0.240	4.81E-10	1.53E-08	2.31E-07	2.58E-07
U-236	3.79E-07	2.93E-04	0.521	1.04E-09	3.32E-08	5.00E-07	5.59E-07
U-238	3.16E-06	2.45E-03	4.34	8.69E-09	2.77E-07	4.17E-06	4.66E-06
Np-237	1.32E-08	1.02E-05	1.81E-02	2.15E-10	6.85E-09	1.96E-08	2.59E-08
Pu-238	1.21E-04	9.35E-02	166	1.92E-07	1.11E-04	1.24E-04	1.27E-04
Pu-239	9.78E-04	0.757	1.34E+03	1.56E-06	8.97E-04	1.00E-03	1.03E-03
Pu-240	2.97E-04	0.230	408	4.73E-07	2.72E-04	3.05E-04	3.12E-04
Pu-241	1.23E-02	9.55	1.69E+04	1.96E-05	1.13E-02	1.27E-02	1.30E-02
Pu-242	4.60E-08	3.56E-05	6.32E-02	7.32E-11	4.21E-08	4.72E-08	4.84E-08
Am-241	1.66E-05	1.28E-02	22.8	2.71E-07	8.63E-06	2.47E-05	1.08E-04
Am-243	3.49E-09	2.70E-06	4.79E-03	5.70E-11	1.82E-09	5.20E-09	2.28E-08
Cm-242	9.22E-08	7.14E-05	0.127	8.47E-08	8.86E-08	9.60E-08	9.97E-08
Cm-243	1.55E-08	1.20E-05	2.12E-02	1.42E-08	1.48E-08	1.61E-08	1.67E-08
Cm-244	6.35E-08	4.92E-05	8.73E-02	1.04E-09	3.31E-08	1.67E-07	4.52E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.72E-02 (g/L)	----	23.6	2.73E-05	1.57E-02	1.76E-02	1.81E-02
U	3.99E-02	7.35E+03	1.30E+04	1.10E-04	3.49E-03	5.26E-02	5.88E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-103							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	1.09E+06 (kg)	(283 kgal)	----	----	----	----	----
Heat Load	5.22E-02 (kW)	(178 BTU/hr)	----	2.18E-03	2.64E-02	7.86E-02	0.104
Bulk Density*	1.01 (g/cc)	----	----	1.00	1.01	1.02	1.02
Water wt%†	95.7	----	----	92.5	94.0	97.2	99.6
TOC wt% C (wet)	3.09E-03	----	----	2.06E-03	2.56E-03	3.61E-03	4.11E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.62E-05	1.59E-02	17.3	3.90E-07	8.03E-06	2.45E-05	3.26E-05
C-14	2.21E-07	2.18E-04	0.237	2.70E-08	1.21E-07	3.24E-07	4.24E-07
Ni-59	1.51E-09	1.49E-06	1.62E-03	9.14E-10	9.14E-10	1.54E-09	1.57E-09
Ni-63	1.49E-07	1.47E-04	0.160	8.97E-08	8.97E-08	1.52E-07	1.55E-07
Co-60	3.07E-06	3.02E-03	3.29	7.27E-08	1.52E-06	4.64E-06	6.19E-06
Se-79	2.76E-08	2.72E-05	2.96E-02	3.31E-09	1.51E-08	4.04E-08	5.29E-08
Sr-90	3.95E-03	3.90	4.24E+03	1.46E-04	1.99E-03	5.96E-03	7.92E-03
Y-90	3.95E-03	3.90	4.24E+03	1.46E-04	1.99E-03	5.96E-03	7.93E-03
Zr-93	1.33E-07	1.31E-04	0.143	1.59E-08	7.27E-08	1.95E-07	2.55E-07
Nb-93m	6.07E-08	5.98E-05	6.50E-02	1.13E-08	3.52E-08	8.67E-08	1.12E-07
Tc-99	1.00E-06	9.87E-04	1.07	1.91E-07	5.84E-07	1.43E-06	1.85E-06
Ru-106	3.90E-09	3.85E-06	4.18E-03	1.14E-09	2.49E-09	5.31E-09	6.67E-09
Cd-113m	1.35E-06	1.33E-03	1.45	8.78E-08	7.00E-07	2.02E-06	2.67E-06
Sb-125	7.37E-05	7.26E-02	79.0	1.17E-06	3.63E-05	1.12E-04	1.49E-04
Sn-126	4.34E-08	4.27E-05	4.64E-02	5.07E-09	2.36E-08	6.35E-08	8.33E-08
I-129	2.00E-09	1.97E-06	2.14E-03	3.69E-10	1.16E-09	2.86E-09	3.70E-09
Cs-134	3.26E-05	3.22E-02	35.0	4.63E-07	1.61E-05	4.96E-05	6.62E-05
Cs-137	4.72E-03	4.65	5.06E+03	2.25E-04	2.40E-03	7.09E-03	9.41E-03
Ba-137m	4.46E-03	4.40	4.78E+03	2.13E-04	2.27E-03	6.70E-03	8.90E-03
Sm-151	9.57E-05	9.43E-02	102	1.17E-05	5.24E-05	1.40E-04	1.83E-04
Eu-152	8.31E-08	8.19E-05	8.91E-02	4.46E-09	4.26E-08	1.25E-07	1.65E-07
Eu-154	2.32E-05	2.29E-02	24.9	8.18E-07	1.17E-05	3.50E-05	4.65E-05
Eu-155	1.47E-05	1.45E-02	15.7	4.02E-07	7.32E-06	2.22E-05	2.96E-05
Ra-226	3.32E-13	3.27E-10	3.56E-07	1.36E-13	2.31E-13	4.35E-13	5.36E-13
Ra-228	3.10E-10	3.05E-07	3.32E-04	1.90E-10	2.00E-10	3.81E-10	4.57E-10
Ac-227	2.03E-12	2.00E-09	2.17E-06	9.01E-13	1.45E-12	2.62E-12	3.20E-12
Pa-231	1.03E-11	1.01E-08	1.10E-05	3.83E-12	6.94E-12	1.36E-11	1.69E-11
Th-229	7.20E-12	7.10E-09	7.71E-06	4.57E-12	4.68E-12	8.76E-12	1.04E-11
Th-232	2.62E-11	2.58E-08	2.81E-05	1.27E-11	1.27E-11	2.99E-11	3.34E-11
U-232	1.32E-09	1.30E-06	1.42E-03	8.41E-10	1.08E-09	1.61E-09	1.91E-09
U-233	4.74E-09	4.68E-06	5.08E-03	2.90E-09	3.80E-09	5.84E-09	7.00E-09
U-234	3.77E-07	3.72E-04	0.404	2.74E-08	3.59E-07	3.96E-07	4.13E-07
U-235	1.43E-08	1.41E-05	1.54E-02	1.04E-09	1.36E-08	1.50E-08	1.57E-08
U-236	3.10E-08	3.06E-05	3.32E-02	2.22E-09	2.95E-08	3.25E-08	3.40E-08
U-238	2.59E-07	2.56E-04	0.278	1.92E-08	2.47E-07	2.72E-07	2.84E-07
Np-237	1.27E-08	1.25E-05	1.36E-02	8.00E-10	6.56E-09	1.89E-08	2.51E-08
Pu-238	8.49E-07	8.37E-04	0.910	1.89E-07	5.56E-07	1.14E-06	1.42E-06
Pu-239	6.91E-06	6.81E-03	7.40	1.56E-06	4.54E-06	9.29E-06	1.16E-05
Pu-240	2.09E-06	2.06E-03	2.24	4.69E-07	1.37E-06	2.82E-06	3.51E-06
Pu-241	8.67E-05	8.55E-02	92.9	1.93E-05	5.68E-05	1.17E-04	1.45E-04
Pu-242	3.24E-10	3.19E-07	3.47E-04	7.20E-11	2.12E-10	4.35E-10	5.42E-10
Am-241	1.52E-05	1.50E-02	16.3	2.70E-07	7.52E-06	2.31E-05	2.34E-05
Am-243	3.20E-09	3.15E-06	3.43E-03	4.73E-11	1.57E-09	4.86E-09	4.93E-09
Cm-242	7.16E-09	7.06E-06	7.67E-03	2.29E-10	3.59E-09	1.08E-08	1.44E-08
Cm-243	1.19E-09	1.17E-06	1.28E-03	2.93E-11	5.92E-10	1.80E-09	2.40E-09
Cm-244	5.83E-08	5.75E-05	6.25E-02	9.56E-10	2.88E-08	7.80E-08	7.80E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.21E-04 (g/L)	----	0.130	2.72E-05	7.95E-05	1.63E-04	2.03E-04
U	3.27E-03	767	834	2.38E-04	3.11E-03	3.43E-03	3.58E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-103							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	2.86E+06 (kg)	(646 kgal)	----	----	----	----	----
Heat Load	0.123 (kW)	(421 BTU/hr)	----	3.34E-03	6.34E-02	0.184	0.244
Bulk Density†	1.17 (g/cc)	----	----	1.00	1.12	1.19	1.20
Water wt%†	75.5	----	----	70.0	72.2	82.3	99.8
TOC wt% C (wet)†	1.17E-03	----	----	7.83E-04	9.74E-04	1.37E-03	1.56E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.69E-05	1.44E-02	41.3	3.31E-07	8.63E-06	2.53E-05	3.36E-05
C-14	2.18E-07	1.86E-04	0.532	1.38E-08	1.16E-07	3.22E-07	4.24E-07
Ni-59	8.03E-08	6.86E-05	0.196	8.00E-08	8.00E-08	8.03E-08	8.03E-08
Ni-63	9.27E-06	7.93E-03	22.7	9.25E-06	9.25E-06	9.27E-06	9.28E-06
Co-60	3.21E-06	2.74E-03	7.84	6.23E-08	1.64E-06	4.81E-06	6.38E-06
Se-79	2.72E-08	2.32E-05	6.65E-02	1.70E-09	1.45E-08	4.02E-08	5.29E-08
Sr-90	4.10E-03	3.50	1.00E+04	1.03E-04	2.11E-03	6.14E-03	8.14E-03
Y-90	4.10E-03	3.51	1.00E+04	1.03E-04	2.11E-03	6.14E-03	8.14E-03
Zr-93	1.31E-07	1.12E-04	0.321	8.17E-09	6.98E-08	1.94E-07	2.55E-07
Nb-93m	5.74E-08	4.90E-05	0.140	5.44E-09	3.15E-08	8.38E-08	1.10E-07
Tc-99	9.44E-07	8.06E-04	2.31	9.18E-08	5.19E-07	1.38E-06	1.80E-06
Ru-106	2.90E-04	0.248	710	2.89E-04	2.90E-04	2.90E-04	2.90E-04
Cd-113m	1.38E-06	1.18E-03	3.37	5.13E-08	7.16E-07	2.05E-06	2.72E-06
Sb-125	7.74E-05	6.62E-02	189	1.25E-06	3.94E-05	1.16E-04	1.54E-04
Sn-126	4.28E-08	3.66E-05	0.105	2.61E-09	2.28E-08	6.33E-08	8.34E-08
I-129	1.89E-09	1.61E-06	4.62E-03	1.78E-10	1.04E-09	2.76E-09	3.62E-09
Cs-134	3.43E-05	2.93E-02	83.9	5.30E-07	1.75E-05	5.15E-05	6.84E-05
Cs-137	4.86E-03	4.16	1.19E+04	1.44E-04	2.51E-03	7.27E-03	9.63E-03
Ba-137m	4.60E-03	3.93	1.12E+04	1.36E-04	2.37E-03	6.88E-03	9.11E-03
Sm-151	9.41E-05	8.05E-02	230	5.98E-06	5.02E-05	1.39E-04	1.83E-04
Eu-152	6.25E-07	5.34E-04	1.53	5.42E-07	5.84E-07	6.67E-07	7.08E-07
Eu-154	2.41E-05	2.06E-02	58.9	5.86E-07	1.24E-05	3.61E-05	4.78E-05
Eu-155	1.13E-04	9.68E-02	277	9.82E-05	1.06E-04	1.21E-04	1.28E-04
Ra-226	2.67E-13	2.28E-10	6.53E-07	6.16E-14	1.65E-13	3.72E-13	4.75E-13
Ra-228	1.36E-10	1.16E-07	3.32E-04	8.32E-11	8.78E-11	1.67E-10	2.00E-10
Ac-227	1.59E-12	1.36E-09	3.88E-06	4.06E-13	9.98E-13	2.19E-12	2.78E-12
Pa-231	8.49E-12	7.25E-09	2.07E-05	1.74E-12	5.12E-12	1.19E-11	1.53E-11
Th-229	3.16E-12	2.70E-09	7.73E-06	2.01E-12	2.05E-12	3.84E-12	4.57E-12
Th-232	1.15E-11	9.81E-09	2.81E-05	5.56E-12	5.56E-12	1.31E-11	1.47E-11
U-232	1.15E-09	9.86E-07	2.82E-03	5.47E-10	6.28E-10	1.34E-09	1.43E-09
U-233	2.08E-09	1.78E-06	5.10E-03	1.28E-09	1.67E-09	2.56E-09	3.07E-09
U-234	2.75E-06	2.35E-03	6.73	1.91E-08	3.87E-07	3.58E-06	3.98E-06
U-235	1.05E-07	8.94E-05	0.256	7.26E-10	1.47E-08	1.36E-07	1.51E-07
U-236	2.26E-07	1.94E-04	0.554	1.56E-09	3.19E-08	2.95E-07	3.27E-07
U-238	1.89E-06	1.61E-03	4.62	1.33E-08	2.66E-07	2.46E-06	2.73E-06
Np-237	1.29E-08	1.11E-05	3.17E-02	4.71E-10	6.72E-09	1.93E-08	2.55E-08
Pu-238	6.82E-05	5.83E-02	167	1.91E-07	6.25E-05	7.00E-05	7.15E-05
Pu-239	5.52E-04	0.472	1.35E+03	1.56E-06	5.07E-04	5.67E-04	5.79E-04
Pu-240	1.68E-04	0.143	410	4.71E-07	1.54E-04	1.72E-04	1.76E-04
Pu-241	6.96E-03	5.95	1.70E+04	1.95E-05	6.39E-03	7.15E-03	7.30E-03
Pu-242	2.60E-08	2.22E-05	6.35E-02	7.26E-11	2.38E-08	2.67E-08	2.72E-08
Am-241	1.60E-05	1.37E-02	39.1	2.71E-07	8.14E-06	2.40E-05	6.38E-05
Am-243	3.36E-09	2.87E-06	8.22E-03	5.28E-11	1.71E-09	5.05E-09	1.34E-08
Cm-242	5.50E-08	4.70E-05	0.134	4.77E-08	5.13E-08	5.87E-08	6.23E-08
Cm-243	9.20E-09	7.87E-06	2.25E-02	7.98E-09	8.60E-09	9.83E-09	1.04E-08
Cm-244	6.12E-08	5.23E-05	0.150	1.00E-09	3.12E-08	1.28E-07	2.64E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.70E-03 (g/L)	----	23.7	2.73E-05	8.90E-03	9.97E-03	1.02E-02
U	2.38E-02	4.85E+03	1.39E+04	1.66E-04	3.35E-03	3.10E-02	3.45E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.71E+05 (kg)	(103 kgal)	----	----	----	----	----
Heat Load	9.78E-04 (kW)	(3.34 BTU/hr)	----	1.60E-05	5.10E-04	1.46E-03	1.93E-03
Bulk Density	1.21 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.886	----	----	0.866	0.874	0.910	0.943
Water wt%	72.9	----	----	68.7	70.5	76.4	80.3
TOC wt% C (wet)	3.44E-02	----	----	1.66E-02	2.59E-02	4.27E-02	5.06E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.810	1.54E+04	7.25E+03	0.511	0.660	0.960	1.10
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	1.83	8.45E+04	3.98E+04	1.70	1.79	1.85	1.87
Cr^{3+}	6.78E-03	292	137	3.05E-03	4.90E-03	8.65E-03	1.05E-02
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.02E-04	16.9	7.96	1.57E-07	9.71E-05	1.03E-04	1.04E-04
Zr (as $ZrO(OH)_2$)	4.50E-02	3.40E+03	1.60E+03	6.85E-05	4.36E-02	4.55E-02	4.57E-02
Pb^{2+}	3.68E-05	6.31	2.97	1.65E-05	2.66E-05	4.70E-05	5.68E-05
Ni^{2+}	0.106	5.17E+03	2.43E+03	1.52E-03	7.05E-02	0.126	0.138
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.08E-03	231	109	2.28E-03	3.68E-03	6.49E-03	2.26E-02
Ca^{2+}	0.442	1.47E+04	6.91E+03	1.15E-02	0.263	0.540	0.606
K^{+}	1.51E-02	488	230	5.95E-03	1.06E-02	1.96E-02	2.41E-02
OH^{-}	6.21	8.74E+04	4.12E+04	5.30	5.72	6.58	6.86
$NO3^{-}$	0.234	1.20E+04	5.65E+03	0.114	0.174	0.294	0.352
$NO2^{-}$	8.92E-03	339	160	4.25E-03	6.57E-03	1.13E-02	1.35E-02
$CO3^{2-}$	0.528	2.62E+04	1.24E+04	5.03E-02	0.325	0.650	0.732
$PO4^{3-}$	5.89E-02	4.63E+03	2.18E+03	2.65E-02	4.26E-02	7.52E-02	9.08E-02
$SO4^{2-}$	3.42E-03	272	128	1.54E-03	2.48E-03	4.37E-03	5.28E-03
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^{-}	0.257	4.04E+03	1.90E+03	5.28E-04	0.144	0.294	0.312
Cl^{-}	3.50E-03	103	48.4	1.68E-03	2.59E-03	4.42E-03	5.30E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0	0	0	0	0	0	0
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	2.89E-03	502	236	1.30E-03	2.09E-03	3.68E-03	4.45E-03
butanol	2.89E-03	177	83.4	1.30E-03	2.09E-03	3.68E-03	4.45E-03
NH_3	3.18E-02	447	211	5.28E-04	1.67E-02	4.68E-02	6.13E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.95E+06 (kg)	(1.02E+03 kgal)	----	----	----	----	----
Heat Load	3.35E-03 (kW)	(11.4 BTU/hr)	----	3.07E-03	3.22E-03	3.45E-03	3.61E-03
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.02	1.03	1.04
Water wt%	95.7	----	----	93.2	94.4	96.8	98.0
TOC wt% C (wet)	4.49E-02	----	----	1.97E-02	3.21E-02	5.76E-02	6.97E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.594	1.34E+04	5.28E+04	0.254	0.420	0.769	0.936
Al^{3+}	7.25E-04	19.1	75.5	6.27E-04	7.02E-04	7.48E-04	7.70E-04
Fe^{3+} (total Fe)	1.84E-03	100	396	1.02E-03	1.42E-03	2.26E-03	2.66E-03
Cr^{3+}	7.39E-03	376	1.48E+03	3.14E-03	5.22E-03	9.57E-03	1.17E-02
Bi^{3+}	5.23E-07	0.107	0.422	4.93E-07	5.07E-07	5.38E-07	5.56E-07
La^{3+}	7.39E-09	1.00E-03	3.97E-03	5.46E-09	6.40E-09	8.39E-09	9.34E-09
Hg^{2+}	6.60E-09	1.30E-03	5.11E-03	4.89E-09	6.47E-09	6.73E-09	6.86E-09
Zr (as $ZrO(OH)_2$)	8.31E-07	7.41E-02	0.293	4.27E-07	7.80E-07	8.81E-07	9.30E-07
Pb^{2+}	4.04E-05	8.20	32.3	1.73E-05	2.86E-05	5.22E-05	6.36E-05
Ni^{2+}	1.65E-03	94.9	374	1.49E-03	1.57E-03	1.74E-03	1.82E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.51E-03	296	1.17E+03	2.32E-03	3.88E-03	7.14E-03	8.25E-03
Ca^{2+}	8.27E-03	324	1.28E+03	5.05E-03	6.62E-03	9.90E-03	1.15E-02
K^{+}	6.38E-03	244	962	2.73E-03	4.52E-03	8.24E-03	1.00E-02
OH^{-}	3.87E-02	644	2.54E+03	2.61E-02	3.52E-02	4.00E-02	4.12E-02
$NO3^{-}$	0.238	1.44E+04	5.70E+04	0.101	0.168	0.308	0.375
$NO2^{-}$	1.01E-02	457	1.80E+03	4.83E-03	7.43E-03	1.29E-02	1.55E-02
$CO3^{2-}$	0.102	6.00E+03	2.37E+04	4.67E-02	7.45E-02	0.130	0.157
$PO4^{3-}$	6.39E-02	5.93E+03	2.34E+04	2.69E-02	4.50E-02	8.28E-02	0.101
$SO4^{2-}$	3.83E-03	360	1.42E+03	1.68E-03	2.73E-03	4.93E-03	5.99E-03
Si (as SiO_x^{2-})	3.58E-05	0.983	3.88	3.05E-05	3.31E-05	3.84E-05	4.08E-05
F^{-}	8.87E-05	1.65	6.51	3.05E-05	7.89E-05	9.85E-05	1.08E-04
Cl^{-}	3.70E-03	128	506	1.62E-03	2.64E-03	4.76E-03	5.79E-03
$C_6H_5O_7^{3-}$	1.53E-05	2.83	11.2	1.27E-05	1.40E-05	1.66E-05	1.79E-05
$EDTA^{4-}$	1.19E-05	3.35	13.2	3.92E-06	7.82E-06	1.60E-05	2.00E-05
$HEDTA^{3-}$	2.12E-05	5.68	22.4	5.23E-06	1.30E-05	2.94E-05	3.74E-05
$glycolate^{-}$	8.77E-05	6.44	25.4	5.36E-05	7.03E-05	1.05E-04	1.22E-04
$acetate^{-}$	8.35E-06	0.482	1.90	6.70E-06	7.40E-06	9.36E-06	1.09E-05
$oxalate^{2-}$	9.69E-09	8.34E-04	3.29E-03	8.64E-09	9.15E-09	1.02E-08	1.07E-08
DBP	3.14E-03	645	2.55E+03	1.33E-03	2.21E-03	4.07E-03	4.96E-03
butanol	3.14E-03	228	898	1.33E-03	2.21E-03	4.07E-03	4.96E-03
NH_3	2.23E-04	3.71	14.7	2.75E-05	1.22E-04	3.26E-04	4.28E-04
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.42E+06 (kg)	(1.12E+03 kgal)	----	----	----	----	----
Heat Load	4.32E-03 (kW)	(14.8 BTU/hr)	----	3.30E-03	3.83E-03	4.83E-03	5.33E-03
Bulk Density†	1.04 (g/cc)	----	----	1.02	1.03	1.05	1.06
Water wt%†	93.2	----	----	90.6	91.8	94.7	96.2
TOC wt% C (wet)†	4.38E-02	----	----	1.94E-02	3.15E-02	5.60E-02	6.76E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.614	1.36E+04	6.00E+04	0.277	0.442	0.786	0.952
Al^{3+}	6.59E-04	17.1	75.5	5.70E-04	6.38E-04	6.79E-04	6.99E-04
Fe^{3+} (total Fe)	0.169	9.09E+03	4.02E+04	0.157	0.166	0.171	0.172
Cr^{3+}	7.34E-03	367	1.62E+03	3.13E-03	5.19E-03	9.49E-03	1.16E-02
Bi^{3+}	4.75E-07	9.55E-02	0.422	4.48E-07	4.61E-07	4.88E-07	5.05E-07
La^{3+}	6.72E-09	8.98E-04	3.97E-03	4.96E-09	5.82E-09	7.62E-09	8.49E-09
Hg^{2+}	9.34E-06	1.80	7.97	1.88E-08	8.91E-06	9.48E-06	9.55E-06
Zr (as $ZrO(OH)_2$)	4.13E-03	362	1.60E+03	6.67E-06	4.00E-03	4.17E-03	4.19E-03
Pb^{2+}	4.01E-05	7.99	35.3	1.73E-05	2.84E-05	5.18E-05	6.30E-05
Ni^{2+}	1.13E-02	636	2.81E+03	1.55E-03	7.96E-03	1.30E-02	1.41E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.47E-03	289	1.28E+03	2.32E-03	3.86E-03	7.08E-03	9.57E-03
Ca^{2+}	4.80E-02	1.85E+03	8.19E+03	7.39E-03	3.16E-02	5.70E-02	6.24E-02
K^{+}	7.17E-03	270	1.19E+03	3.57E-03	5.34E-03	9.01E-03	1.08E-02
OH^{-}	0.605	9.90E+03	4.37E+04	0.510	0.556	0.639	0.664
$NO3^{-}$	0.238	1.42E+04	6.26E+04	0.103	0.169	0.307	0.373
$NO2^{-}$	1.00E-02	444	1.96E+03	4.78E-03	7.35E-03	1.27E-02	1.53E-02
$CO3^{2-}$	0.141	8.16E+03	3.60E+04	4.70E-02	9.75E-02	0.178	0.209
$PO4^{3-}$	6.34E-02	5.80E+03	2.56E+04	2.69E-02	4.48E-02	8.21E-02	0.100
$SO4^{2-}$	3.79E-03	351	1.55E+03	1.67E-03	2.71E-03	4.88E-03	5.92E-03
Si (as SiO_x^{2-})	3.25E-05	0.878	3.88	2.77E-05	3.01E-05	3.49E-05	3.70E-05
F^{-}	2.36E-02	432	1.91E+03	7.61E-05	1.33E-02	2.70E-02	2.87E-02
Cl^{-}	3.68E-03	126	554	1.63E-03	2.63E-03	4.73E-03	5.74E-03
$C_6H_5O_7^{3-}$	1.39E-05	2.53	11.2	1.16E-05	1.27E-05	1.51E-05	1.62E-05
$EDTA^{4-}$	1.08E-05	2.99	13.2	3.56E-06	7.10E-06	1.45E-05	1.82E-05
$HEDTA^{3-}$	1.92E-05	5.07	22.4	4.75E-06	1.18E-05	2.67E-05	3.39E-05
$glycolate^{-}$	7.97E-05	5.75	25.4	4.87E-05	6.38E-05	9.56E-05	1.11E-04
$acetate^{-}$	7.58E-06	0.431	1.90	6.09E-06	6.73E-06	8.50E-06	9.91E-06
$oxalate^{2-}$	8.80E-09	7.45E-04	3.29E-03	7.84E-09	8.31E-09	9.28E-09	9.75E-09
DBP	3.12E-03	630	2.78E+03	1.32E-03	2.20E-03	4.03E-03	4.91E-03
butanol	3.12E-03	222	981	1.32E-03	2.20E-03	4.03E-03	4.91E-03
NH_3	3.12E-03	51.0	225	7.34E-05	1.65E-03	4.59E-03	6.01E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.71E+05 (kg)	(103 kgal)	----	----	----	----	----
Heat Load	9.78E-04 (kW)	(3.34 BTU/hr)	----	1.60E-05	5.10E-04	1.46E-03	1.93E-03
Bulk Density	1.21 (g/cc)	----	----	1.12	1.16	1.24	1.27
Void Fraction	0.886	----	----	0.866	0.874	0.910	0.943
Water wt%	72.9	----	----	68.7	70.5	76.4	80.3
TOC wt% C (wet)	3.44E-02	----	----	1.66E-02	2.59E-02	4.27E-02	5.06E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	8.48E-07	7.01E-04	0.330	1.39E-08	4.41E-07	1.26E-06	1.67E-06
C-14	1.04E-08	8.64E-06	4.07E-03	1.71E-10	5.44E-09	1.55E-08	2.06E-08
Ni-59	6.88E-09	5.70E-06	2.68E-03	6.88E-09	6.88E-09	6.88E-09	6.88E-09
Ni-63	7.96E-07	6.58E-04	0.310	7.96E-07	7.96E-07	7.96E-07	7.96E-07
Co-60	1.61E-07	1.33E-04	6.27E-02	2.63E-09	8.38E-08	2.40E-07	3.17E-07
Se-79	1.30E-09	1.08E-06	5.09E-04	2.13E-11	6.80E-10	1.94E-09	2.57E-09
Sr-90	2.05E-04	0.169	79.7	3.34E-06	1.07E-04	3.05E-04	4.03E-04
Y-90	2.05E-04	0.169	79.8	3.35E-06	1.07E-04	3.05E-04	4.03E-04
Zr-93	6.29E-09	5.21E-06	2.45E-03	1.03E-10	3.28E-09	9.37E-09	1.24E-08
Nb-93m	2.66E-09	2.20E-06	1.04E-03	4.34E-11	1.38E-09	3.96E-09	5.23E-09
Tc-99	4.36E-08	3.61E-05	1.70E-02	7.13E-10	2.27E-08	6.49E-08	8.59E-08
Ru-106	2.51E-05	2.08E-02	9.78	2.49E-05	2.51E-05	2.51E-05	2.51E-05
Cd-113m	6.79E-08	5.62E-05	2.65E-02	1.11E-09	3.54E-08	1.01E-07	1.34E-07
Sb-125	3.90E-06	3.23E-03	1.52	6.37E-08	2.03E-06	5.81E-06	7.68E-06
Sn-126	2.06E-09	1.70E-06	8.02E-04	3.36E-11	1.07E-09	3.06E-09	4.05E-09
I-129	8.75E-11	7.25E-08	3.41E-05	1.43E-12	4.56E-11	1.30E-10	1.72E-10
Cs-134	1.73E-06	1.43E-03	0.674	2.83E-08	9.01E-07	2.58E-06	3.41E-06
Cs-137	2.42E-04	0.200	94.1	3.95E-06	1.26E-04	3.60E-04	4.76E-04
Ba-137m	2.29E-04	0.189	89.1	3.73E-06	1.19E-04	3.40E-04	4.50E-04
Sm-151	4.51E-06	3.73E-03	1.76	7.38E-08	2.35E-06	6.72E-06	8.89E-06
Eu-152	5.08E-08	4.21E-05	1.98E-02	4.67E-08	4.88E-08	5.29E-08	5.49E-08
Eu-154	1.20E-06	9.95E-04	0.469	1.97E-08	6.27E-07	1.79E-06	2.37E-06
Eu-155	9.23E-06	7.64E-03	3.60	8.47E-06	8.86E-06	9.60E-06	9.97E-06
Ra-226	1.05E-14	8.70E-12	4.10E-09	1.72E-16	5.48E-15	1.57E-14	2.07E-14
Ra-228	4.61E-18	3.81E-15	1.80E-12	4.23E-18	4.42E-18	4.79E-18	4.98E-18
Ac-227	6.05E-14	5.00E-11	2.36E-08	9.88E-16	3.15E-14	9.01E-14	1.19E-13
Pa-231	3.45E-13	2.86E-10	1.34E-07	5.64E-15	1.80E-13	5.14E-13	6.80E-13
Th-229	5.27E-16	4.36E-13	2.05E-10	4.84E-16	5.06E-16	5.48E-16	5.69E-16
Th-232	1.76E-18	1.46E-15	6.87E-13	2.88E-20	9.18E-19	2.62E-18	3.47E-18
U-232	1.42E-09	1.18E-06	5.53E-04	9.90E-11	1.29E-10	2.53E-09	3.21E-09
U-233	1.46E-11	1.21E-08	5.68E-06	1.01E-12	1.32E-12	2.60E-11	3.29E-11
U-234	6.39E-06	5.29E-03	2.49	4.45E-07	5.80E-07	1.14E-05	1.44E-05
U-235	2.43E-07	2.01E-04	9.46E-02	1.69E-08	2.21E-08	4.33E-07	5.49E-07
U-236	5.26E-07	4.35E-04	0.205	3.66E-08	4.78E-08	9.38E-07	1.19E-06
U-238	4.38E-06	3.63E-03	1.71	3.06E-07	3.98E-07	7.82E-06	9.91E-06
Np-237	6.39E-10	5.28E-07	2.49E-04	1.04E-11	3.33E-10	9.51E-10	1.26E-09
Pu-238	2.70E-04	0.223	105	2.02E-04	2.49E-04	2.87E-04	3.04E-04
Pu-239	2.19E-03	1.81	853	1.64E-03	2.02E-03	2.33E-03	2.47E-03
Pu-240	6.64E-04	0.550	259	4.98E-04	6.13E-04	7.08E-04	7.49E-04
Pu-241	2.76E-02	22.8	1.07E+04	2.07E-02	2.55E-02	2.94E-02	3.11E-02
Pu-242	1.03E-07	8.51E-05	4.01E-02	7.70E-08	9.49E-08	1.10E-07	1.16E-07
Am-241	8.04E-07	6.65E-04	0.313	1.31E-08	4.19E-07	1.20E-06	5.25E-06
Am-243	1.69E-10	1.40E-07	6.60E-05	2.77E-12	8.82E-11	2.52E-10	1.11E-09
Cm-242	4.48E-09	3.71E-06	1.75E-03	4.11E-09	4.30E-09	4.66E-09	4.84E-09
Cm-243	7.50E-10	6.21E-07	2.92E-04	6.89E-10	7.20E-10	7.81E-10	8.11E-10
Cm-244	3.08E-09	2.55E-06	1.20E-03	5.04E-11	1.61E-09	8.08E-09	2.20E-08

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.84E-02 (g/L)	----	15.0	2.88E-02	3.55E-02	4.09E-02	4.33E-02
U	5.53E-02	1.09E+04	5.13E+03	3.85E-03	5.03E-03	9.87E-02	0.125

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.95E+06 (kg)	(1.02E+03 kgal)	----	----	----	----	----
Heat Load	3.35E-03 (kW)	(11.4 BTU/hr)	----	3.07E-03	3.22E-03	3.45E-03	3.61E-03
Bulk Density*	1.02 (g/cc)	----	----	1.01	1.02	1.03	1.04
Water wt%†	95.7	----	----	93.2	94.4	96.8	98.0
TOC wt% C (wet)	4.49E-02	----	----	1.97E-02	3.21E-02	5.76E-02	6.97E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.06E-07	1.04E-04	0.411	7.54E-08	7.54E-08	1.13E-07	1.20E-07
C-14	1.47E-08	1.44E-05	5.67E-02	8.18E-09	8.18E-09	1.49E-08	1.52E-08
Ni-59	8.12E-10	7.94E-07	3.13E-03	5.06E-10	5.06E-10	8.27E-10	8.42E-10
Ni-63	7.99E-08	7.81E-05	0.308	4.97E-08	4.97E-08	8.14E-08	8.29E-08
Co-60	1.96E-08	1.92E-05	7.57E-02	1.22E-08	1.22E-08	2.01E-08	2.06E-08
Se-79	1.65E-09	1.61E-06	6.36E-03	1.23E-09	1.23E-09	1.80E-09	1.94E-09
Sr-90	5.24E-05	5.12E-02	202	4.92E-05	5.13E-05	5.34E-05	5.44E-05
Y-90	5.24E-05	5.12E-02	202	3.81E-05	3.81E-05	5.34E-05	5.44E-05
Zr-93	8.01E-09	7.84E-06	3.09E-02	5.94E-09	5.94E-09	8.76E-09	9.48E-09
Nb-93m	5.84E-09	5.71E-06	2.25E-02	4.39E-09	4.39E-09	6.36E-09	6.87E-09
Tc-99	1.10E-07	1.08E-04	0.426	8.61E-08	9.80E-08	1.23E-07	1.41E-07
Ru-106	5.44E-12	5.32E-09	2.10E-05	4.33E-12	4.48E-12	6.00E-12	6.54E-12
Cd-113m	4.18E-08	4.09E-05	0.161	2.94E-08	2.94E-08	4.63E-08	5.06E-08
Sb-125	1.15E-07	1.13E-04	0.444	8.29E-08	8.29E-08	1.28E-07	1.40E-07
Sn-126	2.50E-09	2.45E-06	9.66E-03	1.88E-09	1.88E-09	2.73E-09	2.94E-09
I-129	2.13E-10	2.09E-07	8.23E-04	1.66E-10	1.89E-10	2.38E-10	2.73E-10
Cs-134	1.94E-08	1.90E-05	7.49E-02	8.90E-09	1.40E-08	2.49E-08	3.03E-08
Cs-137	1.10E-04	0.107	424	9.81E-05	1.03E-04	1.16E-04	1.25E-04
Ba-137m	1.04E-04	0.102	401	8.70E-05	8.70E-05	1.09E-04	1.14E-04
Sm-151	5.82E-06	5.69E-03	22.5	4.37E-06	4.37E-06	6.34E-06	6.85E-06
Eu-152	2.09E-09	2.05E-06	8.09E-03	1.58E-09	1.58E-09	2.31E-09	2.53E-09
Eu-154	3.09E-07	3.02E-04	1.19	2.05E-07	2.05E-07	3.46E-07	3.61E-07
Eu-155	1.30E-07	1.27E-04	0.503	9.96E-08	9.96E-08	1.44E-07	1.57E-07
Ra-226	6.81E-14	6.66E-11	2.63E-07	5.44E-14	5.52E-14	7.51E-14	7.72E-14
Ra-228	1.48E-10	1.45E-07	5.71E-04	5.29E-11	5.29E-11	1.67E-10	1.87E-10
Ac-227	4.24E-13	4.15E-10	1.64E-06	3.45E-13	3.50E-13	4.64E-13	4.77E-13
Pa-231	1.88E-12	1.84E-09	7.26E-06	1.47E-12	1.47E-12	2.03E-12	2.17E-12
Th-229	3.43E-12	3.36E-09	1.33E-05	1.24E-12	1.24E-12	3.85E-12	4.29E-12
Th-232	1.51E-11	1.48E-08	5.84E-05	3.38E-12	3.38E-12	1.83E-11	2.14E-11
U-232	5.71E-10	5.59E-07	2.20E-03	4.44E-10	5.06E-10	6.47E-10	7.27E-10
U-233	1.83E-09	1.79E-06	7.06E-03	1.34E-09	1.58E-09	2.12E-09	2.43E-09
U-234	4.24E-07	4.14E-04	1.64	2.25E-07	3.77E-07	4.45E-07	4.66E-07
U-235	1.61E-08	1.58E-05	6.22E-02	8.57E-09	1.43E-08	1.69E-08	1.77E-08
U-236	3.49E-08	3.41E-05	0.135	1.85E-08	3.10E-08	3.66E-08	3.83E-08
U-238	2.91E-07	2.85E-04	1.12	1.55E-07	2.59E-07	3.06E-07	3.20E-07
Np-237	3.91E-10	3.83E-07	1.51E-03	3.12E-10	3.51E-10	4.33E-10	4.91E-10
Pu-238	9.54E-07	9.33E-04	3.68	2.78E-07	6.09E-07	1.30E-06	1.63E-06
Pu-239	7.74E-06	7.58E-03	29.9	2.27E-06	4.95E-06	1.05E-05	1.32E-05
Pu-240	2.35E-06	2.30E-03	9.07	6.87E-07	1.50E-06	3.20E-06	4.01E-06
Pu-241	9.74E-05	9.53E-02	376	2.84E-05	6.22E-05	1.33E-04	1.66E-04
Pu-242	3.63E-10	3.55E-07	1.40E-03	1.06E-10	2.32E-10	4.95E-10	6.21E-10
Am-241	3.55E-08	3.47E-05	0.137	2.89E-08	3.21E-08	3.89E-08	4.12E-08
Am-243	2.40E-12	2.35E-09	9.26E-06	1.37E-12	1.87E-12	2.94E-12	3.01E-12
Cm-242	7.73E-11	7.56E-08	2.98E-04	5.62E-11	5.62E-11	8.57E-11	9.39E-11
Cm-243	7.64E-12	7.47E-09	2.95E-05	5.63E-12	5.63E-12	8.39E-12	9.13E-12
Cm-244	8.86E-11	8.67E-08	3.42E-04	6.65E-11	6.79E-11	9.99E-11	1.11E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.36E-04 (g/L)	----	0.525	3.97E-05	8.68E-05	1.85E-04	2.32E-04
U	3.67E-03	854	3.37E+03	1.95E-03	3.26E-03	3.86E-03	4.04E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-104

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.42E+06 (kg)	(1.12E+03 kgal)	----	----	----	----	----
Heat Load	4.32E-03 (kW)	(14.8 BTU/hr)	----	3.30E-03	3.83E-03	4.83E-03	5.33E-03
Bulk Density†	1.04 (g/cc)	----	----	1.02	1.03	1.05	1.06
Water wt%†	93.2	----	----	90.6	91.8	94.7	96.2
TOC wt% C (wet)†	4.38E-02	----	----	1.94E-02	3.15E-02	5.60E-02	6.76E-02

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	1.74E-07	1.68E-04	0.741	9.33E-08	1.35E-07	2.15E-07	2.55E-07
C-14	1.43E-08	1.37E-05	6.07E-02	8.39E-09	8.39E-09	1.48E-08	1.53E-08
Ni-59	1.37E-09	1.32E-06	5.82E-03	1.09E-09	1.09E-09	1.38E-09	1.40E-09
Ni-63	1.45E-07	1.40E-04	0.618	1.18E-07	1.18E-07	1.47E-07	1.48E-07
Co-60	3.26E-08	3.13E-05	0.138	1.72E-08	2.50E-08	4.03E-08	4.78E-08
Se-79	1.62E-09	1.56E-06	6.87E-03	1.24E-09	1.24E-09	1.75E-09	1.88E-09
Sr-90	6.63E-05	6.38E-02	282	4.67E-05	5.67E-05	7.61E-05	8.57E-05
Y-90	6.63E-05	6.38E-02	282	4.67E-05	5.33E-05	7.61E-05	8.57E-05
Zr-93	7.86E-09	7.56E-06	3.34E-02	5.97E-09	5.97E-09	8.54E-09	9.19E-09
Nb-93m	5.54E-09	5.34E-06	2.36E-02	4.23E-09	4.23E-09	6.02E-09	6.48E-09
Tc-99	1.04E-07	1.00E-04	0.443	8.22E-08	9.30E-08	1.16E-07	1.32E-07
Ru-106	2.30E-06	2.21E-03	9.78	2.29E-06	2.30E-06	2.30E-06	2.30E-06
Cd-113m	4.42E-08	4.25E-05	0.188	3.29E-08	3.29E-08	4.83E-08	5.22E-08
Sb-125	4.62E-07	4.45E-04	1.96	8.89E-08	2.80E-07	6.48E-07	8.31E-07
Sn-126	2.46E-09	2.37E-06	1.05E-02	1.90E-09	1.90E-09	2.67E-09	2.86E-09
I-129	2.02E-10	1.94E-07	8.57E-04	1.59E-10	1.80E-10	2.25E-10	2.56E-10
Cs-134	1.76E-07	1.70E-04	0.749	1.07E-08	9.53E-08	2.59E-07	3.40E-07
Cs-137	1.22E-04	0.117	518	9.87E-05	1.10E-04	1.33E-04	1.45E-04
Ba-137m	1.15E-04	0.111	490	9.33E-05	1.00E-04	1.26E-04	1.37E-04
Sm-151	5.70E-06	5.48E-03	24.2	4.38E-06	4.38E-06	6.17E-06	6.63E-06
Eu-152	6.56E-09	6.32E-06	2.79E-02	6.10E-09	6.10E-09	6.77E-09	6.96E-09
Eu-154	3.91E-07	3.76E-04	1.66	2.76E-07	2.97E-07	4.48E-07	5.05E-07
Eu-155	9.64E-07	9.28E-04	4.10	8.91E-07	9.28E-07	1.00E-06	1.04E-06
Ra-226	6.28E-14	6.04E-11	2.67E-07	5.04E-14	5.11E-14	6.92E-14	7.11E-14
Ra-228	1.34E-10	1.29E-07	5.71E-04	4.80E-11	4.80E-11	1.52E-10	1.70E-10
Ac-227	3.91E-13	3.76E-10	1.66E-06	3.19E-13	3.23E-13	4.27E-13	4.39E-13
Pa-231	1.74E-12	1.67E-09	7.39E-06	1.36E-12	1.36E-12	1.88E-12	2.01E-12
Th-229	3.12E-12	3.00E-09	1.33E-05	1.12E-12	1.12E-12	3.49E-12	3.89E-12
Th-232	1.37E-11	1.32E-08	5.84E-05	3.07E-12	3.07E-12	1.67E-11	1.95E-11
U-232	6.49E-10	6.24E-07	2.76E-03	4.88E-10	5.21E-10	7.51E-10	8.13E-10
U-233	1.66E-09	1.60E-06	7.07E-03	1.22E-09	1.44E-09	1.93E-09	2.21E-09
U-234	9.70E-07	9.34E-04	4.12	2.46E-07	3.96E-07	1.43E-06	1.71E-06
U-235	3.69E-08	3.55E-05	0.157	9.34E-09	1.50E-08	5.43E-08	6.49E-08
U-236	7.99E-08	7.69E-05	0.339	2.02E-08	3.25E-08	1.18E-07	1.41E-07
U-238	6.66E-07	6.41E-04	2.83	1.69E-07	2.72E-07	9.82E-07	1.17E-06
Np-237	4.14E-10	3.98E-07	1.76E-03	3.42E-10	3.77E-10	4.52E-10	5.05E-10
Pu-238	2.56E-05	2.47E-02	109	1.94E-05	2.37E-05	2.69E-05	2.82E-05
Pu-239	2.08E-04	0.200	882	1.57E-04	1.92E-04	2.18E-04	2.28E-04
Pu-240	6.31E-05	6.07E-02	268	4.78E-05	5.84E-05	6.62E-05	6.93E-05
Pu-241	2.62E-03	2.52	1.11E+04	1.98E-03	2.42E-03	2.75E-03	2.88E-03
Pu-242	9.76E-09	9.39E-06	4.15E-02	7.39E-09	9.04E-09	1.03E-08	1.07E-08
Am-241	1.06E-07	1.02E-04	0.450	2.90E-08	6.84E-08	1.44E-07	5.11E-07
Am-243	1.77E-11	1.70E-08	7.53E-05	1.50E-12	9.79E-12	2.58E-11	1.03E-10
Cm-242	4.81E-10	4.63E-07	2.04E-03	4.45E-10	4.62E-10	4.99E-10	5.16E-10
Cm-243	7.57E-11	7.29E-08	3.22E-04	6.98E-11	7.28E-11	7.87E-11	8.16E-11
Cm-244	3.63E-10	3.49E-07	1.54E-03	6.81E-11	2.19E-10	8.28E-10	2.08E-09

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	3.65E-03 (g/L)	----	15.5	2.76E-03	3.38E-03	3.83E-03	4.01E-03
U	8.40E-03	1.92E+03	8.50E+03	2.13E-03	3.43E-03	1.24E-02	1.48E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.16E+06 (kg)	(240 kgal)	----	----	----	----	----
Heat Load	4.21E-02 (kW)	(144 BTU/hr)	----	6.88E-04	2.19E-02	6.27E-02	8.29E-02
Bulk Density	1.28 (g/cc)	----	----	1.02	1.20	1.31	1.33
Void Fraction	0.854	----	----	0.832	0.839	0.899	0.988
Water wt%	64.1	----	----	58.2	60.5	72.6	96.6
TOC wt% C (wet)	3.55E-03	----	----	1.61E-03	2.58E-03	4.52E-03	5.45E-03

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	4.99	8.94E+04	1.04E+05	7.22E-02	2.82	5.77	6.19
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0.524	2.28E+04	2.66E+04	0.199	0.507	0.530	0.533
Cr^{3+}	7.42E-04	30.1	35.0	3.33E-04	5.37E-04	9.47E-04	1.14E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	1.88E-03	294	342	2.90E-06	1.79E-03	1.91E-03	1.92E-03
Zr (as $ZrO(OH)_2$)	0.830	5.91E+04	6.88E+04	1.26E-03	0.804	0.839	0.843
Pb^{2+}	4.03E-06	0.651	0.758	1.81E-06	2.91E-06	5.14E-06	6.21E-06
Ni^{2+}	1.16E-02	533	621	1.67E-04	7.71E-03	1.38E-02	1.51E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.56E-04	23.8	27.8	2.50E-04	4.03E-04	7.10E-04	2.48E-03
Ca^{2+}	0.133	4.15E+03	4.84E+03	4.81E-02	5.52E-02	0.159	0.171
K^+	0.172	5.24E+03	6.10E+03	3.43E-03	8.97E-02	0.255	0.337
OH^-	5.22	6.93E+04	8.07E+04	0.661	4.85	5.37	5.45
$NO3^-$	0.321	1.55E+04	1.81E+04	2.87E-02	0.179	0.464	0.603
$NO2^-$	9.16E-03	328	383	1.02E-03	4.49E-03	1.53E-02	2.26E-02
$CO3^{2-}$	0.142	6.66E+03	7.76E+03	5.76E-02	6.46E-02	0.168	0.181
$PO4^{3-}$	6.44E-03	477	556	2.90E-03	4.66E-03	8.23E-03	9.94E-03
$SO4^{2-}$	3.75E-04	28.1	32.7	1.68E-04	2.71E-04	4.79E-04	5.78E-04
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	4.74	7.02E+04	8.17E+04	9.74E-03	2.66	5.42	5.75
Cl^-	3.92E-03	108	126	4.21E-04	2.22E-03	5.67E-03	7.37E-03
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.16E-04	51.8	60.3	1.42E-04	2.29E-04	4.03E-04	4.87E-04
butanol	3.16E-04	18.3	21.3	1.42E-04	2.29E-04	4.03E-04	4.87E-04
NH_3	0.587	7.78E+03	9.06E+03	9.74E-03	0.309	0.864	1.13
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.47E+06 (kg)	(800 kgal)	----	----	----	----	----
Heat Load	1.07 (kW)	(3.64E+03 BTU/hr)	----	0.951	1.01	1.13	1.19
Bulk Density*	1.14 (g/cc)	----	----	1.13	1.13	1.15	1.16
Water wt%	76.0	----	----	73.5	74.6	77.2	78.6
TOC wt% C (wet)	0.352	----	----	0.272	0.311	0.392	0.432

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.56	7.16E+04	2.48E+05	3.05	3.31	3.82	4.06
Al^{3+}	0.296	6.98E+03	2.42E+04	0.257	0.276	0.316	0.336
Fe^{3+} (total Fe)	4.87E-03	238	824	3.95E-03	4.56E-03	5.18E-03	5.48E-03
Cr^{3+}	2.23E-02	1.01E+03	3.51E+03	1.91E-02	2.07E-02	2.39E-02	2.55E-02
Bi^{3+}	1.78E-04	32.4	112	1.68E-04	1.73E-04	1.83E-04	1.87E-04
La^{3+}	3.22E-06	0.391	1.35	2.36E-06	2.78E-06	3.66E-06	4.08E-06
Hg^{2+}	7.81E-06	1.37	4.74	3.46E-06	7.48E-06	8.14E-06	8.45E-06
Zr (as $ZrO(OH)_2$)	1.95E-03	155	539	9.30E-04	1.82E-03	2.08E-03	2.20E-03
Pb^{2+}	2.10E-04	38.1	132	1.80E-04	1.95E-04	2.26E-04	2.41E-04
Ni^{2+}	2.67E-03	137	474	2.54E-03	2.60E-03	2.73E-03	2.79E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.62E-03	222	769	2.26E-03	3.41E-03	5.83E-03	6.65E-03
Ca^{2+}	2.03E-02	711	2.46E+03	1.47E-02	1.91E-02	2.15E-02	2.27E-02
K^+	0.161	5.51E+03	1.91E+04	1.91E-02	8.80E-02	0.236	0.310
OH^-	1.97	2.92E+04	1.01E+05	1.62	1.79	2.15	2.32
$NO3^-$	1.39	7.54E+04	2.61E+05	1.14	1.26	1.52	1.65
$NO2^-$	0.339	1.36E+04	4.73E+04	0.290	0.311	0.371	0.379
$CO3^{2-}$	0.221	1.16E+04	4.02E+04	0.180	0.201	0.242	0.262
$PO4^{3-}$	6.35E-02	5.27E+03	1.83E+04	3.61E-02	4.95E-02	7.75E-02	9.10E-02
$SO4^{2-}$	4.99E-02	4.19E+03	1.45E+04	4.33E-02	4.65E-02	5.39E-02	5.66E-02
Si (as SiO_x^{2-})	1.76E-02	432	1.50E+03	1.30E-02	1.52E-02	2.00E-02	2.20E-02
F^-	0.164	2.71E+03	9.41E+03	1.63E-02	0.139	0.188	0.212
Cl^-	5.67E-02	1.76E+03	6.09E+03	4.73E-02	5.19E-02	6.15E-02	6.61E-02
$C_6H_5O_7^{3-}$	7.58E-03	1.25E+03	4.34E+03	5.30E-03	6.41E-03	8.74E-03	9.85E-03
$EDTA^{4-}$	3.40E-03	856	2.97E+03	1.17E-03	2.26E-03	4.55E-03	5.67E-03
$HEDTA^{3-}$	5.95E-03	1.43E+03	4.94E+03	1.48E-03	3.67E-03	8.25E-03	1.05E-02
$glycolate^-$	6.26E-02	4.10E+03	1.42E+04	3.23E-02	4.71E-02	7.81E-02	9.29E-02
$acetate^-$	2.71E-03	140	484	2.23E-03	2.43E-03	3.00E-03	3.45E-03
$oxalate^{2-}$	4.22E-06	0.324	1.12	3.75E-06	3.98E-06	4.46E-06	4.68E-06
DBP	5.49E-03	1.01E+03	3.50E+03	4.15E-03	4.81E-03	6.18E-03	6.84E-03
butanol	5.49E-03	356	1.23E+03	4.15E-03	4.81E-03	6.18E-03	6.84E-03
NH_3	0.516	7.67E+03	2.66E+04	2.04E-02	0.261	0.777	1.03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.63E+06 (kg)	(1.04E+03 kgal)	----	----	----	----	----
Heat Load	1.11 (kW)	(3.79E+03 BTU/hr)	----	0.951	1.03	1.19	1.27
Bulk Density†	1.18 (g/cc)	----	----	1.11	1.16	1.19	1.19
Water wt%†	73.0	----	----	69.7	71.1	75.9	82.5
TOC wt% C (wet)†	0.264	----	----	0.205	0.234	0.295	0.324

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	3.89	7.61E+04	3.52E+05	2.52	3.33	4.14	4.30
Al^{3+}	0.228	5.23E+03	2.42E+04	0.198	0.212	0.243	0.258
Fe^{3+} (total Fe)	0.125	5.92E+03	2.74E+04	4.89E-02	0.121	0.126	0.127
Cr^{3+}	1.73E-02	766	3.54E+03	1.48E-02	1.60E-02	1.86E-02	1.98E-02
Bi^{3+}	1.37E-04	24.3	112	1.29E-04	1.33E-04	1.41E-04	1.44E-04
La^{3+}	2.48E-06	0.293	1.35	1.82E-06	2.14E-06	2.82E-06	3.14E-06
Hg^{2+}	4.40E-04	75.0	347	3.33E-06	4.20E-04	4.46E-04	4.49E-04
Zr (as $ZrO(OH)_2$)	0.193	1.50E+04	6.93E+04	1.01E-03	0.187	0.195	0.196
Pb^{2+}	1.63E-04	28.6	133	1.39E-04	1.51E-04	1.75E-04	1.86E-04
Ni^{2+}	4.74E-03	236	1.09E+03	2.03E-03	3.83E-03	5.23E-03	5.53E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.68E-03	172	797	1.79E-03	2.72E-03	4.65E-03	5.69E-03
Ca^{2+}	4.63E-02	1.58E+03	7.30E+03	2.24E-02	2.83E-02	5.22E-02	5.51E-02
K^+	0.164	5.44E+03	2.52E+04	1.55E-02	8.84E-02	0.241	0.316
OH^-	2.72	3.93E+04	1.82E+05	1.62	2.58	2.86	2.99
$NO3^-$	1.14	6.03E+04	2.79E+05	0.886	1.01	1.28	1.41
$NO2^-$	0.263	1.03E+04	4.77E+04	0.225	0.241	0.287	0.294
$CO3^{2-}$	0.203	1.04E+04	4.80E+04	0.159	0.182	0.222	0.239
$PO4^{3-}$	5.03E-02	4.06E+03	1.88E+04	2.84E-02	3.92E-02	6.15E-02	7.23E-02
$SO4^{2-}$	3.85E-02	3.14E+03	1.46E+04	3.34E-02	3.59E-02	4.16E-02	4.36E-02
Si (as SiO_x^{2-})	1.35E-02	324	1.50E+03	9.98E-03	1.17E-02	1.54E-02	1.70E-02
F^-	1.22	1.97E+04	9.12E+04	1.48E-02	0.741	1.38	1.45
Cl^-	4.45E-02	1.34E+03	6.21E+03	3.73E-02	4.08E-02	4.82E-02	5.18E-02
$C_6H_5O_7^{3-}$	5.83E-03	937	4.34E+03	4.08E-03	4.93E-03	6.72E-03	7.58E-03
$EDTA^{4-}$	2.62E-03	641	2.97E+03	8.97E-04	1.74E-03	3.50E-03	4.36E-03
$HEDTA^{3-}$	4.58E-03	1.07E+03	4.94E+03	1.14E-03	2.82E-03	6.35E-03	8.07E-03
$glycolate^-$	4.81E-02	3.07E+03	1.42E+04	2.48E-02	3.62E-02	6.01E-02	7.15E-02
$acetate^-$	2.08E-03	104	484	1.71E-03	1.87E-03	2.31E-03	2.65E-03
$oxalate^{2-}$	3.24E-06	0.243	1.12	2.89E-06	3.06E-06	3.43E-06	3.60E-06
DBP	4.30E-03	768	3.56E+03	3.22E-03	3.75E-03	4.85E-03	5.38E-03
butanol	4.30E-03	271	1.25E+03	3.22E-03	3.75E-03	4.85E-03	5.38E-03
NH_3	0.532	7.69E+03	3.56E+04	1.80E-02	0.272	0.797	1.06
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.16E+06 (kg)	(240 kgal)	----	----	----	----	----
Heat Load	4.21E-02 (kW)	(144 BTU/hr)	----	6.88E-04	2.19E-02	6.27E-02	8.29E-02
Bulk Density	1.28 (g/cc)	----	----	1.02	1.20	1.31	1.33
Void Fraction	0.854	----	----	0.832	0.839	0.899	0.988
Water wt%	64.1	----	----	58.2	60.5	72.6	96.6
TOC wt% C (wet)	3.55E-03	----	----	1.61E-03	2.58E-03	4.52E-03	5.45E-03
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.56E-05	1.22E-02	14.2	2.56E-07	8.15E-06	2.33E-05	3.08E-05
C-14	1.93E-07	1.50E-04	0.175	3.15E-09	1.00E-07	2.87E-07	3.79E-07
Ni-59	1.27E-07	9.90E-05	0.115	1.27E-07	1.27E-07	1.27E-07	1.27E-07
Ni-63	1.47E-05	1.14E-02	13.3	1.47E-05	1.47E-05	1.47E-05	1.47E-05
Co-60	2.97E-06	2.32E-03	2.70	4.85E-08	1.55E-06	4.42E-06	5.85E-06
Se-79	2.41E-08	1.88E-05	2.19E-02	3.94E-10	1.25E-08	3.59E-08	4.74E-08
Sr-90	3.78E-03	2.94	3.43E+03	6.17E-05	1.97E-03	5.62E-03	7.44E-03
Y-90	3.78E-03	2.95	3.43E+03	6.17E-05	1.97E-03	5.63E-03	7.44E-03
Zr-93	1.16E-07	9.06E-05	0.105	1.90E-09	6.05E-08	1.73E-07	2.29E-07
Nb-93m	4.90E-08	3.82E-05	4.45E-02	8.01E-10	2.55E-08	7.30E-08	9.66E-08
Tc-99	8.04E-07	6.27E-04	0.731	1.31E-08	4.19E-07	1.20E-06	1.58E-06
Ru-106	4.63E-04	0.361	421	4.60E-04	4.63E-04	4.63E-04	4.63E-04
Cd-113m	1.25E-06	9.78E-04	1.14	2.05E-08	6.53E-07	1.87E-06	2.47E-06
Sb-125	7.19E-05	5.61E-02	65.3	1.18E-06	3.75E-05	1.07E-04	1.42E-04
Sn-126	3.80E-08	2.96E-05	3.45E-02	6.20E-10	1.98E-08	5.65E-08	7.48E-08
I-129	1.62E-09	1.26E-06	1.47E-03	2.64E-11	8.42E-10	2.41E-09	3.18E-09
Cs-134	3.19E-05	2.49E-02	29.0	5.22E-07	1.66E-05	4.75E-05	6.29E-05
Cs-137	4.46E-03	3.48	4.05E+03	7.29E-05	2.32E-03	6.64E-03	8.78E-03
Ba-137m	4.22E-03	3.29	3.83E+03	6.89E-05	2.20E-03	6.28E-03	8.30E-03
Sm-151	8.33E-05	6.49E-02	75.6	1.36E-06	4.34E-05	1.24E-04	1.64E-04
Eu-152	9.38E-07	7.32E-04	0.852	8.61E-07	9.01E-07	9.76E-07	1.01E-06
Eu-154	2.22E-05	1.73E-02	20.2	3.63E-07	1.16E-05	3.31E-05	4.37E-05
Eu-155	1.70E-04	0.133	155	1.56E-04	1.63E-04	1.77E-04	1.84E-04
Ra-226	1.94E-13	1.51E-10	1.76E-07	3.17E-15	1.01E-13	2.89E-13	3.82E-13
Ra-228	8.50E-17	6.63E-14	7.72E-11	7.80E-17	8.16E-17	8.85E-17	9.19E-17
Ac-227	1.12E-12	8.70E-10	1.01E-06	1.82E-14	5.81E-13	1.66E-12	2.20E-12
Pa-231	6.37E-12	4.97E-09	5.78E-06	1.04E-13	3.32E-12	9.48E-12	1.25E-11
Th-229	9.72E-15	7.58E-12	8.83E-09	8.93E-15	9.33E-15	1.01E-14	1.05E-14
Th-232	3.25E-17	2.54E-14	2.95E-11	5.32E-19	1.69E-17	4.84E-17	6.40E-17
U-232	1.07E-09	8.32E-07	9.69E-04	1.53E-10	2.30E-10	1.36E-09	1.50E-09
U-233	1.09E-11	8.53E-09	9.94E-06	1.56E-12	2.36E-12	1.39E-11	1.54E-11
U-234	4.80E-06	3.74E-03	4.36	6.86E-07	1.04E-06	6.12E-06	6.75E-06
U-235	1.82E-07	1.42E-04	0.166	2.61E-08	3.94E-08	2.33E-07	2.57E-07
U-236	3.95E-07	3.08E-04	0.359	5.65E-08	8.53E-08	5.04E-07	5.56E-07
U-238	3.29E-06	2.57E-03	2.99	4.71E-07	7.11E-07	4.20E-06	4.64E-06
Np-237	1.18E-08	9.19E-06	1.07E-02	1.93E-10	6.14E-09	1.76E-08	2.32E-08
Pu-238	1.37E-04	0.107	124	2.91E-05	1.28E-04	1.40E-04	1.43E-04
Pu-239	1.11E-03	0.866	1.01E+03	2.36E-04	1.04E-03	1.13E-03	1.16E-03
Pu-240	3.37E-04	0.263	306	7.16E-05	3.15E-04	3.45E-04	3.51E-04
Pu-241	1.40E-02	10.9	1.27E+04	2.97E-03	1.31E-02	1.43E-02	1.46E-02
Pu-242	5.22E-08	4.07E-05	4.74E-02	1.11E-08	4.88E-08	5.33E-08	5.43E-08
Am-241	1.48E-05	1.16E-02	13.5	2.43E-07	7.73E-06	2.21E-05	9.69E-05
Am-243	3.13E-09	2.44E-06	2.84E-03	5.11E-11	1.63E-09	4.66E-09	2.04E-08
Cm-242	8.26E-08	6.44E-05	7.50E-02	7.59E-08	7.93E-08	8.60E-08	8.93E-08
Cm-243	1.38E-08	1.08E-05	1.26E-02	1.27E-08	1.33E-08	1.44E-08	1.50E-08
Cm-244	5.69E-08	4.44E-05	5.17E-02	9.30E-10	2.96E-08	1.49E-07	4.05E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.95E-02 (g/L)	----	17.7	4.14E-03	1.82E-02	1.99E-02	2.03E-02
U	4.16E-02	7.71E+03	8.98E+03	5.94E-03	8.97E-03	5.30E-02	5.85E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.47E+06 (kg)	(800 kgal)	----	----	----	----	----
Heat Load	1.07 (kW)	(3.64E+03 BTU/hr)	----	0.951	1.01	1.13	1.19
Bulk Density*	1.14 (g/cc)	----	----	1.13	1.13	1.15	1.16
Water wt%†	76.0	----	----	73.5	74.6	77.2	78.6
TOC wt% C (wet)	0.352	----	----	0.272	0.311	0.392	0.432
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	5.04E-05	4.40E-02	153	3.74E-05	3.97E-05	5.72E-05	6.39E-05
C-14	5.19E-06	4.53E-03	15.7	2.95E-06	2.95E-06	5.32E-06	5.41E-06
Ni-59	3.20E-07	2.79E-04	0.969	2.14E-07	2.14E-07	3.25E-07	3.30E-07
Ni-63	3.15E-05	2.75E-02	95.4	2.11E-05	2.11E-05	3.20E-05	3.25E-05
Co-60	9.11E-06	7.96E-03	27.6	6.55E-06	6.55E-06	1.04E-05	1.17E-05
Se-79	7.47E-07	6.53E-04	2.26	5.76E-07	6.04E-07	8.34E-07	9.18E-07
Sr-90	2.57E-02	22.4	7.77E+04	2.25E-02	2.41E-02	2.73E-02	2.89E-02
Y-90	2.57E-02	22.4	7.78E+04	2.07E-02	2.07E-02	2.73E-02	2.90E-02
Zr-93	3.56E-06	3.11E-03	10.8	2.79E-06	2.84E-06	3.95E-06	4.33E-06
Nb-93m	2.63E-06	2.30E-03	7.97	2.02E-06	2.13E-06	2.95E-06	3.25E-06
Tc-99	3.81E-05	3.33E-02	115	2.97E-05	3.38E-05	4.24E-05	4.70E-05
Ru-106	5.42E-09	4.74E-06	1.64E-02	3.14E-09	4.26E-09	6.58E-09	7.70E-09
Cd-113m	1.73E-05	1.52E-02	52.5	1.30E-05	1.30E-05	1.95E-05	2.04E-05
Sb-125	9.38E-05	8.20E-02	284	3.40E-05	6.30E-05	1.25E-04	1.56E-04
Sn-126	1.15E-06	1.00E-03	3.48	8.78E-07	9.33E-07	1.29E-06	1.42E-06
I-129	7.37E-08	6.44E-05	0.223	5.75E-08	6.54E-08	8.20E-08	9.10E-08
Cs-134	2.98E-05	2.60E-02	90.3	3.26E-06	1.61E-05	4.38E-05	5.75E-05
Cs-137	3.83E-02	33.5	1.16E+05	3.46E-02	3.64E-02	4.03E-02	4.26E-02
Ba-137m	3.63E-02	31.7	1.10E+05	3.14E-02	3.14E-02	3.81E-02	3.99E-02
Sm-151	2.65E-03	2.32	8.04E+03	2.04E-03	2.15E-03	2.97E-03	3.27E-03
Eu-152	8.94E-07	7.81E-04	2.71	7.16E-07	7.16E-07	9.73E-07	1.05E-06
Eu-154	1.35E-04	0.118	408	9.89E-05	9.89E-05	1.48E-04	1.54E-04
Eu-155	6.16E-05	5.38E-02	186	4.98E-05	5.10E-05	6.78E-05	7.39E-05
Ra-226	3.34E-11	2.92E-08	1.01E-04	2.13E-11	2.72E-11	3.96E-11	3.98E-11
Ra-228	4.84E-08	4.23E-05	0.147	2.08E-08	2.08E-08	5.58E-08	6.37E-08
Ac-227	2.05E-10	1.80E-07	6.22E-04	1.35E-10	1.70E-10	2.41E-10	2.26E-10
Pa-231	8.04E-10	7.03E-07	2.44E-03	6.46E-10	6.61E-10	8.82E-10	9.56E-10
Th-229	1.12E-09	9.82E-07	3.40E-03	4.86E-10	4.86E-10	1.29E-09	1.46E-09
Th-232	4.74E-09	4.14E-06	1.44E-02	1.33E-09	1.33E-09	5.68E-09	6.58E-09
U-232	1.66E-07	1.45E-04	0.503	1.16E-07	1.40E-07	1.96E-07	2.27E-07
U-233	6.36E-07	5.55E-04	1.92	4.44E-07	5.38E-07	7.49E-07	8.70E-07
U-234	7.16E-07	6.25E-04	2.17	4.27E-07	6.81E-07	7.32E-07	7.47E-07
U-235	2.74E-08	2.39E-05	8.29E-02	1.64E-08	2.61E-08	2.80E-08	2.86E-08
U-236	5.37E-08	4.69E-05	0.163	2.99E-08	5.09E-08	5.50E-08	5.63E-08
U-238	5.60E-07	4.90E-04	1.70	3.62E-07	5.37E-07	5.72E-07	5.82E-07
Np-237	1.41E-07	1.24E-04	0.428	1.14E-07	1.27E-07	1.56E-07	1.71E-07
Pu-238	1.68E-06	1.47E-03	5.08	1.13E-06	1.42E-06	1.93E-06	2.18E-06
Pu-239	1.99E-05	1.74E-02	60.3	1.55E-05	1.78E-05	2.20E-05	2.40E-05
Pu-240	5.02E-06	4.38E-03	15.2	3.67E-06	4.39E-06	5.65E-06	6.25E-06
Pu-241	1.61E-04	0.141	489	1.06E-04	1.35E-04	1.88E-04	2.13E-04
Pu-242	6.47E-10	5.65E-07	1.96E-03	4.39E-10	5.49E-10	7.44E-10	8.38E-10
Am-241	2.90E-05	2.53E-02	87.8	1.67E-05	2.26E-05	3.55E-05	3.58E-05
Am-243	3.47E-09	3.03E-06	1.05E-02	8.69E-10	2.13E-09	4.84E-09	4.89E-09
Cm-242	3.91E-08	3.42E-05	0.118	3.09E-08	3.18E-08	4.33E-08	4.73E-08
Cm-243	4.29E-09	3.75E-06	1.30E-02	3.33E-09	3.60E-09	4.79E-09	5.29E-09
Cm-244	8.82E-08	7.70E-05	0.267	4.08E-08	6.38E-08	1.04E-07	1.08E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.14E-04 (g/L)	----	0.950	2.36E-04	2.77E-04	3.50E-04	3.85E-04
U	6.46E-03	1.34E+03	4.66E+03	3.96E-03	6.16E-03	6.60E-03	6.73E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-105

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.63E+06 (kg)	(1.04E+03 kgal)	----	----	----	----	----
Heat Load	1.11 (kW)	(3.79E+03 BTU/hr)	----	0.951	1.03	1.19	1.27
Bulk Density†	1.18 (g/cc)	----	----	1.11	1.16	1.19	1.19
Water wt%†	73.0	----	----	69.7	71.1	75.9	82.5
TOC wt% C (wet)†	0.264	----	----	0.205	0.234	0.295	0.324
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.24E-05	3.60E-02	167	2.88E-05	3.41E-05	4.94E-05	5.63E-05
C-14	4.04E-06	3.43E-03	15.9	2.31E-06	2.31E-06	4.14E-06	4.21E-06
Ni-59	2.75E-07	2.34E-04	1.08	1.94E-07	1.94E-07	2.79E-07	2.83E-07
Ni-63	2.76E-05	2.35E-02	109	1.96E-05	1.96E-05	2.80E-05	2.84E-05
Co-60	7.70E-06	6.54E-03	30.3	5.12E-06	5.72E-06	9.03E-06	1.03E-05
Se-79	5.80E-07	4.93E-04	2.28	4.49E-07	4.70E-07	6.47E-07	7.12E-07
Sr-90	2.06E-02	17.5	8.12E+04	1.73E-02	1.90E-02	2.23E-02	2.40E-02
Y-90	2.06E-02	17.5	8.12E+04	1.68E-02	1.68E-02	2.23E-02	2.40E-02
Zr-93	2.76E-06	2.35E-03	10.9	2.17E-06	2.21E-06	3.07E-06	3.35E-06
Nb-93m	2.04E-06	1.73E-03	8.01	1.56E-06	1.65E-06	2.28E-06	2.51E-06
Tc-99	2.95E-05	2.51E-02	116	2.31E-05	2.62E-05	3.28E-05	3.64E-05
Ru-106	1.07E-04	9.09E-02	421	1.06E-04	1.07E-04	1.07E-04	1.07E-04
Cd-113m	1.36E-05	1.16E-02	53.6	1.03E-05	1.03E-05	1.53E-05	1.60E-05
Sb-125	8.88E-05	7.55E-02	349	2.64E-05	5.71E-05	1.21E-04	1.53E-04
Sn-126	8.92E-07	7.58E-04	3.51	6.84E-07	7.27E-07	9.98E-07	1.10E-06
I-129	5.70E-08	4.85E-05	0.224	4.46E-08	5.07E-08	6.34E-08	7.04E-08
Cs-134	3.03E-05	2.58E-02	119	2.63E-06	1.62E-05	4.47E-05	5.87E-05
Cs-137	3.05E-02	25.9	1.20E+05	2.66E-02	2.85E-02	3.25E-02	3.45E-02
Ba-137m	2.89E-02	24.5	1.14E+05	2.51E-02	2.51E-02	3.08E-02	3.26E-02
Sm-151	2.06E-03	1.75	8.11E+03	1.59E-03	1.68E-03	2.30E-03	2.54E-03
Eu-152	9.04E-07	7.69E-04	3.56	7.68E-07	7.68E-07	9.65E-07	1.02E-06
Eu-154	1.09E-04	9.24E-02	428	8.12E-05	8.12E-05	1.19E-04	1.28E-04
Eu-155	8.66E-05	7.37E-02	341	7.44E-05	7.85E-05	9.30E-05	9.93E-05
Ra-226	2.58E-11	2.19E-08	1.01E-04	1.64E-11	2.10E-11	3.05E-11	3.07E-11
Ra-228	3.73E-08	3.17E-05	0.147	1.60E-08	1.60E-08	4.29E-08	4.90E-08
Ac-227	1.58E-10	1.35E-07	6.23E-04	1.04E-10	1.31E-10	1.86E-10	1.74E-10
Pa-231	6.20E-10	5.27E-07	2.44E-03	4.98E-10	5.10E-10	6.80E-10	7.37E-10
Th-229	8.65E-10	7.35E-07	3.40E-03	3.74E-10	3.74E-10	9.90E-10	1.12E-09
Th-232	3.65E-09	3.10E-06	1.44E-02	1.02E-09	1.02E-09	4.37E-09	5.06E-09
U-232	1.28E-07	1.09E-04	0.504	8.94E-08	1.08E-07	1.51E-07	1.75E-07
U-233	4.89E-07	4.16E-04	1.92	3.42E-07	4.14E-07	5.76E-07	6.69E-07
U-234	1.66E-06	1.41E-03	6.52	4.87E-07	7.83E-07	1.96E-06	2.11E-06
U-235	6.31E-08	5.37E-05	0.249	1.86E-08	2.99E-08	7.47E-08	8.03E-08
U-236	1.32E-07	1.13E-04	0.521	3.61E-08	6.04E-08	1.58E-07	1.70E-07
U-238	1.19E-06	1.01E-03	4.69	3.87E-07	5.91E-07	1.40E-06	1.50E-06
Np-237	1.12E-07	9.48E-05	0.439	9.05E-08	1.01E-07	1.22E-07	1.34E-07
Pu-238	3.29E-05	2.80E-02	130	7.58E-06	3.08E-05	3.36E-05	3.39E-05
Pu-239	2.71E-04	0.231	1.07E+03	6.63E-05	2.55E-04	2.77E-04	2.80E-04
Pu-240	8.17E-05	6.94E-02	321	1.93E-05	7.66E-05	8.33E-05	8.42E-05
Pu-241	3.35E-03	2.85	1.32E+04	7.67E-04	3.14E-03	3.42E-03	3.46E-03
Pu-242	1.25E-08	1.07E-05	4.94E-02	2.89E-09	1.18E-08	1.28E-08	1.29E-08
Am-241	2.57E-05	2.19E-02	101	1.29E-05	1.92E-05	3.24E-05	4.17E-05
Am-243	3.39E-09	2.88E-06	1.33E-02	6.80E-10	2.01E-09	4.80E-09	6.76E-09
Cm-242	4.92E-08	4.18E-05	0.193	4.28E-08	4.36E-08	5.24E-08	5.55E-08
Cm-243	6.49E-09	5.52E-06	2.56E-02	5.50E-09	5.96E-09	7.01E-09	7.52E-09
Cm-244	8.09E-08	6.88E-05	0.319	3.16E-08	5.59E-08	1.15E-07	1.47E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.74E-03 (g/L)	----	18.7	1.14E-03	4.44E-03	4.84E-03	4.88E-03
U	1.46E-02	2.95E+03	1.36E+04	4.42E-03	6.98E-03	1.72E-02	1.85E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.11E+03 (kg)	(0.999 kgal)	----	----	----	----	----
Heat Load	0.189 (kW)	(647 BTU/hr)	----	3.57E-02	0.140	0.217	0.234
Bulk Density	1.62 (g/cc)	----	----	1.35	1.44	1.74	1.78
Void Fraction	0.668	----	----	0.542	0.575	0.796	0.830
Water wt%	45.1	----	----	41.2	41.5	51.5	57.0
TOC wt% C (wet)	0.244	----	----	0.164	0.210	0.281	0.353

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	7.00	9.96E+04	609	1.29	2.82	9.42	11.5
Al^{3+}	3.06	5.10E+04	312	2.98	3.03	3.07	3.16
Fe^{3+} (total Fe)	2.21	7.63E+04	466	1.85	2.09	2.27	2.34
Cr^{3+}	1.34E-07	4.31E-03	2.63E-05	7.53E-08	1.15E-07	1.48E-07	2.12E-07
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	1.21	4.39E+04	268	0.888	1.11	1.27	1.30
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0.203	5.04E+03	30.8	3.89E-03	5.93E-03	0.492	0.716
K^{+}	9.02E-03	218	1.33	5.07E-03	7.74E-03	9.94E-03	1.43E-02
OH^{-}	19.2	2.02E+05	1.24E+03	16.8	18.5	19.7	20.6
$NO3^{-}$	8.76E-06	0.336	2.05E-03	9.98E-07	1.91E-06	1.34E-04	3.89E-02
$NO2^{-}$	0.592	1.69E+04	103	0.294	0.508	0.653	0.936
$CO3^{2-}$	0.377	1.40E+04	85.6	-0.137	0.155	0.684	0.874
$PO4^{3-}$	6.70E-03	394	2.41	3.76E-03	5.74E-03	7.38E-03	1.06E-02
$SO4^{2-}$	2.95E-02	1.75E+03	10.7	1.66E-02	2.53E-02	3.25E-02	4.66E-02
Si (as SiO_x^{2-})	2.38	4.14E+04	253	1.88E-02	0.451	3.64	4.84
F^{-}	0	0	0	0	0	0	0
Cl^{-}	4.15E-02	910	5.56	2.33E-02	3.56E-02	4.57E-02	6.56E-02
$C_6H_5O_7^{3-}$	1.00E-02	1.18E+03	7.18	5.65E-03	8.62E-03	1.11E-02	1.59E-02
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0.134	6.22E+03	38.0	7.53E-02	0.115	0.148	0.212
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	9.23E-02	970	5.93	1.33E-02	7.21E-02	0.111	0.179
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.27E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	2.64 (kW)	(9.00E+03 BTU/hr)	----	2.50	2.57	2.71	2.78
Bulk Density*	1.26 (g/cc)	----	----	1.22	1.24	1.28	1.30
Water wt%	62.1	----	----	57.8	59.8	64.2	66.5
TOC wt% C (wet)	0.586	----	----	0.450	0.518	0.652	0.714

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.36	1.16E+05	6.13E+05	5.28	5.81	6.91	7.41
Al^{3+}	0.559	1.20E+04	6.32E+04	0.475	0.516	0.602	0.643
Fe^{3+} (total Fe)	8.09E-03	359	1.89E+03	7.10E-03	7.58E-03	8.60E-03	9.08E-03
Cr^{3+}	4.11E-02	1.70E+03	8.95E+03	3.59E-02	3.85E-02	4.37E-02	4.63E-02
Bi^{3+}	3.33E-04	55.3	292	3.11E-04	3.22E-04	3.44E-04	3.55E-04
La^{3+}	8.21E-06	0.906	4.78	5.99E-06	7.07E-06	9.35E-06	1.04E-05
Hg^{2+}	7.88E-06	1.26	6.63	4.23E-06	7.61E-06	8.16E-06	8.42E-06
Zr (as $ZrO(OH)_2$)	1.67E-03	121	637	8.10E-04	1.56E-03	1.77E-03	1.88E-03
Pb^{2+}	3.60E-04	59.3	313	3.13E-04	3.36E-04	3.84E-04	4.08E-04
Ni^{2+}	4.75E-03	222	1.17E+03	4.55E-03	4.65E-03	4.85E-03	4.95E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.63E-03	333	1.76E+03	3.77E-03	5.66E-03	9.60E-03	1.09E-02
Ca^{2+}	3.34E-02	1.06E+03	5.60E+03	2.86E-02	3.14E-02	3.53E-02	3.72E-02
K^{+}	0.153	4.74E+03	2.50E+04	3.30E-02	9.09E-02	0.215	0.277
OH^{-}	3.73	5.03E+04	2.65E+05	2.99	3.35	4.11	4.47
$NO3^{-}$	2.31	1.14E+05	6.00E+05	2.04	2.17	2.45	2.58
$NO2^{-}$	0.623	2.28E+04	1.20E+05	0.550	0.581	0.668	0.695
$CO3^{2-}$	0.398	1.90E+04	1.00E+05	0.312	0.354	0.440	0.470
$PO4^{3-}$	0.107	8.05E+03	4.25E+04	6.20E-02	8.39E-02	0.130	0.152
$SO4^{2-}$	9.25E-02	7.06E+03	3.72E+04	7.83E-02	8.53E-02	9.98E-02	0.107
Si (as SiO_x^{2-})	3.53E-02	787	4.15E+03	2.54E-02	3.02E-02	4.03E-02	4.47E-02
F^{-}	0.147	2.21E+03	1.17E+04	2.31E-02	0.126	0.167	0.188
Cl^{-}	0.104	2.93E+03	1.54E+04	8.40E-02	9.38E-02	0.114	0.124
$C_6H_5O_7^{3-}$	1.49E-02	2.24E+03	1.18E+04	1.01E-02	1.24E-02	1.74E-02	1.97E-02
$EDTA^{4-}$	5.35E-03	1.22E+03	6.45E+03	1.83E-03	3.55E-03	7.16E-03	8.93E-03
$HEDTA^{3-}$	9.40E-03	2.05E+03	1.08E+04	2.36E-03	5.80E-03	1.30E-02	1.66E-02
$glycolate^{-}$	0.129	7.68E+03	4.05E+04	6.46E-02	9.60E-02	0.162	0.193
$acetate^{-}$	4.12E-03	193	1.02E+03	3.42E-03	3.72E-03	4.55E-03	5.20E-03
$oxalate^{2-}$	1.08E-05	0.752	3.96	9.55E-06	1.01E-05	1.14E-05	1.20E-05
DBP	9.29E-03	1.55E+03	8.18E+03	7.10E-03	8.17E-03	1.04E-02	1.15E-02
butanol	9.29E-03	547	2.89E+03	7.10E-03	8.17E-03	1.04E-02	1.15E-02
NH_3	0.463	6.25E+03	3.30E+04	4.65E-02	0.248	0.682	0.897
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.28E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	2.82 (kW)	(9.65E+03 BTU/hr)	----	2.67	2.76	2.90	2.97
Bulk Density†	1.26 (g/cc)	----	----	1.22	1.24	1.28	1.30
Water wt%†	62.1	----	----	57.8	59.8	64.2	66.5
TOC wt% C (wet)†	0.585	----	----	0.450	0.517	0.652	0.713

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.36	1.16E+05	6.13E+05	5.27	5.81	6.91	7.42
Al^{3+}	0.561	1.20E+04	6.35E+04	0.477	0.518	0.604	0.645
Fe^{3+} (total Fe)	1.01E-02	447	2.36E+03	9.08E-03	9.57E-03	1.06E-02	1.11E-02
Cr^{3+}	4.10E-02	1.70E+03	8.95E+03	3.59E-02	3.84E-02	4.37E-02	4.62E-02
Bi^{3+}	3.33E-04	55.2	292	3.11E-04	3.22E-04	3.44E-04	3.54E-04
La^{3+}	8.20E-06	0.905	4.78	5.98E-06	7.07E-06	9.34E-06	1.04E-05
Hg^{2+}	7.88E-06	1.26	6.63	4.23E-06	7.60E-06	8.15E-06	8.42E-06
Zr (as $ZrO(OH)_2$)	1.67E-03	121	637	8.09E-04	1.56E-03	1.77E-03	1.88E-03
Pb^{2+}	3.60E-04	59.2	313	3.12E-04	3.36E-04	3.84E-04	4.07E-04
Ni^{2+}	5.84E-03	272	1.44E+03	5.55E-03	5.73E-03	5.94E-03	6.03E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	7.62E-03	333	1.76E+03	3.77E-03	5.65E-03	9.60E-03	1.09E-02
Ca^{2+}	3.35E-02	1.07E+03	5.63E+03	2.88E-02	3.15E-02	3.55E-02	3.74E-02
K^{+}	0.152	4.73E+03	2.50E+04	3.30E-02	9.09E-02	0.215	0.277
OH^{-}	3.74	5.05E+04	2.67E+05	3.00	3.36	4.12	4.48
$NO3^{-}$	2.31	1.14E+05	6.00E+05	2.04	2.17	2.44	2.57
$NO2^{-}$	0.623	2.28E+04	1.20E+05	0.550	0.581	0.668	0.695
$CO3^{2-}$	0.398	1.90E+04	1.00E+05	0.311	0.354	0.441	0.470
$PO4^{3-}$	0.107	8.04E+03	4.25E+04	6.19E-02	8.38E-02	0.129	0.151
$SO4^{2-}$	9.24E-02	7.05E+03	3.72E+04	7.83E-02	8.52E-02	9.97E-02	0.107
Si (as SiO_x^{2-})	3.74E-02	834	4.40E+03	2.86E-02	3.35E-02	4.13E-02	4.47E-02
F^{-}	0.147	2.21E+03	1.17E+04	2.30E-02	0.126	0.167	0.187
Cl^{-}	0.104	2.92E+03	1.54E+04	8.40E-02	9.37E-02	0.114	0.124
$C_6H_5O_7^{3-}$	1.49E-02	2.24E+03	1.18E+04	1.01E-02	1.24E-02	1.74E-02	1.97E-02
$EDTA^{4-}$	5.34E-03	1.22E+03	6.45E+03	1.82E-03	3.54E-03	7.15E-03	8.92E-03
$HEDTA^{3-}$	9.39E-03	2.05E+03	1.08E+04	2.36E-03	5.80E-03	1.30E-02	1.65E-02
$glycolate^{-}$	0.129	7.68E+03	4.06E+04	6.46E-02	9.61E-02	0.162	0.193
$acetate^{-}$	4.12E-03	193	1.02E+03	3.42E-03	3.72E-03	4.54E-03	5.19E-03
$oxalate^{2-}$	1.07E-05	0.751	3.96	9.54E-06	1.01E-05	1.14E-05	1.19E-05
DBP	9.28E-03	1.55E+03	8.18E+03	7.09E-03	8.16E-03	1.04E-02	1.15E-02
butanol	9.28E-03	547	2.89E+03	7.09E-03	8.16E-03	1.04E-02	1.15E-02
NH_3	0.462	6.24E+03	3.30E+04	4.65E-02	0.248	0.681	0.896
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	6.11E+03 (kg)	(0.999 kgal)	----	----	----	----	----
Heat Load	0.189 (kW)	(647 BTU/hr)	----	3.57E-02	0.140	0.217	0.234
Bulk Density	1.62 (g/cc)	----	----	1.35	1.44	1.74	1.78
Void Fraction	0.668	----	----	0.542	0.575	0.796	0.830
Water wt%	45.1	----	----	41.2	41.5	51.5	57.0
TOC wt% C (wet)	0.244	----	----	0.164	0.210	0.281	0.353
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.65E-05	1.02E-02	6.25E-02	4.24E-06	1.03E-05	2.32E-05	3.99E-05
C-14	1.11E-06	6.88E-04	4.21E-03	6.25E-07	9.54E-07	1.23E-06	1.28E-05
Ni-59	1.89E-04	0.117	0.715	1.39E-04	1.73E-04	1.98E-04	2.05E-04
Ni-63	1.87E-02	11.6	70.8	1.38E-02	1.71E-02	1.96E-02	2.03E-02
Co-60	2.50E-06	1.55E-03	9.47E-03	1.41E-06	2.15E-06	2.76E-06	3.96E-06
Se-79	7.55E-07	4.67E-04	2.85E-03	4.22E-07	5.41E-07	2.62E-05	1.73E-04
Sr-90	7.43	4.60E+03	2.81E+04	1.40	5.50	8.52	9.20
Y-90	7.44	4.60E+03	2.81E+04	1.40	5.50	8.53	9.20
Zr-93	3.39E-06	2.10E-03	1.28E-02	1.91E-06	2.33E-06	4.76E-05	7.80E-04
Nb-93m	2.72E-06	1.68E-03	1.03E-02	1.42E-06	1.97E-06	1.08E-04	6.21E-04
Tc-99	7.44E-06	4.61E-03	2.81E-02	4.18E-06	6.38E-06	8.20E-06	1.18E-05
Ru-106	1.59E-06	9.87E-04	6.03E-03	7.07E-07	1.30E-06	1.89E-06	2.17E-06
Cd-113m	1.16E-05	7.16E-03	4.38E-02	6.51E-06	9.93E-06	1.68E-05	2.50E-03
Sb-125	1.53E-05	9.47E-03	5.79E-02	8.60E-06	1.31E-05	1.69E-05	2.42E-05
Sn-126	1.19E-06	7.37E-04	4.51E-03	6.58E-07	8.71E-07	5.23E-05	2.72E-04
I-129	1.45E-08	8.96E-06	5.48E-05	8.14E-09	1.24E-08	1.60E-08	2.29E-08
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	2.73E-03	1.69	10.3	1.50E-03	1.99E-03	0.112	0.625
Eu-152	1.51E-04	9.31E-02	0.569	1.50E-04	1.50E-04	1.51E-04	1.51E-04
Eu-154	7.57E-05	4.68E-02	0.286	4.25E-05	6.33E-05	8.81E-05	4.54E-03
Eu-155	8.62E-03	5.34	32.6	8.61E-03	8.62E-03	8.63E-03	8.65E-03
Ra-226	6.30E-09	3.90E-06	2.38E-05	3.93E-11	1.57E-09	1.10E-08	1.56E-08
Ra-228	8.01E-14	4.95E-11	3.03E-10	7.99E-14	8.00E-14	8.01E-14	8.03E-14
Ac-227	2.75E-08	1.70E-05	1.04E-04	2.05E-10	3.26E-10	5.50E-08	8.14E-08
Pa-231	6.70E-10	4.15E-07	2.53E-06	2.86E-10	4.57E-10	7.59E-09	1.54E-07
Th-229	1.19E-11	7.37E-09	4.50E-08	1.19E-11	1.19E-11	1.19E-11	1.19E-11
Th-232	4.46E-16	2.76E-13	1.69E-12	2.51E-16	3.83E-16	4.92E-16	7.05E-16
U-232	1.59E-12	9.84E-10	6.01E-09	8.93E-13	1.36E-12	1.75E-12	2.51E-12
U-233	2.15E-14	1.33E-11	8.11E-11	1.21E-14	1.84E-14	2.36E-14	3.39E-14
U-234	5.99E-09	3.71E-06	2.26E-05	3.37E-09	5.14E-09	6.60E-09	9.47E-09
U-235	2.32E-10	1.43E-07	8.77E-07	1.30E-10	1.99E-10	2.55E-10	3.67E-10
U-236	4.36E-10	2.70E-07	1.65E-06	2.45E-10	3.74E-10	4.80E-10	6.89E-10
U-238	4.62E-09	2.86E-06	1.75E-05	2.59E-09	3.96E-09	5.09E-09	7.30E-09
Np-237	2.38E-08	1.47E-05	8.99E-05	1.34E-08	2.04E-08	2.62E-08	3.76E-08
Pu-238	2.52E-04	0.156	0.954	1.65E-04	2.20E-04	2.84E-04	3.13E-04
Pu-239	4.42E-03	2.73	16.7	2.88E-03	3.76E-03	5.08E-03	5.72E-03
Pu-240	9.59E-04	0.593	3.63	6.26E-04	8.23E-04	1.09E-03	1.22E-03
Pu-241	1.77E-02	10.9	66.9	1.15E-02	1.54E-02	1.99E-02	2.19E-02
Pu-242	1.15E-07	7.12E-05	4.35E-04	7.51E-08	1.01E-07	1.29E-07	1.42E-07
Am-241	4.08E-03	2.52	15.4	2.17E-05	1.79E-03	6.37E-03	8.56E-03
Am-243	3.09E-07	1.91E-04	1.17E-03	1.64E-09	1.45E-07	4.52E-07	5.75E-07
Cm-242	8.00E-06	4.95E-03	3.03E-02	7.99E-06	8.00E-06	8.01E-06	8.02E-06
Cm-243	8.52E-07	5.27E-04	3.22E-03	8.50E-07	8.52E-07	8.53E-07	8.54E-07
Cm-244	2.28E-05	1.41E-02	8.63E-02	5.08E-06	1.70E-05	2.87E-05	3.43E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.55E-02 (g/L)	----	0.286	4.93E-02	6.42E-02	8.68E-02	9.77E-02
U	5.82E-05	8.57	5.24E-02	3.27E-05	4.99E-05	6.41E-05	9.20E-05

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	5.27E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	2.64 (kW)	(9.00E+03 BTU/hr)	----	2.50	2.57	2.71	2.78
Bulk Density*	1.26 (g/cc)	----	----	1.22	1.24	1.28	1.30
Water wt%†	62.1	----	----	57.8	59.8	64.2	66.5
TOC wt% C (wet)	0.586	----	----	0.450	0.518	0.652	0.714
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.15E-05	6.47E-02	341	6.01E-05	6.01E-05	9.06E-05	1.01E-04
C-14	9.47E-06	7.53E-03	39.7	4.99E-06	4.99E-06	9.75E-06	9.94E-06
Ni-59	6.29E-07	5.00E-04	2.64	4.18E-07	4.18E-07	6.40E-07	6.50E-07
Ni-63	6.19E-05	4.92E-02	259	4.11E-05	4.11E-05	6.30E-05	6.40E-05
Co-60	1.43E-05	1.13E-02	59.7	9.13E-06	9.13E-06	1.53E-05	1.64E-05
Se-79	1.44E-06	1.14E-03	6.03	1.08E-06	1.15E-06	1.63E-06	1.80E-06
Sr-90	4.69E-02	37.2	1.96E+05	4.40E-02	4.54E-02	4.83E-02	4.97E-02
Y-90	4.69E-02	37.2	1.96E+05	3.70E-02	3.70E-02	4.83E-02	4.97E-02
Zr-93	6.83E-06	5.43E-03	28.6	5.20E-06	5.40E-06	7.67E-06	8.46E-06
Nb-93m	5.12E-06	4.06E-03	21.4	3.81E-06	4.12E-06	5.78E-06	6.42E-06
Tc-99	6.93E-05	5.50E-02	290	5.26E-05	6.07E-05	7.79E-05	8.62E-05
Ru-106	7.10E-09	5.64E-06	2.97E-02	5.02E-09	6.04E-09	8.16E-09	9.17E-09
Cd-113m	3.19E-05	2.54E-02	134	2.34E-05	2.34E-05	3.65E-05	3.80E-05
Sb-125	1.11E-04	8.80E-02	464	6.05E-05	8.48E-05	1.37E-04	1.63E-04
Sn-126	2.22E-06	1.76E-03	9.29	1.64E-06	1.79E-06	2.51E-06	2.79E-06
I-129	1.34E-07	1.06E-04	0.561	1.02E-07	1.17E-07	1.51E-07	1.67E-07
Cs-134	2.65E-05	2.10E-02	111	4.18E-06	1.50E-05	3.82E-05	4.97E-05
Cs-137	6.69E-02	53.1	2.80E+05	6.12E-02	6.40E-02	6.98E-02	7.31E-02
Ba-137m	6.33E-02	50.3	2.65E+05	5.44E-02	5.44E-02	6.60E-02	6.87E-02
Sm-151	5.13E-03	4.07	2.15E+04	3.81E-03	4.13E-03	5.80E-03	6.44E-03
Eu-152	1.62E-06	1.29E-03	6.78	1.26E-06	1.26E-06	1.79E-06	1.95E-06
Eu-154	2.34E-04	0.186	981	1.63E-04	1.63E-04	2.60E-04	2.71E-04
Eu-155	1.03E-04	8.18E-02	431	8.19E-05	8.19E-05	1.13E-04	1.22E-04
Ra-226	6.67E-11	5.30E-08	2.79E-04	4.09E-11	5.35E-11	7.98E-11	8.03E-11
Ra-228	7.72E-08	6.13E-05	0.323	3.71E-08	3.71E-08	9.04E-08	1.05E-07
Ac-227	4.08E-10	3.24E-07	1.71E-03	2.58E-10	3.31E-10	4.83E-10	4.51E-10
Pa-231	1.55E-09	1.24E-06	6.51E-03	1.22E-09	1.27E-09	1.72E-09	1.88E-09
Th-229	1.79E-09	1.43E-06	7.52E-03	8.68E-10	8.68E-10	2.08E-09	2.39E-09
Th-232	7.33E-09	5.82E-06	3.07E-02	2.37E-09	2.37E-09	8.69E-09	9.99E-09
U-232	2.77E-07	2.20E-04	1.16	1.88E-07	2.31E-07	3.30E-07	3.87E-07
U-233	1.06E-06	8.43E-04	4.45	7.19E-07	8.87E-07	1.26E-06	1.48E-06
U-234	9.59E-07	7.62E-04	4.02	7.16E-07	9.02E-07	9.85E-07	1.01E-06
U-235	3.68E-08	2.92E-05	0.154	2.76E-08	3.47E-08	3.78E-08	3.88E-08
U-236	6.91E-08	5.49E-05	0.290	4.92E-08	6.45E-08	7.13E-08	7.34E-08
U-238	7.78E-07	6.18E-04	3.26	6.12E-07	7.39E-07	7.96E-07	8.13E-07
Np-237	2.51E-07	2.00E-04	1.05	1.97E-07	2.23E-07	2.79E-07	3.06E-07
Pu-238	2.31E-06	1.83E-03	9.67	1.49E-06	1.89E-06	2.72E-06	3.12E-06
Pu-239	3.05E-05	2.42E-02	128	2.38E-05	2.71E-05	3.38E-05	3.71E-05
Pu-240	7.31E-06	5.81E-03	30.6	5.30E-06	6.28E-06	8.33E-06	9.32E-06
Pu-241	2.16E-04	0.172	906	1.33E-04	1.74E-04	2.59E-04	3.00E-04
Pu-242	8.96E-10	7.12E-07	3.75E-03	5.84E-10	7.37E-10	1.05E-09	1.21E-09
Am-241	4.25E-05	3.37E-02	178	3.00E-05	3.61E-05	4.88E-05	5.32E-05
Am-243	3.91E-09	3.11E-06	1.64E-02	1.73E-09	2.79E-09	5.06E-09	5.11E-09
Cm-242	6.96E-08	5.53E-05	0.292	5.22E-08	5.51E-08	7.85E-08	8.70E-08
Cm-243	7.27E-09	5.78E-06	3.05E-02	5.42E-09	5.89E-09	8.22E-09	9.13E-09
Cm-244	1.23E-07	9.75E-05	0.514	8.11E-08	1.01E-07	1.44E-07	1.64E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	4.71E-04 (g/L)	----	1.97	3.54E-04	4.11E-04	5.30E-04	5.87E-04
U	8.81E-03	1.67E+03	8.79E+03	6.71E-03	8.32E-03	9.04E-03	9.25E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AW-106

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	5.28E+06 (kg)	(1.11E+03 kgal)	----	----	----	----	----
Heat Load	2.82 (kW)	(9.65E+03 BTU/hr)	----	2.67	2.76	2.90	2.97
Bulk Density†	1.26 (g/cc)	----	----	1.22	1.24	1.28	1.30
Water wt%†	62.1	----	----	57.8	59.8	64.2	66.5
TOC wt% C (wet)†	0.585	----	----	0.450	0.517	0.652	0.713
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	8.14E-05	6.47E-02	341	6.00E-05	6.00E-05	9.06E-05	1.01E-04
C-14	9.46E-06	7.52E-03	39.7	4.99E-06	4.99E-06	9.74E-06	9.94E-06
Ni-59	7.99E-07	6.35E-04	3.35	5.88E-07	5.88E-07	8.09E-07	8.20E-07
Ni-63	7.87E-05	6.25E-02	330	5.79E-05	5.79E-05	7.98E-05	8.08E-05
Co-60	1.42E-05	1.13E-02	59.7	9.12E-06	9.12E-06	1.53E-05	1.64E-05
Se-79	1.44E-06	1.14E-03	6.04	1.08E-06	1.15E-06	1.62E-06	1.80E-06
Sr-90	5.35E-02	42.5	2.24E+05	4.81E-02	5.18E-02	5.49E-02	5.63E-02
Y-90	5.35E-02	42.5	2.25E+05	4.37E-02	4.37E-02	5.49E-02	5.63E-02
Zr-93	6.83E-06	5.42E-03	28.6	5.20E-06	5.40E-06	7.66E-06	8.46E-06
Nb-93m	5.11E-06	4.06E-03	21.4	3.81E-06	4.11E-06	5.78E-06	6.42E-06
Tc-99	6.92E-05	5.50E-02	290	5.25E-05	6.07E-05	7.78E-05	8.61E-05
Ru-106	8.53E-09	6.77E-06	3.58E-02	6.62E-09	7.55E-09	9.50E-09	1.04E-08
Cd-113m	3.19E-05	2.53E-02	134	2.33E-05	2.33E-05	3.65E-05	3.80E-05
Sb-125	1.11E-04	8.79E-02	464	6.04E-05	8.48E-05	1.37E-04	1.63E-04
Sn-126	2.22E-06	1.76E-03	9.29	1.64E-06	1.79E-06	2.51E-06	2.79E-06
I-129	1.34E-07	1.06E-04	0.561	1.01E-07	1.17E-07	1.50E-07	1.66E-07
Cs-134	2.64E-05	2.10E-02	111	4.17E-06	1.50E-05	3.82E-05	4.97E-05
Cs-137	6.68E-02	53.1	2.80E+05	6.12E-02	6.39E-02	6.98E-02	7.31E-02
Ba-137m	6.32E-02	50.2	2.65E+05	5.44E-02	5.44E-02	6.60E-02	6.87E-02
Sm-151	5.12E-03	4.07	2.15E+04	3.81E-03	4.12E-03	5.80E-03	6.44E-03
Eu-152	1.75E-06	1.39E-03	7.35	1.40E-06	1.40E-06	1.92E-06	2.08E-06
Eu-154	2.34E-04	0.186	982	1.63E-04	1.63E-04	2.60E-04	2.70E-04
Eu-155	1.11E-04	8.79E-02	464	8.96E-05	8.96E-05	1.20E-04	1.29E-04
Ra-226	7.23E-11	5.74E-08	3.03E-04	5.49E-11	6.34E-11	8.12E-11	8.03E-11
Ra-228	7.71E-08	6.13E-05	0.323	3.70E-08	3.70E-08	9.03E-08	1.04E-07
Ac-227	4.32E-10	3.43E-07	1.81E-03	3.31E-10	3.81E-10	4.83E-10	4.69E-10
Pa-231	1.55E-09	1.23E-06	6.52E-03	1.22E-09	1.27E-09	1.72E-09	1.88E-09
Th-229	1.79E-09	1.42E-06	7.52E-03	8.67E-10	8.67E-10	2.08E-09	2.39E-09
Th-232	7.32E-09	5.82E-06	3.07E-02	2.37E-09	2.37E-09	8.68E-09	9.98E-09
U-232	2.77E-07	2.20E-04	1.16	1.88E-07	2.31E-07	3.30E-07	3.86E-07
U-233	1.06E-06	8.43E-04	4.45	7.19E-07	8.86E-07	1.26E-06	1.48E-06
U-234	9.58E-07	7.61E-04	4.02	7.16E-07	9.02E-07	9.84E-07	1.01E-06
U-235	3.68E-08	2.92E-05	0.154	2.76E-08	3.46E-08	3.78E-08	3.87E-08
U-236	6.91E-08	5.49E-05	0.290	4.91E-08	6.44E-08	7.12E-08	7.33E-08
U-238	7.78E-07	6.18E-04	3.26	6.11E-07	7.39E-07	7.95E-07	8.13E-07
Np-237	2.51E-07	1.99E-04	1.05	1.97E-07	2.23E-07	2.79E-07	3.06E-07
Pu-238	2.53E-06	2.01E-03	10.6	1.72E-06	2.12E-06	2.95E-06	3.35E-06
Pu-239	3.44E-05	2.73E-02	144	2.78E-05	3.10E-05	3.78E-05	4.10E-05
Pu-240	8.17E-06	6.49E-03	34.2	6.16E-06	7.14E-06	9.19E-06	1.02E-05
Pu-241	2.32E-04	0.184	973	1.48E-04	1.89E-04	2.74E-04	3.15E-04
Pu-242	9.99E-10	7.93E-07	4.19E-03	6.87E-10	8.40E-10	1.16E-09	1.31E-09
Am-241	4.61E-05	3.66E-02	193	3.57E-05	4.08E-05	5.16E-05	5.31E-05
Am-243	4.19E-09	3.33E-06	1.76E-02	2.01E-09	3.06E-09	5.34E-09	5.38E-09
Cm-242	7.67E-08	6.10E-05	0.322	5.93E-08	6.22E-08	8.57E-08	9.42E-08
Cm-243	8.03E-09	6.38E-06	3.37E-02	6.18E-09	6.65E-09	8.98E-09	9.89E-09
Cm-244	1.43E-07	1.14E-04	0.600	1.03E-07	1.23E-07	1.59E-07	1.74E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	5.38E-04 (g/L)	----	2.26	4.22E-04	4.79E-04	5.98E-04	6.55E-04
U	8.80E-03	1.66E+03	8.79E+03	6.70E-03	8.31E-03	9.03E-03	9.25E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.73E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	5.69 (kW)	(1.94E+04 BTU/hr)	----	2.94	3.94	6.38	6.73
Bulk Density	1.39 (g/cc)	----	----	1.32	1.34	1.47	1.52
Void Fraction	0.779	----	----	0.673	0.709	0.817	0.825
Water wt%	61.3	----	----	55.8	57.6	64.3	67.1
TOC wt% C (wet)	1.02	----	----	0.368	0.716	1.31	1.49

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	5.87	9.71E+04	1.68E+04	4.50	4.84	7.53	8.46
Al^{3+}	1.01	1.96E+04	3.39E+03	0.987	0.999	1.01	1.02
Fe^{3+} (total Fe)	1.04	4.18E+04	7.25E+03	0.645	0.917	1.09	1.11
Cr^{3+}	8.27E-03	309	53.7	6.19E-03	7.28E-03	8.89E-03	9.34E-03
Bi^{3+}	1.65E-05	2.49	0.431	1.40E-05	1.52E-05	1.78E-05	2.02E-05
La^{3+}	1.98E-10	1.98E-05	3.44E-06	1.76E-10	1.78E-10	2.26E-10	2.52E-10
Hg^{2+}	1.72E-07	2.49E-02	4.31E-03	1.55E-07	1.63E-07	1.83E-07	1.99E-07
Zr (as $ZrO(OH)_2$)	2.17E-06	0.142	2.47E-02	1.96E-06	2.04E-06	2.31E-06	2.49E-06
Pb^{2+}	2.32E-05	3.47	0.601	1.30E-05	1.80E-05	2.85E-05	3.35E-05
Ni^{2+}	0.265	1.12E+04	1.94E+03	0.216	0.248	0.308	0.330
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.25E-04	20.8	3.60	3.65E-04	4.43E-04	6.07E-04	6.85E-04
Ca^{2+}	0.481	1.39E+04	2.41E+03	0.353	0.396	0.697	0.808
K^{+}	8.36E-03	235	40.8	6.30E-03	7.38E-03	9.32E-03	9.93E-03
OH^{-}	7.33	8.97E+04	1.56E+04	5.98	6.87	7.58	7.72
$NO3^{-}$	0.195	8.71E+03	1.51E+03	0.173	0.184	0.207	0.220
$NO2^{-}$	0.468	1.55E+04	2.69E+03	0.345	0.421	0.514	0.543
$CO3^{2-}$	0.587	2.53E+04	4.39E+03	0.462	0.501	0.803	0.914
$PO4^{3-}$	2.88E-03	197	34.1	2.43E-03	2.73E-03	2.99E-03	3.47E-03
$SO4^{2-}$	4.87E-02	3.37E+03	584	3.32E-02	4.13E-02	5.59E-02	6.05E-02
Si (as SiO_x^{2-})	1.98	4.01E+04	6.95E+03	1.50	1.50	2.80	3.30
F^{-}	7.27E-04	9.94	1.72	6.27E-04	6.44E-04	8.21E-04	8.98E-04
Cl^{-}	3.50E-02	892	155	2.55E-02	3.05E-02	3.94E-02	4.22E-02
$C_6H_5O_7^{3-}$	8.68E-03	1.18E+03	205	5.89E-03	7.44E-03	9.14E-03	9.59E-03
$EDTA^{4-}$	3.14E-02	6.51E+03	1.13E+03	8.57E-03	2.05E-02	4.20E-02	4.88E-02
$HEDTA^{3-}$	6.27E-02	1.24E+04	2.15E+03	1.71E-02	4.11E-02	8.40E-02	9.76E-02
$glycolate^{-}$	8.38E-02	4.52E+03	784	3.82E-02	6.21E-02	0.105	0.119
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	2.60E-10	1.64E-05	2.85E-06	2.30E-10	2.45E-10	2.75E-10	3.18E-10
DBP	2.43E-03	368	63.9	2.20E-03	2.24E-03	2.71E-03	2.97E-03
butanol	6.33E-06	0.338	5.86E-02	1.72E-06	4.14E-06	8.49E-06	9.86E-06
NH_3	7.33E-02	897	156	4.09E-02	5.65E-02	8.81E-02	9.38E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.74E+06 (kg)	(848 kgal)	----	----	----	----	----
Heat Load	2.50 (kW)	(8.55E+03 BTU/hr)	----	1.90	2.29	2.72	2.94
Bulk Density*	1.17 (g/cc)	----	----	1.14	1.15	1.18	1.19
Water wt%	73.5	----	----	70.5	71.9	75.2	77.1
TOC wt% C (wet)	1.21	----	----	0.489	0.843	1.57	1.92

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.05	7.99E+04	2.99E+05	3.38	3.72	4.34	4.60
Al^{3+}	0.357	8.27E+03	3.10E+04	0.308	0.336	0.380	0.402
Fe^{3+} (total Fe)	4.60E-03	220	825	3.50E-03	4.04E-03	5.17E-03	5.71E-03
Cr^{3+}	3.36E-02	1.50E+03	5.61E+03	2.67E-02	3.03E-02	3.57E-02	3.73E-02
Bi^{3+}	2.31E-04	41.3	155	2.21E-04	2.26E-04	2.36E-04	2.41E-04
La^{3+}	8.67E-06	1.03	3.87	6.31E-06	7.46E-06	9.89E-06	1.11E-05
Hg^{2+}	1.78E-06	0.305	1.14	1.72E-06	1.75E-06	1.80E-06	1.83E-06
Zr (as $ZrO(OH)_2$)	3.18E-05	2.48	9.30	2.99E-05	3.06E-05	3.25E-05	3.36E-05
Pb^{2+}	2.25E-04	40.0	150	1.91E-04	2.08E-04	2.43E-04	2.59E-04
Ni^{2+}	1.42E-03	71.3	267	1.33E-03	1.37E-03	1.46E-03	1.50E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.13E-03	100	376	1.60E-03	1.86E-03	2.40E-03	2.66E-03
Ca^{2+}	8.79E-03	302	1.13E+03	7.20E-03	7.98E-03	9.60E-03	1.04E-02
K^{+}	1.95E-02	654	2.45E+03	1.63E-02	1.78E-02	2.13E-02	2.30E-02
OH^{-}	2.26	3.30E+04	1.24E+05	1.91	2.10	2.43	2.60
$NO3^{-}$	1.15	6.09E+04	2.28E+05	1.01	1.09	1.17	1.19
$NO2^{-}$	0.721	2.84E+04	1.07E+05	0.494	0.600	0.840	0.952
$CO3^{2-}$	0.195	1.00E+04	3.75E+04	0.161	0.178	0.212	0.220
$PO4^{3-}$	1.88E-02	1.53E+03	5.73E+03	1.73E-02	1.81E-02	1.93E-02	2.00E-02
$SO4^{2-}$	1.00E-01	8.23E+03	3.08E+04	7.07E-02	8.46E-02	0.116	0.130
Si (as SiO_x^{2-})	2.78E-02	669	2.50E+03	2.02E-02	2.39E-02	3.16E-02	3.54E-02
F^{-}	1.18E-02	193	721	1.09E-02	1.13E-02	1.24E-02	1.33E-02
Cl^{-}	7.00E-02	2.13E+03	7.96E+03	5.70E-02	6.35E-02	7.60E-02	8.11E-02
$C_6H_5O_7^{3-}$	1.48E-02	2.40E+03	8.97E+03	1.37E-02	1.42E-02	1.53E-02	1.59E-02
$EDTA^{4-}$	2.77E-02	6.85E+03	2.57E+04	6.98E-03	1.71E-02	3.84E-02	4.89E-02
$HEDTA^{3-}$	5.48E-02	1.29E+04	4.82E+04	1.32E-02	3.35E-02	7.62E-02	9.70E-02
$glycolate^{-}$	6.88E-02	4.42E+03	1.66E+04	2.72E-02	4.75E-02	9.01E-02	0.111
$acetate^{-}$	2.29E-03	116	434	1.85E-03	2.04E-03	2.56E-03	2.97E-03
$oxalate^{2-}$	1.14E-05	0.857	3.21	1.01E-05	1.07E-05	1.20E-05	1.26E-05
DBP	9.85E-03	1.77E+03	6.64E+03	7.98E-03	8.90E-03	1.08E-02	1.17E-02
butanol	9.85E-03	626	2.34E+03	7.98E-03	8.90E-03	1.08E-02	1.17E-02
NH_3	2.14E-02	311	1.17E+03	1.28E-02	1.62E-02	2.80E-02	3.57E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.92E+06 (kg)	(881 kgal)	----	----	----	----	----
Heat Load	8.20 (kW)	(2.80E+04 BTU/hr)	----	5.44	6.45	8.89	9.24
Bulk Density†	1.17 (g/cc)	----	----	1.15	1.16	1.19	1.20
Water wt%†	73.0	----	----	70.0	71.4	74.6	76.5
TOC wt% C (wet)†	1.20	----	----	0.484	0.837	1.56	1.90

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	4.12	8.06E+04	3.16E+05	3.44	3.79	4.40	4.66
Al^{3+}	0.382	8.77E+03	3.43E+04	0.335	0.361	0.404	0.425
Fe^{3+} (total Fe)	4.33E-02	2.06E+03	8.07E+03	2.86E-02	3.88E-02	4.51E-02	4.61E-02
Cr^{3+}	3.27E-02	1.45E+03	5.66E+03	2.59E-02	2.95E-02	3.47E-02	3.63E-02
Bi^{3+}	2.23E-04	39.6	155	2.13E-04	2.18E-04	2.28E-04	2.32E-04
La^{3+}	8.35E-06	0.987	3.87	6.07E-06	7.18E-06	9.52E-06	1.06E-05
Hg^{2+}	1.72E-06	0.293	1.15	1.66E-06	1.69E-06	1.74E-06	1.77E-06
Zr (as $ZrO(OH)_2$)	3.06E-05	2.38	9.32	2.89E-05	2.95E-05	3.14E-05	3.24E-05
Pb^{2+}	2.18E-04	38.4	150	1.84E-04	2.01E-04	2.35E-04	2.51E-04
Ni^{2+}	1.13E-02	563	2.21E+03	9.45E-03	1.07E-02	1.29E-02	1.37E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.07E-03	96.9	380	1.55E-03	1.81E-03	2.34E-03	2.59E-03
Ca^{2+}	2.65E-02	903	3.54E+03	2.01E-02	2.32E-02	3.46E-02	3.87E-02
K^{+}	1.91E-02	636	2.49E+03	1.60E-02	1.74E-02	2.08E-02	2.25E-02
OH^{-}	2.45	3.55E+04	1.39E+05	2.11	2.29	2.62	2.79
$NO3^{-}$	1.11	5.86E+04	2.30E+05	0.975	1.05	1.14	1.15
$NO2^{-}$	0.712	2.79E+04	1.09E+05	0.491	0.593	0.827	0.936
$CO3^{2-}$	0.209	1.07E+04	4.19E+04	0.174	0.191	0.227	0.239
$PO4^{3-}$	1.82E-02	1.47E+03	5.76E+03	1.68E-02	1.75E-02	1.87E-02	1.93E-02
$SO4^{2-}$	9.81E-02	8.02E+03	3.14E+04	6.96E-02	8.32E-02	0.113	0.127
Si (as SiO_x^{2-})	0.101	2.41E+03	9.45E+03	8.15E-02	8.30E-02	0.131	0.150
F^{-}	1.14E-02	184	723	1.05E-02	1.09E-02	1.20E-02	1.28E-02
Cl^{-}	6.87E-02	2.07E+03	8.12E+03	5.61E-02	6.24E-02	7.45E-02	7.95E-02
$C_6H_5O_7^{3-}$	1.46E-02	2.34E+03	9.18E+03	1.35E-02	1.40E-02	1.51E-02	1.56E-02
$EDTA^{4-}$	2.79E-02	6.84E+03	2.68E+04	7.04E-03	1.72E-02	3.86E-02	4.89E-02
$HEDTA^{3-}$	5.51E-02	1.29E+04	5.03E+04	1.34E-02	3.38E-02	7.64E-02	9.70E-02
$glycolate^{-}$	6.93E-02	4.43E+03	1.73E+04	2.76E-02	4.81E-02	9.07E-02	0.111
$acetate^{-}$	2.21E-03	111	434	1.79E-03	1.97E-03	2.47E-03	2.86E-03
$oxalate^{2-}$	1.09E-05	0.819	3.21	9.70E-06	1.03E-05	1.16E-05	1.22E-05
DBP	9.57E-03	1.71E+03	6.71E+03	7.77E-03	8.65E-03	1.05E-02	1.14E-02
butanol	9.48E-03	598	2.34E+03	7.68E-03	8.56E-03	1.04E-02	1.12E-02
NH_3	2.33E-02	337	1.32E+03	1.50E-02	1.83E-02	2.97E-02	3.73E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.73E+05 (kg)	(33.0 kgal)	----	----	----	----	----
Heat Load	5.69 (kW)	(1.94E+04 BTU/hr)	----	2.94	3.94	6.38	6.73
Bulk Density	1.39 (g/cc)	----	----	1.32	1.34	1.47	1.52
Void Fraction	0.779	----	----	0.673	0.709	0.817	0.825
Water wt%	61.3	----	----	55.8	57.6	64.3	67.1
TOC wt% C (wet)	1.02	----	----	0.368	0.716	1.31	1.49
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	6.09E-05	4.39E-02	7.60	4.05E-05	4.05E-05	7.82E-05	9.52E-05
C-14	1.16E-05	8.35E-03	1.45	6.99E-06	7.32E-06	1.24E-05	1.98E-05
Ni-59	2.57E-04	0.185	32.0	2.03E-04	2.03E-04	3.27E-04	3.63E-04
Ni-63	2.54E-02	18.3	3.18E+03	2.02E-02	2.02E-02	3.27E-02	3.65E-02
Co-60	2.19E-05	1.57E-02	2.73	1.08E-05	1.69E-05	2.37E-05	8.59E-04
Se-79	2.22E-04	0.160	27.7	1.22E-04	1.22E-04	2.79E-04	3.33E-04
Sr-90	6.73	4.85E+03	8.40E+05	3.46	4.65	7.55	7.97
Y-90	6.73	4.85E+03	8.40E+05	3.46	4.65	7.55	7.97
Zr-93	9.90E-04	0.713	124	5.53E-04	5.55E-04	1.27E-03	1.55E-03
Nb-93m	7.35E-04	0.529	91.8	4.45E-04	4.46E-04	9.34E-04	1.12E-03
Tc-99	7.90E-05	5.68E-02	9.86	4.83E-05	6.53E-05	8.71E-05	9.49E-05
Ru-106	1.31E-05	9.41E-03	1.63	1.07E-05	1.28E-05	1.32E-05	1.34E-05
Cd-113m	3.95E-03	2.85	493	1.77E-03	1.79E-03	5.65E-03	7.29E-03
Sb-125	1.26E-04	9.06E-02	15.7	5.66E-05	9.50E-05	1.37E-04	1.49E-04
Sn-126	3.51E-04	0.253	43.8	1.92E-04	1.93E-04	4.36E-04	5.18E-04
I-129	1.53E-07	1.10E-04	1.91E-02	9.36E-08	1.27E-07	1.69E-07	1.84E-07
Cs-134	3.04E-06	2.19E-03	0.380	1.32E-06	2.22E-06	3.85E-06	4.36E-06
Cs-137	5.71E-02	41.1	7.13E+03	2.59E-02	4.23E-02	7.17E-02	8.10E-02
Ba-137m	5.40E-02	38.9	6.74E+03	2.45E-02	4.00E-02	6.78E-02	7.66E-02
Sm-151	0.736	530	9.18E+04	0.447	0.448	0.934	1.13
Eu-152	5.79E-04	0.417	72.3	5.27E-04	5.27E-04	5.80E-04	5.80E-04
Eu-154	3.65E-02	26.3	4.56E+03	3.93E-03	5.92E-03	5.07E-02	6.43E-02
Eu-155	2.98E-02	21.5	3.72E+03	2.67E-02	2.67E-02	2.99E-02	2.99E-02
Ra-226	1.67E-08	1.20E-05	2.09E-03	1.23E-08	1.29E-08	1.85E-08	2.02E-08
Ra-228	2.30E-08	1.65E-05	2.87E-03	2.35E-13	2.35E-13	2.32E-08	2.34E-08
Ac-227	8.53E-08	6.14E-05	1.06E-02	6.40E-08	6.41E-08	9.55E-08	1.05E-07
Pa-231	1.21E-07	8.71E-05	1.51E-02	4.64E-08	7.77E-08	1.78E-07	2.32E-07
Th-229	1.06E-09	7.65E-07	1.33E-04	2.60E-11	2.60E-11	1.07E-09	1.07E-09
Th-232	6.09E-11	4.39E-08	7.60E-06	3.00E-15	3.00E-15	6.46E-11	6.82E-11
U-232	4.20E-07	3.02E-04	5.24E-02	9.23E-08	2.83E-07	5.39E-07	6.41E-07
U-233	1.63E-06	1.17E-03	0.203	3.58E-07	1.10E-06	2.09E-06	2.48E-06
U-234	2.22E-06	1.60E-03	0.277	4.42E-07	1.39E-06	3.07E-06	3.89E-06
U-235	9.16E-08	6.59E-05	1.14E-02	1.82E-08	5.74E-08	1.26E-07	1.60E-07
U-236	7.11E-08	5.12E-05	8.87E-03	1.51E-08	4.45E-08	9.87E-08	1.26E-07
U-238	2.13E-06	1.53E-03	0.266	4.20E-07	1.34E-06	2.93E-06	3.71E-06
Np-237	2.59E-07	1.86E-04	3.23E-02	1.60E-07	2.15E-07	2.86E-07	3.11E-07
Pu-238	1.42E-03	1.02	177	8.39E-04	1.34E-03	1.45E-03	1.49E-03
Pu-239	1.23E-02	8.87	1.54E+03	8.40E-03	1.18E-02	1.26E-02	1.28E-02
Pu-240	3.79E-03	2.73	474	2.39E-03	3.61E-03	3.88E-03	3.96E-03
Pu-241	9.83E-02	70.8	1.23E+04	5.82E-02	9.31E-02	0.101	0.103
Pu-242	6.98E-07	5.02E-04	8.71E-02	4.08E-07	6.60E-07	7.15E-07	7.32E-07
Am-241	3.24E-02	23.3	4.04E+03	1.82E-02	3.05E-02	3.32E-02	3.40E-02
Am-243	3.34E-06	2.40E-03	0.417	1.76E-06	3.14E-06	3.44E-06	3.53E-06
Cm-242	4.31E-05	3.10E-02	5.38	4.10E-05	4.10E-05	4.31E-05	4.32E-05
Cm-243	5.11E-06	3.68E-03	0.637	4.90E-06	4.90E-06	5.11E-06	5.11E-06
Cm-244	2.01E-04	0.145	25.1	1.54E-04	1.95E-04	2.04E-04	2.07E-04
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0.216 (g/L)	----	27.0	0.146	0.207	0.220	0.225
U	2.62E-02	4.49E+03	779	5.16E-03	1.64E-02	3.62E-02	4.59E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.74E+06 (kg)	(848 kgal)	----	----	----	----	----
Heat Load	2.50 (kW)	(8.55E+03 BTU/hr)	----	1.90	2.29	2.72	2.94
Bulk Density*	1.17 (g/cc)	----	----	1.14	1.15	1.18	1.19
Water wt%†	73.5	----	----	70.5	71.9	75.2	77.1
TOC wt% C (wet)	1.21	----	----	0.489	0.843	1.57	1.92
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.00E-04	8.59E-02	321	3.24E-05	3.24E-05	1.16E-04	1.37E-04
C-14	1.76E-05	1.51E-02	56.4	3.39E-06	3.39E-06	1.81E-05	1.84E-05
Ni-59	8.00E-07	6.86E-04	2.57	1.34E-07	1.34E-07	8.34E-07	8.66E-07
Ni-63	7.91E-05	6.78E-02	254	1.32E-05	1.32E-05	8.24E-05	8.56E-05
Co-60	2.18E-05	1.87E-02	69.9	5.56E-06	5.56E-06	2.29E-05	2.41E-05
Se-79	1.52E-06	1.30E-03	4.87	6.13E-07	6.13E-07	1.85E-06	2.16E-06
Sr-90	6.20E-02	53.1	1.99E+05	5.37E-02	5.97E-02	6.43E-02	6.64E-02
Y-90	6.20E-02	53.2	1.99E+05	3.08E-02	3.08E-02	6.43E-02	6.65E-02
Zr-93	7.55E-06	6.47E-03	24.2	3.02E-06	3.02E-06	9.18E-06	1.08E-05
Nb-93m	5.33E-06	4.57E-03	17.1	2.16E-06	2.16E-06	6.47E-06	7.57E-06
Tc-99	1.25E-04	0.107	402	7.25E-05	9.83E-05	1.53E-04	1.79E-04
Ru-106	3.63E-09	3.11E-06	1.17E-02	1.53E-09	1.53E-09	4.10E-09	4.52E-09
Cd-113m	4.40E-05	3.77E-02	141	1.69E-05	1.69E-05	5.38E-05	6.33E-05
Sb-125	1.00E-04	8.59E-02	322	3.00E-05	3.00E-05	1.07E-04	1.13E-04
Sn-126	2.28E-06	1.96E-03	7.32	9.25E-07	9.25E-07	2.77E-06	3.24E-06
I-129	2.42E-07	2.08E-04	0.777	1.40E-07	1.90E-07	2.95E-07	3.46E-07
Cs-134	3.18E-06	2.73E-03	10.2	1.61E-06	2.38E-06	3.99E-06	4.78E-06
Cs-137	7.74E-02	66.3	2.48E+05	4.89E-02	6.28E-02	9.20E-02	0.106
Ba-137m	7.32E-02	62.7	2.35E+05	4.63E-02	5.62E-02	8.70E-02	0.101
Sm-151	5.32E-03	4.56	1.71E+04	2.15E-03	2.15E-03	6.47E-03	7.57E-03
Eu-152	2.83E-06	2.43E-03	9.08	1.71E-06	1.71E-06	3.40E-06	3.97E-06
Eu-154	3.57E-04	0.306	1.15E+03	1.31E-04	1.31E-04	4.39E-04	4.72E-04
Eu-155	1.71E-04	0.147	549	1.03E-04	1.04E-04	2.06E-04	2.41E-04
Ra-226	5.10E-11	4.37E-08	1.64E-04	2.29E-11	2.29E-11	6.11E-11	7.09E-11
Ra-228	4.44E-08	3.81E-05	0.143	1.91E-08	1.91E-08	5.11E-08	5.81E-08
Ac-227	3.06E-10	2.62E-07	9.83E-04	1.43E-10	1.43E-10	3.65E-10	4.22E-10
Pa-231	1.60E-09	1.37E-06	5.14E-03	6.96E-10	6.96E-10	1.93E-09	2.24E-09
Th-229	1.04E-09	8.92E-07	3.34E-03	4.57E-10	4.57E-10	1.19E-09	1.34E-09
Th-232	4.49E-09	3.85E-06	1.44E-02	1.37E-09	1.37E-09	5.35E-09	6.17E-09
U-232	1.74E-07	1.49E-04	0.558	1.29E-07	1.51E-07	2.01E-07	2.29E-07
U-233	6.67E-07	5.72E-04	2.14	4.95E-07	5.80E-07	7.69E-07	8.78E-07
U-234	2.38E-07	2.04E-04	0.763	2.22E-07	2.30E-07	2.45E-07	2.53E-07
U-235	9.60E-09	8.23E-06	3.08E-02	8.97E-09	9.29E-09	9.92E-09	1.02E-08
U-236	8.37E-09	7.18E-06	2.69E-02	7.91E-09	8.14E-09	8.60E-09	8.83E-09
U-238	2.61E-07	2.23E-04	0.836	2.46E-07	2.53E-07	2.68E-07	2.75E-07
Np-237	4.26E-07	3.65E-04	1.37	2.53E-07	3.37E-07	5.15E-07	6.01E-07
Pu-238	8.01E-07	6.86E-04	2.57	5.98E-07	6.97E-07	9.04E-07	1.00E-06
Pu-239	2.39E-05	2.05E-02	76.6	1.87E-05	2.12E-05	2.65E-05	2.90E-05
Pu-240	4.26E-06	3.66E-03	13.7	3.30E-06	3.77E-06	4.76E-06	5.23E-06
Pu-241	5.69E-05	4.87E-02	182	4.30E-05	4.98E-05	6.39E-05	7.07E-05
Pu-242	3.16E-10	2.71E-07	1.01E-03	2.33E-10	2.74E-10	3.58E-10	3.99E-10
Am-241	2.38E-05	2.04E-02	76.3	1.42E-05	1.89E-05	2.87E-05	3.34E-05
Am-243	9.27E-10	7.94E-07	2.97E-03	6.25E-10	7.69E-10	1.09E-09	1.25E-09
Cm-242	1.10E-07	9.41E-05	0.352	6.38E-08	6.38E-08	1.32E-07	1.53E-07
Cm-243	1.02E-08	8.76E-06	3.28E-02	5.83E-09	5.83E-09	1.22E-08	1.41E-08
Cm-244	7.20E-08	6.17E-05	0.231	2.68E-08	2.68E-08	8.73E-08	9.71E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	2.87E-04 (g/L)	----	0.921	1.89E-04	2.37E-04	3.37E-04	3.85E-04
U	2.70E-03	551	2.06E+03	2.52E-03	2.61E-03	2.79E-03	2.88E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.92E+06 (kg)	(881 kgal)	----	----	----	----	----
Heat Load	8.20 (kW)	(2.80E+04 BTU/hr)	----	5.44	6.45	8.89	9.24
Bulk Density†	1.17 (g/cc)	----	----	1.15	1.16	1.19	1.20
Water wt%†	73.0	----	----	70.0	71.4	74.6	76.5
TOC wt% C (wet)†	1.20	----	----	0.484	0.837	1.56	1.90
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	9.87E-05	8.40E-02	329	3.27E-05	3.27E-05	1.15E-04	1.35E-04
C-14	1.73E-05	1.48E-02	57.8	3.54E-06	3.54E-06	1.79E-05	1.85E-05
Ni-59	1.04E-05	8.83E-03	34.6	7.74E-06	7.74E-06	1.30E-05	1.44E-05
Ni-63	1.03E-03	0.876	3.43E+03	7.68E-04	7.68E-04	1.30E-03	1.44E-03
Co-60	2.18E-05	1.85E-02	72.6	5.98E-06	5.98E-06	2.29E-05	5.30E-05
Se-79	9.78E-06	8.32E-03	32.6	6.02E-06	6.04E-06	1.19E-05	1.39E-05
Sr-90	0.312	265	1.04E+06	0.189	0.234	0.342	0.358
Y-90	0.312	265	1.04E+06	0.189	0.234	0.342	0.358
Zr-93	4.43E-05	3.77E-02	148	2.79E-05	2.80E-05	5.49E-05	6.51E-05
Nb-93m	3.27E-05	2.78E-02	109	2.17E-05	2.18E-05	4.01E-05	4.72E-05
Tc-99	1.24E-04	0.105	412	7.23E-05	9.73E-05	1.50E-04	1.76E-04
Ru-106	4.93E-07	4.20E-04	1.64	4.05E-07	4.81E-07	4.98E-07	5.03E-07
Cd-113m	1.90E-04	0.162	635	1.08E-04	1.09E-04	2.54E-04	3.15E-04
Sb-125	1.01E-04	8.61E-02	337	3.28E-05	3.28E-05	1.08E-04	1.14E-04
Sn-126	1.53E-05	1.30E-02	51.1	9.37E-06	9.41E-06	1.85E-05	2.16E-05
I-129	2.39E-07	2.03E-04	0.797	1.40E-07	1.88E-07	2.90E-07	3.40E-07
Cs-134	3.18E-06	2.71E-03	10.6	1.60E-06	2.37E-06	3.99E-06	4.77E-06
Cs-137	7.66E-02	65.2	2.55E+05	4.81E-02	6.21E-02	9.12E-02	0.105
Ba-137m	7.25E-02	61.7	2.42E+05	4.55E-02	5.59E-02	8.63E-02	9.96E-02
Sm-151	3.27E-02	27.8	1.09E+05	2.18E-02	2.19E-02	4.01E-02	4.72E-02
Eu-152	2.44E-05	2.08E-02	81.4	2.14E-05	2.14E-05	2.50E-05	2.55E-05
Eu-154	1.71E-03	1.46	5.70E+03	4.89E-04	5.65E-04	2.24E-03	2.75E-03
Eu-155	1.28E-03	1.09	4.27E+03	1.10E-03	1.10E-03	1.32E-03	1.35E-03
Ra-226	6.75E-10	5.75E-07	2.25E-03	5.07E-10	5.33E-10	7.41E-10	8.04E-10
Ra-228	4.36E-08	3.71E-05	0.145	1.93E-08	1.93E-08	5.00E-08	5.68E-08
Ac-227	3.49E-09	2.97E-06	1.16E-02	2.69E-09	2.69E-09	3.87E-09	4.23E-09
Pa-231	6.07E-09	5.17E-06	2.02E-02	3.52E-09	3.58E-09	8.19E-09	1.02E-08
Th-229	1.04E-09	8.86E-07	3.47E-03	4.80E-10	4.80E-10	1.18E-09	1.33E-09
Th-232	4.33E-09	3.68E-06	1.44E-02	1.32E-09	1.32E-09	5.15E-09	5.94E-09
U-232	1.83E-07	1.56E-04	0.611	1.40E-07	1.61E-07	2.09E-07	2.36E-07
U-233	7.03E-07	5.99E-04	2.35	5.38E-07	6.19E-07	8.02E-07	9.06E-07
U-234	3.12E-07	2.66E-04	1.04	2.45E-07	2.81E-07	3.44E-07	3.75E-07
U-235	1.27E-08	1.08E-05	4.23E-02	9.91E-09	1.14E-08	1.40E-08	1.53E-08
U-236	1.07E-08	9.13E-06	3.57E-02	8.46E-09	9.65E-09	1.18E-08	1.29E-08
U-238	3.30E-07	2.81E-04	1.10	2.67E-07	3.01E-07	3.60E-07	3.89E-07
Np-237	4.20E-07	3.57E-04	1.40	2.52E-07	3.34E-07	5.06E-07	5.90E-07
Pu-238	5.38E-05	4.58E-02	180	3.22E-05	5.10E-05	5.51E-05	5.64E-05
Pu-239	4.84E-04	0.412	1.61E+03	3.37E-04	4.65E-04	4.93E-04	5.01E-04
Pu-240	1.46E-04	0.124	487	9.34E-05	1.39E-04	1.49E-04	1.52E-04
Pu-241	3.73E-03	3.18	1.25E+04	2.23E-03	3.54E-03	3.82E-03	3.91E-03
Pu-242	2.64E-08	2.25E-05	8.81E-02	1.56E-08	2.50E-08	2.71E-08	2.77E-08
Am-241	1.23E-03	1.05	4.12E+03	7.06E-04	1.17E-03	1.27E-03	1.30E-03
Am-243	1.26E-07	1.07E-04	0.420	6.68E-08	1.18E-07	1.29E-07	1.33E-07
Cm-242	1.72E-06	1.46E-03	5.74	1.59E-06	1.59E-06	1.74E-06	1.76E-06
Cm-243	2.01E-07	1.71E-04	0.670	1.89E-07	1.89E-07	2.03E-07	2.05E-07
Cm-244	7.60E-06	6.47E-03	25.3	5.84E-06	7.37E-06	7.71E-06	7.81E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	8.36E-03 (g/L)	----	27.9	5.75E-03	8.02E-03	8.52E-03	8.67E-03
U	3.58E-03	726	2.84E+03	2.80E-03	3.22E-03	3.96E-03	4.32E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.89E+05 (kg)	(31.9 kgal)	----	----	----	----	----
Heat Load	5.29 (kW)	(1.81E+04 BTU/hr)	----	0.998	3.92	6.07	6.55
Bulk Density	1.56 (g/cc)	----	----	1.33	1.41	1.67	1.70
Void Fraction	0.696	----	----	0.586	0.614	0.807	0.837
Water wt%	47.8	----	----	44.1	44.4	53.9	58.8
TOC wt% C (wet)	0.224	----	----	0.149	0.194	0.256	0.325

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	6.20	9.10E+04	1.72E+04	1.20	2.54	8.31	10.1
Al^{3+}	2.67	4.61E+04	8.72E+03	2.61	2.65	2.69	2.76
Fe^{3+} (total Fe)	2.17	7.74E+04	1.46E+04	1.86	2.07	2.23	2.28
Cr^{3+}	8.91E-04	29.6	5.60	4.01E-04	6.45E-04	1.14E-03	1.37E-03
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	4.84E-06	0.641	0.121	2.17E-06	3.50E-06	6.18E-06	7.46E-06
Ni^{2+}	1.07	4.02E+04	7.59E+03	0.791	0.981	1.12	1.15
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	6.68E-04	23.5	4.43	3.00E-04	4.83E-04	8.53E-04	2.98E-03
Ca^{2+}	0.235	6.03E+03	1.14E+03	6.09E-02	6.27E-02	0.488	0.684
K^{+}	8.66E-03	216	40.9	5.20E-03	7.53E-03	9.46E-03	1.32E-02
OH^{-}	17.6	1.91E+05	3.62E+04	15.5	16.9	18.0	18.8
$NO3^{-}$	2.86E-02	1.13E+03	214	1.29E-02	2.07E-02	3.65E-02	6.26E-02
$NO2^{-}$	0.519	1.53E+04	2.89E+03	0.258	0.445	0.572	0.820
$CO3^{2-}$	0.399	1.53E+04	2.89E+03	-5.07E-02	0.205	0.667	0.834
$PO4^{3-}$	1.36E-02	825	156	9.34E-03	1.15E-02	1.57E-02	1.78E-02
$SO4^{2-}$	2.62E-02	1.61E+03	304	1.49E-02	2.26E-02	2.89E-02	4.12E-02
Si (as SiO_x^{2-})	2.08	3.74E+04	7.08E+03	1.65E-02	0.395	3.18	4.23
F^{-}	0	0	0	0	0	0	0
Cl^{-}	3.68E-02	832	157	2.08E-02	3.16E-02	4.05E-02	5.78E-02
$C_6H_5O_7^{3-}$	8.79E-03	1.06E+03	201	4.94E-03	7.54E-03	9.69E-03	1.39E-02
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^{-}$	0.117	5.62E+03	1.06E+03	6.59E-02	0.101	0.129	0.185
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	3.79E-04	51.0	9.64	1.71E-04	2.75E-04	4.84E-04	5.85E-04
butanol	3.79E-04	18.0	3.40	1.71E-04	2.75E-04	4.84E-04	5.85E-04
NH_3	8.07E-02	877	166	1.16E-02	6.30E-02	9.68E-02	0.156
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.75E+06 (kg)	(679 kgal)	----	----	----	----	----
Heat Load	0.592 (kW)	(2.02E+03 BTU/hr)	----	0.508	0.549	0.635	0.677
Bulk Density*	1.07 (g/cc)	----	----	1.03	1.05	1.09	1.10
Water wt%	88.7	----	----	83.5	85.9	91.5	94.3
TOC wt% C (wet)	0.286	----	----	0.134	0.210	0.359	0.427

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.84	3.96E+04	1.09E+05	0.885	1.36	2.33	2.77
Al^{3+}	0.140	3.52E+03	9.68E+03	6.59E-02	0.102	0.177	0.213
Fe^{3+} (total Fe)	1.39E-03	72.5	199	9.28E-04	1.15E-03	1.62E-03	1.85E-03
Cr^{3+}	1.42E-03	69.2	190	1.40E-03	1.41E-03	1.43E-03	1.43E-03
Bi^{3+}	1.03E-06	0.202	0.555	9.72E-07	1.00E-06	1.06E-06	1.09E-06
La^{3+}	2.18E-08	2.83E-03	7.79E-03	1.60E-08	1.88E-08	2.48E-08	2.77E-08
Hg^{2+}	1.83E-08	3.43E-03	9.42E-03	1.13E-08	1.77E-08	1.88E-08	1.93E-08
Zr (as $ZrO(OH)_2$)	3.24E-06	0.276	0.759	1.60E-06	3.03E-06	3.44E-06	3.64E-06
Pb^{2+}	1.13E-06	0.219	0.601	9.46E-07	1.04E-06	1.22E-06	1.31E-06
Ni^{2+}	1.23E-03	67.4	185	1.14E-03	1.18E-03	1.28E-03	1.32E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.69E-05	0.869	2.39	9.06E-06	1.29E-05	2.09E-05	2.37E-05
Ca^{2+}	6.24E-03	234	643	4.01E-03	5.32E-03	6.94E-03	6.94E-03
K^{+}	7.52E-03	275	756	3.70E-03	5.57E-03	9.47E-03	1.13E-02
OH^{-}	1.24	1.97E+04	5.41E+04	0.587	0.906	1.57	1.89
$NO3^{-}$	0.472	2.74E+04	7.52E+04	0.237	0.352	0.593	0.708
$NO2^{-}$	3.70E-02	1.59E+03	4.38E+03	2.20E-02	2.94E-02	4.48E-02	5.21E-02
$CO3^{2-}$	0.141	7.90E+03	2.17E+04	6.50E-02	0.102	0.178	0.205
$PO4^{3-}$	5.40E-03	480	1.32E+03	2.57E-03	3.96E-03	6.85E-03	8.24E-03
$SO4^{2-}$	2.47E-02	2.22E+03	6.11E+03	1.23E-02	1.84E-02	3.11E-02	3.72E-02
Si (as SiO_x^{2-})	1.79E-02	470	1.29E+03	9.20E-03	1.34E-02	2.23E-02	2.62E-02
F^{-}	5.51E-04	9.78	26.9	3.14E-04	5.11E-04	5.90E-04	6.29E-04
Cl^{-}	3.36E-02	1.11E+03	3.06E+03	1.60E-02	2.46E-02	4.25E-02	5.11E-02
$C_6H_5O_7^{3-}$	7.77E-03	1.37E+03	3.78E+03	3.53E-03	5.60E-03	9.95E-03	1.20E-02
$EDTA^{4-}$	2.23E-05	6.00	16.5	7.33E-06	1.46E-05	3.00E-05	3.75E-05
$HEDTA^{3-}$	3.98E-05	10.2	28.0	9.86E-06	2.45E-05	5.51E-05	7.02E-05
$glycolate^{-}$	0.103	7.25E+03	1.99E+04	4.68E-02	7.45E-02	0.132	0.160
$acetate^{-}$	1.53E-05	0.847	2.33	1.25E-05	1.37E-05	1.71E-05	1.97E-05
$oxalate^{2-}$	2.86E-08	2.35E-03	6.47E-03	2.54E-08	2.70E-08	3.02E-08	3.17E-08
DBP	2.69E-05	5.28	14.5	2.24E-05	2.46E-05	2.91E-05	3.13E-05
butanol	2.69E-05	1.86	5.12	2.24E-05	2.46E-05	2.91E-05	3.13E-05
NH_3	1.14E-03	18.2	50.0	3.49E-04	7.35E-04	1.56E-03	1.97E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.94E+06 (kg)	(711 kgal)	----	----	----	----	----
Heat Load	5.88 (kW)	(2.01E+04 BTU/hr)	----	1.59	4.51	6.66	7.14
Bulk Density†	1.09 (g/cc)	----	----	1.05	1.07	1.11	1.13
Water wt%†	86.0	----	----	80.9	83.1	89.3	92.3
TOC wt% C (wet)†	0.282	----	----	0.135	0.210	0.351	0.421

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	2.04	4.29E+04	1.26E+05	0.900	1.41	2.59	3.03
Al^{3+}	0.253	6.26E+03	1.84E+04	0.180	0.216	0.290	0.328
Fe^{3+} (total Fe)	9.87E-02	5.05E+03	1.48E+04	8.48E-02	9.43E-02	0.101	0.103
Cr^{3+}	1.40E-03	66.6	196	1.37E-03	1.38E-03	1.42E-03	1.43E-03
Bi^{3+}	9.87E-07	0.189	0.555	9.28E-07	9.57E-07	1.02E-06	1.05E-06
La^{3+}	2.08E-08	2.65E-03	7.79E-03	1.53E-08	1.80E-08	2.37E-08	2.65E-08
Hg^{2+}	1.75E-08	3.21E-03	9.42E-03	1.08E-08	1.70E-08	1.80E-08	1.84E-08
Zr (as $ZrO(OH)_2$)	3.09E-06	0.258	0.759	1.53E-06	2.89E-06	3.29E-06	3.48E-06
Pb^{2+}	1.29E-06	0.246	0.722	1.12E-06	1.21E-06	1.38E-06	1.47E-06
Ni^{2+}	4.92E-02	2.65E+03	7.78E+03	3.67E-02	4.52E-02	5.15E-02	5.29E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.62E-05	2.32	6.82	2.21E-05	3.40E-05	5.83E-05	1.56E-04
Ca^{2+}	1.65E-02	607	1.78E+03	6.57E-03	8.01E-03	2.79E-02	3.49E-02
K^{+}	7.57E-03	271	796	3.77E-03	5.66E-03	9.47E-03	1.14E-02
OH^{-}	1.97	3.07E+04	9.03E+04	1.26	1.63	2.31	2.65
$NO3^{-}$	0.452	2.57E+04	7.54E+04	0.229	0.337	0.567	0.677
$NO2^{-}$	5.87E-02	2.47E+03	7.27E+03	3.26E-02	4.80E-02	6.84E-02	8.66E-02
$CO3^{2-}$	0.152	8.37E+03	2.46E+04	6.92E-02	0.107	0.200	0.193
$PO4^{3-}$	5.77E-03	502	1.47E+03	2.95E-03	4.35E-03	7.18E-03	8.63E-03
$SO4^{2-}$	2.48E-02	2.18E+03	6.41E+03	1.24E-02	1.86E-02	3.10E-02	3.74E-02
Si (as SiO_x^{2-})	0.111	2.85E+03	8.37E+03	1.22E-02	3.48E-02	0.156	0.199
F^{-}	5.26E-04	9.15	26.9	3.00E-04	4.88E-04	5.64E-04	6.01E-04
Cl^{-}	3.37E-02	1.09E+03	3.21E+03	1.62E-02	2.49E-02	4.25E-02	5.14E-02
$C_6H_5O_7^{3-}$	7.82E-03	1.35E+03	3.98E+03	3.59E-03	5.69E-03	9.94E-03	1.21E-02
$EDTA^{4-}$	2.13E-05	5.62	16.5	7.01E-06	1.40E-05	2.86E-05	3.58E-05
$HEDTA^{3-}$	3.80E-05	9.53	28.0	9.42E-06	2.34E-05	5.27E-05	6.70E-05
$glycolate^{-}$	0.104	7.15E+03	2.10E+04	4.77E-02	7.57E-02	0.132	0.161
$acetate^{-}$	1.47E-05	0.792	2.33	1.19E-05	1.31E-05	1.63E-05	1.89E-05
$oxalate^{2-}$	2.73E-08	2.20E-03	6.47E-03	2.43E-08	2.58E-08	2.88E-08	3.03E-08
DBP	4.27E-05	8.22	24.1	2.90E-05	3.58E-05	4.96E-05	5.62E-05
butanol	4.27E-05	2.90	8.52	2.90E-05	3.58E-05	4.96E-05	5.62E-05
NH_3	4.72E-03	73.5	216	1.58E-03	3.91E-03	5.44E-03	8.15E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.89E+05 (kg)	(31.9 kgal)	----	----	----	----	----
Heat Load	5.29 (kW)	(1.81E+04 BTU/hr)	----	0.998	3.92	6.07	6.55
Bulk Density	1.56 (g/cc)	----	----	1.33	1.41	1.67	1.70
Void Fraction	0.696	----	----	0.586	0.614	0.807	0.837
Water wt%	47.8	----	----	44.1	44.4	53.9	58.8
TOC wt% C (wet)	0.224	----	----	0.149	0.194	0.256	0.325
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	1.45E-05	9.24E-03	1.75	3.71E-06	8.99E-06	2.03E-05	3.49E-05
C-14	9.73E-07	6.22E-04	0.118	5.47E-07	8.35E-07	1.07E-06	1.12E-05
Ni-59	1.65E-04	0.106	20.0	1.22E-04	1.51E-04	1.73E-04	1.80E-04
Ni-63	1.64E-02	10.5	1.98E+03	1.21E-02	1.50E-02	1.72E-02	1.78E-02
Co-60	2.19E-06	1.40E-03	0.265	1.23E-06	1.88E-06	2.41E-06	3.46E-06
Se-79	6.60E-07	4.22E-04	7.98E-02	3.69E-07	4.73E-07	2.29E-05	1.51E-04
Sr-90	6.50	4.16E+03	7.86E+05	1.23	4.81	7.46	8.05
Y-90	6.51	4.16E+03	7.86E+05	1.23	4.81	7.46	8.05
Zr-93	2.97E-06	1.90E-03	0.359	1.67E-06	2.04E-06	4.17E-05	6.82E-04
Nb-93m	2.38E-06	1.52E-03	0.287	1.24E-06	1.72E-06	9.47E-05	5.43E-04
Tc-99	6.51E-06	4.16E-03	0.787	3.66E-06	5.59E-06	7.18E-06	1.03E-05
Ru-106	1.40E-06	8.92E-04	0.169	6.19E-07	1.14E-06	1.65E-06	1.89E-06
Cd-113m	1.01E-05	6.47E-03	1.22	5.69E-06	8.69E-06	1.47E-05	2.18E-03
Sb-125	1.34E-05	8.56E-03	1.62	7.53E-06	1.15E-05	1.48E-05	2.12E-05
Sn-126	1.04E-06	6.66E-04	0.126	5.76E-07	7.62E-07	4.58E-05	2.38E-04
I-129	1.27E-08	8.10E-06	1.53E-03	7.12E-09	1.09E-08	1.40E-08	2.00E-08
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	2.39E-03	1.53	289	1.31E-03	1.74E-03	9.79E-02	0.546
Eu-152	1.32E-04	8.42E-02	15.9	1.31E-04	1.32E-04	1.32E-04	1.32E-04
Eu-154	6.62E-05	4.23E-02	8.00	3.72E-05	5.54E-05	7.71E-05	3.97E-03
Eu-155	7.55E-03	4.82	912	7.53E-03	7.54E-03	7.55E-03	7.57E-03
Ra-226	5.51E-09	3.52E-06	6.66E-04	3.44E-11	1.37E-09	9.65E-09	1.36E-08
Ra-228	7.01E-14	4.48E-11	8.47E-09	6.99E-14	7.00E-14	7.01E-14	7.02E-14
Ac-227	2.41E-08	1.54E-05	2.91E-03	1.79E-10	2.86E-10	4.81E-08	7.12E-08
Pa-231	5.86E-10	3.75E-07	7.08E-05	2.51E-10	3.99E-10	6.64E-09	1.35E-07
Th-229	1.04E-11	6.66E-09	1.26E-06	1.04E-11	1.04E-11	1.04E-11	1.04E-11
Th-232	3.90E-16	2.49E-13	4.72E-11	2.19E-16	3.35E-16	4.30E-16	6.17E-16
U-232	1.82E-10	1.16E-07	2.19E-05	7.87E-12	1.18E-11	3.28E-10	4.17E-10
U-233	1.87E-12	1.19E-09	2.25E-07	8.52E-14	1.26E-13	3.37E-12	4.28E-12
U-234	8.16E-07	5.21E-04	9.85E-02	3.44E-08	5.21E-08	1.47E-06	1.87E-06
U-235	3.10E-08	1.98E-05	3.75E-03	1.31E-09	1.99E-09	5.60E-08	7.12E-08
U-236	6.71E-08	4.29E-05	8.11E-03	2.78E-09	4.24E-09	1.21E-07	1.54E-07
U-238	5.60E-07	3.58E-04	6.77E-02	2.40E-08	3.62E-08	1.01E-06	1.29E-06
Np-237	2.08E-08	1.33E-05	2.51E-03	1.17E-08	1.78E-08	2.29E-08	3.29E-08
Pu-238	2.55E-04	0.163	30.9	1.79E-04	2.27E-04	2.83E-04	3.08E-04
Pu-239	4.15E-03	2.65	501	2.80E-03	3.57E-03	4.73E-03	5.29E-03
Pu-240	9.24E-04	0.591	112	6.33E-04	8.06E-04	1.04E-03	1.15E-03
Pu-241	1.90E-02	12.2	2.30E+03	1.36E-02	1.70E-02	2.10E-02	2.27E-02
Pu-242	1.14E-07	7.28E-05	1.38E-02	7.89E-08	1.01E-07	1.26E-07	1.37E-07
Am-241	3.57E-03	2.28	431	1.89E-05	1.57E-03	5.57E-03	7.49E-03
Am-243	2.70E-07	1.73E-04	3.26E-02	1.43E-09	1.27E-07	3.96E-07	5.03E-07
Cm-242	7.00E-06	4.48E-03	0.846	6.99E-06	7.00E-06	7.01E-06	7.02E-06
Cm-243	7.46E-07	4.76E-04	9.01E-02	7.44E-07	7.45E-07	7.46E-07	7.48E-07
Cm-244	2.00E-05	1.28E-02	2.41	4.45E-06	1.49E-05	2.51E-05	3.00E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.10E-02 (g/L)	----	8.58	4.80E-02	6.11E-02	8.09E-02	9.04E-02
U	7.07E-03	1.08E+03	203	3.03E-04	4.57E-04	1.28E-02	1.62E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.75E+06 (kg)	(679 kgal)	----	----	----	----	----
Heat Load	0.592 (kW)	(2.02E+03 BTU/hr)	----	0.508	0.549	0.635	0.677
Bulk Density*	1.07 (g/cc)	----	----	1.03	1.05	1.09	1.10
Water wt%†	88.7	----	----	83.5	85.9	91.5	94.3
TOC wt% C (wet)	0.286	----	----	0.134	0.210	0.359	0.427
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	9.52E-05	8.90E-02	245	7.03E-05	8.25E-05	1.08E-04	1.20E-04
C-14	1.90E-06	1.78E-03	4.88	1.43E-06	1.66E-06	2.14E-06	2.31E-06
Ni-59	1.47E-07	1.37E-04	0.377	1.41E-07	1.44E-07	1.49E-07	1.51E-07
Ni-63	1.45E-05	1.36E-02	37.4	1.39E-05	1.42E-05	1.48E-05	1.50E-05
Co-60	2.79E-06	2.61E-03	7.18	1.73E-06	2.25E-06	3.34E-06	3.85E-06
Se-79	6.02E-07	5.62E-04	1.55	2.83E-07	4.37E-07	7.65E-07	9.21E-07
Sr-90	1.79E-02	16.7	4.60E+04	1.54E-02	1.66E-02	1.92E-02	2.04E-02
Y-90	1.79E-02	16.7	4.60E+04	1.54E-02	1.66E-02	1.92E-02	2.04E-02
Zr-93	2.72E-06	2.54E-03	6.98	1.28E-06	1.89E-06	3.45E-06	4.15E-06
Nb-93m	2.16E-06	2.02E-03	5.56	1.02E-06	1.58E-06	2.75E-06	3.31E-06
Tc-99	1.02E-05	9.53E-03	26.2	7.04E-06	8.58E-06	1.18E-05	1.33E-05
Ru-106	2.63E-09	2.46E-06	6.76E-03	8.02E-10	1.70E-09	3.56E-09	4.46E-09
Cd-113m	9.50E-06	8.89E-03	24.4	4.61E-06	7.00E-06	1.36E-05	1.44E-05
Sb-125	1.68E-04	0.157	433	5.75E-05	1.12E-04	2.25E-04	2.79E-04
Sn-126	9.48E-07	8.87E-04	2.44	4.45E-07	6.91E-07	1.21E-06	1.45E-06
I-129	2.01E-08	1.88E-05	5.16E-02	1.40E-08	1.70E-08	2.32E-08	2.62E-08
Cs-134	1.66E-04	0.155	427	1.16E-04	1.40E-04	1.92E-04	2.17E-04
Cs-137	2.34E-02	21.9	6.02E+04	1.64E-02	1.98E-02	2.70E-02	3.05E-02
Ba-137m	2.22E-02	20.7	5.69E+04	1.55E-02	1.88E-02	2.56E-02	2.88E-02
Sm-151	2.18E-03	2.04	5.60E+03	1.02E-03	1.59E-03	2.77E-03	3.33E-03
Eu-152	9.40E-07	8.79E-04	2.42	6.52E-07	7.93E-07	1.09E-06	1.23E-06
Eu-154	6.31E-05	5.90E-02	162	3.11E-05	4.68E-05	7.95E-05	9.52E-05
Eu-155	1.05E-04	9.80E-02	269	8.23E-05	9.33E-05	1.16E-04	1.27E-04
Ra-226	3.26E-11	3.05E-08	8.38E-05	9.91E-12	2.10E-11	4.42E-11	4.46E-11
Ra-228	2.71E-10	2.53E-07	6.96E-04	1.07E-10	1.07E-10	3.09E-10	3.50E-10
Ac-227	1.89E-10	1.77E-07	4.86E-04	5.76E-11	1.22E-10	2.56E-10	2.27E-10
Pa-231	5.37E-10	5.02E-07	1.38E-03	2.41E-10	3.72E-10	6.82E-10	8.21E-10
Th-229	6.33E-12	5.92E-09	1.63E-05	2.55E-12	2.55E-12	7.17E-12	8.06E-12
Th-232	2.71E-11	2.53E-08	6.97E-05	6.87E-12	6.87E-12	3.26E-11	3.79E-11
U-232	9.08E-10	8.49E-07	2.34E-03	6.51E-10	7.77E-10	1.06E-09	1.22E-09
U-233	3.47E-09	3.25E-06	8.93E-03	2.49E-09	2.97E-09	4.06E-09	4.68E-09
U-234	1.05E-08	9.86E-06	2.71E-02	8.01E-09	9.25E-09	1.18E-08	1.31E-08
U-235	4.05E-10	3.79E-07	1.04E-03	3.07E-10	3.55E-10	4.55E-10	5.03E-10
U-236	7.93E-10	7.42E-07	2.04E-03	6.09E-10	6.99E-10	8.88E-10	9.78E-10
U-238	8.02E-09	7.50E-06	2.06E-02	6.07E-09	7.03E-09	9.02E-09	9.98E-09
Np-237	8.11E-08	7.58E-05	0.208	6.23E-08	7.15E-08	9.07E-08	9.99E-08
Pu-238	2.68E-07	2.51E-04	0.689	8.41E-08	1.72E-07	3.68E-07	4.69E-07
Pu-239	4.64E-06	4.34E-03	11.9	1.47E-06	3.03E-06	6.25E-06	7.80E-06
Pu-240	1.01E-06	9.49E-04	2.61	3.23E-07	6.58E-07	1.38E-06	1.73E-06
Pu-241	1.92E-05	1.79E-02	49.3	6.28E-06	1.25E-05	2.62E-05	3.33E-05
Pu-242	1.21E-10	1.13E-07	3.12E-04	3.72E-11	7.73E-11	1.68E-10	2.15E-10
Am-241	1.59E-05	1.49E-02	40.9	4.95E-06	1.03E-05	2.15E-05	2.53E-05
Am-243	1.23E-09	1.15E-06	3.16E-03	3.60E-10	7.59E-10	1.77E-09	2.24E-09
Cm-242	6.43E-08	6.01E-05	0.165	4.89E-08	5.64E-08	7.21E-08	7.96E-08
Cm-243	9.05E-09	8.46E-06	2.33E-02	7.22E-09	8.11E-09	9.98E-09	1.09E-08
Cm-244	5.26E-08	4.91E-05	0.135	1.60E-08	3.39E-08	7.12E-08	8.91E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	7.91E-05 (g/L)	----	0.203	2.50E-05	5.15E-05	1.07E-04	1.33E-04
U	9.78E-05	21.8	59.8	7.32E-05	8.52E-05	1.10E-04	1.22E-04

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	2.94E+06 (kg)	(711 kgal)	----	----	----	----	----
Heat Load	5.88 (kW)	(2.01E+04 BTU/hr)	----	1.59	4.51	6.66	7.14
Bulk Density†	1.09 (g/cc)	----	----	1.05	1.07	1.11	1.13
Water wt%†	86.0	----	----	80.9	83.1	89.3	92.3
TOC wt% C (wet)†	0.282	----	----	0.135	0.210	0.351	0.421
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	9.15E-05	8.39E-02	246	6.78E-05	7.94E-05	1.04E-04	1.15E-04
C-14	1.86E-06	1.70E-03	5.00	1.39E-06	1.62E-06	2.09E-06	2.71E-06
Ni-59	7.56E-06	6.93E-03	20.4	5.60E-06	6.93E-06	7.92E-06	8.20E-06
Ni-63	7.49E-04	0.686	2.02E+03	5.55E-04	6.87E-04	7.85E-04	8.12E-04
Co-60	2.77E-06	2.53E-03	7.44	1.71E-06	2.24E-06	3.29E-06	3.84E-06
Se-79	6.04E-07	5.53E-04	1.63	2.87E-07	4.38E-07	1.67E-06	7.09E-06
Sr-90	0.309	283	8.32E+05	7.22E-02	0.233	0.352	0.379
Y-90	0.309	283	8.32E+05	7.22E-02	0.233	0.352	0.379
Zr-93	2.73E-06	2.50E-03	7.34	1.30E-06	1.90E-06	5.11E-06	3.22E-05
Nb-93m	2.17E-06	1.99E-03	5.85	1.03E-06	1.59E-06	6.52E-06	2.55E-05
Tc-99	1.00E-05	9.18E-03	27.0	6.89E-06	8.45E-06	1.16E-05	1.32E-05
Ru-106	6.51E-08	5.97E-05	0.175	3.03E-08	5.40E-08	7.57E-08	8.58E-08
Cd-113m	9.53E-06	8.73E-03	25.7	4.66E-06	7.08E-06	1.36E-05	1.07E-04
Sb-125	1.61E-04	0.148	434	5.55E-05	1.07E-04	2.15E-04	2.67E-04
Sn-126	9.53E-07	8.73E-04	2.56	4.51E-07	7.00E-07	3.03E-06	1.11E-05
I-129	1.98E-08	1.81E-05	5.32E-02	1.37E-08	1.67E-08	2.28E-08	2.59E-08
Cs-134	1.59E-04	0.145	427	1.11E-04	1.34E-04	1.83E-04	2.07E-04
Cs-137	2.24E-02	20.5	6.02E+04	1.57E-02	1.89E-02	2.58E-02	2.91E-02
Ba-137m	2.12E-02	19.4	5.69E+04	1.48E-02	1.79E-02	2.44E-02	2.75E-02
Sm-151	2.19E-03	2.00	5.88E+03	1.04E-03	1.61E-03	6.66E-03	2.56E-02
Eu-152	6.81E-06	6.24E-03	18.3	6.52E-06	6.67E-06	6.95E-06	7.10E-06
Eu-154	6.33E-05	5.79E-02	170	3.14E-05	4.72E-05	7.92E-05	2.54E-04
Eu-155	4.39E-04	0.402	1.18E+03	4.17E-04	4.28E-04	4.50E-04	4.61E-04
Ra-226	2.79E-10	2.55E-07	7.50E-04	2.54E-11	1.04E-10	4.53E-10	6.21E-10
Ra-228	2.59E-10	2.37E-07	6.96E-04	1.02E-10	1.02E-10	2.95E-10	3.34E-10
Ac-227	1.26E-09	1.16E-06	3.40E-03	1.33E-10	2.57E-10	2.28E-09	3.25E-09
Pa-231	5.39E-10	4.94E-07	1.45E-03	2.41E-10	3.73E-10	9.46E-10	6.36E-09
Th-229	6.52E-12	5.97E-09	1.75E-05	2.91E-12	2.91E-12	7.32E-12	8.17E-12
Th-232	2.59E-11	2.37E-08	6.97E-05	6.56E-12	6.56E-12	3.12E-11	3.62E-11
U-232	8.76E-10	8.02E-07	2.36E-03	6.29E-10	7.50E-10	1.02E-09	1.18E-09
U-233	3.32E-09	3.04E-06	8.93E-03	2.37E-09	2.83E-09	3.88E-09	4.47E-09
U-234	4.67E-08	4.28E-05	0.126	1.11E-08	1.23E-08	7.63E-08	9.42E-08
U-235	1.78E-09	1.63E-06	4.79E-03	4.28E-10	4.72E-10	2.90E-09	3.58E-09
U-236	3.77E-09	3.45E-06	1.01E-02	8.44E-10	9.39E-10	6.20E-09	7.68E-09
U-238	3.28E-08	3.01E-05	8.83E-02	8.42E-09	9.22E-09	5.31E-08	6.54E-08
Np-237	7.84E-08	7.18E-05	0.211	6.05E-08	6.92E-08	8.75E-08	9.64E-08
Pu-238	1.17E-05	1.07E-02	31.5	8.28E-06	1.05E-05	1.29E-05	1.39E-05
Pu-239	1.91E-04	0.175	513	1.30E-04	1.66E-04	2.15E-04	2.39E-04
Pu-240	4.25E-05	3.89E-02	114	2.94E-05	3.75E-05	4.74E-05	5.20E-05
Pu-241	8.72E-04	0.799	2.35E+03	6.31E-04	7.88E-04	9.52E-04	1.03E-03
Pu-242	5.23E-09	4.79E-06	1.41E-02	3.66E-09	4.70E-09	5.73E-09	6.19E-09
Am-241	1.75E-04	0.161	472	1.41E-05	9.09E-05	2.60E-04	3.41E-04
Am-243	1.33E-08	1.22E-05	3.58E-02	1.09E-09	7.40E-09	1.85E-08	2.29E-08
Cm-242	3.76E-07	3.44E-04	1.01	3.60E-07	3.68E-07	3.83E-07	3.91E-07
Cm-243	4.21E-08	3.86E-05	0.113	4.04E-08	4.12E-08	4.30E-08	4.39E-08
Cm-244	9.47E-07	8.67E-04	2.55	2.50E-07	7.23E-07	1.16E-06	1.36E-06
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	3.26E-03 (g/L)	----	8.78	2.23E-03	2.85E-03	3.68E-03	4.08E-03
U	4.11E-04	89.5	263	1.03E-04	1.13E-04	6.67E-04	8.22E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.65E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	43.3 (kW)	(1.48E+05 BTU/hr)	----	42.7	43.0	43.5	43.7
Bulk Density	1.50 (g/cc)	----	----	1.43	1.47	1.53	1.55
Void Fraction	0.788	----	----	0.768	0.778	0.801	0.817
Water wt%	55.1	----	----	53.1	54.0	56.5	58.2
TOC wt% C (wet)	1.00E-02	----	----	6.12E-03	8.79E-03	1.09E-02	1.52E-02

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	5.07	7.77E+04	1.28E+04	3.84	4.50	5.57	6.00
Al^{3+}	0.908	1.63E+04	2.69E+03	0.844	0.875	0.941	0.973
Fe^{3+} (total Fe)	2.90	1.08E+05	1.78E+04	2.88	2.89	2.91	2.92
Cr^{3+}	2.44E-04	8.46	1.39	1.10E-04	1.77E-04	3.12E-04	3.77E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	1.33E-06	0.183	3.01E-02	5.96E-07	9.60E-07	1.69E-06	2.05E-06
Ni^{2+}	4.55E-02	1.78E+03	293	3.45E-02	4.20E-02	4.75E-02	4.87E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.83E-04	6.70	1.10	8.23E-05	1.33E-04	2.34E-04	8.16E-04
Ca^{2+}	0.252	6.73E+03	1.11E+03	0.160	0.211	0.293	0.333
K^+	8.67E-03	226	37.2	6.43E-03	7.53E-03	9.82E-03	1.09E-02
OH^-	14.1	1.60E+05	2.63E+04	13.3	13.7	14.5	14.8
$NO3^-$	7.84E-03	324	53.3	3.53E-03	5.68E-03	1.00E-02	1.21E-02
$NO2^-$	0.478	1.46E+04	2.41E+03	0.353	0.414	0.543	0.605
$CO3^{2-}$	0.261	1.04E+04	1.72E+03	0.170	0.220	0.303	0.342
$PO4^{3-}$	2.35E-03	149	24.5	1.18E-03	1.77E-03	2.94E-03	3.51E-03
$SO4^{2-}$	0.101	6.46E+03	1.06E+03	7.36E-02	8.70E-02	0.115	0.129
Si (as SiO_x^{2-})	1.50	2.81E+04	4.63E+03	1.12	1.31	1.70	1.89
F^-	2.22E-02	281	46.3	1.61E-02	1.91E-02	2.54E-02	2.84E-02
Cl^-	3.90E-02	921	152	2.87E-02	3.38E-02	4.43E-02	4.94E-02
$C_6H_5O_7^{3-}$	3.47E-04	43.6	7.19	1.95E-04	2.97E-04	3.82E-04	5.48E-04
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	4.62E-03	231	38.0	2.60E-03	3.96E-03	5.09E-03	7.31E-03
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	1.04E-04	14.6	2.40	4.68E-05	7.53E-05	1.33E-04	1.60E-04
butanol	1.04E-04	5.13	0.846	4.68E-05	7.53E-05	1.33E-04	1.60E-04
NH_3	0.188	2.13E+03	351	0.141	0.164	0.212	0.236
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.88E+06 (kg)	(931 kgal)	----	----	----	----	----
Heat Load	34.1 (kW)	(1.16E+05 BTU/hr)	----	24.0	29.0	39.2	44.2
Bulk Density*	1.10 (g/cc)	----	----	1.08	1.09	1.11	1.12
Water wt%	85.1	----	----	82.3	83.6	86.5	88.0
TOC wt% C (wet)	7.91E-02	----	----	4.71E-02	6.27E-02	9.55E-02	0.112

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	2.55	5.33E+04	2.07E+05	1.97	2.25	2.85	3.13
Al^{3+}	0.297	7.27E+03	2.82E+04	0.228	0.261	0.332	0.366
Fe^{3+} (total Fe)	1.85E-03	94.1	365	1.22E-03	1.53E-03	2.18E-03	2.49E-03
Cr^{3+}	4.94E-03	233	905	4.34E-03	4.66E-03	5.13E-03	5.40E-03
Bi^{3+}	4.98E-05	9.45	36.6	4.68E-05	4.82E-05	5.13E-05	5.29E-05
La^{3+}	9.94E-07	0.126	0.487	7.30E-07	8.59E-07	1.13E-06	1.26E-06
Hg^{2+}	3.85E-07	7.03E-02	0.272	3.70E-07	3.79E-07	3.92E-07	3.99E-07
Zr (as $ZrO(OH)_2$)	6.84E-06	0.567	2.20	6.29E-06	6.49E-06	7.07E-06	7.38E-06
Pb^{2+}	5.09E-05	9.58	37.1	4.09E-05	4.58E-05	5.60E-05	6.09E-05
Ni^{2+}	2.57E-04	13.7	53.2	2.48E-04	2.52E-04	2.59E-04	2.61E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.44E-04	12.2	47.3	2.04E-04	2.24E-04	2.65E-04	2.79E-04
Ca^{2+}	7.79E-03	284	1.10E+03	5.29E-03	6.51E-03	9.06E-03	1.03E-02
K^+	1.07E-02	381	1.48E+03	8.32E-03	9.49E-03	1.19E-02	1.31E-02
OH^-	2.34	3.61E+04	1.40E+05	1.76	2.04	2.63	2.92
$NO3^-$	0.301	1.70E+04	6.59E+04	0.287	0.295	0.307	0.312
$NO2^-$	0.428	1.79E+04	6.93E+04	0.289	0.355	0.503	0.577
$CO3^{2-}$	3.06E-02	1.67E+03	6.46E+03	2.73E-02	2.89E-02	3.22E-02	3.33E-02
$PO4^{3-}$	4.59E-03	396	1.54E+03	4.12E-03	4.35E-03	4.83E-03	5.06E-03
$SO4^{2-}$	0.108	9.46E+03	3.67E+04	7.91E-02	9.34E-02	0.123	0.138
Si (as SiO_x^{2-})	2.77E-02	706	2.74E+03	1.57E-02	2.15E-02	3.37E-02	3.96E-02
F^-	2.42E-02	418	1.62E+03	1.77E-02	2.09E-02	2.75E-02	3.08E-02
Cl^-	4.65E-02	1.50E+03	5.80E+03	3.55E-02	4.08E-02	5.21E-02	5.75E-02
$C_6H_5O_7^{3-}$	1.44E-03	247	957	1.25E-03	1.34E-03	1.53E-03	1.62E-03
$EDTA^{4-}$	1.27E-03	332	1.29E+03	4.06E-04	8.27E-04	1.71E-03	2.14E-03
$HEDTA^{3-}$	2.29E-03	570	2.21E+03	5.65E-04	1.41E-03	3.18E-03	4.04E-03
$glycolate^-$	7.19E-03	490	1.90E+03	4.73E-03	5.93E-03	8.45E-03	9.65E-03
$acetate^-$	7.91E-04	42.4	164	6.35E-04	7.01E-04	8.86E-04	1.03E-03
$oxalate^{2-}$	1.30E-06	0.104	0.404	1.16E-06	1.23E-06	1.38E-06	1.45E-06
DBP	1.03E-03	197	763	8.85E-04	9.48E-04	1.12E-03	1.25E-03
butanol	1.03E-03	69.4	269	8.85E-04	9.48E-04	1.12E-03	1.25E-03
NH_3	1.58E-02	244	947	8.48E-03	1.17E-02	2.06E-02	2.59E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.04E+06 (kg)	(960 kgal)	----	----	----	----	----
Heat Load	77.3 (kW)	(2.64E+05 BTU/hr)	----	66.8	72.0	82.7	87.9
Bulk Density†	1.11 (g/cc)	----	----	1.09	1.10	1.12	1.14
Water wt%†	83.9	----	----	81.1	82.4	85.3	86.8
TOC wt% C (wet)†	7.63E-02	----	----	4.56E-02	6.06E-02	9.20E-02	0.107

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	2.63	5.43E+04	2.19E+05	2.03	2.32	2.93	3.22
Al^{3+}	0.315	7.64E+03	3.09E+04	0.247	0.280	0.350	0.384
Fe^{3+} (total Fe)	8.93E-02	4.48E+03	1.81E+04	8.87E-02	8.90E-02	8.95E-02	8.96E-02
Cr^{3+}	4.80E-03	224	906	4.21E-03	4.53E-03	4.98E-03	5.24E-03
Bi^{3+}	4.83E-05	9.06	36.6	4.54E-05	4.68E-05	4.97E-05	5.13E-05
La^{3+}	9.64E-07	0.120	0.487	7.08E-07	8.33E-07	1.10E-06	1.22E-06
Hg^{2+}	3.74E-07	6.74E-02	0.272	3.59E-07	3.67E-07	3.81E-07	3.87E-07
Zr (as $ZrO(OH)_2$)	6.63E-06	0.544	2.20	6.10E-06	6.29E-06	6.85E-06	7.16E-06
Pb^{2+}	4.94E-05	9.20	37.2	3.97E-05	4.44E-05	5.43E-05	5.91E-05
Ni^{2+}	1.62E-03	85.6	346	1.29E-03	1.52E-03	1.68E-03	1.72E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	2.43E-04	12.0	48.4	2.00E-04	2.21E-04	2.64E-04	2.95E-04
Ca^{2+}	1.52E-02	547	2.21E+03	1.24E-02	1.40E-02	1.60E-02	1.67E-02
K^+	1.06E-02	374	1.51E+03	8.26E-03	9.43E-03	1.19E-02	1.30E-02
OH^-	2.69	4.11E+04	1.66E+05	2.11	2.39	2.99	3.28
$NO3^-$	0.293	1.63E+04	6.59E+04	0.278	0.286	0.298	0.303
$NO2^-$	0.429	1.77E+04	7.17E+04	0.291	0.357	0.504	0.578
$CO3^{2-}$	3.75E-02	2.02E+03	8.19E+03	3.41E-02	3.57E-02	3.94E-02	3.97E-02
$PO4^{3-}$	4.52E-03	386	1.56E+03	4.03E-03	4.27E-03	4.77E-03	5.01E-03
$SO4^{2-}$	0.108	9.34E+03	3.78E+04	7.90E-02	9.32E-02	0.123	0.138
Si (as SiO_x^{2-})	7.21E-02	1.82E+03	7.36E+03	6.17E-02	6.77E-02	7.54E-02	7.78E-02
F^-	2.41E-02	412	1.67E+03	1.76E-02	2.08E-02	2.75E-02	3.07E-02
Cl^-	4.62E-02	1.47E+03	5.95E+03	3.53E-02	4.06E-02	5.19E-02	5.73E-02
$C_6H_5O_7^{3-}$	1.40E-03	239	964	1.22E-03	1.31E-03	1.50E-03	1.59E-03
$EDTA^{4-}$	1.23E-03	318	1.29E+03	3.94E-04	8.02E-04	1.66E-03	2.08E-03
$HEDTA^{3-}$	2.22E-03	547	2.21E+03	5.48E-04	1.36E-03	3.08E-03	3.92E-03
$glycolate^-$	7.11E-03	480	1.94E+03	4.67E-03	5.87E-03	8.35E-03	9.58E-03
$acetate^-$	7.67E-04	40.7	164	6.16E-04	6.80E-04	8.59E-04	1.00E-03
$oxalate^{2-}$	1.26E-06	1.00E-01	0.404	1.12E-06	1.19E-06	1.33E-06	1.40E-06
DBP	1.00E-03	189	766	8.61E-04	9.22E-04	1.09E-03	1.22E-03
butanol	1.00E-03	66.8	270	8.61E-04	9.22E-04	1.09E-03	1.22E-03
NH_3	2.10E-02	321	1.30E+03	1.25E-02	1.63E-02	2.64E-02	3.23E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	1.65E+05 (kg)	(29.0 kgal)	----	----	----	----	----
Heat Load	43.3 (kW)	(1.48E+05 BTU/hr)	----	42.7	43.0	43.5	43.7
Bulk Density	1.50 (g/cc)	----	----	1.43	1.47	1.53	1.55
Void Fraction	0.788	----	----	0.768	0.778	0.801	0.817
Water wt%	55.1	----	----	53.1	54.0	56.5	58.2
TOC wt% C (wet)	1.00E-02	----	----	6.12E-03	8.79E-03	1.09E-02	1.52E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.35E-03	4.89	806	5.33E-03	6.32E-03	8.38E-03	9.38E-03
C-14	9.05E-05	6.03E-02	9.93	6.57E-05	7.78E-05	1.03E-04	1.16E-04
Ni-59	1.81E-04	0.120	19.8	1.79E-04	1.80E-04	1.81E-04	1.81E-04
Ni-63	2.08E-02	13.9	2.28E+03	2.06E-02	2.08E-02	2.08E-02	2.09E-02
Co-60	4.27E-02	28.4	4.68E+03	4.10E-02	4.18E-02	4.35E-02	4.43E-02
Se-79	3.19E-04	0.212	35.0	2.86E-04	3.02E-04	3.35E-04	3.51E-04
Sr-90	56.6	3.77E+04	6.21E+06	56.3	56.5	56.7	56.8
Y-90	56.7	3.77E+04	6.22E+06	56.3	56.5	56.8	56.8
Zr-93	1.53E-03	1.02	168	1.37E-03	1.45E-03	1.61E-03	1.69E-03
Nb-93m	5.82E-04	0.387	63.8	4.68E-04	5.24E-04	6.40E-04	6.96E-04
Tc-99	3.78E-04	0.252	41.5	2.74E-04	3.25E-04	4.31E-04	4.83E-04
Ru-106	0.636	423	6.98E+04	0.636	0.636	0.636	0.636
Cd-113m	1.76E-02	11.7	1.93E+03	1.66E-02	1.71E-02	1.81E-02	1.86E-02
Sb-125	0.653	435	7.16E+04	0.344	0.495	0.811	0.962
Sn-126	5.06E-04	0.337	55.5	4.57E-04	4.81E-04	5.31E-04	5.55E-04
I-129	7.59E-07	5.06E-04	8.33E-02	5.51E-07	6.53E-07	8.66E-07	9.69E-07
Cs-134	1.97E-02	13.1	2.16E+03	1.56E-02	1.76E-02	2.18E-02	2.38E-02
Cs-137	2.75	1.83E+03	3.01E+05	2.18	2.46	3.04	3.32
Ba-137m	2.60	1.73E+03	2.85E+05	2.06	2.32	2.88	3.14
Sm-151	1.10	732	1.21E+05	0.986	1.04	1.16	1.21
Eu-152	1.22E-03	0.814	134	1.21E-03	1.22E-03	1.23E-03	1.23E-03
Eu-154	0.325	216	3.56E+04	0.316	0.320	0.329	0.333
Eu-155	0.221	147	2.43E+04	0.219	0.220	0.222	0.223
Ra-226	1.73E-09	1.15E-06	1.90E-04	7.24E-10	1.22E-09	2.25E-09	2.74E-09
Ra-228	1.13E-13	7.53E-11	1.24E-08	1.12E-13	1.13E-13	1.14E-13	1.14E-13
Ac-227	9.58E-09	6.38E-06	1.05E-03	3.73E-09	6.59E-09	1.26E-08	1.54E-08
Pa-231	5.05E-08	3.37E-05	5.54E-03	1.80E-08	3.39E-08	6.71E-08	8.31E-08
Th-229	1.30E-11	8.68E-09	1.43E-06	1.29E-11	1.30E-11	1.31E-11	1.31E-11
Th-232	1.53E-14	1.02E-11	1.68E-09	1.11E-14	1.31E-14	1.74E-14	1.95E-14
U-232	5.54E-09	3.69E-06	6.08E-04	4.49E-09	5.10E-09	5.87E-09	6.11E-09
U-233	5.68E-11	3.78E-08	6.23E-06	4.61E-11	5.23E-11	6.02E-11	6.26E-11
U-234	2.49E-05	1.66E-02	2.73	2.02E-05	2.29E-05	2.64E-05	2.75E-05
U-235	9.47E-07	6.31E-04	0.104	7.68E-07	8.71E-07	1.00E-06	1.04E-06
U-236	2.05E-06	1.37E-03	0.225	1.66E-06	1.89E-06	2.17E-06	2.26E-06
U-238	1.71E-05	1.14E-02	1.88	1.39E-05	1.57E-05	1.81E-05	1.89E-05
Np-237	5.54E-06	3.69E-03	0.607	4.02E-06	4.76E-06	6.31E-06	7.06E-06
Pu-238	1.59E-03	1.06	174	1.57E-03	1.58E-03	1.60E-03	1.60E-03
Pu-239	1.29E-02	8.62	1.42E+03	1.28E-02	1.29E-02	1.30E-02	1.31E-02
Pu-240	3.92E-03	2.61	430	3.88E-03	3.90E-03	3.94E-03	3.96E-03
Pu-241	0.162	108	1.78E+04	0.160	0.161	0.163	0.164
Pu-242	6.06E-07	4.03E-04	6.64E-02	5.99E-07	6.02E-07	6.09E-07	6.12E-07
Am-241	0.224	149	2.46E+04	0.224	0.224	0.224	0.225
Am-243	4.72E-05	3.14E-02	5.18	4.71E-05	4.71E-05	4.72E-05	4.73E-05
Cm-242	1.08E-04	7.16E-02	11.8	1.07E-04	1.07E-04	1.08E-04	1.08E-04
Cm-243	1.80E-05	1.20E-02	1.97	1.79E-05	1.79E-05	1.81E-05	1.82E-05
Cm-244	8.60E-04	0.573	94.3	8.58E-04	8.59E-04	8.61E-04	8.62E-04
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0.227 (g/L)	----	24.9	0.225	0.226	0.229	0.230
U	0.216	3.42E+04	5.64E+03	0.175	0.199	0.229	0.238

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.88E+06 (kg)	(931 kgal)	----	----	----	----	----
Heat Load	34.1 (kW)	(1.16E+05 BTU/hr)	----	24.0	29.0	39.2	44.2
Bulk Density*	1.10 (g/cc)	----	----	1.08	1.09	1.11	1.12
Water wt%†	85.1	----	----	82.3	83.6	86.5	88.0
TOC wt% C (wet)	7.91E-02	----	----	4.71E-02	6.27E-02	9.55E-02	0.112
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.14E-03	6.48	2.51E+04	4.98E-03	6.04E-03	8.24E-03	9.30E-03
C-14	8.93E-05	8.11E-02	315	6.28E-05	7.57E-05	1.03E-04	1.16E-04
Ni-59	8.54E-08	7.76E-05	0.301	5.17E-08	5.17E-08	8.71E-08	8.87E-08
Ni-63	8.41E-06	7.64E-03	29.6	5.08E-06	5.08E-06	8.58E-06	8.74E-06
Co-60	7.32E-05	6.65E-02	258	2.27E-05	4.74E-05	9.90E-05	1.24E-04
Se-79	1.59E-06	1.44E-03	5.59	5.77E-07	1.07E-06	2.10E-06	2.60E-06
Sr-90	2.93E-02	26.6	1.03E+05	2.58E-02	2.75E-02	3.11E-02	3.28E-02
Y-90	2.93E-02	26.6	1.03E+05	2.58E-02	2.75E-02	3.11E-02	3.28E-02
Zr-93	7.92E-06	7.20E-03	27.9	2.87E-06	5.34E-06	1.05E-05	1.30E-05
Nb-93m	5.56E-06	5.06E-03	19.6	2.03E-06	3.76E-06	7.37E-06	9.10E-06
Tc-99	3.78E-04	0.343	1.33E+03	2.67E-04	3.21E-04	4.35E-04	4.89E-04
Ru-106	3.95E-09	3.59E-06	1.39E-02	1.43E-09	2.66E-09	5.24E-09	6.48E-09
Cd-113m	4.70E-05	4.27E-02	166	1.67E-05	3.15E-05	6.25E-05	7.73E-05
Sb-125	1.35E-02	12.3	4.77E+04	3.95E-03	8.65E-03	1.84E-02	2.31E-02
Sn-126	2.38E-06	2.17E-03	8.40	8.68E-07	1.61E-06	3.16E-06	3.90E-06
I-129	7.58E-07	6.89E-04	2.67	5.36E-07	6.44E-07	8.72E-07	9.82E-07
Cs-134	1.44E-02	13.1	5.07E+04	1.00E-02	1.22E-02	1.66E-02	1.88E-02
Cs-137	2.02	1.84E+03	7.12E+06	1.41	1.71	2.33	2.63
Ba-137m	1.91	1.74E+03	6.74E+06	1.34	1.62	2.21	2.49
Sm-151	5.56E-03	5.05	1.96E+04	2.02E-03	3.76E-03	7.37E-03	9.10E-03
Eu-152	3.58E-05	3.25E-02	126	2.50E-05	3.03E-05	4.13E-05	4.66E-05
Eu-154	3.87E-04	0.352	1.36E+03	1.34E-04	2.58E-04	5.16E-04	6.40E-04
Eu-155	6.46E-03	5.87	2.28E+04	4.51E-03	5.47E-03	7.46E-03	8.43E-03
Ra-226	5.07E-11	4.61E-08	1.79E-04	1.94E-11	3.47E-11	6.67E-11	8.20E-11
Ra-228	1.35E-08	1.22E-05	4.74E-02	4.47E-09	4.47E-09	1.50E-08	1.67E-08
Ac-227	2.97E-10	2.70E-07	1.05E-03	1.15E-10	2.04E-10	3.90E-10	4.79E-10
Pa-231	1.61E-09	1.46E-06	5.67E-03	6.00E-10	1.09E-09	2.13E-09	2.62E-09
Th-229	3.13E-10	2.84E-07	1.10E-03	1.05E-10	1.05E-10	3.48E-10	3.85E-10
Th-232	1.40E-09	1.27E-06	4.93E-03	2.88E-10	2.88E-10	1.70E-09	1.99E-09
U-232	4.28E-08	3.89E-05	0.151	3.21E-08	3.73E-08	4.92E-08	5.60E-08
U-233	1.64E-07	1.49E-04	0.577	1.23E-07	1.43E-07	1.88E-07	2.14E-07
U-234	3.64E-07	3.31E-04	1.28	3.31E-07	3.48E-07	3.81E-07	3.97E-07
U-235	1.39E-08	1.26E-05	4.90E-02	1.27E-08	1.33E-08	1.45E-08	1.52E-08
U-236	2.85E-08	2.59E-05	0.100	2.58E-08	2.71E-08	2.99E-08	3.12E-08
U-238	2.70E-07	2.45E-04	0.950	2.47E-07	2.58E-07	2.81E-07	2.92E-07
Np-237	5.41E-06	4.91E-03	19.1	3.79E-06	4.58E-06	6.24E-06	7.04E-06
Pu-238	8.20E-07	7.45E-04	2.89	2.95E-07	5.52E-07	1.09E-06	1.35E-06
Pu-239	8.25E-06	7.49E-03	29.1	3.99E-06	6.07E-06	1.04E-05	1.25E-05
Pu-240	2.23E-06	2.02E-03	7.85	9.35E-07	1.57E-06	2.89E-06	3.52E-06
Pu-241	8.16E-05	7.42E-02	288	2.79E-05	5.42E-05	1.09E-04	1.35E-04
Pu-242	3.13E-10	2.84E-07	1.10E-03	1.13E-10	2.11E-10	4.15E-10	5.13E-10
Am-241	2.42E-05	2.20E-02	85.3	9.04E-06	1.65E-05	3.19E-05	3.94E-05
Am-243	4.62E-09	4.20E-06	1.63E-02	1.43E-09	2.99E-09	6.25E-09	7.82E-09
Cm-242	3.14E-06	2.85E-03	11.1	2.19E-06	2.65E-06	3.62E-06	4.09E-06
Cm-243	5.25E-07	4.77E-04	1.85	3.67E-07	4.44E-07	6.07E-07	6.85E-07
Cm-244	7.78E-08	7.07E-05	0.274	2.72E-08	5.20E-08	1.04E-07	1.28E-07
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	1.32E-04 (g/L)	----	0.466	5.74E-05	9.40E-05	1.70E-04	2.07E-04
U	3.23E-03	699	2.71E+03	2.95E-03	3.09E-03	3.38E-03	3.52E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.04E+06 (kg)	(960 kgal)	----	----	----	----	----
Heat Load	77.3 (kW)	(2.64E+05 BTU/hr)	----	66.8	72.0	82.7	87.9
Bulk Density†	1.11 (g/cc)	----	----	1.09	1.10	1.12	1.14
Water wt%†	83.9	----	----	81.1	82.4	85.3	86.8
TOC wt% C (wet)†	7.63E-02	----	----	4.56E-02	6.06E-02	9.20E-02	0.107
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	7.14E-03	6.42	2.60E+04	4.99E-03	6.04E-03	8.24E-03	9.31E-03
C-14	8.93E-05	8.03E-02	325	6.29E-05	7.58E-05	1.03E-04	1.16E-04
Ni-59	5.54E-06	4.98E-03	20.1	5.49E-06	5.51E-06	5.55E-06	5.56E-06
Ni-63	6.36E-04	0.572	2.31E+03	6.31E-04	6.33E-04	6.37E-04	6.38E-04
Co-60	1.36E-03	1.22	4.94E+03	1.33E-03	1.35E-03	1.37E-03	1.38E-03
Se-79	1.12E-05	1.00E-02	40.5	1.05E-05	1.09E-05	1.14E-05	1.15E-05
Sr-90	1.74	1.56E+03	6.32E+06	1.73	1.73	1.74	1.74
Y-90	1.74	1.56E+03	6.32E+06	1.73	1.73	1.74	1.74
Zr-93	5.38E-05	4.84E-02	196	5.08E-05	5.25E-05	5.48E-05	5.55E-05
Nb-93m	2.30E-05	2.06E-02	83.4	2.08E-05	2.20E-05	2.36E-05	2.41E-05
Tc-99	3.78E-04	0.340	1.37E+03	2.67E-04	3.21E-04	4.35E-04	4.89E-04
Ru-106	1.92E-02	17.3	6.98E+04	1.92E-02	1.92E-02	1.92E-02	1.92E-02
Cd-113m	5.77E-04	0.519	2.10E+03	5.58E-04	5.69E-04	5.83E-04	5.87E-04
Sb-125	3.29E-02	29.5	1.19E+05	2.70E-02	3.04E-02	3.47E-02	3.60E-02
Sn-126	1.76E-05	1.58E-02	63.9	1.67E-05	1.72E-05	1.79E-05	1.81E-05
I-129	7.58E-07	6.81E-04	2.75	5.36E-07	6.45E-07	8.72E-07	9.82E-07
Cs-134	1.46E-02	13.1	5.29E+04	1.02E-02	1.23E-02	1.68E-02	1.89E-02
Cs-137	2.04	1.84E+03	7.43E+06	1.44	1.73	2.35	2.65
Ba-137m	1.93	1.74E+03	7.03E+06	1.36	1.64	2.23	2.51
Sm-151	3.86E-02	34.7	1.40E+05	3.64E-02	3.77E-02	3.93E-02	3.98E-02
Eu-152	7.16E-05	6.44E-02	260	6.09E-05	6.61E-05	7.71E-05	8.24E-05
Eu-154	1.02E-02	9.15	3.70E+04	1.00E-02	1.01E-02	1.02E-02	1.03E-02
Eu-155	1.29E-02	11.6	4.71E+04	1.10E-02	1.20E-02	1.39E-02	1.49E-02
Ra-226	1.01E-10	9.12E-08	3.69E-04	8.23E-11	9.34E-11	1.07E-10	1.12E-10
Ra-228	1.30E-08	1.17E-05	4.74E-02	4.33E-09	4.33E-09	1.46E-08	1.62E-08
Ac-227	5.77E-10	5.19E-07	2.10E-03	4.66E-10	5.30E-10	6.12E-10	6.37E-10
Pa-231	3.09E-09	2.78E-06	1.12E-02	2.47E-09	2.83E-09	3.28E-09	3.42E-09
Th-229	3.04E-10	2.73E-07	1.10E-03	1.02E-10	1.02E-10	3.38E-10	3.74E-10
Th-232	1.36E-09	1.22E-06	4.93E-03	2.80E-10	2.80E-10	1.65E-09	1.93E-09
U-232	4.17E-08	3.75E-05	0.152	3.13E-08	3.64E-08	4.79E-08	5.45E-08
U-233	1.59E-07	1.43E-04	0.577	1.19E-07	1.38E-07	1.83E-07	2.08E-07
U-234	1.11E-06	9.94E-04	4.02	9.63E-07	1.05E-06	1.15E-06	1.18E-06
U-235	4.21E-08	3.78E-05	0.153	3.67E-08	3.98E-08	4.38E-08	4.50E-08
U-236	8.96E-08	8.05E-05	0.326	7.79E-08	8.46E-08	9.32E-08	9.59E-08
U-238	7.78E-07	6.99E-04	2.83	6.80E-07	7.37E-07	8.08E-07	8.31E-07
Np-237	5.41E-06	4.86E-03	19.7	3.79E-06	4.58E-06	6.24E-06	7.04E-06
Pu-238	4.87E-05	4.38E-02	177	4.84E-05	4.86E-05	4.88E-05	4.89E-05
Pu-239	3.99E-04	0.359	1.45E+03	3.96E-04	3.98E-04	4.00E-04	4.00E-04
Pu-240	1.21E-04	0.108	438	1.20E-04	1.20E-04	1.21E-04	1.21E-04
Pu-241	4.97E-03	4.47	1.81E+04	4.94E-03	4.95E-03	4.98E-03	4.99E-03
Pu-242	1.86E-08	1.67E-05	6.75E-02	1.85E-08	1.85E-08	1.86E-08	1.87E-08
Am-241	6.79E-03	6.10	2.47E+04	6.78E-03	6.78E-03	6.79E-03	6.79E-03
Am-243	1.43E-06	1.28E-03	5.19	1.43E-06	1.43E-06	1.43E-06	1.43E-06
Cm-242	6.29E-06	5.65E-03	22.9	5.35E-06	5.81E-06	6.77E-06	7.24E-06
Cm-243	1.05E-06	9.46E-04	3.83	8.95E-07	9.72E-07	1.13E-06	1.21E-06
Cm-244	2.60E-05	2.34E-02	94.6	2.60E-05	2.60E-05	2.60E-05	2.61E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.99E-03 (g/L)	----	25.4	6.95E-03	6.97E-03	7.01E-03	7.02E-03
U	9.65E-03	2.07E+03	8.35E+03	8.42E-03	9.13E-03	1.00E-02	1.03E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102							
TLM Solids Composite Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total TLM Waste	2.24E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	27.1 (kW)	(9.27E+04 BTU/hr)	----	20.8	24.9	28.2	28.7
Bulk Density	1.38 (g/cc)	----	----	1.21	1.31	1.43	1.47
Void Fraction	0.832	----	----	0.767	0.812	0.870	0.913
Water wt%	58.5	----	----	51.2	54.5	64.4	73.9
TOC wt% C (wet)	2.31	----	----	0.716	1.60	3.00	3.38
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	5.56	9.26E+04	2.08E+04	2.14	3.95	6.59	7.61
Al^{3+}	0.516	1.01E+04	2.27E+03	0.495	0.506	0.527	0.537
Fe^{3+} (total Fe)	1.84	7.44E+04	1.67E+04	1.24	1.72	1.89	1.92
Cr^{3+}	6.18E-04	23.3	5.23	3.45E-04	4.81E-04	7.56E-04	8.88E-04
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	2.70E-06	0.405	9.09E-02	1.21E-06	1.95E-06	3.44E-06	4.16E-06
Ni^{2+}	1.01E-02	428	96.1	2.38E-03	7.43E-03	1.15E-02	1.24E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.73E-04	14.8	3.33	1.67E-04	2.70E-04	4.76E-04	1.66E-03
Ca^{2+}	0.199	5.78E+03	1.30E+03	0.118	0.120	0.258	0.290
K^{+}	1.03E-02	292	65.4	5.15E-03	7.84E-03	1.27E-02	1.42E-02
OH^{-}	8.02	9.88E+04	2.22E+04	6.15	7.64	8.20	8.31
NO_3^{-}	4.91E-02	2.21E+03	495	3.09E-02	4.00E-02	0.115	0.110
NO_2^{-}	0.487	1.62E+04	3.64E+03	0.180	0.370	0.601	0.675
CO_3^{2-}	0.331	1.44E+04	3.23E+03	0.160	0.210	0.432	0.690
PO_4^{3-}	4.32E-03	297	66.7	1.94E-03	3.13E-03	5.51E-03	6.66E-03
SO_4^{2-}	8.58E-02	5.98E+03	1.34E+03	4.72E-02	6.74E-02	0.104	0.115
Si (as SiO_x^{2-})	1.55	3.16E+04	7.09E+03	0.472	1.05	1.77	1.93
F^{-}	7.21E-03	99.3	22.3	5.23E-03	6.20E-03	8.22E-03	9.20E-03
Cl^{-}	4.60E-02	1.18E+03	265	2.24E-02	3.48E-02	5.71E-02	6.41E-02
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	7.81E-02	1.63E+04	3.66E+03	2.12E-02	5.10E-02	0.105	0.122
$HEDTA^{3-}$	0.156	3.10E+04	6.96E+03	4.24E-02	0.102	0.209	0.243
$glycolate^{-}$	0.156	8.49E+03	1.91E+03	4.24E-02	0.102	0.209	0.243
$acetate^{-}$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	2.27E-04	34.6	7.77	1.11E-04	1.69E-04	2.86E-04	3.42E-04
butanol	2.27E-04	12.2	2.74	1.11E-04	1.69E-04	2.86E-04	3.42E-04
NH_3	0.141	1.74E+03	390	6.02E-02	9.90E-02	0.178	0.192
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102							
SMM Composite Inventory Estimate							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total SMM Waste	3.65E+06 (kg)	(920 kgal)	----	----	----	----	----
Heat Load	19.3 (kW)	(6.59E+04 BTU/hr)	----	13.6	16.4	22.2	25.1
Bulk Density*	1.05 (g/cc)	----	----	1.04	1.04	1.06	1.06
Water wt%	92.6	----	----	90.8	91.6	93.5	94.4
TOC wt% C (wet)	1.89E-02	----	----	1.04E-02	1.46E-02	2.32E-02	2.73E-02
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	1.27	2.77E+04	1.01E+05	0.931	1.09	1.44	1.60
Al^{3+}	0.142	3.64E+03	1.33E+04	0.102	0.121	0.162	0.182
Fe^{3+} (total Fe)	9.27E-04	49.4	180	5.59E-04	7.39E-04	1.11E-03	1.29E-03
Cr^{3+}	3.24E-04	16.1	58.6	2.63E-04	2.92E-04	3.55E-04	3.85E-04
Bi^{3+}	2.15E-06	0.428	1.56	1.99E-06	2.06E-06	2.23E-06	2.35E-06
La^{3+}	2.41E-08	3.20E-03	1.17E-02	1.81E-08	2.11E-08	2.72E-08	3.02E-08
Hg^{2+}	1.78E-08	3.41E-03	1.25E-02	1.70E-08	1.74E-08	1.83E-08	1.87E-08
Zr (as $ZrO(OH)_2$)	3.27E-07	2.84E-02	0.104	2.83E-07	3.15E-07	3.35E-07	3.48E-07
Pb^{2+}	3.02E-06	0.596	2.18	2.37E-06	2.69E-06	3.35E-06	3.66E-06
Ni^{2+}	8.94E-05	5.01	18.3	8.44E-05	8.69E-05	9.20E-05	9.44E-05
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	8.67E-05	4.54	16.6	4.08E-05	6.33E-05	1.10E-04	1.26E-04
Ca^{2+}	4.15E-03	159	580	2.71E-03	3.42E-03	4.89E-03	5.59E-03
K^{+}	5.16E-03	192	703	3.78E-03	4.46E-03	5.87E-03	6.55E-03
OH^{-}	1.20	1.94E+04	7.09E+04	0.864	1.03	1.37	1.53
NO_3^{-}	0.105	6.21E+03	2.27E+04	9.24E-02	9.86E-02	0.111	0.118
NO_2^{-}	0.196	8.60E+03	3.14E+04	0.116	0.154	0.240	0.282
CO_3^{2-}	1.38E-02	788	2.88E+03	9.72E-03	1.17E-02	1.58E-02	1.72E-02
PO_4^{3-}	1.37E-03	124	453	8.40E-04	1.10E-03	1.64E-03	1.90E-03
SO_4^{2-}	5.76E-02	5.28E+03	1.93E+04	4.08E-02	4.90E-02	6.63E-02	7.47E-02
Si (as SiO_x^{2-})	1.50E-02	403	1.47E+03	8.12E-03	1.15E-02	1.85E-02	2.19E-02
F^{-}	1.26E-02	228	831	8.81E-03	1.06E-02	1.45E-02	1.64E-02
Cl^{-}	2.33E-02	788	2.88E+03	1.70E-02	2.01E-02	2.66E-02	2.97E-02
$C_6H_5O_7^{3-}$	4.62E-04	83.3	304	2.35E-04	3.46E-04	5.78E-04	6.89E-04
$EDTA^{4-}$	4.74E-05	13.0	47.5	1.71E-05	3.19E-05	6.30E-05	7.82E-05
$HEDTA^{3-}$	8.08E-05	21.1	77.1	2.01E-05	4.98E-05	1.12E-04	1.43E-04
$glycolate^{-}$	5.63E-03	403	1.47E+03	2.60E-03	4.08E-03	7.19E-03	8.67E-03
$acetate^{-}$	4.46E-05	2.51	9.17	3.46E-05	3.89E-05	5.08E-05	6.03E-05
$oxalate^{2-}$	3.16E-08	2.65E-03	9.69E-03	2.83E-08	2.99E-08	3.33E-08	3.49E-08
DBP	9.10E-05	18.2	66.6	6.49E-05	7.76E-05	1.04E-04	1.17E-04
butanol	9.10E-05	6.43	23.5	6.49E-05	7.76E-05	1.04E-04	1.17E-04
NH_3	7.77E-03	126	460	3.53E-03	5.40E-03	1.05E-02	1.36E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.
†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102							
Total Inventory Estimate*							
Physical Properties				**-95 CI**	**-67 CI**	**+67 CI**	**+95 CI**
Total Waste	3.88E+06 (kg)	(963 kgal)	----	----	----	----	----
Heat Load	46.4 (kW)	(1.59E+05 BTU/hr)	----	40.1	43.4	49.5	52.4
Bulk Density†	1.06 (g/cc)	----	----	1.05	1.06	1.07	1.08
Water wt%†	90.6	----	----	88.8	89.7	91.5	92.4
TOC wt% C (wet)†	0.152	----	----	5.35E-02	0.105	0.197	0.226
Chemical Constituents	**mole/L**	**ppm**	**kg**	**-95 CI (mole/L)**	**-67 CI (mole/L)**	**+67 CI (mole/L)**	**+95 CI (mole/L)**
Na^{+}	1.46	3.15E+04	1.22E+05	1.12	1.29	1.63	1.79
Al^{3+}	0.158	4.02E+03	1.56E+04	0.120	0.139	0.178	0.197
Fe^{3+} (total Fe)	8.30E-02	4.36E+03	1.69E+04	5.60E-02	7.76E-02	8.53E-02	8.66E-02
Cr^{3+}	3.37E-04	16.5	63.8	2.66E-04	3.01E-04	3.73E-04	4.08E-04
Bi^{3+}	2.05E-06	0.403	1.56	1.90E-06	1.97E-06	2.13E-06	2.24E-06
La^{3+}	2.31E-08	3.01E-03	1.17E-02	1.73E-08	2.01E-08	2.60E-08	2.88E-08
Hg^{2+}	1.70E-08	3.22E-03	1.25E-02	1.62E-08	1.66E-08	1.75E-08	1.79E-08
Zr (as $ZrO(OH)_2$)	3.12E-07	2.68E-02	0.104	2.70E-07	3.01E-07	3.20E-07	3.33E-07
Pb^{2+}	3.00E-06	0.585	2.27	2.39E-06	2.69E-06	3.32E-06	3.62E-06
Ni^{2+}	5.35E-04	29.5	114	1.90E-04	4.17E-04	5.98E-04	6.37E-04
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	9.95E-05	5.14	19.9	4.65E-05	7.25E-05	1.27E-04	1.95E-04
Ca^{2+}	1.28E-02	484	1.88E+03	9.23E-03	9.34E-03	1.55E-02	1.69E-02
K^{+}	5.39E-03	198	768	4.04E-03	4.70E-03	6.08E-03	6.75E-03
OH^{-}	1.50	2.40E+04	9.30E+04	1.17	1.33	1.67	1.83
NO_3^{-}	0.103	5.98E+03	2.32E+04	9.05E-02	9.64E-02	0.109	0.115
NO_2^{-}	0.209	9.04E+03	3.50E+04	0.131	0.168	0.252	0.293
CO_3^{2-}	2.79E-02	1.58E+03	6.11E+03	2.03E-02	2.25E-02	3.25E-02	4.40E-02
PO_4^{3-}	1.50E-03	134	520	8.89E-04	1.19E-03	1.82E-03	2.12E-03
SO_4^{2-}	5.89E-02	5.32E+03	2.06E+04	4.24E-02	5.05E-02	6.74E-02	7.56E-02
Si (as SiO_x^{2-})	8.36E-02	2.21E+03	8.56E+03	3.54E-02	6.10E-02	9.35E-02	0.101
F^{-}	1.23E-02	220	854	8.65E-03	1.04E-02	1.42E-02	1.60E-02
Cl^{-}	2.43E-02	811	3.14E+03	1.81E-02	2.12E-02	2.75E-02	3.06E-02
$C_6H_5O_7^{3-}$	4.41E-04	78.5	304	2.24E-04	3.30E-04	5.53E-04	6.59E-04
$EDTA^{4-}$	3.53E-03	956	3.71E+03	9.63E-04	2.31E-03	4.73E-03	5.50E-03
$HEDTA^{3-}$	7.05E-03	1.82E+03	7.04E+03	1.91E-03	4.60E-03	9.45E-03	1.10E-02
$glycolate^{-}$	1.24E-02	871	3.38E+03	7.22E-03	9.91E-03	1.48E-02	1.63E-02
$acetate^{-}$	4.26E-05	2.37	9.17	3.30E-05	3.71E-05	4.86E-05	5.76E-05
$oxalate^{2-}$	3.02E-08	2.50E-03	9.69E-03	2.71E-08	2.86E-08	3.18E-08	3.33E-08
DBP	9.70E-05	19.2	74.4	6.69E-05	8.17E-05	1.12E-04	1.27E-04
butanol	9.70E-05	6.76	26.2	6.69E-05	8.17E-05	1.12E-04	1.27E-04
NH_3	1.37E-02	219	849	8.99E-03	1.11E-02	1.67E-02	2.00E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).
†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	2.24E+05 (kg)	(43.0 kgal)	----	----	----	----	----
Heat Load	27.1 (kW)	(9.27E+04 BTU/hr)	----	20.8	24.9	28.2	28.7
Bulk Density	1.38 (g/cc)	----	----	1.21	1.31	1.43	1.47
Void Fraction	0.832	----	----	0.767	0.812	0.870	0.913
Water wt%	58.5	----	----	51.2	54.5	64.4	73.9
TOC wt% C (wet)	2.31	----	----	0.716	1.60	3.00	3.38
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	2.43E-03	1.76	396	1.78E-03	2.10E-03	2.77E-03	3.09E-03
C-14	3.35E-05	2.42E-02	5.44	2.54E-05	2.93E-05	3.76E-05	5.40E-05
Ni-59	4.25E-04	0.308	69.2	3.99E-04	4.12E-04	4.39E-04	4.52E-04
Ni-63	4.28E-02	31.1	6.97E+03	4.02E-02	4.15E-02	4.42E-02	4.55E-02
Co-60	1.39E-02	10.0	2.25E+03	1.33E-02	1.36E-02	1.41E-02	1.44E-02
Se-79	3.09E-04	0.224	50.3	1.43E-04	2.07E-04	4.11E-04	5.09E-04
Sr-90	24.1	1.75E+04	3.92E+06	18.3	22.1	25.0	25.5
Y-90	24.1	1.75E+04	3.92E+06	18.4	22.1	25.0	25.5
Zr-93	1.38E-03	1.00	225	6.30E-04	8.74E-04	1.90E-03	2.39E-03
Nb-93m	9.51E-04	0.689	155	3.16E-04	5.93E-04	1.31E-03	1.65E-03
Tc-99	1.50E-04	0.109	24.4	1.17E-04	1.33E-04	1.68E-04	1.84E-04
Ru-106	0.206	150	3.36E+04	0.206	0.206	0.206	0.206
Cd-113m	7.60E-03	5.51	1.24E+03	5.73E-03	6.51E-03	1.02E-02	1.31E-02
Sb-125	0.212	154	3.45E+04	0.112	0.161	0.263	0.312
Sn-126	4.95E-04	0.359	80.5	2.32E-04	3.41E-04	6.48E-04	7.95E-04
I-129	3.00E-07	2.17E-04	4.88E-02	2.32E-07	2.65E-07	3.35E-07	3.68E-07
Cs-134	6.39E-03	4.63	1.04E+03	5.07E-03	5.71E-03	7.07E-03	7.72E-03
Cs-137	0.998	724	1.62E+05	0.814	0.904	1.09	1.18
Ba-137m	0.944	685	1.54E+05	0.770	0.855	1.03	1.12
Sm-151	1.13	816	1.83E+05	0.518	0.769	1.48	1.83
Eu-152	5.87E-04	0.426	95.5	5.84E-04	5.86E-04	5.89E-04	5.91E-04
Eu-154	0.110	79.6	1.79E+04	0.105	0.106	0.119	0.135
Eu-155	8.35E-02	60.5	1.36E+04	8.29E-02	8.32E-02	8.38E-02	8.41E-02
Ra-226	2.53E-08	1.83E-05	4.11E-03	1.91E-08	2.21E-08	2.84E-08	3.15E-08
Ra-228	1.48E-13	1.07E-10	2.41E-08	1.46E-13	1.47E-13	1.49E-13	1.49E-13
Ac-227	1.31E-07	9.50E-05	2.13E-02	9.51E-08	1.13E-07	1.49E-07	1.67E-07
Pa-231	2.08E-07	1.51E-04	3.39E-02	2.20E-08	1.06E-07	3.10E-07	4.08E-07
Th-229	2.28E-11	1.65E-08	3.71E-06	2.25E-11	2.27E-11	2.30E-11	2.30E-11
Th-232	6.47E-15	4.69E-12	1.05E-09	5.11E-15	5.78E-15	7.17E-15	7.84E-15
U-232	1.89E-09	1.37E-06	3.07E-04	1.55E-09	1.74E-09	1.99E-09	2.07E-09
U-233	1.94E-11	1.40E-08	3.15E-06	1.59E-11	1.79E-11	2.05E-11	2.13E-11
U-234	8.49E-06	6.15E-03	1.38	6.96E-06	7.84E-06	8.96E-06	9.31E-06
U-235	3.23E-07	2.34E-04	5.25E-02	2.64E-07	2.98E-07	3.41E-07	3.54E-07
U-236	6.98E-07	5.06E-04	0.114	5.72E-07	6.45E-07	7.38E-07	7.66E-07
U-238	5.83E-06	4.23E-03	0.948	4.78E-06	5.38E-06	6.16E-06	6.40E-06
Np-237	1.88E-06	1.37E-03	0.306	1.39E-06	1.63E-06	2.14E-06	2.38E-06
Pu-238	8.17E-04	0.592	133	7.19E-04	7.98E-04	8.36E-04	8.53E-04
Pu-239	1.27E-02	9.19	2.06E+03	1.00E-02	1.20E-02	1.33E-02	1.40E-02
Pu-240	2.90E-03	2.10	472	2.41E-03	2.79E-03	3.02E-03	3.12E-03
Pu-241	7.45E-02	54.0	1.21E+04	6.75E-02	7.31E-02	7.58E-02	7.71E-02
Pu-242	3.22E-07	2.33E-04	5.24E-02	2.81E-07	3.14E-07	3.29E-07	3.36E-07
Am-241	8.20E-02	59.5	1.33E+04	7.90E-02	8.05E-02	8.36E-02	8.51E-02
Am-243	1.58E-05	1.14E-02	2.56	1.56E-05	1.57E-05	1.58E-05	1.58E-05
Cm-242	4.21E-05	3.05E-02	6.85	4.18E-05	4.20E-05	4.23E-05	4.24E-05
Cm-243	6.49E-06	4.70E-03	1.06	6.44E-06	6.46E-06	6.51E-06	6.54E-06
Cm-244	3.05E-04	0.221	49.7	2.98E-04	3.04E-04	3.07E-04	3.09E-04
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	0.218 (g/L)	----	35.4	0.173	0.206	0.229	0.240
U	7.35E-02	1.27E+04	2.85E+03	6.03E-02	6.79E-02	7.77E-02	8.07E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	3.65E+06 (kg)	(920 kgal)	----	----	----	----	----
Heat Load	19.3 (kW)	(6.59E+04 BTU/hr)	----	13.6	16.4	22.2	25.1
Bulk Density*	1.05 (g/cc)	----	----	1.04	1.04	1.06	1.06
Water wt%†	92.6	----	----	90.8	91.6	93.5	94.4
TOC wt% C (wet)	1.89E-02	----	----	1.04E-02	1.46E-02	2.32E-02	2.73E-02
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.11E-03	3.92	1.43E+04	2.87E-03	3.48E-03	4.75E-03	5.37E-03
C-14	5.08E-05	4.84E-02	177	3.55E-05	4.29E-05	5.86E-05	6.62E-05
Ni-59	1.05E-08	1.00E-05	3.66E-02	9.52E-09	9.52E-09	1.06E-08	1.07E-08
Ni-63	1.04E-06	9.91E-04	3.62	9.42E-07	9.42E-07	1.05E-06	1.06E-06
Co-60	4.13E-05	3.94E-02	144	1.21E-05	2.64E-05	5.62E-05	7.05E-05
Se-79	8.59E-07	8.19E-04	2.99	2.76E-07	5.61E-07	1.16E-06	1.44E-06
Sr-90	1.51E-02	14.4	5.25E+04	1.31E-02	1.40E-02	1.61E-02	1.71E-02
Y-90	1.51E-02	14.4	5.25E+04	1.31E-02	1.40E-02	1.61E-02	1.71E-02
Zr-93	4.28E-06	4.08E-03	14.9	1.36E-06	2.79E-06	5.77E-06	7.20E-06
Nb-93m	3.01E-06	2.87E-03	10.5	9.68E-07	1.97E-06	4.05E-06	5.05E-06
Tc-99	2.12E-04	0.202	739	1.48E-04	1.80E-04	2.45E-04	2.77E-04
Ru-106	2.21E-09	2.10E-06	7.68E-03	7.48E-10	1.46E-09	2.95E-09	3.66E-09
Cd-113m	2.53E-05	2.41E-02	88.1	7.81E-06	1.64E-05	3.42E-05	4.28E-05
Sb-125	7.82E-03	7.45	2.72E+04	2.27E-03	4.99E-03	1.06E-02	1.34E-02
Sn-126	1.29E-06	1.23E-03	4.50	4.16E-07	8.45E-07	1.74E-06	2.17E-06
I-129	4.26E-07	4.07E-04	1.48	2.98E-07	3.61E-07	4.92E-07	5.56E-07
Cs-134	8.31E-03	7.92	2.89E+04	5.80E-03	7.03E-03	9.60E-03	1.08E-02
Cs-137	1.16	1.11E+03	4.04E+06	0.810	0.982	1.34	1.51
Ba-137m	1.10	1.05E+03	3.82E+06	0.766	0.929	1.27	1.43
Sm-151	3.01E-03	2.87	1.05E+04	9.69E-04	1.97E-03	4.05E-03	5.05E-03
Eu-152	2.06E-05	1.96E-02	71.6	1.44E-05	1.74E-05	2.37E-05	2.68E-05
Eu-154	2.10E-04	0.200	731	6.41E-05	1.36E-04	2.84E-04	3.56E-04
Eu-155	3.73E-03	3.55	1.30E+04	2.60E-03	3.15E-03	4.30E-03	4.86E-03
Ra-226	2.74E-11	2.61E-08	9.54E-05	9.32E-12	1.82E-11	3.66E-11	4.55E-11
Ra-228	7.78E-10	7.42E-07	2.71E-03	1.97E-10	1.97E-10	8.48E-10	9.23E-10
Ac-227	1.59E-10	1.52E-07	5.54E-04	5.42E-11	1.06E-10	2.13E-10	2.64E-10
Pa-231	8.56E-10	8.17E-07	2.98E-03	2.73E-10	5.59E-10	1.15E-09	1.44E-09
Th-229	1.82E-11	1.74E-08	6.35E-05	4.80E-12	4.80E-12	1.98E-11	2.14E-11
Th-232	8.43E-11	8.04E-08	2.94E-04	1.25E-11	1.25E-11	1.04E-10	1.23E-10
U-232	2.28E-09	2.18E-06	7.95E-03	1.74E-09	1.96E-09	2.66E-09	3.05E-09
U-233	8.58E-09	8.18E-06	2.99E-02	6.49E-09	7.33E-09	1.00E-08	1.15E-08
U-234	1.97E-07	1.88E-04	0.688	1.78E-07	1.88E-07	2.07E-07	2.16E-07
U-235	7.51E-09	7.16E-06	2.61E-02	6.78E-09	7.14E-09	7.88E-09	8.23E-09
U-236	1.62E-08	1.54E-05	5.64E-02	1.46E-08	1.54E-08	1.70E-08	1.78E-08
U-238	1.36E-07	1.30E-04	0.475	1.23E-07	1.30E-07	1.43E-07	1.50E-07
Np-237	3.10E-06	2.96E-03	10.8	2.16E-06	2.62E-06	3.58E-06	4.04E-06
Pu-238	4.57E-07	4.36E-04	1.59	1.54E-07	3.02E-07	6.12E-07	7.61E-07
Pu-239	3.91E-06	3.73E-03	13.6	1.45E-06	2.65E-06	5.16E-06	6.37E-06
Pu-240	1.16E-06	1.10E-03	4.02	4.09E-07	7.75E-07	1.54E-06	1.90E-06
Pu-241	4.62E-05	4.41E-02	161	1.52E-05	3.04E-05	6.20E-05	7.72E-05
Pu-242	1.75E-10	1.67E-07	6.10E-04	5.96E-11	1.16E-10	2.34E-10	2.91E-10
Am-241	1.33E-05	1.27E-02	46.4	4.57E-06	8.86E-06	1.78E-05	2.21E-05
Am-243	2.66E-09	2.54E-06	9.28E-03	8.22E-10	1.72E-09	3.61E-09	4.51E-09
Cm-242	1.81E-06	1.72E-03	6.30	1.26E-06	1.53E-06	2.09E-06	2.36E-06
Cm-243	3.03E-07	2.89E-04	1.05	2.11E-07	2.56E-07	3.50E-07	3.95E-07
Cm-244	4.40E-08	4.20E-05	0.153	1.49E-08	2.92E-08	5.89E-08	7.32E-08
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	6.80E-05 (g/L)	----	0.237	2.49E-05	4.60E-05	9.00E-05	1.11E-04
U	1.71E-03	389	1.42E+03	1.55E-03	1.63E-03	1.80E-03	1.88E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-AZ-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.88E+06 (kg)	(963 kgal)	----	----	----	----	----
Heat Load	46.4 (kW)	(1.59E+05 BTU/hr)	----	40.1	43.4	49.5	52.4
Bulk Density†	1.06 (g/cc)	----	----	1.05	1.06	1.07	1.08
Water wt%†	90.6	----	----	88.8	89.7	91.5	92.4
TOC wt% C (wet)†	0.152	----	----	5.35E-02	0.105	0.197	0.226
Radiological Constituents	**Ci/L**	**µCi/g**	**Ci**	**-95 CI (Ci/L)**	**-67 CI (Ci/L)**	**+67 CI (Ci/L)**	**+95 CI (Ci/L)**
H-3	4.04E-03	3.80	1.47E+04	2.82E-03	3.42E-03	4.66E-03	5.26E-03
C-14	5.00E-05	4.70E-02	182	3.50E-05	4.23E-05	5.77E-05	6.51E-05
Ni-59	1.90E-05	1.79E-02	69.2	1.78E-05	1.84E-05	1.96E-05	2.02E-05
Ni-63	1.91E-03	1.80	6.97E+03	1.80E-03	1.85E-03	1.97E-03	2.03E-03
Co-60	6.58E-04	0.619	2.40E+03	6.43E-04	6.51E-04	6.62E-04	6.66E-04
Se-79	1.46E-05	1.37E-02	53.2	7.20E-06	1.00E-05	1.92E-05	2.35E-05
Sr-90	1.09	1.02E+03	3.97E+06	0.833	0.999	1.13	1.15
Y-90	1.09	1.02E+03	3.97E+06	0.833	0.999	1.13	1.15
Zr-93	6.59E-05	6.20E-02	240	3.22E-05	4.31E-05	8.87E-05	1.11E-04
Nb-93m	4.53E-05	4.26E-02	165	1.70E-05	2.94E-05	6.13E-05	7.66E-05
Tc-99	2.10E-04	0.197	764	1.47E-04	1.78E-04	2.42E-04	2.73E-04
Ru-106	9.21E-03	8.66	3.36E+04	9.21E-03	9.21E-03	9.21E-03	9.21E-03
Cd-113m	3.64E-04	0.342	1.32E+03	2.80E-04	3.15E-04	4.80E-04	6.11E-04
Sb-125	1.69E-02	15.9	6.17E+04	1.41E-02	1.57E-02	1.78E-02	1.84E-02
Sn-126	2.33E-05	2.19E-02	85.0	1.16E-05	1.65E-05	3.01E-05	3.67E-05
I-129	4.21E-07	3.96E-04	1.53	2.95E-07	3.56E-07	4.85E-07	5.47E-07
Cs-134	8.22E-03	7.73	3.00E+04	5.77E-03	6.97E-03	9.48E-03	1.07E-02
Cs-137	1.15	1.08E+03	4.20E+06	0.810	0.978	1.33	1.50
Ba-137m	1.09	1.03E+03	3.98E+06	0.767	0.925	1.26	1.42
Sm-151	5.31E-02	50.0	1.94E+05	2.60E-02	3.72E-02	6.91E-02	8.44E-02
Eu-152	4.58E-05	4.31E-02	167	3.98E-05	4.27E-05	4.90E-05	5.20E-05
Eu-154	5.10E-03	4.80	1.86E+04	4.90E-03	4.91E-03	5.51E-03	6.21E-03
Eu-155	7.29E-03	6.85	2.66E+04	6.18E-03	6.72E-03	7.85E-03	8.39E-03
Ra-226	1.15E-09	1.09E-06	4.21E-03	8.77E-10	1.01E-09	1.30E-09	1.43E-09
Ra-228	7.43E-10	6.99E-07	2.71E-03	1.88E-10	1.88E-10	8.10E-10	8.82E-10
Ac-227	6.00E-09	5.65E-06	2.19E-02	4.39E-09	5.18E-09	6.82E-09	7.61E-09
Pa-231	1.01E-08	9.51E-06	3.68E-02	1.80E-09	5.55E-09	1.47E-08	1.90E-08
Th-229	1.84E-11	1.73E-08	6.72E-05	5.60E-12	5.60E-12	1.99E-11	2.15E-11
Th-232	8.06E-11	7.58E-08	2.94E-04	1.19E-11	1.19E-11	9.93E-11	1.17E-10
U-232	2.27E-09	2.13E-06	8.26E-03	1.74E-09	1.95E-09	2.62E-09	3.00E-09
U-233	8.20E-09	7.71E-06	2.99E-02	6.20E-09	7.00E-09	9.56E-09	1.10E-08
U-234	5.67E-07	5.34E-04	2.07	4.99E-07	5.39E-07	5.89E-07	6.04E-07
U-235	2.16E-08	2.03E-05	7.86E-02	1.90E-08	2.05E-08	2.24E-08	2.30E-08
U-236	4.66E-08	4.39E-05	0.170	4.10E-08	4.43E-08	4.84E-08	4.97E-08
U-238	3.91E-07	3.67E-04	1.42	3.44E-07	3.71E-07	4.05E-07	4.16E-07
Np-237	3.05E-06	2.87E-03	11.1	2.13E-06	2.58E-06	3.52E-06	3.97E-06
Pu-238	3.69E-05	3.47E-02	134	3.25E-05	3.60E-05	3.77E-05	3.85E-05
Pu-239	5.69E-04	0.535	2.07E+03	4.52E-04	5.40E-04	5.99E-04	6.27E-04
Pu-240	1.31E-04	0.123	476	1.09E-04	1.25E-04	1.36E-04	1.41E-04
Pu-241	3.37E-03	3.17	1.23E+04	3.06E-03	3.31E-03	3.43E-03	3.48E-03
Pu-242	1.45E-08	1.37E-05	5.30E-02	1.27E-08	1.42E-08	1.49E-08	1.52E-08
Am-241	3.67E-03	3.46	1.34E+04	3.54E-03	3.61E-03	3.74E-03	3.81E-03
Am-243	7.06E-07	6.64E-04	2.57	7.01E-07	7.04E-07	7.08E-07	7.09E-07
Cm-242	3.61E-06	3.39E-03	13.1	3.07E-06	3.33E-06	3.88E-06	4.15E-06
Cm-243	5.79E-07	5.44E-04	2.11	4.89E-07	5.33E-07	6.25E-07	6.69E-07
Cm-244	1.37E-05	1.29E-02	49.9	1.33E-05	1.36E-05	1.38E-05	1.38E-05
Totals	**M**	**µg/g**	**kg**	**-95 CI (M or g/L)**	**-67 CI (M or g/L)**	**+67 CI (M or g/L)**	**+95 CI (M or g/L)**
Pu	9.78E-03 (g/L)	----	35.6	7.78E-03	9.28E-03	1.03E-02	1.08E-02
U	4.92E-03	1.10E+03	4.27E+03	4.33E-03	4.67E-03	5.10E-03	5.24E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.45E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	11.8 (kW)	(4.04E+04 BTU/hr)	----	11.1	11.5	12.2	12.6
Bulk Density*	1.79 (g/cc)	----	----	1.73	1.76	1.82	1.84
Water wt%	21.3	----	----	18.5	19.7	22.9	24.9
TOC wt% C (wet)	1.04	----	----	0.638	0.835	1.24	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	18.5	2.38E+05	1.77E+06	16.9	17.7	19.2	19.9
Al^{3+}	2.13	3.21E+04	2.39E+05	1.97	2.05	2.21	2.29
Fe^{3+} (total Fe)	1.48E-02	461	3.43E+03	1.21E-02	1.34E-02	1.61E-02	1.74E-02
Cr^{3+}	0.186	5.40E+03	4.03E+04	0.157	0.173	0.191	0.196
Bi^{3+}	1.82E-03	212	1.58E+03	1.66E-03	1.74E-03	1.90E-03	1.98E-03
La^{3+}	6.15E-05	4.77	35.6	4.46E-05	5.28E-05	7.02E-05	7.86E-05
Hg^{2+}	1.23E-05	1.38	10.3	1.14E-05	1.19E-05	1.25E-05	1.26E-05
Zr (as $ZrO(OH)_2$)	3.36E-04	17.1	128	3.06E-04	3.17E-04	3.48E-04	3.65E-04
Pb^{2+}	1.35E-03	156	1.16E+03	1.09E-03	1.21E-03	1.48E-03	1.61E-03
Ni^{2+}	8.58E-03	282	2.10E+03	8.19E-03	8.38E-03	8.68E-03	8.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.22E-03	160	1.19E+03	3.95E-03	4.57E-03	5.87E-03	6.50E-03
Ca^{2+}	4.53E-02	1.02E+03	7.57E+03	4.15E-02	4.34E-02	4.73E-02	4.92E-02
K^+	8.68E-02	1.90E+03	1.41E+04	7.90E-02	8.27E-02	9.11E-02	9.51E-02
OH^-	12.8	1.21E+05	9.04E+05	11.9	12.3	13.3	13.6
$NO3^-$	6.54	2.27E+05	1.69E+06	6.02	6.33	6.63	6.72
$NO2^-$	3.16	8.12E+04	6.05E+05	2.62	2.87	3.44	3.71
$CO3^{2-}$	0.602	2.02E+04	1.50E+05	0.544	0.570	0.642	0.651
$PO4^{3-}$	0.123	6.54E+03	4.87E+04	0.106	0.112	0.126	0.129
$SO4^{2-}$	0.333	1.79E+04	1.33E+05	0.262	0.296	0.371	0.404
Si (as SiO_x^{2-})	0.105	1.65E+03	1.23E+04	8.68E-02	9.57E-02	0.114	0.123
F^-	8.95E-02	950	7.08E+03	7.54E-02	8.13E-02	9.64E-02	0.102
Cl^-	0.321	6.35E+03	4.73E+04	0.290	0.302	0.335	0.348
$C_6H_5O_7^{3-}$	3.79E-02	4.00E+03	2.98E+04	3.46E-02	3.62E-02	3.96E-02	4.12E-02
$EDTA^{4-}$	2.53E-02	4.08E+03	3.04E+04	7.48E-03	1.62E-02	3.45E-02	4.35E-02
$HEDTA^{3-}$	4.78E-02	7.32E+03	5.45E+04	1.21E-02	2.95E-02	6.62E-02	8.41E-02
$glycolate^-$	0.134	5.61E+03	4.18E+04	9.02E-02	0.112	0.156	0.178
$acetate^-$	9.25E-03	305	2.27E+03	7.62E-03	8.42E-03	1.01E-02	1.09E-02
$oxalate^{2-}$	8.06E-05	3.96	29.5	7.14E-05	7.59E-05	8.53E-05	8.98E-05
DBP	2.55E-02	2.99E+03	2.23E+04	2.10E-02	2.32E-02	2.77E-02	2.99E-02
butanol	2.55E-02	1.06E+03	7.87E+03	2.10E-02	2.32E-02	2.77E-02	2.99E-02
NH_3	0.113	1.08E+03	8.01E+03	9.27E-02	0.101	0.129	0.148
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.45E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	11.8 (kW)	(4.04E+04 BTU/hr)	----	11.1	11.5	12.2	12.6
Bulk Density†	1.79 (g/cc)	----	----	1.73	1.76	1.82	1.84
Water wt%†	21.3	----	----	18.5	19.7	22.9	24.9
TOC wt% C (wet)†	1.04	----	----	0.638	0.835	1.24	1.44

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	18.5	2.38E+05	1.77E+06	16.9	17.7	19.2	19.9
Al^{3+}	2.13	3.21E+04	2.39E+05	1.97	2.05	2.21	2.29
Fe^{3+} (total Fe)	1.48E-02	461	3.43E+03	1.21E-02	1.34E-02	1.61E-02	1.74E-02
Cr^{3+}	0.186	5.40E+03	4.03E+04	0.157	0.173	0.191	0.196
Bi^{3+}	1.82E-03	212	1.58E+03	1.66E-03	1.74E-03	1.90E-03	1.98E-03
La^{3+}	6.15E-05	4.77	35.6	4.46E-05	5.28E-05	7.02E-05	7.86E-05
Hg^{2+}	1.23E-05	1.38	10.3	1.14E-05	1.19E-05	1.25E-05	1.26E-05
Zr (as $ZrO(OH)_2$)	3.36E-04	17.1	128	3.06E-04	3.17E-04	3.48E-04	3.65E-04
Pb^{2+}	1.35E-03	156	1.16E+03	1.09E-03	1.21E-03	1.48E-03	1.61E-03
Ni^{2+}	8.58E-03	282	2.10E+03	8.19E-03	8.38E-03	8.68E-03	8.78E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	5.22E-03	160	1.19E+03	3.95E-03	4.57E-03	5.87E-03	6.50E-03
Ca^{2+}	4.53E-02	1.02E+03	7.57E+03	4.15E-02	4.34E-02	4.73E-02	4.92E-02
K^+	8.68E-02	1.90E+03	1.41E+04	7.90E-02	8.27E-02	9.11E-02	9.51E-02
OH^-	12.8	1.21E+05	9.04E+05	11.9	12.3	13.3	13.6
$NO3^-$	6.54	2.27E+05	1.69E+06	6.02	6.33	6.63	6.72
$NO2^-$	3.16	8.12E+04	6.05E+05	2.62	2.87	3.44	3.71
$CO3^{2-}$	0.602	2.02E+04	1.50E+05	0.544	0.570	0.642	0.651
$PO4^{3-}$	0.123	6.54E+03	4.87E+04	0.106	0.112	0.126	0.129
$SO4^{2-}$	0.333	1.79E+04	1.33E+05	0.262	0.296	0.371	0.404
Si (as SiO_x^{2-})	0.105	1.65E+03	1.23E+04	8.68E-02	9.57E-02	0.114	0.123
F^-	8.95E-02	950	7.08E+03	7.54E-02	8.13E-02	9.64E-02	0.102
Cl^-	0.321	6.35E+03	4.73E+04	0.290	0.302	0.335	0.348
$C_6H_5O_7^{3-}$	3.79E-02	4.00E+03	2.98E+04	3.46E-02	3.62E-02	3.96E-02	4.12E-02
$EDTA^{4-}$	2.53E-02	4.08E+03	3.04E+04	7.48E-03	1.62E-02	3.45E-02	4.35E-02
$HEDTA^{3-}$	4.78E-02	7.32E+03	5.45E+04	1.21E-02	2.95E-02	6.62E-02	8.41E-02
$glycolate^-$	0.134	5.61E+03	4.18E+04	9.02E-02	0.112	0.156	0.178
$acetate^-$	9.25E-03	305	2.27E+03	7.62E-03	8.42E-03	1.01E-02	1.09E-02
$oxalate^{2-}$	8.06E-05	3.96	29.5	7.14E-05	7.59E-05	8.53E-05	8.98E-05
DBP	2.55E-02	2.99E+03	2.23E+04	2.10E-02	2.32E-02	2.77E-02	2.99E-02
butanol	2.55E-02	1.06E+03	7.87E+03	2.10E-02	2.32E-02	2.77E-02	2.99E-02
NH_3	0.113	1.08E+03	8.01E+03	9.27E-02	0.101	0.129	0.148
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	7.45E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	11.8 (kW)	(4.04E+04 BTU/hr)	----	11.1	11.5	12.2	12.6
Bulk Density*	1.79 (g/cc)	----	----	1.73	1.76	1.82	1.84
Water wt%†	21.3	----	----	18.5	19.7	22.9	24.9
TOC wt% C (wet)	1.04	----	----	0.638	0.835	1.24	1.44

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.31E-04	0.185	1.38E+03	1.69E-04	1.69E-04	3.45E-04	3.63E-04
C-14	4.89E-05	2.73E-02	204	1.49E-05	1.49E-05	4.96E-05	5.03E-05
Ni-59	3.13E-06	1.75E-03	13.0	1.53E-06	1.53E-06	3.21E-06	3.29E-06
Ni-63	3.07E-04	0.172	1.28E+03	1.49E-04	1.49E-04	3.15E-04	3.23E-04
Co-60	5.48E-05	3.06E-02	228	1.59E-05	1.59E-05	5.59E-05	5.69E-05
Se-79	4.87E-06	2.72E-03	20.3	2.70E-06	2.70E-06	5.66E-06	6.41E-06
Sr-90	0.164	91.6	6.83E+05	0.153	0.158	0.169	0.175
Y-90	0.164	91.6	6.83E+05	8.89E-02	8.89E-02	0.169	0.175
Zr-93	2.39E-05	1.34E-02	99.5	1.30E-05	1.30E-05	2.78E-05	3.16E-05
Nb-93m	1.73E-05	9.68E-03	72.1	9.72E-06	9.72E-06	2.01E-05	2.27E-05
Tc-99	3.48E-04	0.194	1.45E+03	2.21E-04	2.83E-04	4.13E-04	4.76E-04
Ru-106	1.00E-08	5.59E-06	4.16E-02	4.96E-09	4.96E-09	1.11E-08	1.21E-08
Cd-113m	1.26E-04	7.06E-02	526	6.13E-05	6.13E-05	1.50E-04	1.73E-04
Sb-125	2.38E-04	0.133	989	6.90E-05	6.90E-05	2.43E-04	2.49E-04
Sn-126	7.36E-06	4.11E-03	30.6	4.10E-06	4.10E-06	8.54E-06	9.67E-06
I-129	6.71E-07	3.75E-04	2.79	4.26E-07	5.46E-07	7.98E-07	9.20E-07
Cs-134	4.05E-06	2.26E-03	16.8	2.70E-06	3.36E-06	4.74E-06	5.42E-06
Cs-137	0.371	207	1.54E+06	0.334	0.352	0.390	0.409
Ba-137m	0.351	196	1.46E+06	0.282	0.282	0.369	0.387
Sm-151	1.71E-02	9.58	7.14E+04	9.54E-03	9.54E-03	1.99E-02	2.25E-02
Eu-152	5.91E-06	3.30E-03	24.6	3.22E-06	3.22E-06	6.41E-06	6.89E-06
Eu-154	8.96E-04	0.501	3.73E+03	3.53E-04	3.53E-04	1.09E-03	1.17E-03
Eu-155	3.51E-04	0.196	1.46E+03	1.91E-04	1.91E-04	3.81E-04	4.11E-04
Ra-226	2.05E-10	1.15E-07	8.54E-04	1.38E-10	1.38E-10	2.30E-10	2.53E-10
Ra-228	2.08E-07	1.16E-04	0.865	8.88E-08	1.47E-07	2.78E-07	3.53E-07
Ac-227	1.30E-09	7.27E-07	5.42E-03	9.10E-10	9.10E-10	1.44E-09	1.58E-09
Pa-231	6.00E-09	3.35E-06	2.50E-02	3.83E-09	3.83E-09	6.79E-09	7.54E-09
Th-229	4.87E-09	2.72E-06	2.03E-02	2.26E-09	3.54E-09	6.42E-09	8.06E-09
Th-232	1.40E-08	7.84E-06	5.84E-02	7.45E-09	1.07E-08	1.74E-08	2.06E-08
U-232	1.06E-06	5.91E-04	4.40	5.81E-07	8.14E-07	1.34E-06	1.64E-06
U-233	4.05E-06	2.26E-03	16.9	2.23E-06	3.12E-06	5.13E-06	6.29E-06
U-234	1.14E-06	6.37E-04	4.75	1.10E-06	1.12E-06	1.16E-06	1.18E-06
U-235	4.62E-08	2.58E-05	0.192	4.44E-08	4.53E-08	4.71E-08	4.77E-08
U-236	3.59E-08	2.00E-05	0.149	3.45E-08	3.53E-08	3.64E-08	3.70E-08
U-238	1.34E-06	7.46E-04	5.56	1.29E-06	1.32E-06	1.36E-06	1.37E-06
Np-237	1.26E-06	7.03E-04	5.24	8.44E-07	1.05E-06	1.47E-06	1.68E-06
Pu-238	2.07E-06	1.15E-03	8.60	1.58E-06	1.82E-06	2.31E-06	2.55E-06
Pu-239	7.02E-05	3.92E-02	292	5.77E-05	6.38E-05	7.65E-05	8.26E-05
Pu-240	1.20E-05	6.68E-03	49.8	9.63E-06	1.08E-05	1.31E-05	1.43E-05
Pu-241	1.40E-04	7.84E-02	584	1.07E-04	1.23E-04	1.57E-04	1.74E-04
Pu-242	7.72E-10	4.31E-07	3.21E-03	5.74E-10	6.71E-10	8.73E-10	9.70E-10
Am-241	8.29E-05	4.63E-02	345	5.98E-05	7.11E-05	9.47E-05	1.06E-04
Am-243	2.96E-09	1.65E-06	1.23E-02	2.24E-09	2.58E-09	3.38E-09	3.74E-09
Cm-242	2.25E-07	1.26E-04	0.938	1.15E-07	1.15E-07	2.44E-07	2.63E-07
Cm-243	2.09E-08	1.17E-05	8.70E-02	1.04E-08	1.04E-08	2.26E-08	2.42E-08
Cm-244	2.02E-07	1.13E-04	0.841	9.34E-08	9.34E-08	2.39E-07	2.62E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.59E-04 (g/L)	----	3.58	6.23E-04	7.39E-04	9.79E-04	1.09E-03
U	1.30E-02	1.73E+03	1.29E+04	1.25E-02	1.28E-02	1.33E-02	1.35E-02

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-101

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	7.45E+06 (kg)	(1.10E+03 kgal)	----	----	----	----	----
Heat Load	11.8 (kW)	(4.04E+04 BTU/hr)	----	11.1	11.5	12.2	12.6
Bulk Density†	1.79 (g/cc)	----	----	1.73	1.76	1.82	1.84
Water wt%†	21.3	----	----	18.5	19.7	22.9	24.9
TOC wt% C (wet)†	1.04	----	----	0.638	0.835	1.24	1.44

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	3.31E-04	0.185	1.38E+03	1.69E-04	1.69E-04	3.45E-04	3.63E-04
C-14	4.89E-05	2.73E-02	204	1.49E-05	1.49E-05	4.96E-05	5.03E-05
Ni-59	3.13E-06	1.75E-03	13.0	1.53E-06	1.53E-06	3.21E-06	3.29E-06
Ni-63	3.07E-04	0.172	1.28E+03	1.49E-04	1.49E-04	3.15E-04	3.23E-04
Co-60	5.48E-05	3.06E-02	228	1.59E-05	1.59E-05	5.59E-05	5.69E-05
Se-79	4.87E-06	2.72E-03	20.3	2.70E-06	2.70E-06	5.66E-06	6.41E-06
Sr-90	0.164	91.6	6.83E+05	0.153	0.158	0.169	0.175
Y-90	0.164	91.6	6.83E+05	8.89E-02	8.89E-02	0.169	0.175
Zr-93	2.39E-05	1.34E-02	99.5	1.30E-05	1.30E-05	2.78E-05	3.16E-05
Nb-93m	1.73E-05	9.68E-03	72.1	9.72E-06	9.72E-06	2.01E-05	2.27E-05
Tc-99	3.48E-04	0.194	1.45E+03	2.21E-04	2.83E-04	4.13E-04	4.76E-04
Ru-106	1.00E-08	5.59E-06	4.16E-02	4.96E-09	4.96E-09	1.11E-08	1.21E-08
Cd-113m	1.26E-04	7.06E-02	526	6.13E-05	6.13E-05	1.50E-04	1.73E-04
Sb-125	2.38E-04	0.133	989	6.90E-05	6.90E-05	2.43E-04	2.49E-04
Sn-126	7.36E-06	4.11E-03	30.6	4.10E-06	4.10E-06	8.54E-06	9.67E-06
I-129	6.71E-07	3.75E-04	2.79	4.26E-07	5.46E-07	7.98E-07	9.20E-07
Cs-134	4.05E-06	2.26E-03	16.8	2.70E-06	3.36E-06	4.74E-06	5.42E-06
Cs-137	0.371	207	1.54E+06	0.334	0.352	0.390	0.409
Ba-137m	0.351	196	1.46E+06	0.282	0.282	0.369	0.387
Sm-151	1.71E-02	9.58	7.14E+04	9.54E-03	9.54E-03	1.99E-02	2.25E-02
Eu-152	5.91E-06	3.30E-03	24.6	3.22E-06	3.22E-06	6.41E-06	6.89E-06
Eu-154	8.96E-04	0.501	3.73E+03	3.53E-04	3.53E-04	1.09E-03	1.17E-03
Eu-155	3.51E-04	0.196	1.46E+03	1.91E-04	1.91E-04	3.81E-04	4.11E-04
Ra-226	2.05E-10	1.15E-07	8.54E-04	1.38E-10	1.38E-10	2.30E-10	2.53E-10
Ra-228	2.08E-07	1.16E-04	0.865	8.88E-08	1.47E-07	2.78E-07	3.53E-07
Ac-227	1.30E-09	7.27E-07	5.42E-03	9.10E-10	9.10E-10	1.44E-09	1.58E-09
Pa-231	6.00E-09	3.35E-06	2.50E-02	3.83E-09	3.83E-09	6.79E-09	7.54E-09
Th-229	4.87E-09	2.72E-06	2.03E-02	2.26E-09	3.54E-09	6.42E-09	8.06E-09
Th-232	1.40E-08	7.84E-06	5.84E-02	7.45E-09	1.07E-08	1.74E-08	2.06E-08
U-232	1.06E-06	5.91E-04	4.40	5.81E-07	8.14E-07	1.34E-06	1.64E-06
U-233	4.05E-06	2.26E-03	16.9	2.23E-06	3.12E-06	5.13E-06	6.29E-06
U-234	1.14E-06	6.37E-04	4.75	1.10E-06	1.12E-06	1.16E-06	1.18E-06
U-235	4.62E-08	2.58E-05	0.192	4.44E-08	4.53E-08	4.71E-08	4.77E-08
U-236	3.59E-08	2.00E-05	0.149	3.45E-08	3.53E-08	3.64E-08	3.70E-08
U-238	1.34E-06	7.46E-04	5.56	1.29E-06	1.32E-06	1.36E-06	1.37E-06
Np-237	1.26E-06	7.03E-04	5.24	8.44E-07	1.05E-06	1.47E-06	1.68E-06
Pu-238	2.07E-06	1.15E-03	8.60	1.58E-06	1.82E-06	2.31E-06	2.55E-06
Pu-239	7.02E-05	3.92E-02	292	5.77E-05	6.38E-05	7.65E-05	8.26E-05
Pu-240	1.20E-05	6.68E-03	49.8	9.63E-06	1.08E-05	1.31E-05	1.43E-05
Pu-241	1.40E-04	7.84E-02	584	1.07E-04	1.23E-04	1.57E-04	1.74E-04
Pu-242	7.72E-10	4.31E-07	3.21E-03	5.74E-10	6.71E-10	8.73E-10	9.70E-10
Am-241	8.29E-05	4.63E-02	345	5.98E-05	7.11E-05	9.47E-05	1.06E-04
Am-243	2.96E-09	1.65E-06	1.23E-02	2.24E-09	2.58E-09	3.38E-09	3.74E-09
Cm-242	2.25E-07	1.26E-04	0.938	1.15E-07	1.15E-07	2.44E-07	2.63E-07
Cm-243	2.09E-08	1.17E-05	8.70E-02	1.04E-08	1.04E-08	2.26E-08	2.42E-08
Cm-244	2.02E-07	1.13E-04	0.841	9.34E-08	9.34E-08	2.39E-07	2.62E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	8.59E-04 (g/L)	----	3.58	6.23E-04	7.39E-04	9.79E-04	1.09E-03
U	1.30E-02	1.73E+03	1.29E+04	1.25E-02	1.28E-02	1.33E-02	1.35E-02

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.94E+05 (kg)	(70.9 kgal)	----	----	----	----	----
Heat Load	0.514 (kW)	(1.76E+03 BTU/hr)	----	0.285	0.392	0.621	0.729
Bulk Density	1.84 (g/cc)	----	----	1.62	1.72	1.93	2.01
Void Fraction	0.545	----	----	0.452	0.491	0.610	0.666
Water wt%	25.5	----	----	17.8	21.2	31.7	38.0
TOC wt% C (wet)	0.820	----	----	0.416	0.620	1.00	1.17

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	13.8	1.72E+05	8.50E+04	8.42	10.9	16.1	18.1
Al^{3+}	5.53	8.11E+04	4.01E+04	4.98	5.27	5.77	6.01
Fe^{3+} (total Fe)	0.873	2.65E+04	1.31E+04	0.830	0.860	0.880	0.887
Cr^{3+}	0.136	3.86E+03	1.90E+03	0.112	0.123	0.144	0.149
Bi^{3+}	3.36E-03	382	189	2.84E-03	3.10E-03	3.63E-03	3.88E-03
La^{3+}	9.88E-06	0.746	0.368	6.70E-06	8.22E-06	1.14E-05	1.30E-05
Hg^{2+}	1.42E-05	1.55	0.765	1.28E-05	1.35E-05	1.49E-05	1.55E-05
Zr (as $ZrO(OH)_2$)	3.76E-04	18.6	9.20	2.50E-04	3.07E-04	4.36E-04	4.99E-04
Pb^{2+}	1.29E-03	145	71.8	7.05E-04	9.92E-04	1.59E-03	1.88E-03
Ni^{2+}	6.43E-02	2.05E+03	1.01E+03	3.03E-02	5.25E-02	6.57E-02	6.70E-02
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.39E-03	41.5	20.5	9.83E-04	1.18E-03	1.60E-03	1.80E-03
Ca^{2+}	0.220	4.79E+03	2.37E+03	7.62E-02	0.161	0.247	0.273
K^{+}	7.84E-02	1.67E+03	823	4.50E-02	5.96E-02	9.84E-02	0.116
OH^{-}	24.7	2.29E+05	1.13E+05	21.3	23.0	26.3	27.9
$NO3^{-}$	3.60	1.21E+05	5.98E+04	2.39	3.00	4.60	4.05
$NO2^{-}$	2.43	6.08E+04	3.00E+04	1.26	1.78	3.03	3.58
$CO3^{2-}$	0.656	2.14E+04	1.06E+04	0.470	0.550	0.762	0.807
$PO4^{3-}$	0.199	1.02E+04	5.06E+03	0.137	0.165	0.209	0.218
$SO4^{2-}$	0.383	2.00E+04	9.87E+03	0.174	0.261	0.516	0.609
Si (as SiO_x^{2-})	4.33E-02	661	326	2.38E-02	3.34E-02	5.26E-02	6.08E-02
F^{-}	7.08E-02	730	361	4.04E-02	5.45E-02	8.47E-02	8.84E-02
Cl^{-}	9.56E-02	1.84E+03	909	5.82E-02	7.45E-02	0.115	0.127
$C_6H_5O_7^{3-}$	3.22E-02	3.30E+03	1.63E+03	2.46E-02	2.82E-02	3.56E-02	3.89E-02
$EDTA^{4-}$	1.94E-02	3.04E+03	1.50E+03	4.93E-03	1.18E-02	2.70E-02	3.45E-02
$HEDTA^{3-}$	3.64E-02	5.43E+03	2.68E+03	8.05E-03	2.15E-02	5.13E-02	6.59E-02
$glycolate^{-}$	0.105	4.27E+03	2.11E+03	3.67E-02	6.89E-02	0.140	0.174
$acetate^{-}$	7.82E-03	251	124	5.83E-03	6.75E-03	8.84E-03	1.01E-02
$oxalate^{2-}$	1.29E-05	0.619	0.306	1.15E-05	1.22E-05	1.37E-05	1.44E-05
DBP	2.33E-02	2.67E+03	1.32E+03	1.65E-02	1.97E-02	2.65E-02	2.98E-02
butanol	2.33E-02	940	464	1.65E-02	1.97E-02	2.65E-02	2.98E-02
NH_3	4.86E-02	449	222	2.31E-02	3.44E-02	6.42E-02	8.15E-02
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.62E+06 (kg)	(676 kgal)	----	----	----	----	----
Heat Load	1.43E-03 (kW)	(4.87 BTU/hr)	----	1.32E-03	1.38E-03	1.47E-03	1.54E-03
Bulk Density*	1.03 (g/cc)	----	----	1.01	1.02	1.03	1.03
Water wt%	94.9	----	----	94.9	94.9	96.2	97.4
TOC wt% C (wet)	5.74E-04	----	----	3.84E-04	4.77E-04	6.71E-04	7.67E-04

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	0.629	1.41E+04	3.70E+04	0.315	0.468	0.629	0.629
Al^{3+}	3.81E-02	1.00E+03	2.63E+03	1.59E-02	2.67E-02	3.82E-02	3.81E-02
Fe^{3+} (total Fe)	1.24E-03	67.5	177	8.19E-04	1.02E-03	1.45E-03	1.66E-03
Cr^{3+}	5.21E-03	264	693	4.38E-03	4.78E-03	5.21E-03	5.21E-03
Bi^{3+}	3.67E-07	7.49E-02	0.196	3.42E-07	3.54E-07	3.80E-07	3.92E-07
La^{3+}	3.79E-09	5.13E-04	1.35E-03	2.81E-09	3.29E-09	4.29E-09	4.78E-09
Hg^{2+}	2.78E-09	5.44E-04	1.43E-03	2.65E-09	2.73E-09	2.83E-09	2.87E-09
Zr (as $ZrO(OH)_2$)	9.97E-08	8.87E-03	2.33E-02	7.58E-08	9.67E-08	1.03E-07	1.06E-07
Pb^{2+}	3.49E-07	7.04E-02	0.185	2.83E-07	3.15E-07	3.82E-07	4.15E-07
Ni^{2+}	1.11E-03	63.8	167	1.03E-03	1.07E-03	1.16E-03	1.20E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	3.50E-06	0.188	0.492	2.07E-06	2.77E-06	4.23E-06	4.73E-06
Ca^{2+}	5.57E-03	218	572	3.93E-03	4.73E-03	6.41E-03	7.22E-03
K^{+}	2.25E-03	85.8	225	1.13E-03	1.68E-03	2.26E-03	2.25E-03
OH^{-}	0.222	3.67E+03	9.64E+03	0.108	0.163	0.222	0.223
$NO3^{-}$	0.461	2.79E+04	7.32E+04	0.234	0.345	0.461	0.462
$NO2^{-}$	1.40E-02	628	1.65E+03	1.28E-02	1.34E-02	1.41E-02	1.41E-02
$CO3^{2-}$	2.98E-02	1.74E+03	4.58E+03	1.35E-02	2.16E-02	3.06E-02	3.14E-02
$PO4^{3-}$	7.75E-05	7.18	18.8	6.09E-05	6.90E-05	8.60E-05	9.41E-05
$SO4^{2-}$	2.98E-03	279	733	2.38E-03	2.67E-03	2.99E-03	2.99E-03
Si (as SiO_x^{2-})	2.47E-05	0.675	1.77	2.05E-05	2.25E-05	2.68E-05	2.86E-05
F^{-}	2.29E-05	0.424	1.11	1.94E-05	2.16E-05	2.43E-05	2.64E-05
Cl^{-}	1.50E-02	517	1.36E+03	7.08E-03	1.09E-02	1.50E-02	1.50E-02
$C_6H_5O_7^{3-}$	1.03E-05	1.90	4.99	8.26E-06	9.26E-06	1.14E-05	1.24E-05
$EDTA^{4-}$	7.10E-06	1.99	5.23	2.33E-06	4.66E-06	9.55E-06	1.20E-05
$HEDTA^{3-}$	1.27E-05	3.39	8.90	3.14E-06	7.80E-06	1.76E-05	2.24E-05
$glycolate^{-}$	6.52E-05	4.77	12.5	3.78E-05	5.12E-05	7.92E-05	9.25E-05
$acetate^{-}$	4.82E-06	0.277	0.728	3.79E-06	4.23E-06	5.45E-06	6.42E-06
$oxalate^{2-}$	4.96E-09	4.26E-04	1.12E-03	4.43E-09	4.69E-09	5.23E-09	5.49E-09
DBP	7.55E-06	1.55	4.06	6.59E-06	7.01E-06	8.14E-06	9.02E-06
butanol	7.55E-06	0.546	1.43	6.59E-06	7.01E-06	8.14E-06	9.02E-06
NH_3	2.90E-05	0.481	1.26	1.74E-05	2.30E-05	3.51E-05	4.11E-05
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.12E+06 (kg)	(747 kgal)	----	----	----	----	----
Heat Load	0.516 (kW)	(1.76E+03 BTU/hr)	----	0.286	0.394	0.622	0.731
Bulk Density†	1.10 (g/cc)	----	----	1.08	1.09	1.11	1.12
Water wt%†	84.0	----	----	81.8	82.8	85.5	86.9
TOC wt% C (wet)†	0.130	----	----	5.95E-02	9.34E-02	0.166	0.200

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^{+}	1.88	3.91E+04	1.22E+05	1.37	1.61	2.10	2.29
Al^{3+}	0.560	1.37E+04	4.27E+04	0.507	0.535	0.582	0.604
Fe^{3+} (total Fe)	8.40E-02	4.25E+03	1.33E+04	7.99E-02	8.28E-02	8.46E-02	8.52E-02
Cr^{3+}	1.77E-02	833	2.60E+03	1.53E-02	1.64E-02	1.84E-02	1.89E-02
Bi^{3+}	3.19E-04	60.5	189	2.70E-04	2.94E-04	3.45E-04	3.69E-04
La^{3+}	9.41E-07	0.119	0.370	6.39E-07	7.84E-07	1.09E-06	1.23E-06
Hg^{2+}	1.35E-06	0.246	0.767	1.22E-06	1.28E-06	1.42E-06	1.48E-06
Zr (as $ZrO(OH)_2$)	3.58E-05	2.96	9.22	2.38E-05	2.93E-05	4.15E-05	4.75E-05
Pb^{2+}	1.23E-04	23.1	72.0	6.72E-05	9.45E-05	1.51E-04	1.78E-04
Ni^{2+}	7.11E-03	379	1.18E+03	3.87E-03	5.99E-03	7.23E-03	7.34E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	1.35E-04	6.73	21.0	9.64E-05	1.15E-04	1.55E-04	1.74E-04
Ca^{2+}	2.59E-02	942	2.94E+03	1.21E-02	2.04E-02	2.82E-02	3.04E-02
K^{+}	9.48E-03	336	1.05E+03	6.31E-03	7.69E-03	1.14E-02	1.31E-02
OH^{-}	2.55	3.93E+04	1.23E+05	2.22	2.39	2.70	2.85
$NO3^{-}$	0.759	4.27E+04	1.33E+05	0.527	0.640	0.845	0.802
$NO2^{-}$	0.244	1.02E+04	3.17E+04	0.132	0.181	0.301	0.352
$CO3^{2-}$	8.92E-02	4.85E+03	1.51E+04	5.89E-02	7.52E-02	9.93E-02	0.104
$PO4^{3-}$	1.89E-02	1.63E+03	5.08E+03	1.31E-02	1.57E-02	1.99E-02	2.08E-02
$SO4^{2-}$	3.90E-02	3.40E+03	1.06E+04	1.92E-02	2.75E-02	5.17E-02	6.04E-02
Si (as SiO_x^{2-})	4.13E-03	105	328	2.28E-03	3.20E-03	5.01E-03	5.79E-03
F^{-}	6.74E-03	116	362	3.85E-03	5.19E-03	8.06E-03	8.41E-03
Cl^{-}	2.26E-02	727	2.27E+03	1.46E-02	1.85E-02	2.44E-02	2.56E-02
$C_6H_5O_7^{3-}$	3.06E-03	525	1.64E+03	2.35E-03	2.69E-03	3.38E-03	3.70E-03
$EDTA^{4-}$	1.85E-03	484	1.51E+03	4.75E-04	1.13E-03	2.57E-03	3.28E-03
$HEDTA^{3-}$	3.47E-03	863	2.69E+03	7.76E-04	2.05E-03	4.88E-03	6.27E-03
$glycolate^{-}$	1.00E-02	680	2.12E+03	3.54E-03	6.60E-03	1.34E-02	1.66E-02
$acetate^{-}$	7.47E-04	40.0	125	5.58E-04	6.45E-04	8.43E-04	9.58E-04
$oxalate^{2-}$	1.23E-06	9.84E-02	0.307	1.09E-06	1.16E-06	1.30E-06	1.37E-06
DBP	2.22E-03	423	1.32E+03	1.57E-03	1.88E-03	2.53E-03	2.84E-03
butanol	2.22E-03	149	466	1.57E-03	1.88E-03	2.53E-03	2.84E-03
NH_3	4.64E-03	71.5	223	2.22E-03	3.29E-03	6.12E-03	7.76E-03
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	4.94E+05 (kg)	(70.9 kgal)	----	----	----	----	----
Heat Load	0.514 (kW)	(1.76E+03 BTU/hr)	----	0.285	0.392	0.621	0.729
Bulk Density	1.84 (g/cc)	----	----	1.62	1.72	1.93	2.01
Void Fraction	0.545	----	----	0.452	0.491	0.610	0.666
Water wt%	25.5	----	----	17.8	21.2	31.7	38.0
TOC wt% C (wet)	0.820	----	----	0.416	0.620	1.00	1.17

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.76E-04	0.150	74.0	0	0	2.80E-04	2.80E-04
C-14	3.57E-05	1.94E-02	9.59	0	0	3.60E-05	3.61E-05
Ni-59	6.11E-07	3.32E-04	0.164	0	0	6.39E-07	6.65E-07
Ni-63	6.01E-05	3.27E-02	16.1	0	0	6.29E-05	6.55E-05
Co-60	2.55E-05	1.39E-02	6.84	0	0	2.57E-05	2.57E-05
Se-79	2.27E-06	1.23E-03	0.609	0	0	2.81E-06	3.27E-06
Sr-90	4.47E-02	24.3	1.20E+04	3.40E-02	4.09E-02	4.83E-02	5.12E-02
Y-90	4.48E-02	24.3	1.20E+04	0	0	4.73E-02	4.98E-02
Zr-93	1.11E-05	6.05E-03	2.99	0	0	1.38E-05	1.60E-05
Nb-93m	8.13E-06	4.42E-03	2.18	0	0	1.00E-05	1.16E-05
Tc-99	3.17E-04	0.172	85.1	1.46E-04	2.26E-04	4.07E-04	4.95E-04
Ru-106	4.29E-09	2.33E-06	1.15E-03	0	0	5.38E-09	6.39E-09
Cd-113m	5.77E-05	3.13E-02	15.5	0	0	7.10E-05	8.21E-05
Sb-125	1.12E-04	6.09E-02	30.1	0	0	1.13E-04	1.13E-04
Sn-126	3.43E-06	1.87E-03	0.921	0	0	4.24E-06	4.94E-06
I-129	6.12E-07	3.33E-04	0.164	2.82E-07	4.37E-07	7.85E-07	9.56E-07
Cs-134	3.27E-06	1.78E-03	0.879	0	0	3.30E-06	3.31E-06
Cs-137	0.345	187	9.25E+04	0.178	0.253	0.424	0.506
Ba-137m	0.326	177	8.75E+04	0	0	0.328	0.329
Sm-151	8.00E-03	4.35	2.15E+03	0	0	9.90E-03	1.15E-02
Eu-152	2.76E-06	1.50E-03	0.741	0	0	2.78E-06	2.78E-06
Eu-154	4.02E-04	0.218	108	0	0	4.97E-04	5.39E-04
Eu-155	1.64E-04	8.91E-02	44.0	0	0	1.65E-04	1.65E-04
Ra-226	1.01E-10	5.51E-08	2.72E-05	0	0	1.33E-10	1.60E-10
Ra-228	7.21E-08	3.92E-05	1.94E-02	0	0	7.27E-08	7.33E-08
Ac-227	6.23E-10	3.39E-07	1.67E-04	0	0	8.23E-10	9.68E-10
Pa-231	2.79E-09	1.52E-06	7.49E-04	0	0	3.40E-09	3.93E-09
Th-229	1.75E-09	9.52E-07	4.70E-04	0	0	1.76E-09	1.78E-09
Th-232	7.98E-09	4.33E-06	2.14E-03	0	0	9.70E-09	1.14E-08
U-232	1.74E-07	9.45E-05	4.67E-02	1.09E-07	1.37E-07	2.15E-07	2.58E-07
U-233	6.68E-07	3.63E-04	0.179	4.17E-07	5.28E-07	8.23E-07	9.90E-07
U-234	3.74E-07	2.03E-04	0.100	3.29E-07	3.53E-07	3.93E-07	4.10E-07
U-235	1.57E-08	8.51E-06	4.20E-03	1.39E-08	1.48E-08	1.64E-08	1.71E-08
U-236	8.99E-09	4.89E-06	2.41E-03	7.80E-09	8.46E-09	9.44E-09	9.85E-09
U-238	4.61E-07	2.50E-04	0.124	4.22E-07	4.40E-07	4.79E-07	4.94E-07
Np-237	1.16E-06	6.29E-04	0.311	5.69E-07	8.44E-07	1.47E-06	1.77E-06
Pu-238	5.62E-07	3.06E-04	0.151	2.78E-07	4.17E-07	7.09E-07	8.51E-07
Pu-239	9.84E-03	5.34	2.64E+03	9.65E-03	9.78E-03	9.88E-03	9.93E-03
Pu-240	2.46E-03	1.33	659	2.41E-03	2.44E-03	2.47E-03	2.48E-03
Pu-241	3.78E-05	2.05E-02	10.1	1.93E-05	2.83E-05	4.73E-05	5.66E-05
Pu-242	2.04E-10	1.11E-07	5.48E-05	9.96E-11	1.51E-10	2.59E-10	3.12E-10
Am-241	1.04E-02	5.63	2.78E+03	9.71E-03	1.02E-02	1.05E-02	1.07E-02
Am-243	2.50E-09	1.36E-06	6.70E-04	7.24E-10	1.59E-09	3.47E-09	4.41E-09
Cm-242	2.28E-10	1.24E-07	6.11E-05	0	0	2.30E-10	2.33E-10
Cm-243	4.65E-12	2.53E-09	1.25E-06	0	0	4.70E-12	4.76E-12
Cm-244	1.35E-10	7.36E-08	3.63E-05	0	0	1.37E-10	1.38E-10

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0.172 (g/L)	----	46.1	0.169	0.171	0.173	0.173
U	4.46E-03	577	285	3.95E-03	4.22E-03	4.68E-03	4.87E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	2.62E+06 (kg)	(676 kgal)	----	----	----	----	----
Heat Load	1.43E-03 (kW)	(4.87 BTU/hr)	----	1.32E-03	1.38E-03	1.47E-03	1.54E-03
Bulk Density*	1.03 (g/cc)	----	----	1.01	1.02	1.03	1.03
Water wt%†	94.9	----	----	94.9	94.9	96.2	97.4
TOC wt% C (wet)	5.74E-04	----	----	3.84E-04	4.77E-04	6.71E-04	7.67E-04

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	6.77E-08	6.60E-05	0.173	4.84E-08	4.84E-08	7.16E-08	7.61E-08
C-14	9.28E-09	9.05E-06	2.37E-02	5.25E-09	5.25E-09	9.43E-09	9.58E-09
Ni-59	5.29E-10	5.16E-07	1.35E-03	3.40E-10	3.40E-10	5.39E-10	5.48E-10
Ni-63	5.21E-08	5.08E-05	0.133	3.33E-08	3.33E-08	5.30E-08	5.39E-08
Co-60	1.19E-08	1.16E-05	3.04E-02	7.27E-09	7.27E-09	1.22E-08	1.24E-08
Se-79	1.09E-09	1.06E-06	2.79E-03	8.34E-10	8.34E-10	1.18E-09	1.27E-09
Sr-90	3.40E-05	3.32E-02	87.0	3.21E-05	3.34E-05	3.47E-05	3.53E-05
Y-90	3.40E-05	3.32E-02	87.1	2.51E-05	2.51E-05	3.47E-05	3.53E-05
Zr-93	5.29E-09	5.16E-06	1.35E-02	4.00E-09	4.00E-09	5.75E-09	6.20E-09
Nb-93m	3.88E-09	3.78E-06	9.93E-03	2.98E-09	2.98E-09	4.21E-09	4.52E-09
Tc-99	6.98E-08	6.81E-05	0.179	5.48E-08	6.21E-08	7.79E-08	8.90E-08
Ru-106	2.93E-12	2.86E-09	7.51E-06	2.05E-12	2.34E-12	3.38E-12	3.82E-12
Cd-113m	2.69E-08	2.62E-05	6.87E-02	1.91E-08	1.91E-08	2.97E-08	3.23E-08
Sb-125	6.19E-08	6.04E-05	0.159	4.20E-08	4.20E-08	6.44E-08	6.68E-08
Sn-126	1.66E-09	1.62E-06	4.25E-03	1.28E-09	1.28E-09	1.80E-09	1.94E-09
I-129	1.35E-10	1.32E-07	3.45E-04	1.06E-10	1.20E-10	1.51E-10	1.72E-10
Cs-134	8.88E-09	8.66E-06	2.27E-02	6.67E-09	7.75E-09	1.00E-08	1.11E-08
Cs-137	7.01E-05	6.84E-02	179	6.29E-05	6.59E-05	7.38E-05	7.94E-05
Ba-137m	6.63E-05	6.47E-02	170	5.59E-05	5.59E-05	6.95E-05	7.26E-05
Sm-151	3.86E-06	3.76E-03	9.88	2.96E-06	2.96E-06	4.19E-06	4.50E-06
Eu-152	1.34E-09	1.31E-06	3.44E-03	1.02E-09	1.02E-09	1.48E-09	1.60E-09
Eu-154	1.95E-07	1.90E-04	0.498	1.30E-07	1.30E-07	2.18E-07	2.27E-07
Eu-155	8.23E-08	8.02E-05	0.211	6.33E-08	6.33E-08	9.04E-08	9.83E-08
Ra-226	4.66E-14	4.55E-11	1.19E-07	3.57E-14	3.86E-14	5.22E-14	5.24E-14
Ra-228	8.95E-11	8.72E-08	2.29E-04	3.01E-11	3.01E-11	1.00E-10	1.12E-10
Ac-227	2.87E-13	2.79E-10	7.33E-07	2.23E-13	2.40E-13	3.19E-13	3.19E-13
Pa-231	1.23E-12	1.20E-09	3.14E-06	9.71E-13	9.71E-13	1.32E-12	1.41E-12
Th-229	2.07E-12	2.02E-09	5.31E-06	7.03E-13	7.03E-13	2.31E-12	2.57E-12
Th-232	9.25E-12	9.02E-09	2.37E-05	1.91E-12	1.91E-12	1.13E-11	1.32E-11
U-232	2.84E-10	2.77E-07	7.26E-04	2.11E-10	2.46E-10	3.27E-10	3.73E-10
U-233	1.09E-09	1.06E-06	2.78E-03	8.07E-10	9.44E-10	1.25E-09	1.43E-09
U-234	3.89E-10	3.79E-07	9.95E-04	3.00E-10	3.68E-10	3.98E-10	4.08E-10
U-235	1.51E-11	1.47E-08	3.87E-05	1.17E-11	1.43E-11	1.55E-11	1.58E-11
U-236	2.24E-11	2.19E-08	5.74E-05	1.51E-11	2.07E-11	2.32E-11	2.40E-11
U-238	3.92E-10	3.83E-07	1.00E-03	3.31E-10	3.78E-10	3.99E-10	4.05E-10
Np-237	2.47E-10	2.41E-07	6.32E-04	1.98E-10	2.22E-10	2.74E-10	3.10E-10
Pu-238	8.79E-10	8.57E-07	2.25E-03	5.76E-10	7.24E-10	1.03E-09	1.18E-09
Pu-239	1.28E-06	1.24E-03	3.27	3.83E-07	8.21E-07	1.73E-06	2.17E-06
Pu-240	3.18E-07	3.10E-04	0.815	9.50E-08	2.04E-07	4.32E-07	5.42E-07
Pu-241	7.53E-08	7.34E-05	0.193	4.44E-08	5.95E-08	9.11E-08	1.06E-07
Pu-242	3.40E-13	3.31E-10	8.69E-07	2.24E-13	2.81E-13	3.99E-13	4.55E-13
Am-241	4.48E-06	4.37E-03	11.5	1.32E-06	2.87E-06	6.10E-06	7.65E-06
Am-243	1.04E-12	1.01E-09	2.65E-06	6.16E-13	8.09E-13	1.30E-12	1.52E-12
Cm-242	4.99E-11	4.86E-08	1.28E-04	3.68E-11	3.68E-11	5.49E-11	5.98E-11
Cm-243	4.90E-12	4.77E-09	1.25E-05	3.65E-12	3.65E-12	5.35E-12	5.79E-12
Cm-244	4.99E-11	4.86E-08	1.28E-04	3.22E-11	3.70E-11	5.89E-11	6.75E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	2.23E-05 (g/L)	----	5.69E-02	6.64E-06	1.43E-05	3.02E-05	3.79E-05
U	3.86E-06	0.895	2.35	3.09E-06	3.67E-06	3.94E-06	4.02E-06

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-102

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	3.12E+06 (kg)	(747 kgal)	----	----	----	----	----
Heat Load	0.516 (kW)	(1.76E+03 BTU/hr)	----	0.286	0.394	0.622	0.731
Bulk Density†	1.10 (g/cc)	----	----	1.08	1.09	1.11	1.12
Water wt%†	84.0	----	----	81.8	82.8	85.5	86.9
TOC wt% C (wet)†	0.130	----	----	5.95E-02	9.34E-02	0.166	0.200

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.62E-05	2.38E-02	74.1	6.13E-08	6.13E-08	2.66E-05	2.66E-05
C-14	3.40E-06	3.08E-03	9.61	8.40E-09	8.40E-09	3.42E-06	3.43E-06
Ni-59	5.85E-08	5.30E-05	0.165	4.79E-10	4.79E-10	6.11E-08	6.36E-08
Ni-63	5.75E-06	5.22E-03	16.3	4.71E-08	4.71E-08	6.01E-06	6.26E-06
Co-60	2.43E-06	2.20E-03	6.87	1.08E-08	1.08E-08	2.45E-06	2.45E-06
Se-79	2.16E-07	1.96E-04	0.612	9.88E-10	9.88E-10	2.68E-07	3.11E-07
Sr-90	4.28E-03	3.88	1.21E+04	3.26E-03	3.91E-03	4.61E-03	4.89E-03
Y-90	4.28E-03	3.88	1.21E+04	3.08E-05	3.08E-05	4.52E-03	4.76E-03
Zr-93	1.06E-06	9.63E-04	3.00	4.79E-09	4.79E-09	1.32E-06	1.52E-06
Nb-93m	7.75E-07	7.02E-04	2.19	3.51E-09	3.51E-09	9.56E-07	1.11E-06
Tc-99	3.02E-05	2.74E-02	85.3	1.39E-05	2.16E-05	3.87E-05	4.71E-05
Ru-106	4.10E-10	3.72E-07	1.16E-03	2.65E-12	2.65E-12	5.13E-10	6.09E-10
Cd-113m	5.50E-06	4.99E-03	15.5	2.43E-08	2.43E-08	6.76E-06	7.81E-06
Sb-125	1.07E-05	9.70E-03	30.2	5.61E-08	5.61E-08	1.08E-05	1.08E-05
Sn-126	3.27E-07	2.97E-04	0.925	1.50E-09	1.50E-09	4.04E-07	4.70E-07
I-129	5.82E-08	5.28E-05	0.165	2.69E-08	4.16E-08	7.47E-08	9.09E-08
Cs-134	3.19E-07	2.89E-04	0.901	8.03E-09	8.03E-09	3.21E-07	3.22E-07
Cs-137	3.28E-02	29.7	9.27E+04	1.69E-02	2.41E-02	4.03E-02	4.81E-02
Ba-137m	3.10E-02	28.1	8.77E+04	6.00E-05	6.00E-05	3.12E-02	3.13E-02
Sm-151	7.63E-04	0.692	2.16E+03	3.49E-06	3.49E-06	9.43E-04	1.10E-03
Eu-152	2.63E-07	2.39E-04	0.744	1.22E-09	1.22E-09	2.65E-07	2.65E-07
Eu-154	3.83E-05	3.47E-02	108	1.76E-07	1.76E-07	4.73E-05	5.13E-05
Eu-155	1.56E-05	1.42E-02	44.2	7.45E-08	7.45E-08	1.57E-05	1.58E-05
Ra-226	9.67E-12	8.77E-09	2.73E-05	4.22E-14	4.22E-14	1.27E-11	1.53E-11
Ra-228	6.93E-09	6.28E-06	1.96E-02	8.10E-11	8.10E-11	6.98E-09	7.03E-09
Ac-227	5.94E-11	5.39E-08	1.68E-04	2.59E-13	2.59E-13	7.83E-11	9.21E-11
Pa-231	2.66E-10	2.41E-07	7.53E-04	1.11E-12	1.11E-12	3.24E-10	3.74E-10
Th-229	1.68E-10	1.52E-07	4.75E-04	1.88E-12	1.88E-12	1.69E-10	1.70E-10
Th-232	7.66E-10	6.94E-07	2.16E-03	8.37E-12	8.37E-12	9.29E-10	1.09E-09
U-232	1.68E-08	1.52E-05	4.74E-02	1.06E-08	1.33E-08	2.06E-08	2.47E-08
U-233	6.43E-08	5.83E-05	0.182	4.06E-08	5.11E-08	7.91E-08	9.49E-08
U-234	3.58E-08	3.25E-05	0.101	3.16E-08	3.38E-08	3.76E-08	3.92E-08
U-235	1.50E-09	1.36E-06	4.24E-03	1.33E-09	1.42E-09	1.57E-09	1.64E-09
U-236	8.74E-10	7.92E-07	2.47E-03	7.60E-10	8.23E-10	9.16E-10	9.55E-10
U-238	4.41E-08	4.00E-05	0.125	4.04E-08	4.21E-08	4.58E-08	4.73E-08
Np-237	1.10E-07	9.98E-05	0.311	5.42E-08	8.03E-08	1.40E-07	1.68E-07
Pu-238	5.42E-08	4.91E-05	0.153	2.72E-08	4.04E-08	6.81E-08	8.16E-08
Pu-239	9.35E-04	0.847	2.64E+03	9.17E-04	9.29E-04	9.39E-04	9.42E-04
Pu-240	2.33E-04	0.212	660	2.29E-04	2.32E-04	2.34E-04	2.35E-04
Pu-241	3.65E-06	3.31E-03	10.3	1.90E-06	2.75E-06	4.56E-06	5.44E-06
Pu-242	1.97E-11	1.79E-08	5.57E-05	9.76E-12	1.46E-11	2.49E-11	2.99E-11
Am-241	9.87E-04	0.895	2.79E+03	9.25E-04	9.68E-04	1.00E-03	1.01E-03
Am-243	2.38E-10	2.16E-07	6.72E-04	6.96E-11	1.51E-10	3.31E-10	4.20E-10
Cm-242	6.67E-11	6.05E-08	1.89E-04	4.51E-11	4.51E-11	7.13E-11	7.57E-11
Cm-243	4.87E-12	4.42E-09	1.38E-05	3.74E-12	3.74E-12	5.28E-12	5.68E-12
Cm-244	5.80E-11	5.26E-08	1.64E-04	4.20E-11	4.51E-11	6.61E-11	7.40E-11

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	1.63E-02 (g/L)	----	46.2	1.60E-02	1.62E-02	1.64E-02	1.65E-02
U	4.27E-04	92.1	287	3.78E-04	4.04E-04	4.48E-04	4.66E-04

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	0	0	0	0	0	0	0
Al^{3+}	0	0	0	0	0	0	0
Fe^{3+} (total Fe)	0	0	0	0	0	0	0
Cr^{3+}	0	0	0	0	0	0	0
Bi^{3+}	0	0	0	0	0	0	0
La^{3+}	0	0	0	0	0	0	0
Hg^{2+}	0	0	0	0	0	0	0
Zr (as $ZrO(OH)_2$)	0	0	0	0	0	0	0
Pb^{2+}	0	0	0	0	0	0	0
Ni^{2+}	0	0	0	0	0	0	0
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	0	0	0	0	0	0	0
Ca^{2+}	0	0	0	0	0	0	0
K^+	0	0	0	0	0	0	0
OH^-	0	0	0	0	0	0	0
$NO3^-$	0	0	0	0	0	0	0
$NO2^-$	0	0	0	0	0	0	0
$CO3^{2-}$	0	0	0	0	0	0	0
$PO4^{3-}$	0	0	0	0	0	0	0
$SO4^{2-}$	0	0	0	0	0	0	0
Si (as SiO_x^{2-})	0	0	0	0	0	0	0
F^-	0	0	0	0	0	0	0
Cl^-	0	0	0	0	0	0	0
$C_6H_5O_7^{3-}$	0	0	0	0	0	0	0
$EDTA^{4-}$	0	0	0	0	0	0	0
$HEDTA^{3-}$	0	0	0	0	0	0	0
$glycolate^-$	0	0	0	0	0	0	0
$acetate^-$	0	0	0	0	0	0	0
$oxalate^{2-}$	0	0	0	0	0	0	0
DBP	0	0	0	0	0	0	0
butanol	0	0	0	0	0	0	0
NH_3	0	0	0	0	0	0	0
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.53E+06 (kg)	(744 kgal)	----	----	----	----	----
Heat Load	6.10 (kW)	(2.08E+04 BTU/hr)	----	5.74	5.93	6.29	6.46
Bulk Density*	1.61 (g/cc)	----	----	1.56	1.59	1.63	1.65
Water wt%	32.8	----	----	30.3	31.4	34.2	35.8
TOC wt% C (wet)	0.923	----	----	0.563	0.739	1.11	1.28

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.2	2.03E+05	9.20E+05	13.1	13.7	14.7	15.1
Al^{3+}	1.68	2.82E+04	1.28E+05	1.57	1.63	1.75	1.80
Fe^{3+} (total Fe)	1.08E-02	375	1.70E+03	8.94E-03	9.85E-03	1.18E-02	1.27E-02
Cr^{3+}	0.143	4.62E+03	2.09E+04	0.121	0.133	0.147	0.151
Bi^{3+}	1.34E-03	174	789	1.23E-03	1.28E-03	1.40E-03	1.45E-03
La^{3+}	3.76E-05	3.24	14.7	2.73E-05	3.23E-05	4.29E-05	4.79E-05
Hg^{2+}	9.40E-06	1.17	5.31	8.81E-06	9.15E-06	9.53E-06	9.65E-06
Zr (as $ZrO(OH)_2$)	2.36E-04	13.4	60.6	2.15E-04	2.23E-04	2.44E-04	2.56E-04
Pb^{2+}	1.08E-03	139	630	8.98E-04	9.87E-04	1.17E-03	1.26E-03
Ni^{2+}	6.30E-03	230	1.04E+03	6.03E-03	6.16E-03	6.37E-03	6.44E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.07E-03	139	629	3.17E-03	3.61E-03	4.52E-03	4.96E-03
Ca^{2+}	3.33E-02	830	3.76E+03	3.07E-02	3.20E-02	3.47E-02	3.60E-02
K^+	6.64E-02	1.61E+03	7.31E+03	6.09E-02	6.35E-02	6.94E-02	7.22E-02
OH^-	9.97	1.05E+05	4.77E+05	9.28	9.60	10.3	10.5
$NO3^-$	4.94	1.90E+05	8.62E+05	4.58	4.79	5.01	5.07
$NO2^-$	2.47	7.07E+04	3.20E+05	2.09	2.27	2.67	2.86
$CO3^{2-}$	0.460	1.71E+04	7.77E+04	0.418	0.438	0.488	0.495
$PO4^{3-}$	9.25E-02	5.46E+03	2.48E+04	8.06E-02	8.48E-02	9.47E-02	9.67E-02
$SO4^{2-}$	0.257	1.53E+04	6.95E+04	0.207	0.231	0.284	0.307
Si (as SiO_x^{2-})	7.89E-02	1.38E+03	6.24E+03	6.61E-02	7.24E-02	8.55E-02	9.18E-02
F^-	6.71E-02	792	3.59E+03	5.74E-02	6.15E-02	7.19E-02	7.57E-02
Cl^-	0.246	5.41E+03	2.45E+04	0.224	0.233	0.256	0.265
$C_6H_5O_7^{3-}$	2.93E-02	3.44E+03	1.56E+04	2.69E-02	2.81E-02	3.05E-02	3.16E-02
$EDTA^{4-}$	2.07E-02	3.71E+03	1.68E+04	6.37E-03	1.34E-02	2.81E-02	3.53E-02
$HEDTA^{3-}$	3.84E-02	6.54E+03	2.96E+04	9.67E-03	2.37E-02	5.32E-02	6.76E-02
$glycolate^-$	0.102	4.75E+03	2.15E+04	7.05E-02	8.58E-02	0.118	0.133
$acetate^-$	9.81E-03	360	1.63E+03	8.66E-03	9.22E-03	1.04E-02	1.14E-02
$oxalate^{2-}$	4.92E-05	2.69	12.2	4.36E-05	4.64E-05	5.21E-05	5.48E-05
DBP	2.06E-02	2.69E+03	1.22E+04	1.74E-02	1.90E-02	2.22E-02	2.37E-02
butanol	2.06E-02	948	4.30E+03	1.74E-02	1.90E-02	2.22E-02	2.37E-02
NH_3	8.18E-02	863	3.91E+03	6.73E-02	7.30E-02	9.29E-02	0.106
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.53E+06 (kg)	(744 kgal)	----	----	----	----	----
Heat Load	6.10 (kW)	(2.08E+04 BTU/hr)	----	5.74	5.93	6.29	6.46
Bulk Density†	1.61 (g/cc)	----	----	1.56	1.59	1.63	1.65
Water wt%†	32.8	----	----	30.3	31.4	34.2	35.8
TOC wt% C (wet)†	0.923	----	----	0.563	0.739	1.11	1.28

Chemical Constituents	mole/L	ppm	kg	-95 CI (mole/L)	-67 CI (mole/L)	+67 CI (mole/L)	+95 CI (mole/L)
Na^+	14.2	2.03E+05	9.20E+05	13.1	13.7	14.7	15.1
Al^{3+}	1.68	2.82E+04	1.28E+05	1.57	1.63	1.75	1.80
Fe^{3+} (total Fe)	1.08E-02	375	1.70E+03	8.94E-03	9.85E-03	1.18E-02	1.27E-02
Cr^{3+}	0.143	4.62E+03	2.09E+04	0.121	0.133	0.147	0.151
Bi^{3+}	1.34E-03	174	789	1.23E-03	1.28E-03	1.40E-03	1.45E-03
La^{3+}	3.76E-05	3.24	14.7	2.73E-05	3.23E-05	4.29E-05	4.79E-05
Hg^{2+}	9.40E-06	1.17	5.31	8.81E-06	9.15E-06	9.53E-06	9.65E-06
Zr (as $ZrO(OH)_2$)	2.36E-04	13.4	60.6	2.15E-04	2.23E-04	2.44E-04	2.56E-04
Pb^{2+}	1.08E-03	139	630	8.98E-04	9.87E-04	1.17E-03	1.26E-03
Ni^{2+}	6.30E-03	230	1.04E+03	6.03E-03	6.16E-03	6.37E-03	6.44E-03
Sr^{2+}	0	0	0	0	0	0	0
Mn^{4+}	4.07E-03	139	629	3.17E-03	3.61E-03	4.52E-03	4.96E-03
Ca^{2+}	3.33E-02	830	3.76E+03	3.07E-02	3.20E-02	3.47E-02	3.60E-02
K^+	6.64E-02	1.61E+03	7.31E+03	6.09E-02	6.35E-02	6.94E-02	7.22E-02
OH^-	9.97	1.05E+05	4.77E+05	9.28	9.60	10.3	10.5
$NO3^-$	4.94	1.90E+05	8.62E+05	4.58	4.79	5.01	5.07
$NO2^-$	2.47	7.07E+04	3.20E+05	2.09	2.27	2.67	2.86
$CO3^{2-}$	0.460	1.71E+04	7.77E+04	0.418	0.438	0.488	0.495
$PO4^{3-}$	9.25E-02	5.46E+03	2.48E+04	8.06E-02	8.48E-02	9.47E-02	9.67E-02
$SO4^{2-}$	0.257	1.53E+04	6.95E+04	0.207	0.231	0.284	0.307
Si (as SiO_x^{2-})	7.89E-02	1.38E+03	6.24E+03	6.61E-02	7.24E-02	8.55E-02	9.18E-02
F^-	6.71E-02	792	3.59E+03	5.74E-02	6.15E-02	7.19E-02	7.57E-02
Cl^-	0.246	5.41E+03	2.45E+04	0.224	0.233	0.256	0.265
$C_6H_5O_7^{3-}$	2.93E-02	3.44E+03	1.56E+04	2.69E-02	2.81E-02	3.05E-02	3.16E-02
$EDTA^{4-}$	2.07E-02	3.71E+03	1.68E+04	6.37E-03	1.34E-02	2.81E-02	3.53E-02
$HEDTA^{3-}$	3.84E-02	6.54E+03	2.96E+04	9.67E-03	2.37E-02	5.32E-02	6.76E-02
$glycolate^-$	0.102	4.75E+03	2.15E+04	7.05E-02	8.58E-02	0.118	0.133
$acetate^-$	9.81E-03	360	1.63E+03	8.66E-03	9.22E-03	1.04E-02	1.14E-02
$oxalate^{2-}$	4.92E-05	2.69	12.2	4.36E-05	4.64E-05	5.21E-05	5.48E-05
DBP	2.06E-02	2.69E+03	1.22E+04	1.74E-02	1.90E-02	2.22E-02	2.37E-02
butanol	2.06E-02	948	4.30E+03	1.74E-02	1.90E-02	2.22E-02	2.37E-02
NH_3	8.18E-02	863	3.91E+03	6.73E-02	7.30E-02	9.29E-02	0.106
$Fe(CN)_6^{4-}$	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

TLM Solids Composite Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total TLM Waste	0 (kg)	(0 kgal)	----	----	----	----	----
Heat Load	0 (kW)	(0 BTU/hr)	----	0	0	0	0
Bulk Density	0 (g/cc)	----	----	0	0	0	0
Void Fraction	0	----	----	0	0	0	0
Water wt%	0	----	----	0	0	0	0
TOC wt% C (wet)	0	----	----	0	0	0	0

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	0	0	0	0	0	0	0
C-14	0	0	0	0	0	0	0
Ni-59	0	0	0	0	0	0	0
Ni-63	0	0	0	0	0	0	0
Co-60	0	0	0	0	0	0	0
Se-79	0	0	0	0	0	0	0
Sr-90	0	0	0	0	0	0	0
Y-90	0	0	0	0	0	0	0
Zr-93	0	0	0	0	0	0	0
Nb-93m	0	0	0	0	0	0	0
Tc-99	0	0	0	0	0	0	0
Ru-106	0	0	0	0	0	0	0
Cd-113m	0	0	0	0	0	0	0
Sb-125	0	0	0	0	0	0	0
Sn-126	0	0	0	0	0	0	0
I-129	0	0	0	0	0	0	0
Cs-134	0	0	0	0	0	0	0
Cs-137	0	0	0	0	0	0	0
Ba-137m	0	0	0	0	0	0	0
Sm-151	0	0	0	0	0	0	0
Eu-152	0	0	0	0	0	0	0
Eu-154	0	0	0	0	0	0	0
Eu-155	0	0	0	0	0	0	0
Ra-226	0	0	0	0	0	0	0
Ra-228	0	0	0	0	0	0	0
Ac-227	0	0	0	0	0	0	0
Pa-231	0	0	0	0	0	0	0
Th-229	0	0	0	0	0	0	0
Th-232	0	0	0	0	0	0	0
U-232	0	0	0	0	0	0	0
U-233	0	0	0	0	0	0	0
U-234	0	0	0	0	0	0	0
U-235	0	0	0	0	0	0	0
U-236	0	0	0	0	0	0	0
U-238	0	0	0	0	0	0	0
Np-237	0	0	0	0	0	0	0
Pu-238	0	0	0	0	0	0	0
Pu-239	0	0	0	0	0	0	0
Pu-240	0	0	0	0	0	0	0
Pu-241	0	0	0	0	0	0	0
Pu-242	0	0	0	0	0	0	0
Am-241	0	0	0	0	0	0	0
Am-243	0	0	0	0	0	0	0
Cm-242	0	0	0	0	0	0	0
Cm-243	0	0	0	0	0	0	0
Cm-244	0	0	0	0	0	0	0

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	0 (g/L)	----	0	0	0	0	0
U	0	0	0	0	0	0	0

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

SMM Composite Inventory Estimate

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total SMM Waste	4.53E+06 (kg)	(744 kgal)	----	----	----	----	----
Heat Load	6.10 (kW)	(2.08E+04 BTU/hr)	----	5.74	5.93	6.29	6.46
Bulk Density*	1.61 (g/cc)	----	----	1.56	1.59	1.63	1.65
Water wt%†	32.8	----	----	30.3	31.4	34.2	35.8
TOC wt% C (wet)	0.923	----	----	0.563	0.739	1.11	1.28

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.54E-04	0.158	715	1.40E-04	1.40E-04	2.65E-04	2.79E-04
C-14	3.74E-05	2.32E-02	105	1.34E-05	1.34E-05	3.79E-05	3.84E-05
Ni-59	2.31E-06	1.44E-03	6.51	1.19E-06	1.19E-06	2.37E-06	2.42E-06
Ni-63	2.27E-04	0.141	639	1.15E-04	1.15E-04	2.32E-04	2.38E-04
Co-60	4.27E-05	2.65E-02	120	1.53E-05	1.53E-05	4.35E-05	4.44E-05
Se-79	3.72E-06	2.31E-03	10.5	2.19E-06	2.19E-06	4.27E-06	4.80E-06
Sr-90	0.123	76.3	3.46E+05	0.115	0.119	0.127	0.130
Y-90	0.123	76.3	3.46E+05	7.00E-02	7.00E-02	0.127	0.130
Zr-93	1.83E-05	1.14E-02	51.5	1.06E-05	1.06E-05	2.10E-05	2.37E-05
Nb-93m	1.32E-05	8.22E-03	37.3	7.88E-06	7.88E-06	1.52E-05	1.70E-05
Tc-99	2.70E-04	0.168	759	1.80E-04	2.24E-04	3.16E-04	3.60E-04
Ru-106	7.66E-09	4.76E-06	2.16E-02	4.11E-09	4.11E-09	8.45E-09	9.17E-09
Cd-113m	9.71E-05	6.03E-02	273	5.12E-05	5.12E-05	1.14E-04	1.30E-04
Sb-125	1.86E-04	0.115	523	6.72E-05	6.72E-05	1.91E-04	1.95E-04
Sn-126	5.62E-06	3.49E-03	15.8	3.33E-06	3.33E-06	6.45E-06	7.25E-06
I-129	5.20E-07	3.23E-04	1.46	3.47E-07	4.32E-07	6.09E-07	6.95E-07
Cs-134	3.19E-06	1.98E-03	9.00	2.11E-06	2.64E-06	3.75E-06	4.30E-06
Cs-137	0.286	178	8.06E+05	0.260	0.273	0.300	0.313
Ba-137m	0.271	168	7.62E+05	0.219	0.219	0.284	0.296
Sm-151	1.31E-02	8.14	3.69E+04	7.74E-03	7.74E-03	1.50E-02	1.69E-02
Eu-152	4.51E-06	2.80E-03	12.7	2.62E-06	2.62E-06	4.91E-06	5.30E-06
Eu-154	6.90E-04	0.429	1.94E+03	3.08E-04	3.08E-04	8.28E-04	8.84E-04
Eu-155	2.68E-04	0.166	755	1.55E-04	1.55E-04	2.92E-04	3.16E-04
Ra-226	1.55E-10	9.62E-08	4.36E-04	1.07E-10	1.07E-10	1.72E-10	1.88E-10
Ra-228	1.98E-07	1.23E-04	0.556	1.14E-07	1.38E-07	2.47E-07	2.99E-07
Ac-227	9.76E-10	6.06E-07	2.75E-03	7.01E-10	7.01E-10	1.08E-09	1.17E-09
Pa-231	4.53E-09	2.81E-06	1.28E-02	3.00E-09	3.00E-09	5.08E-09	5.61E-09
Th-229	4.61E-09	2.87E-06	1.30E-02	2.79E-09	3.24E-09	5.70E-09	6.85E-09
Th-232	1.63E-08	1.01E-05	4.58E-02	8.92E-09	8.92E-09	1.86E-08	2.09E-08
U-232	8.54E-07	5.31E-04	2.41	5.21E-07	6.84E-07	1.05E-06	1.26E-06
U-233	3.28E-06	2.04E-03	9.22	2.00E-06	2.62E-06	4.03E-06	4.84E-06
U-234	8.48E-07	5.27E-04	2.39	8.17E-07	8.33E-07	8.65E-07	8.74E-07
U-235	3.43E-08	2.13E-05	9.65E-02	3.30E-08	3.36E-08	3.50E-08	3.53E-08
U-236	2.67E-08	1.66E-05	7.52E-02	2.58E-08	2.63E-08	2.71E-08	2.75E-08
U-238	1.02E-06	6.31E-04	2.86	9.87E-07	1.00E-06	1.03E-06	1.04E-06
Np-237	9.73E-07	6.04E-04	2.74	6.81E-07	8.24E-07	1.12E-06	1.27E-06
Pu-238	1.54E-06	9.56E-04	4.33	1.20E-06	1.36E-06	1.71E-06	1.88E-06
Pu-239	5.23E-05	3.25E-02	147	4.35E-05	4.79E-05	5.68E-05	6.11E-05
Pu-240	8.92E-06	5.54E-03	25.1	7.28E-06	8.09E-06	9.75E-06	1.05E-05
Pu-241	1.05E-04	6.51E-02	295	8.14E-05	9.28E-05	1.17E-04	1.28E-04
Pu-242	5.75E-10	3.57E-07	1.62E-03	4.35E-10	5.04E-10	6.46E-10	7.15E-10
Am-241	6.28E-05	3.90E-02	177	4.66E-05	5.45E-05	7.11E-05	7.91E-05
Am-243	2.24E-09	1.39E-06	6.32E-03	1.73E-09	1.98E-09	2.54E-09	2.80E-09
Cm-242	1.67E-07	1.04E-04	0.470	8.92E-08	8.92E-08	1.82E-07	1.97E-07
Cm-243	1.55E-08	9.61E-06	4.36E-02	8.06E-09	8.06E-09	1.68E-08	1.82E-08
Cm-244	1.46E-07	9.09E-05	0.412	6.99E-08	6.99E-08	1.72E-07	1.89E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.36E-04 (g/L)	----	1.79	4.70E-04	5.51E-04	7.20E-04	8.01E-04
U	9.68E-03	1.43E+03	6.49E+03	9.31E-03	9.48E-03	9.89E-03	9.98E-03

*Density is calculated based on Na, OH-, and AlO2-.

†Water wt% derived from the difference of density and total dissolved species.

HDW Model Rev. 4

Double-Shell Tank 241-SY-103

Total Inventory Estimate*

Physical Properties				-95 CI	-67 CI	+67 CI	+95 CI
Total Waste	4.53E+06 (kg)	(744 kgal)	----	----	----	----	----
Heat Load	6.10 (kW)	(2.08E+04 BTU/hr)	----	5.74	5.93	6.29	6.46
Bulk Density†	1.61 (g/cc)	----	----	1.56	1.59	1.63	1.65
Water wt%†	32.8	----	----	30.3	31.4	34.2	35.8
TOC wt% C (wet)†	0.923	----	----	0.563	0.739	1.11	1.28

Radiological Constituents	Ci/L	µCi/g	Ci	-95 CI (Ci/L)	-67 CI (Ci/L)	+67 CI (Ci/L)	+95 CI (Ci/L)
H-3	2.54E-04	0.158	715	1.40E-04	1.40E-04	2.65E-04	2.79E-04
C-14	3.74E-05	2.32E-02	105	1.34E-05	1.34E-05	3.79E-05	3.84E-05
Ni-59	2.31E-06	1.44E-03	6.51	1.19E-06	1.19E-06	2.37E-06	2.42E-06
Ni-63	2.27E-04	0.141	639	1.15E-04	1.15E-04	2.32E-04	2.38E-04
Co-60	4.27E-05	2.65E-02	120	1.53E-05	1.53E-05	4.35E-05	4.44E-05
Se-79	3.72E-06	2.31E-03	10.5	2.19E-06	2.19E-06	4.27E-06	4.80E-06
Sr-90	0.123	76.3	3.46E+05	0.115	0.119	0.127	0.130
Y-90	0.123	76.3	3.46E+05	7.00E-02	7.00E-02	0.127	0.130
Zr-93	1.83E-05	1.14E-02	51.5	1.06E-05	1.06E-05	2.10E-05	2.37E-05
Nb-93m	1.32E-05	8.22E-03	37.3	7.88E-06	7.88E-06	1.52E-05	1.70E-05
Tc-99	2.70E-04	0.168	759	1.80E-04	2.24E-04	3.16E-04	3.60E-04
Ru-106	7.66E-09	4.76E-06	2.16E-02	4.11E-09	4.11E-09	8.45E-09	9.17E-09
Cd-113m	9.71E-05	6.03E-02	273	5.12E-05	5.12E-05	1.14E-04	1.30E-04
Sb-125	1.86E-04	0.115	523	6.72E-05	6.72E-05	1.91E-04	1.95E-04
Sn-126	5.62E-06	3.49E-03	15.8	3.33E-06	3.33E-06	6.45E-06	7.25E-06
I-129	5.20E-07	3.23E-04	1.46	3.47E-07	4.32E-07	6.09E-07	6.95E-07
Cs-134	3.19E-06	1.98E-03	9.00	2.11E-06	2.64E-06	3.75E-06	4.30E-06
Cs-137	0.286	178	8.06E+05	0.260	0.273	0.300	0.313
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Eu-152	4.51E-06	2.80E-03	12.7	2.62E-06	2.62E-06	4.91E-06	5.30E-06
Eu-154	6.90E-04	0.429	1.94E+03	3.08E-04	3.08E-04	8.28E-04	8.84E-04
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Ra-226	1.55E-10	9.62E-08	4.36E-04	1.07E-10	1.07E-10	1.72E-10	1.88E-10
Ra-228	1.98E-07	1.23E-04	0.556	1.14E-07	1.38E-07	2.47E-07	2.99E-07
Ac-227	9.76E-10	6.06E-07	2.75E-03	7.01E-10	7.01E-10	1.08E-09	1.17E-09
Pa-231	4.53E-09	2.81E-06	1.28E-02	3.00E-09	3.00E-09	5.08E-09	5.61E-09
Th-229	4.61E-09	2.87E-06	1.30E-02	2.79E-09	3.24E-09	5.70E-09	6.85E-09
Th-232	1.63E-08	1.01E-05	4.58E-02	8.92E-09	8.92E-09	1.86E-08	2.09E-08
U-232	8.54E-07	5.31E-04	2.41	5.21E-07	6.84E-07	1.05E-06	1.26E-06
U-233	3.28E-06	2.04E-03	9.22	2.00E-06	2.62E-06	4.03E-06	4.84E-06
U-234	8.48E-07	5.27E-04	2.39	8.17E-07	8.33E-07	8.65E-07	8.74E-07
U-235	3.43E-08	2.13E-05	9.65E-02	3.30E-08	3.36E-08	3.50E-08	3.53E-08
U-236	2.67E-08	1.66E-05	7.52E-02	2.58E-08	2.63E-08	2.71E-08	2.75E-08
U-238	1.02E-06	6.31E-04	2.86	9.87E-07	1.00E-06	1.03E-06	1.04E-06
Np-237	9.73E-07	6.04E-04	2.74	6.81E-07	8.24E-07	1.12E-06	1.27E-06
Pu-238	1.54E-06	9.56E-04	4.33	1.20E-06	1.36E-06	1.71E-06	1.88E-06
Pu-239	5.23E-05	3.25E-02	147	4.35E-05	4.79E-05	5.68E-05	6.11E-05
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Pu-241	1.05E-04	6.51E-02	295	8.14E-05	9.28E-05	1.17E-04	1.28E-04
Pu-242	5.75E-10	3.57E-07	1.62E-03	4.35E-10	5.04E-10	6.46E-10	7.15E-10
Am-241	6.28E-05	3.90E-02	177	4.66E-05	5.45E-05	7.11E-05	7.91E-05
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Cm-243	1.55E-08	9.61E-06	4.36E-02	8.06E-09	8.06E-09	1.68E-08	1.82E-08
Cm-244	1.46E-07	9.09E-05	0.412	6.99E-08	6.99E-08	1.72E-07	1.89E-07

Totals	M	µg/g	kg	-95 CI (M or g/L)	-67 CI (M or g/L)	+67 CI (M or g/L)	+95 CI (M or g/L)
Pu	6.36E-04 (g/L)	----	1.79	4.70E-04	5.51E-04	7.20E-04	8.01E-04
U	9.68E-03	1.43E+03	6.49E+03	9.31E-03	9.48E-03	9.89E-03	9.98E-03

*Unknowns in tank solids inventory are assigned by Tank Layering Model (TLM).

†Volume average for density, mass average Water wt% and TOC wt% C.

Appendix F.

Glossary of Hanford Terminology

March 1996

This is a glossary of Hanford terminology that has been compiled to aid in definition of Hanford tank "jargon". These definitions have come from so many different sources that it is difficult to name them all. A lot of these terms have come from Anderson-91, Jungfleisch-84, and from Strode-93. Where there have been conflicting uses of the same term, it is indicated, and where there is uncertainty as to an exact meaning, a "??" appears to indicate that uncertainty.

If you have any corrections/additions/deletions to this glossary, please send them to: Stephen F. Agnew, M/S J586 Los Alamos National Laboratory, Los Alamos, New Mexico 87545, or fax to 505-667-0851.

ACL	Air Circulator lines (term located WHC-SD-WM-ER-204, Rev.0)
Active	Currently operating or scheduled for further operation
Active Drywell	Drywell in which radiation readings of greater than 50 counts/second are detected. To be considered "active", these readings must be consistent as to depth and radiation level for repeated readings.
Active Tank	A tank that contains more than 33,000 gal. of waste and/or is still involved in waste management operations.
ADD	Add primary waste from process.
ADJ	Adjustment to waste amount. See also CORR, COOL, and LEAK.
AEC	Atomic Energy Commission. See also ERDA, and DOE
AFPC	High total beta activity in the evaporator process condensate
AG	Above Grade (term located WHC-SD-WM-ER-204, Rev.0)
AGE	Aging Waste. See also AGING, AGING WASTE, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
AGING	Aging Waste. See also AGE, AGING WASTE, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
AGING WASTE	High level, first cycle solvent extraction waste from the PUREX plant See also AGE, AGING, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
AIR LIFT CIRCULATOR	The air lift circulators are installed in aging tanks to promote mixing of the supernate. By maintaining motion within the body of the liquid, the circulators minimize superheat buildup and, consequently, minimize burping.
AL	Analytical Laboratories
ALARA	As Low As Reasonably Achievable
ALE	Fitzner-Eberhardt Arid Land Ecology Reserve
ANCHAR	Analysis of characteristic waste deriving waste compositions from analytical information.
ANL	Argonne National Laboratory
ANNULUS	The annulus is the space between the inner and outer shells on DSTs. Drain channels in the insulating and/or supporting concrete carry any leakage to the annulus space where conductivity probes are installed. (term located Tank and Surveillance and Waste Status Summary Report)
ANSI	American National Standard Institute
APC	Alpha proportional counting
A Plant	Where PUREX process ran from Jan. 1952 - Jun. 1972, then was in standby and ran again from Nov. 1983 - 1991, and is now shutdown). See also PUREX-Plant, CARB, CWP, and OWW
APM	Ammonium Phosphomolybdate (term located WHC-EP-0791)
AQUELLW	Aqueous liquids (term located WHC-EP-0791)
AR	“Washed” P sludge. Also used to derive SRR. See also SRR.
ARM	Area Radiation Monitor
AR Vault	PSL (PUREX sludge) was sluiced from A - and AX-Farms and placed here for caustic wash to remove Cesium and acid dissolution for feed to B Plant. AR-002 (or TK-002) was slurry receiver in AR-Vault. Solids are then transferred to TK-004, acidified, and the PAS (PUREX Acidified Sludge) transferred to TK-003. Any solids left in TK-004 following acid dissolution are caustic digested and transferred to back TK-002 for the next cycle.
ASF	Ammonia Scrubber Feed
ASME	American Society of Mechanical Engineers
Assumed Leaker	The integrity classification of a waste storage tank for which surveillance data indicate a loss of liquid attributed to a breach of tank integrity.
Assumed Leaking Tank	In 1984, the criteria designations of “suspect leaker”, “questionable integrity”, “confirmed leaker”, “declared leaker”, “borderline”, and “dormant” were merged into one category now reported as “assumed leaker”.
Assumed Re-Leaker	A designation that exists after a tank has been declared an “assumed leaker” and then the surveillance data indicate a new loss of liquid attributed to a breach of integrity .
ASTM	American Society for Testing and Materials
AW	NEUTRALIZED CURRENT ACID WASTE
AWC	Aging Waste Condensate
A1SltCk	Salt cake waste generated from the 242-A Evaporator-Crystallizer from 1977 until 1980.
A2SltSlry	Salt Slurry waste generated from the 242-A Evaporator-Crystallizer from 1981 until 1994.
B86ON	DILUTE, NON-COMPLEXED WASTE FROM B PLANT CELL DRAINAGE

B	B Plant HLW. Also identifies waste returned to tanks from Sr recovery. Also used as destination, B Plant, for Cs/Sr recovery. $BiPO_4$ ran in B PLANT from Apr. 1945 to Oct. 1952, while Cs/Sr recovery from tank farms ran from 1967 to 1976, and Cs/Sr recovery from NCAW and CAW ran from 1967-72, and then from 1983-91. B Plant's mission from '67 was to take the acid stream from PUREX through Cesium and Strontium recovery operations.
BARCT	Best Available Radionuclide Control Technology
BAT/AKART	Best Available Technology/All Known And Relevant Technology
BC	TRU SOLIDS FROM B PLANT PROCESSING OF CC
BCD	Binary Code Decimal
BEMR	Baseline Environmental Management Report
BF	Breather Filter (term located WHC-SD-WM-ER-204, Rev.0)
BFSH	B Plant Flush
BG	Below Grade (term located WHC-SD-WM-ER-204, Rev.0)
BHI	Bechtel Hanford Inc.
BiPO4	Bismuth Phosphate Process. First precipitation process used at the Hanford Site for separating plutonium from the irradiated uranium fuels. This process was replaced by REDOX and PUREX processes to gain the advantages of separation and recovery of the uranium and plutonium fission products in B-222 and U-222, 1944-56. Left U in waste. See also MW, 1C, and 2C.
BIPP	B Plant Immobilization Pilot Plant
BIX	B Plant Ion Exchange
BIXBN	??
BIXRI	??
BL	B Plant Low Level. From '68-'76 added to AX-103, BX-101, B-101, and C-106. Wash(?) waste after concentration in cell 23 (i.e. low solids).
BLEB	B Plant Low level Evaporator Bottoms.
BLIX	B Plant Low Level Ion Exchange?
BLIXB	B Plant Low Level Ion Exchange bottoms?
BN	??
BNW	Battelle Northwest Laboratory Waste
Boiling Waste	Waste containing sufficient radioactive decay heat to self-boil.
Bottoms Receivers	Tank designated for receiving evaporator bottoms.
Bottom Referenced Tank	Either a dished bottom tank or a flat bottom tank where the zero point for liquid-level gages is the lowest elevation in the tank.
BP	TRU SOLIDS FROM B PLANT PROCESSING OF PFP
BPC	Beta proportional counting
BP/CPLX83-88	SSR, CSR, B, BL all in AY-101
BP/NCPLX83-88	now in AY-101
BPDCC	DILUTE, COMPLEXED WASTE FROM B PLANT CESIUM PROCESSING. See also CSR and BPDCC.
BPDCS	DILUTE, COMPLEXED WASTE FROM B PLANT STRONTIUM PROCESSING
BPDCV	DILUTE, COMPLEXED WASTE FROM B PLANT VESSEL CLEAN-OUT
BPFPS	B PLANT HIGH TRU SOLIDS FROM RETRIEVED PFP SOLIDS
B Plant	One of the three original Bismuth-Phosphate processing facilities. Later converted to waste fractionization plant. B Plant used for $BiPO_4$ 1944-52, then for FP recovery. See also 222-B and TK.
BPLCS	DILUTE, NON-COMPLEXED WASTE FROM B PLANT STRONTIUM PROCESSING
BPLDC	DILUTE, COMPLEXED WASTE FROM B PLANT CESIUM PROCESSING
BPLDN	DILUTE, NON-COMPLEXED WASTE FROM B PLANT CESIUM PROCESSING
BR	TRU SOLIDS FROM B PLANT PROCESSING - NCRW
BS	B PLANT PRETREATED SOLIDS
B SLTCK	Salt cake waste generated from the 242-B Evaporator from 1951 until 1955.
BUMPING, TANK BUMP	A tank bump occurs when solids overheat in the lower portion of the tank. The hot solids are mixed with the cooler fluid either by operation of the airlift circulators (ACLs) or by natural means. The hot solids rapidly transfer heat to the liquid, some of which quickly vaporizes. The sudden pressurization caused by vapor generation is called a "bump".
Burial Ground (garden)	A land area specifically designated to receive packaged contaminated wastes and equipment for burial. Rated volume at the time of construction.
BVCLN	DILUTE, NON-COMPLEXED WASTE FROM B PLANT VESSEL CLEAN-OUT
BWIA	B Plant Waste Immobilization Annex. See also B Plant
BWIP	Basalt Waste Isolation Project.
BY SLTCK	Salt cake waste generated from in-tank solidification units 1 and 2 between 1965 and 1974.
Caisson	An underground structure used to store high-level waste; typical designs include corrugated metal or concrete cylinders, 55-gal. drums welded end-to-end, and vertical steel pipes below grade.
Calcine	To heat a substance to a high temperature, but below its melting point, causing loss of volatile constituents such as moisture; refers also to the material produced by this process.
CAM	Continuous Air Monitor
CARB	CARBONATED WASTE—same as OWW. See also A Plant, PUREX Plant, CWP, and OWW.
CAS	Cascade, this process filled three or more tanks with one pump by using overflow lines. Normal use was with a sequence of tanks numbers 101, 102, 103, or 110, 111, 112. See also SET and END.

Cascade	Eleven of the Single-Shell Tank Farms (all except the AX-Tank Farm), were equipped w/ overflow lines between tanks. The tanks were connected in series and were placed at different elevations creating a down hill gradient for liquids to flow from one tank to another. See also CAS, SET, and END.
CASS	Computer Automated Surveillance System (AY and AZ Farm)
Catch Tank	Small-capacity single-wall tank, primarily associated with diversion boxes and diverter stations. The tanks collect liquid from diversion boxes, diverter stations, catch stations, and other facilities.
CAW	Current Acid Waste—this is PUREX acid waste, also called HAW or IWW. See also HAW, IWW, and PAW.
CB	??
CBUSTL	Combustible Solids and Liquids
CC	COMPLEXANT CONCENTRATE. Term refers to concentrates of solutions that have TOC's greater than 10 g/L. Usually associated with EDTA and HEDTA salts. See also CCPL, CCPLX, and CPLX.
CCGL	B PLANT HIGH TRU SOLIDS FROM RETRIEVED COMPLEXED CONCENTRATE
CCGR	DILUTE, NON-COMPLEXED WASTE FROM RETRIEVED COMPLEXED CONCENTRATE
CCPL	COMPLEXANT CONCENTRATE. See also CC, CCPLX, and CPLX
CCPLX	Complexant Concentrate. See also CC, CCPL, and CPLX
CCW	Complex Concentrated Waste
CCW	Concentrated Customer Waste
CCW	Counter-Clockwise ref. (LA-UR-92-3196)
CD	??
CDE	Committed Effective Dose Equivalent
CDF	TRAC Composition Data File or Transaction Flag Key—unit volume assumed to make stream active.
CE	Evaporator Concentrate
CE	Crown Ether
Cell 23	Waste from Cell 23 at B Plant. Cell 23 contained an evaporator and was used not only during B Plant operations, but to reduce tanked waste as well.
CEM	Cement added to BY-106 in 1977, see also CON.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act .
CF	Cesium Feed
CFR	*Code of Federal Regulations*
CHP	Cascade Heel Pit
C Layer	Convective Layer
CLEAN 31	CLEAN Option HLW stream
CLELLW	CLEAN Option LLW stream
CLU	Chemical Laboratory Unit
CMPO	N-diisobutylcarbmoylmethylphosphine oxide
CON	Cement added to BY-105 in 1977, see also CEM. Also designated concentrated waste in SX-103 (1965-66), SX-107 (1965), SX-108 (1965), and SX-110 (1965).
COND	CONDENSATE. See also EVAP, AND EB.
COND	Condition
Conductivity Probe	Measures surface level of conductive liquid (or waste) by detecting electrical conductivity between probe tip and liquid/waste surface as it is lowered into contact.
Confirmed or Declared Leaker	The designation of any underground waste storage tank where the data is considered sufficient to support a conclusion with 95 percent confidence that the tank has leaked.
COOL	Change in waste volume due to cooling. See also ADJ, COOL, CORR, and LEAK.
CORR	Correction to tank waste level. See also ADJ, COOL, and LEAK.
CP	Condenser Pit
CP	CONCENTRATED PHOSPHATE WASTE (FROM 100 N-REACTOR DECONTAMINATION). See also N.
C Plant	Strontium Semiworks. Called C Plant or Hot Semi-Works earlier, was pilot for both REDOX and PUREX, Jul. 1952 to Jul. 1956. Then reconfigured for Strontium Recovery Pilot Plant from July 1960 to July 1967. See also 222-C, SSW, and HS.
CPLX	Complexed waste. See also CC, CCPLX, and CCPL.
CPP	Cascade Pump Pit
CPW	Concentrated Phosphate Waste. Waste originating from the decontamination of 100-N Area reactor. concentration of this waste produces concentrated phosphate waste.
CRIB	Ground site for low level supernatants (from tanks) or condensates (from evaporators). NW (T-105 - T-107, T-018, T-021 - T-023, T-025, T-026, T-032, TY-CRIB, TY-1) and NE (B-##, S-##, T-##, A-008, A-024, B-007, B-008, B-014, B-016, B-018, B-035, B-037, B-040, B-042, and B-049).
CRUST	A hard surface layer that has formed in many waste tanks containing concentrated solutions.
CR Vault	Facility located adjacent to C Farm, used for scavenging campaign following Uranium recovery, 1952-58. Ferrocyanide was added to tank supernatants in CR-Vault, and then the slurry was returned to C Farm for settling, forming in-farm sediments.
CRW	Cladding Removal Waste
CSFD	Cesium Feed
CSIX	Cesium ion Exchange
CSKW	??
CSP	Cascade Sluice Pit
CSR	Tank supernatant was sent to B Plant for Cesium recovery using C-105 as a staging tank. From 1967-76, 21,724 kgal was sent to and 26,290 kgal returned from B Plant. See also IX, and BPDCC.

CSS	Concentrated supernatant solids
CST	Caustic Solution, 0.01 M NaOH.
CSWLE	COMPLEXED SALT WELL LIQUID EAST AREA
CSWLW	COMPLEXED SALT WELL LIQUID WEST AREA
CTW	Caustic waste for makeup
CUWP	Chemicals Used and Waste Volume Produced
CVAA	Cold vapor atomic absorption (Waste)
CVR	Metal Cover Plate
CVS	Composition Variability Study
CW	Cladding Waste, included with 2C from 1945-50, and with 1C from 1951-56.
CW-Al	Aluminum cladding waste
CWHT	Concentrated Waste Holding Tank
CWP	Cladding Waste PUREX. See also A Plant, PUREX Plant, and OWW.
CWP2	Cladding waste. PUREX 2?
CWR	Cladding Waste-REDOX. See also REDOX and R.
CWR1	REDOX cladding waste from 1952 to 1960.
CWR2	REDOX cladding waste from 1961 to 1967.
CWZr1	Cladding waste from PUREX 1966-70 that used Zirflex process on Zircaloy clad fuel elements. See also PD and NCRW.
CWZr2	Coating waste (REDOX), zirconium cladding
CWP/Zr83-88	now called PD or NCRW
CX70	DILUTE, COMPLEXED (MIXTURE) HOT SEMI-WORKS TRU SOLIDS, is also designation for a small receiver or storage tank at Hot Semi-Works which contained TRU remnants.
D	Dilute
DACS	Data Acquisition Control System
DAS	Data Acquisition System
DBA	Design Basis Accident
DBP	Dibutyl Phosphate
DBPW	Dilute “B” Plant Waste
DC	DILUTE COMPLEXED. Waste characterized by a high content of organic carbon including organic complexants: ethylenediaminetetra-acetic acid (EDTA), citric acid, hydroxethylenediaminetriacetic acid (HEDTA), and iminodiacetate (IDA) being the major complexants used. Main sources of dilute complexed waste in the double-shell tanks system are salt well liquid inventory. See also, EDTA, HEDTS, and IDA
D & D	Decontamination and Decommissioning
DCG	Derived Concentration Guide
DCH 18-Cr-6	Dicyclohexano 18-Crown-6 Ether
DCS	Dilute Caustic Solution
DCW	Dilute Complexed Waste
DDSSF	Dilute Double Shell Slurry Feed
DDT	Deflagration to Detonation Transition
DDWSF	Dilute Double-Shell Slurry Feed. Product from run 86-1. See also DSS, and DSSF.
DE	Diatomaceous Earth added to BX-102 (1971), SX-113 (1972), TX-116 (1970), TX-117 (1970), TY-106 (1972) U-104 (1972).
DEF	??
DF	Decontamination Factor (term located WHC-EP-0791)
DIL	Dilute Feed for Evaporator input. Interstitial liquid that is not held in place by capillary forces, and will therefore migrate or move by gravity. See also DILFD
DILFD	Dilute Feed. See also DIL.
DISS	Dissolver
Ditch	A linearly oriented excavation often used for the temporary diversion or disposal of process waste streams.
Diversion Box	A below-grade concrete enclosure containing the remotely maintained jumpers and spare nozzles for diversion of waste solution to storage tank farms.
DN	DILUTE NON-COMPLEXED WASTE (DN) (i.e. contains no complexants) defined as waste with TOC <1wt% (10 g/L). See also DN/PD, DN/PT, PFP, PRF, TRU Solids, TRU, Z, and 224
DNCPW	Dilute Noncomplexed Waste
DN/PD	Dilute Non-Complexed Waste (DN) with P TRU solids. See also DN, DN/PT, P, PFP, PRF, PRF TRU Solids, TRU, Z, and 224..
DN/PT	Dilute Non-Complexed Waste (DN) with PFP TRU solids. See also DN, DN/PD, P, PFP, PRF, PRF TRU Solids, TRU, Z, and 224.
DNFSB	Defense Nuclear Facilities Safety Board
DoD	US Department of Defense
DOE	US Department of Energy. See also AEC and DOE.
DOE/RL	DOE/Richland (Field Office)
DOH	Washington Department of Health
DP	DILUTE PHOSPHATE WASTE
DP	Differential Pressure (term used LA-UR-92-3196 Rev 0)
DP	Distributor Pit (term used WHC-SD-WM-ER-204, Rev.0)

DPDS	Dilute PUREX Decladding Supernate
Drainable Interstitial Liquid	Liquid that is not held in place by capillary forces, and will therefore migrate or move by gravity. Drainable liquid remaining minus supernate. Drainable Interstitial Liquid is calculated based on the salt cake and sludge volumes, using average porosity values or actual data for each tank, when available.
Drainable Remaining Liquid	Supernate plus drainable interstitial.
DRCVR	Dilute Receiver Tank
DRYWELL	Vertical boreholes with 6-inch (internal diameter) carbon steel casings positioned radially around single-shell tanks. Periodic monitoring is done by gamma radiation or neutron sensors to obtain scan profiles of radiation or moisture in the soil as a function of well depth, which could be indicative of tank leakage. These wells range between 50 and 250 feet in depth, and are monitored between the range of 50 to 150 feet. The wells are sealed when not in use. The wells are called drywells because they do not penetrate to the water table and are therefore usually "dry".
Drywell (in tank)	A sealed casing within a tank that is attached to a riser and used for access of a gamma or neutron detector, or an acoustical probe to determine the level of interstitial liquid.
DSS	DOUBLE-SHELL SLURRY (from EOFY 77 inventory?). This waste is a concentrate of DSSF, but with a TOC<10g/L (<1wt% TOC is NC). Waste that exceeds the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. DSS is considered a solid. See also DDWSF and DSSF
DSSF	DOUBLE-SHELL SLURRY FEED. Waste concentrated just before reaching the Sodium Aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. This form is not as concentrated as DSS. See also DSS and DDWSF.
DST	Double Shell Tank. The newer one million gallon underground waste storage tanks consisting of a concrete shell and two concentric carbon steel liners with an annular space between the liners.
DTPA	diethylene-triamine-penta-acetic acid (term located WHC-EP-0791)
DUMM, DUMMY	Dummy Waste.
DW	Decontamination Waste
DWBIX	DECONTAMINATION WASTE AND B PLANT ION EXCHANGE
DWPF	Defense Waste Processing Facility
DWVD	Defense Waste Vitrification Demonstration
E	Emergency
E-Stop	Emergency stop
EAC	Energy Absorption Capacity
EB	Evaporator Bottoms. See also COND and EVAP.
Ecology	Washington State Department of Ecology
EDE	Effective Dose Equivalent
EDTA	Ethylenediaminetetraacetic acid (term located WHC-EP-0791). See also, DC, HEDTA, and IDA
EF	Evaporator Feed
EFD	Evaporator Feed Dilute
EGR	Episodic Gas Release (term located WHC-EP-0702, Rev 0)
EIS	Environmental Impact Statement
ELEVATION	Surveyed at riser flange (term used SD-RE-TI-053 Rev. 8)
END	Disconnect Cascaded Tanks. See also CAS, and SET.
EP	Enclosure Pit (term used WHC-SD-WM-ER-204, Rev.0)
ERA	Expedited Response Action
ERDF	Environmental Restoration Disposal Facility
EPRI	Electric Power Research Institute
ERPG	Emergency Response Planning Guideline
ERDA	Energy Research and Development Administration. See also AEC, and DOE.
ES&H	Environment, Safety, and Health
ESPIP	Efficient Separations and Process Integrated Program (term used WHC-EP-0791)
ETF	Effluent Treatment Facility
EV	Evaporation
EV	Evaporation Entry
EVAP	EVAPORATOR LOSSES
EVAP	Evaporator connected to tank. See also COND and EB.
EVAP	Evaporator Feed (post 1976)
EVAPF	DILUTE, NON-COMPLEXED WASTE FROM EVAPORATOR PAD FLUSH
EVAP Feed	Any waste liquid that can be concentrated to form salt cake; e.g., aged waste, low heat waste, dilute interstitial liquor, and other radioactive waste solutions.
Evap Feed Dil	Evaporator Feed Dilute. See also EFD
EVFD	Evaporator Feed Tank
EVS	Partial neutralization in 242-S Evaporator.
EVT	HEDTA destruction in 242-B or 242-T evaporators.
Evaporator or Crystallizer	242-A and 242-S waste concentration facilities that operate at a reduced pressure (vacuum) and are capable of producing a slurry containing about 30 volume percent solids at a specific gravity of greater than 1.6.
Evaporator Feed	Any waste liquid that can be concentrated to form salt cake; e.g., low heat waste, dilute interstitial liquor, aged waste, and other radioactive waste solutions.
F	Food Instrument Company (FIC) Automatic Surface Level Gauge (term used Tank and Surveillance and Waste Status Summary Report)

FAILED	Thermocouples with either open circuits or loop resistance. (term used WHC-SD-WM-TI-553, Rev.0)
F/B	flange with bale (term used WHC-SD-WM-ER-204, Rev.0)
FCT	flux-corrected transport
FD	Feed Dilute
FDC	functional design criteria
FeCN	Ferrocyanide wastes created during a scavenging campaign in 1953-57. See also SCAV, P00, T00, PFeCN1, PFeCN2, and TFeCN
FFTF	Fast Flux Test Facility
FIC gauge	A Food Instrument Corporation Automatic Liquid Level Gauge based on a conductivity probe. At Hanford they are electrically connected to a computer for data transmission, analysis, and reporting. Local readings may also be obtained from a dial. (term located Tank and Surveillance and Waste Status Summary Report)
FIRST / SECOND CYCLE DECONTAMINATION WASTES	Waste contained 10 percent of the original fission product activity and 2 percent of the product. By-product cake solution was mixed with product waste and neutralized with 50 percent caustic. This waste contained a mixture of suspended solids, hydroxides, carbonate and phosphate, scavenger metals, and chromium, iron and sodium, silicofluoride. See also 1C and 2C.
F/L	Flange with lead
FLSH	Flush water.
FM	Flow meter (term located LA-UR-92-3196 Revised)
FM-Approved	Factory Mutual-Approved (term located LA-UR-92-3196 Revised)
FP	Fission Product Waste. Cs and Sr recovery began in 222-B in 1967. Cs was removed from PUREX SU (PAW) and Sr from PUREX SL (PAS), and both from Acidic Waste.
FSPLIT	Separates or slots the flow of one or more input streams into two or more output streams.
FTIR	Fourier Transform Infrared (term located WHC-EP-0702, Rev 0)
FV	Field Verify
GA	Gain to Tank
GAS	SLURRY GROWTH AS A RESULT OF GAS GENERATION
GC	Gas Chromatograph (term located LA-UR-92-3196 Revised)
GEA	Gamma Energy Analyses (see SD-WM-PE-029 Rev. 0, 242-A Evap/Crystallizer FY 84-86 Campaign Run.
GIT	Georgia Institute of Technology (term located WHC-EP-0702, Rev 0)
GM Instrument	Instrument for detecting low-level beta and gamma radiation using a Geiger-Mueller tube.
GRD	Riser at Grade (term located WHC-SD-WM-ER-204, Rev.0)
GRE	Gas Release Event (term located WHC-EP-0702, Rev 0)
GROUP	A group of tanks where ITS averaged the supernatant phases. See also ITS.
GROUT	OUTFLOW TO THE GROUT FACILITY
GRTFD	Grout Feed Tank
GTCC	Greater than Class C (term from WHC-EP-0791)
GUNITE	A building material consisting of a mixture of cement, sand, and water that is sprayed onto a mold.
HAMMER	Hazardous Materials Management and Emergency Response Training Center
Hanford Coordinates	A set of offsets, in feet, from a reference point on the site. These are the units used to lay out these facilities. Conversion to latitude and longitude is possible.
Hard Pan	Term used to describe uranium carbonate phase that formed in solids from MW additions. Proved to be very difficult to sluice.
HASP	Health and Safety Plan
HAW	Aging waste from PUREX/PFM Processing NPR Nuclear Fuel. See also AGE, AGING, AGING WASTE, IWW, NCAW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
HazOP	Hazards and Operability Study
HDRL	Hanford Defense Residual Liquid
HEAT	A tank level correction due to thermal expansion. See also CORR, COOL, and LEAK.
HEDL	Dilute sulfate waste. See also UNC.(see SD-WM-PE-029 Rev..0, 242-A Evap/Crystallizer FY 84-86 Campaign Run)
HEDTA	N-(2-hydroxyethyl)ethylenediamine tetra acetate
Heel	The waste that remains in a tank after the tank is emptied.
HEPA	High-Efficiency Particulate Air . A filter designed to achieve 99,995 percent minimum efficiency in the containment of radioactive particulates greater than 0.3 micrometer in size. (term located WHC-EP-0702, Rev 0)
HFW	Hanford Facility Wastes
HHI	Health Hazard Index (term from WHC-EP-0791)
HHW	High Heat Waste
HIC	High Integrity Container
HJ	Heel Jet (term from WHC-SD-WM-ER-204, Rev.0)
HLO	Hanford Laboratory Operations Waste
HLW	High-Level Waste—generic for all Hanford Tank Wastes. Waste from the fuel reprocessing operations in separations plants.
HP	Heel Pit (term from WHC-SD-WM-ER-204, Rev.0)
HMS	Hanford Meteorological Station
HMS/TRAC	Hydrogen Mixing Study Transient Reactor Analysis Code (term located LA-UR-92-3196 Revised)
HS	Hot Semi-Works. A pilot facility that had a variety of operations. See also C Plant, and SSW.
HSA	Hanford Strategic Analysis (term located WHC-EP-0791)
HSRAM	Hanford Site Risk Assessment Methodology

HTCE	*Historical Tank Content Estimate*
HTWRS	Hanford Tank Waste Remediation System
HVAC	Heating, Ventilating, and Air Conditioning
HWVP	Hanford Waste Vitrification Plant.
HWVP	DILUTE, NON-COMPLEXED WASTE FROM THE VITRIFICATION PLANT (term From WHC-EP-0791)
I&S	Tank Isolated and Stabilized
IC	Synonym (misspelling?) for 1C-1st cycle decontamination waste-$BiPO_4$. See also MW, 2c, and $BiP0_4$.
ICE	Implicit Continuous Eulerian (term located LA-UR-92-3196 Revised)
ICEBC	?? (1st cycle evaporator bottoms concentrate??) See 1CEBC
ICF	Consolidated Incinerator Facility (term located WHC-EP-0791)
ICO	DILUTE NON-COMPLEXED WASTE FROM TERMINAL CLEANOUT.
IDA	Iminodiacetate. See also, DC, EDTA, and HEDTA.
IDEF	Integrated Computer-Aided Manufacturing (ICAM) Definition (Language) (term located WHC-EP-0791)
IDLH	Imminently (or immediately) Dangerous to life or health (term located LA-UR-92-3196 Revised)
Inactive Tank	A tank that has been removed from liquid-processing service, has been pumped to less than 33,000
IH	Instrument House (term from WHC-SD-WM-ER-204, Rev. 0)
II	Interim Isolated. The administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box. In June 1993, Interim Isolation was replaced by Intrusion Prevention. (term located Tank and Surveillance and Waste Status Summary Report)
ILL	Interstitial Liquid Level**.** Liquid that resides in the voids/interstices of the solids.
Inactive Tank	A tank that has been removed from liquid processing service, has been pumped to contain less that 33,000 gallons of waste, and is not yet or in the process of stabilization and interim isolation. This includes all tanks not in active or active-restricted categories. Also included are inactive spare tanks that would be used if an active tank failed.
INEL	Idaho National Engineering Laboratory (term located WHC-EP-0791)
In-Service Tank	The waste classification of a tank being used, or planned for use, for the storage of liquid (in excess of a minus supernatant liquid heel) in conjunction with production and/or waste processing. All Hanford double-shell tanks are in-service; none of the single-shell tanks are in-service.
INST	CHANGE IN TANK LEVEL DUE TO CHANGE IN INSTRUMENTATION.
Interim Isolation	An administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box. See Intrusion Prevention.
Interim Stabilization	A tank which contains less than 50,000 gallons of drainable interstitial liquid and has less than 5,000 gallons of supernatant. If the tank was jet pumped to achieve interim stabilization, then the jet pump flow must have been at or below 0.05 gallons per minute before interim stabilization is completed.
Intrusion	The unintended entry of any liquid into a waste storage tank.
Intrusion FIC	A mode of operating the FIC surface level monitoring equipment typically used when a waste surface is non-electrically conductive. The conductivity probe (plummet) is positioned a small distance above the waste surface. Should that gap be spanned by an intruding liquid, conductivity between the plummet and the waste surface would be established this triggers an alarm in the CASS system. Note that the intrusion FIC levels is not an actual measurement of the current waste surface.
Intrusion Mode FIC Setting	The FIC probe is positioned a short distance above the waste surface. If the surface level of the waste in the tank increases, thereby touching the probe tip, a pointive indication is received.
IP	Intrusion Prevention. This is an administrative designation reflecting the completion of the physical effort required to minimize the addition of liquid into an inactive storage tank, process vault, catch tank, sump, or diversion box. (term located Tank and Surveillance and Waste Status Summary Report) See also IP.
IP	Instrument House (term from WHC-SD-WM-ER-204, Rev.0)
IRAP	Integrated Risk Assessment Program
IS	Interim Stabilized. A tank which contains less than 50,000 gallons of drainable interstitial liquid and has less than 5,000 gallons of supernatant liquid. If the tank was jet pumped to achieve interim stabilization, then the jet pump flow must also have been at or below 0.05 gallons per minute before interim stabilization is completed.
ISO	Tank is Interim-Isolated
Isolation	The act of sealing a tank against liquid intrusion from credible sources and confining the atmosphere in the tank. Filtered airways are not sealed. The balance the pressure to the atmosphere, and in some cases provide cooling airflow.
ISV	In-situ Vitrification (term located WHC-EP-0791)
ITS	In-Tank Solidification-Program using steam evaporators inside of certain tanks on BY Farm. ITS#1 ran 1965-70 in BY-102 (a pilot demonstration was also run in BY-101) and ITS#2 ran 1968-74 in BY-112. During 1971-74, ITS#1 used as cooler instead of a heater. See also GROUP
IWW	INORGANIC WASH WASTE TO SST—same as P or NCAW. Refers to HAW or PAW. See also AGE, AGING, AGING WASTE, HAW, NCAW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
IX	Ion Exchange Waste. Assumed ion exchange (IX) removal efficiency for radionuclides (i.e., americium, strontium, cesium, and technetium). Ion Exchange identifies waste returned from Cs recovery. See also CSR, and BPDCC.
IXROW	??Ion-Exchange REDOX Organic Wash??
JEG	Joint Evaluation Group (term located LA-UR-92-3196 Revised)
JET PUMP	A modified commercially available low capacity jet pump used as a salt well pump.
KNUCKLE	Point where the side wall and the bottom curved surface of a tank meet.
KOP	Knowledge of Process uses process information to derive waste compositions based on some process driver.
L	Inactive/Leaker
LaF	Lanthanum Fluoride waste generated in Plutonium Finishing Plant Operation from 1945-??. See also 224, and 224-F.
LANCE	OUT FLOW DUE TO LANCING OF TANK

Lance/Lancing	A long steel pipe, usually 2-to-3 inches in diameter. The top is bent at a 90-degree angle, and contains a check valve, gate valve, and nose connection. The bottom end of the lance is tapered to a 1/2-inch diameter. Water enters the top of the lance, which is forced out the bottom at high pressure. This creates a passage way which may be used for equipment installation.
LANH	Heavy Lanthanides (term located WHC-EP-0791)
LANL	Los Alamos National Laboratory
LANL	Light Lanthanides (term located WHC-EP-0791)
LATA Consortium	Los Alamos Technical Associates; British Nuclear Fuels, LTD; Southwest Research Institutes; and TRW, Inc.
Lateral	Horizontal drywell positioned under single-shell waste storage tanks to detect radionuclides in the soil which indicate leakage. Lateral drywells are monitored by radiation detection probes. Laterals are 4-inch ID steel pipes located 8 to 10 feet below the tank's concrete base. There are three laterals per tank in A and SX Farms. There are no lateral drywells in any other farms.
LB	Lifting Bale. Riser top has plate flange with lifting bale - possible concrete plug under
LE	Lead Encasement (term From WHC-SD-WM-ER-204, Rev.0)
LEAK	Tank leak volume. See also ADJ, COOL, and CORR.
LEAK DETECTOR	Fixed liquid level sensor - tape with weight (term located SD-RE-TI-053 Rev. 8)
LEAK DETECTION PIT	Collection point for any leakage from AM Farm Tanks. The pits are equipped with radiation and liquid detection instruments.
LEL	Lower Explosive Limit (term located WHC-EP-0702, Rev 0)
LERF	Liquid Effluent Retention Facility.
LETF	LIQUID EFFLUENT TREATMENT FACILITY FROM N REACTOR.
Level Adjustment	Any update in the waste inventory (or tank level) in a tank. The adjustments usually result from surveillance observations or historical investigations.
Level History	A diagram that shows the history of the waste level and waste level changes in a tank. The diagram also includes other related data.
LFL	Lower Flammability Limit (term located WHC-EP-0702, Rev 0)
Liquid Level Best Engineering Judgment Line	During the initial filling of certain single-shell tanks, only the liquid level was reported. To adjust for the big increase in level height, which occurred when solids were added to the record, a sloped line was used to reflect solids volume between the initial fill and the time the solids data were recorded.
LIT	Automatic Liquid indicator Tape (term located SD-RE-TI-053 Rev. 8)
LLI	Manual Liquid Level Indicator (term located SD-RE-TI-053 Rev. 8)
LLR	liquid level reel (term located WHC-SD-WM-ER-204, Rev.0)
LLR	manual liquid level sensor - tape with weight (term located SD-RE-TI-053 Rev. 8)
LLW	low-level waste (term From WHC-EP-0791)
LO	Loss from tank. (term From WHC-SD-WM-ER-204, Rev.0)
LOW	Liquid Observation Well. Liquid observation wells are used for monitoring the interstitial liquid level (ILL) in single-shell waste storage tanks. The wells are constructed of fiberglass, or tefzel-reinforced epoxy-polyester resin. They extend to within 1 inch of the bottom of the tank steel liner. They are sealed at their bottom ends and have a nominal outside diameter of 3.4 inches. See also ADJ, COOL, and CORR.
LUNC	DILUTE, NON-COMPLEXED WASTE FROM UNC FUELS FABRICATION FACILITY
LW	Laboratory Waste
L222S	222S LAB DILUTE NON-COMPLEXED WASTE FROM S PLANT.
L3A4A	DILUTE NON-COMPLEXED LABORATORY WASTES FROM 300 AND 400 AREAS.
M	Manual Tape Surface Level Gauge (term located Tank and Surveillance and Waste Status Summary Report)
MAB	Maximum Allowable Burp (term located LA-UR-92-3196 Revised)
MAPs	Mitigation Action Plans
MARGINAL	Thermocouple with higher than normal (0.5 ohms to 20 ohms depending on length) loop resistance, higher than normal resistance in one lead to ground, or having some other abnormality, e.g. inconsistent resistance measurements. (term located WHC-SD-WM-TI-553, Rev.0)
MAWB	Maximum Allowable Window Burp (term located LA-UR-92-3196 Revised)
MAXSPD	Maximum Speed Parameters (term located LA-UR-92-3196 Revised)
MCC	Motor Control Center (term located LA-UR-92-3196 Revised)
MDW	Miscellaneous Dilute Waste
MEB	Maximum Expected Burp (term located LA-UR-92-3196 Revised)
MIE	Minimum Ignition Energy (term located WHC-EP-0702, Rev 0)
MIT	Multifunction Instrument Tree (term located WHC-SD-WM-TI-553, Rev 0)
MPR	Multiport Riser (term located LA-UR-92-3196 Revised)
MS	Mass Spectrometer (term located LA-UR-92-3196 Revised)
MW	Metal Waste from $BiPO_4$. 90% of FP, all of U, 1% of Pu . Waste from the extraction containing all the Uranium, approximately 90% of the original fission product activity, and approximately 1% of the Pu product. This waste was brought just to the neutral point with 50% caustic and then treated with and excess of sodium carbonate. This procedure yielded almost completely soluble waste at a minimum total volume. The exact composition of the carbonate compounds was not known but was assumed to be a Uranium Phosphate Carbonate mixture. See also 1C, and 2C.
MW	Maximum Window (term located LA-UR-92-3196 Revised)
MW1	Metal waste from $BiPO_4$, 1944 to 1951
MW2	Metal waste from $BiPO_4$, 1952 to 1956
MWB	Maximum Window Burp (term located LA-UR-92-3196 Revised)

MWF	Metal Waste Feed? Set to water in TRAC.
N	N-Reactor waste. See also CP.
N2	Nitrogen
NBAW	NEUTRALIZED B PLANT ACID WASTE
NCAW	LIQUID WASTE, HIGH CS, SR, AND TRU CONTENT. Neutralized Current Acid Waste primary HLW stream from PUREX process. See also AGE, AGING, AGING WASTE, HAW, IWW, NFAW, NHAW, NRAW, PAW, PFM, and P83-88.
NCBUSTS	Noncombustible Solids (term located WHC-EP-0791)
NC layer	Nonconvective Layer (term located LA-UR-92-3196 Revised)
NCPL	Non-Complexed Waste general term applied to all Hanford site liquids not identified as complexed. See also NCPLX and NCPLEX.
NCPLEX	Non-Complexed Waste. See also NCPL and NCPLX.
NCPLX	Non-Complexed Waste term applied to all Hanford Site liquors not identified as complexed.. See also NCPL and NCPLEX.
NCRW	Neutralized Cladding Removal Waste—Same as CWP/Zr. See also CWP, CWP/Zr, and PW.
NDAA	National Defense Authorization Act (term located WHC-EP-0702, Rev 0)
NE	Northeast quadrant of tank (term from WHC-SD-WM-ER-204, Rev.0)
NEC	National Electrical Code (term located LA-UR-92-3196 Revised)
NEPA	National Environmental Policy Act (term located WHC-EP-0702, Rev 0)
Neutralized PUREX Acid Waste	The original plant in 1956 neutralized all of the high-level waste and sent it to the A-241 Tank Farm. As fission product recovery started, a portion of the waste was treated for Strontium Recovery and then neutralized. As of 1967 all of the High-Level Waste left PUREX as an acid solution for treatment at B Plant. See also P, and PL.
NFAW	Aging waste from PUREX/PFM high level waste.
NFPA	National Fire Protection Association (term located LA-UR-92-3196 Revised)
Neutron Probe	Probe equipped with a neutron source and detector. They are used in dry well monitoring to determine the moisture content of the soil as one way to detect leaks in underground waste storage tanks or pipelines.
nf	does not show at surface, not in a pit - no surface access
NFAW	AGING WASTE FROM PUREX/PFM HIGH LEVEL WASTE (FFTF-NCAW) See also AGE, AGING, AGING WASTE, HAW, IWW, NCAW, NHAW, NRAW, and P83-88.
NFPA	National Fire Protection Association
NHAW	AGING WASTE FROM PUREX/PFM PROCESSING OF NPR FUEL
NIOSH	National Institute of Occupational Safety and Health (term located LA-UR-92-3196 Revised)
NIST	National Institute of Standards and Technology (term located LA-UR-92-3196 Revised)
NIT	$HNO_3/KMNO_4$ solution added during evaporator operation (Neutralization in Transfer?) See also PNF.
NOx	Oxides of nitrogen (term located WHC-EP-0791)
NPH	Normal Paraffin Hydrocarbon was diluent used in Uranium recovery and PUREX processes, and is close to Dodecane, $C_{12}H_{26}$.
NRAW	AGING WASTE FROM PUREX/PFM RESIDUE ACID WASTE (FFTF-NCAW). See also AGE, AGING, AGING WASTE, HAW, IWW, NCAW, NHAW, PAW, PFM, and P83-88.
NRC	US Nuclear Regulatory Commission (term from WHC-EP-0791)
NRP82	DILUTE, NON-COMPLEXED WASTE FROM FY82 100-N AREA WASTE TRANSFER
NRPO4	DILUTE, PHOSPHATE WASTE FROM 100 N AREA
NRSO4	DILUTE, NON-COMPLEXED WASTE FROM 100 N AREA
NSTF	Near Surface Test Facility (NSTF) is a full-scale demonstration facility designed for testing, engineering, and training.
NTA	Nitrilotriacetic acid
OFFGAS	Cell air and offgas (term located WHC-EP-0791)
OP	Observation Port (term from WHC-SD-WM-ER-204, Rev.0)
Open Hole Salt Well	A well in which a pump is inserted in solid waste. Frequently used to remove the liquid from tanks containing less than 2 feet of sludge. See also Salt Well.
ORR	Operational Readiness Review (term located WHC-EP-0702, Rev 0)
OSD	Operational Safety Document
OSHA	Occupational Safety and Health Administration
OSR	Operational Safety Requirement
OTHHI	Other upper limit (term located WHC-EP-0791)
Out-of-Service	A tank which does not meet the definition of an in-service tank. All single-shell tanks are out of service.
OUTX	Transfer from Tank_n out to either a secondary processing operation or to a crib. See also TR.
OVM	Organic Vapor Monitor (term located WHC-EP-0702, Rev 0)
OWW **OWW1, OWW2, OWW3**	ORGANIC WASH WASTE FROM PUREX. Evidently, this was combined with P waste in 1960-61, but usually kept separate. The solvent used in PUREX was treated before reuse by washing with potassium permanganate and sodium carbonate, followed by dilute nitric acid and then a sodium carbonate wash. See also A-Plant, CWP, CARB, OWW PUREX Plant, and.
P	PUREX HLW, 1956-72. Sometimes assumed to be 50% OWW. Used NPH/TBP to extract both Pu and U. Np was also extracted from 1963-72. See also DN, and PL.
P	Photo Evaluation (term located Tank and Surveillance and Waste Status Summary Report)
P1	PUREX high-level waste generated between 1955 and 1962.
P2	PUREX high-level waste generated between 1963 and 1967.

P83-88	now called PXNAW or NCAW. AZ-101 and AZ-103. See also AGE, AGING, AGING WASTE, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PAW, and PFM.
PL83-88	now called PXMSC
P-10 Pump	A turbine pump used in the first stage of removing liquids from a waste storage tank.
P&IDs	Piping & Instrument Diagrams
P00-P##	In-Plant scavenging with FeCN. See also SCAV, T00-T##
PADFG	PUREX AMMONIA DESTRUCTION WASTE, FROM FUELS GRADE FUEL
PADWG	PUREX AMMONIA DESTRUCTION WASTE, FROM WEAPONS GRADE FUEL
Partially/ Interim Isolated	The administrative designation reflecting the Interim Isolated completion of the physical effort required for Interim Isolation except for isolation of risers and piping that is required for jet pumping or for other methods of stabilization.
PAL	222-S Process and Analytical Laboratory
PAS	PUREX Acidified Sludge—refers to sludge that has been sluiced from waste tanks and acidified to 0.1 M HNO_3 (as part of Cs/Sr recovery) in AR-Vault.
PASF	PUREX AMMONIA SCRUBBER FEED. Waste that derives from the scrubber for the cladding dissolves off gas.
PASF83-88	PUREX Ammonia Scrubber Feed, never before seen
PAW	PUREX Acidified Waste. Also used to refer to Aluminum Cladded Fuel (as opposed to ZAW for Zirconium Cladded Fuel). See also AGE, AGING, AGING WASTE, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PFM, and P83-88.
PCOND	PUREX condensate
PCONDCRIB	PUREX condensate to crib.
PD	PUREX decladding waste. See also CWP/Zr, NCRW, and PN.
PDBNG	DECLADDING SLUDGE (NON-TRU) FROM B PLANT PROCESSING
PDBSU	DILUTE, NON-COMPLEXED WASTE FROM B PLANT DECLADDING WASTE
PDBTG	B PLANT AGING WASTE SOLIDS FROM PUREX DECLADDING WASTE
PDCSS	DILUTE NON-COMPLEXED PUREX DECLADDING WASTE, FY 1986 ONLY
PDL87	PUREX DECLADDING SUPERNATANT, 1987
PDL89	PUREX DECLADDING SUPERNATANT, NON TRU, SPENT METATHESIS REMOVED
PD/PN	Plutonium-Uranium Extraction (PUREX) Neutralized Cladding Removal Waste (NCRW), transuranic waste (TRU). See also PUREX Decladding.
PDNSG	NON-TRU DECLADDING SLUDGE FROM PUREX
PDS87	PUREX DECLADDING SLUDGE
PDS89	PUREX DECLADDING SLUDGE AFTER FY89
PDSLG	PUREX DECLADDING SLUDGE SOL PUREX
PDSUP	DILUTE, NON-COMPLEXED WASTE PUREX DECLADDING WASTE
PFD	Process Flow Diagram (term located WHC-EP-0791)
PFeCN	Ferrocyanide sludge produced by in-plant scavenging of waste from uranium recovery.
PFeCN1	Ferrocyanide sludge produced by in-plant scavenging of waste from Uranium recovery. Used 0.005 M Ferrocyanide. See also FeCN, TFeCN, UR, P00, and T00.
PFeCN2	Same as PFeCN1, except used 0.0025 M Ferrocyanide
PEL	Permissible Exposure Limit
PFM	Process Facility Modification (PFM) Project provides a head end facility for the PUREX Plant in which N-fuel and FFTF fuel can be processed. See also AGE, AGING, AGING WASTE, HAW, IWW, NCAW, NFAW, NHAW, NRAW, PAW, and P83-88.
PFMMS	DILUTE, NON-COMPLEXED WASTE FROM SHEAR/LEACH PROCESSING OF NPR FUEL
PFP	Z Plant Plutonium Finishing Plant. Pu Finishing Plant waste. See also DN, DN/PD, DN/PT, P, PRF, PFPNT, PFP TRU Solids, TRU, Z Plant, and 224
PFPGR	DILUTE, NON-COMPLEXED WASTE FROM RETRIEVED PFP SOLIDS
PFPNT	NON-TRU SLUDGE FROM THE PFP SOL Z PLANT. See also DN, DN/PD, DN/PT, P, PRF, PFP TRU Solids, TRU, Z Plant, and 224
PFPPT	DILUTE, NON-COMPLEXED WASTE FROM THE PFP (WITH TRUEX). See also TRUEX
PFPSL	HIGH-TRU SLUDGE FROM THE PFP SOL Z PLANT. See also DN, DN/PD, DN/PT, P, PRF, PFPNT, PFP TRU Solids, TRU, Z Plant, and 224
PFP TRU Solids	TRANSURANIC SOLIDS FRACTION FROM PLUTONIUM FINISHING PLANT OPERATIONS. See also DN, DN/PD, DN/PT, P, PRF, PFPNT, PFP, TRU, Z Plant, and 224
PhW	Phosphorous Waste
PI	Partially Interim Isolated. The administrative designation reflecting the completion of the physical effort required for Interim Isolation except for isolation of riser and piping that is required for jet pumping or for other methods of stabilization. (term located Tank and Surveillance and Waste Status Summary Report)
PL	PUREX low-level waste. See also DN, DN/PD, DN/PT P, PL, PFP, PFP TRU Solids, PRF, TRU, PFP TRU Solids, Z Plant, and 224.
PML89	PUREX SPENT METATHESIS LIQUID AFTER FY89
PMS89	PUREX SPENT METATHESIS SOLIDS AFTER FY89
PMW	PUREX miscellaneous waste
PN	PUREX, neutralized cladding waste. See also CWP, NCRW and PD.
PNF	Partial Neutralization Feed. Indicates addition of nitric acid at an evaporator in an attempt to produce more salt cake during volume reduction. See also NIT.
PNL	Pacific Northwest Laboratory
PNW	Partial Neutralization Waste

Pond (Swamp)	Ground area where uncontaminated or low-level waste water is discharged to seep into the ground.
PP	pump pit (term located WHC-SD-WM-ER-204, Rev.0)
PRA	Probabilistic Risk Assessment
PRF	Plutonium Reclamation Facility—Type of waste generated in Z-Plant for "finishing wastes". Solvent based extraction process using CCl4/TBP. See also DN, DN/PD, DN/PT, P, PFP, PFP TRU Solids, Z Plant, 224, and 236-B.
PRTR	Plutonium Recycle Test Reactor
Primary Addition	An addition of waste from a specific plant or process vault. These additions come from the *Waste Status and Transaction Summary.*, WHC-SD-WM-TI-614 & -615, Rev. O, DRAFT.
PRTR	Plutonium Recycle Test Reactor
PS	Primary Stabilization . The condition of an inactive waste storage tank after all liquid above the solids, other than isolated surface pockets has been removed. Isolated surface pockets of liquid are those not pumpable by conventional techniques.
PSA	Probabilistic Safety Assessment
PSICSF	Pump System installation containment seal fixture
PSL	PUREX sludge sluiced during recovery of Sr.
PSS	PUREX Sludge Supernatant.
PSSF	PUREX Sludge Supernatant Feed?
PT	Plutonium Finishing Plant (PFP) TRU Solids. TRU solids from 200W.
PT100	TRU waste from ??
PUREX	Plutonium Uranium Extraction Plant. Also called A Plant where PUREX process ran from Jan.1952-Jun. 1972, then was in standby and ran again from Nov. 1983 to 1991, and is now shutdown. See also A Plant, CWP, CARB, OWW , and P.
PWM	Pulse width modulated
PWR	Pressurized Water Reactor Core II from Shipping Port Atomic Power Station
PX86S	DILUTE, NON-COMPLEXED WASTE FROM PUREX MISC. STREAMS (NPR FUEL) FY 86
PXBAW	B PLANT AGING WASTE SUPERNATANT FROM RETRIEVED AGING WASTE
PXBSG	B PLANT AGING WASTE SOLIDS FROM RETRIEVED AGING WASTE
PXFTF	DILUTE, NON-COMPLEXED WASTE FROM PUREX MISC. STREAMS (FFTF)
PXLOW	PUREX LOW LEVEL WASTE THAT WENT TO SST
PXMET	PUREX DILUTE, NON-COMPLEXED DECLADDING: SPENT METATHESIS
PXMSC	DILUTE, NON-COMPLEXED WASTE FROM PUREX MISC. STREAMS (NPR FUEL)
PXNAW	AGING WASTE FROM PUREX HIGH LEVEL WASTE
QA	Quality Assurance
QATF	Quality Assurance Task Force
Questionable Integrity	Any tank that has a small decrease in liquid level or a radiation increase in an associated dry well, for which the remaining data for the tank is insufficient to support a conclusion with 95% confidence that the tank is sound.
R	REDOX High Level Waste (HLW) was generated from 1952 to 1966. It used methylisobutylketone (hexone) as a solvent, and extracted both uranium and plutonium. (S-Plant) Ran from Jan. 1952 to Dec. 1967.
R1	REDOX waste generated between 1952 and 1957.
R2	REDOX waste generated between 1958 and 1966.
R202S	
RCC	??REDOX CC??
RCOND	REDOX Condensate.
RCONDCRIB	REDOX Condensate to Crib.
REC	Receive from Trans_tank and are always positive. Trans_tank will always be one of the primary 177 waste tanks. See also SEND, TR, and XFER.
REDOX	Also know as S-Plant where REDOX process ran 1952-66? See also R, and CWR.
Removed from Service (Tanks)	Any tank that is a confirmed leaker or is not intended for reuse.
RESD	Residual Evaporator Liquor
RISER	Pipe leading into tank dome See also Blank Space.(term located SD-RE-TI-053 Rev. 8)
Riser P/CP	Riser is recessed below a cement pad with an access plate at grade (term located SD-RE-TI-053 Rev. 8)
RIX	REDOX Ion Exchange. See also RTX, and SIX
RP	Receiving Pit (term located WHC-SD-WM-ER-204, Rev.0)
RMA	Remote Mechanical A-Line.
RMC	Remote Mechanical C-Line—Process used in Z Plant.
RSltCk	Salt Cake precipitate from self-concentration in S and SX Farms.
RSN	REDOX Supernatant
RSS	REDOX Sludge Supernatant
RSS	Remote Supervisory Station
RTD	Resistance Temperature Detector (term located WHC-SD-WM-TI-553, Rev 0)
RTX	REDOX Ion Exchange. See also SIX, and RIX
S	Transaction Flag Key-Partial Neutralization (PNF).
S	Sludge Level Measurement Device (term located Tank and Surveillance and Waste Status Summary Report)
S1SltCk	Salt cake waste generated from the 242-S Evaporator/crystallizer from 1973 until 1976.
S2SltSlry	Salt cake waste generated from the 242-S Evaporator/crystallizer from 1977 until 1980.

SA	Safety Assessment
Salt Cake	Crystallized Nitrate and other salts deposited in waste tanks, usually after active measures are taken to remove moisture. (term located Tank and Surveillance and Waste Status Summary Report)
Salt Slurries	Same as DSS, estimated from chemical model by precipitation (via evaporator). DSS derives from the supernatants of a variety of wastes following evaporation of water. See also DSS, and A2Altslr.
Salt Well	A hole drilled or sluiced into a salt cake and lined with a cylindrical screen to permit drainage and jet pumping of interstitial liquors.
Salt Well Liquid	See also SWLIQ
Salt-Well Pump	A low-capacity pump used to remove interstitial liquid from wells.
SAR	*Safety Analysis Report*
SCAV	Scavenging campaign with FeCN on TBP, 1952-57. See also T00-T##, P00-P##, and Scavenged.
Scavenged	Waste which has been treated with ferrocyanide to remove cesium for the supernatant by precipitating it into the sludge. See also SCAV
SCBA	Self-contained Breathing Apparatus
SCO	*Safety Condition for Operation*
SCWO	Supercritical Water Oxidation (SCWO) destroys organics completed with metal ions and precipitates the multivalent metals out of solution as their hydroxides. Process conditions for SCWO are 500 ° C and 3,000 psi. (term located WHC-EP-0791)
SD	Slurry distributor (term located WHC-SD-WM-ER-204, Rev.0)
SDRCSF	Slurry distributor removal containment seal fixture
SVOA	Semi-volatile organic analysis
SEND	Transfer from Tank_n to Trans_tank and is always negative. Trans_tank will always be one of the primary 177 waste tanks. See also TR and XFER.
SET	Connect cascaded tanks together. See also CAS and END.
SF	Slurry feed?
Side referenced tank	A dished-bottom tank where the zero point for the liquid-level gauges is at the elevation that the dished bottom begins.
SIX	REDOX Ion Exchange. See also RTX, and RIX.
SL	DOUBLE-SHELL SLURRY
SL	Sludge (Solids formed during sodium hydroxide additions to waste. Sludge usually was in the form of suspended solids when the waste was originally received in the tank from the waste generator. In-tank photographs may be used to estimate the volume.
SLS	solid/liquid separation (term located WHC-EP-0791)
SLT	sludge level tape (term located WHC-SD-WM-ER-204, Rev.0)
SL3SY	DOUBLE-SHELL SLURRY FROM EOFY 80 SY-103 INVENTORY
Sludge	Solids formed after waste neutralization with sodium hydroxide additions. Sludges usually sediment and remain in the tanks into which the waste is originally added.
SLUD31	Sludge Wash C HLW stream (term located WHC-EP-0791)
Slugs	An term for uranium fuel elements which had been machined or extruded into short cylinders which were then clad or encased in corrosion-resistant metals.
Sluicing, or Sluiced	At Hanford, this means to dissolve or suspend in solution by action of a high pressure water stream.
SLULLW	Sludge Wash C LLW stream
SMM	*Supernatant Mixing Model*that calculates the composition of tank liquids and concentrates as linear combinations of HDW supernatants.
SMP	Sludge Measurement Port (term located WHC-SD-WM-ER-204, Rev.0 & SD-RE-TI-053 Rev. 8)
SN	Sluicing nozzle (term located WHC-SD-WM-ER-204, Rev.0)
SOE	Safe Operating Envelope
SOLEX	Solvent Extraction Option (term located WHC-EP-0791)
Sound or Sound Tank	The integrity classification of a waste storage tank for which surveillance data indicate no loss of liquid from a breach of integrity.
SP	Sluice pit (term located WHC-SD-WM-ER-204, Rev.0)
SPARE	Spare riser with no current function or planned use - possible concrete plug underneath plate (term located SD-RE-TI-053 Rev. 8)
S PLANT	The facility at Hanford which contains the original extraction process for recovery of both plutonium and uranium. See also REDOX
SREX	Strontium extraction and solvent extraction.(term located WHC-EP-0791)
SPRG	Sparge-transfer of water or volume?
SR	SST SOLIDS RETRIEVED
SR	Sluicing Riser (term located WHC-SD-WM-ER-204, Rev.0)
SRCVR	Slurry Receiver Tank
SREX	Strontium extraction
SRR	Slurried PUREX sludge from A and AX Farms was sent to B Plant for strontium recovery from 1967-76. Some 801 kgal was sent to and 2,810 kgal returned from B Plant with A-102, A-106, and AX-103 as a staging tanks sending sludge to AR vault and supernatant to C-105.
SRS	Strontium Recovery Supernatant. The sludges sluiced for SRR were washed in AR vault with supernatant from C-105. The resulting supernatants were sent to CSR.
SRS	Strontium sludge
SRS	Savannah River Site (term located WHC-EP-0791)

S.S.	Evidently refers to a direct addition from plant to a cascade series that bypassed the first tank in the cascade series.
SST	single-shell tank (term located WHC-SD-WM-ER-204, Rev.0)
SSW	Strontium Semiworks. Called C Plant or Hot Semi-Works earlier, was pilot for both REDOX and PUREX, Jul. 1952 to Jul. 1956. Then reconfigured for Strontium recovery pilot plant from July 1960 to July 1967. See also C Plant and HS.
STAB	Tank stabilized by removal of liquid. Both floating suction and salt-well jet pumps are used to remove liquid.
Stabilization	The removal or immobilization, as completely as possible, or the liquid contained in a radioactive waste storage tank by salt well pumping, open hole salt well pumping, adding diatomaceous earth, etc.
STAT	Tank level measurement for each quarter in kgal (1 kgal = 1,000 gallons) as reported by Anderson.
Static Tank	A tank with no significant change in liquid level or involvement in transfer operations during a stated period of time.
SU	Supernatant (Drainable Liquid Remaining minus Drainable Interstitial). Supernate is usually derived by subtracting the solids level measurement from the liquid level measurement.
SW	SST WASHED SOLIDS
SWA	Sludge Wash A (term located WHC-EP-0791)
SWB	Sludge Wash B (term located WHC-EP-0791)
SWC	Sludge Wash C (term located WHC-EP-0791)
SWLIQ	DILUTE, NON-COMPLEXED WASTE FROM EAST AREA SINGLE-SHELL TANKS
SWLQW	DILUTE, NON-COMPLEXED WASTE FROM WEST AREA SSTs
SWP	Salt well pump (term located WHC-SD-WM-ER-204, Rev.0)
SW RCR	Salt well receiver
SWPS	Salt well pump and screen (term located WHC-SD-WM-ER-204, Rev.0)
SWS	Salt well screen (term located WHC-SD-WM-ER-204, Rev.0)
T1SltCk	Salt cake waste generated from the 242-T Evaporator -crystallizer from 1951 until 1955
T2SltCk	Salt cake waste generated from the 242-T Evaporator -crystallizer from 1955 until 1965
Tank Farm	An area containing a number of storage tanks; i.e., a chemical tank farm for storage of chemicals used in a plant, or underground waste tank storage or radioactive waste.
TBP	Tri-Butyl Phosphate-waste from solvent based uranium recovery operation in '50's. Renamed to UR waste in the Defined Waste report. More usually refers to the chemical tributyl phosphate, $OP(OC_4H_9)_3$, which was used in uranium recovery and in PUREX.
TBX	Instrument leads of several kinds - usually on annulus of tank (term located SD-RE-TI-053 Rev. 8)
TC	Thermocouple (term located WHC-SD-WM-TI-553, Rev 0)
TCIX	Technetium ion exchange (term located WHC-EP-0791)
TCO	DILUTE NON-COMPLEXED WASTE FROM WEST AREA SINGLE-SHELL TANKS
TCT	Thermocouple tree
TEDF	Treated Effluent Disposal Facility
TEMP	Temperature probe (term located SD-RE-TI-053 Rev. 8)
Terminal Liquor	The liquid product from the Evaporation-Crystallization Process which, upon further concentration, forms an unacceptable solid for storage in single-shell tanks. Terminal liquor is characterized by caustic concentration of approximately 5.5 M (the caustic molarity will be lower if the Aluminum Salt Saturation is reached first). See also HDRL.
TFeCN	Ferrocyanide sludge produced by in-tank or in-farm scavenging. See also FeCN, PFeCN, UR, P00, T00.
TFEPTU	Tank Farms and Evaporator Process Technology Unit (term located SD-WM-PE-029 Rev. 0, 242-A Evap/Crystallizer FY 84-86 Campaign Run)
TGA	Thermal Gravimetric Analysis
TH	Thoria HLW or Cladding waste
TH66	
TH77	
Thermocouple Tree	A group of thermocouples assembled in a pipe and inserted into a waste tank for measuring temperatures at regular (normally 2 foot) vertical intervals.
Thermowell	A well in a waste tank which contains thermocouples
THFTCA	Tetrahydrofurantetracarboxylic acid (term located WHC-EP-0791)
THL	Thoria Low Level
TK	Tank
TK	TK-17-2 was an early name for B Plant. See also B Plant and 222-B.
TL	Terminal Liquor
TLM	*Tank Layer Model* derived from the Waste Status and Transaction Record Summary (WSTRS) database.
TLV	Threshold limit value
TLV-C	Threshold limit value-ceiling
TLV-STEL	Threshold limit value-short-term exposure limit
TLV-TWA	Threshold limit value-time weighted average
TMACS	Tank monitor and control system (term located WHC-SD-WM-TI-553, Rev 0)
TOC	Total organic carbon (term located WHC-EP-0791)
T00-##	In-Tank scavenging with FeCN. See also SCAV, P##
TP	Temperature probe (term located WHC-SD-WM-ER-204, Rev.0)
TP	Throughput nominal plant throughput PFR (Pu Nitrate), RMA (Pu Oxide), RMC (Pu Metal). See SD-WM-PE-029 Rev.0, 242-A Evap/Crystallizer FY 84-86 Campaign Run
TPA	Tri-Party Agreement includes DOE, Washington State Dept. of Ecology, and the EPA

TPLAL	DILUTE, NON-COMPLEXED WASTE FROM T PLANT
TPLAN	DILUTE, NON-COMPLEXED WASTE FROM T PLANT
T Plant	Decontamination plant for various equipment. Originally built for $BiPO_4$ process, but since only used for decontamination. $BiPO_4$ ran from Dec. 1944 to Aug. 1956. See also 222-T
TPLAS	SLUDGE FROM T PLANT OPERATIONS
TR	Transfer from tank. See also REC, SEND, and XFER
TRAC	Hanford radionuclide Tracking program devised by Jungfleisch. Also, Transient Reactor Analysis Code developed at LANL.
Trench	A deep furrow in the ground. At Hanford, they are used for the disposal of solid waste.
trFlag	Transaction Flag Keys—used by W-TRAC—See also CDF,D,E,S,SV,1,3,6,.17,.33.
TRG	Test Review Group
TRU	Transuranic. See also DN, DN/PD, DN/PT, P, PFP, PRF, Z, and 224.
TRUEX	Transuranic Extraction. See also PFPPT.
TRUEX-C	Transuranic Extraction Option C (term located WHC-EP-0791)
TRULLW	TRUEX-C LLW stream (term located WHC-EP-0791)
TRUX31	TRUEX-C HLW stream (term located WHC-EP-0791)
TSD	Treatment, Storage or Disposal Unit
TSR	Technical Safety Requirement
TTF	Thermal Treatment Facility
TWRS	Tank Waste Remediation System
TXR Vault	Vault in TX Farm used in FeCN scavenging in TX Farm.
Type I Tank	These are the 200 series tanks found in B, C, T, and U Farm. They have an operating capacity of 55,000 gal., a 20-ft., diameter, a 6-in. dish bottom, and a 3-ft. knuckle. Generation is not associated with Type I tanks.
Type II Tank	These are the original (1st generation) tank designs, which are found in B,C,T, and U (excluding the 200 series tanks), and BX Tank Farms. See also 1st Generation Tank.
Type III Tank	These are the 2nd generation tank designs, which are found in BY, S, TX, and TY Tank Farms. See also 2nd Generation Tank.
Type IV Tank	These are 3rd, 4th, and 5th generation tank designs, which are found in SX, A, and AX Tank Farms, respectively. See also 3rd Generation Tank, 4th Generation Tank, and 5th Generation Tank.
Type V Tank	These are the first double-shell tank designs, which are found in AY, AZ, and SY Tank Farms.
U1U2	DILUTE, NON-COMPLEXED WASTE FROM U1/U2 GROUNDWATER PUMPING
UFL	Upper Flammability Limit (term located WHC-EP-0702, Rev 0)
UNC	Dilute sulfate waste . See also HEDL. (see SD-WM-PE-029 Rev.0, 242-A Evap/Crystallizer FY 84-86 Campaign Run)
UNC	UNC Nuclear Industries Inc.
UNC Fuels	
UNH Stream	See 224-UA
UNKN	UNKNOWN WASTE ORIGIN SINK
UOR	Unusual Occurrence Report
U1U2	Dilute, non-complexed waste from U1/Us ground water pumping.
U Plant	Uranium Recovery Plant from Mar. 1952 to Jan. 1958, UO_3 Plant from then until Sept. 1972. Restarted in Mar. 1984, and is now shutdown. See also 222-U, UR, and TBP.
UPS	Uninterruptible Power Supply
UR	Uranium Recovery Operation in 222-U, 1952-57. Created TBP (primary waste) and FeCN (scavenging wastes). TBP waste called UR waste in Defined Waste report. See also, TFeCN, PFeCN, P00, T00, FeCN. See also TBP.
UREX	Uranium Extraction
USNRC	US Nuclear Regulatory Commission
USBM	US Bureau of Mines (term located WHC-EP-0702, Rev 0)
USNRC	U S Nuclear Regulatory Commission
USQ	Unreviewed Safety Question (term located WHC-EP-0702, Rev 0)
UX-241	???
V & V	Validation and Verification
VAQUELLW	Varied aqueous liquids (term located WHC-EP-0791)
VCBUSTL	Varied combustible solids and liquids (term located WHC-EP-0791)
VDTT	Velocity, Density, Thermocouple tree
VM	Vapor Manifold (term located WHC-SD-WM-ER-204, Rev.0)
VOF	Volume Of Fluid
VOFFGAS	Varied Cell Air and OffGas (term located WHC-EP-0791)
VNCBUSTS	Varied Noncombustible Solids (term located WHC-EP-0791)
WASHF	OUTFLOW TO SST WASH FACILITY
Waste Tank Safety Issue	A potentially unsafe condition in the handling of waste material in underground storage tanks that requires corrective action to reduce or eliminate the unsafe condition. (term located Tank and Surveillance and Waste Status Summary Report)

Watch List Tank	An underground storage tank containing waste that requires special safety precautions because it may have a serious potential for release of high-level radioactive waste because of uncontrolled increases in temperatures or pressure. Special restrictions have been placed on these tanks by "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," Section 3137 of the National Defense Authorization Act for Fiscal Year 199l, November 5, 1990, Public Law 101-501 (Also known as the Wyden Amendment) (term located Tank and Surveillance and Waste Status Summary Report)
WATER	FLUSH WATER FROM MISCELLANEOUS SOURCES. See also WTR.
WC	Weather Cover (polyurethane foam) (term located WHC-SD-WM-ER-204, Rev.0)
WESF-Plant	Construction complete in 1974. Capable of producing up to 350 capsules of cesium and 175 capsules of strontium per year. 1575 cesium capsules and 625 strontium capsules produced between 1974 and 1985. See also 225-B
WHC	Westinghouse Hanford Company
WIPP	Waste Isolation Pilot Plant (term located WHC-EP-0791)
WMIS	Waste Management Information System (term located WHC-EP-0791)
WRAP	Hanford's first major solid waste processing plant, serving to analyze and repackage containers of waste left from the Hanford defense mission and generated by cleanup activities.
WSCF	Waste Sampling and Characterization Facility
WSTRS	*Waste Status and Transaction Records Summary*
WTR	Water. See also WATER.
WVDP	West Valley Demonstration Project (term located WHC-EP-0791)
WVP	Waste volume projections
WVR	Waste volume reduction
XFER	Transfer of waste out of tank. See also REC, SEND, and TR.
XIN	Addition of primary waste from plant (always positive). This transaction also covers waste returning from secondary processing operations.
Z	Z Plant waste. 234-5Z waste/Z Plant Pu Finishing. See also DN, DN/PD, DN/PT, P, PFP, PRF, TRU, and 224.
ZAW	Zirconium Acidified Waste (PUREX waste stream from Zirconium (Zircaloy II) cladded fuel.
ZHIGH	DILUTE, NON-COMPLEXED WASTE FROM THE PFP (WITHOUT TRUEX)
ZLAB	DILUTE, NON-COMPLEXED WASTE FROM PFP LABORATORIES
ZLOW	DILUTE, NON-COMPLEXED WASTE FROM PRE-FY85 Z PLANT OPERATIONS
ZPA	Zero Period Acceleration
Z Plant	Pu finishing plant. See also DN, DN/PD, DN/PT, P, PFP, PRF, TRU, Z, and 224. Operated from 1949 to 1991, and is now in standby
ZPRFL	DILUTE, NON-COMPLEXED WASTE FROM PRF PROCESSING
ZPRFS	PFP TRU SOLIDS FROM PRF PROCESSING
ZRM	Waste abbreviation
ZRMCL	DILUTE, NON-COMPLEXED WASTE FROM PFP RMC PROCESSING
ZRMCS	PFP TRU SOLIDS FROM PFP RMC PROCESSING
1AYIN	CONCENTRATED COMPLEX WASTE FROM AY-101 INVENTORY
1AZIN	PRE 2-81 AZ-101 INVENTORY
1C	1st Cycle Decontamination-BiPO4 process. Often included cladding waste. Held 10% of FP, 1% of Pu. See also BiO_4, MW, and 2 C.
1C1	First cycle decontamination waste from the $BiPO_4$ process, 1944 to 1951.
1C2	First cycler decontamination waste from the $BiP0_4$ process, 1952 to 1956.
1C44-51	Includes CW
1C52-56	Includes CW
1CEB	1st Cycle Evaporator Bottoms
1CF	??1st Cycle Feed?? Set to WATER in TRAC.
1CFeCN	Ferrocyanide sludge produced by in-plant scavenging of 1C supernatant wastes. Used 0.005 M ferrocyanide. See also FECN, PFeCN, TFeCN.
1CS	1st Cycle Scavenging waste. TY-101 and TY-103 received 1C waste that was scavenged with FeCN before it was added to the tanks. Termed 1CFeCN.
1st Generation Tank	The original tank design encompassing Tank Farms B, C, T, U (excluding the 200 series tanks), and BX. These tanks have an operating capacity of 530,000 gal, a 75-ft. diameter, a 12-in. dish bottom, and a 4-ft knuckle. Also see Type II tanks.
2C	2nd Cycle Waste from BiO_4 process. Supernatant often cribbed, 0.1% of FP, 1% of Pu. See also BiO_4, MW, and 1C.
2C1	2nd Cycle Waste from BiO_4 process, 1944 to 1951
2C2	2nd Cycle Waste from BiO_4 process, 1952 to 1956
2AYIN	PRE 2-81 AY-102 INVENTORY
2AZIN	PRE 2-81 CONCENTRATED COMPLEX WASTE FROM AZ-102 INVENTORY
2SYIN	PRE 2-81 SY-102 INVENTORY
2nd Generation Tank	Same as original tank design (1st generation or type II) except the operating capacity was increased to 758,000 gal. Also, see Type III tanks.
202-S	Also known as S-Plant where REDOX process ran 1952-66? See also R, CWR, AND S-PLANT
204-AR	Rail Car Unloading Facility, completed in 1981, replaced 204-S as Rail Car Unloading Facility. Completed in 1981.
211-T	Chemical storage area used for nitric acid and sodium hydroxide storage, low-level radioactive sludge storage.

221-B	See also B Plant
221-T	Head End facilities (two cells) in 221-T Building are used by HEDL as a containment systems test facility to develop sodium aerosol data needed for the design of air cleaning equipment for large-scale Liquid Metal Fast Breeder Reactors. 221-T Building (Cell 4) used for interim storage of Pressurized Water Reactor Core II fuel from Shippingport Atomic Power Station. See also T-Plant.
222-B	One of the three original bismuth-phosphate processing facilities. Later converted to waste fractional plant. B Plant used for $BiPO_4$ 1944-52, then for FP recovery. See also B Plant and TK.
222-C	Initially a pilot plant for REDOX, later a pilot plant for PUREX and B Plant waste partitioning. See also C Plant.
222-T	T Plant used for $BiPO_4$ 1944-52.
222-U	One of the three original Bismuth Phosphate Processing Facilities. Later converted to a uranium recovery plant. See also U Plant.
224	LaF finishing waste. 224-U Waste. See also DN, DN/PD, DN/PT, P, PFP, PRF, TRU, and Z
224-2	Same as 224?
224-AR Vault	Originally designed for treating and transferring tank farm sludges to B Plant and for interim lag storage and transfer of PUREX acid wastes to Plant. Also for lag storage of neutralized high-level waste enroute from B Plant to tank farm storage. Construction completed in 1968 put in standby mode in 1978.
224-F	224-U Waste. LaF Pu Finishing Plant. Same as Z-Plant? See also LaF.
224-U	Completed in 1944 as part of U Plant complex. Never used for original purpose used as training facility from 1944 to 1950, converted to UO_3 Plant in 1951. Plant shut down in 1972. Restarted 1984. Feedlines from REDOX and U Plant canyon disconnected. See also 224-F.
224-UA	Constructed in 1957 with six calciners installed. UO_3 Plant capability sufficient to handle UNH stream from REDOX, U-Plant, and PUREX.
225-B	See also WESF Plant
231-Z	DILUTE, PHOSPHATE WASTE FROM Z-231 LABORATORIES
241-Z	Underground sump pit.
242-A	Reduced pressure evaporator in East Area designed for 30% solids. A-102 was feed 1977-1980. AW-102 was feed 1981-present.
242-B	Atmospheric evaporator used for concentrating wastes, 1952-56. B-106 was feed tank.
242-S	Reduced pressure evaporator designed for 30% solids 1973-80. S-102 was feed '73-'77. SY-102 was feed '77-'81.
242-T	Atmospheric evaporator used to concentrate wastes. 1952-56 and 1965-76. TX-118 was feed tank.
242-Z	Waste treatment facility. Equipment was used to treat PRF waste and extract americium from the waste. Scheduled for D&D.
244-AR Vault	Originally designed for treating and transferring tank farm sludges to B Plant and for interim lag storage and transfer of PUREX acid wastes to B Plant. Also for lag storage of neutralized high-level waste enroute from B Plant to tank farm storage.
2706-T	Used as equipment low-level decontamination facility. See also T Plant, 271-T and 221-T.
271-T	Building used for chemical make-up area and dry storage, and offices. See also T Plant, 2706-T, and 221-T.
2736-ZA	Plutonium Storage and Support Facility. Used to store plutonium in a variety of forms. Plutonium packaged in metal containers. Also used for shipping, receiving, repackaging, and nondestructive analysis of plutonium. See also 2736-ZAB.
2736-ZAB	Plutonium Storage and Support Facility. Used to store plutonium in a variety of forms. Plutonium packaged in metal containers. Also used for shipping receiving, repackaging, and nondestructive analysis of plutonium. See also 2736-ZA
3AWIN	PRE 2-81 AW-103 INVENTORY
3rd Generation Tank	The first generation of the type IV tanks, contains the SX Tank Farm only. These Tanks have a 1,000,000 gal. operating capacity, a 75-ft. diameter, a 14.875-in. dish bottom, and no knuckle. See also Type IV tanks.
4th Generation Tank	The second generation of the type IV tanks, contains the A Tank Farm only. These tanks are the same as the 3rd generation except they have a flat bottom. See also Type IV Tanks.
5	B Plant Tank 5 and 6 waste.
5-6#	Cells 5&6 from B Plant
5AWIN	PRE 2-81 AW-105 INVENTORY
5th Generation Tank	The third generation of the Type IV tanks, found only in the AX Tank Farm. These tanks are the same as the 4th generation with the addition of grid drain slots beneath the steel liner bottom.
6AWIN	CONCENTRATED PHOSPHATE WASTE IN AW-106 INVENTORY
	Note on transactions involving:
	CAS-Cascades that "overfill" are assumed to have been directed to low-level "sites" (cribs or trenches?). No MW or R was cascaded to low-level sites.
	EVAP-Operations involving evaporators are assumed to change the waste by the difference in the transaction and status reports.
	R-REDOX plant used concentrator 1967-72.
	B-B PLANT used concentrator 1967-68.
	Definitions in all caps are from the Waste Volume Projection Data Set.

Appendix G.

HDW Compositions Spreadsheet Equations

December 1996

Table G1. HDW Composition Spreadsheet Equations.

row #	row description	HDW Equation	Notes
1		**1**	
2		MW1	
3	st.date	1944	
4	en.date	1949	
5			
6	short tons fuel	3676	
7	kgal waste input		
8	volume factor		
9	kgal waste out	15325	
10	gal/ton	=C9/C6*1000	
11			
12	avg. MWD/T	232	
13	g Pu-239*/MWD	0.76	
14	kg Pu-239*	=C13*C12*C6/1000	
15	Pu* ex. %	99	
16	res. kg Pu-239*	=C14*(100-C15)/100	
17	Pu-239* µCi/L	=C16*1000*0.061/C9/3785*1000000	
19	then		
20	MCi Cs-137	=C12*C6*24*3600/(200*0.0000000000001602)/6.023E+23*0.062*11900*C13*1.156	
21	MCi Sr-90	=C12*C6*24*3600/(200*0.0000000000001602)/6.023E+23*0.058*12700*C13	
22	kCi Tc-99	=C12*C6*24*3600/(200*0.0000000000001602)/6.023E+23*0.061*1.69*C13*1000	
23	Ci I-129	=C12*C6*24*3600/(200*0.0000000000001602)/6.023E+23*0.01*0.021*C13*1000000	
24	1994	0.35	
25	MCi Cs-137	=C20*EXP(-LN(2)*(1994-(C3+C4)/2)/30.2)	
26	MCi Sr-90	=C21*EXP(-LN(2)*(1994-(C3+C4)/2)/28.1)	
27		=C9*C355*3785/1000000	
28		=C33*C264*3785/1000000	
29			
30	kgalSol	=C9*C31/100	
31	vol%Sol	12	
32	uncertainty		
33	kgal solids left	736	
34			
35		MW1	HDW designation.
36		FMJ	Reference for waste composition.
37	chemicals in mol/L	MW1	These are the chemicals input to the waste stream.
38	HNO3	0.1	mol/L
39	NaAlO2		
40	Al(NO3)3		
41	Fe(HSO4)2		
42	Fe(NO3)3	=0.04*0.4	iron corrosion source.
43	Na2CrO4	=C42*0.2	tied to iron corrosion.
44	BiPO4		
45	ZrO(OH)2		
46	NiSO4	=C42*0.1	tied to iron corrosion.
47	NaOH	=C42*(3+2*0.1)+0.09	enough to neutralize.
48	NaNO2		
49	Na2CO3	0.6	
50	Na3PO4	0.18	
51	Na2SO4	0.21	
52	Na2SiO3	0.004	
53	Na2SiF6		
54	NaF		
55	NaCl	=C47*BQ3	tied to NaOH as impurity.
56	Na2S		
57	La(NO3)3		
58	Hg(NO3)2		
59	KNO3	=C47*BQ4	tied to NaOH as impurity.
60	Ca(NO3)2	=0.00012*C47+0.018	tied to NaOH as impurity and other source, see text.
61	KMnO4		
62	Sr(NO3)2		
63	PbSO4		
64	H3C6H5O7		

65	H4EDTA		
66	H3HEDTA		
67	Hglycolate		
68	Hacetate		
69	H2oxalate		
70	Na4Fe(CN)6		
71	NH3		

72	H-3 (Ci)	927.58993	
73	C-14 (Ci)	51.634364	
74	Ni-59 (Ci)	14.710075	
75	Ni-63 (Ci)	1291.3083	
76	Co-60 (Ci)	7.198461	
77	Se-79 (Ci)	10.867359	
78	Sr-90 (Ci)	776620.65	
79	Y-90 (Ci)	776818.8	
80	Zr-93 (Ci)	51.804473	
81	Nb-93m (Ci)	44.622001	
82	Tc-99 (Ci)	357.19118	
83	Ru-106 (Ci)	0.000000169678188	
84	Cd-113m (Ci)	105.281961	
85	Sb-125 (Ci)	3.8850072	
86	Sn-126 (Ci)	16.138125	
87	I-129 (Ci)	0.66521604	
88	Cs-134 (Ci)	0.010557678922949	
89	Cs-137 (Ci)	875503.78	
90	Ba-137m (Ci)	828195.78	
91	Sm-151 (Ci)	41074.578	
92	Eu-152 (Ci)	0.9363248	
93	Eu-154 (Ci)	96.78726004	
94	Eu-155 (Ci)	141.57272	
95	Ra-226 (Ci)	0.004634597	
96	Ra-228 (Ci)	0.000000012746493	
97	Ac-227 (Ci)	0.0233543	
98	Pa-231 (Ci)	0.04865249	
99	Th-229 (Ci)	0.0000024578092	
100	Th-232 (Ci)	0.000000016050197	
101	U-232 (Ci)	0.012969645	
102	U-233 (Ci)	0.0007763161	
103	U-234 (Ci)	1094.102	
104	U-235 (Ci)	49.20917	
105	U-236 (Ci)	6.9856945	
106	U-238 (Ci)	1107.899	
107	U-Total (mols)	13944143.3577592	
108	Np-237 (Ci)	2.145482	
109	Pu-238 (Ci)	149.82992	
110	Pu-239 (Ci)	46922.87	
111	Pu-240 (Ci)	2765.26395	
112	Pu-241 (Ci)	1770.353	
113	Pu-242 (Ci)	0.0054095	
114	Pu-Total (kg)	767.033454923626	
115	Am-241 (Ci)	17.9408888685964	
116	Am-243 (Ci)	0.0000501622579983406	
117	Cm-242 (Ci)	0.0037571	
118	Cm-243 (Ci)	0.00005576	
119	Cm-244 (Ci)	0.00076777325	
120	waste rate 1rsd	0.079	
121	waste rate kgal/qtr	=C9/(C4-C3+1)/4	
122	solids rate kgal/qtr	=C121*C31/100	
123	equiv. in.	=C122/2.75	
124	waste rate trend		
125	waste rate ± RSD (1,1.96)	=IF(C120*BP125>1,0.99,C120*BP125)	

126	species mol/L	MW1	These species (127-214) are the total concentration present in the waste regardless of phase. Used as input to determine solids partitioning.
127	Na	=C39+2*C43+C47+C48+C49*2+C50*3+C51*2+C52*2+C53*2+C54+C55+C56*2+C70*4	=NaAlO2 + 2*Na2CrO4 + NaOH + NaNO2 + 2*Na2CO3 + 3*Na3PO4 + 2*Na2SO4 + 2*Na2SiO3 + 2*Na2SiF6 + NaF + NaCl + 2*Na2S + 4*Na4Fe(CN)6
128	Al	=C39+C40	=NaAlO2 + Al(NO3)3
129	Fe	=C41+C42	=Fe(HSO4)2 + Fe(NO3)3
130	Cr	=C43	=Na2CrO4
131	Bi	=C44	=BiPO4
132	La		=La(NO3)3
133	Hg	=C58	=Hg(NO3)2
134	ZrO(OH)2	=C45	=ZrO(OH)2
135	Pb	=C63	=PbSO4
136	Ni	=C46	=NiSO4
137	Sr		=Sr(NO3)2
138	Mn	=C61	=KMnO4
139	Ca	=C60	Ca(NO3)2
140	K	=C61+C59	=KNO3 + KMnO4
141	balance	=C127+C128*3+C129*3+C130*3+C131*3+C132*3+C133*2+C134*4+C135*2+C136*2+C137*2+C138*4+C139*2+C140+C202*6-(C146+C147+C148+C149*2+C150*3+C151*2+C152*2+C153+C154+C155*3+C156*4+C157*3+C159+C160+C161*2+C166*4)	=inNa + 3*inAl + 3*inFe + 3*inCr + 3*inBi + 3*inLa + 2*inHg + 4*inZr + 2*inPb + 2*inNi + 2*inSr + 2*inMn + +2*inCa + inK + 6*inU -(inOH + inNO3 + inNO2 + 2*inCO3 + 3*inPO4 + 2*inSO4 + 2*inSiO3 + inF + inCl + 3*inCitrate + 4*inEDTA + 3*inHEDTA + inGlycolate + inAcetate + 2*inOxalate + 4*inFeCN) This ion balance assumes Al3+, Si as SiO3 2-, but Zr4+.
142	density		
143	vol%solids	=C31	parameter input.
144	void frac.	=1-SUM(C431:C464)/1000	from solids volumes table
145	species		
146	OH	=C47-C41-C53*6+C43*2+C45*4+C39*4-C38-C64*3-C65*4-C66*3-C67-C68-C69*2+C202*6+C61*5	=NaOH -Fe(HSO4)2 - 6*Na2SiF6 + 2*Na2CrO4 + 4*ZrO(OH)2 + 4*NaAlO2 - HNO3 - 3*Citrate - 4*EDTA - 3*HEDTA - Hglycolate - Hacetate - 2*H2oxalate + 6*U + 5*KMnO4
147	NO3	=(C38+(C40+C42+C57)*3+C59+(C58+C60+C62)*2)	
148	NO2	=C48	
149	CO3	=C49	
150	PO4	=C44+C50	
151	SO4	=C41*2+C46+C51+C63	
152	SiO3	=C52+C53	
153	F	=C53*6+C54	
154	Cl	=C55	
155	C6H5O7	=C64	
156	EDTA	=C65	
157	HEDTA	=C66	
158			
159	glycolate	=C67	
160	acetate		
161	oxalate	=C69	
162	DBP		
163	butanol		
164			
165	NH3	=C71	
166	Fe(CN)6----	=C70	
167	H-3 (Ci/L)	=C72/C$9/3785*C782	
168	C-14 (Ci/L)	=C73/C$9/3785*C783	
169	Ni-59 (Ci/L)	=C74/C$9/3785*C784	
170	Ni-63 (Ci/L)	=C75/C$9/3785*C785	
171	Co-60 (Ci/L)	=C76/C$9/3785*C786	
172	Se-79 (Ci/L)	=C77/C$9/3785*C787	
173	Sr-90 (Ci/L)	=C78/C$9/3785*C788	
174	Y-90 (Ci/L)	=C79/C$9/3785*C789	
175	Zr-93 (Ci/L)	=C80/C$9/3785*C790	
176	Nb-93m (Ci/L)	=C81/C$9/3785*C791	
177	Tc-99 (Ci/L)	=C82/C$9/3785*C792	
178	Ru-106 (Ci/L)	=C83/C$9/3785*C793	
179	Cd-113m (Ci/L)	=C84/C$9/3785*C794	
180	Sb-125 (Ci/L)	=C85/C$9/3785*C795	
181	Sn-126 (Ci/L)	=C86/C$9/3785*C796	
182	I-129 (Ci/L)	=C87/C$9/3785*C797	
183	Cs-134 (Ci/L)	=C88/C$9/3785*C798	
184	Cs-137 (Ci/L)	=C89/C$9/3785*C799	
185	Ba-137m (Ci/L)	=C90/C$9/3785*C800	
186	Sm-151 (Ci/L)	=C91/C$9/3785*C801	
187	Eu-152 (Ci/L)	=C92/C$9/3785*C802	

188	Eu-154 (Ci/L)	=C93/C$9/3785*C803	
189	Eu-155 (Ci/L)	=C94/C$9/3785*C804	
190	Ra-226 (Ci/L)	=C95/C$9/3785*C805	
191	Ra-228 (Ci/L)	=C96/C$9/3785*C806	
192	Ac-227 (Ci/L)	=C97/C$9/3785*C807	
193	Pa-231 (Ci/L)	=C98/C$9/3785*C808	
194	Th-229 (Ci/L)	=C99/C$9/3785*C809	
195	Th-232 (Ci/L)	=C100/C$9/3785*C810	
196	U-232 (Ci/L)	=C101/C$9/3785*C811	
197	U-233 (Ci/L)	=C102/C$9/3785*C812	
198	U-234 (Ci/L)	=C103/C$9/3785*C813	
199	U-235 (Ci/L)	=C104/C$9/3785*C814	
200	U-236 (Ci/L)	=C105/C$9/3785*C815	
201	U-238 (Ci/L)	=C106/C$9/3785*C816	
202	U-Total (M)	=C107/C$9/3785*C817	
203	Np-237 (Ci/L)	=C108/C$9/3785*C818	
204	Pu-238 (Ci/L)	=C109/C$9/3785*C819	
205	Pu-239 (Ci/L)	=C110/C$9/3785*C820	
206	Pu-240 (Ci/L)	=C111/C$9/3785*C821	
207	Pu-241 (Ci/L)	=C112/C$9/3785*C822	
208	Pu-242 (Ci/L)	=C113/C$9/3785*C823	
209	Pu-Total (g/L)	=C114/C$9/3785*C824*1000	
210	Am-241 (Ci/L)	=C115/C$9/3785*C825	
211	Am-243 (Ci/L)	=C116/C$9/3785*C826	
212	Cm-242 (Ci/L)	=C117/C$9/3785*C827	
213	Cm-243 (Ci/L)	=C118/C$9/3785*C828	
214	Cm-244 (Ci/L)	=C119/C$9/3785*C829	

215	pred. sludge mol/L	MW1	These species (215-305) are the concentrations of analytes in sludge or solids layer. Note that this definition includes not only the precipitated solids, but also the interstitial liquid within the void fraction.
216	Na	=C398+C399+C400+C401+C403*2+(C405+C406)*3+(C407+C408+C409)*2+C411+C419*3+C420+C421*2+C422*3+C423*4+C427*2+C307*C$144	= sum of solids Na concentration table 398-462 plus suNa*voidFrac Each solids definition is similarly composed.
217	Al	=C410+C411+C308*C$144	
218	Fe(total)	=C412+C309*C$144	
219	Cr	=C413+C310*C$144	
220	Bi	=C415+C311*C$144	
221	La	=C417+C312*C$144	
222	Hg	=C418+C313*C$144	
223	ZrO(OH)2	=C426+C314*C$144	
224	Pb	=C416+C315*C$144	
225	Ni	=C425+C316*C$144	
226	Sr	=C137/C$143*100+C317*C$144	This Sr does not include radionuclide Sr-89/90.
227	Mn	=C414+C318*C$144	
228	Ca	=C424+C319*C$144	
229	K	=C320*C$144	
230	balance	=C216+C217*3+(C218-C257)*3+C219*3+C220*3+C221*3+C222*2+C223*4+C224*2+C225*2+C226*2+C227*4+C228*2+C229+6*C293-(C237+C238+C239+C240*2+C241*3+C242*2+C243*2+C244+C245+C246*3+C247*4+C248*3+C250+C251+C252*2+C257*4)	This balances Al3+, SIO3 2- and Zr4+.
231	density	=SUMPRODUCT(C398:C428,$BP398:$BP428)/1000+C322*C233	density is sumproduct of solids volumes with supernatant density.
232	vol%solids	=C143	
233	void frac.	=C144	
234	wt.% H2O	=C322*C233/C231*C325+(SUMPRODUCT(C398:C428,$BS398:$BS428))*18/C231/1000*100	=suDens*voidFrac / slDens * suWt%H2O + (waters of hydration)/slDens*MWH2O First term gives grams water per gram sludge times 100. Second term gives waters of hydration where column BS contains mols H2O per mol solid.
235	TOC wt.%C	=SUMPRODUCT(C246:C257,$BP246:$BP257)/C231/1000*100	Column BP contains the mols organic carbon per mol species.
236	free OH-	=C328*C233	=suOH*voidFrac Note that this hydroxide exists in the interstial liquid (i.e. supernatant) and so does not include that bound to dissolved aluminate.
237	OH-	=C217*4-C410+C402*2+C412*3+C413*3+C414*4+C416*2+C417*3+C418*2+C425*2+C426*4+C236+C428*6	=4*Al - Al2O3.3H2O/2 + 2*Sr(OH)2 + 3*Cr(OH)3 + 4*MnO2 + 2*Pb(OH)2 + 3*La2O3/2 + 2*HgO + 4*ZrO2.2H2O + freeOH + 6*UO2(OH)2.6H2O Once again, hydroxide in precipitated solids plus su hydroxide. Note aluminate adds four while alumina only three.
238	NO3-	=C398+C329*C$144*C762	
239	NO2-	=C399+C330*C$144+C329*C$144*(1-C762)	
240	CO3--	=C403+C331*C$144+C424	
241	PO4---	=C405+C406+C415+C332*C$144	
242	SO4--	=C407+C408+C333*C$144	
243	SiO3--	=C409+C334*C$144	
244	F-	=C401+C335*C$144	
245	Cl-	=C400+C336*C$144	
246	C6H5O7---	=C419+C337*C$144	
247	EDTA----	=C423+C338*C$144	
248	HEDTA---	=C422+C339*C$144	
249			
250	glycolate-	=C341*C$144	
251	acetate-	=C420+C342*C$144	
252	oxalate--	=C421+C343*C$144	
253	DBP	=C344*C$144	
254	butanol	=C345*C$144	
255			
256	NH3	=(C165+(C239+C238*(1-C762))*C763)*C$144	
257	Fe(CN)6----		

258	H-3 (Ci/L)	=C167*C501/C$232*100+C349*C$324	
259	C-14 (Ci/L)	=C168*C502/C$232*100+C350*C$324	
260	Ni-59 (Ci/L)	=C169*C503/C$232*100+C351*C$324	
261	Ni-63 (Ci/L)	=C170*C504/C$232*100+C352*C$324	
262	Co-60 (Ci/L)	=C171*C505/C$232*100+C353*C$324	
263	Se-79 (Ci/L)	=C172*C506/C$232*100+C354*C$324	
264	Sr-90 (Ci/L)	=C173*C507/C$232*100+C355*C$324	
265	Y-90 (Ci/L)	=C174*C508/C$232*100+C356*C$324	
266	Zr-93 (Ci/L)	=C175*C509/C$232*100+C357*C$324	
267	Nb-93m (Ci/L)	=C176*C510/C$232*100+C358*C$324	
268	Tc-99 (Ci/L)	=C177*C511/C$232*100+C359*C$324	
269	Ru-106 (Ci/L)	=C178*C512/C$232*100+C360*C$324	
270	Cd-113m (Ci/L)	=C179*C513/C$232*100+C361*C$324	
271	Sb-125 (Ci/L)	=C180*C514/C$232*100+C362*C$324	
272	Sn-126 (Ci/L)	=C181*C515/C$232*100+C363*C$324	
273	I-129 (Ci/L)	=C182*C516/C$232*100+C364*C$324	
274	Cs-134 (Ci/L)	=C183*C517/C$232*100+C365*C$324	
275	Cs-137 (Ci/L)	=C184*C518/C$232*100+C366*C$324	
276	Ba-137m (Ci/L)	=C185*C519/C$232*100+C367*C$324	
277	Sm-151 (Ci/L)	=C186*C520/C$232*100+C368*C$324	
278	Eu-152 (Ci/L)	=C187*C521/C$232*100+C369*C$324	
279	Eu-154 (Ci/L)	=C188*C522/C$232*100+C370*C$324	
280	Eu-155 (Ci/L)	=C189*C523/C$232*100+C371*C$324	
281	Ra-226 (Ci/L)	=C190*C524/C$232*100+C372*C$324	
282	Ra-228 (Ci/L)	=C191*C525/C$232*100+C373*C$324	
283	Ac-227 (Ci/L)	=C192*C526/C$232*100+C374*C$324	
284	Pa-231 (Ci/L)	=C193*C527/C$232*100+C375*C$324	
285	Th-229 (Ci/L)	=C194*C528/C$232*100+C376*C$324	
286	Th-232 (Ci/L)	=C195*C529/C$232*100+C377*C$324	
287	U-232 (Ci/L)	=C196*C530/C$232*100+C378*C$324	
288	U-233 (Ci/L)	=C197*C531/C$232*100+C379*C$324	
289	U-234 (Ci/L)	=C198*C532/C$232*100+C380*C$324	
290	U-235 (Ci/L)	=C199*C533/C$232*100+C381*C$324	
291	U-236 (Ci/L)	=C200*C534/C$232*100+C382*C$324	
292	U-238 (Ci/L)	=C201*C535/C$232*100+C383*C$324	
293	U-Total (M)	=C428+C384*C$144	
294	Np-237 (Ci/L)	=C203*C537/C$232*100+C385*C$324	
295	Pu-238 (Ci/L)	=C204*C538/C$232*100+C386*C$324	
296	Pu-239 (Ci/L)	=C205*C539/C$232*100+C387*C$324	
297	Pu-240 (Ci/L)	=C206*C540/C$232*100+C388*C$324	
298	Pu-241 (Ci/L)	=C207*C541/C$232*100+C389*C$324	
299	Pu-242 (Ci/L)	=C208*C542/C$232*100+C390*C$324	
300	Pu-Total (g/L)	=C209*C543/C$232*100+C391*C$324	
301	Am-241 (Ci/L)	=C210*C544/C$232*100+C392*C$324	
302	Am-243 (Ci/L)	=C211*C545/C$232*100+C393*C$324	
303	Cm-242 (Ci/L)	=C212*C546/C$232*100+C394*C$324	
304	Cm-243 (Ci/L)	=C213*C547/C$232*100+C395*C$324	
305	Cm-244 (Ci/L)	=C214*C548/C$232*100+C396*C$324	

306	pred. su mol/L	MW1	These species (307-396) are concentrations in solution. Note that some “supernatant” resides in the interstices of sludge, which is accounted. Analytes dissolved in liquid within the sludge must be accounted as part of the soluble fraction.
307	Na	=(C127-C128*C484-C147*C471-C148*C472-C154*C473-C153*C474-2*(C149-C139*C497)*C476-3*(C150-C131*C488)*C479-2*C151*C481-2*C152*C482-3*C155*C492-4*C156*C496-3*C157*C495-C159*C493-C160*C493-2*C161*C494-2*C166*C500)/(1-(1-C$144)*C$143/100)	First factor is sum of all sodium input less that precipitated. Last divisor is /(1-(1-voidFrac) *vol%Sol /100) and accounts for liquid inventory in sludge.
308	Al(OH)4 -	=C128*(1-C483-C484)/(1-(1-C$144)*C$143/100)	
309	Fe	=C129*(1-C485)/(1-(1-C$144)*C$143/100)	
310	Cr	=C130*(1-C486)/(1-(1-C$144)*C$143/100)	
311	Bi	=C131*(1-C488)/(1-(1-C$144)*C$143/100)	
312	La	=C132/(1-(1-C$144)*C$143/100)	
313	Hg	=C133*(1-C491)/(1-(1-C$144)*C$143/100)	
314	Zr	=C134*(1-C499)/(1-(1-C$144)*C$143/100)	
315	Pb	=C135*(1-C489)/(1-(1-C$144)*C$143/100)	
316	Ni	=C136*(1-C498)/(1-(1-C$144)*C$143/100)	
317	Sr	=C137/(1-(1-C$144)*C$143/100)	
318	Mn	=C138*(1-C487)/(1-(1-C$144)*C$143/100)	
319	Ca	=C139*(1-C497)/(1-(1-C$144)*C$143/100)	
320	K	=C140/(1-(1-C$144)*C$143/100)	
321	balance	=C307-C308+C309*3+C310*3+C311*3+C312*3+C313*2+C314*4+C315*2+C316*2+C317*2+C318*4+C319*2+C320+C384*6-(C328+C329+C330+C331*2+C332*3+C333*2+C334*2+C335+C336+C337*3+C338*4+C339*3+C341+C342+C343*2)	Al balanced as AlO2 - aluminate, silicon as silicate, and zirconium as Zr4+.
322	density	=1+0.038*C307+0.07*C308-0.015*C328	Calculated based on Na, OH and Al, see text.
323	vol%solids	=C143	
324	void frac.	=C144	
325	wt.% H2O	=(1-(SUMPRODUCT(C307:C320,$BP307:$BP320)+SUMPRODUCT(C328:C348,$BP328:$BP348)+C384*$BP384)/C322/1000)*100	Weight of solution minus weights of all dissolved species up to DBP. Aluminate M.W. includes OH.
326	TOC wt.%C	=SUMPRODUCT(C337:C348,$BQ337:$BQ348)/C322/1000*100	
327	species	excludes hydroxide bound to Al	
328	OH-	=(C146-C128*(4-C483)-2*C137*C475-3*C132*C490-2*C133*C491-3*C129*C485-3*C130*C486-4*C134*C499-2*C135*C489-2*C136*C498-4*C138*C487-6*C202*C535)/(1-(1-C$144)*C$143/100)	Total OH input less that precipitated as solids with divisor to account for liquid that is within sludge.
329	NO3-	=C147*(1-C471)/(1-(1-C$144)*C$143/100)*C760	
330	NO2-	=C148*(1-C472)/(1-(1-C$144)*C$143/100)+C147*(1-C471)/(1-(1-C$144)*C$143/100)*(1-C760)	
331	CO3--	=(C149-C139*C497)*(1-C476)/(1-(1-C$144)*C$143/100)	
332	PO4---	=(C150-C131*C488)*(1-C479)/(1-(1-C$144)*C$143/100)	
333	SO4--	=C151*(1-C481)/(1-(1-C$144)*C$143/100)	
334	SiO3--	=C152*(1-C482)/(1-(1-C$144)*C$143/100)	
335	F-	=C153*(1-C474)/(1-(1-C$144)*C$143/100)	
336	Cl-	=C154*(1-C473)/(1-(1-C$144)*C$143/100)	
337	C6H5O7---	=C155/(1-(1-C$144)*C$143/100)	
338	EDTA----	=C156/(1-(1-C$144)*C$143/100)	
339	HEDTA---	=C157/(1-(1-C$144)*C$143/100)	
340		=C158/(1-(1-C$144)*C$143/100)	
341	glycolate-	=C159/(1-(1-C$144)*C$143/100)	
342	acetate-	=C160/(1-(1-C$144)*C$143/100)	
343	oxalate--	=C161*(1-C494)/(1-(1-C$144)*C$143/100)	
344	DBP	=C162/(1-(1-C$144)*C$143/100)	
345	butanol	=C163/(1-(1-C$144)*C$143/100)	
346		=C164/(1-(1-C$144)*C$143/100)	
347	NH3	=(C165+(C330+C329*(1-C760))*C761)/(1-(1-C$144)*C$143/100)	
348	Fe(CN)6----	=C166/(1-(1-C$144)*C$143/100)	

349	H-3 (Ci/L)	=C167*(1-C501)/(1-(1-C$144)*C$143/100)*C307/12	
350	C-14 (Ci/L)	=C168*(1-C502)/(1-(1-C$144)*C$143/100)	
351	Ni-59 (Ci/L)	=C169*(1-C503)/(1-(1-C$144)*C$143/100)	
352	Ni-63 (Ci/L)	=C170*(1-C504)/(1-(1-C$144)*C$143/100)	
353	Co-60 (Ci/L)	=C171*(1-C505)/(1-(1-C$144)*C$143/100)	
354	Se-79 (Ci/L)	=C172*(1-C506)/(1-(1-C$144)*C$143/100)	
355	Sr-90 (Ci/L)	=C173*(1-C507)/(1-(1-C$144)*C$143/100)	
356	Y-90 (Ci/L)	=C174*(1-C508)/(1-(1-C$144)*C$143/100)	
357	Zr-93 (Ci/L)	=C175*(1-C509)/(1-(1-C$144)*C$143/100)	
358	Nb-93m (Ci/L)	=C176*(1-C510)/(1-(1-C$144)*C$143/100)	
359	Tc-99 (Ci/L)	=C177*(1-C511)/(1-(1-C$144)*C$143/100)	
360	Ru-106 (Ci/L)	=C178*(1-C512)/(1-(1-C$144)*C$143/100)	
361	Cd-113m (Ci/L)	=C179*(1-C513)/(1-(1-C$144)*C$143/100)	
362	Sb-125 (Ci/L)	=C180*(1-C514)/(1-(1-C$144)*C$143/100)	
363	Sn-126 (Ci/L)	=C181*(1-C515)/(1-(1-C$144)*C$143/100)	
364	I-129 (Ci/L)	=C182*(1-C516)/(1-(1-C$144)*C$143/100)	
365	Cs-134 (Ci/L)	=C183*(1-C517)/(1-(1-C$144)*C$143/100)	
366	Cs-137 (Ci/L)	=C184*(1-C518)/(1-(1-C$144)*C$143/100)	
367	Ba-137m (Ci/L)	=C185*(1-C519)/(1-(1-C$144)*C$143/100)	
368	Sm-151 (Ci/L)	=C186*(1-C520)/(1-(1-C$144)*C$143/100)	
369	Eu-152 (Ci/L)	=C187*(1-C521)/(1-(1-C$144)*C$143/100)	
370	Eu-154 (Ci/L)	=C188*(1-C522)/(1-(1-C$144)*C$143/100)	
371	Eu-155 (Ci/L)	=C189*(1-C523)/(1-(1-C$144)*C$143/100)	
372	Ra-226 (Ci/L)	=C190*(1-C524)/(1-(1-C$144)*C$143/100)	
373	Ra-228 (Ci/L)	=C191*(1-C525)/(1-(1-C$144)*C$143/100)	
374	Ac-227 (Ci/L)	=C192*(1-C526)/(1-(1-C$144)*C$143/100)	
375	Pa-231 (Ci/L)	=C193*(1-C527)/(1-(1-C$144)*C$143/100)	
376	Th-229 (Ci/L)	=C194*(1-C528)/(1-(1-C$144)*C$143/100)	
377	Th-232 (Ci/L)	=C195*(1-C529)/(1-(1-C$144)*C$143/100)	
378	U-232 (Ci/L)	=C196*(1-C530)/(1-(1-C$144)*C$143/100)	
379	U-233 (Ci/L)	=C197*(1-C531)/(1-(1-C$144)*C$143/100)	
380	U-234 (Ci/L)	=C198*(1-C532)/(1-(1-C$144)*C$143/100)	
381	U-235 (Ci/L)	=C199*(1-C533)/(1-(1-C$144)*C$143/100)	
382	U-236 (Ci/L)	=C200*(1-C534)/(1-(1-C$144)*C$143/100)	
383	U-238 (Ci/L)	=C201*(1-C535)/(1-(1-C$144)*C$143/100)	
384	U-Total (M)	=C202*(1-C536)/(1-(1-C$144)*C$143/100)	
385	Np-237 (Ci/L)	=C203*(1-C537)/(1-(1-C$144)*C$143/100)	
386	Pu-238 (Ci/L)	=C204*(1-C538)/(1-(1-C$144)*C$143/100)	
387	Pu-239 (Ci/L)	=C205*(1-C539)/(1-(1-C$144)*C$143/100)	
388	Pu-240 (Ci/L)	=C206*(1-C540)/(1-(1-C$144)*C$143/100)	
389	Pu-241 (Ci/L)	=C207*(1-C541)/(1-(1-C$144)*C$143/100)	
390	Pu-242 (Ci/L)	=C208*(1-C542)/(1-(1-C$144)*C$143/100)	
391	Pu-Total (g/L)	=C209*(1-C543)/(1-(1-C$144)*C$143/100)	
392	Am-241 (Ci/L)	=C210*(1-C544)/(1-(1-C$144)*C$143/100)	
393	Am-243 (Ci/L)	=C211*(1-C545)/(1-(1-C$144)*C$143/100)	
394	Cm-242 (Ci/L)	=C212*(1-C546)/(1-(1-C$144)*C$143/100)	
395	Cm-243 (Ci/L)	=C213*(1-C547)/(1-(1-C$144)*C$143/100)	
396	Cm-244 (Ci/L)	=C214*(1-C548)/(1-(1-C$144)*C$143/100)	

397	prec. solids mol/L	MW1	These 398-462 are concentrations in mol/L of precipitated solids.
398	NaNO3	=C147/C143*100*C471	=slNO3/ (vol%Sol/100) * frNO3
399	NaNO2	=C148/C143*100*C472	
400	NaCl	=C154/C143*100*C473	
401	NaF	=C153/C143*100*C474	
402	Sr(OH)2		
403	Na2CO3.7H2O	=(C149-C424)/C143*100*C476	
404			
405	Na3PO4.10H2O	=(C150-C415)/C143*100*C478	
406	Na3PO4.12H2O	=(C150-C131)/C143*100*C479	
407	Na2SO4	=C151/C143*100*C480	
408	Na2SO4.10H2O	=C151/C143*100*C481	
409	Na2SiO3	=C152/C143*100*C482	
410	(Al2O3.3H2O)/2	=C128/C143*100*C483	
411	NaAlO2	=C128/C143*100*C484	
412	FeO(OH)	=C129/C143*100*C485	
413	Cr(OH)3	=C130/C143*100*C486	
414	MnO2	=C138/C143*100*C487	
415	BiPO4	=C131/C143*100*C488	
416	Pb(OH)2	=C135/C143*100*C489	
417	(La2O3)/2	=C132/C143*100*C490	
418	HgO	=C133/C143*100*C491	
419	Na3cit.5H2O		
420	Na Acetate		
421	Na 2 Oxalate	=C161/C143*100*C494	
422	Na3HEDTA		
423	Na4EDTA		
424	CaCO3.6H2O	=C139/C143*100*C497	
425	Ni(OH)2	=C136/C143*100*C498	
426	ZrO2•2H2O	=C134/C143*100*C499	
427	Na2NiFe(CN)6.6H2O		
428	UO2(OH)2*6H2O	=C202/C143*100*C536	
429			
430	cc/L solids	MW1	These 431-462 are the volumes of each solid precipitated per liter of sludge.
431	NaNO3	=C398*$BR398	
432	NaNO2	=C399*$BR399	
433	NaCl	=C400*$BR400	
434	NaF	=C401*$BR401	
435	Sr(OH)2	=C402*$BR402	
436	Na2CO3.7H2O	=C403*$BR403	
437	Na2CO3.10H2O	=C404*$BR404	
438	Na3PO4.10H2O	=C405*$BR405	
439	Na3PO4.12H2O	=C406*$BR406	
440	Na2SO4	=C407*$BR407	
441	Na2SO4.10H2O	=C408*$BR408	
442	Na2SiO3	=C409*$BR409	
443	Al2O3.3H2O	=C410*$BR410	
444	NaAlO2	=C411*$BR411	
445	FeO(OH)	=C412*$BR412	
446	Cr(OH)3	=C413*$BR413	
447	MnO2	=C414*$BR414	
448	BiPO4	=C415*$BR415	
449	Pb(OH)2	=C416*$BR416	
450	La2O3	=C417*$BR417	
451	HgO	=C418*$BR418	
452	Na3cit.5H2O	=C419*$BR419	
453	NaAcetate	=C420*$BR420	
454	Na2Oxalate	=C421*$BR421	
455	Na3HEDTA	=C422*$BR422	
456	Na4EDTA	=C423*$BR423	
457	CaCO3.6H2O	=C424*$BR424	
458	Ni(OH)2	=C425*$BR425	
459	ZrO(OH)2	=C426*$BR426	
460	Na2NiFe(CN)6.6H2O		
461			
462	UO2(OH)2*6H2O	=C428*$BR428	
463			
464			
465			
466			
467			
468			
469			
470	frac. prec. solids	MW1	The fraction precipitated parameter is adjusted by the solubility macro (or by hand) until the supernatant concentration is equal to or less than the solubility for that species in that

			waste.
471	NaNO3	0	
472	NaNO2	0	
473	NaCl	0	
474	NaF	0	
475	Sr(OH)2		
476	Na2CO3	0.381679346795586	
477			
478			
479	Na3PO4	0.227134490738563	
480			
481	Na2SO4	0	
482	Na2SiO3	0	
483	Al2O3.3H2O	0.6	
484	NaAlO2	0	
485	FeO(OH)	0.884070173610784	
486	Cr(OH)3	0	
487	MnO2	1	
488	BiPO4	1	
489	Pb(OH)2	1	
490	La2O3	0.602547357703699	
491	HgO	1	
492	Na3cit.5H2O	0	
493	Na Acetate	0	
494	Na 2 Oxalate	0	
495	Na3HEDTA	0	
496	Na4EDTA	0	
497	CaCO3.6H2O	0.536716798363611	
498	Ni(OH)2	0	
499	ZrO(OH)2	1	
500	Na2NiFe(CN)6.6H2O		
501	H-3	0	
502	C-14	=C476	
503	Ni-59	=C498	
504	Ni-63	=C498	
505	Co-60	0	
506	Se-79	0	
507	Sr-90	0	
508	Y-90	=C507	
509	Zr-93	0	
510	Nb-93m	0	
511	Tc-99		
512	Ru-106	0	
513	Cd-113m	0	
514	Sb-125	0	
515	Sn-126	0	
516	I-129		
517	Cs-134	=C518	
518	Cs-137	=C471+C472	
519	Ba-137m	=C518	
520	Sm-151	0	
521	Eu-152	0.5	
522	Eu-154	0	
523	Eu-155	0.5	
524	Ra-226	0.190439459802477	
525	Ra-228	0.5	
526	Ac-227	0.0671640724790101	
527	Pa-231	0	
528	Th-229	0.5	
529	Th-232	0	
530	U-232	=C$536	
531	U-233	=C$536	
532	U-234	=C$536	
533	U-235	=C$536	
534	U-236	=C$536	
535	U-238	=C$536	
536	U-Total	0.982640394817743	
537	Np-237		
538	Pu-238	=C$543	
539	Pu-239	=C$543	
540	Pu-240	=C$543	
541	Pu-241	=C$543	
542	Pu-242	=C$543	
543	Pu-Total	0	
544	Am-241	0	
545	Am-243	=C$544	
546	Cm-242	0.5	
547	Cm-243	0.5	
548	Cm-244	0	

549			
550	pred. sludge ppm	MW1	
551	Na	=C216*$BP551/C$231/1000*1000000	
552	Al	=C217*$BP552/C$231/1000*1000000	
553	Fe	=C218*$BP553/C$231/1000*1000000	
554	Cr	=C219*$BP554/C$231/1000*1000000	
555	Bi	=C220*$BP555/C$231/1000*1000000	
556	La	=C221*$BP556/C$231/1000*1000000	
557	Hg	=C222*$BP557/C$231/1000*1000000	
558	ZrO(OH)2	=C223*$BP558/C$231/1000*1000000	
559	Pb	=C224*$BP559/C$231/1000*1000000	
560	Ni	=C225*$BP560/C$231/1000*1000000	
561	Sr	=C226*$BP561/C$231/1000*1000000	
562	Mn	=C227*$BP562/C$231/1000*1000000	
563	Ca	=C228*$BP563/C$231/1000*1000000	
564	K	=C229*$BP564/C$231/1000*1000000	
565	balance	=(SUM(C551:C564,C572:C592)+C628)/10000+C569	
566	density	=C231	
567	vol%solids	=C232	
568	void frac.	=C233	
569	wt.% H2O	=C234	
570	TOC wt.%C	=C235	
571	free OH-	=C236*$BP571/C$231/1000*1000000	
572	OH-	=C237*$BP572/C$231/1000*1000000	
573	NO3-	=C238*$BP573/C$231/1000*1000000	
574	NO2-	=C239*$BP574/C$231/1000*1000000	
575	CO3--	=C240*$BP575/C$231/1000*1000000	
576	PO4---	=C241*$BP576/C$231/1000*1000000	
577	SO4--	=C242*$BP577/C$231/1000*1000000	
578	SiO3--	=C243*$BP578/C$231/1000*1000000	
579	F-	=C244*$BP579/C$231/1000*1000000	
580	Cl-	=C245*$BP580/C$231/1000*1000000	
581	C6H5O7---	=C246*$BP581/C$231/1000*1000000	
582	EDTA----	=C247*$BP582/C$231/1000*1000000	
583	HEDTA---	=C248*$BP583/C$231/1000*1000000	
584		=C249*$BP584/C$231/1000*1000000	
585	glycolate-	=C250*$BP585/C$231/1000*1000000	
586	acetate-	=C251*$BP586/C$231/1000*1000000	
587	oxalate--	=C252*$BP587/C$231/1000*1000000	
588	DBP	=C253*$BP588/C$231/1000*1000000	
589	butanol	=C254*$BP589/C$231/1000*1000000	
590		=C255*$BP590/C$231/1000*1000000	
591	NH3	=C256*$BP591/C$231/1000*1000000	
592	NiFe(CN)6--	=C257*$BP592/C$231/1000*1000000	
593	H-3 (µCi/g)	=C258/C$231*1000	
594	C-14 (µCi/g)	=C259/C$231*1000	
595	Ni-59 (µCi/g)	=C260/C$231*1000	
596	Ni-63 (µCi/g)	=C261/C$231*1000	
597	Co-60 (µCi/g)	=C262/C$231*1000	
598	Se-79 (µCi/g)	=C263/C$231*1000	
599	Sr-90 (µCi/g)	=C264/C$231*1000	
600	Y-90 (µCi/g)	=C265/C$231*1000	
601	Zr-93 (µCi/g)	=C266/C$231*1000	
602	Nb-93m (µCi/g)	=C267/C$231*1000	
603	Tc-99 (µCi/g)	=C268/C$231*1000	
604	Ru-106 (µCi/g)	=C269/C$231*1000	
605	Cd-113m (µCi/g)	=C270/C$231*1000	
606	Sb-125 (µCi/g)	=C271/C$231*1000	
607	Sn-126 (µCi/g)	=C272/C$231*1000	
608	I-129 (µCi/g)	=C273/C$231*1000	
609	Cs-134 (µCi/g)	=C274/C$231*1000	
610	Cs-137 (µCi/g)	=C275/C$231*1000	
611	Ba-137m (µCi/g)	=C276/C$231*1000	
612	Sm-151 (µCi/g)	=C277/C$231*1000	
613	Eu-152 (µCi/g)	=C278/C$231*1000	
614	Eu-154 (µCi/g)	=C279/C$231*1000	
615	Eu-155 (µCi/g)	=C280/C$231*1000	
616	Ra-226 (µCi/g)	=C281/C$231*1000	
617	Ra-228 (µCi/g)	=C282/C$231*1000	
618	Ac-227 (µCi/g)	=C283/C$231*1000	
619	Pa-231 (µCi/g)	=C284/C$231*1000	
620	Th-229 (µCi/g)	=C285/C$231*1000	
621	Th-232 (µCi/g)	=C286/C$231*1000	
622	U-232 (µCi/g)	=C287/C$231*1000	
623	U-233 (µCi/g)	=C288/C$231*1000	
624	U-234 (µCi/g)	=C289/C$231*1000	
625	U-235 (µCi/g)	=C290/C$231*1000	
626	U-236 (µCi/g)	=C291/C$231*1000	
627	U-238 (µCi/g)	=C292/C$231*1000	

628	U-Total (µg/g)	=C293*$BP628/C$231/1000*1000000	
629	Np-237 (µCi/g)	=C294/C$231*1000	
630	Pu-238 (µCi/g)	=C295/C$231*1000	
631	Pu-239 (µCi/g)	=C296/C$231*1000	
632	Pu-240 (µCi/g)	=C297/C$231*1000	
633	Pu-241 (µCi/g)	=C298/C$231*1000	
634	Pu-242 (µCi/g)	=C299/C$231*1000	
635	Pu-Total (µg/g)	=C300/C$231*1000	
636	Am-241 (µCi/g)	=C301/C$231*1000	
637	Am-243 (µCi/g)	=C302/C$231*1000	
638	Cm-242 (µCi/g)	=C303/C$231*1000	
639	Cm-243 (µCi/g)	=C304/C$231*1000	
640	Cm-244 (µCi/g)	=C305/C$231*1000	
641	pred. su. ppm	MW1	
642	Na	=C307*$BP642/C$322/1000*1000000	
643	Al	=C308*$BP643/C$322/1000*1000000	
644	Fe	=C309*$BP644/C$322/1000*1000000	
645	Cr	=C310*$BP645/C$322/1000*1000000	
646	Bi	=C311*$BP646/C$322/1000*1000000	
647	La	=C312*$BP647/C$322/1000*1000000	
648	Hg	=C313*$BP648/C$322/1000*1000000	
649	Zr	=C314*$BP649/C$322/1000*1000000	
650	Pb	=C315*$BP650/C$322/1000*1000000	
651	Ni	=C316*$BP651/C$322/1000*1000000	
652	Sr	=C317*$BP652/C$322/1000*1000000	
653	Mn	=C318*$BP653/C$322/1000*1000000	
654	Ca	=C319*$BP654/C$322/1000*1000000	
655	K	=C320*$BP655/C$322/1000*1000000	
656	balance	=(SUM(C642:C655,C663:C683)+C719)/10000+C660	
657	density	=C322	
658	vol%solids	=C323	
659	void frac.	=C324	
660	wt.% H2O	=C325	
661	TOC wt.%C	=C326	
662	species		
663	OH	=C328*$BP663/C$322/1000*1000000	
664	NO3	=C329*$BP664/C$322/1000*1000000	
665	NO2	=C330*$BP665/C$322/1000*1000000	
666	CO3	=C331*$BP666/C$322/1000*1000000	
667	PO4	=C332*$BP667/C$322/1000*1000000	
668	SO4	=C333*$BP668/C$322/1000*1000000	
669	Si	=C334*$BP669/C$322/1000*1000000	
670	F	=C335*$BP670/C$322/1000*1000000	
671	Cl	=C336*$BP671/C$322/1000*1000000	
672	C6H5O7	=C337*$BP672/C$322/1000*1000000	
673	EDTA	=C338*$BP673/C$322/1000*1000000	
674	HEDTA	=C339*$BP674/C$322/1000*1000000	
675	NTA	=C340*$BP675/C$322/1000*1000000	
676	glycolate	=C341*$BP676/C$322/1000*1000000	
677	acetate	=C342*$BP677/C$322/1000*1000000	
678	oxalate	=C343*$BP678/C$322/1000*1000000	
679	DBP	=C344*$BP679/C$322/1000*1000000	
680	butanol	=C345*$BP680/C$322/1000*1000000	
681		=C346*$BP681/C$322/1000*1000000	
682	NH3	=C347*$BP682/C$322/1000*1000000	
683	NiFe(CN)6--	=C348*$BP683/C$322/1000*1000000	
684	H-3 (µCi/g)	=C349/C$322*1000	
685	C-14 (µCi/g)	=C350/C$322*1000	
686	Ni-59 (µCi/g)	=C351/C$322*1000	
687	Ni-63 (µCi/g)	=C352/C$322*1000	
688	Co-60 (µCi/g)	=C353/C$322*1000	
689	Se-79 (µCi/g)	=C354/C$322*1000	
690	Sr-90 (µCi/g)	=C355/C$322*1000	
691	Y-90 (µCi/g)	=C356/C$322*1000	
692	Zr-93 (µCi/g)	=C357/C$322*1000	
693	Nb-93m (µCi/g)	=C358/C$322*1000	
694	Tc-99 (µCi/g)	=C359/C$322*1000	
695	Ru-106 (µCi/g)	=C360/C$322*1000	
696	Cd-113m (µCi/g)	=C361/C$322*1000	
697	Sb-125 (µCi/g)	=C362/C$322*1000	
698	Sn-126 (µCi/g)	=C363/C$322*1000	
699	I-129 (µCi/g)	=C364/C$322*1000	
700	Cs-134 (µCi/g)	=C365/C$322*1000	
701	Cs-137 (µCi/g)	=C366/C$322*1000	
702	Ba-137m (µCi/g)	=C367/C$322*1000	
703	Sm-151 (µCi/g)	=C368/C$322*1000	
704	Eu-152 (µCi/g)	=C369/C$322*1000	
705	Eu-154 (µCi/g)	=C370/C$322*1000	
706	Eu-155 (µCi/g)	=C371/C$322*1000	

707	Ra-226 (µCi/g)	=C372/C$322*1000	
708	Ra-228 (µCi/g)	=C373/C$322*1000	
709	Ac-227 (µCi/g)	=C374/C$322*1000	
710	Pa-231 (µCi/g)	=C375/C$322*1000	
711	Th-229 (µCi/g)	=C376/C$322*1000	
712	Th-232 (µCi/g)	=C377/C$322*1000	
713	U-232 (µCi/g)	=C378/C$322*1000	
714	U-233 (µCi/g)	=C379/C$322*1000	
715	U-234 (µCi/g)	=C380/C$322*1000	
716	U-235 (µCi/g)	=C381/C$322*1000	
717	U-236 (µCi/g)	=C382/C$322*1000	
718	U-238 (µCi/g)	=C383/C$322*1000	
719	U-Total (µg/g)	=C384*$BP719/C$322/1000*1000000	
720	Np-237 (µCi/g)	=C385/C$322*1000	
721	Pu-238 (µCi/g)	=C386/C$322*1000	
722	Pu-239 (µCi/g)	=C387/C$322*1000	
723	Pu-240 (µCi/g)	=C388/C$322*1000	
724	Pu-241 (µCi/g)	=C389/C$322*1000	
725	Pu-242 (µCi/g)	=C390/C$322*1000	
726	Pu-Total (µg/g)	=C391/C$322*1000	
727	Am-241 (µCi/g)	=C392/C$322*1000	
728	Am-243 (µCi/g)	=C393/C$322*1000	
729	Cm-242 (µCi/g)	=C394/C$322*1000	
730	Cm-243 (µCi/g)	=C395/C$322*1000	
731	Cm-244 (µCi/g)	=C396/C$322*1000	
732		MW1	
733	B	7	
734	B'		
735	BY	1	
736	BY'		
737	A1		
738	A1'		
739			
740	T1	319	
741	T1'		
742	R		
743	R'		
744	T2		
745	T2'		
746	S1		
747	S1'		
748			
749	S2		
750	S2'		
751	A2		
752	A2'		
753			
754	CSR in	0.025412544216327	
755	AR in	0.00128777706759661	
756			
757	fr.su left		
758			
759			
760	frac NO3- left in su	=EXP(-(C366+C355)*42.05*(EXP((1994-(C3+C4)/2)/42.05)-1)*A765)	
761	frac. NO2 to NH3 in su	=1-EXP(-(C366+C355)*42.05*(EXP((1994-(C3+C4)/2)/42.05)-1)*A767)	
762	frac NO3- left in sl	=EXP(-(C275+C264)*42.05*(EXP((1994-(C3+C4)/2)/42.05)-1)*A765)	
763	frac. NO2 to NH3 in sl	=1-EXP(-(C275+C264)*42.05*(EXP((1994-(C3+C4)/2)/42.05)-1)*A767)	
764			
765	0.05	mol NO2/mol NO3/Ci/yr.	
766	=0.3*8.3	gal TBP lost per ton fuel	
767	0.0012	mol NH3/mol NO2/Ci/yr.	
768			
769	su ionic strength	=SQRT((SUMPRODUCT(C307:C320,$BV307:$BV320)+SUMPRODUCT(C328:C387,$BV328:$BV387))/2)	
770	complexability	=SUMPRODUCT(C328:C387,$BW328:$BW387)	
771			
772			
773	HDW Rad. Partitions	MW1	
774	st. date	1944	
775	en. date	1949	
776	splits	=1-E776-G776-I776	
777	U splits		
778	Pu splits	=1/3	
779	Sr-90 split	0.35	
780	Cs-137 split	0.35	
781	Rad. partition fr.	MW1	
782	H-3	=C$776	
783	C-14	=C$776	
784	Ni-59	=C$776	

785	Ni-63	=C$776	
786	Co-60	=C$776	
787	Se-79	=C$776	
788	Sr-90	=C$779	
789	Y-90	=C788	
790	Zr-93	=C$776	
791	Nb-93m	=C$776	
792	Tc-99	=C$776	
793	Ru-106	=C$776	
794	Cd-113m	=C$776	
795	Sb-125	=C$776	
796	Sn-126	=C$776	
797	I-129	=C$776	
798	Cs-134	=C$780	
799	Cs-137	=C$780	
800	Ba-137m	=C799	
801	Sm-151	=C$776	
802	Eu-152	=C$776	
803	Eu-154	=C$776	
804	Eu-155	=C$776	
805	Ra-226	=C$776	
806	Ra-228	=C$776	
807	Ac-227	=C$776	
808	Pa-231	=C$776	
809	Th-229	=C$776	
810	Th-232	=C$776	
811	U-232	=C$776*C834	
812	U-233	=C$776*C835	
813	U-234	=C$776*C836	
814	U-235	=C$776*C837	
815	U-236	=C$776*C838	
816	U-238	=C$776*C839	
817	U-Total	=C$776*C840	
818	Np-237	=C$776*C841	
819	Pu-238	=C842*C$778	
820	Pu-239	=C843*C$778	
821	Pu-240	=C844*C$778	
822	Pu-241	=C845*C$778	
823	Pu-242	=C846*C$778	
824	Pu-Total	=C847*C$778	
825	Am-241	=C$776	
826	Am-243	=C$776	
827	Cm-242	=C$776	
828	Cm-243	=C$776	
829	Cm-244	=C$776	
830			
831	weighted ave. loss	MW1	
832	st. date	1944	
833	en. date	1949	
834	U232 (Ci)	1	
835	U233 (Ci)	1	
836	U234 (Ci)	1	
837	U235 (Ci)	1	
838	U236 (Ci)	1	
839	U238 (Ci)	1	
840	U-Total (mols)	1	
841	NP237 (Ci)	1	
842	PU238 (Ci)	0.0288	
843	PU239 (Ci)	0.0288	
844	PU240 (Ci)	0.0288	
845	PU241 (Ci)	0.0288	
846	PU242 (Ci)	0.0288	
847	Pu-Total (kg)	0.0288	

Appendix H.

Tank Waste Transaction Statistics

March 1996

The SMM and the TLM both use the WSTRS dataset as their basis. Tables H1-H4 show some of the parameters by which the relative amounts of unknowns in the WSTRS dataset can be readily derived from the SMM and the TLM. The Solids Volume and the % Solids Unknown columns come from the TLM. The other columns come from the SMM. Brief descriptions of the columns is as follows:

Solids Volume: TLM prediction of the volume of residual solids in a tank in kgals. Does not include salt cakes and slurries from the T2, S1, S2, A1, and A2 evaporator campaigns. These are concentrates calculated by the SMM. Solids definition does include interstitial liquid.

% Solids Unknown: The uncertainty of the solids in the TLM. Calculated by dividing the unassigned solids unknowns in a tank by the total solids predicted by the TLM.

Supernatant Volume: SMM prediction of the volume of supernatant in a tank in kgals. This includes the volumes of the salt cakes and slurries from the T2, S1, S2, A1, and A2 evaporator campaigns. This supernatant does not include interstitial liquid.

% SU Unknown: The SMM assigns as unknown transactions from tanks with insufficient waste as well as unknown waste sources calculated at the end of each quarter. This is reported as a percentage of the total unconcentrated volume of supernatant in each tank.

% SU Assumed: The percentage of the total supernatant volume that came from transactions assigned by rules mentioned above.

Total Tank Volume: The total waste volume of a tank. This includes the solids, supernatants, and concentrates.

% Total Unknown: The volume weighted combination of the % solids unknown and the % supernatant unknown.

Total Traffic: The volume in kgal of all xins from processes and rec's from other tanks for each tank throughout its history.

Table H1. Tank Waste Uncertainty

Tank	Solids Vol. (kgal)	% Solids Unknown	Supern't Volume (kgal)	% SU Unknown	% SU Assumed	Total Tank Volume (kgal)	% Total Unknown	Total Traffic (kgal)
A-101	3	0%	950	2%	70%	953	2%	20,479
A-102	3	0%	38	2%	69%	41	2%	70,773
A-103	3	0%	368	2%	69%	371	2%	18,113
A-104	28	0%	0	0%	0%	28	0%	18,472
A-105	19	0%	0	0%	33%	19	0%	5,978
A-106	50	0%	75	2%	65%	125	1%	38,259
AX-101	13	0%	735	2%	70%	748	2%	14,992
AX-102	6	0%	33	2%	69%	39	2%	11,617
AX-103	14	0%	98	2%	70%	112	2%	14,636
AX-104	7	0%	0	0%	0%	7	0%	5,887
B-101	113	0%	0	0%	0%	113	0%	8,196
B-102	28	0%	4	49%	28%	32	6%	4,150
B-103	59	0%	0	0%	0%	59	0%	11,644
B-104	370	13%	1	7%	50%	371	13%	3,988
B-105	306	0%	0	0%	0%	306	0%	7,013
B-106	116	0%	1	9%	46%	117	0%	17,459
B-107	164	0%	1	67%	0%	165	0%	4,254
B-108	94	0%	0	0%	0%	94	0%	5,003
B-109	127	24%	0	0%	0%	127	24%	4,911
B-110	246	0%	0	0%	0%	246	0%	8,386
B-111	236	0%	1	0%	50%	237	0%	8,764
B-112	30	0%	3	13%	45%	33	1%	8,801
B-201	28	0%	1	100%	0%	29	3%	59
B-202	27	0%	0	0%	0%	27	0%	270
B-203	50	0%	1	100%	0%	51	2%	317
B-204	49	0%	1	70%	0%	50	1%	372
BX-101	42	0%	1	14%	43%	43	0%	27,709
BX-102	96	0%	0	0%	0%	96	0%	10,161
BX-103	62	0%	4	1%	51%	66	0%	35,868
BX-104	96	57%	3	2%	66%	99	56%	28,571
BX-105	46	0%	5	2%	62%	51	0%	13,140
BX-106	31	0%	15	6%	68%	46	2%	16,205
BX-107	344	0%	1	11%	0%	345	0%	2,368
BX-108	26	0%	0	0%	0%	26	0%	2,740
BX-109	193	0%	0	0%	0%	193	0%	7,599
BX-110	198	0%	0	0%	0%	198	0%	3,014
BX-111	211	0%	0	0%	0%	211	0%	3,122
BX-112	164	0%	1	63%	11%	165	0%	1,213
BY-101	387	0%	0	0%	0%	387	0%	9,472
BY-102	341	3%	0	0%	0%	341	3%	21,730
BY-103	400	0%	0	0%	0%	400	0%	26,540
BY-104	406	0%	0	0%	0%	406	0%	6,359
BY-105	503	0%	0	0%	0%	503	0%	7,527
BY-106	642	0%	0	0%	0%	642	0%	10,928
BY-107	266	0%	0	0%	0%	266	0%	13,767
BY-108	228	0%	0	0%	0%	228	0%	13,354
BY-109	423	0%	0	0%	0%	423	0%	33,344
BY-110	398	0%	0	0%	0%	398	0%	11,919
BY-111	459	0%	0	0%	0%	459	0%	10,878
BY-112	291	0%	0	0%	0%	291	0%	38,966

Table H2. Tank Waste Uncertainty

Tank	Solids Vol. (kgal)	% Solids Unknown	Supern't Volume (kgal)	% SU Unknown	% SU Assumed	Total Tank Volume (kgal)	% Total Unknown	Total Traffic (kgal)
C-101	65	0%	23	20%	6%	88	5%	4,216
C-102	423	0%	0	0%	0%	423	0%	19,621
C-103	62	0%	133	5%	63%	195	4%	10,317
C-104	291	0%	4	5%	65%	295	0%	25,704
C-105	150	0%	0	0%	0%	150	0%	27,117
C-106	197	0%	32	5%	72%	229	1%	11,221
C-107	275	0%	0	0%	0%	275	0%	4,374
C-108	66	0%	0	0%	0%	66	0%	6,745
C-109	62	0%	4	100%	0%	66	6%	4,980
C-110	187	0%	0	0%	0%	187	0%	3,730
C-111	57	0%	0	0%	0%	57	0%	6,023
C-112	104	0%	0	0%	0%	104	0%	6,791
C-201	2	0%	0	0%	0%	2	0%	277
C-202	1	0%	0	0%	0%	1	0%	264
C-203	5	0%	0	0%	0%	5	0%	200
C-204	3	0%	0	0%	0%	3	0%	252
S-101	211	0%	216	3%	57%	427	1%	11,543
S-102	4	0%	545	2%	63%	549	2%	80,822
S-103	9	0%	239	2%	67%	248	2%	13,511
S-104	293	0%	1	43%	32%	294	0%	3,497
S-105	2	0%	405	3%	48%	407	3%	1,990
S-106	32	0%	447	3%	50%	479	3%	1,735
S-107	254	0%	122	3%	64%	376	1%	17,873
S-108	5	0%	497	5%	41%	502	5%	3,951
S-109	13	0%	494	4%	45%	507	4%	3,622
S-110	113	0%	277	2%	51%	390	2%	15,389
S-111	139	44%	399	3%	49%	538	13%	3,983
S-112	6	0%	517	3%	48%	523	3%	3,165
SX-101	310	0%	146	2%	67%	456	1%	10,865
SX-102	59	0%	484	4%	50%	543	3%	14,271
SX-103	112	0%	540	2%	55%	652	2%	7,772
SX-104	169	0%	445	2%	57%	614	2%	7,320
SX-105	55	0%	628	2%	56%	683	2%	10,357
SX-106	1	0%	537	2%	66%	538	2%	31,229
SX-107	104	0%	0	0%	42%	104	0%	4,387
SX-108	87	0%	0	0%	0%	87	0%	4,696
SX-109	250	0%	0	2%	52%	250	0%	2,894
SX-110	62	0%	0	0%	50%	62	0%	7,146
SX-111	125	0%	0	2%	9%	125	0%	6,219
SX-112	92	0%	0	0%	0%	92	0%	3,792
SX-113	31	0%	0	36%	4%	31	0%	724
SX-114	181	0%	0	0%	0%	181	0%	7,926
SX-115	12	0%	0	0%	0%	12	0%	2,044

Table H3. Tank Waste Uncertainty

Tank	Solids Vol. (kgal)	% Solids Unknown	Supern't Volume (kgal)	% SU Unknown	% SU Assumed	Total Tank Volume (kgal)	% Total Unknown	Total Traffic (kgal)
U-101	22	0%	3	100%	0%	25	12%	5,238
U-102	43	0%	331	2%	61%	374	2%	7,049
U-103	32	0%	436	2%	59%	468	2%	9,806
U-104	122	35%	0	0%	0%	122	35%	3,544
U-105	32	0%	386	2%	58%	418	2%	5,770
U-106	26	0%	200	2%	53%	226	2%	4,705
U-107	76	0%	330	3%	65%	406	2%	17,346
U-108	29	0%	439	3%	48%	468	3%	8,737
U-109	48	0%	415	3%	53%	463	2%	6,296
U-110	186	0%	0	0%	0%	186	0%	4,112
U-111	26	0%	303	3%	64%	329	3%	9,540
U-112	45	0%	4	100%	0%	49	8%	1,004
U-201	4	0%	1	100%	0%	5	20%	49
U-202	4	0%	1	100%	0%	5	20%	51
U-203	2	0%	1	11%	10%	3	4%	46
U-204	2	0%	1	100%	0%	3	33%	15
T-101	37	0%	65	2%	58%	102	2%	6,378
T-102	19	0%	13	100%	0%	32	41%	3,128
T-103	18	0%	9	70%	4%	27	23%	5,192
T-104	442	0%	3	58%	0%	445	0%	3,460
T-105	98	0%	0	0%	0%	98	0%	5,870
T-106	19	0%	2	100%	0%	21	10%	3,192
T-107	171	0%	9	100%	0%	180	5%	4,729
T-108	44	0%	0	0%	0%	44	0%	3,833
T-109	58	0%	0	0%	0%	58	0%	2,465
T-110	376	0%	3	21%	0%	379	0%	22,535
T-111	456	0%	2	58%	21%	458	0%	21,963
T-112	60	0%	7	100%	0%	67	10%	25,206
T-201	28	0%	1	100%	0%	29	3%	55
T-202	21	0%	0	0%	0%	21	0%	118
T-203	35	0%	0	0%	0%	35	0%	173
T-204	38	0%	0	0%	0%	38	0%	55
TX-101	76	0%	11	2%	61%	87	0%	19,881
TX-102	2	0%	215	2%	46%	217	2%	7,942
TX-103	3	0%	154	2%	62%	157	2%	8,324
TX-104	18	0%	47	8%	49%	65	6%	4,910
TX-105	8	0%	601	2%	47%	609	2%	9,026
TX-106	5	0%	336	2%	51%	341	2%	9,929
TX-107	8	0%	28	2%	58%	36	1%	4,992
TX-108	6	0%	128	3%	55%	134	3%	4,968
TX-109	384	0%	0	0%	50%	384	0%	6,650
TX-110	37	0%	425	2%	48%	462	2%	6,789
TX-111	43	0%	327	2%	47%	370	2%	3,992
TX-112	24	0%	625	2%	48%	649	2%	4,008
TX-113	183	0%	424	3%	46%	607	2%	5,942
TX-114	62	0%	473	2%	47%	535	1%	4,871
TX-115	8	0%	560	2%	48%	568	2%	6,934
TX-116	391	0%	172	2%	44%	563	1%	4,129
TX-117	226	0%	306	2%	43%	532	1%	8,395
TX-118	45	0%	240	2%	61%	285	2%	78,553
TY-101	118	0%	0	0%	0%	118	0%	4,195
TY-102	29	0%	35	10%	40%	64	5%	1,934
TY-103	108	0%	54	28%	16%	162	9%	13,345
TY-104	43	0%	3	100%	0%	46	7%	4,291
TY-105	231	32%	0	0%	0%	231	32%	6,237
TY-106	21	0%	0	0%	0%	21	0%	5,053

Table H4. Tank Waste Uncertainty

Tank	Solids Vol. (kgal)	% Solids Unknown	Supern't Volume (kgal)	% SU Unknown	% SU Assumed	Total Tank Volume (kgal)	% Total Unknown	Total Traffic (kgal)
AN-101	0	0%	700	5%	48%	700	5%	7,076
AN-102	0	0%	1095	2%	64%	1095	2%	3,684
AN-103	2	0%	951	3%	48%	953	3%	4,745
AN-104	0	0%	1058	2%	55%	1058	2%	2,381
AN-105	0	0%	1131	2%	55%	1131	2%	2,169
AN-106	0	0%	21	3%	55%	21	3%	1,067
AN-107	0	0%	1066	2%	66%	1066	2%	1,157
AP-101	0	0%	1060	2%	25%	1060	2%	2,762
AP-102	0	0%	1104	3%	54%	1104	3%	3,088
AP-103	0	0%	1131	2%	25%	1131	2%	2,951
AP-104	0	0%	18	25%	0%	18	25%	1,080
AP-105	0	0%	821	2%	30%	821	2%	1,683
AP-106	0	0%	1128	2%	27%	1128	2%	2,083
AP-107	0	0%	1108	2%	0%	1108	2%	1,153
AP-108	0	0%	899	3%	22%	899	3%	919
AW-101	61	0%	1077	2%	42%	1138	2%	10,301
AW-102	0	0%	966	3%	31%	966	3%	102,809
AW-103	363	0%	284	8%	3%	647	4%	5,232
AW-104	103	0%	1020	6%	4%	1123	6%	15,343
AW-105	240	0%	804	2%	29%	1044	2%	7,097
AW-106	1	0%	1081	2%	32%	1082	2%	28,762
AY-101	65	49%	826	5%	35%	891	8%	7,202
AY-102	32	0%	912	2%	14%	944	2%	20,621
AZ-101	35	17%	896	1%	35%	931	2%	6,386
AZ-102	93	54%	881	0%	8%	974	6%	7,492
SY-101	0	0%	1102	4%	60%	1102	4%	1,745
SY-102	30	0%	702	8%	7%	732	7%	44,388
SY-103	0	0%	758	3%	65%	758	3%	2,429