***Environmental Protection Division***
***Environmental Compliance Programs (ENV-CP)***
PO Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

***National Nuclear Security Administration***
***Los Alamos Field Office, A316***
3747 West Jemez Road
Los Alamos, New Mexico, 87545
(505) 667-5794/Fax (505) 667-5948

*Date*: AUG 27 2014
*Symbol*: ENV-DO-14-0230
*LAUR*: 14-26481
*Locates Action No.*: Not Applicable

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Dear Mr. Kieling:

**Subject: Transmittal of Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 7**

The purpose of this letter is to transmit remediation and repackaging documentation as requested via electronic mail (email) by the New Mexico Environment Department (NMED) on June 10, 2014. Written submissions and twice weekly technical phone calls are conducted between the NMED; Los Alamos National Security, LLC (LANS); and the U.S. Department of Energy (DOE) as stipulated by the modified Administrative Order No. 5-19001 issued by the NMED. The documentation contained within Enclosure 1 partially addresses Item # 13 of the *Summary Chart - Requested Information/Pending Issues* table which is part of the written daily submissions to the NMED from the DOE and LANS, the Permittees.

The June 10, 2014, email received from Tim Hall, NMED, included a request for additional information for 267 original nitrate salt-bearing waste containers generated by the Permittees and all resulting repackaged/remediated containers. This submittal includes remediation and repackaging documentation for daughter containers resulting from the repackaging and remeditation of the 267 original nitrate salt-bearing waste containers and is the seventh submittal in response to comment 5 in the June 10, 2014 email request. Because documentation to fulfill the request is still being compiled, the response to comment 5 of the email request will be transmitted in packages as they become available.

Enclosure 1 includes the pertinent documentation for twelve (12) of the original 267 parent waste containers and all associated daughter and granddaughter waste containers. The enclosed documentation for each parent waste container is separated by a tab and documentation for the daughter containers are highlighted within each tab by colored pages. These parent containers and their daughter and granddaughter containers were listed in the *Nitrate Salt Drums with Associated Waste Stream and Location Data for 267 Original Parent and 707 Current/Remediated Daughter Containers* table (as revised and submitted to the NMED on July 17, 2014).

If you have comments or questions regarding this submittal, please contact Mark P. Haagenstad at (505) 665-2014 or Gene E. Turner at (505) 667-5794.

Sincerely,

Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security LLC

Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Field Office
U.S. Department of Energy

AMD:GET:MPH:LVH/ms

Enclosures: (1) Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 7

Cy: Ryan Flynn, NMED, Santa Fe, NM, (E-File)
Tom Blaine, NMED, Santa Fe, NM, (E-File)
Steve Pullen, NMED/HWB, Santa Fe, NM, (E-File)
Timothy Hall, NMED/HWB, Santa Fe, NM, (E-File)
Trais Kliphuis, NMED, Santa Fe, NM, (E-File)
Peter Maggiore, NA-LA, (E-File)
Lisa Cummings, NA-LA, (E-File)
Gene E. Turner, NA-LA, (E-File)
Eric L. Trujillo, NA-LA, (E-File)
Kirsten M. Laskey, NA-LA, (E-File)
Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)
Michael T. Brandt, ADESH, (E-File)
Raeanna R. Sharp-Geiger, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
Jeffery D. Mousseau, ADEP, (E-File)
Daniel R. Cox, ADEP, (E-File)
Victoria A. George, REG-DO, (E-File)

Cy (continued):
Selena Z. Sauer, LC-ESH, (E-File)
Kenneth M. Hargis, LTP-PTS, (E-File)
Mark P. Haagenstad, ENV-CP, (E-File)
Luciana Vigil-Holterman, ENV-CP, (E-File)
lasomailbox@nnsa.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
env-correspondence@lanl.gov, (E-File)

COPY

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*Locates Action No.*: Not Applicable

RECEIVED
AUG 27 2014
NMED
Hazardous Waste Bureau

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

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# Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 7
# ENV-DO-14-0230
# LA-UR-14-26481

August 2014

Los Alamos
NATIONAL LABORATORY
EST. 1943

# ENCLOSURE 1

Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 7

ENV-DO-14-0230

LA-UR-14-26481

Date: AUG 2 7 2014

| ParentID | Intermediate Daughters | PKG_ID | Overpacked Into |
|---|---|---|---|
| S824541 | | 93605 | |
| S824541 | | 93606 | |
| S824541 | | 93607 | |
| S824660 | | 93593 | |
| S824660 | | 93594 | |
| S824660 | | 93595 | |
| S825020 | | 68323 | |
| S825020 | | 68332 | |
| S825020 | | 68347 | SB50026 |
| S825020 | | 68349 | |
| S825664 | 68981; 68718 | 69568 | |
| S825730 | | 68564 | |
| S825730 | | 68576 | |
| S825810 | | 68433 | SB50017 |
| S825810 | | 68618 | |
| S825810 | | 68619 | SB50079 |
| S825810 | | 68631 | |
| S825810 | | 68638 | |
| S825902 | | 68395 | |
| S825902 | | 68428 | SB50028 |
| S825902 | | 68512 | |
| S825902 | | 68575 | |
| S832040 | | 90840 | |
| S832040 | 90843 | 92139 | SB01943 |
| S832040 | 90843 | 92140 | |
| S832040 | 90842 | 92186 | |
| S832040 | 90841 | 92190 | SB01984 |
| S832140 | | 68304 | SB02107 |
| S832140 | | 68309 | |
| S832140 | | 68324 | |
| S832143 | | 68322 | |
| S832143 | | 68325 | SB50045 |
| S832144 | | 68508 | SB50094 |
| S832144 | | 68626 | |
| S832144 | | 68651 | |
| S832145 | | 68312 | SB02092 |
| S832145 | | 68329 | SB02098 |

S824541

**S824541**

Container Profile 768503

File Options Reports Help

# S824541

| 768503 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S824541

- S824541
  - 93608 - EMPTY
  - 93607 - WIPP
  - 93606 - WIPP
  - 93605 - LANL
    - LASB50446

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 100.0 | % | 93605 | 0.0 | kg |

Working Copy
Date: 5-2-13 w

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 5824541

6.2[4] Date Processed: 5-2-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107): N/A
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 7-31-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Gerald Esparza [signature] [illegible] 5-2-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: | S824541 |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 392.0 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 80.0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 472.0 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[28] | Approval to leave a parent drum attached to the WCG overnight: | |

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | N/A | | |

## ATTACHMENT 1

Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5824541

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93605 | | | |
| 10.1[4] | Daughter Drum Filter No. | LM-55 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-66067 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501011 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | BOP | | |
| | Model No. | 3CPV1.5-2SPVC | 3CPV1.5-2SPVC | | |
| | Serial No. | L-66063 | L-66064 | | |
| | Date of Manufacture | 2-13 | 2-13 | N | |
| 10.2[5] | POC ID No | D2374/93606 | D2375/93607 | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Nitrate Salts Plastic | Nitrate SALTS PLASTIC | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | GE 237720 | GE 237720 | A | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 392.8 | 379.0 | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 85.0 | 650.5 | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | N/A | | |
| 10.3[5][A] | Free Liquid Volume/Units | 1 gal | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead Shielding | N | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | | A | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | A | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 80% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | PLASTIC | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S824541

Comments: Poly liner, lead shielding, plastic, nitrate salts, liquid

11.1[1] Performed By: Gerald Espinoza [signature] 1237701 5-2-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez [signature] 1224521 5-2-13 1121
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 414994
Lot No.: 217570
Manufacture Date: 11

5.[8] Overpack filtered vent information:

Manufacturer: NILCFIL
Model No.: 013
Serial No.: #6-302
Manufacture Date: 5-11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 040494 | 0303169 |
| Cal. Expiration Date: | 9-26-13 | 12-18-13 |
| Tolerance: | +/-4%cw +/-6% ccw | ±3%cw ±6%ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Clayton Mullins, [signature] 1240092, 4/25/13
Waste Handling Technician (print) Signature Z# Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Clayton Mullins, [signature] 1240092, 4/25/13
Waste Handling Technician (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jerez, [signature] 1221452 5-7-13
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 5-2-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 93608

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3% MW ±6% MW

7.[25] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Gerald Espinoza / [signature] 1287201 / 5-2-13
Waste Handling Technician (print) Signature Z # Date

7.[27] Overpack drum closure ring torque value: 60 ft-lb

7.[30] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☐ SAT ☐ UNSAT

7.[35][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): 176.2 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] 1287202 / 5-2-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Jose Jerez / [signature] 721452 / 5-2-13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: 93605

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501011
Lot #: 02334
Date of Manufacture: 12

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 22PVC-1.5-2 GPVC
Serial #: 4-54652 2-66667
Date of Manufacture: 1-13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 01905
Serial #: LM-55
Date of Manufacture: 12-12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | CH0694 | M&TE ID #: | 025309 |
| Cal Expiration Date: | 9-26-13 | Cal Expiration Date: | 12-19-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±1% cw ±2% ccw | Tolerance: | ±3% cw ±6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Clayton Mullins Signature: [signature] Z#: 240092

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 754
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Clayton Mullins Operator Sign: [signature] Z#: 240092 Date: 4/25/13

Verifier Print: Gerald Espinoza Verifier Sign: [signature] Z#: 237720 Date: 5-2-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 83605

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 038373

Cal expiration date: 9-11-13

Range/ Value (ft-lbs): 10-80

Tolerance ±3/00 ±6/CW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 348.6

Scale ID#: 0190605

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date: 5-2-13

Verifier Print/Sign: [illegible] Date: 5-2-13

Working Copy
Date: 5-2-13

**ATTACHMENT 3**
Page 1 of 1

**WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET**

6.3[21] Prepared Parent 55-Gal Drum Number: S824541

6.3[15] (S) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-31-13

6.3[18] Prepared parent 55-gal drum weight (lb): 392.0

6.3[19] (S) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Brandon Chavez [signature] [illegible] 5-2-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Jose Jerez [signature] 221521 5-2-13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Jose Jerez [signature] 221521 5-2-13 1125
SOS/SOM or designee (print) Signature Z # Date Time

## ATTACHMENT 1

## WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

### Production Control

Container ID: S824541 Container Type: 85-GAL Gross Weight (lbs): 397
Inner Seal #: 009594 Filter Prefix: LAVC Filter Serial #: 00105
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS
Total PE-Ci Activity: 1.61E+01 Equivalent Combustible PE-Ci: 6.05E+00 AM-241 PE-Ci: 1.29E+01
Total Fissile Gram Equivalents: 38.4 Total Surface Dose Rate (mrem/hr): 6
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 1/14/2007 Comment: Impenetrable Obj.
Certified RTR Comment: None
Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ VE ☐ PID ☐ Split ☐ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☐ >1,000 and <10,000 ☑ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 a on the label. A minimum of 1.2 volumes of Kitty Litter (zeolite) must be mixed w/ the 1.0 vol of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature 117434 Z Number 10-6-10 Date

### WDP Engineering

SUSAN B. RAMSEY — Susan B. Ramsey — 100681 — 11/28/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: NITRATE SALTS. NET WASTE WEIGHT = 252 LBS IN 4 ITEMS. MAX ITEM WT = 70.42 KG (155 LBS). NO CURR RTR DATA. FAILED RTR PRE-SCREEN. ONE ITEM WITH 83.75 GRAMS PUSZ AND ANOTHER WITH 66.42 GRAMS PUSZ. MAXIMUM RWP FOR LIQUID NITRATE/NR. HOLD FOR HIGH-DOSE CAMPAIGN. NITRATE SALTS PREVIOUSLY EXHIBIT SIGNIFICANT VOLUME OF UNDOCUMENTED LIQUID
Performed By: ROBERT L. GRIFFIS (WDP Engineering (Print)) Signature 1303520 Z Number 11-4-10 Date

### TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy duty gloves during processing of waste.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.
Performed By: (TRU Remediation Operations (Print)) Signature 223477 Z Number 12/12/11 Date
Jose Jerez — 224152 — 1-8-13

IHS Review - John Amalfi CSP, No IH Concerns 12/4/12
ROBIN SHUCK RSO 272995 1-14-13

## Noncertified TRU Waste Drum Item Information

DrumID: 009594

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Lm) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | LXFS-626-F1 | | 12.730 | NITRATE SALTS | | 35.97 | 52 | 5/11 | |
| 2 | LXFS-625-F1 | | 70.420 | NITRATE SALTS | | 11.62 | 52 | 5/11 | |
| 3 | LXFS-611-FD | | 2.950 | NITRATE SALTS | | 83.75 | 52 | 5/11 | |
| 4 | V425A | | 28.180 | NITRATE SALTS | | 66.42 | 52 | 5/11 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 180.

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 197.76 | 114.28 |
| Totals | 197.76 | 114.28 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 10·18·10

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Gabe Romero | [redacted] | 1286973 | 10-20-10 |
| | / | / | / |

| Container No. (7.[1]): | S803304 | S804541 | S804184 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55 gal | 55 gal | 55 gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 72 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | 1.78 | 5.85 | 11.08 |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | 1.78 | 5.85 | 11.08 |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (7.[1]): | S823304 | S824541 | S824184 |
| Hydrogen Reading (ppm) (7.[10]): | 381.55 ppm | 317.48 ppm | 299.99 ppm |
| Methane Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (7.[11]): | 1.78 ppm | 5.85 ppm | 11.08 ppm |
| Filter Type (7.[9][F][c]/7.[9][G][a]): | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack.

11.1[1] Performed By: Alicia Herrera / [signature] 198460 / 10-13-10
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ Reviewed By: Henry Romero Henry Romero 111786 / 10-27-10
11.1[8] Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101012c\
Data File : S824541.D
Acq On : 12 Oct 2010 2:58 pm (#1); 12-Oct-10, 14:57:36 (#2)
Operator : SA
Sample :
Misc : 55 GALLON SAMPLED FROM 85 GALLON OVERPACKED (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 12 15:06:48 2010
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed Aug 18 13:26:05 2010
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.665 | 96 | 2551395 | 207.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.984 | 117 | 1816635 | 180.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.654 | GC1 | 2433m | 317.48 | ppmv | |
| 12) Benzene | 3.332 | 78 | 67939 | 5.85 | ppmv | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Tue Oct 12 15:06:53 2010

5-2-13

0600 Assuming WCRRF Operations Center - Calendar
0610 Starting outside rounds.
0615 Maintenance Pre job being conducted by 5-2-13
0631 Completed outside rounds.
0710 Starting inside rounds
0726 Item #3 is OOS, POD in place ok to proceed.
0727 Inside rounds complete.
0739 Starting shut down of ventilation.
0742 Ventilation shut down is complete.
0748 Buzzer alarm acknowledged.
0751 Maintenance entering WCRRF yard to start work FE-002 motor and fan repairs WO 00463238-01
0808 Starting up ventilation
0816 Rounds have been signed off by SOS.
0820 Shutting down ventilation
0823 Ventilation is shut down.
0825 Buzzer alarm acknowledged.
1050 Starting up ventilation.
1052 Ventilation startup is completed
1055 Maintenance exiting Daiddity work on FE-002 is complete
1120 Mode change performed TA50-69, and WCRRF yard now in operations.
1130 Starting movement into 50-69
1150 Completed movement 5-2-13 into 50-69.
1230 Starting to dust 1 drum.
1248 Completed denesting bagging on 9824541
1300 Bag on complete
1503 Commencing outside rounds
1509 Item #3 is unset, FSR in place ok to proceed
1521 Completed outside rounds.
1512 Starting movement into 50-69
1538 Completed movement into 50-69
1630 Bagging of last drum.
1631 Starting inside rounds.

Continued on next page enclosed

6-2-13 Continued from previous page - CKeland
1721 Bag ~~op~~ complete.
1743 starting movement out of 50-69
1750 Completed rounds by GOB.
1800 mode change performed TA50-69 and WCRRF yard is in warm standby.
1802 movement complete out of 50 69
1830 end of day WCRRF operations center secure - CKeland

No further entries this page

5/2/13 WCRR SOS Log Book

0600 Assuming SOS position for the day Jim Joy

0615 Starting Pre-Job brief. Maintenance performing their pre-job going over their work package, BWP maintenance brief as well, escorts assigned.

0655 Maintenance concluded pre-Job brief

0700 Starting Operations Pre-Job brief, Safety Topic Slips, Trips and falls at home, ensuring it doesent affect you at home and prevent you from being able to work. Briefed to Shift Order on reading Parent or daughter numbers from containers and not SED's packets. After maintenance is complete will change Modes into Operations for processing.

0715 Concluded Pre-Job brief.

0816 Reviewed and signed inside and outside rounds.

0820 Shutting down ventilation

0823 Ventilation shut down

1050 Starting up ventilation

1052 Ventilation Startup is Complete, all readings are normal.

1055 Maintenance exiting the area, work on FE-002 complete, no parts have been replaced due to parts are not the same an CSE needing to do an item dedication to use the parts available.

1120 Mode change performed TA-50 69 and WCRR yard is in operations.

1230 Starting to D-Nest 1 drum

1248 D-Nesting Complete, bagging on 5824541

1300 Bag on Complete

1721 Bag off Complete. Total of 2 POC's and 1 daughter

1750 Signed and Reviewed Rounds.

1830 Securing SOS position for the day Jim Joy

No further entries on this page

171 PROJECT NAME 5213 NOTEBOOK NO.

0600 Assumed the WCRR SOM position
0610 Released WO #46323801 SD-69 FE002 motor: fan Repair.
0615 Attended the pre job briefing conducted by MSS supervisor. Discussed noise and hearing hazards. SD 69 in Cold standby. Maintenance RWP briefed to all personnel involved with work. CSE C. Pilcher will be available via telephone and will be at WCRR to close off work package.
0650 Pre job briefing complete.
0710 Call in to daily TA54 shift brief.
0715 Requested operations to turn ventilation down to support maintenance.
0745 Turning over SOM duties to L. Jackson to attend Lean Six Sigma Awareness training.
0745 ASSUMED SOM POSITION.
0830 TURNING OVER SOM DUTIES TO G. FERNANDEZ.
0930 Assuming the WCRR SOM position.
0945 Met with MSS, CSE and to discuss FE002. The bearing that were ordered are not the same part #'s needed. CSE recommended that the bearings existing be greased and belts inspected and replacement by balance to take place in a couple of days once proper documentation is in place for new bearings.
1055 Ventilation startup complete. Bearings have been greased.
1100 Closing out work packages
1120 Mode change complete. WCRR YARD/SD 69 from WARM/COLD to OPERATIONS/OPERATIONS.
1200 Daily call in with PM/OM. DVS is down due to criticality.
1225 Safe entry 0710 observed carpet coming up on SSW's office. FSR submitted. Observation conducted during BBS observation. Tape was immediately layed down.
1721 Operations dropping off one daughter and two POC's from patient.
1800 All waste in a safe condition. Mode change complete. WCRR YARD/SD 69 from OPERATIONS/OPERATIONS to WARM/WARM.
1830 Securing the SOM position.

no further entries this page

SIGNATURE DATE 5-2 2013
READ AND UNDERSTOOD DATE 20

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0052 |
| Examination Date: | 5/9/2013 |
| Waste Container ID: | 93605 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0052 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 158.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 124.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet



Waste Container ID: 93605

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic liner bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.1 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 110.5 |
| Soils (S): | |
| Total WMP Weight: | 124.6 |

# CCP Radiography Data Sheet



Waste Container ID: 93605

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Eric Lyles | | 5/9/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93605 | Count Sequence Number: | 15774 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 5/14/2013 2:01:26 PM | | |
| Description 1: | 2LANDA1158 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 125.0 kg | Net: | 125.0 kg |
| Container: | Volume: 208.0 l | Full: | 75.0 % |
| Density: | 0.800 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 15774 | Batch Number: | 2LANDA1158 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93605 | Analysis Date: | 5/14/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 125000.0 g | | |
| Pu mass | 2.31E+001 | +- 5.12E+000 | g |
| TRU Alpha Activity | 1.44E+001 | +- 6.69E+000 | Ci |
| TRU Activity Concentration | 1.15E+005 | +- 5.35E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.45E+001 | +- 6.69E+000 | Ci |
| Pu-239 FGE | 2.11E+001 | +- 4.60E+000 | g |
| Decay heat | 4.76E-001 | +- 2.23E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.97E-001 | 1.41E-004 | 2.82E-005 | 5.63E-006 |
| PU238 | 2.32E-002 | 4.01E-001 | 8.89E-002 | 2.42E-004 |
| PU239 | 2.07E+001 | 1.30E+000 | 2.90E-001 | 7.88E-004 |
| PU240 | 2.11E+000 | 4.85E-001 | 1.08E-001 | 2.93E-004 |
| AM241 | 3.51E+000 | 1.22E+001 | 6.68E+000 | 8.65E-002 |
| PU241 | 8.69E-002 | 9.04E+000 | 2.01E+000 | 5.46E-003 |
| PU242 | 1.03E-001 | 4.08E-004 | 9.06E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.11E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.03E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.39E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.66E-005 |
| AM243 | 1.02E-004 | 2.06E-005 | 4.37E-006 | 7.39E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 5-20-13

ITR: _____ Date: 5-22-13

## Automated Independent Technical Review

Count Sequence Number: 15774 Batch Number: 2LANDA1158
Counter ID: HENC #2
Container ID: 93605
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/14/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | OK<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Pu results taken from Passive Neutron data, U from Quantitative Gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. FRAM results applied. FRAM results attached. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: [signature] Date: 5/20/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93605**

BDR Number: **LA13FG2057**

Sampling Date: **5/17/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 5597.12 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130517c\
Data File : 93605.D
Acq On : 17 May 2013 1:20 pm (#1); 17-May-13, 13:19:59 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 13:28:23 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.571 | 96 | 4318761 | 201.25 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.907 | 117 | 3813132 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.554 | GC1 | 39781m | 5597.12 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0068 |
| Examination Date: | 5/8/2013 |
| Waste Container ID: | 93606 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0068 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 178.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 33.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 93606

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 33.4 |
| Soils (S): | |
| Total WMP Weight: | 33.4 |

# CCP Radiography Data Sheet



Waste Container ID: 93606

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 5/8/2013 |
|---|---|---|
| Print Name | Signature | Date |

## NDA 2000 Assay Report

### Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93606 | Count Sequence Number: | 22786 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 5/15/2013 12:02:07 PM | | |
| Description 1: | 1LANDA1771 | | |
| Description 2: | POC, 178.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 33.4 kg | Net: | 33.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.763 kg /l | | |

### System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22786 | Batch Number: | 1LANDA1771 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93606 | Analysis Date: | 5/15/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 33400.0 g | | |
| Pu mass | 6.26E+001 | +- | 2.27E+001 g |
| TRU Alpha Activity | 7.19E+000 | +- | 1.55E+000 Ci |
| TRU Activity Concentration | 2.15E+005 | +- | 4.64E+004 nCi/g |
| Pu-239 Equivalent Activity | 7.33E+000 | +- | 1.55E+000 Ci |
| Pu-239 FGE | 5.90E+001 | +- | 2.26E+001 g |
| Decay heat | 2.30E-001 | +- | 4.85E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 6.95E-009 | 9.59E-007 | 5.69E-007 | 0.00E+000 |
| CS137 | 1.09E-008 | 9.59E-007 | 5.69E-007 | 5.90E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.46E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.63E-006 |
| NP237 | 4.33E-002 | 3.10E-005 | 6.09E-006 | 2.74E-006 |
| PU238 | 5.74E-003 | 9.93E-002 | 4.03E-002 | 1.21E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.34E-005 |
| PU239 | 5.87E+001 | 3.69E+000 | 1.42E+000 | 4.50E-002 |
| PU240 | 3.75E+000 | 8.63E-001 | 3.54E-001 | 1.05E-002 |
| AM241 | 7.31E-001 | 2.54E+000 | 5.00E-001 | 1.40E-001 |
| PU241 | 7.35E-002 | 7.64E+000 | 3.14E+000 | 9.30E-002 |
| PU242 | 1.25E-002 | 4.97E-005 | 2.04E-005 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 5-17-13

ITR: _____ Date: 5-17-13

## Automated Independent Technical Review

Count Sequence Number: 22786 Batch Number: 1LANDA1771
Counter ID: MCS HENC #1
Container ID: 93606
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/15/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 5-16-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93606**

BDR Number: **LA13FG8032**

Sampling Date: **5/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 509.37 | |
| 74-82-8 | Methane | 213.40 | U |
| 67-56-1 | Methanol | 27.87 | U |
| 60-29-7 | Ethyl Ether | 1.25 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.71 | U |
| 67-64-1 | Acetone | 16.90 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.24 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.55 | U |
| 78-93-3 | Methyl ethyl ketone | 9.86 | U |
| 110-82-7 | Cyclohexane | 5.84 | U |
| 71-43-2 | Benzene | 0.71 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.51 | U |
| 71-36-3 | 1-Butanol | 1.36 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.34 | U |
| 108-88-3 | Toluene | 5.29 | |
| 108-90-7 | Chlorobenzene | 1.69 | U |
| 100-41-4 | Ethylbenzene | 2.62 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.48 | U |
| 95-47-6 | o-Xylene | 1.76 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.92 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130522C\
Data File : 93606.D
Acq On : 22 May 2013 3:01 pm (#1); 22 May 2013 3:00 pm (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : POC Through Filter
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 22 15:12:28 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.256 | 96 | 2259349 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.940 | 117 | 2074441 | 179.50 ppm | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 5.241 | GC1 | 125857m | 509.37 ppm | |
| 17) Toluene | 4.779 | 92 | 25348 | 5.29 ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0068 |
| Examination Date: | 5/8/2013 |
| Waste Container ID: | 93607 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0068 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 172.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 26.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 93607

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 26.9 |
| Soils (S): | |
| Total WMP Weight: | 26.9 |

# CCP Radiography Data Sheet



Waste Container ID: 93607

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 5/8/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                        NDA 2000 Assay Report                          |
|-----------------------------------------------------------------------|

*************************    Item Information    ************************

Item ID:.           93607              Count Sequence Number:  22777
Operator:           D3PW2DK1\operator
Assay Start:        5/14/2013   2:51:54 PM
Description 1:      1LANDA1770
Description 2:      POC, 172.0
Location:           LANL TA-54
Comment:            AK-6, Not Precision
Matrix Type:        Homo Sol. S3000
Container Type:     55 gallon drum
Weight:             Net:        26.9   kg        Net:    26.9 kg
Container:          Volume:    208.0   l        Full:    95.0 %
Density:                         0.730 kg /l


************************   System Configuration   ***********************

Counter:                        MCS HENC #1
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks On (GE -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22777 | Batch Number: | 1LANDA1770 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93607 | Analysis Date: | 5/14/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 26900.0 g | | |
| Pu mass | 1.06E+002 | +- | 1.94E+001 g |
| TRU Alpha Activity | 2.37E+001 | +- | 2.87E+000 Ci |
| TRU Activity Concentration | 8.80E+005 | +- | 1.07E+005 nCi/g |
| Pu-239 Equivalent Activity | 2.40E+001 | +- | 2.87E+000 Ci |
| Pu-239 FGE | 9.82E+001 | +- | 1.78E+001 g |
| Decay heat | 7.72E-001 | +- | 9.49E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 8.13E-002 | 5.81E-005 | 1.11E-005 | 3.67E-006 |
| PU238 | 7.28E-002 | 1.26E+000 | 2.30E-001 | 1.85E-004 |
| PU239 | 9.75E+001 | 6.13E+000 | 1.12E+000 | 8.98E-004 |
| PU240 | 8.40E+000 | 1.93E+000 | 3.52E-001 | 2.83E-004 |
| AM241 | 4.13E+000 | 1.43E+001 | 2.62E+000 | 2.10E-003 |
| PU241 | 2.30E-001 | 2.39E+001 | 4.37E+000 | 3.51E-003 |
| PU242 | 1.96E-001 | 7.76E-004 | 1.42E-004 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.60E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.41E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.17E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.88E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 5-16-13

ITR: _____ Date: 5·16·13

## Automated Independent Technical Review

Count Sequence Number: 22777 Batch Number: 1LANDA1770
Counter ID: MCS HENC #1
Container ID: 93607
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/14/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Expert review is recommended; the following validity tests failed:<br><br>FWHM of 122 keV peak (890 eV) is greater than allowed (800 eV).<br><br>Pu239 weight percent is outside limits [ 92.5, 95.0]. | MGA valid.<br><br>After EA review, FWHM value acceptable.<br><br>Pu239 percent consistent with MT-53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 5-15-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93607**

BDR Number: **LA13FG8032**

Sampling Date: **5/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 1006.44 | |
| 74-82-8 | Methane | 213.40 | U |
| 67-56-1 | Methanol | 27.87 | U |
| 60-29-7 | Ethyl Ether | 1.25 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.71 | U |
| 67-64-1 | Acetone | 18.05 | |
| 75-34-3 | 1,1-Dichloroethane | 4.24 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.55 | U |
| 78-93-3 | Methyl ethyl ketone | 9.86 | U |
| 110-82-7 | Cyclohexane | 5.84 | U |
| 71-43-2 | Benzene | 6.40 | |
| 107-06-2 | 1,2-Dichloroethane | 1.51 | U |
| 71-36-3 | 1-Butanol | 1.36 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.34 | U |
| 108-88-3 | Toluene | 7.49 | |
| 108-90-7 | Chlorobenzene | 1.69 | U |
| 100-41-4 | Ethylbenzene | 2.62 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.48 | U |
| 95-47-6 | o-Xylene | 1.76 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.92 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130522C\
Data File : 93607.D
Acq On : 22 May 2013 2:50 pm (#1); 22 May 2013 2:49 pm (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : POC Through filter
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 22 14:57:59 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.253 | 96 | 2361569 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.940 | 117 | 2115002 | 179.50 ppm | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 5.239 | GC1 | 248674m | 1006.44 ppm | |
| 7) Acetone | 1.426 | 58 | 10065 | 18.05 ppm | 87 |
| 12) Benzene | 2.874 | 78 | 38280 | 6.40 ppm | 99 |
| 17) Toluene | 4.776 | 92 | 36621 | 7.49 ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S824660

# S824660

Container Profile 754165

File Options Reports Help

# S824660

| 754165 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S824660

S824660
- 93594
- 93596 – EMPTY
- 93595
- 93593

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 33.3329851666667 | % | | | |

Working Copy
Date: 4-30-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5824660

6.2[4] Date Processed: 4-30-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019865
Cal. Due Date: 7-31-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brian Gallegos / B. Gallegos / 267129 4-30-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: | S8246060 |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 418.6 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 120.0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 538.6 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[28] | Approval to leave a parent drum attached to the WCG overnight: | |

N/A

EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 58246660

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93593 | 93594 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-41 | LM-39 1-1-13 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6648 | ~~L-6757~~ L-6657 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501186 | 501011 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | | | |
| | Model No. | 6CPVC1.5-2SP/C | | | |
| | Serial No. | L-6598 | | | |
| | Date of Manufacture | 01/13 | | | |
| 10.2[5] | POC ID No | 93595 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | NITRATE SALT | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BG 267129 | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 379.6 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 650 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 LITERS | 1 LITER | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | LEAD SHIELDING | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | N A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 50% | 90% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | KITTY LITTER, NEUTRALIZER AND BAG OUT STUBS | KITTY LITTER, BAG OUT STUBS | | |

N/A

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S8246600

Comments: ROOM TRASH, PLASTICS, NITRATE SALTS, TAPE, NEUTRALIZER, KITTY LITTER, FILTER MEDIA

11.1[1] Performed By: BRIAN GALLEGOS / [signature] / 2607129 4-30-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: JOSE SEREE / [signature] / 221452 / 4/30-1-13 0755
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501012
Lot No.: 0237945
Manufacture Date: 12

5.[8] Overpack filtered vent information:

Manufacturer: NUCFil
Model No.: 013
Serial No.: JL-1842
Manufacture Date: 10-11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 040694 | 038369 |
| Cal. Expiration Date: | 9-26-13 | 12-18-13 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Adam Segovia / [signature] 276702 / 4-18-13
Waste Handling Technician (print) Signature Z # Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Adam Segovia / [signature] 276702 / 4-18-13
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jasso / [signature] 1221452 / 5-1-13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 4-30-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 93596

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw.

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brian Gallegos / Bri Gallegos / 2 /
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 173.2 lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos / Bri Gallegos / 2671129 4-30-13
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jerez / Jose Jerez / 2214521 / 5-1-13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 93593

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501186
Lot #: ~~0239~~ 024763
Date of Manufacture: 2012

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: Bop
Model #: 6CPVC-1.5-25PVC
Serial #: C-6648
Date of Manufacture: 1-13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: NuCFI
Model #: 019DS
Serial #: LM-41
Date of Manufacture: 12-12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 040694 | M&TE ID #: | 038369 |
| Cal Expiration Date: | 9-26-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | Tolerance: | ±3% cw ±6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Justin Lopez Signature: [signature] Z#: 266436

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtight (lbs) 76.0
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [ ] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Justin Lopez Operator Sign: [signature] Z#: 266436 Date: 4-26-13

Verifier Print: Brian Gallegos Verifier Sign: [signature] Z#: 267129 Date: 4-30-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 93593

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 038373

Cal expiration date: 9-11-13

Range/ Value (ft-lbs): 10-80

Tolerance ±3% cw ±6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 153.2

Scale ID#: 0190105

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date: 4-30-13

Verifier Print/Sign: Eddie Rios Date: 4-30-13

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: 93594

**1. Drum/Lid Assembly**

- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501011
Lot #: 0733415
Date of Manufacture: 12

**2. Drum Liner Bag/Filter Assembly:**

- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 60PVC-1.5-2SPVC
Serial #: 1-66657
Date of Manufacture: 1-13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 019DS
Serial #: LM-39
Date of Manufacture: 12-12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 040694
Cal Expiration Date: 9-26-13
Range (ft-lbs or in-lbs): 40-200
Tolerance: +/-4% cw +/-6% ccw

Jam Nut / Bung torque wrench:
M&TE ID #: 028369
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 10-80
Tolerance: +/-3% cw +/-6% ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

☑ Yes ☐ No

Print Name: Kevin Belusoak Signature: Kevin Belusoak Z#: 238199

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtght (lbs) 75.6
File ID #: 019065

☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Kevin Belusoak Operator Sign: Kevin Belusoak Z#: 238199 Date: 04/25/13

Verifier Print: Brian Gallegos Verifier Sign: Bri Gallegos Z#: 267129 Date: 4-30-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 93994

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

☑ Mount lid with filter directly over drum seam.

☑ Install ring with bolt positioned downward and directly over drum seam.

☑ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

☑ Tighten jam nut.

Record torque wrench information:

MT&E #: 038373

Cal expiration date: 9-11-13

Range/ Value (ft-lbs): 10-80

--- Tolerance ±3% cw ±6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

☑ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

☑ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

☑ Place one yellow radioactive waste label between the top two rolling hoops

☑ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

☑ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight (lbs): 369.6 ±

Scale ID#: 019065

☑ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

☑ Have RCT monitor drum prior to moving to storage area.

☑ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

☑ Complete TWSR.

Operator Print/Sign: [illegible] Date: 4-30-13

Verifier Print/Sign: [illegible] Date: 4-30-13

72
NR
6.10.12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S824660 Container Type: 55-GAL Gross Weight (lbs): 423
Inner Seal #: 010998 Filter Prefix: LAVC Filter Serial #: 03278
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST12 NITRATE SALTS
Total PE-Ci Activity: 1.71E+01 Equivalent Combustible PE-Ci: 6.41E+00 AM-241 PE-Ci: 1.42E+00
Total Fissile Gram Equivalents: 185.9 Total Surface Dose Rate (mrem/hr): 12
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/23/2007 Comment: Impenetrable Obj.
Certified RTR Comment: None

| | | | | | |
|---|---|---|---|---|---|
| Prohibited Items: | ☒ Sealed > 4 Liters | ☒ Liquid | ☐ Pressurized Container | ☑ Impenetrable Item | ☒ Other |
| Security Determination: | | | | ☑ Green | ☐ Yellow |
| Remediation Determination: | ☑ VE | | ☐ PID | ☐ Split | ☑ Repack |
| Estimated 30-cm Dose Rate (mrem/hr): | ☐ <100 | | ☐ >100 and <1,000 | ☑ >1,000 and <10,000 | ☐ >10,000 |

TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature: R. W. Jones Z Number: 117434 Date: 12.8.11
SUSAN S. RAMSEY Signature: Susan S. Ramsey Z Number: 100681 Date: 11/28/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 363 lb. Nine items; heaviest item weighs 117 lb while others range from 5 lb to 35 lb

Drums w/ nitrate salts may contain undocumented liquids

May require RWP for > 1000 and < 10000 mrem/hr @ 30 cm

Drum may have lead liner
Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 12/15/11

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use Heavyweight gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure
Performed By: Joe Jerez (TRU Remediation Operations (Print)) Signature: Joe Jerez Z Number: 221452 Date: 1-7-13 1-7-13
VER Robin Shult 252995 1-14-13
IHG Review. Gary Smallwood CSP, No IH concerns 12/4/12

C

# Discardable Waste Log Sheet

## DrumID: 010998

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS631 | 3.64 | NITRATE SALTS | | 10.07 | 53 | 5/11 | |
| 2 | IXFS640F1 | 7.73 | NITRATE SALTS | | 5.79 | 53 | 5/11 | |
| 3 | IXFS643F1 | 3.18 | NITRATE SALTS | | 2.59 | 52 | 5/11 | |
| 4 | IXFS692F1 | 12.27 | NITRATE SALTS | | 19.89 | 52 | 5/11 | |
| 5 | IXFS699F1 | 15.45 | NITRATE SALTS | | 11.96 | 52 | 5/11 | |
| 6 | IXFS645F1 | 15.91 | NITRATE SALTS | | 1.83 | 52 | 5/11 | |
| 7 | IXFS637F1 | 7.27 | NITRATE SALTS | | 95.12 | 52 | 5/11 | |
| 8 | IXFS647F1 | 2.05 | NITRATE SALTS | | 0.18 | 52 | 5/11 | |
| 9 | IXFS698F1 | 53.18 | NITRATE SALTS | | 50.25 | 52 | 5/11 | |
| | | 120.68 kg | | | | | | |

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 3/29/12

| Container No. (5.[1]) | S825021 | S833931 | S841292 | S823221 | S832150 | S824660 |
|---|---|---|---|---|---|---|
| Filtered Vent Type (5.[1]) | 72 | 72 | 72 | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | 245 ppm | Ø ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 123.62 ppm | 435.44 ppm | Ø ppm | 409.31 ppm | 614.31 ppm | 382.91 ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell (CCP (Print)), 234183 (Z#)

Reviewed By: Sara Aragon (CCP (Print)), 237975 (Z#)

Comments: N/C

6.1[2][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[2][B]/ 6.1[3] Performed By: Alicia Herrera (Waste Handling Operator (print)) [signature] (Signature) 198480 (Z#), 4/2/12 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120329c\
Data File : S824660.D
Acq On : 29 Mar 2012 2:35 pm (#1); 29-Mar-12, 14:34:20 (#2)
Operator : SA
Sample :
Misc : 55 GALLON LFL DRUM THROUGH FILTER, 72 FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 14:43:52 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Mar 06 12:05:15 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.681 | 96 | 4038863 | 209.00 ppmv | 0.06 |
| 15) Chlorobenzene-d5 | 5.984 | 117 | 2729814 | 185.50 ppmv | 0.04 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.611 | GC1 | 2828m | 382.91 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Thu Mar 29 14:44:01 2012

4-30-13

0600 Assuming WCRR operations center - JColeman
0610 Maintenance pre-jobs being conducted.
0635 Operations pre-job being conducted by SOS.
0645 Beginning outside rounds.
0650 Maintenance entering WCRRF to begin PM's on the boiler and the generator. WO# 481422-01 and WO# 461716-01.
0655 Item #3 on the rounds is unsat. FSR in place, Okay to proceed.
0708 Outside rounds complete.
0713 Per SOM, Okay to raise the thermostat inside to 70° to accomodate the boiler pm.
0715 Shutting down Ventilation to perform the quarterly channel function test.
0716 Ventilation down. Acknowledged mizer alarm.
0732 Beginning inside rounds.
0740 Item #63 is OOS. POD in place. Okay to proceed.
0743 Restarting ventilation.
0750 Ventilation is up and running. All readings are normal.
0756 Inside rounds complete.
0820 Boiler pm complete. Resuming quarterly function test.
0823 Both rounds reviewed by SOS.
0834 Shutting down ventilation
0835 Ventilation down.
0836 Late entry at 0820, began annual transportainer inspection procedure # EP-WCRR-WO-DOP-0304. (JC) 0835 completed inspection (JC)
0847 Permission granted to lower the vehicle access gates to begin to load the transfer vehicle for a shipment to Area G.
0900 Generator pm complete.
0917 Restarting ventilation.
0920 Fire drill being conducted.
0925 Ventilation up and running. All readings are normal. The quarterly channel function test is complete.
0926 The fire drill is now complete.
0955 The vehicle access gates have been restored. Transportainers secured. Shipment out complete.
Continued on next page - JColeman

4-30-13 Continued from previous page. JColeman

1025 Mode change complete. We are now in operations in WCRRF yard and 50-69.

1031 Initiating a drum movement from transportainers to 50-69.

1055 Notified by SSW that while observing the drum movement into 50-69 that a drum they wanted to move in was not there. SOS, SOM, notified. Upon further evaluation, the drum that was to be moved in was actually moved into 50-69 on Saturday. There is currently no inventory inside 50-69. OM notified

1135 Per OM and SOM, okay to continue processing. Discovered that drum #5832241 was reported to have been pushed into 50-69 on Saturday 4-27-13, but drum #5832141 was the drum that actually went into 50-69. Drum #5832141 was processed yesterday 4-29-13. Per OM, the SSW needs to be present for drum movements to verify.

1200 The current MAR for WCRR is - Site: ~~650.37~~ 646.82 JC 4-30-13, 50-69: 0, 194/75: ~~650.3~~ JC 4-30-13 646.8

1329 Beginning inside rounds.

1330 Late entry - at 1319, began drum movement into 50-69. 1329, drum movement complete. JC

1349 Item #63 is OOS. Okay to proceed.

1355 Inside rounds complete.

1359 Bagging on S824660. PPE check is Sat.

1411 Bag on complete.

1502 Bagging off 1 daughter, bagging on another daughter.

1516 Bag off complete.

1631 Bagging off 1 daughter and 1 POC.

1638 Beginning outside rounds.

1642 Item #3 is unsat, okay to proceed.

1650 Outside rounds complete.

1655 Both rounds reviewed by SOS.

1708 Bag off complete.

1747 Mode change complete. We are now in warm standby in WCRRF yard and 50-69.

4-30-13 1830 End of day. OCC position secure. JColeman

No further entries this page

4-30-13 WCRR SOS Log Book

0600 Assuming SOS position for the day. [illegible]

0615 Starting Pre-Job. Maintenance scheduled this morning for the boilers and for the Generator. Will also be conducting the Transportainer and Channel Function test. Once all maintenance is complete will go into Ops Mode. Fire Drill scheduled for today and 1 shipment out also scheduled today.

0630 Pre-Job Brief Concluded.

0715 Shutting down ventilation for Channel Function test

0730 SOM and I talked to CSE, Boiler PM cannot be performed at the same time as Channel Function test because of ventilation being down. Ventilation needs to be operating for PM to be Conducted on the Boilers.

0743 Starting ventilation Back up.

0750 Ventilation is up and running. All readings are normal.

0815 Boiler PM complete. Can Start on Channel Function test.

0823 ~~Ro~~ Reviewed and signed Rounds

1002 All maintenance work completed including Channel Function Test and Transportainer. SOM signing off on work packages to close out. Once completed, Mode change will be performed and Parents for processing will be pushed into the facility for processing.

1025 Mode Change WCRR Yard and SO-69 are in Operations.

1030 Operator notified me that one of the parent-drums I asked to move in, he was not able to find in the transportainer. Talked with Inventory Control about it, upon further investigation it was discovered that the parent drum that was asked to move in today was moved in on Saturday and processed yesterday. The SEDs packet that Operators had inside was not the Correct SED's for the drum that they processed.

1135 Per Odl and SOM, operations can resume. Investigation identified that Parent # 5832241 was reported as being pushed into SO-69 to be processed on Saturday

Continued on next page

Continued from previous page
The actual drum that was pushed in was 5832141 and processed yesterday. Per OM SSW will need to be present for drum movements as a verification of the proper Parent number being reported.

1359 Bagging on 5824660. PPE Check SAT
1411 Bag on Complete
1502 Bagging off 1 daughter, will continue to process parent.
1516 Bag off Complete.
1630 Starting to Bag off 1 daughter and 1 POC. Bagging off last drum for the day.
1655 Reviewed and signed off rounds.
1707 Bag off complete.
1747 Mode Change complete. WCRR yard and 50-69 are in WARM. Processed 1 parent, generated 2 daughters and 1 POC.
1815 Securing 505 position for the day
MG

No further entries on this page.

0600 Assumed WCRR SOM position.
0605 Released the following Work Orders:
#461422-01 (M) 50-69 Hot Water Boilers
#461716-01 (M) GDE-001 Mechanical 50-69
0630 Prejob briefs completed w/ MSS and RP-1 for PM's.
0638 Received permission from OM that all crews working inside WCRR footprint are exempt from today's Fire Alarm drill in the Admin Area. OCO will also stay manned during drill and will not be required to go to master station.
0700 Called into daily TA-54 SOM shift brief.
0713 Authorized 50-69 thermostat to be set to 70°F to support Boiler Maintenance.
0720 Identified conflict between performance of quarterly channel function test and Hot Water Boiler PM - Delaying Quarterly Test until Boiler PM is complete.
0836 Annual Transportainer Integrity Inspection completed per EP-WCRR-WO-DOP-0304 for 50-75 and 50-194.
0900 GDE-001 PM is complete.
0920 Fire drill being conducted for WCRR Admin Area - All personnel besides those exempt assembled to secondary master station.
0924 Fire drill complete.
0930 Late Entry 0820 Boiler Maintenance complete.
1000 All work orders signed off. Obtained CSE signatures.
1025 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm/Cold to Operations/Operations.
1055 Notified by SOS + SSW that it is discovered S832241 which was thought to have been processed yesterday was still in transportainer. What was actually processed was S832141. Verified that no TSR's were violated, OM notifying FOD and DOE
1135 Further investigation showed drum S832141 was pushed in Saturday evening (4/27) but SED for S832241 and all attachments for movement and then processing were filled out using S832241. Have OM approval to continue processing but will require SSW to independently verify drums being moved into 50-69. Inventory control requested some time to verify MAR tracking is correct.
1200 Called into weekly SEDs/LFL status meeting and called into daily PM call in.
1359 Bagging on 1st drum.
1515 SOM to TA-54 to review work packages.
1630 SOM back on site.
1708 All bag outs complete.
1747 Completed Mode Change: WCRR Yard/Bldg 50-69 from Operations/Operations to Warm/Warm
1830 Secured SOM position.

COLLECTED BY DATE 4/30 20 13
READ AND UNDERSTOOD DATE 20

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93593 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 69.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 36.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 40 % |

# CCP Radiography Data Sheet



Waste Container ID: 93593

**Section 3: Container Inventory and Comments** (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

**Section 4: Packaging Material and Waste Material Parameters**

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 30.1 |
| Soils (S): | |
| Total WMP Weight: | 36.1 |

# CCP Radiography Data Sheet



Waste Container ID: 93593

| Section 5: RTR Summary<br>(Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
N/A

RTR Operator:

| Benito Maestas | | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                          NDA 2000 Assay Report                        |
|-----------------------------------------------------------------------|

************************    Item Information    ************************

Item ID:            93593              Count Sequence Number:  22749
Operator:           D3PW2DK1\operator
Assay Start:        5/8/2013    3:33:11 PM
Description 1:      1LANDA1767
Description 2:      N/A
Location:           LANL TA-54
Comment:            AK-6
Matrix Type:        Homo Sol. S3000
Container Type:     55 gallon_drum
Weight:             Net:        36.1   kg        Net:    36.1 kg
Container:          Volume:    208.0   l        Full:    40.0 %
Density:                        0.430 kg /l


************************   System Configuration   ************************

Counter:                        MCS HENC #1
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks On (GE -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22749 | Batch Number: | 1LANDA1767 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93593 | Analysis Date: | 5/8/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 36100.0 g | | | |
| Pu mass | 2.00E+001 | +- | 2.53E+000 | g |
| TRU Alpha Activity | 4.41E+000 | +- | 3.76E-001 | Ci |
| TRU Activity Concentration | 1.22E+005 | +- | 1.04E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.51E+000 | +- | 3.76E-001 | Ci |
| Pu-239 FGE | 1.83E+001 | +- | 2.29E+000 | g |
| Decay heat | 1.44E-001 | +- | 1.24E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 4.37E-002 | 3.12E-005 | 4.40E-006 | 1.77E-006 |
| PU238 | 7.44E-003 | 1.29E-001 | 1.63E-002 | 8.79E-005 |
| PU239 | 1.81E+001 | 1.14E+000 | 1.44E-001 | 7.77E-004 |
| PU240 | 1.84E+000 | 4.23E-001 | 5.34E-002 | 2.89E-004 |
| AM241 | 7.82E-001 | 2.72E+000 | 3.43E-001 | 1.85E-003 |
| PU241 | 5.95E-002 | 6.18E+000 | 7.81E-001 | 4.22E-003 |
| PU242 | 3.23E-002 | 1.28E-004 | 1.62E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.04E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.46E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.01E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 9.21E-006 |

Errors quoted at 1.000 sigma

Operator: D. R. [illegible] Date: 5-15-13

ITR: [illegible] Date: 5-15-13

## Automated Independent Technical Review

Count Sequence Number: 22749 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93593
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | |
| Expert review is recommended; the following validity tests failed: | MGA valid. |
| FWHM of 122 keV peak (814 eV) is greater than allowed (800 eV). | After EA review, FWHM value acceptable. |
| Pu239 weight percent is outside limits [ 92.5, ˜ 95.0]. | Pu239 percent consistent with AK. Mix of MT-52,53. |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |

038 AG 5-15-13

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamber Date: 5-9-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

58 24660

Waste Container ID: **93593**

BDR Number: **LA13FG2054**

Sampling Date: **5/13/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 352.87 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130513C\
Data File : 93593.D
Acq On : 13 May 2013 10:48 am (#1); 13-May-13, 10:47:42 (#2)
Operator : ~~RO~~ 5-13-13 EL
Sample : EL
Misc : 55 Gallon Drum through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 13 10:56:23 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.552 | 96 | 4287839 | 201.25 | ppmv | -0.02 |
| 15) Chlorobenzene-d5 | 5.884 | 117 | 3660008 | 177.00 | ppmv | -0.02 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.539 | GC1 | 2508m | 352.87 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

28

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93594 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 168.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 134.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 90 % |

# CCP Radiography Data Sheet



Waste Container ID: 93594

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM: Scrap lead

OI:

C:

R: Leaded rubber glove

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 2.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 2.5 |
| Plastics (waste materials) (XPM): | 5.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 115.1 |
| Soils (S): | |
| Total WMP Weight: | 134.6 |

# CCP Radiography Data Sheet



Waste Container ID: 93594

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
N/A

RTR Operator:

| Benito Maestas | | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93594 | Count Sequence Number: | 22736 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 5/7/2013 3:46:28 PM | | |
| Description 1: | 1LANDA1766 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 135.0 kg | Net: | 135.0 kg |
| Container: | Volume: 208.0 l | Full: | 90.0 % |
| Density: | 0.720 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

D32
CS 6/9/14

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 22736
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 93594

Batch Number: 1LANDA1766
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 5/7/2013

| | | | |
|---|---|---|---|
| Net Weight | 135000.0 g | | |
| Pu mass | 1.38E+002 | +- 2.12E+001 | g |
| TRU Alpha Activity | 2.13E+001 | +- 2.13E+000 | Ci |
| TRU Activity Concentration | 1.58E+005 | +- 1.58E+004 | nCi/g |
| Pu-239 Equivalent Activity | 2.18E+001 | +- 2.13E+000 | Ci |
| Pu-239 FGE | 1.30E+002 | +- 1.99E+001 | g |
| Decay heat | 6.88E-001 | +- 6.93E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 2.04E-001 | 1.45E-004 | 2.74E-005 | 6.55E-006 |
| PU238 | 1.65E-002 | 2.82E-001 | 4.36E-002 | 4.37E-005 |
| PU239 | 1.29E+002 | 7.98E+000 | 1.23E+000 | 1.24E-003 |
| PU240 | 8.52E+000 | 1.93E+000 | 2.98E-001 | 2.99E-004 |
| AM241 | 3.23E+000 | 1.11E+001 | 1.71E+000 | 1.72E-003 |
| PU241 | 2.89E-001 | 2.98E+001 | 4.59E+000 | 4.61E-003 |
| PU242 | 3.30E-002 | 1.30E-004 | 2.01E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.45E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.31E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.76E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 3.35E-005 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 6-5-14

ITR: [signature] Date: 6-5-14

033
CS 6/9/14

## Automated Independent Technical Review

Count Sequence Number: 22736 Batch Number: 1LANDA1766
Counter ID: MCS HENC #1
Container ID: 93594
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/7/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Analysis Status: Override enabled; data marked not available but were used. | |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Results are marked as invalid. | |

034
CS 6/9/14

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |
| MCA Deadtime greater than the upper limit of 50.0%. | MCA deadtime = 54.38% |
| Spectrum Validity Check engine has suggested data review. | After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Marah Date: 6/3/14

035
CS 6/9/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

S824660

Waste Container ID: **93594**

BDR Number: **LA13FG2054**

Sampling Date: **5/13/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 790.30 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130513C\
Data File : 93594.D
Acq On : 13 May 2013 11:35 am (#1); 13-May-13, 11:34:38 (#2)
Operator : ~~RO~~ 5-13-13 EL
Sample : EL
Misc : 55 Gallon Drum through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 13 11:43:34 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.604 | 96 | 4292690 | 201.25 ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.923 | 117 | 3730257 | 177.00 ppmv | 0.02 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.612 | GC1 | 5617m | 790.30 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93595 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 172.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 27.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet



Waste Container ID: 93595

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC) | 8.1 |
| Other:Fiberboard (CP), Liner/Sleeve(Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 0.2 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 23.2 |
| Soils (S): | |
| Total WMP Weight: | 27.4 |

# CCP Radiography Data Sheet



Waste Container ID: 93595

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Benito Maestas | | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                          NDA 2000 Assay Report                        |
|-----------------------------------------------------------------------|

************************    Item Information    ************************

Item ID:            93595              Count Sequence Number:  22746
Operator:           D3PW2DK1\operator
Assay Start:        5/8/2013    1:19:19 PM
Description 1:      1LANDA1767
Description 2:      POC - Gross Wt. = 172.5 Kg
Location:           LANL TA-54
Comment:            AK-6
Matrix Type:        Homo Sol. S3000
Container Type:     55 gallon drum
Weight:             Net:        27.4   kg        Net:    27.4 kg
Container:          Volume:    208.0   l        Full:    95.0 %
Density:                         0.733 kg /l


************************   System Configuration   ************************

Counter:                        MCS HENC #1
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks On (GE -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22746 | Batch Number: | 1LANDA1767 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93595 | Analysis Date: | 5/8/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 27400.0 g | | | |
| Pu mass | 2.62E+001 | +- | 1.02E+001 | g |
| TRU Alpha Activity | 4.71E+000 | +- | 2.00E+000 | Ci |
| TRU Activity Concentration | 1.72E+005 | +- | 7.31E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.77E+000 | +- | 2.00E+000 | Ci |
| Pu-239 FGE | 2.47E+001 | +- | 1.01E+001 | g |
| Decay heat | 1.53E-001 | +- | 6.64E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.79E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.33E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.27E-006 |
| NP237 | 4.47E-002 | 3.19E-005 | 6.11E-006 | 2.21E-006 |
| PU238 | 2.89E-003 | 5.00E-002 | 2.18E-002 | 7.47E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.28E-005 |
| PU239 | 2.46E+001 | 1.55E+000 | 6.37E-001 | 2.31E-002 |
| PU240 | 1.62E+000 | 3.74E-001 | 1.63E-001 | 5.58E-003 |
| AM241 | 7.89E-001 | 2.74E+000 | 1.89E+000 | 8.85E-002 |
| PU241 | 3.24E-002 | 3.37E+000 | 1.47E+000 | 5.03E-002 |
| PU242 | 6.31E-003 | 2.50E-005 | 1.09E-005 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: D. R. [illegible] Date: 5-15-13

ITR: [illegible] Date: 5-15-13

## Automated Independent Technical Review

Count Sequence Number: 22746 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93595
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Curium/Californium Neutron Analysis complete with warnings. | |
| - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue. | Ok |
| - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings. | |
| - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |

| Comments | Disposition |
|---|---|
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 5-9-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93595**

BDR Number: **LA13FG8032**

Sampling Date: **5/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 228.74 | |
| 74-82-8 | Methane | 213.40 | U |
| 67-56-1 | Methanol | 27.87 | U |
| 60-29-7 | Ethyl Ether | 1.25 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.71 | U |
| 67-64-1 | Acetone | 16.90 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.24 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.55 | U |
| 78-93-3 | Methyl ethyl ketone | 9.86 | U |
| 110-82-7 | Cyclohexane | 5.84 | U |
| 71-43-2 | Benzene | 0.71 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.51 | U |
| 71-36-3 | 1-Butanol | 1.36 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.34 | U |
| 108-88-3 | Toluene | 3.09 | U |
| 108-90-7 | Chlorobenzene | 1.69 | U |
| 100-41-4 | Ethylbenzene | 2.62 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.48 | U |
| 95-47-6 | o-Xylene | 1.76 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.92 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130522C\
Data File : 93595.D
Acq On : 22 May 2013 3:33 pm (#1); 22 May 2013 3:32 pm (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : POC through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 22 15:40:59 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.256 | 96 | 2250922 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.939 | 117 | 2009797 | 179.50 ppm | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 5.244 | GC1 | 56517m | 228.74 ppm | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S825020

# S825020

Container Profile 760998

File Options Reports Help

# S825020

| 760998 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History

## Genealogy

S825020
- S825020
  - LA00000068323
  - LA00000068332
  - LA00000068349
  - LA00000068347 - LADL
    - LASB50026
  - LA00000068360 - EMPTY

WIPP

Task History

**Transfer Details**

| Transfer Amo... | Transfer Unit | Item | Measured We... | Measured We... |
|---|---|---|---|---|
| 0.01 | % | | | |

Working Copy
Date: 9-12-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S925020

6.2[4] Date Processed: 9-12-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D067 D008 D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2)
N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Adam Segovia [signature] Z0670219-12-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S825020

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 316.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 120.0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 436.2 lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A / / Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / / / / EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1

Page 3 of 4

4.1[6][B] Parent Waste Container No.: S825020

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68332 | | | |
| 10.1[4] | Daughter Drum Filter No. | KL-429 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-8162 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501321 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | BOP | BOP | |
| | Model No. | 6cPic1.5-2SPVC | 6cPic1.5-2SPVC | 6cPic1.5-2SPVC | |
| | Serial No. | L-6619 | L-6628 | L-6618 | |
| | Date of Manufacture | 1-13 | 1-13 | 1-13 | |
| 10.2[5] | POC ID No | D-2458-68323 | D-2411-68347 | D-2424-68349 | N |
| 10.2[7][B]/10.2[6] | POC Item Description | Kitty Litter Nitrate Salts | Kitty Litter Nitrate Salts | Kitty Litter Nitrate Salts | A |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | 276702 DS | 276702 DS | 276702 DS | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | N/A |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 2R | 2R | 2R | N/A |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | N/A | N/A | N/A |
| 10.3[5][A] | Free Liquid Volume/Units | 12 oz | ~~12 oz~~ 8/29/13 | ~~N/A~~ | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead Shielding | | N A | |
| 10.3[9][A] | PCB-contaminated Waste Description | | N | | |
| 10.3[9][B] | PCB Item ID No. | | | C | |
| 10.3[10] | Remaining Waste Description | See comments | | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | | A | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty Litter Stoboot Bags | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S825020

Comments: Lead Shielding, Kitty Litter, Plastic, Nitrate Salts

11.1[1] Performed By: Adam Segovia [signature] 226102 9-13-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mallis [signature] 240094 9/13/13 0435
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 7-3-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501023
Lot No.: 0238025
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ± 4%CW ± 6%CCW | ± 3%CW ± 6%CCW |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: 71-1826
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5.[11] Performed By: MICHAEL MONTOYA [signature] 191354 7-03-13
Waste Handling Technician (print) Signature Z# Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/A

8.1[1] Performed By: MICHAEL MONTOYA [signature] 191352 7-03-13
Waste Handling Technician (print) Signature Z# Date

8.1[6] Reviewed By: Clayton Mullins [signature] 240092 9/12/13
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 9-12-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68360

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range in ft-lb: 10-80
Tolerance: +/-3% cw +/-6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Adam Segovia, [signature] 276202 9-13-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 173.2 lb

Comments: N/C

8.1[1] Performed By: Adam Segovia, [signature] 276202 9-13-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins, [signature] 124092 9/13/13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 68332

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501321
Lot #: 1023 7720
Date of Manufacture: 2013

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: GCPTC 1.5-25PTC
Serial #: C-8162
Date of Manufacture: 3/13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Nutec
Model #: 019DS
Serial #: KC 429
Date of Manufacture: 11/11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 038365 |
| Cal Expiration Date: | 12-18-17 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | +/- 4% cw<br>+/- 6% ccw | Tolerance: | +/- 3% cw<br>+/- 6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Dan Makowski Signature: [signature] Z#: 276208

**5. Weigh Drum Assembly**

RECORD weight information

Tare witght (lbs) 76
File ID #: 019066

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Dan Makowski Operator Sign: [signature] Z#: 276208 Date: 8-15-13

Verifier Print: Adam Esquivia Verifier Sign: [signature] Z#: 276202 Date: 9-13-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: ~~S825020~~ 68332 09-13-13

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 088370

Cal expiration date: 8-2-14

Range/ Value (ft-lbs): 10-80

Tolerance +/-3% cw +/-6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 327.4

Scale ID#: 019065

Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: ADAMS [signature] Date 9-13-13

Verifier Print/Sign: Steven Mardegan [signature] Date: 9-13-13

Working Copy
Date: 9-13-13

**ATTACHMENT 3**
Page 1 of 1

**WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET**

6.3[21] Prepared Parent 55-Gal Drum Number: 5825020

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): ~~316~~ 9-13-13 316.4

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Adam Segovia / [signature] / 276102 / 9-13-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] / 124002 / 9/13/13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Randy Axtell / [signature] / 102185 / 9/26/13 / 0524
SOS/SOM or designee (print) Signature Z # Date Time

DBWT > 85-CD
72
NR
6-10-12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S825020 ✓ Container Type: 55-GAL ✓ Gross Weight (lbs): 320 ✓
Inner Seal #: 009485 ✓ Filter Prefix: LAVC ✓ Filter Serial #: 03901 ✓
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12,RM 434
Total PE-Ci Activity: 1.27E+01 ✓ Equivalent Combustible PE-Ci: 4.77E+00 ✓ AM-241 PE-Ci: 1.03E+00
Total Fissile Gram Equivalents: 140.6 ✓ Total Surface Dose Rate (mrem/hr): 23 ✓
EPA Code(s): None ✓
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/14/2007 ✓ Comment: Impenetrable Obj, ✓
Certified RTR Comment: None
Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☒ ~~Vit Jw~~ ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter ~~zeolite~~ must be mixed with 1.0 volume of nitrate salts.
Performed By: R. W. Jones — Production Control (Print) — Signature: R. W. Jones — Z Number: 117434 — Date: 12.8.11
SUSAN G. RAMSEY — Signature: Susan G. Ramsey — Z Number: 100681 — Date: 11/28/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 260lb - Five items; heaviest weighs 89lb while others range from 13lb to 44lb.

Drums w/ nitrate salts may contain undocumented liquids

May require RWP for >1000 and <10000 mrem/hr @ 30 cm

Drum may have lead liner
Performed By: Valerie Rhodes — WDP Engineering (Print) — Signature: Valerie Rhodes — Z Number: 112609 — Date: 12/15/11

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy duty gloves during processing waste.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.
Performed By: Chessa Yelande — TRU Remediation Operations (Print) — Signature: Chessa Yelande — Z Number: 234079 — Date: 1/24/12
Joe Jerez — Signature: Joe Jerez — Z Number: 224152 — Date: 1/7/13

IHS Review Julius Anderson CSP, No IH Concerns 12/4/12
Robin Shuck RS 1-14-13 272595 1-14-13

## Noncertified TRU Waste Drum Item Information

DrumID: 009485

| Item No | ItemID | Discrete Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IXPS-630-FB | | 40.467 | NITRATE SALTS | | 61.3 | 52 | 5/11 | G468 | |
| 2 | IXPS-632-FD | | 5.910 | NITRATE SALTS | | 71.4 | 52 | 5/11 | G468 | |
| 3 | IXPS-635-FA | | 5.910 | NITRATE SALTS | | 1.7 | 52 | 5/11 | G468 | |
| 4 | IXPS-636-F1 | | 19.770 | NITRATE SALTS | | 8.2 | 52 | 5/11 | G468 | |
| 5 | IXPS-638FA | | 9.090 | NITRATE SALTS | | 6.7 | 52 | 5/11 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 145.

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 149.3 | 81.15 |
| Totals | 149.3 | 81.15 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 1/6/12

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z# | Date |
|---|---|---|---|
| Erik Loechell | Erik Loell | 1234831 | 1-9-12 |
| | / | / | / |

| Container No. (5.[1]): | S825080 | S832322 | |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | |
| New Filtered Vent No.: (5.[8][A]): | 72 | 72 | |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | 57.31 | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | 57.31 | |

No further entries
1/9/12

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (5.[1]): | S825020 | S832322 | |
| Hydrogen Reading (ppm) (5.[10]): | 127.68 ppm | 829.09 ppm | ppm |
| Methane Reading (ppm) (5.[10]): | Ø ppm | Ø ppm | ppm |
| Total VOC Reading (ppm) (5.[11]): | Ø ppm | 57.31 ppm | ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]): | 72 | 72 | |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]): | SAT | SAT | |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/A

8.1[1] Performed By: Alicia Herrera [signature] 198450, 1/9/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] ($) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 116840 1-9-12
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120106C\
Data File : S825020.D
Acq On : 6 Jan 2012 12:49 pm (#1); 06-Jan-12, 12:49:09 (#2)
Operator : GR
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER DRUM LID (72) (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 12:58:10 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.660 | 96 | 4702023 | 209.00 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.973 | 117 | 3833229 | 185.50 ppmv | 0.02 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.617 | GC1 | 1005m | 127.68 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Fri Jan 06 12:58:17 2012

9-12-13
1806 Assuming WCRR operations center. JColeman
1820 Pre-job being conducted by SOS.
1900 Pre-job concluded.
1901 Card reader not communicating with the computer. Shutting down and re-starting.
1910 Card reader working properly.
1950 Operators entering 50-69 to begin denesting of 1 drum.
2027 SOS reports 2 more leaks in 50-69. 1 in front of the safe and 1 dripping on top of the portable can above the tool box. Also a puddle found in the respirator room again.
2045 Operators beginning to denest drum #5825020, then bagging it on.
2123 Denesting complete, bag on complete.
0011 Operators out for lunch.
0126 Operators resuming after lunch.
0130 Beginning outside rounds.
0131 Late entry at 2145, SOS reports that there is a second leak by the scale. (JC)
0145 Item #19 on the rounds is unsat, okay to proceed, FSR in place.
0157 Outside rounds complete.
0205 Beginning inside rounds.
0218 Item #63 on the rounds is OOS, okay to proceed per CSE documentation.
0225 Operators notified ops center that water is now leaking out of a box with conduit coming out of it above the tool box.
0230 Inside rounds complete.
0307 Bagging off 1 daughter and 3 POC's.
0405 Bag off complete.
0420 Both rounds reviewed by SOS.
0511 Initiating a drum movement from 50-69 to a transportainer.
0555 Drum movement complete. All inventory has been removed from 50-69.
0604 Mode changed to cold in 50-69 and Warm Standby in WCRRF yard.
[illegible]

9-13-13 Continued from previous page. - TColeman
0608 Relieved by OCO Clarissa Delarde. - TColeman

9-13-13 JJ

No further entries this page

9/12/13 WCRR SOS Log Book

1816 Assuming SOS position. CA

1820 Starting Pre-Job, discussed potential slips inside 50-69 with known and new leak. As well as ensuring that we do what we can a far as setting up the next shift when we can.

1900 Pre-Job complete.

2030 Wiped down fork-lift as best as we could, still ~~drip~~ cm 9-12-13 draining some water but puddling is at a minimum.

2035 Late entry @ 2027 notified by operators that there are 2 more leaks inside 50-69. One is in front of the safe near the RCT's desk and the other is across the room in front of red tool box. Also puddle is forming in the respirator room.

2045 Starting to denest 5825020, then bagging drum on.

2123 Denesting and bag on complete.

2130 Operators inform that there is now a second leak near the scale.

0225 Notified by operators that water is leaking out of a box with conduit coming out of it above the red tool box.

0307 Bagging off 1 daughter and 3 POC's.

0405 Bag off complete.

0420 Signed off on the rounds.

0511 Starting movement out of 50-69.

0555 Move out complete.

0604 Mode change complete, 50-69 in Cold Standby and WCRRF yard in Warm Standby.

0605 Securing SOS position. CA

No Further Entries on this Page

9/12/13 Night Shift

1815 Reviewed shift turnover checklist, ~~[illegible]~~ RAG 9/12/13 approved and posted the nightshift operations watchbill and assumed WCRR SOM position. R

1820 Attended pre job brief conducted by SOS Weather / Rain was main safety topic and it's effects on 50-69 and operations. Discussed requirement to be in Cold Stby at end of shift for maintenance scheduled Friday 9/13. Talked at length w/ operators regarding process improvements regarding WCG maintenance / housekeeping - taking ownership of work to be completed on shift to assist day shifts performance.

1920 SOM attending TA-54 Area G TSR/BIO Implementation Procedure review and group interview.

1215 Back on site @ WCRR. OCO informed me of additional leakage of rainwater into 50-69 in front of RP-1 safe and on top of portable CAM above the toolbox. Also drum # S825020 was denested and bagged onto WCG. Operators just broke for lunch.

9/13/13 0120 Operations resuming.

0405 Completed bagging off 1 daughter and 3 POC's

0604 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Cold.

0605 Late Entry @ 0555 All drums were moved out of 50-69 into 50-194.

9/13/13 0618 Relieved by J. Guadagnolo for WCRR SOM. R

No further entries this page
RAG

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68323 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 168.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 22.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68323

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.5 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 20.4 |
| Soils (S): | |
| Total WMP Weight: | 22.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68323

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                          NDA 2000 Assay Report                        |
|-----------------------------------------------------------------------|

************************    Item Information    ************************

Item ID:            68323              Count Sequence Number:  23631
Operator:           D3PW2DK1\operator
Assay Start:        9/23/2013  11:48:36 AM
Description 1:      1LANDA1846
Description 2:      POC - GW = 168.0 kg
Location:           LANL TA-54
Comment:            AK-6
Matrix Type:        Homo Sol. S3000
Container Type:     55 gallon drum
Weight:             Net:        22.9   kg        Net:    22.9 kg
Container:          Volume:    208.0   l        Full:    95.0 %
Density:                         0.710 kg /l

************************   System Configuration   ************************

Counter:                        MCS HENC #1
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks On (GE -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 23631
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68323

Batch Number: 1LANDA1846
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/23/2013

| | | | |
|---|---|---|---|
| Net Weight | 22900.0 g | | |
| Pu mass | 1.09E+001 | +- | 6.83E+000 g |
| TRU Alpha Activity | 4.79E+000 | +- | 2.78E+000 Ci |
| TRU Activity Concentration | 2.09E+005 | +- | 1.21E+005 nCi/g |
| Pu-239 Equivalent Activity | 4.81E+000 | +- | 2.78E+000 Ci |
| Pu-239 FGE | 1.03E+001 | +- | 6.82E+000 g |
| Decay heat | 1.57E-001 | +- | 9.23E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.42E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.68E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.41E-006 |
| NP237 | 6.69E-002 | 4.71E-005 | 8.82E-006 | 2.40E-006 |
| PU238 | 1.00E-003 | 1.71E-002 | 1.16E-002 | 6.59E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.15E-005 |
| PU239 | 1.03E+001 | 6.36E-001 | 4.23E-001 | 2.45E-002 |
| PU240 | 6.56E-001 | 1.49E-001 | 1.01E-001 | 5.74E-003 |
| AM241 | 1.16E+000 | 3.98E+000 | 2.75E+000 | 1.52E-001 |
| PU241 | 1.26E-002 | 1.30E+000 | 8.83E-001 | 5.01E-002 |
| PU242 | 2.19E-003 | 8.65E-006 | 5.87E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: Jim Dalton Date: 9/24/13

ITR: [illegible] Date: 9-24-13

## Automated Independent Technical Review

Count Sequence Number: 23631 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68323
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 9-24-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68323**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

5825020

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131105C\
Data File : 68323.D
Acq On : 5 Nov 2013 3:33 pm (#1); 05-Nov-13, 15:32:35 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 15:40:59 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.535 | 96 | 4375387 | 205.75 ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.845 | 117 | 3361328 | 177.50 ppmv | -0.02 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Wed Nov 06 12:37:23 2013

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0104 |
| Examination Date: | 9/23/2013 |
| Waste Container ID: | 68332 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0104 C&D |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 148.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 115.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68332

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Utility knives

AM:

OM: Scrap lead

OI:

C: Leather gloves

R:

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.5 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 1.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 101.6 |
| Soils (S): | |
| Total WMP Weight: | 115.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68332

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Eric Lyles | | 9/23/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68332 | Count Sequence Number: | 16556 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 9/24/2013 12:29:24 PM | | |
| Description 1: | 2LANDA1226 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 115.0 kg | Net: | 115.0 kg |
| Container: | Volume: 208.0 l | Full: | 80.0 % |
| Density: | 0.690 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

OCle
CJ 6/24/14

# NDA 2000 Assay Report

## Item Information

Item ID: 68332 Count Sequence Number: 16556
Operator: DCLTD231\Operator
Assay Start: 9/24/2013 12:29:24 PM
Description 1: 2LANDA1226
Description 2: N/A
Location: LANL TA-54
Comment: AK-6
Matrix Type: Homo Sol. S3000
Container Type: 55 gal Drum
Weight: Net: 115.0 kg Net: 115.0 kg
Container: Volume: 208.0 l Full: 80.0 %
Density: 0.690 kg /l

## System Configuration

Counter: HENC #2
Count Type: Item Count
Collimator/Geometry Setting: All Banks on GEO - 0

Errors quoted at 1.000 sigma

SUPERSEDED

CJ 6/24/14

CJ 6/24/14 006A

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16556
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68332

Batch Number: 2LANDA1226
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/24/2013

| | | | | |
|---|---|---|---|---|
| Net Weight | 115000.0 g | | | |
| Pu mass | 3.56E+001 | +- | 7.76E+000 | g |
| TRU Alpha Activity | 1.59E+001 | +- | 2.93E+000 | Ci |
| TRU Activity Concentration | 1.38E+005 | +- | 2.55E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.60E+001 | +- | 2.93E+000 | Ci |
| Pu-239 FGE | 3.36E+001 | +- | 7.28E+000 | g |
| Decay heat | 5.24E-001 | +- | 9.74E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 2.23E-001 | 1.57E-004 | 2.88E-005 | 6.75E-006 |
| PU238 | 3.26E-003 | 5.57E-002 | 1.21E-002 | 3.54E-005 |
| PU239 | 3.34E+001 | 2.07E+000 | 4.51E-001 | 1.32E-003 |
| PU240 | 2.14E+000 | 4.85E-001 | 1.06E-001 | 3.08E-004 |
| AM241 | 3.88E+000 | 1.33E+001 | 2.90E+000 | 8.44E-003 |
| PU241 | 4.11E-002 | 4.23E+000 | 9.22E-001 | 2.69E-003 |
| PU242 | 7.13E-003 | 2.82E-005 | 6.14E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.26E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.25E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 4.17E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.77E-005 |
| AM243 | 2.90E-004 | 5.79E-005 | 1.17E-005 | 1.81E-005 |

Errors quoted at 1.000 sigma

Operator: D=a c Date: 6.4.14

ITR: Brittnplth Date: 6-5-14

CD 6/24/14 CC7

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 16556
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68332

Batch Number: 2LANDA1226
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/24/2013

| | | |
|---|---|---|
| Net Weight | 115000.0 g | |
| Pu mass | 3.56E+001 +- | 7.76E+000 g |
| TRU Alpha Activity | 2.96E+000 +- | 4.70E-001 Ci |
| TRU Activity Concentration | 2.57E+004 +- | 4.08E+003 nCi/g |
| Pu-239 Equivalent Activity | 3.03E+000 +- | 4.70E-001 Ci |
| Pu-239 FGE | 3.36E+001 +- | 7.28E+000 g |
| Decay heat | 9.30E-002 +- | 1.46E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 2.23E-001 | 1.57E-004 | 2.88E-005 | 6.75E-006 |
| PU238 | 3.26E-003 | 5.57E-002 | 1.21E-002 | 3.54E-005 |
| PU239 | 3.34E+001 | 2.07E+000 | 4.51E-001 | 1.32E-003 |
| PU240 | 2.14E+000 | 4.85E-001 | 1.06E-001 | 3.08E-004 |
| AM241 | 9.99E-002 | 3.43E-001 | 7.47E-002 | 2.18E-004 |
| PU241 | 4.11E-002 | 4.23E+000 | 9.22E-001 | 2.69E-003 |
| PU242 | 7.13E-003 | 2.82E-005 | 6.14E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.26E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.25E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 4.17E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.77E-005 |
| AM243 | 2.90E-004 | 5.79E-005 | 1.17E-005 | 1.81E-005 |

Errors quoted at 1.000 sigma

Operator: [illegible] Date: 9-25-13

ITR: [illegible] Date: 9-26-13

CJ 6/24/14

CJ 6/24/14 007A

## Automated Independent Technical Review

Count Sequence Number: 16556 Batch Number: 2LANDA1226
Counter ID: HENC #2
Container ID: 68332
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Analysis Status: Override enabled; data marked not available but were used.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |

008
CS 6/24/14

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |
| MCA Deadtime greater than the upper limit of 50.0%. | No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 58.87% |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Marah Date: 6/3/14

009
CJ 6/24/14.

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68332**

BDR Number: **LA13FG12106**

Sampling Date: **10/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.42 | |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 30.57 | U |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131022c\
Data File : 68332.D
Acq On : 22 Oct 2013 2:53 pm (#1); 22 Oct 2013 2:52 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 15:05:51 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 7291370 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 5269385 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.907 | GC1 | 25793m | 90.42 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68347 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 169.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 23.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68347

**Section 3: Container Inventory and Comments** (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

**Section 4: Packaging Material and Waste Material Parameters**

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 19.9 |
| Soils (S): | |
| Total WMP Weight: | 23.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68347

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68347 | Count Sequence Number: | 23627 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/23/2013 10:08:07 AM | | |
| Description 1: | 1LANDA1846 | | |
| Description 2: | POC - GW = 169.0 kg | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 23.9 kg | Net: | 23.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.715 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23627 | Batch Number: | 1LANDA1846 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68347 | Analysis Date: | 9/23/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 23900.0 g | | | |
| Pu mass | 1.40E+001 | +- | 8.53E+000 | g |
| TRU Alpha Activity | 6.55E+000 | +- | 3.84E+000 | Ci |
| TRU Activity Concentration | 2.74E+005 | +- | 1.61E+005 | nCi/g |
| Pu-239 Equivalent Activity | 6.58E+000 | +- | 3.84E+000 | Ci |
| Pu-239 FGE | 1.32E+001 | +- | 8.51E+000 | g |
| Decay heat | 2.15E-001 | +- | 1.28E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.78E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.53E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.67E-006 |
| NP237 | 8.81E-002 | 6.21E-005 | 1.17E-005 | 2.83E-006 |
| PU238 | 1.28E-003 | 2.19E-002 | 1.45E-002 | 7.74E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.33E-005 |
| PU239 | 1.32E+001 | 8.16E-001 | 5.28E-001 | 2.88E-002 |
| PU240 | 8.41E-001 | 1.91E-001 | 1.26E-001 | 6.74E-003 |
| AM241 | 1.61E+000 | 5.52E+000 | 3.80E+000 | 1.84E-001 |
| PU241 | 1.62E-002 | 1.67E+000 | 1.10E+000 | 5.89E-002 |
| PU242 | 2.81E-003 | 1.11E-005 | 7.34E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: Sam Barton Date: 9/24/13

ITR: D [illegible] Date: 9-24-13

## Automated Independent Technical Review

Count Sequence Number: 23627
Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68347
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 9/23/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlin Date: 9-24-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68347**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

S825020

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 754.47 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131105C\
Data File : 68347.D
Acq On : 5 Nov 2013 12:37 pm (#1); 05-Nov-13, 12:36:22 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 12:45:29 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.542 | 96 | 4811188 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 3745994 | 177.50 | ppmv | -0.01 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.615 | GC1 | 5673m | 754.47 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Wed Nov 06 12:30:29 2013

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68349 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 159.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 13.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 60 % |

# CCP Radiography Data Sheet



Waste Container ID: 68349

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 11.9 |
| Soils (S): | |
| Total WMP Weight: | 13.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68349

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

## NDA 2000 Assay Report

### Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68349 | Count Sequence Number: | 23632 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/23/2013 12:31:21 PM | | |
| Description 1: | 1LANDA1846 | | |
| Description 2: | POC - GW = 159.0 kg | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 13.9 kg | Net: | 13.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.664 kg /l | | |

### System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 23632
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68349

Batch Number: 1LANDA1846
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 9/23/2013

| | | | |
|---|---|---|---|
| Net Weight | 13900.0 g | | |
| Pu mass | 3.86E+000 | +- | 3.32E+000 g |
| TRU Alpha Activity | 1.90E+000 | +- | 1.13E+000 Ci |
| TRU Activity Concentration | 1.36E+005 | +- | 8.13E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.91E+000 | +- | 1.13E+000 Ci |
| Pu-239 FGE | 3.65E+000 | +- | 3.31E+000 g |
| Decay heat | 6.25E-002 | +- | 3.75E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.57E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.97E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 8.82E-007 |
| NP237 | 2.83E-002 | 2.00E-005 | 3.61E-006 | 1.51E-006 |
| PU238 | 3.53E-004 | 6.04E-003 | 5.58E-003 | 4.16E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 6.58E-006 |
| PU239 | 3.62E+000 | 2.25E-001 | 2.06E-001 | 1.55E-002 |
| PU240 | 2.32E-001 | 5.26E-002 | 4.87E-002 | 3.62E-003 |
| AM241 | 4.70E-001 | 1.61E+000 | 1.11E+000 | 1.00E-001 |
| PU241 | 4.46E-003 | 4.59E-001 | 4.25E-001 | 3.16E-002 |
| PU242 | 7.73E-004 | 3.05E-006 | 2.83E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: Jim Barton Date: 9/24/13

ITR: [illegible] Date: 9-24-13

## Automated Independent Technical Review

Count Sequence Number: 23632 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68349
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlin Date: 9-24-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68349**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

5825026

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 242.71 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131105C\
Data File : 68349.D
Acq On : 5 Nov 2013 3:11 pm (#1); 05-Nov-13, 15:10:41 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 15:19:22 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.548 | 96 | 4470026 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.858 | 117 | 3429326 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.612 | GC1 | 1825m | 242.71 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Wed Nov 06 12:36:21 2013

S825664

# S825664

Container 753885

File Options Reports Help

# S825664

| 753885 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S825664
- S825664
  - LA00000068718
    - LA00000068981
      - LA00000069572 - EMPTY
      - LA00000069568
    - W801151 - EMPTY
  - W798025 - EMPTY

**ATTACHMENT 1**
Page 1 of 4

rking Cop
Date: 3/18/14 HS

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 68981

6.2[4] Date Processed: 3-18-14

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007A, D008A, D009A

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) 3-18-14 (Initial and Date)

4.3[6] ($) Stationary Fire Watch has been established: (> 300 PE-Ci Equivalent Combustible) (SAC 5.10.1.7.2) ☑ N/A (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Frederick Schlicker / [signature] / 1228826 / 3-18-14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: 68981 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 200.2 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 83 lb ☐ N/A |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 283.2 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[16] | Retaining clips in place | ☑ SAT ☐ UNSAT |
| 6.2[18][D] | Drum lift hinge pin retaining clip replaced. ____ / ____ / ____ (Initials / Z# / Date) | ☑ N/A |

6.2[26] Approval to leave a parent drum attached to the WCG overnight:

N/A

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | | | |

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 68981

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 69568 | | | |
| 10.1[4] | Daughter Drum Filter No. | KM-349 | | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10195 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | | | | |
| 10.1[19][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[20][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[6]/10.2[7][B] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | N/A | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | | N/A | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Plastic stub. out Bags Kitty litter | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68981

Comments: Room trash, plastic, Nitrate Salts, lead shielding 30 gallon container with Ring & lid, kitty litter leached solids

11.1[1] Performed By: Frederick Archuleta [signature] 1228526 3-18-14
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins [signature] 1240092 3/20/14 1426
SOS/or designee (print) Signature Z # Date/Time

**ATTACHMENT 1**
Page 1 of 1

Working Copy
Date: 3-6-14

**WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET**

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0240323
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Tolerance: | +/-4%cw +/-6%ccw | +/-3%cw +/-6%ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: HL-821
Manufacture Date: 8/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Adan Segovia ERNESTO S / Adan Segovia / 1372298 / 3/6/14
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: / ERNESTO SENA / 1251398 / 3/6/14
Waste Handling Technician (print) Signature Z # Date
Adan Segovia

8.1[6] Reviewed By: Clayton Mullins / 1240092 / 3/20/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 4**
Page 1 of 1

Working Copy
Date: 3/18/14 HS

**WCRRF OVERPACK DRUM CLOSURE DATA SHEET**

7.[17] Overpack Drum Unique Identifier No.: 609572

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range in ft-lb: 16-80
Tolerance: +/- 3% or +/- 6% cw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Fredericks Archuleta / [signature] 1225526 / 3-18-14
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 154.0 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] 1204874 / 3-18-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 1240098 / 3/20/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 3-6-14

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 69568

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240118
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC-1.5-2SPVC
Serial No.: L-10195
Manufacture Date: 5/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4% (CW) ±6% (CCW) | ±3% (CW) ±6% (CCW) |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☒ YES ☐ NO

Performed By: MICHAEL MONTOYA / HOWARD SMITH — Operator (print)
Signature: [illegible] / H A SMITH
Z #: 191352 / R267731
Date: 3/6/14 / 3/6/14

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019 DS
Serial No.: KM 349
Manufacture Date: 11/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69568

Comments: N/A

5.[35] Performed By: MICHAEL MONTOYA HOWARD SMITH / HA SMITH 191352 / 1226723 / 3/6/14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / CA 1240092 / 3/20/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 69568

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range: 16-80 ft-lb
Tolerance (+/-): +/- 3% (w) +/- 6% (cw)

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: [illegible] [illegible] 1228824 3-18-14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO ☐ N/A

Performed By: / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69568

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 112.5 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Brandon Chavez / [signature] 1204723 3-18-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mallory / [signature] 1240092 3/20/14
Supervisor or designee (print) Signature Z # Date

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Planning and Technical Solutions**

Container ID: 68718 Container Type: 85 GAL DRUM Gross Weight (lbs): 262.0
Total PE-Ci Activity: 4.69E-01 Equivalent Combustible PE-Ci: 1.17E-01
Total Fissile Gram Equivalents: 5.25E+00 Total Surface Dose Rate (mrem/hr): 5.75
EPA Code(s): D007A; D008A; D009B
Waste Description: LA-MHD01.001
Original Container ID 58256101
Remediation/Characterization Activities: 85 gal container w/ 55 gal inside that needs to be overpacked. 55 gal contains converted lead-lined 30 gal container.

Potential Safety Risks: There is a hole in the bottom of the inner 55. Previously disposed and shows high levels of contamination.

Performed By: LeeAnn Romero (LTP-PTS (Print)) Signature 152020 (ZA) 2-14-14 (Date)

**IHS Representative**

Potential IHS Safety Risks: May contain Mercury, lead and chromium. No other hazards noted.

Performed By: John Smalley (IHS Representative (Print)) Signature 1 2011 55 (ZA) 12-26-14 (Date)

**LTP Engineering**

Waste container remediation compliant with applicable facility safety basis requirements: ☑ Yes ☐ No
Engineering Comments: Generator info indicates contents of nitrate salts.
Performed By: Valerie Rhodes (LTP Engineering (Print)) Signature 112609 (ZA) 2/27/14 (Date)

**TRU Remediation Operations**

Potential Safety Risks:

Performed By: TRU Operations (Print) Signature ZA Date

**Operations Manager or designee**

Processing Determination: ☐ Accept ☐ Reject
OM or designee Comments:

Approved By: OM or designee (Print) Signature ZA Date

# Discardable Waste Log Sheet

# DrumID: 013150

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS669FA | 14.09 | NITRATE SALTS | | 3.85 | 52 | 5/11 | 6-468 |
| 2 | IXFS670FA | 14.09 | NITRATE SALTS | | 1.71 | 52 | 5/11 | 6-468 |
| | | 28.18 kg | | | | | | |

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 3·11·14

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 68981 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55gal | | | | | |
| Filtered Vent Type (5.[1]) | 19DS | | | -NA- | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Nathan Wales / 238866
CCP (Print) Z#

Reviewed By: Erik Loechelle / 234183
CCP (Print) Z#

Comments: -NA-

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: LeAnn Romero / 1152020 3·13·14
Waste Handling Operator (print) Signature Z# Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140311c\
Data File : 68981.D
Acq On : 11 Mar 2014 1:50 pm (#1); 11-Mar-14, 13:50:10 (#2)
Operator : NW
Sample :
Misc : 55 GAL DRUM THROUGH UNOBSTRUCTED 19DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 11 14:03:56 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.568 | 96 | 3539178 | 205.75 | ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.881 | 117 | 2789928 | 177.50 | ppmv | 0.02 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Tue Mar 11 14:04:13 2014

3-18-14

0600 ASSUMING WCRRF OPERATIONS CENTER H SMITH
0615 STARTING PRE-JOB BRIEFING
0630 STARTING INSIDE ROUNDS
0638 ITEM #63 INSIDE ROUNDS DDS. POD IN PLACE. PERMISSION TO PROCEED PER CSE DOCUMENTATION
0640 STARTING OUTSIDE ROUNDS
0645 PRE-JOB BRIEFING COMPLETE
0650 INSIDE ROUNDS COMPLETED
0651 RP-1 ADVISED OPS CENTER TRIDIUM SMEARS FROM 3/17/14 WERE RETURNED NDA.
0700 OUTSIDE ROUNDS COMPLETED
0704 ROUNDS REVIEWED BY SDS.
0820 STARTING GLOVE CHANGE STATION #3 LEFT GLOVE
0843 GLOVE CHANGE COMPLETE
0844 MAINTENANCE ENTERS TA50-69 TO INSTALL MOUSE TRAP WO # 468370-03 PEST CONTROL
0902 MAINTENANCE EXIT & COMPLETE WORK ORDER
0905 MODE CHANGE INCREASE TO OPERATIONS IN TA50-6 AND WCRR YARD.
0910 SERVEILLANCE 4.2.4 WILL NOT BE PERFORMED, DUE TO UTILITIES UNAVALIABILITY
0920 TECH 14 NOTIFIED OPERATIONS CENTER THAT RC REQUESTED THEY STEP BACK FROM BOX DUE TO HIGH DOSE RATE
0928 OPERATORS BACK TO PROCESSING
0954 BAGGING OFF 3 POC. BAGGING ON 68981
1105 BAG ON - BAG OFF COMPLETED BAGGED OFF 3 ~~POC~~ POC'S AND 1 DAUGHTER
1258 BAGGING OFF- BAGGING ON 69090
1330 BAG OFF COMPLETED
1332 PERMISSION GRANTED TO BEGIN MOVEMENT INTO TA5
1334 INVENTORY INFORMS OPERATIONS CENTER 4.1.1 HAS BEEN PERFORMED AND INVENTORY IS WITHIN LIMITS
1409 TRANSPORTAINER DOORS SECURED, MOVEMENT INTO TA50 COMPLETED. HS

CONTINUED ON NEXT PAGE H SMITH

3/18-14 CONTINUED FROM PREVIOUS PAGE HSMITH

1424 BAGGING OFF AND CONTINUING TO PROCESS

1444 BAG OFF COMPLETE

1530 STARTING OUTSIDE ROUNDS

1545 BAGGING OFF AND BAGGING ON ~~S8 579735~~ 3/18/13 5793750. OUTSIDE ROUNDS COMPLETED

1607 BAG ON - BAG OFF COMPLETED

1612 STARTING INSIDE ROUNDS

1633 ITEM #63 INSIDE ROUNDS ODS, POD IN PLACE PERMISSION TO PROCEED PER CSE DOCUMENTATION.

1634 INSIDE ROUNDS COMPLETED

1650 SDS RECIEVED PERMISSION FROM OM TO LEAVE DRUM BAG ON OVERNIGHT, ROUNDS REVIEWED BY SDS

1653 BAGGING OFF DAUGHTER, LEAVING DRUM BAGGED ON OVERNIGHT

1705 BAG OFF COMPLETED, GLOVEBOX IN SAFE CONFIGURATION

1725 OPERATORS EXIT BUILDING

1737 MODE CHANGE TO WARM STANDBY AT TA50-69 AND WCRR YARD

3/18/14 1800 END OF DAY WCRR OPERATIONS CENTER SECURED HSMITH

NO FURTHER ENTRIES THIS PAGE HSMITH

3-18-14 WCRR-SOM

0554 Reviewed logs and assumed the WCRR SOM position John Guadagni

0642 Completed attending the pre-job brief conducted by the SOS (Gilbert) the safety topic was ensure cleaning of respirators correctly. Activities planned for today include processing, of the source drum, and recording which items go into the POCs and the wraps required with the tungsten blanket. The monthly Valve Alignment is scheduled, the Quarterly combustible SR is scheduled, and characterization will be conducted 3 drums total. Operations will be required to change a glove prior to start of work. There are no scheduled transfers to or from WCRRF. Shift Standing Orders were reviewed and shift Orders in affect were reviewed.

0644 The tritium surveys were obtained and the RR-1 group indicated surveys were good.

0707 Completed the daily phone call to AREA 6 updating PDD activities

0728 Turned the WCRR SOM over to Randy Axtell John Guadagni

0728 Reviewed logbook and received face to face turnover from J Guadagni. Assumed WCRR SOM position.

0844 Extended WO # 468370-03 FY14 Pest Control for WCRR for 60 days to expire 3/27/14. Released for work to allow mouse traps in 50-62 dressing room.

0903 Pest control completed setting of traps, exited facility, work package closed out

0904 Late Entry @ 0850 notified by OCO that glove change is complete RA

0905 Completed Mode Change: WCRR Yard / Bldg 5069 from Warm/Warm to Operations/Operations.

0910 OCO reported that Monthly Valve Alignment FSS cannot be performed today due to Utilities has no support for off-site valve access.

1105 Completed all bag offs for parent # 69372 (3 POC's total) (1 Daughter) and bagged on 68981

1200 Called into weekly solutions package update w/ OM and OSPAT, SP Managers, others as well as daily call in.

1230 Attending training session for Division Equipment Status procedural changes given by J Disalle.

1330 Completed all bag offs for parent # 68981 (1 Daughter total) and bagged on drum # 69090.

1444 Completed a bag off of 1 daughter - continuing to process.

continued on next page →

3/18/14 WCRR Som Continued

~~1545~~ 1607 Completed all bag offs for parent # 69090 (2 daughters to not bagged on drum # 5793750

1650 Notified by SOS that drum on WCG will not be completely process prior to COB. Obtained permission from OM to leave drum on WCG overnight.

1705 Completed bag off of 1 daughter - placed all other waste back into parent drum - WCG in safe configuration

1737 Completed Mode Change: WCRR Yard and Bldg 5069 from Operation / Operation to Warm / Warm.

1745 Notified by RP-1 that HPAL support was not at HPAL facility - On call personnel were enroute to facility and receive H-3 sme Analysis still to be completed overnight.

1800 Secured the SOM position.

No further entries this page

PROJECT NAME WVU SCS LOG BOOK NOTEBOOK NO.

3/18/94

0600 Assuming SCS Position. Bulk WD

0615 Conducting Shift Brief Discussed Drums on Facility with over shift crew. Started Rounds

0640 Shift Brief complete

0700 Removed Inside and outside Barrels

0715 Starting Glove Changes station 2 left

0725 Glove Change Complete

0730 Maintenance called to Install wipe traps

0745 Maintenance complete

0745 Glove Change Complete WORK For operations

0900 4.2.4 will not be performed due to utilities personnel not available.

0920 Per PCL's operators need to stay back till further notice

0928 Operators back processing.

0981 Bagging off 3 PCL's Bagging on 68981

1105 Bag on/off complete

1158 ~~Bagging off~~ Bagging on 69090

1330 Bag off complete.

1332 Conversion to Steel containment

1407 Mercoxit Complete

1424 Bagging off and Continuing to Process

1444 Bag off complete

1530 Started Rounds 03/18/94

1545 Bag off on ~~complete~~ 579350

1607 Bag off/on complete

1650 Foreman Guidel to leave drum bagged on Level Tank and outside Rounds

1657 Bagging off / Daughter Flying drum to semi Containment

1707 Glove Change to wear

1715 End of Day securing SCS Position with the off

We Finish Entry on this Page

Best Available Copy

SIGNATURE _____ DATE _____ 20__

READ AND UNDERSTOOD _____ DATE _____ 20__

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0037 |
| Examination Date: | 3/26/2014 |
| Waste Container ID: | 69568 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0037 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 112.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 79.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 69568

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Open 30 gallon drum, closure ring, drum lid, metal lid

AM:

OM: Scrap lead

OI:

C: Tape roll

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 20.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 0.1 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 33.0 |
| Soils (S): | |
| Total WMP Weight: | 79.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69568

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: This drum contains metal cans with material, which may require additional Project Office review.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 3/26/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 69568 | Count Sequence Number: | 17054 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 3/26/2014 12:04:45 PM | | |
| Description 1: | 2LANDA1277 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Be < 1% | | |
| Matrix Type: | Debris S5000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 79.1 kg | Net: | 79.1 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.400 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 17054
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 69568

Batch Number: 2LANDA1277
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 3/26/2014

| | | | |
|---|---|---|---|
| Net Weight | 79100.0 g | | |
| Pu mass | 5.49E+000 | +- | 3.02E+000 g |
| TRU Alpha Activity | 4.43E+000 | +- | 2.13E+000 Ci |
| TRU Activity Concentration | 5.60E+004 | +- | 2.70E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.44E+000 | +- | 2.13E+000 Ci |
| Pu-239 FGE | 5.20E+000 | +- | 2.84E+000 g |
| Decay heat | 1.47E-001 | +- | 7.09E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 5.63E-002 | 3.97E-005 | 5.33E-006 | 9.52E-007 |
| PU238 | 5.00E-004 | 8.55E-003 | 4.71E-003 | 3.70E-005 |
| PU239 | 5.15E+000 | 3.19E-001 | 1.76E-001 | 1.38E-003 |
| PU240 | 3.29E-001 | 7.48E-002 | 4.12E-002 | 3.23E-004 |
| AM241 | 1.17E+000 | 4.03E+000 | 2.13E+000 | 2.71E-002 |
| PU241 | 6.19E-003 | 6.37E-001 | 3.51E-001 | 2.76E-003 |
| PU242 | 1.10E-003 | 4.34E-006 | 2.39E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.79E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.59E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.07E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.14E-005 |
| AM243 | 3.48E-004 | 6.97E-005 | 9.56E-006 | 5.40E-006 |

Errors quoted at 1.000 sigma

Operator: D=R Date: 3-31-14

ITR: Ann Barton Date: 3/31/14

## Automated Independent Technical Review

Count Sequence Number: 17054
Batch Number: 2LANDA1277
Counter ID: HENC #2
Container ID: 69568
Waste Matrix Code: Debris S5000
Count Type:
Sequence Type:
Assay Date: 3/26/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 3-27-14

Waste Container ID: **69568**

BDR Number: **LA14FG2050**

Sampling Date: **4/2/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140402c\
Data File : 69568.D
Acq On : 2 Apr 2014 3:14 pm (#1); 02-Apr-14, 15:13:57 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 02 15:22:50 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.597 | 96 | 3589914 | 205.75 | ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 2872783 | 177.50 | ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S825730

# S825730

Container Profile 747481

File Options Reports Help

# S825730

| 747481 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure

## Genealogy

S825730

- S825730
  - LA00000068576
  - LA00000068564
  - LA00000068517 - EMPTY

**ATTACHMENT 1**
Page 1 of 4

10-29-13

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S8Z5730

6.2[4] Date Processed: 10-29-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007 D008 D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Adam Scipovich [signature] Z76702 10-29-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: | _____ |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 457.2 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 457.2 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[17][D] | Drum lift hinge pin retaining clip replaced. | N/A / / (Initials Z# Date) |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | N/A | / | / |

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S825730

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68576 | 68564 | N | |
| 10.1[4] | Daughter Drum Filter No. | LM-839 | LM-933 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10335 | L-8730 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | N | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | N | |
| 10.3[5][A] | Free Liquid Volume/Units | | | A | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead shielding | lead shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | N A | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comments | See comments | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 100% | | A |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty Litter Shoe covers | Kitty Litter PLASTIC | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5825730

Comments: Nitrate Salts, lead shielding, kitty litter, stuffout bags, one poly liner lid, one AA energizer battery,

11.1[1] Performed By: Adam Scsovia [signature] [illegible] 30-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins [signature] 1240092 10/31/13 0333
SQS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238367
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Tolerance: | +/- 4% cw<br>+/- 6% ccw | +/- 3% cw<br>+/- 6% ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: SL 1883
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: JOE QUINTANA / Joe Q / 739987 / 10/2/13
Waste Handling Technician (print) / Signature / Z# / Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: JOE QUINTANA / Joe Q / 739987 / 10/2/13
Waste Handling Technician (print) / Signature / Z# / Date

8.1[6] Reviewed By: Clayton Mullins / CM / 1490092 / 10/31/13
Supervisor or designee (print) / Signature / Z# / Date

**ATTACHMENT 5**
Page 1 of 1

10-29-13W

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68571

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038 369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3%cw +/-6%ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: ADAM SEGOVIA / [signature] / 276702 / 10-29-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 173.2 lb

Comments: N/C

8.1[1] Performed By: ADAM SEGOVIA / [signature] / 276702 / 10-30-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] / 240092 / 10/31/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

10 24-13

**WCRRF DRUM PREPARATION DATA SHEET**

5.[34][E] Drum ID No.: 68564

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 024
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC1.5-2SPVC
Serial No.: L-6750
Manufacture Date: 1-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 108216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 in-lbs | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Edward Martinez [signature] 239911 10-24-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFEC
Model No.: 019DS
Serial No.: LM833
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 68564

Comments: N/C

5.[35] Performed By: Michael Montoya (Operator (print)) [signature] (Signature) 191352 (Z #) 10/24/13 (Date)

7.1[4] Reviewed By: Clayton Mulling (Supervisor or designee (print)) [signature] (Signature) 240092 (Z #) 10/31/13 (Date)

**ATTACHMENT 2**
Page 1 of 2

10-29-13

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68564

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/- 3% CW +/- 6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: ADAM SEGOVIA / [signature] / 276202 / 10-29-13
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☐ N/A

Performed By: / / / /
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☐ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68564

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: _____ lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Adam Segovia (Operator (print)) [signature] (Signature) 1226704 (Z #) 03-08-13 (Date)

7.1[4] Reviewed By: _____ / _____ / _____ / _____
Supervisor or designee (print) Signature Z # Date

UET Cuov

10-24-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68576

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC 1.5-2SPVC
Serial No.: L-10335
Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4 %cw ±6%ccw | ±3%cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☒ YES ☐ NO

Performed By: MICHAEL MONTOYA / [signature] 191352 / 10/24/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-839
Manufacture Date: 10/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☒ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68576

Comments: N/C

5.[35] Performed By: MICHAEL MONTOYA [signature] 191352, 10/24/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins [signature] 124009R, 10/31/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

10-24-13

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68576

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3% cw +/-6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Adam Sycavia / [signature] / 2767021 / 10-27-13
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☐ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

N

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☐ N/A

Performed By: / / / /
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☐ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 98576

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 316.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/A

6.[32] Performed By: Adam Segovia (Operator (print)) [signature] (Signature) 276702 (7 #) 10-29-13 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) [signature] (Signature) 240092 (7 #) 10/31/13 (Date)

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S825730 Container Type: 55-GAL Gross Weight (lbs): 461
Inner Seal #: 012745 Filter Prefix: LAVC Filter Serial #: 03052
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST12 ROOM 434 LEAD LINED
Total PE-Ci Activity: 1.96E+00 Equivalent Combustible PE-Ci: 7.35E-01 AM-241 PE-Ci: 1.59E-01
Total Fissile Gram Equivalents: 21.7 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/25/2007 Comment: Impenetrable Obj.
Certified RTR Comment: None
Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ RE ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts

Performed By: R. W. Jones — Production Control (Print) — Signature — Z Number 117434 — Date 12.8.11

## WDP Engineering

SUSAN S. RAMSEY — Signature — 116681 — 11/28/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net wt: 401lb. Two items; weights are 136lb and 172lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >100 and <1000 mrem/hr @ 30 cm
Drum may have lead liner

Performed By: Valerie Rhodes — WDP Engineering (Print) — Signature — Z Number 112609 — Date 12/15/11

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use Heavyweight gloves when processing waste.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.

Performed By: Vanessa Valverde — TRU Remediation Operations (Print) — Signature — Z Number 234079 — Date 1/24/12
Jose Jerez — Signature — 221452 — 1-7-13
IHS Reviews Anthony Ardoin CSP, No IH Concerns 12/4/12
Robin Shuck RSL 272995 1-14-13

# Discardable Waste Log Sheet

**DrumID: 012745**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS 660 F2 | 61.8 | NITRATE SALTS | | 7.15 | 52 | 5/11 | Rev 432 |
| 2 | DXFS 659 FC | 78.19 | NITRATE SALTS | | 16.01 | 52 | 5/11 | Rev 432 |
| | | 139.99 kg | | | | | | |

Best Available Copy



HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 1/9/12

5 [7] Certified CCP Technician

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Jess Argon | | 237975 | |
| CCP (Print) | Signature | Z # | Date |

| Container No. (5.[1]): | 5825793 | 5825730 | 5832301 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | 39.99 | | 76.63 |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | 39.99 | Ø | 76.63 |

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (5.[1]) | S825793 | S825730 | S833301 |
| Hydrogen Reading (ppm) (5.[10]) | 1336.49 ppm | Ø ppm | 47.09 ppm |
| Methane Reading (ppm) (5.[10]) | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]) | 39.99 ppm | Ø ppm | 76.63 ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]) | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]) | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters - Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Alicia Herrera [signature] 1984501 1/10/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 1169840 1-10-12
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120109c\
Data File : S825730.D
Acq On : 9 Jan 2012 1:17 pm (#1); 09-Jan-12, 13:17:00 (#2)
Operator : WBM
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER LID - NFT-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 09 13:25:55 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.631 | 96 | 4653548 | 209.00 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.951 | 117 | 3792456 | 185.50 | ppmv | 0.00 |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Mon Jan 09 13:26:05 2012

10-29-13

0609 Assuming WCRRF operations center - Crelande
0615 Pre job being conducted by SOS
0643 Pre job concluded.
0726 Starting movement into 50-69
0743 movement into 50-69 is complete.
0745 mode change performed TA50-69 and WCRRF yard now in warm standby for glove changes on station 2 and 1 Left and Right.
0830 Starting glove changes on Station 1 and 2 left and Right.
0841 Starting movement ~~to transport vehicle~~ CV 10-29-13 out of 50-69.
0852 movement out of 50-69 complete.
0855 Lowering vehicle access gates to start loading vehicle ~~access gates~~ CV 10-29-13 transport tractor for movement to area G.
0938 Vehicle access gates have been restored movement out of WCRRF is complete
0944 Glove changes have been completed.
0953 mode change performed TA50-69 and WCRRF yard now in operations
1133 Bagging on S825902, Bagging off S804989
1200 Bag on, Bag off complete
1445 Starting outside rounds.
1450 Being relieved by RCO Howard Smith - Crelande
1451 ASSUMING OPERATION CENTER HA SMITH
1459 STARTING INSIDE ROUNDS
1503 OUTSIDE ROUNDS COMPLETED
1519 ITEM #63 ODS, OKAY TO PROCEED PER CSE DOCUMENTATION
1521 INSIDE ROUNDS COMPLETED
1543 BAGGING OFF S825902 BAGGING ON S825730
1544 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS
1630 RCT SUPERVISION INFORMED OPS CENTER ABOUT PERSONAL CONTAMINATION ON PPE OF TECH 31, ~~FIFANG~~ HS 10/29/13
OPERATORS WILL FINISH BAGGING OFF AND THEN DECONTAMINATE
- CONTINUED ON NEXT PAGE - HASMITH

10-29-13

1646 RP-1 NOTIFIED OPERATIONS CENTER CONTAMINATION NOTED AT 1800DPM'S BUT WITH TAPE PRESS WAS REDUCED TO LESS THAN 200 DPM'S. THE AREA WAS COVERED WITH TAPE BAG OFF/~~BAG ON~~ HS 10-29-13 WAS COMPLETED TO PLACE PROCESS IN SAFE CONFIGURATION. LARGE AREA SWIPES WERE PERFORMED ON FLOOR. NO CONTAMINATION WAS DETECTED. ALL CAMS WERE NORMAL. ALL PERSONNEL USED HAND & FOOT MONITORS AND REPORTED NDA. OPERATORS WERE ASKED TO STAY IN THE BUILDING DURING SURVEYS SURVEYS ARE BEING PERFORMED BY RCT'S.
CONTAMINATION WAS NOTED ON THE GRIPS OF THE CUTTER APPROXIMATELY 500 DPM. ALL PERSONNEL REMAIN IN RESPIRATORS.

1658 RP-1 REPORTS - RCT'S ARE SURVEYING RESPIRATORS, THE OPERATORS WILL BE SURVEYED OUT AND GO THROUGH THE PCM2 TO ENSURE NO SKIN CONTAMINATION

1715 THE OPERATOR WAS CLEARED THROUGH PCM2 - NO CONTAMINATION.

1724 RP-I REPORTS ALL RESPIRATOR SURVEYS AND FLOOR SURVEYS WERE NDA/WITHIN LIMITS

1740 OPERATIONS RESUMED IN THE PROCESS

1803 BAG ON/BAG OFF COMPLETE

1811 OPERATORS EXIT BUILDING

10-29-13 1811 BEING RELIEVED BY OCO TERRI COLEMAN - G SMITH

RA

NO FURTHER ENTRIES ON THIS PAGE

10-29-13

1811 Assuming WCRR operations center - JColeman

1815 Pre-job and turnover with morning shift being conducted. Safety topic - paying attention to your driving, and weather changing.

1855 Pre-job concluded.

1914 Operators entering 5069 to begin operations on drum S825730

2035 Initiating a drum movement from 5069 to a transportainer.

2056 Drum movement out of 5069 complete.

2240 Bagging off 1 daughter, bagging on another daughter.

2257 Bag off/on complete.

2305 Initiating a drum movement from transportainer to 5069.

2312 Drum movement into 5069 complete.

10-30-13 0000 Operators out for lunch.

0115 Operators back from lunch.

0150 Beginning outside rounds.

0205 Beginning inside rounds.

0222 Item #63 is OOS, okay to proceed per CSE documentation.

0225 Outside rounds complete. Inside rounds complete.

0237 Bagging off 1 daughter, bagging on S816890.

0305 Bag off/on complete.

0430 Late entry - at 0238, both rounds reviewed by SOS.

0525 Bagging off 1 daughter, bagging on another daughter.

0535 Bag off/on complete. Everything is in a safe configuration.

0555 Mode changed to warm in WCRRF yard and 5069 due to the safety meeting this morning (monthly).

10-30-13 0612 Being relieved by CO Clarissa Wade, JColeman

JJ

No further entries this page

10/29/13 WCMK SOS LOG Book

0600 Assuming SOS Position

0615 Conducted shift brief discussed status of box need to look at Gloves on station 1 And 2 they may need to be changed Also discussed ES benifits

0645 Concluded shift brief.

0726 Starting move Into 50-69

0743 Move In Complete

0745 Mode change Complete WCMF In warm for Glove Changes on station 1 And 2. Both hands

0830 Starting Glove changes

0841 starting Moveout of 50-69

0852 Move out complete

0855 Starting shipment to G.

0938 Shipment out Complete

0944 Glove Changes Complete

0953 Mode change Complete WCMF IN operations

1133 Bagging in 5825902 Bagging off 5804989

1200 Bag in/off complete

1445 Starting Rounds

1545 Bagging off/on 5825730

1549 Reviewed Inside And outside Round

1626 RCT Informed of Personal Contamination on Tech 31 PPE operators will continue bag off and then Due Further Investigate

1646 RM-1 noted operator had 18[00] DPM on Right wrist RCT's Did tape pressed and brought levels Down to less than 200 DPM Area on PPE was taped over And IAS was performed no contamination was Detected Individual was ~~stored~~ surveyed out And passed through PCM A 30 point survey was conducted.

1715 Operator cleared PCM no contamination

1724 RM-1 notified RM smear's NDA

1740 Operators continuing operations bagging off/on

1803 Bag on/off complete

HCM 1815 Relieved by Clayton Mullins

No Further entries on this page

TABLE OF CONTENTS

NAME WCRR SOS Log Book

NOTEBOOK NO. 10/29/13

| PAGE | ENTRY | DATE |
|---|---|---|
| 1 | 1816 -> Assuming SOS position. CA | |
| 2 | 1818 -> Starting Pre-Job, discussed driving with time change | |
| 3 | as well as the weather change. Also briefed to the ~~standing~~ 1811-12 | |
| 4 | shift orders as well as went over design features and | |
| 5 | ISI's. | |
| 6 | 1856 -> Pre-Job complete. | |
| 7 | 1914 -> Starting movement out of 50-69. | |
| 8 | 2056 -> Movement out complete. | |
| 9 | 2240 -> Bagging off 1st daughter, bagging on a 2nd. | |
| 10 | 2257 -> Bag off/on complete. | |
| 11 | 2305 -> Starting movement into 50-69. | |
| 12 | 2312 -> Movement in complete. | |
| 13 | 0237 -> Bagging off 2nd daughter, bagging on 5816890. | |
| 14 | 0249 -> Signed off on the rounds. | |
| 15 | 0305 -> Bag off/on. | |
| 16 | 0525 -> Bagging off 1st daughter, bagging on a 2nd. | |
| 17 | 0535 -> Bag off/on complete. | |
| 18 | 0546 -> WCG in a safe configuration, lid on parent and no waste | |
| 19 | in box. | |
| 20 | 0555 -> Mode change complete, WCRRF yard and 50-69 are now in | |
| 21 | Warm Standby. | |
| 22 | 0615 -> Turning over SOS position with Darrell Blain. CA | |
| 23 | | |
| 24 | | |
| 25 | | |
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| 37 | | |
| 38 | | |
| 39 | | |
| 40 | | |
| 41 | | |

No Further Entries on this Page

10-29-13 Day shift

0610 Reviewed the shift turnover checklist and assumed the WCRR SOM position
[illegible]

0645 Completed attending the pre-job brief conducted by the SOS (Gilbert) Discussed shift turnover, noting stations #1 left hand and station #2 right and left hand require changing. There is one transfer scheduled out. The ES/PM, discussed Fire Suppression, and Tank Capacity. RCTs discussed bag on of parents and to ensure the bag is ~~[illegible]~~ long enough. The RCT noticed yesterday that one pigtail during bagoff was short. Training of new operators was discussed and the use of the ALARA Center to support in bag offs. Arrangements will be required to utilize the center. Safety message is to watch out for each other.

0708 Completed the daily AREAG call in with SOM updating PCD status.

0710 Inside operators report stations 1 and stations 2 require changing both pair.

0745 Made Change WCRR Yard and SO/ES transition from Operations/Operations to WARM/WARM

0747 late entry for 0743, Operators complete the move in of 3 Parent drums - 5832320, 5825730, and 5825902.

0801 Initiated meeting with CSE (Crawford) (procedure writer) R. Smart and J. Vigil.

0921 Reviewed and approved WO# 468539-02 - Equipment Servicing to have crafts initiate work on the snow blower.

0940 The transfer out was completed, 15 drums total.

0944 Inside Operators report glove changes - were noted completed.

0953 Mode Change: WCRR YARD and SO/ES Facility transition from WARM/WARM to Operations/Operations.

1045 Completed debrief with FAC REP (Ritner). He reviewed post critical lifts and record keeping, Noted ATTACHMENT 1 of DOP-0233, step 4.3. [5][B] should be marked N/A only applicable when 300 PEG or greater are in the WCG, Also with Procedure DOP-0236 - ATTACHMENT 1 for unloading SWBU 85 Gal. Drum, when de-nesting, the title of ATTACHMENT 1 is wrong - WCRRF - WCG critical lift Plan Concurrence sheet As a suggestion, the WCG should be removed. Notification was made to the SOS. The SOM provided information to the procedure writer R. Smart.

1115 Completed extending Shift Orders WCRR-SH-13-003 R2 Manual Drum Movements and WCRR-SH-13-005 R0 Precautions to Prevent Burn Tears; through ~~10-31-13~~ 11-05-13.

1132 Inside Operations report bagging off and bagging on parent 5825902

1200 Operations Complete the bag on, and continued to process.

(Continued on Next Page)

10-29-13 DAYSHIFT (Cont.)

1201 Participated with teleconference call, with Production Control, OM, SOMs and J. Vigil. Updates were provided, regarding facility

1356 Completed review and sign off of the Operator AID LOGBOOK, Quarterly and Monthly.

1543 Operators report bagging off S825902 and bagging on S825730

1630 RP-1 supervisor notified the Operations Center of an Operator noted contaminated on his Right wrist PPE sleeve, identified after daughter drum bagg off routine smears of hands/arms.

1646 RP-1 reports contamination noted at 1800dpm and with tape press's, it was brought down to < 200 dpm, the area was covered with tape bag off / bag on was completed (of the daughter drum) to place the evolution in a safe configuration.
LAS was performed on the floor - no contamination detected.
CAMs were reported normal
All personnel went thru the Hand Foot monitor and reported NDA
All personnel were reminded to stay in one are during surveys.
Survey are being performed by RCTs.
Contamination was noted on the grips of the cutter (500dpm)
All personnel will remain in respirators.

1658 RP-1 reports - RCTs are surveying respirators, The Operator will be surveyed out and go thru the PCM2 to ensure no skin contamination.

1715 The operator was cleared through the PCM2 - No contamination

1724 RP-1 reports all respirator surveys and floor surveys were NDA/ within limits
Upon obtaining results, operations is approved to continue bag off's
The old cutter was thrown away and new cutter provided.

1745 Complete follow up with WCATs wall to wall inventory - provided input to OM - all noted sat - Empty containers to be scanned in ARTIC or upon entry after peepping in 50/69, In addition verification of current procedures and forms - utilized - Notified OM.

1803 All bag off's were conducted successfully and Parent Drum S825730 was Bagged on

1815 Completed shift turn over with oncoming SOM. Relieved of WCRR SOM duties by R. Artell [signature]

No further Entries this page
[signature]

10/29/13 Night Shift

1815 Reviewed shift turnover checklist, approved and posted Night shift operations watchbill and assumed WCRR SOM position.

1850 Attended prejob brief conducted by SOS. Day shift SOS and operators / RCT's conducted turnover w/ night shift personnel. ES/IH safety topic covered driving safety. Discussed Design Features and ISI requirements @ WCRR for TSR related topic. Briefed activated shift orders and talked about current condition of WCG. Requested when operators are prepping empties in Arctic that location assigned is 50-37 until drums are actually moved into 50-69.

2056 Completed movement of 7 drums out of 50-69 to transportainers

2257 Completed bag off of 1 daughter - continuing to process.

2312 Operators moved 3 drums from transportainers into 50-69.

10/30/13 0000 Operators breaking for lunch

0115 Resuming operations

0305 All bag offs completed for parent # 5825730 (2 daughter total) Bagged on drum # 5816890.

0522 Reviewed AM round sheets and signed off compliance tracking worksheet.

0525 Late Entry @ 0315 Verified that empty 85 gal drums w/ Item ID #'s 10180412 and 10180413 are in 50-69. Neither drum has been used for receiving room trash. LRG

0535 Completed bagging off 1 daughter - continuing to process in regard to placing WCG in a safe configuration - Parent on glovebox is reported to be ≈ 50% full. Lid is being placed back on parent drum - all other waste is out of glovebox.

0555 Completed Mode Change! WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm.

10/30/13 0607 Relieved by J. Guidagnoli as SOM.

No further entries this page
LRG

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0123 |
| Examination Date: | 11/5/2013 |
| Waste Container ID: | 68564 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0123 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 158.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 125.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68564

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.2 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 15.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 105.9 |
| Soils (S): | |
| Total WMP Weight: | 125.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68564

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 11/5/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                          NDA 2000 Assay Report                        |
|-----------------------------------------------------------------------|

************************    Item Information    ************************

Item ID:            68564              Count Sequence Number:  16674
Operator:           DCLTD231\Operator
Assay Start:        11/5/2013   1:44:17 PM
Description 1:      2LANDA1237
Description 2:      N/A
Location:           LANL TA-54
Comment:            AK-6
Matrix Type:        Homo Sol. S3000
Container Type:     55 gal Drum
Weight:             Net:       125.0   kg        Net:   125.0 kg
Container:          Volume:    208.0   l        Full:    85.0 %
Density:                         0.710 kg /l


************************   System Configuration   ************************

Counter:                        HENC #2
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks on GEO -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16674 | Batch Number: | 2LANDA1237 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68564 | Analysis Date: | 11/5/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 125000.0 g | | |
| Pu mass | 1.18E+001 | +- | 2.35E+000 g |
| TRU Alpha Activity | 5.60E+000 | +- | 2.57E+000 Ci |
| TRU Activity Concentration | 4.48E+004 | +- | 2.06E+004 nCi/g |
| Pu-239 Equivalent Activity | 5.62E+000 | +- | 2.57E+000 Ci |
| Pu-239 FGE | 1.12E+001 | +- | 2.34E+000 g |
| Decay heat | 1.84E-001 | +- | 8.55E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.51E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.19E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.04E-006 |
| NP237 | 7.47E-002 | 5.27E-005 | 9.82E-006 | 1.56E-006 |
| PU238 | 1.08E-003 | 1.85E-002 | 4.70E-003 | 6.86E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.70E-005 |
| PU239 | 1.11E+001 | 6.89E-001 | 1.45E-001 | 2.56E-002 |
| PU240 | 7.11E-001 | 1.61E-001 | 4.10E-002 | 5.98E-003 |
| AM241 | 1.38E+000 | 4.73E+000 | 2.57E+000 | 5.59E-002 |
| PU241 | 1.36E-002 | 1.40E+000 | 3.56E-001 | 5.19E-002 |
| PU242 | 2.37E-003 | 9.37E-006 | 2.38E-006 | 0.00E+000 |
| AM243 | 4.93E-004 | 9.85E-005 | 1.86E-005 | 8.86E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/7/13

ITR: Sam Barton Date: 11/11/13

## Automated Independent Technical Review

Count Sequence Number: 16674 Batch Number: 2LANDA1237
Counter ID: HENC #2
Container ID: 68564
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/5/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than n-sigma * the correction factor error. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | OK<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: [illegible] Date: 11/7/13

Waste Container ID: **68564**

BDR Number: **LA13FG2117**

Sampling Date: **11/15/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131115c\
Data File : 68564.D
Acq On : 15 Nov 2013 1:17 pm (#1); 15-Nov-13, 13:17:05 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 15 13:25:45 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.594 | 96 | 4493181 | 205.75 ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 3552761 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0125 |
| Examination Date: | 11/7/2013 |
| Waste Container ID: | 68576 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0125 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 143.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 110.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68576

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal, hand tool

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 1.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 7.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 94.1 |
| Soils (S): | |
| Total WMP Weight: | 110.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68576

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 11/7/2013 |
|---|---|---|
| Print Name | Signature | Date |

## NDA 2000 Assay Report

### Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68576 | Count Sequence Number: | 23814 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/8/2013 3:16:29 PM | | |
| Description 1: | 1LANDA1862 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 110.0 kg | Net: | 110.0 kg |
| Container: | Volume: 208.0 l | Full: | 85.0 % |
| Density: | 0.620 kg /l | | |

### System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23814 | Batch Number: | 1LANDA1862 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68576 | Analysis Date: | 11/8/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 110000.0 g | | |
| Pu mass | 5.95E+000 | +- | 9.65E-001 g |
| TRU Alpha Activity | 4.03E+000 | +- | 1.94E+000 Ci |
| TRU Activity Concentration | 3.67E+004 | +- | 1.76E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.05E+000 | +- | 1.94E+000 Ci |
| Pu-239 FGE | 5.63E+000 | +- | 9.62E-001 g |
| Decay heat | 1.33E-001 | +- | 6.45E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.90E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.58E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.39E-006 |
| NP237 | 6.87E-002 | 4.84E-005 | 8.35E-006 | 1.33E-006 |
| PU238 | 5.43E-004 | 9.29E-003 | 2.00E-003 | 6.32E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.50E-005 |
| PU239 | 5.58E+000 | 3.46E-001 | 5.96E-002 | 2.35E-002 |
| PU240 | 3.57E-001 | 8.10E-002 | 1.81E-002 | 5.51E-003 |
| AM241 | 1.05E+000 | 3.60E+000 | 1.94E+000 | 5.53E-002 |
| PU241 | 6.82E-003 | 7.03E-001 | 1.57E-001 | 4.78E-002 |
| PU242 | 1.19E-003 | 4.70E-006 | 1.05E-006 | 0.00E+000 |
| AM243 | 2.29E-004 | 4.58E-005 | 8.21E-006 | 6.13E-006 |

Errors quoted at 1.000 sigma

Operator: Jim Barton Date: 11/11/13

ITR: Mark Gu Date: 11.12.13

## Automated Independent Technical Review

Count Sequence Number: 23814 Batch Number: 1LANDA1862
Counter ID: MCS HENC #1
Container ID: 68576
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Curium/Californium Neutron Analysis complete with warnings. | |
| - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue. | Ok |
| - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings. | |
| - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |

| Comments | Disposition |
|---|---|
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlin Date: 11-11-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68576**

BDR Number: **LA13FG2117**

Sampling Date: **11/15/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131115c\
Data File : 68576.D
Acq On : 15 Nov 2013 2:34 pm (#1); 15-Nov-13, 14:34:00 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 15 14:42:44 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.594 | 96 | 4423777 | 205.75 ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 3472034 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S825810

# S825810

Container Profile 747361

File Options Reports Help

# S825810

| 747361 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)

## Genealogy

S825810

- S825810
  - LA00000068618 – WIPP
  - LA00000068638 – LANL
    - LASB02211
  - LA00000068631 – LANL
  - LA00000068515 – EMPTY
  - LA00000068433 – LANL
    - LASB50017
  - LA00000068619 – WCS
    - LASB50079

Working Copy
Date: 11-12-13

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 5825810

6.2[4] Date Processed: 11-12-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007 D008 D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2)
N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Adam Segovia [signature] 276702 11-12-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S825810

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 340.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 340.0 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. Initials / Z# / Date N/A

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A

EWMO-FOD (print) / Signature / Z # / Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S825810

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68638 | 68631 | N | |
| 10.1[4] | Daughter Drum Filter No. | LM-874 | LM-831 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6793 | L-10347 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☐ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BoP | BoP | BoP | |
| | Model No. | 66PVC1.5.25PVC | 66PVC1.5.25PVC | 66PVC1.5.25PVC | |
| | Serial No. | L-6763 | L-6761 | L-6736 | |
| | Date of Manufacture | 13 | 13 | 13 | |
| 10.2[5] | POC ID No | 68618 | 68619 | 68433 | |
| 10.2[7][B]/10.2[6] | POC Item Description | Kitty Litter Nitrate Salts | Kitty Litter Nitrate Salt | Kitty Litter Nitrate Salt | N A |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | 98 116662 | 98 116662 | 98 116662 | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 416.2 | 391.7 | 351.2 | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 2.000 | 2.000 | 2.000 | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | N | | |
| 10.3[5][A] | Free Liquid Volume/Units | | A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead Sheilding | lead Sheilding | N A | N A |
| 10.3[9][A] | PCB-contaminated Waste Description | N | A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | See Comments | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 30% | 60% | N | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty Litter Plastic | Kitty litter Plastic | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S825810

Comments: Kitty Litter, lead Sheilding, Nitrate Salts
Room Trash

11.1[1] Performed By: James [illegible] 1166[illegible] 11-12-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martinez [illegible] 1149235 11/13/13 [illegible]
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

Working Copy
Date: 10-2-13

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238367
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ± 4% cw ± 6% ccw | ± 3% cw ± 6% ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL 1812
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: MICHAEL MONTOYA [signature] A91352 10/02/13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: MICHAEL MONTOYA [signature] A91352 10/02/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez [signature] [illegible] 11/1/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

Working Copy
Date: 11/11/13 HJ

**WCRRF OVERPACK DRUM CLOSURE DATA SHEET**

7.[17] Overpack Drum Unique Identifier No.: 68515

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3%(w) + +/-6%(cw)

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: James [illegible] / [illegible] 116662 / 11-12-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 162.2 lb

Comments: N/C

8.1[1] Performed By: James [illegible] / [illegible] 116662 / 11-12-3
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez / [illegible] 14925 / 11/13/13
Supervisor or designee (print) Signature Z # Date

11-7-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68631

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC1.52SPVC
Serial No.: L-10347
Manufacture Date: 6-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range in ft-lb: | 40-200 | 16-80 |
| Tolerance: | ±4%ccw ±6%cccw | ±3%ccw ±6%cccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chavez / [signature] 2047421 / 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019105
Serial No.: LM-831
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 68631

Comments: n/a

5.[35] Performed By: Brandon Chavez / [signature] 120[illegible] / 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] 1[illegible] 129[illegible] / [illegible]
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68631

6.[9] Drum closure ring torque wrench information:

M&TE No.: 028369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3% cw + +/-6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: James [illegible] / [illegible] / 1116621 / 11-12-13
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☐ N/A

Performed By: / / / /
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68631

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 213.6 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: ~~N/A~~ 11-12-13 N/C

6.[32] Performed By: James Sahl (Operator (print)) [signature] (Signature) 1116666 (Z #) 11-12-13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) [signature] (Signature) 1115351 (Z #) 11/13/13 (Date)

**ATTACHMENT 1**
Page 1 of 2

11-7-13 JL

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68638

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6cpvc1.52Spvc
Serial No.: L-6793
Manufacture Date: 1-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4%ocw ±6%occw | ±3%ocw ±6%occw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chavez / [signature] 204742 / 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUFIL
Model No.: 019DS
Serial No.: LM-874
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 68638

Comments: N/C

5.[35] Performed By: Brandon Chavez / [signature] 204772 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] 147233 11/12/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68638

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3% cw +/-6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Adam Segovia [signature] 2767 12-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☐ N/A

Performed By: / / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☐ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68638

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 84.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Adam Sugovia (Operator (print)) [signature] (Signature) Z# 027021 Date 11-12-13

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) [signature] (Signature) Z# [illegible] Date 11/12/13

Working Copy
Date: 11-11-13

**ATTACHMENT 3**
Page 1 of 1

**WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET**

6.3[21] Prepared Parent 55-Gal Drum Number: 5825810

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 340.0

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Adam Segovia [signature] 1276702 11-12-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] 142855 11/13/13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Gilbert Martinez [signature] 142855 11/13/13 [illegible]
SOS/SOM or designee (print) Signature Z # Date Time

SP72

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Production Control** 85 11-4-13 SB

Container ID: S825810 Container Type: 55-GAL Gross Weight (lbs): 344
Inner Seal #: 013157 Filter Prefix: LAVC Filter Serial #: 03931
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST12
Total PE-Ci Activity: 7.29E+00 Equivalent Combustible PE-Ci: 2.73E+00 AM-241 PE-Ci: 5.92E-01
Total Fissile Gram Equivalents: 80.5 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/14/2007 Comment: Impenetrable Obj,
Certified RTR Comment: None

Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ PE per ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of ~~kitty litter~~ zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature: R. W. Jones Z Number: 117434 Date: 12-8-11
SUSAN S. RAMSEY Signature: Susan S. Ramsey Z Number: 100681 Date: 11/28/12

**WDP Engineering**

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☐ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 284 lb. Three items weighing 87 lb, 67 lb, and 30 lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >1000 and < 10000 mrem/hr @ 30cm
Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 12/15/11

**TRU Remediation Operations**

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push on waste with hands. Use heavy duty gloves during processing of waste in the glove box
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use the proper ratio of kitty litter to waste in accordance with procedure

Performed By: Vanessa Velarde (TRU Remediation Operations (Print)) Signature: Velarde Z Number: 234079 Date: 1/24/12
Darrel L. Blash Signature: Darrel L. Blash Z Number: 218869 Date: 10/29/13
IHS Review - Jerry Amalbert CSP, No IH Concerns 12/4/12
Jose Jerez Jerry Amalbert 221452 10/29/13

# Discardable Waste Log Sheet

**DrumID: 013157**

| Item# | ItemID | Wgt (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS670FB | 13.7 | NITRATE SALTS | | 43.84 | 52 | 5/11 | |
| 2 | IXFS666FE | 30.44 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 3 | IXFS675FA | 39.54 | NITRATE SALTS | | 41.66 | 52 | 5/11 | |
| | | 83.68 kg | | | | | | |

ATTACHMENT 1


## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 1/6/12

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Loechell | Erik Loechell | 1234463 | 1-9-12 |
| | | | |

| | | | |
|---|---|---|---|
| Container No. (5.[1]): | S8259102 | S8322502 | S8258110 |
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | Ø | Ø |

## ATTACHMENT 1
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet*

| | | | |
|---|---|---|---|
| Container Number (5.[1]) | S835902 | S832502 | S835810 |
| Hydrogen Reading (ppm) (5.[10]) | 195.65 ppm | 359.03 ppm | 503.84 ppm |
| Methane Reading (ppm) (5.[10]) | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]) | Ø ppm | Ø ppm | Ø ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]) | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]) | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Alicia Herrera (Alicia Herrera) 198450, 1/9/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia (Juan Garcia) 116840 / 1-9-12
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120106C\
Data File : S825810.D
Acq On : 6 Jan 2012 11:04 am (#1); 06-Jan-12, 11:03:25 (#2)
Operator : GR
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER DRUM LID (72) (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 11:12:43 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.677 | 96 | 5068791 | 209.00 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.996 | 117 | 4035203 | 185.50 | ppmv | 0.05 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.612 | GC1 | 3958 | 502.84 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Fri Jan 06 11:12:52 2012

11-11-13

1800 Assuming WCRR operating center. - JColeman

1805 Bag off/on complete.

1820 Pre-job and turnover with day shift being conducted.

1838 Pre-job concluded. Briefed to EP-WCRR-WO-DOP-0221 and EP-WCRR-WO-DOP-0222.

1858 Operators entering 5069 to begin operations on S824184.

1922 Initiating a drum movement from 5069 to a transportainer.

2002 Drum movement complete.

2004 Initiating a drum movement from transportainer to 5069.

2025 Drum movement complete.

2124 Bagging off 1 daughter, 1 POC, and bagging on another daughter.

2157 Bag off/on complete. Continuing to process S824184.

2315 SOS states that operators notified him of missing clips on the drum lift. Operators beginning to denest 3 drums and will replace the clips after lunch.

11-12-13 0000 Denesting complete.

0013 Operators out for lunch.

0020 Beginning outside rounds.

0050 Outside rounds complete.

0125 Operators back from lunch.

0212 Bagging off 1 daughter, bagging on S825810

0239 Bag off/on complete.

0341 Bagging off 1 daughter, 1 POC, bagging on another POC.

0406 Bag off/on complete.

0430 Beginning inside rounds.

0452 Item #63-15005, okay to proceed per CSE documentation.

0453 Inside rounds complete.

0518 Both rounds reviewed by SOS.

11-12-13 0602 Being relieved by OCO Howard Smith - JColeman

HG

No further entries this page.

11-12-13

0600 ASSUMING OPERATIONS CENTER -H. SMITH
0615 BEGINNING PRE-JOB BRIEFING AND CREW TURNOVER
0642 PRE-JOB BRIEFING CONCLUDED
0701 OPERATORS ENTER BUILDING TO BEGIN PROCESSING
0812 PERMISSION GRANTED TO LOWER ACCESS GATES TO BEGIN SHIPMENT ~~DE~~ 11/12/13 HS OUT OF TA50 194/75 TO AREA G.
0813 BAGGING OFF 2 POC's 1 DAUGHTER AND BAGGING ON ~~S830013~~ HS 11/12/13 S803613
0920 BAG OFF COMPLETE
0921 MODE CHANGE TA50-69 AND YARD DECREASE TO WARM
0922 SHIPMENT OUT OF WCRR TA50-194/75 IS COMPLETE, VEHICLE ACCESS GATES SECURED.
0923 MAINTENANCE ENTERS BUILDING TO WORK ON PCM's
1058 MODE CHANGE INCREASE TO OPERATIONS IN WCRRF SITE.
1120 MAINTENANCE EXIT BUILDING, WORK COMPLETED
1300 PERMISSION GRANTED TO BEGIN MOVEMENT OUT OF TA50 69 TO TA50-194/75
1313 OPERATORS OUT FOR LUNCH
1339 TRANSPORTAINER DOOR ARE CLOSED & LATCHED, MOVEMENT OUT OF TA50-69 IS COMPLETE
1431 PERMISSION GRANTED TO BEGIN MOVEMENT INTO TA50-69 FROM TA50-194/75
1500 MOVEMENT INTO TA50-69 IS COMPLETED
1510 BAGGING OFF S803613 BAGGING ON S843593
1520 STARTING OUTSIDE ROUNDS
1545 BAG ON - BAG OFF COMPLETED
1545 OUTSIDE ROUNDS COMPLETED
1602 STARTING INSIDE ROUNDS
1637 ITEM #63 ODS, PDD IN PLACE OKAY TO PROCEED PER CSE DOCUMENTATION
1645 INSIDE ROUNDS COMPLETED
1701 INSIDE ROUNDS AND OUTSIDE ROUNDS REVIEWED BY SDS
1800 OPERATORS OUT FOR THE DAY
11-12-13 1802 BEING RELIEVED BY OCO GERALD ESPANOLA-H SMITH
HS

NO FURTHER ENTRIES ON THIS PAGE- H SMITH

1-11-13 DAYSHIFT

0559 Renewed shift turnover checklist and logbook entries and assumed the WCRR SOM position [signature]

0634 Completed attending the pre-job brief conducted by (Chris) the SCS. The safety topic was inspection of hoisting and rigging equipment. There are no transfers scheduled for today. A facility update was provided which included shift turnover information, the bottom of the glovebox requires piping and supplies are required for bagg in. Shift Orders in effect were discussed WCRR-SH-13-003 R-2 - Manual Drum Movements and WCRR-SH-13-005 R0 - Precautions to prevent bag tears.

0721 RP-1 reported that the PCM-2 in 50/69 was not functioning. messages were left for the radiological technicians - to support in repair.

0755 Mode Change: 50-69 /yard transition from cold/warm to Operations / Operations

1629 The transfer of 4 parent drums into the facility from the transportainers is completed. observed operators wearing proper PPE, communication was adequate between the spotter and forktruck driver. Forktruck tires will require replacement.

0841 Operators initiated bag on of PARENT drum 5870381

0855 Operators completed bag on.

1050 Inside operators report initiating bag off of 1 daughter, bag on another and continue.

1155 Operators initiate bag off of a daughter and bag on and continue processing

1307 Operators complete bag on

1530 Energy Solutions PM (Leak) completes discussing scheduled work for holidays.

1423 Inside Operators initiate denesting of 5870213

1431 Operators identify cracked ring therefore will hold off on 5870213 - not sking and will initiate denesting a different parent.

1527 Inside operators complete denesting, prepping and bagging on Parent 5818449

1622 Operators initiate bag off of a daughter drum and bag on of another

1640 Bag on is noted completed - and processing continues.

1735 Inside operators report bag off of daughter and bag on Parent 5824184

1801 Initiated shift turnover checklist with nightshift SOM.

1815 Relieved by R. AXTELL as WCRR SOM [signature]

No further Entries this page
[signature]

156

11/11/13 Night Shift

1815 Reviewed shift turnover checklist, approved and posted WCRR Night shift watchbill. Assumed WCRR SOM position.

1840 Concluded pre job brief conducted by SOS. Operators briefed and signed shift orders WCRR-SH-003 R. Manual Drum Movements and SH-005 R.0 Precautions to prevent bag tears. Briefed workers to new revisions for EP-WCRR-WO-DOP-221 and 222. Safety topic was watch out for wildlife in roadways - one operator hit an E/R last week.

2002 Completed moving 6 drums from 50-69 to transportainers.

2025 Completed moving 3 drums from transportainers into 50-69 for processing.

2157 Operators completed bagging off 1 POC and 1 daughter, continuing to process.

2315 SOS reported that operators identified a drum lift belly band clip missing. MLF2 custodian on shift will obtain a clip from storage when the break for lunch.

11/12/13 0000 Completed denesting 3 drums

0013 Operators breaking for lunch.

0125 Resuming operations.

0239 Completed all bag offs for parent # 5824184 (2 daughters, 1 POC total and bagged on drum # 5825810.

0245 SOS reported that the belly band clip was replaced upon operators resuming operation. Also reported that denesting slings were located in 50-69.

~~0401~~ 11/12/13 0406 Completed bagging off 1 daughter and 1 POC. Continuing processing.

0520 Reviewed inside and outside round sheets.

0602 Completed review of compliance tracking schedule and updated status board.

11/12/13 0608 Relieved by J. Guadagnoli as SOM.

No further entries this page RL9

11-12-13 DAYSHIFT

0603 Reviewed the shift turnover checklist and assumed the WCRR dayshift SOM Position John Guardagni

0643 Completed attending the pre-job brief conducted by (Clarissa). There is one transfer scheduled out (20 drums). The PCM-2 is non-functional. RP-Techs will be notified and scheduled for repair. The safety topic was walking up and down stairs - ensure hand is on rail. An RCT mentioned he encountered a road accident (fatality) when driving back from Texas. Also during de-nesting yesterday, RCT provided more info, the ring was noted below the top chine within the 85. drum. The SOM discussed the shift orders in affect.

0710 Completed the daily phone call to AREAG statusing POD activities.

0805 P&T arrives to inspect drums to be transfered out, and RP-1 will notify techs to repair the PCM-2 when operators initiate bag outs.

0813 Inside operations report initiating bag offs and bagging on Parent 5830613

0920 Inside operators report the bag off and bag on was completed. WCG safe configuration

0921 Mode change: 50/69 and YARD transition from Operations/Operations to WARM/WARM which allows RP-Tech's to enter 50/69 and conduct work on the PCM-2.

0922 The transfer out 20 drums from WCRRF to AREAG - Truck loaded and exited WCRRF.

1015 Completed reviewing AOP validation check sheets with the procedure writer.

1058 RP-Techs complete repair of the PCM-2
Mode change: 50/69 and yard Transition from WARM/WARM to Operations/Operations

1110 Extended shift orders - WCRR-SH-13-003 $R_2$ and WCRR-SH-13-005 $R_0$ through 11-18-13

1231 Completed noon status call - with SOM, SOS, OM, and Production Control.

1339 Operators completed the tranfer out of 50/69 to the transportainer.

1431 Operators initiate movement into 50/69 from the transportainers - 4 drums total.

1510 Inside operators report bagging of 1 daughter and 1 POC and bagging on PARENT 5843593

1545 Bag off and bag on were completed

1745 Obtained update from the SOS, the parent drum is 1/4 full and the daughter drum will require a bag off, the lid is being placed on the parent to secure the parent and leave the WCG in a safe configuration during shift change. No waste in WCG.

1800 Initiated shift turnover checklist with oncoming SOM.

1810 Relieved by R. Axtell as SOM John Guardagni

No further Entries this Page

PROJECT NAME WCRR 505 Log Book NOTEBOOK NO.

11/11/13

1800 Assuming 505 position for the evening for Day

1808 Performing turnover with off going 505 Christal Clarde

1815 Starting Pre-Job. PCM is down slow process in getting operators out RCT's having to do whole body frisk prior to them being released. Need to move out Daughters and move in Parents. One parent bagged on and ready to start. Safety Topic discussed wildlife crossing the road, RCT hit Elk on the way home Friday morning. Briefe to two Procedure 221 and 222, also briefed operator on shift orders.

1840 Pre-Job complete.

1858 Operators entering 50-60 to start processing

1922 Starting drum movement out of 50-60 to Transportation, total of 6 drums being moved out

2002 Movement out Complete, starting Movement into the facility of 3 Parents.

2025 Movement in Complete.

2124 Bagging off 1 daughter and 1 POC, bagging on another daughter and continuing to process.

2157 Bag on/off complete, Continuing to process 5824184

2315 Operator called out stating that the clips for the drum lift are missing. We are allowed to replace these. I have them from NL-2, need to find out from operators, how many are missing

2320 Operators starting to D-Dest three parents from 55 gallon overpacks.

11/12 0001 1201 D-Dest complete

11/13 0015 1215 Operators breaking for lunch

0115 Operators returning from lunch, needing to replace 1 clip on the drum lift and needing to write note in the comment section of the drum lift inspection.

0137 Reviewed and signed outside rounds.

0212 Clip has been replaced, Starting to bag off 1 daughter and parent bagging on 5825810

0237 Bag on / Bag off complete.

0341 Bagging off one daughter and 1 POC bagging on another POC

0426 Bag on Bag off Complete

0518 Reviewed inside rounds and signed.

0606 Unable to bag off last daughter and Parent due to material being backed too high, operators having to pull material out On Coming Crew will need to bag off POC bag on another POC to finalize Parent.

11/12 0615 Securing 505 position for the day, turning over to oncoming 505.

11/12/13

No further entries on this page

SIGNATURE DATE 20

READ AND UNDERSTOOD DATE 20

PROJECT NAME _____ NOTEBOOK NO. _____

11-12-13

0415 Assuming WCRRF SOS position
0417 Beginning pre job, discussed shift makeup, driving safety, briefings on procedures RA's steel trying to get personnel to work on PCM.
0442 Pre job briefing concluded.
0702 Operators entering 50-69 to continue processing.
0811 Starting movement to transport vehicle for shipment to treat. S803413
0813 Bagging off 2 POC's, 1 Daughter, Bagging on ~~S8304115~~ (C) 11-12-13
0920 Bag on, bag off is complete.
0921 mode change to warm for maintenance to perform work on PCM.
0923 movement out of ~~50-69~~ @ 11-12-13 WCRRF is complete
1058 mode change performed. TA50-69 and WCRRF yard now in operations, PCM work was completed.
1102 Operators entering 50-69 to continue processing.
1300 Starting movement out of 50-69 10 drums.
1324 Completed movement out of 50-69
1325 Operators waiting for lunch.
1420 Operators entering 50-69 to continue processing.
1431 Starting movement into 50-69.
1500 Completed movement into 50-69.
1510 Bagging off S803413, ~~8~~ 11-12-13 1 daughter and 1 POC, Bagging on S843593
1545 Bag on, bag off completed, completed outside rounds
1400 late entry started outside rounds. 1520 (C).
1402 Starting inside rounds.
1648 Completed inside rounds.
1701 Rounds signed off.
1800 Operators waiting 50-69 drum S843593 is 25% full
1810 Relieved by SOS Clayton Mullins, Crelende

10 Number starts this page

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0129 |
| Examination Date: | 11/15/2013 |
| Waste Container ID: | 68433 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0129 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 159.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 14.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 40 % |

# CCP Radiography Data Sheet



Waste Container ID: 68433

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bag |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 1.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 13.4 |
| Soils (S): | |
| Total WMP Weight: | 14.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68433

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? . | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 11/15/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68433 | Count Sequence Number: | 16772 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 11/27/2013 12:53:49 PM | | |
| Description 1: | 2LANDA1246 | | |
| Description 2: | POC 159.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 14.4 kg | Net: | 14.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.667 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16772 | Batch Number: | 2LANDA1246 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68433 | Analysis Date: | 11/27/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 14400.0 g | | | |
| Pu mass | 9.56E+000 | +- | 3.93E+000 | g |
| TRU Alpha Activity | 1.02E+000 | +- | 3.33E-001 | Ci |
| TRU Activity Concentration | 7.08E+004 | +- | 2.31E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.04E+000 | +- | 3.33E-001 | Ci |
| Pu-239 FGE | 9.02E+000 | +- | 3.92E+000 | g |
| Decay heat | 3.25E-002 | +- | 1.07E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.28E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.15E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 7.08E-007 |
| NP237 | 5.57E-003 | 3.92E-006 | 7.18E-007 | 5.44E-007 |
| PU238 | 8.74E-004 | 1.49E-002 | 6.86E-003 | 2.88E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 4.26E-006 |
| PU239 | 8.98E+000 | 5.57E-001 | 2.43E-001 | 1.07E-002 |
| PU240 | 5.74E-001 | 1.30E-001 | 5.98E-002 | 2.52E-003 |
| AM241 | 9.26E-002 | 3.18E-001 | 2.19E-001 | 3.03E-002 |
| PU241 | 1.09E-002 | 1.13E+000 | 5.18E-001 | 2.18E-002 |
| PU242 | 1.92E-003 | 7.57E-006 | 3.47E-006 | 0.00E+000 |
| AM243 | 5.75E-005 | 1.15E-005 | 2.25E-006 | 2.90E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 12·3·13

ITR: _____ Date: 12/3/13

## Automated Independent Technical Review

Count Sequence Number: 16772 Batch Number: 2LANDA1246
Counter ID: HENC #2
Container ID: 68433
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/27/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported: | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 12-2-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68433**

BDR Number: **LA14FG2008**

Sampling Date: **1/22/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 158.13 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140122c\
Data File : 68433.D
Acq On : 22 Jan 2014 12:24 pm (#1); 22-Jan-14, 12:23:48 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 12:32:27 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.538 | 96 | 3210061 | 205.75 ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.851 | 117 | 2482844 | 177.50 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.609 | GC1 | 1189m | 158.13 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0129 |
| Examination Date: | 11/15/2013 |
| Waste Container ID: | 68618 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0129 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 188.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 43.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 68618

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bag

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 1.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 42.4 |
| Soils (S): | |
| Total WMP Weight: | 43.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68618

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 11/15/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68618 | Count Sequence Number: | 16771 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 11/27/2013 12:10:22 PM | | |
| Description 1: | 2LANDA1246 | | |
| Description 2: | POC 188.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 43.4 kg | Net: | 43.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.814 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16771 | Batch Number: | 2LANDA1246 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68618 | Analysis Date: | 11/27/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 43400.0 g | | |
| Pu mass | 4.44E+001 | +- 1.76E+001 | g |
| TRU Alpha Activity | 2.26E+001 | +- 1.35E+001 | Ci |
| TRU Activity Concentration | 5.21E+005 | +- 3.10E+005 | nCi/g |
| Pu-239 Equivalent Activity | 2.27E+001 | +- 1.35E+001 | Ci |
| Pu-239 FGE | 4.19E+001 | +- 1.75E+001 | g |
| Decay heat | 7.44E-001 | +- 4.47E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.66E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.42E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 4.76E-006 |
| NP237 | 2.61E-001 | 1.84E-004 | 3.72E-005 | 3.53E-006 |
| PU238 | 4.05E-003 | 6.93E-002 | 3.08E-002 | 1.38E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 3.23E-005 |
| PU239 | 4.16E+001 | 2.58E+000 | 1.09E+000 | 5.12E-002 |
| PU240 | 2.66E+000 | 6.04E-001 | 2.68E-001 | 1.20E-002 |
| AM241 | 5.64E+000 | 1.93E+001 | 1.34E+001 | 1.88E-001 |
| PU241 | 5.08E-002 | 5.23E+000 | 2.32E+000 | 1.04E-001 |
| PU242 | 8.88E-003 | 3.51E-005 | 1.56E-005 | 0.00E+000 |
| AM243 | 3.20E-003 | 6.40E-004 | 1.30E-004 | 2.19E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 12-3-13

ITR: _____ Date: 12/3/13

## Automated Independent Technical Review

Count Sequence Number: 16771
Batch Number: 2LANDA1246
Counter ID: HENC #2
Container ID: 68618
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 11/27/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 12-2-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68618**

BDR Number: **LA13FG2123**

Sampling Date: **12/5/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131205c\
Data File : 68618.D
Acq On : 5 Dec 2013 1:49 pm (#1); 05-Dec-13, 13:48:35 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 05 13:56:57 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.594 | 96 | 3991883 | 205.75 ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 3117478 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0132 |
| Examination Date: | 12/2/2013 |
| Waste Container ID: | 68619 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0132 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 177.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 32.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet



Waste Container ID: 68619

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM:

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 32.4 |
| Soils (S): | |
| Total WMP Weight: | 32.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68619

| Section 5: RTR Summary (Questions answered 'Yes' will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Benito Maestas | | 12/2/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68619 | Count Sequence Number: | 16802 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 12/4/2013 11:39:08 AM | | |
| Description 1: | 2LANDA1249 | | |
| Description 2: | POC 177.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 32.4 kg | Net: | 32.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.758 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16802 | Batch Number: | 2LANDA1249 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68619 | Analysis Date: | 12/4/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 32400.0 g | | |
| Pu mass | 3.74E+001 | +- | 1.31E+001 g |
| TRU Alpha Activity | 4.45E+000 | +- | 1.44E+000 Ci |
| TRU Activity Concentration | 1.37E+005 | +- | 4.46E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.53E+000 | +- | 1.44E+000 Ci |
| Pu-239 FGE | 3.53E+001 | +- | 1.31E+001 g |
| Decay heat | 1.42E-001 | +- | 4.70E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.20E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.97E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.66E-006 |
| NP237 | 2.89E-002 | 2.04E-005 | 3.96E-006 | 1.31E-006 |
| PU238 | 3.42E-003 | 5.84E-002 | 2.33E-002 | 5.81E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 9.50E-006 |
| PU239 | 3.51E+001 | 2.18E+000 | 8.10E-001 | 2.16E-002 |
| PU240 | 2.24E+000 | 5.10E-001 | 2.03E-001 | 5.06E-003 |
| AM241 | 4.96E-001 | 1.70E+000 | 1.18E+000 | 7.58E-002 |
| PU241 | 4.28E-002 | 4.41E+000 | 1.75E+000 | 4.38E-002 |
| PU242 | 7.49E-003 | 2.96E-005 | 1.18E-005 | 0.00E+000 |
| AM243 | 3.16E-004 | 6.33E-005 | 1.25E-005 | 6.99E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 12/10/13

ITR: _____ Date: 12 11 13

## Automated Independent Technical Review

Count Sequence Number: 16802 Batch Number: 2LANDA1249
Counter ID: HENC #2
Container ID: 68619
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/4/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 12-5-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68619**

BDR Number: **LA14FG2008**

Sampling Date: **1/22/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140122c\
Data File : 68619.D
Acq On : 22 Jan 2014 3:33 pm (#1); 22-Jan-14, 15:32:23 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 15:41:20 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.591 | 96 | 2923259 | 205.75 ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.894 | 117 | 2376186 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0134 |
| Examination Date: | 12/9/2013 |
| Waste Container ID: | 68631 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0134 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 97.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 63.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 45 % |

# CCP Radiography Data Sheet



Waste Container ID: 68631

**Section 3: Container Inventory and Comments** (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

**Section 4: Packaging Material and Waste Material Parameters**

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 3.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 40.6 |
| Soils (S): | |
| Total WMP Weight: | 63.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68631

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | [X] Yes [ ] No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | [ ] Yes [X] No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | [ ] Yes [X] No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | [ ] Yes [X] No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | [ ] Yes [X] No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | [ ] Yes [X] No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | [ ] Yes [X] No |
| Is there an indication of wastes containing explosives or compressed gases? | [ ] Yes [X] No |
| Is there an indication of PCBs liquids? | [ ] Yes [X] No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | [ ] Yes [X] No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | [ ] Yes [X] No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | [ ] Yes [X] No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | [ ] Yes [X] No |
| Are there sealed containers GREATER than 4 liters? | [ ] Yes [X] No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | [ ] Yes [X] No |

Comments: The scan of this drum was performed by in-training operator Eddie Rios under the supervision of qualified operator Aaron Elliott.

RTR Operator:

| Print Name | Signature | Date |
|---|---|---|
| AaronElliott/ Eddie Rios | | 12/9/2013 |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68631 | Count Sequence Number: | 23968 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 12/10/2013 10:29:08 AM | | |
| Description 1: | 1LANDA1876 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 63.6 kg | Net: | 63.6 kg |
| Container: | Volume: 208.0 l | Full: | 45.0 % |
| Density: | 0.680 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23968 | Batch Number: | 1LANDA1876 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68631 | Analysis Date: | 12/10/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 63600.0 g | | |
| Pu mass | 2.39E+000 | +- 4.84E-001 | g |
| TRU Alpha Activity | 1.48E+000 | +- 2.44E-001 | Ci |
| TRU Activity Concentration | 2.33E+004 | +- 3.84E+003 | nCi/g |
| Pu-239 Equivalent Activity | 1.49E+000 | +- 2.44E-001 | Ci |
| Pu-239 FGE | 2.26E+000 | +- 4.83E-001 | g |
| Decay heat | 4.89E-002 | +- 8.11E-003 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 4.31E-009 | 5.95E-007 | 3.29E-007 | 0.00E+000 |
| CS137 | 6.84E-009 | 5.95E-007 | 3.29E-007 | 3.52E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.66E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 8.14E-007 |
| NP237 | 2.71E-002 | 1.91E-005 | 3.50E-006 | 1.30E-006 |
| PU238 | 2.18E-004 | 3.73E-003 | 9.34E-004 | 3.35E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 7.24E-006 |
| PU239 | 2.24E+000 | 1.39E-001 | 2.99E-002 | 1.25E-002 |
| PU240 | 1.43E-001 | 3.25E-002 | 8.38E-003 | 2.92E-003 |
| AM241 | 3.81E-001 | 1.31E+000 | 2.42E-001 | 3.17E-002 |
| PU241 | 2.73E-003 | 2.81E-001 | 7.24E-002 | 2.53E-002 |
| PU242 | 4.78E-004 | 1.89E-006 | 4.87E-007 | 0.00E+000 |
| AM243 | 4.06E-004 | 8.13E-005 | 1.50E-005 | 2.17E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 12·12·13

ITR: _____ Date: ~~12/13/13~~ 12/13/13 AG 12/13/13

## Automated Independent Technical Review

Count Sequence Number: 23968 Batch Number: 1LANDA1876
Counter ID: MCS HENC #1
Container ID: 68631
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/10/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 12-11-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68631**

BDR Number: **LA13FG2128**

Sampling Date: **12/13/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131213c\
Data File : 68631.D
Acq On : 13 Dec 2013 1:15 pm (#1); 13-Dec-13, 13:14:54 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 13 13:24:11 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.535 | 96 | 3487009 | 205.75 ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 2761469 | 177.50 ppmv | -0.01 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

22

~~23~~

12-13-13 [illegible]

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0003 |
| Examination Date: | 1/9/2014 |
| Waste Container ID: | 68638 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0003 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 38.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 5.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 25 % |

# CCP Radiography Data Sheet



Waste Container ID: 68638

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 1.1 |
| Soils (S): | |
| Total WMP Weight: | 5.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68638

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Benito Maestas | | 1/9/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68638 | Count Sequence Number: | 24095 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 1/13/2014 12:59:01 PM | | |
| Description 1: | 1LANDA1889 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Debris S5000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 5.1 kg | Net: | 5.1 kg |
| Container: | Volume: 208.0 l | Full: | 25.0 % |
| Density: | 0.100 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

CD 6/17/14 015

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24095 | Batch Number: | 1LANDA1889 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68638 | Analysis Date: | 1/13/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 5100.0 g | | |
| Pu mass | 5.77E-001 | +- 2.73E-001 | g |
| TRU Alpha Activity | 4.02E-001 | +- 1.71E-001 | Ci |
| TRU Activity Concentration | 7.88E+004 | +- 3.35E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.03E-001 | +- 1.71E-001 | Ci |
| Pu-239 FGE | 5.45E-001 | +- 2.56E-001 | g |
| Decay heat | 1.33E-002 | +- 5.67E-003 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.91E-007 |
| PU238 | 5.26E-005 | 9.00E-004 | 4.25E-004 | 3.28E-005 |
| PU239 | 5.41E-001 | 3.36E-002 | 1.59E-002 | 1.22E-003 |
| PU240 | 3.46E-002 | 7.85E-003 | 3.71E-003 | 2.86E-004 |
| AM241 | 1.05E-001 | 3.59E-001 | 1.70E-001 | 1.31E-002 |
| PU241 | 6.56E-004 | 6.76E-002 | 3.19E-002 | 2.46E-003 |
| PU242 | 1.15E-004 | 4.56E-007 | 2.16E-007 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.27E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.85E-004 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.52E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 3.65E-006 |
| AM243 | 9.61E-005 | 1.92E-005 | 1.67E-006 | 1.09E-006 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 6-9-14

ITR: [signature] Date: 6.9.14

01.6
CS 6/17/14

## Automated Independent Technical Review

Count Sequence Number: 24095
Batch Number: 1LANDA1889
Counter ID: MCS HENC #1
Container ID: 68638
Waste Matrix Code: Debris S5000
Count Type:
Sequence Type:
Assay Date: 1/13/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor is less than one. | Ok |
| Add-a-Source correction factor was set to one. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings. | |
| - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |

017
CSchlitt

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |
| Density is outside range ( 0.02 to 2.10 g/cc) or fill height is below 30%. | Fill height acceptable, neutron results applied. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Marah Date: 6/5/14

018
CS 6/17/14

Waste Container ID: **68638**

BDR Number: **LA14FG2007**

Sampling Date: **1/21/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140121c\
Data File : 68638.D
Acq On : 21 Jan 2014 1:04 pm (#1); 21-Jan-14, 13:04:16 (#2)
Operator : DE
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 21 13:15:31 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.587 | 96 | 2983723 | 205.75 ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.887 | 117 | 2386237 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S825902

# S825902

Container Profile 753936

File Options Reports Help

# S825902

| 753936 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure

## Genealogy

S825902

- S825902
  - LA00000068575 WIPP
  - LA00000068512 WIPP
  - LA00000068428 - WCS
    - LASB50028
  - LA00000068395 WIPP
  - LA00000068518 - empty

Working Copy
Date: 10-29-13

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S825902

6.2[4] Date Processed: 10-29-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: N/A

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Frederick Rebolledo / [signature] / 1228826 / 10-29-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S825902

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 347.2 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 347.2 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. / N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / / /
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S825902

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68575 | | N | |
| 10.1[4] | Daughter Drum Filter No. | LM-845 | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10331 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BoP | BoP | BoP | |
| | Model No. | 6CPVC1.5-25PVC | 6CPVC1.5-25PVC | 6CPVC1.5-25PVC | |
| | Serial No. | L-10290 | L-6741 | L-6704 | |
| | Date of Manufacture | 5-13 | 1/13 | 1-13 | |
| 10.2[5] | POC ID No | 68517 | 68428 | 68395 | N |
| 10.2[7][B]/10.2[6] | POC Item Description | Nitrate Salts Plastic | Nitrate Salts Plastic | Nitrate Salts Plastic | A |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | SB 116662 | SB 116662 | SB 116662 | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 383.6 | 380.2 | 323.2 | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 1200 | 1200 | 1200 | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N | | | |
| 10.3[5][A] | Free Liquid Volume/Units | | A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | N | |
| 10.3[9][B] | PCB Item ID No. | | | | A |
| 10.3[10] | Remaining Waste Description | See Comments | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 50% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Room Trash Kitty Litter | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S825902

Comments: Kitty litter, Plastic, Room Trash, Hex Armor Gloves, Nitrate Salts And Tape

11.1[1] Performed By: James Jackl [signature] 1116662 10-29-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Mejia [signature] r49225 10/30/13 1000
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 10-2-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Tolerance: | +/- 4% CW<br>+/- 6% CCW | +/- 3% CW<br>+/- 6% CCW |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL 1897
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: JOE QUINTANA [signature] 239987, 10/2/13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: JOE QUINTANA [signature] 239987, 10/2/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez [signature] 149235, 10/3/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-29-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68518

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-3% cw + +/-6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: James Suhl, [signature] 1116621 10-29-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 161.8 lb

Comments: N/C

8.1[1] Performed By: James Suhl, [signature] 1116621 10-29-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilberto Martinez, [signature] 1492351 10/30/13
Supervisor or designee (print) Signature Z # Date

7

Working Copy
Date: 10-24-13 JL

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68575

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC 1.5-25PVC
Serial No.: L-10331
Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / Brian Gallegos / Brian Gallegos / 267129 / 10-24-13 / 1287544 / 10-24-13
Operator (print) / Signature / Z # / Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-845
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68575

Comments: N/C

| | | | | | |
|---|---|---|---|---|---|
| | | BRIAN GALLEGOS | | 267129 | 10 24-13 |
| 5.[35] | Performed By: | Brian Cordova | | 1287591 | 10-24-13 |
| | | Operator (print) | Signature | Z # | Date |
| 7.1[4] | Reviewed By: | Gilbert Martinez | | 1149235 | 10/30/13 |
| | | Supervisor or designee (print) | Signature | Z # | Date |

Working Copy
Date: 10-24-13

**ATTACHMENT 2**
Page 1 of 2

**WCRRF DRUM CLOSURE DATA SHEET**

6.[3] Drum ID No.: 68575

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/- 3% cw +/- 6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Federico Abbate (Operator (print)) [signature] (Signature) 1228509 (Z #) 10-29-13 (Date)

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 608575

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 241.4 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: James [illegible] (Operator (print)) [signature] (Signature) [illegible] (Z #) 10-29-13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) [signature] (Signature) 1419275 (Z #) 10/30/13 (Date)

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

1
72
NR
6-20-12

## Production Control

Container ID: S825902 Container Type: 55-GAL Gross Weight (lbs): 350
Inner Seal #: 012077 Filter Prefix: LAVC Filter Serial #: 03731
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 NITRATE SALTS/RM 434
Total PE-Ci Activity: 3.98E+00 Equivalent Combustible PE-Ci: 1.49E+00 AM-241 PE-Ci: 3.23E-01
Total Fissile Gram Equivalents: 43.9 Total Surface Dose Rate (mrem/hr): 9
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/23/2007 Comment: Impenetrable Obj,
Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☒ ~~RVE~~ ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter to 1.0 volume of nitrate salts must be mixed with 1.0 volume

Performed By: R. W. Jones — Production Control (Print) — Signature — 117434 Z Number — 12.8.11 Date

## WDP Engineering

SUSAN S. RAMSEY — Signature — 100681 Z Number — 11/28/12 Date

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☑ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 290lb. Four items ranging from 12lb to 85lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >100 and <1000 mrem/hr @ 30 cm
Drum may have lead liner

Performed By: Valerie Rhodes — WDP Engineering (Print) — Signature — 112609 Z Number — 12/15/11 Date

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use Hexarmour gloves when processing waste
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.

Performed By: Vanessa Velarde — TRU Remediation Operations (Print) — Signature — 234079 Z Number — 1/24/12 Date
Jose Perez — 221452 — 1-7-13

IHS Review Jeffrey Amadland CSP, No IH concerns 12/4/12
Ribia Shook RSh 272995 1-14-13

# Discardable Waste Log Sheet

**DrumID: 012077**

| Item# | DrumID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS671FB | 5.23 | NITRATE SALTS | | 22.36 | 52 | 6/11 | G-468 |
| 2 | DXFS685FB | 27.27 | NITRATE SALTS | | 6.43 | 52 | 6/11 | G-468 |
| 3 | DXFS686FB | 14.77 | NITRATE SALTS | | 3.1 | 52 | 6/11 | G-468 |
| 4 | DXFS687 | 38.63 | NITRATE SALTS | | 14.76 | 52 | 6/11 | G-468 |
| | | 85.9 kg | | | | | | |

ATTACHMENT 1
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 1/6/12

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Loechell | Erik Loechell | 1234163 | 1-9-12 |
| | | | |

| | | | |
|---|---|---|---|
| Container No. (5.[1]): | S8259102 | S8322502 | S8258110 |
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | Ø | Ø |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (5.[1]): | S825902 | S832502 | S825810 |
| Hydrogen Reading (ppm) (5.[10]): | 195.65 ppm | 359.03 ppm | 503.84 ppm |
| Methane Reading (ppm) (5.[10]): | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]): | Ø ppm | Ø ppm | Ø ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]): | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]): | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]): | N/A | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Alicia Herrera [signature] 198450, 1/9/12
Waste Handling Operator (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 116840 1-9-12
Waste Handling Supervisor (print) Signature Z# Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120106C\
Data File : S825902.D
Acq On : 6 Jan 2012 11:26 am (#1); 06-Jan-12, 11:26:02 (#2)
Operator : GR
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER DRUM LID (72) (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 11:37:50 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.706 | 96 | 5023872 | 209.00 ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 6.019 | 117 | 4021049 | 185.50 ppmv | 0.07 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.612 | GC1 | 1540 | 195.65 ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Fri Jan 06 11:38:14 2012

10-29-13

0609 Assuming WCRRF operations center Orlando
0615 Pre job being conducted by SOS
0643 Pre job concluded.
0726 Starting movement into 50-69
0743 movement into 50-69 is complete.
0745 mode change performed TA50-69 and WCRRF yard now in warm standby for glove changes on station 2 and 1 Left and Right.
0830 Starting glove changes on station 1 and 2 Left and Right.
0841 Starting movement ~~to transport vehicle~~ CV 10-29-13 out of 50-69.
0852 movement out of 50-69 complete.
0855 Lowering vehicle access gates to start loading vehicle ~~access gates~~ CV 10-29-13 transport tractor for movement to area G.
0938 Vehicle access gates have been restored movement out of WCRRF is complete
0944 Glove changes have been completed.
0953 mode change performed TA50-69 and WCRRF yard now in operations
1133 Bagging on 3825902, Bagging off 3804989
1200 Bag on, Bag off complete
1445 Starting outside rounds
1450 Being relieved by RCO Howard Smith - Orlando
1451 ASSUMING OPERATION CENTER HA SMITH
1459 STARTING INSIDE ROUNDS
1508 OUTSIDE ROUNDS COMPLETED
1519 ITEM #63 ODS, OKAY TO PROCEED PER CSE DOCUMENTATION
1521 INSIDE ROUNDS COMPLETED
1543 BAGGING OFF 3825902 BAGGING ON 3825730
1544 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS
1630 RCT SUPERVISION INFORMED OPS CENTER ABOUT PERSONAL CONTAMINATION ON PPE OF TECH 31, ~~EATING~~ HS 10/29/13 OPERATORS WILL FINISH BAGGING OFF AND THEN DECONTAMINATE

- CONTINUED ON NEXT PAGE - HASMITH

10-29-13

1646 RP-1 NOTIFIED OPERATIONS CENTER CONTAMINATION NOTED AT 1800 DPM'S BUT WITH TAPE PRESS WAS REDUCED TO LESS THAN 200 DPM'S. THE AREA WAS COVERED WITH TAPE BAG OFF/~~BAG ON~~ HS 10-29-13 WAS COMPLETED TO PLACE PROCESS IN SAFE CONFIGURATION. LARGE AREA SWIPES WERE PERFORMED ON FLOOR. NO CONTAMINATION WAS DETECTED. ALL CAMS WERE NORMAL. ALL PERSONNEL USED HAND & FOOT MONITORS AND REPORTED NDA. OPERATORS WERE ASKED TO STAY IN THE BUILDING DURING SURVEY. SURVEYS ARE BEING PERFORMED BY RCT'S.
CONTAMINATION WAS NOTED ON THE GRIPS OF THE CUTTER APPROXIMATELY 500 DPM. ALL PERSONNEL REMAIN IN RESPIRATORS.

1658 RP-1 REPORTS - RCT'S ARE SURVEYING RESPIRATORS, THE OPERATORS WILL BE SURVEYED OUT AND GO THROUGH THE PCM2 TO ENSURE NO SKIN CONTAMINATION

1715 THE OPERATOR WAS CLEARED THROUGH PCM2 - NO CONTAMINATION.

1724 RP-I REPORTS ALL RESPIRATOR SURVEYS AND FLOOR SURVEYS WERE NDA/WITHIN LIMITS

1740 OPERATIONS RESUMED IN THE PROCESS

1803 BAGON/BAG OFF COMPLETE

1811 OPERATORS EXIT BUILDING

10-29-13 1811 BEING RELIEVED BY OCO TERRI COLEMAN - G SMITH

RG

NO FURTHER ENTRIES ON THIS PAGE

10-29-13 Day shift

0610 Reviewed the shift turnover checklist and assumed the WCRR SOM position from Gundlach

0645 Completed attending the pre-job brief conducted by the SOS (Gilbert). Discussed shift turnover, noting stations #1 left hand and station #2 right and left hand require changing. There is one transfer scheduled out. The ES/PM, discussed Fire Suppression, and Tank Capacity. RCTs discussed bag on of parents and to ensure the bag is ~~[illegible]~~ long enough. The RCT noticed yesterday that one pigtail during bagoff was short. Training of new operators was discussed and the use of the ALARA Center to support in bag offs. Arrangements will be required to utilize the center. Safety message is to watch out for each other.

0708 Completed the daily AREAG call in with SOM updating POD status.

0740 Inside operators report stations 1 and stations 2 require changing both pair.

0745 Mode Change WCRR Yard and 50/69 transition from Operations/Operations to WARM/WARM

0747 late entry for 0743, Operators complete the move in of 3 Parent drums - 5832320, 5825730, and 5825902.

0801 Initiated meeting with CSE (Crawford) (procedure writer) R. Smart and J. Vigil.

0921 Reviewed and approved WO# 468539-02 - Equipment Servicing to have crafts initiate work on the snow blower.

0940 The transfer out was completed, 15 drums total.

0944 Inside Operators report glove changes - were noted completed.

0953 Mode Change: WCRR YARD and 50/69 Facility transition from WARM/WARM to Operations/Operations.

1045 Completed debrief with FAL REP (R. Tower). He reviewed past critical lifts and record keeping. Noted ATTACHMENT 1 of DOP-0233, step 4.3.[5][B] should be marked N/A only applicable when 300 FEG or greater are in the WCG. Also with Procedure DOP-0236 - ATTACHMENT 1 for unloading swBoc 85 Gal Drum, when de-nesting, the title of ATTACHMENT 1 is worded - WCRRF - WCG critical lift Plan Concurrence sheet. As a suggestion, the WCG should be removed. Notification was made to the SOS. The SOM provided information to the procedure writer R. Smart.

1115 Completed extending Shift Orders WCRR-SH-13-003 R2 Manual Drum Movements and WCRR-SH-13-005 R0 Precautions to Prevent Bag Tears; through ~~10-31-13~~ 11-05-13.

1132 Inside Operations report bagging off and bagging on PARENT 5825902

1200 Operations Complete the bag on, and continued to process.

(Continued on Next Page)

10-29-13 DAYSHIFT (Cont.)

1201 Participated with teleconference call, with Production Control, OM, SOMs and J. Vigil. Updates were provided, regarding facility

1356 Completed review and sign off of the Operator AID LOGBOOK, Quarterly and Monthly.

1543 Operators report bagging off S825902 and bagging on S825730

1630 RP-1 supervisor notified the Operations Center of an Operator noted contaminated on his Right wrist PPE sleeve, identified after daughter drum bagg off routine smears of hands/arms.

1646 RP-1 reports contamination noted at 1800dpm and with tape press's, it was brought down to < 200 dpm, the area was covered with tape bag off/bag on was completed (of the daughter drum) to place the evolution in a safe configuration.
LAS was performed on the floor - no contamination detected.
CAMs were reported normal
All personnel went thru the Hand Foot monitor and reported NDA
All personnel were reminded to stay in one are during surveys.
Survey are being performed by RCTs.
Contamination was noted on the grips of the cutter (500dpm)
All personnel will remain in respirators.

1658 RP-1 reports - RCTs are surveying respirators. The Operator will be surveyed out and go thru the PCM2 to ensure no skin contamination.

1715 The operator was cleared through the PCM2 - No contamination.

1724 RP-1 reports all respiratory surveys and floor surveys were NDA/within limits
Upon obtaining results, operations is approved to continue bag off's
The old cutter was thrown away and new cutter provided.

1745 Complete follow up with WCATs wall to wall inventory - provided input to OM - all noted sat - Empty containers to be scanned in ARETIC on upon entry after prepping in 50/69. In addition verification of current procedures and forms - utilized - Notified OM.

1803 All bag offs were conducted successfully and Parent Drum S825730 was Bagged on

1815 Completed shift turn over with oncoming SOM. Relieved of WCRR SOM duties by R. Axtell [signature]

No further Entries this page.

10/29/13 WCRR SOS LOG Book

0600 Assuming SOS Position

0615 Conducted shift brief discussed status of box need to look at Gloves on station 1 and 2 they may need to be changed Also discussed ES benifits

0645 Concluded shift brief.

0726 Starting move into SO-69

0743 Move In Complete

0745 Made change Complete WCRRF In warm for Glove Changes on station 1 and 2. Both hands

0830 Starting Glove changes

0841 starting Moveout of SO-69

0852 Move out Complete.

0855 Starting shipment to G.

0938 Shipment out Complete

0944 Glove Changes Complete

0953 Made change Complete WCRRF In operations

1133 Bagging in 5825902 Bagging off 5804989

1200 Bag in/off complete

1445 Starting Rounds

1545 Bagging off/on 5825730

1544 Reviewed Inside And outside Round

1676 RCT Informed of Personal Contamination on Tech 31 PPE operators will continue bag off and then Due Further Investigation

1646 RP-1 noted operator had 18000 DPM on Right wrist RCT's Did tape pressed and brought levels Down to less than 200 DPM area on PPE was taped over And IAS was performed no contamination was Detected Individual was ~~stored~~ surveyed out And passed Moveout PCM A 30 point survey was conducted.

1915 Operator cleared PCM no contamination

1724 RP-1 notified All smears NDA

1740 operators continuing operations bagging off/on

1803 Bag on/off complete

HSM 1815 Relieved by Clayton Mullins

No Further entries on this page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0122 |
| Examination Date: | 11/1/2013 |
| Waste Container ID: | 68395 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0122 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 154.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 9.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 50 % |

# CCP Radiography Data Sheet



Waste Container ID: 68395

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Utility knife, metal hardware

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.2 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 7.2 |
| Soils (S): | |
| Total WMP Weight: | 9.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68395

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 11/1/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68395 | Count Sequence Number: | 23775 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/1/2013 1:01:45 PM | | |
| Description 1: | 1LANDA1858 | | |
| Description 2: | POC, 154.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 9.4 kg | Net: | 9.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.642 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23775 | Batch Number: | 1LANDA1858 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68395 | Analysis Date: | 11/1/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 9400.0 g | | |
| Pu mass | 7.52E+000 | +- | 4.74E+000 g |
| TRU Alpha Activity | 1.33E+000 | +- | 3.33E-001 Ci |
| TRU Activity Concentration | 1.41E+005 | +- | 3.54E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.34E+000 | +- | 3.33E-001 Ci |
| Pu-239 FGE | 7.09E+000 | +- | 4.73E+000 g |
| Decay heat | 4.30E-002 | +- | 1.05E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 4.06E-009 | 5.60E-007 | 2.41E-007 | 0.00E+000 |
| CS137 | 6.45E-009 | 5.60E-007 | 2.41E-007 | 2.79E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.71E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 8.19E-007 |
| NP237 | 1.49E-002 | 1.05E-005 | 1.89E-006 | 1.21E-006 |
| PU238 | 6.87E-004 | 1.17E-002 | 8.01E-003 | 5.16E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 6.64E-006 |
| PU239 | 7.05E+000 | 4.37E-001 | 2.93E-001 | 1.92E-002 |
| PU240 | 4.51E-001 | 1.02E-001 | 7.01E-002 | 4.49E-003 |
| AM241 | 2.26E-001 | 7.77E-001 | 1.41E-001 | 5.80E-002 |
| PU241 | 8.63E-003 | 8.89E-001 | 6.09E-001 | 3.90E-002 |
| PU242 | 1.50E-003 | 5.94E-006 | 4.07E-006 | 0.00E+000 |
| AM243 | 4.66E-004 | 9.32E-005 | 1.66E-005 | 3.79E-006 |

Errors quoted at 1.000 sigma

Operator: D R C Date: 11-5-13

ITR: Marla Eg Date: 11-5-13

## Automated Independent Technical Review

Count Sequence Number: 23775 Batch Number: 1LANDA1858
Counter ID: MCS HENC #1
Container ID: 68395
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/1/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlin Date: 11-4-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68395**

BDR Number: **LA13FG2123**

Sampling Date: **12/5/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131205c\
Data File : 68395.D
Acq On : 5 Dec 2013 2:56 pm (#1); 05-Dec-13, 14:56:10 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 05 15:04:33 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.594 | 96 | 3961870 | 205.75 ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 5.894 | 117 | 3131891 | 177.50 ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0123 |
| Examination Date: | 11/5/2013 |
| Waste Container ID: | 68428 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0123 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 172.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 27.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68428

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid, Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP), Liner/Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 25.4 |
| Soils (S): | |
| Total WMP Weight: | 27.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68428

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.)
There is separation between liner lid and liner therefore liner is vented.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 11/5/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68428 | Count Sequence Number: | 16673 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 11/5/2013 12:52:51 PM | | |
| Description 1: | 2LANDA1237 | | |
| Description 2: | POC - 172.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 27.4 kg | Net: | 27.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.733 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16673 | Batch Number: | 2LANDA1237 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68428 | Analysis Date: | 11/5/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 27400.0 g | | |
| Pu mass | 9.96E+000 | +- | 2.08E+000 g |
| TRU Alpha Activity | 6.61E+000 | +- | 3.21E+000 Ci |
| TRU Activity Concentration | 2.41E+005 | +- | 1.17E+005 nCi/g |
| Pu-239 Equivalent Activity | 6.63E+000 | +- | 3.21E+000 Ci |
| Pu-239 FGE | 9.42E+000 | +- | 2.07E+000 g |
| Decay heat | 2.18E-001 | +- | 1.07E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.83E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.93E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.72E-006 |
| NP237 | 8.15E-002 | 5.74E-005 | 1.09E-005 | 1.79E-006 |
| PU238 | 9.10E-004 | 1.56E-002 | 4.09E-003 | 7.15E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.70E-005 |
| PU239 | 9.34E+000 | 5.79E-001 | 1.28E-001 | 2.66E-002 |
| PU240 | 5.97E-001 | 1.36E-001 | 3.56E-002 | 6.23E-003 |
| AM241 | 1.71E+000 | 5.88E+000 | 3.20E+000 | 6.89E-002 |
| PU241 | 1.14E-002 | 1.18E+000 | 3.09E-001 | 5.41E-002 |
| PU242 | 1.99E-003 | 7.88E-006 | 2.07E-006 | 0.00E+000 |
| AM243 | 3.26E-003 | 6.52E-004 | 1.24E-004 | 1.16E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/7/13

ITR: Ami Barton Date: 11/11/13

## Automated Independent Technical Review

Count Sequence Number: 16673
Batch Number: 2LANDA1237
Counter ID: HENC #2
Container ID: 68428
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 11/5/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | OK<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: _____ Date: 11/7/13

Waste Container ID: **68428**

BDR Number: **LA14FG2008**

Sampling Date: **1/22/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140122c\
Data File : 68428.D
Acq On : 22 Jan 2014 1:31 pm (#1); 22-Jan-14, 13:30:51 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 13:41:29 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.542 | 96 | 2797968 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 2251773 | 177.50 | ppmv | -0.01 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

36

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0122 |
| Examination Date: | 11/1/2013 |
| Waste Container ID: | 68512 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0122 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 174.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 28.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 70 % |

# CCP Radiography Data Sheet



Waste Container ID: 68512

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 22.9 |
| Soils (S): | |
| Total WMP Weight: | 28.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68512

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 11/1/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68512 | Count Sequence Number: | 16665 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 11/1/2013 10:54:07 AM | | |
| Description 1: | 2LANDA1236 | | |
| Description 2: | POC 174.0 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 28.9 kg | Net: | 28.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.740 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16665 | Batch Number: | 2LANDA1236 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68512 | Analysis Date: | 11/1/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 28900.0 g | | |
| Pu mass | 4.44E+000 | +- | 1.09E+000 g |
| TRU Alpha Activity | 9.77E+000 | +- | 5.15E+000 Ci |
| TRU Activity Concentration | 3.38E+005 | +- | 1.78E+005 nCi/g |
| Pu-239 Equivalent Activity | 9.78E+000 | +- | 5.15E+000 Ci |
| Pu-239 FGE | 4.24E+000 | +- | 1.09E+000 g |
| Decay heat | 3.24E-001 | +- | 1.71E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.57E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.03E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.52E-006 |
| NP237 | 1.30E-001 | 9.14E-005 | 1.75E-005 | 2.28E-006 |
| PU238 | 4.06E-004 | 6.94E-003 | 2.06E-003 | 8.52E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.13E-005 |
| PU239 | 4.17E+000 | 2.59E-001 | 6.75E-002 | 3.17E-002 |
| PU240 | 2.67E-001 | 6.05E-002 | 1.80E-002 | 7.42E-003 |
| AM241 | 2.75E+000 | 9.44E+000 | 5.14E+000 | 8.84E-002 |
| PU241 | 5.10E-003 | 5.26E-001 | 1.56E-001 | 6.45E-002 |
| PU242 | 8.90E-004 | 3.51E-006 | 1.04E-006 | 0.00E+000 |
| AM243 | 5.15E-003 | 1.03E-003 | 1.97E-004 | 1.49E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11-4-13

ITR: _____ Date: 11.5.13

## Automated Independent Technical Review

Count Sequence Number: 16665 Batch Number: 2LANDA1236
Counter ID: HENC #2
Container ID: 68512
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/1/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | OK<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: _____ Date: ~~9/4/13~~ 11/4/13 F 11/4/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68512**

BDR Number: **LA13FG2123**

Sampling Date: **12/5/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 105.46 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131205c\
Data File : 68512.D
Acq On : 5 Dec 2013 2:34 pm (#1); 05-Dec-13, 14:34:11 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 05 14:42:52 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.545 | 96 | 3796832 | 205.75 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.851 | 117 | 2995565 | 177.50 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.617 | GC1 | 793m | 105.46 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0122 |
| Examination Date: | 11/1/2013 |
| Waste Container ID: | 68575 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0122 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 109.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 76.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 60 % |

# CCP Radiography Data Sheet



Waste Container ID: 68575

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 70.1 |
| Soils (S): | |
| Total WMP Weight: | 76.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68575

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons | | 11/1/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68575 | Count Sequence Number: | 23777 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/1/2013 2:25:41 PM | | |
| Description 1: | 1LANDA1858 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 76.1 kg | Net: | 76.1 kg |
| Container: | Volume: 208.0 l | Full: | 60.0 % |
| Density: | 0.610 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23777 | Batch Number: | 1LANDA1858 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68575 | Analysis Date: | 11/1/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 76100.0 g | | |
| Pu mass | 3.55E+001 | +- | 6.85E+000 g |
| TRU Alpha Activity | 8.50E+000 | +- | 3.21E+000 Ci |
| TRU Activity Concentration | 1.12E+005 | +- | 4.21E+004 nCi/g |
| Pu-239 Equivalent Activity | 8.58E+000 | +- | 3.21E+000 Ci |
| Pu-239 FGE | 3.35E+001 | +- | 6.83E+000 g |
| Decay heat | 2.77E-001 | +- | 1.06E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.84E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.02E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.89E-006 |
| NP237 | 1.26E-001 | 8.87E-005 | 1.52E-005 | 4.38E-006 |
| PU238 | 3.24E-003 | 5.55E-002 | 1.34E-002 | 1.97E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.07E-005 |
| PU239 | 3.33E+001 | 2.07E+000 | 4.24E-001 | 7.34E-002 |
| PU240 | 2.13E+000 | 4.84E-001 | 1.20E-001 | 1.72E-002 |
| AM241 | 1.72E+000 | 5.90E+000 | 3.17E+000 | 1.14E-001 |
| PU241 | 4.08E-002 | 4.20E+000 | 1.05E+000 | 1.49E-001 |
| PU242 | 7.11E-003 | 2.81E-005 | 6.99E-006 | 0.00E+000 |
| AM243 | 5.15E-003 | 1.03E-003 | 1.78E-004 | 1.40E-005 |

Errors quoted at 1.000 sigma

Operator: D R C Date: 11·5·13

ITR: Martha Gr Date: 11·5·13

## Automated Independent Technical Review

Count Sequence Number: 23777 Batch Number: 1LANDA1858
Counter ID: MCS HENC #1
Container ID: 68575
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/1/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | <br><br>Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 11-4-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68575**

BDR Number: **LA13FG2117**

Sampling Date: **11/15/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131115c\
Data File : 68575.D
Acq On : 15 Nov 2013 2:12 pm (#1); 15-Nov-13, 14:12:18 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 15 14:21:03 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.565 | 96 | 4344665 | 205.75 | ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.868 | 117 | 3410526 | 177.50 | ppmv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S832040

# S832040

Container 763853

File Options Reports Help

# S832040

| 763853 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S832040

- S832040
  - 90841
    - 92191 - EMPTY
    - 92190
      - SB01984
  - 90840
  - 90844 - EMPTY
  - 90843
    - 92141 - EMPTY
    - 92140
    - 92139
      - SB01943
  - 90842
    - 92187 - EMPTY
    - 92186

UET Working Copy
Date: 2/2/12

**ATTACHMENT 1**
Page 1 of 3

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S832040

6.2[4] Date Processed: 2-2-12

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☑ > 190 mrem/hr ☐ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 9-3-12

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb: ☐ YES ☑ NO

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT

Performed By: Michael Romero / Michael Romero / 188723 / 2-2-12
Waste Handling Tech (print) Signature Z # Date

5.[16] Prepared Parent Drum Weight (lb): 333 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

## ATTACHMENT 1
Page 2 of 3

4.1[6][B] Parent Waste Container No.: S832040

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 333 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 90840 | | | |
| 10.1[4] | Daughter Drum Filter No. | CL-1425 | | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | WO 1596 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 414992 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BoP | BoP | BoP | |
| | Model No. | 3CPVC1.5-2 | 3-1.5-2 | 3-1.5-2 | |
| | Serial No. | WO 1462 | WO 1638 | WO 2504 | |
| | Date of Manufacture | 6/11 | 6/11 | 10/11 | |
| 10.2[5] | POC ID No | 90841 | 90842 | 90843 | |
| 10.2[7][B]/10.2[6] | POC Item Description | Plastic Salt | Plastic Salts | Plastic Salts | |
| 10.2[7][D]/10.2[8][D] | Bag-out Bag Filter No. | N/A | N/A | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | MR 182723 | MR 182723 | MR 182723 | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 393.0 | 361.4 | 355 | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 551 | 405 | 201 | N/A |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead Shielding | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 gallons | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comments | | | |
| 10.3[13]/10.4[12]/ 10.5[5] | Daughter Drum % Full (%) | 80% | | | |
| 10.5[4] | Description Waste Added During Processing | Plastic | | | |

**ATTACHMENT 1**
Page 3 of 3

4.1[6][B] Parent Waste Container No.: S832040

Comments: plastic, salts, lead shielding

11.1[1] Performed By: Michael Romero / Michael Romero / 188723 / 12-2-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: [illegible] / [illegible] / 149235 / 2-8-12
SOS/SOM (print) Signature Z # Date/Time

## Attachment 1. Checklist for Overpacking Drums Into an 85–Gal Overpack

**85-Gallon Overpack ID Number** 90844

| | |
|---|---|
| **RECORD** Drum Filter information: Nucfil-013 | |
| Filter ID Number: FJ-498 | |
| Date of Manufacture: 6/09 | |

| **TORQUE WRENCH INFORMATION** | | | |
|---|---|---|---|
| **Filter Torque Wrench** | | **Drum Lid Ring Bolt** | |
| M&TE ID# | 040695 | M&TE ID# | 032122 |
| Cal Expiration Date | 9/12/12 | Cal Expiration Date | 9-18-12 |
| | | | ±3% cw |
| Tolerance ±3% cw ±6% ccw | | Tolerance | ±6% ccw |
| Torque wrench is within acceptable range as displayed on Calibration Certificate | ☑ Yes ☐ No ☐ N/A | Torque wrench is within acceptable range as displayed on Calibration Certificate | ☑ Yes ☐ No |
| | | **Bung Torque Wrench** | |
| | | M&TE ID# | 040691 |
| | | Cal Expiration Date | 8/2/12 |
| | | Tolerance ±3% cw ±6% ccw | |
| | | Torque wrench is within acceptable range as displayed on Calibration Certificate | ☑ Yes ☐ No ☐ N/A |

Previously used 85-gallon container inspected (as applicable) ☐ SAT ☐ UNSAT

Filter vent torque value: (new container only) 120 in-lb ☐ N/A

Drum lid 2-inch bung torque value: (If applicable) 30 ft-lb ☐ N/A

Drum lid ring-bolt torque value: 60 ft-lb

Drum lid ring threaded end touching jam nut: ☐ YES ☑ NO

Drum lid ring ends touching: ☐ YES ☑ NO

| Technician Name (print) | Signature | Initials | Z# | Date |
|---|---|---|---|---|
| L M Montaño | L M Montaño | LMM | 085042 | 1/22/12 |
| Michael Romero | Michael Romero | MR | 182723 | 2-2-12 |

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 90840

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
- Purchase Request #: 414992 ~~144992~~
- Lot #: 217304
- Date of Manufacture: 11

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
- Manufacturer: BoP
- Model #: 3CPU 1.5-2 SPUC
- Serial #: W01569
- Date of Manufacture: 6/11

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
- Manufacturer: UNCF.I
- Model #: 019 DS
- Serial #: CL-1425
- Date of Manufacture: 3/11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 040695 | M&TE ID #: | 040691 |
| Cal Expiration Date: | 9-12-12 | Cal Expiration Date: | 8-2-12 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±3.8cw ±2.6ccw | Tolerance: | ±3.8cw ±2.6ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Jimmy Romero Signature: [signature] Z#: 234253

**5. Weigh Drum Assembly**

RECORD weight information
- Tare witght (lbs) 75.4
- File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Jimmy Romero Operator Sign: [signature] Z#: 234253 Date: 1-4-12

Verifier Print: Michael Romero Verifier Sign: Michael Romero Z#: 182723 Date: 2-2-12

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 90840

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 032122 2-2-12 MR

Cal expiration date: ~~20-80~~ 9-18-12

Range/ Value (ft-lbs): 20-80

Tolerance

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs.): 213.8

Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [signature] Date: 2.2.12

Verifier Print/Sign: Michael Romero Date: 2-2-12

SP1

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S832040 Container Type: 55-GAL Gross Weight (lbs): 333
Inner Seal #: 012071 Filter Prefix: LAVC Filter Serial #: 03026
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 RM 434
Total PE-Ci Activity: 1.61E+01 Equivalent Combustible PE-Ci: 6.03E+00 AM-241 PE-Ci: 1.30E+00
Total Fissile Gram Equivalents: 177.5 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/19/2007 Comment: Impenetrable Obj.
Certified RTR Comment: None
Prohibited Items: ☑ Sealed > 4 Liters ☑ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ VE ☐ PID ☐ Split ☐ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Poc

Performed By: R. W. Jones / Production Control (Print) Signature 117434 Z Number 1-18-11 Date

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 273 lb. Two items weighing 79 lb and 54 lb, respectively
May require RWP for >1000 and <10,000 mrem/hr at 30 cm

Performed By: Valerie Rhodes / WDP Engineering (Print) Signature 112669 Z Number 11/12/11 Date

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns:

Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: Heavy items or to manipulate with crane/manipulator

Performed By: Vanessa Valenzuela / TRU Remediation Operations (Print) Signature 234079 Z Number 1/7/11 Date

## Noncertified TRU Waste Drum Item Information

DrumID: 012071

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IXFS675FB | | 35.910 | NITRATE SALTS | | 45.21 | 52 | 5/11 | G468 | |
| 2 | IXFS674FB | | 37.960 | NITRATE SALTS | | 143.4 | 52 | 5/11 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 150.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 188.63 | 73.87 |
| Totals | 188.63 | 73.87 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 5/25/11

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Loechell | Erik Loechell | 1234183 | 11-14-11 |
| | / | / | / |

| | | | |
|---|---|---|---|
| Container No. (5.[1]): | S832040 | S832156 | S832163 |
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 13 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]): | 13 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | Ø | Ø |

## ATTACHMENT 1
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (5.[1]): | S832040 | S832156 | S832163 |
| Hydrogen Reading (ppm) (5.[10]): | Ø ppm | 104.81 ppm | Ø ppm |
| Methane Reading (ppm) (5.[10]): | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]): | Ø ppm | Ø ppm | Ø ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]): | 13 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]): | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]): | 033157 | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]): | 2/10/12 | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]): | ± 4% | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☑ YES ☐ NO ☐ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | 10 ft lbs. | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Alicia Herrera [signature] 198450 / 11/14/11
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (\$) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 116984D / 11-16-11
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110525c\
Data File : S832040.D
Acq On : 25 May 2011 9:42 am (#1); 25-May-11, 09:41:58 (#2)
Operator : MS
Sample :
Misc : 55 GALLON LFL DRUM FROM UNDER DRUM LID (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 25 09:50:18 2011
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed May 11 11:33:12 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.658 | 96 | 4232208 | 203.25 ppmv | -0.02 |
| 15) Chlorobenzene-d5 | 5.978 | 117 | 3479978 | 177.25 ppmv | -0.02 |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Wed May 25 09:50:30 2011

2-2-12

0555 Assuming WCRF operations center - JColeman
0558 Beginning inside and outside rounds.
0614 Item #60 is COS on the rounds. Per CSE documentation, we are okay to proceed
0620 Inside and outside rounds complete.
0658 Rounds reviewed by SOS.
0700 Shift turnover brief with Clarissa Velarde - JColeman.
0701 Assuming WCRF operations center - CVelarde
0744 Mode change performed we are now in operations
0800 bagging on 3832040
0950 bagging off 3832040 and 3 PCCs will not be bagging on another rounds due to not having absorbant.
1046 bagging on 3832149
1137 Operators introducing absorbant into glovebox. Introductory port.
1148 Completed introducing absorbant into glovebox.
1352 Starting movement out of 50-69 to transportainer
1410 Completed movement out of 50-69
1415 RCT inside 50-69 reporting rubber like ~~odor~~ odor inside 50-69, SOS reefer truck running outside possibly causing fumes. SOS and SOM notified. EH evaluating odor. - per FH has due diligence and ~~odor~~ odor should OK. All personnel has been removed from building
1440 ~~1454~~ EH coming to monitor odor. SOM notified OPE and OPR
1445 EH entering facility to perform testing
1500 EH has cleared building and operators are OK to continue with operations.
1507 Starting outside rounds.
1514 Starting inside rounds.
1520 Starting bag off of 3832149 and PCCs
1542 Completed inside rounds.
1600 Completed bag off
1622 Bag [illegible] - [illegible] - CVelarde
1630 Assuming WCRF operations center - JColeman
1638 Initiating a drum movement from 50-69 to a transportainer
1645 Drum movement out of facility complete. All inventory removed from facility.
1649 Mode change completed. 50-69 is in COLD and WCRF is in warm.
1650 End of day. Operators secure. JColeman

No further entries this page.

79 PROJECT NAME 2-2-12 NEW PROJECT NO.

0800 Reviewed shift turnover from previous shift and assumed the WCRR SOM position. [illegible]
0820 Pre-job briefing conducted. KCTS conducting RWP brief.
0944 Mod change complete WCRRF YARD and 50-69 from WARM mode to OPERATIONS mode.
0950 Reported by the Operation Center that operators can't log on another drum because they don't have absorbant. Waiting on Energy Solutions to obtain absorbant.
1050 Reported by Operation Center that operators will be loading on another drum. Absorbant has been obtained by Energy Solutions.
1137 Absorbant chemical introduced into WCB.
1415 Operation Center operator reported to SOM that there is a rubber like odor inside 50-69. There is no HDP procedure in place. SOM instructed operation center to instruct operators to place inventory in a safe configuration and exit building. SOS verified that there is a truck parked outside WCRRF foot print in pajarito road. LH was notified and are in route.
1438 SOM notified OM, HDD and HDE.
1440 All personnel have been accounted for and LH is on their way. No one is in the process area and access has been restricted.
1442 LH arrived at WCRRF and [illegible] entering area.
1500 LH crew cleared area. No activity detected on monitor. SOM released operations.
1518 HDD notified by SOM that building was been released.
1049 Shift change [illegible] WCRRF [illegible] from WARM OPERATIONS, OPERATIONS to WARM and standby mode.
1100 End of shift [illegible]

[signature]

[signature]

12

WCRR SOS LOG BOOK

2-2-12

0625 Reviewed SOS Turnover Running SOS Position [illegible]

0635 Conducted shift brief by Scott

0700 Shift brief Concluded

0705 Reviewed Inside And outside Rounds

0744 Mode Change Complete WCRR Yard And SOGF In Operations mode.

1000 Contacted WMC on Issues with Absorbent gave him drum numbers to verify If there is a substitute for the Absorbent that is used Presently Was having difficulty Getting Absorbent waste Lok ordered

1040 TALKED TO WMC WAS NOTIFIED THAT THERE IS NO KNOWN ACCEPTABLE REPLACEMENT FOR WASTE LOK TRY ABSORBANT WMC WILL DELIVER 2-3 BAGS OF ABSORBANT TO WCRRF

1055 NOTIFIED By Inside personal Drum on the NCG NHS significant amounts of liquids need to get more absorbant

1[illegible] Received 2 bags of Absorbant And [illegible] facility

1415 Notified by Inside personal That a [illegible] over in facility Pressing work [illegible] further [illegible].

1420 IH notified [illegible] do test. Inside Personal Exiting

1425 IH Going to 54 to pick up shutter

1445 IH Arrived And did air test All was ok

1[illegible] Operator cleared to reenter facility

1621 Reviewed Inside And outside Rounds

1644 Mode change complete WCRR Yard And SOGF all Cold

2-2-12 1700 End of shift Securing WCRR SOS Position [illegible]

GW 2/10/12

No further entries on this page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan [ ] RTR Independent Observation |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-12-0123 |
| Examination Date: | 10/25/2012 |
| Waste Container ID: | 90840 |
| Video/Audio Recorded Media Number: | LA-RTR2-12-0123 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 97.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 63.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 3 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 90840

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R: Leaded rubber gloves

XPM: Plastic bags, plastic lid, plastic container

OR:

IN: Absorbent

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 44.6 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 10.0 |
| Soils (S): | |
| Total WMP Weight: | 63.6 |

# CCP Radiography Data Sheet



Waste Container ID: 90840

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:N/A

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 10/25/2012 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 90840 | Count Sequence Number: | 21486 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 10/26/2012 1:57:05 PM | | |
| Description 1: | 1LANDA1662 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Debris S5000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 63.6 kg | Net: | 63.6 kg |
| Container: | Volume: 208.0 l | Full: | 80.0 % |
| Density: | 0.380 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 21486
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 90840

Batch Number: 1LANDA1662
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 10/26/2012

| | | | |
|---|---|---|---|
| Net Weight | 63600.0 g | | |
| Pu mass | 2.55E+001 | +- | 4.23E+000 g |
| TRU Alpha Activity | 2.49E+000 | +- | 4.08E-001 Ci |
| TRU Activity Concentration | 3.92E+004 | +- | 6.41E+003 nCi/g |
| Pu-239 Equivalent Activity | 2.55E+000 | +- | 4.08E-001 Ci |
| Pu-239 FGE | 2.40E+001 | +- | 3.97E+000 g |
| Decay heat | 7.90E-002 | +- | 1.32E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.01E-002 | 7.21E-006 | 9.96E-007 | 9.86E-007 |
| PU238 | 2.34E-003 | 4.06E-002 | 6.74E-003 | 3.53E-005 |
| PU239 | 2.39E+001 | 1.50E+000 | 2.50E-001 | 1.31E-003 |
| PU240 | 1.53E+000 | 3.51E-001 | 5.83E-002 | 3.05E-004 |
| AM241 | 1.73E-001 | 5.99E-001 | 3.17E-001 | 2.17E-002 |
| PU241 | 3.07E-002 | 3.19E+000 | 5.30E-001 | 2.77E-003 |
| PU242 | 5.10E-003 | 2.02E-005 | 3.36E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 2.40E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.05E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 5.77E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 5.97E-006 |
| AM243 | 1.03E-004 | 2.08E-005 | 2.88E-006 | 2.49E-006 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 10-30-12

ITR: Beverly Brown Date: 10/31/12

## Automated Independent Technical Review

Count Sequence Number: 21486 Batch Number: 1LANDA1662
Counter ID: MCS HENC #1
Container ID: 90840
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 10/26/2012

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| No Warnings Reported. | |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test failed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 10-29-12

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **90840**

BDR Number: **LA12FG12048**

Sampling Date: **10/31/2012**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 8.15 | U |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 30.57 | U |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\121031C\
Data File : 90840.D
Acq On : 31 Oct 2012 2:49 pm (#1); 31 Oct 2012 2:48 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 14:57:42 2012
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Oct 03 14:43:18 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 4.057 | 96 | 5904330 | 204.00 ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6240990 | 179.25 ppmv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

55

Working Copy
Date: 10-9-12

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: [illegible]

6.2[4] Date Processed: [illegible]

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: [illegible]

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: [illegible]
Cal. Due Date: [illegible]

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) [illegible]
(Initial and Date)

4.3[7][A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☐ NO ☑ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: [illegible] / [illegible] / [illegible] / [illegible]
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 9284

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 387.8 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 387.8 lb

6.2[7] **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | NA | | |

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: [illegible]

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 92190 | | N | |
| 10.1[4] | Daughter Drum Filter No. | AM-775 | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L 3678 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 416265 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | N | | | |
| | Serial No. | A | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | N A | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | N | |
| 10.3[5][A] | Free Liquid Volume/Units | 4 oz | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | A | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE Comments | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[8] | Daughter Drum % Full (%) | 100% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty LITTER | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90241

Comments: Plastic, POC Lid, POC Bolts, Kitty Litter, Diet, Cardboard. Free Liquid Absorbed with Kitty Litter

11.1[1] Performed By: B. Fordham B. Fordham 255235 10-9-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez [signature] 1221452 10-10-12 1125
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 10-2-12

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211426
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: HL 723
Manufacture Date: 8/11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 020GN | 021151 |
| Cal. Expiration Date: | 10-19-12 | 6-11-13 |
| Tolerance: | ±4% cw<br>±6% ccw | ±3% cw ±6% ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Michael Romero [signature] [redacted] 10-2-12
Waste Handling Technician (print) Signature Z # Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Michael Romero [signature] [redacted] 10-2-12
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By Jose Jerez [signature] 221452 10-10-12
Supervisor or designee (print) Signature Z # Date

UET Working Copy
Date: 10-9-12

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92191

7.[25] Overpack drum closure ring torque wrench information:
M&TE No.: 040329
Cal. Expiration Date: 8/15/12
Range in ft-lb: 16-80
Tolerance: +/- 3% cw +/- 6% ccw

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: B. Tolman / B. Tolman [redacted] 10-9-12
Waste Handling Technician (print) Signature Z# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019015
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 330.0 lbs lb

Comments: N/C

8.1[1] Performed By: B. Tolman / B. Tolman [redacted] 10-9-12
Waste Handling Technician (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Perez / Jose Perez 221521 10-10-12
Supervisor or designee (print) Signature Z# Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: 92190

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
Purchase Request #: 416265
Lot #: 0229223
Date of Manufacture: 2012

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
Manufacturer: BOP
Model #: 6 PVC 1.5-2.5 PVC
Serial #: 23678
Date of Manufacture: 06/12

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
Manufacturer: NUCFIL
Model #: 019DS
Serial #: AM-775
Date of Manufacture: 1/12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 020614
Cal Expiration Date: 10-19-12
Range (ft-lbs or in-lbs): 40-200
Tolerance: +/- 4% CW
5= +/- 2.6% CCW

Jam Nut / Bung torque wrench:
M&TE ID #: 021151
Cal Expiration Date: 6-11-13
Range (ft-lbs or in-lbs): 16-40
Tolerance: +/- 3% CW
+/- 6% CCW

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No
Print Name: Steven Mauleagon Signature: Steven Mauleagon ZR: 104741

**5. Weigh Drum Assembly**

RECORD weight information
Tare wight (lbs) 77.0#s
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Steven Mauleagon Operator Sign: Steven Mauleagon ZR: 104741 Date: 10-03-12
Verifier Print: B. Fosmulen Verifier Sign: B. Fosmulen ZR: 235635 Date: 10-9-12

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 92190

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 040529

Cal expiration date: 3.15.13

Range/ Value (ft-lbs): 16-80

--- Tolerance +/- 3% ow +/- 6% rdg

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A ✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 265.2

Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date 10.9.12

Verifier Print/Sign: [illegible] Date: 10-09-12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: 90841 Container Type: POC Gross Weight (lbs): 383

Liner Seal #: None Filter Prefix: None Filter Serial #: EL-250; EL-580

RK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: PARENT #S832040 WTS-12STD-730

Total PE-Ci Activity: 4.02E+00 Equivalent Combustible PE-Ci: 1.51E+00 AM-241 PE-Ci: 3.26E-01

Total Fissile Gram Equivalents: 44.4 Total Surface Dose Rate (mrem/hr): 1

EPA Code(s): D008 D007 D009 VL 9/27/12

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: None

Prohibited Items: Sealed > 4 Liters Liquid Pressurized Container Impenetrable Item Other

Security Determination: ☑ Green Yellow

Remediation Determination: VE ☐ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): <100 ☑ >100 and <1,000 >1,000 and <10,000 >10,000

TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009

Nitrate salts mixed with Waste Loc 770® from previous repack campaign. A minimum of 1:2 volumes of Burn Wool Zeolite must be mixed with 1:0 volume of nitrate salts

Performed By: Susan Ramsey (Production Control (Print)) Signature: Susan Ramsey 100681 (Z Number) Date: 9/6/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): Yes ☒ No Unknown

Processing Determination: ☒ Accept Reject

WDP Engineering Comments: Nitrate Salts - POC

Net Wt: 73lb Parent drum (SEDs attached) was part of WCRR nitrate salt repack campaign using Wastelock 770. This resulting daughter POC is being repacked to adjust the admixture/nitrate salt ratio. Nitrate salts carry waste codes for chromium, lead, + mercury. No chemicals present.

May require RWP for >100 L <1000 mrem/hr.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes 111609 (Z Number) 9/27/12 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs RTR Video Available

Other Specific Safety Concerns: Use Hexavor gloves. Do not push or press on waste. Use tools to remote handle waste.

Processing Determination: ☒ Accept Reject

TRU Remediation Operations Comments: Use kitty litter to mix in waste per procedure

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) Signature: Gilbert Martinez 149255 (Z Number) 10-1-12 (Date)

HS Reviews Johnny Arnold ASP Contains Lead, Chromium

HG 9-27-12.

JJ 221452 - 10-1-12

## Noncertified TRU Waste Drum Item Information

DrumID: 012071

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Mass Code | SNM (g) | HT | Auth (Bq/Lm) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1KF267598 | | 35.910 | NITRATE SALTS | | 45.21 | 52 | 8/11 | 0448 | |
| 2 | 1KF0674YB | | 37.960 | NITRATE SALTS | | 143.4 | 52 | 8/11 | 0448 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 150.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 188.63 | 73.87 |
| Totals | 188.63 | 73.87 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 9.21.12

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 90841 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | POC | | | | | |
| Filtered Vent Type (5.[1]) | 19DS | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | Ø ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | Ø ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | Ø ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Sara Aragon (CCP (Print)) 237975 (Z #)

Reviewed By: Nathan Wales (CCP (Print)) 238866 (Z #)

Comments: N/A

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) 190298 (Z #) 9.24.12 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90841.D
Acq On : 21 Sep 2012 2:58 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 15:07:15 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.256 | 96 | 2545255 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.936 | 117 | 2237611 | 179.50 ppm | 0.00 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Fri Sep 21 15:07:32 2012

10-9-12

0600 Assuming WCRRF operations center - Cleland
0615 Starting outside rounds
0631 Starting inside rounds
0650 Complete outside rounds.
0651 Inside rounds completed.
0705 Inside and outside rounds signed off by SOS.
0715 Mode change performed at 0712 TA50-69 and WCRRF now in operations
0747 Starting movement into 50-69.
0822 bagging on 90848
0830 bag ~~off complete~~ on complete. cy-10941
0903 bagging off 90848, bagging on 90860
0930 bag on complete
0937 Permission granted to lower vehicle access gates for movement to transport vehicle.
1012 Vehicle access gates have been restored. Movement of drums to transport vehicle is complete.
1013 Starting bag off of 90860 and POC will be bagging on 90842.
1035 bag off and bag on complete.
1053 Starting movement into 50-69.
1058 movement complete into 50-69
1100 bagging off 90842, bagging on 90861.
1114 bag on, bag off complete.
1200 bagging off 90861, bagging on 90841
1230 Shift turnover with Eric Coleman - Cleland
1231 Assuming WCRR operations center. - Coleman
1335 Initiating a drum movement from 50-69 to a transportainer
1354 Drum movement out of facility complete.
1356 Permission granted to lower the vehicle access gates to begin receipt of drums from Area G.
1408 Bagging off 90841, bagging on 90956.
1440 Bag on complete.
1445 Beginning inside rounds
1510 Beginning outside rounds.
1512 Inside rounds complete.
1513 Shipment from Area G has been accepted.
1530 Outside rounds complete.
1542 Vehicle access gates restored. Transportainers secure.
1556 Bagging off 90956.
1612 Both rounds reviewed by SOS.
1616 Bag off complete.
1645 Mode change complete. We are now in warm standby
1646 End of day. Operations secure. - Coleman
No further entries this page.

SIGNATURE DATE 20
READ AND UNDERSTOOD DATE 20

2882 PROJECT NAME 10/8/12 10/9/12 NOTEBOOK NO.

0600 Reviewed previous shift turnover and assumed the WCRR SOM position. [illegible]
0615 Attended pre-job briefing conducted by SOS. Discussed procedure compliance, slow and steady start coming back from a long weekend. SED's were not reviewed.
0640 JOD call in. Safety topic: slow start from long weekend and procedure compliance.
0715 Mode change complete: WCRR YARD | 50.69 from WARM | COLD to OPERATIONS | OPERATIONS.
0730 SOM to badge office on call.
0805 SOM returned back.
0855 SOM and SSW performing an MOV on shipments.
1015 Completed observation of outgoing shipment from WCRRF to TA-54 Area G. Observed procedure compliance, operators were wearing PPE as required. Procedure being executed was EP-WCRR-DOP 0202. Recommendations is to have procedure with them as a reference. Only attachments were being used. Procedure went through a major revision and should be used as a reference.
1200 Production Control meeting call in. WCRR has 30 drums to process. Production Control has submitted 10 additional SEDs to operations (SOS and ES manager). SOM action verify that dose rates have been conducted on incoming shipment.
1315 Released WO # 445640-01 Fire Safety. Not performing any work looking at lighting only. Will be back on 10/10/12 when facility | YARD all in WARM.
1400 Notified by RP-1 supervisor that operations was observed overpacking empty POC's by hand. Procedure doesn't speak to over-packing of POC's. SOM instructed SOS not to perform further overpacks until investigated by IH and ESH-Q manager. ES manager and ONS notified. ESH-Q and IH will evaluate on 10/10/12.
1445 Mode change complete WCRR YARD | 50.69 from OPERATIONS | OPERATIONS to WARM | WARM.
1455 Secured watch. [illegible]

JS 10/15/12

No further entries this page.

SIGNATURE [illegible] DATE 10/9 20 12
READ AND UNDERSTOOD DATE 20

10.9.12 WCRR SOS LOGBOOK

0600 Assuming SOS Position [signature]

0615 Conducted shift Brief went over Revision on WO-D02-0202.

0645 Conducted shift Brief.

0705 Reviewed Inside And outside Rounds.

0715 Mode Change Complete WCRF In operations Mode

1612 Reviewed Inside And outside Rounds.

1645 Mode Change Complete

1648 end of shift Securing Position [signature]

No further entries on this page.

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0012 |
| Examination Date: | 1/25/2013 |
| Waste Container ID: | 92190 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0012 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 120.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 86.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 92190

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal hardware, pipe component lid

AM:

OM:

OI:

C: Fiberboard liner sleeves, cloth material, fiberboard

R: Rubber gloves

XPM: 90 mil plastic liner lid, plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard Liner (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 18.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 17.3 |
| Rubber (R): | 3.0 |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 44.3 |
| Soils (S): | |
| Total WMP Weight: | 86.6 |

# CCP Radiography Data Sheet



Waste Container ID: 92190

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons | | 1/25/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

Item ID: 92190 Count Sequence Number: 21920
Operator: D3PW2DK1\operator
Assay Start: 1/28/2013 2:32:20 PM
Description 1: 1LANDA1702
Description 2: N/A
Location: LANL TA-54
Comment: AK-6
Matrix Type: Debris S5000
Container Type: 55 gallon drum
Weight: Net: 86.6 kg Net: 86.6 kg
Container: Volume: 208.0 l Full: 80.0 %
Density: 0.520 kg /l

## System Configuration

Counter: MCS HENC #1
Count Type: Item Count
Collimator/Geometry Setting: All Banks On (GE - 0

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 21920 | Batch Number: | 1LANDA1702 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 92190 | Analysis Date: | 1/28/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 86600.0 g | | |
| Pu mass | 7.66E+001 | +- | 1.19E+001 g |
| TRU Alpha Activity | 1.11E+001 | +- | 1.07E+000 Ci |
| TRU Activity Concentration | 1.28E+005 | +- | 1.23E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.13E+001 | +- | 1.07E+000 Ci |
| Pu-239 FGE | 7.11E+001 | +- | 1.10E+001 g |
| Decay heat | 3.58E-001 | +- | 3.46E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 5.29E-002 | 3.78E-005 | 5.92E-006 | 2.84E-006 |
| PU238 | 1.86E-002 | 3.22E-001 | 5.02E-002 | 7.61E-005 |
| PU239 | 7.07E+001 | 4.45E+000 | 6.93E-001 | 1.05E-003 |
| PU240 | 5.68E+000 | 1.31E+000 | 2.03E-001 | 3.08E-004 |
| AM241 | 1.45E+000 | 5.05E+000 | 7.87E-001 | 1.19E-003 |
| PU241 | 9.81E-002 | 1.02E+001 | 1.59E+000 | 2.41E-003 |
| PU242 | 5.37E-002 | 2.13E-004 | 3.32E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.93E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.74E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.30E-005 |
| AM243 | 8.07E-004 | 1.63E-004 | 2.55E-005 | 8.02E-006 |

Errors quoted at 1.000 sigma

Operator: Dain R Arch Date: 1/30/13

ITR: Mark Date: 1.31.13

## Automated Independent Technical Review

Count Sequence Number: 21920
Batch Number: 1LANDA1702
Counter ID: MCS HENC #1
Container ID: 92190
Waste Matrix Code: Debris S5000
Count Type:
Sequence Type:
Assay Date: 1/28/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Expert review is recommended; the following validity tests failed:<br><br>Pu239 weight percent is outside limits [ 92.5, 95.0]. | NQFIT and QFIT within limits. MGA valid. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlin Date: 1-30-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **92190**

BDR Number: **LA13FG2008**

Sampling Date: **2/1/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 130.01 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130201c\
Data File : 92190.D
Acq On : 1 Feb 2013 1:43 pm (#1); 01-Feb-13, 13:42:49 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 13:52:56 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.578 | 96 | 4648684 | 201.25 ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.907 | 117 | 4104810 | 177.00 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 924 | 130.01 ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Working Copy
Date: 10-9-12w

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: [illegible]

6.2[4] Date Processed: 10-9-12

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: [illegible]

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: [illegible]
Cal. Due Date: 7-21-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☐ NO ☑ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: [illegible] / [signature] / [illegible] / 10-9-12
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: [illegible] | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | [illegible] lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | [illegible] lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | [illegible] lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[28] | Approval to leave a parent drum attached to the WCG overnight: | |

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | NA | | |

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: [illegible]

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | [illegible] | | | |
| 10.1[4] | Daughter Drum Filter No. | [illegible] | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | [illegible] | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | [illegible] | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | | N/A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comment | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[8] | Daughter Drum % Full (%) | 95% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Bag out Gloves | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90842

Comments: plastic, cardboard, [illegible], [illegible] tie, dirt, cal [illegible]

11.1[1] Performed By: [illegible] / [illegible] 123[illegible] 10-9-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Perez / [illegible] R21452 / 10-10-12 1200
SOS or designee (print) Signature Z # Date/Time

Date: 10-3-12

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211426
Manufacture Date: 10

5.[8] Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: HL-734
Manufacture Date: 8-11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 020614 | 021151 |
| Cal. Expiration Date: | 10-19-12 | 6-11-13 |
| Tolerance: | ±4%cw ±6%ccw | ±3%cw ±6%ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Michael Romero [signature] [redacted] 10-3-12
Waste Handling Technician (print) Signature Z # Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Michael Romero [signature] [redacted] 10-3-12
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jorez [signature] 221452 10-10-12
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-9-12

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92487

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: 640329
Cal. Expiration Date: 2-15-13
Range in ft-lb: 12-60
Tolerance: ±2.7% ±1.8%

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: [illegible] / [illegible] / [illegible] / 10-9-12
Waste Handling Technician (print) Signature Z# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: [illegible]
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 320.6 lb

Comments: scale

8.1[1] Performed By: [illegible] / [illegible] / [illegible] / 10-9-12
Waste Handling Technician (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Juarez / [illegible] / 221452 / 10-10-12
Supervisor or designee (print) Signature Z# Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: 92186

**1. Drum/Lid Assembly**

- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 416265
Lot #: 0229225
Date of Manufacture: 2012

**2. Drum Liner Bag/Filter Assembly:**

- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 66PUC 1.5-2.5PUC
Serial #: L-1769
Date of Manufacture: 6-12

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 014DS
Serial #: AM-768
Date of Manufacture: 01/12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 020614 | M&TE ID #: | 021151 |
| Cal Expiration Date: | 10/19/12 | Cal Expiration Date: | 06-11-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 16-80 |
| Tolerance: | +/-4% cw +/-6% ccw | Tolerance: | +/-3% cw +/-6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

☑ Yes ☐ No

Print Name: Michael Romero Signature: Michael Romero ZB: 182723

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 25.44
File ID #: 01661

☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Michael Romero Operator Sign: Michael Romero ZB: 182723 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [illegible] ZB: [illegible] Date: 10-3-12

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 92186

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 046329

Cal expiration date: 9-15-13

Range/ Value (ft-lbs): 16-80

— Tolerance +1-3% or +1.6% or

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs ) 227.2

Scale ID#: 019045

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date 10-9-12

Verifier Print/Sign: Steven Montague Date: 10/09/12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: 90842 Container Type: POC Gross Weight (lbs): 361
Liner Seal #: None Filter Prefix: None Filter Serial #: EL-248; EL-581
RK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: PARENT #S832040 WTS-12STD-731
Total PE-Ci Activity: 4.02E+00 Equivalent Combustible PE-Ci: 1.51E+00 AM-241 PE-Ci: 3.26E-01
Total Fissile Gram Equivalents: 44.4 Total Surface Dose Rate (mrem/hr): 9
EPA Code(s): D008 D007 D009 vc 9/25/12
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: None Comment: None
Certified RTR Comment: None
Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☐ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009
Nitrate salts mixed with WasteLoc 770® from previous repack campaign. A minimum of 1:2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts
Performed By: Susan Ramsey / Production Control (Print) / Signature / 100681 / Z Number / 9/6/12 / Date

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☑ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts - POC
Net Wt: 51 lb. Parent drum (SEPs attached) was part of WCRR nitrate salt repack campaign using WasteLoc 770®. This resulting daughter POC is being repacked to adjust the admixture/nitrate salt ratio. Nitrate salts carry waste codes for chromium (D007) lead (D008) + mercury (D009). No hazardous chemicals present.
May require RWP for >100 and <1000 mrem/hr
Performed By: Valerie Rhodes / Valerie Rhodes / 112609 / Z Number / 9/25/12 / Date
WDP Engineering (Print) / Signature

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns:
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: need to mix no kitty litter
Performed By: Gilbert Martinez / [signature] / 149235 / Z Number / 9.27.12 / Date
TRU Remediation Operations (Print) / Signature

HTS Review - [signature] CSP, contains - lead, Chromium + Hg.
9/26/12
JJ - 221452 - 9-28-12

## Noncertified TRU Waste Drum Item Information

DrumID: 012671

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Mass Code | SNM (g) | MT | Auth (Pg/Im) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IXP8675PB | | 35.910 | NITRATE SALTS | | 45.21 | S2 | S/11 | 0468 | |
| 2 | IXP8674PB | | 37.840 | NITRATE SALTS | | 143.4 | S2 | S/11 | 0468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 150.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| S2 | 188.63 | 73.87 |
| Totals | 188.63 | 73.87 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 9·21·12

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 90842 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | POC | | | | | |
| Filtered Vent Type (5.[1]) | 19DS | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 2267.3 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Nathan Wales (CCP (Print)), 238866 (Z #)

Reviewed By: Sara Aragon (CCP (Print)), 237975 (Z #)

Comments: N/A

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature), 190298 (Z #), 9·24·12 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90842.D
Acq On : 21 Sep 2012 2:51 pm (#1); 21-Sep-12, 14:50:31 (#2)
Operator : NW
Sample :
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 14:59:17 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed Sep 05 10:53:25 2012
Response via : Initial Calibration

| Compound | R.T. | Qion | Response | Conc Unit | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.561 | 96 | 6570936 | 201.25 ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.887 | 117 | 5858477 | 177.00 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.543 | GC1 | 16029m | 2267.31 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) signal summed

PROJECT NAME NOTEBOOK NO.

10-9-12

0600 Assuming WCRRF operations center - Cleland
0615 Starting outside rounds
0631 Starting inside rounds
0650 Complete outside rounds
0657 Inside rounds completed.
0705 Inside and outside rounds signed off by SOS.
0715 Mode change performed at 10-9-12 TA50-69 and WCRRF now in operations
0747 Starting movement into 50-69.
0822 bagging on 90848 CW 10-9-11
0830 ~~bag off complete~~ bag on complete.
0903 bagging off 90848, bagging on 90860
0920 bag on complete
0927 Permission granted to lower vehicle access gates for movement to transport vehicle.
1012 Vehicle access gates have been restored. movement of drums to transport vehicle is complete.
1013 Starting bagoff of 90860 and POC will be bagging on 90842.
1035 bag off and bag on complete.
1053 Starting movement into 50-69.
1058 Movement complete into 50-69
1100 bagging off 90842, bagging on 90861.
1114 bag on, bag off complete.
1200 bagging off 90861, bagging on 90841
1230 Shift turnover with Eric Coleman - Cleland
1231 Assuming WCRR operations center. - Coleman
1335 Initiating a drum movement from 50-69 to a transportainer
1354 Drum movement out of facility complete.
1356 Permission granted to lower the vehicle access gates to begin receipt of drums from Area G.
1408 Bagging off 90841, bagging on 90956.
1440 Bag on complete.
1445 Beginning inside rounds
1510 Beginning outside rounds.
1512 Inside rounds complete.
1513 Shipment from Area G has been accepted.
1530 Outside rounds complete.
1542 Vehicle access gates restored. Transportainers secure.
1556 Bagging off 90956.
1612 Both rounds reviewed by SOS.
1616 Bag off complete.
1645 Mode change complete. We are now in warm standby.
1646 End of daily operations secure. - Coleman
No further entries this page.

SIGNATURE DATE 20
READ AND UNDERSTOOD DATE 20

0600 Reviewed previous shift turnover and assumed the WCRR SOM position. Genevieve Melendez

0615 Attended pre job briefing conducted by SOS. Discussed procedure compliance, slow and steady start coming back from a long weekend. SEDs were not reviewed.

0640 FTD call in. Safety topic: slow start from long weekend and procedure compliance.

0715 Mode change complete WCRR YARD | 50.69 from WARM | COLD to OPERATIONS | OPERATIONS.

0730 SOM to badge office on call.

0805 SOM returned back.

0855 SOM and SSW performing an MOV on shipments.

1015 Completed observation of outgoing shipment from WCRRF to TA-54 Area G. Observed procedure compliance, operators were wearing PPE as required. Procedure being executed was EP-WCRR-DOP 0202. Recommendations is to have procedure with them as a reference. Only attachments were being used. Procedure went through a major revision and should be used as a reference.

1200 Production Control meeting call in. WCRR has 30 drums to process. Production control has submitted 10 additional SEDs to operations (SOS and ES manager). SOM action verify that dose rates have been conducted on incoming shipment.

1315 Released WO# 445640-01 Fire Safety. Not performing any work, looking at lighting only. Will be back on 10/10/12 when facility | YARD are in WARM.

1400 Notified by RP-1 supervisor that operations was observed overpacking empty PDC's by hand. Procedure doesn't speak to over-packing of PDC's. SOM instructed SOS not to perform further overpacks until investigated by IH and ESH-Q manager. ES manager and SOM notified. ESH-Q and IH will evaluate on 10/10/12.

1445 Mode change complete WCRR YARD | 50.69 from OPERATIONS | OPERATIONS to WARM | WARM.

1455 Secured watch. Genevieve Melendez

JF 10/15/12

No further entries this page.

SIGNATURE Genevieve Melendez DATE 10/9 20 12
READ AND UNDERSTOOD DATE 20

# WCRR SOS LOGBOOK

10.9.12

0600 Assuming SOS Position [signature]

0615 Conducted shift Brief went over Revision on WO-DOJ-0202.

0645 Conducted shift Brief.

0705 Reviewed Inside And outside Rounds.

0715 Mode Change Complete WCRF In Operations Mode

1612 Reviewed Inside And outside Rounds.

1645 Mode Change Complete

1648 end of shift Securing Position [signature]

No further entries on this page.

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0012 |
| Examination Date: | 1/25/2013 |
| Waste Container ID: | 92186 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0012 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 103.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 69.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 92186

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal hardware, pipe component lid

AM:

OM:

OI:

C: Fiberboard liner sleeve, coveralls, fiberboard

R: Rubber gloves

XPM: 90 mil plastic liner lid, plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard Liner (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 18.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 16.0 |
| Rubber (R): | 6.0 |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 21.6 |
| Soils (S): | |
| Total WMP Weight: | 69.6 |

# CCP Radiography Data Sheet



Waste Container ID: 92186

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons | | 1/25/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 92186 | Count Sequence Number: | 21922 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 1/28/2013 3:56:14 PM | | |
| Description 1: | 1LANDA1702 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Debris S5000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 69.6 kg | Net: | 69.6 kg |
| Container: | Volume: 208.0 l | Full: | 85.0 % |
| Density: | 0.390 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 21922
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 92186

Batch Number: 1LANDA1702
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 1/28/2013

| | | | |
|---|---|---|---|
| Net Weight | 69600.0 g | | |
| Pu mass | 1.29E+002 | +- | 2.31E+001 g |
| TRU Alpha Activity | 1.08E+001 | +- | 1.42E+000 Ci |
| TRU Activity Concentration | 1.56E+005 | +- | 2.04E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.11E+001 | +- | 1.42E+000 Ci |
| Pu-239 FGE | 1.22E+002 | +- | 2.17E+001 g |
| Decay heat | 3.40E-001 | +- | 4.41E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 6.94E-002 | 4.96E-005 | 6.67E-006 | 3.16E-006 |
| PU238 | 1.19E-002 | 2.05E-001 | 3.68E-002 | 3.60E-005 |
| PU239 | 1.21E+002 | 7.61E+000 | 1.37E+000 | 1.34E-003 |
| PU240 | 7.73E+000 | 1.78E+000 | 3.19E-001 | 3.13E-004 |
| AM241 | 3.57E-001 | 1.24E+000 | 2.23E-001 | 2.18E-004 |
| PU241 | 1.54E-001 | 1.60E+001 | 2.86E+000 | 2.81E-003 |
| PU242 | 2.58E-002 | 1.02E-004 | 1.84E-005 | 0.00E+000 |
| SR90 | 9.34E-009 | 1.29E-006 | 6.56E-007 | 0.00E+000 |
| CS137 | 1.47E-008 | 1.29E-006 | 6.56E-007 | 6.06E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.61E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.91E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.54E-005 |
| AM243 | 1.09E-003 | 2.21E-004 | 3.02E-005 | 8.88E-006 |

Errors quoted at 1.000 sigma

Operator: [illegible] Date: 1/30/13

ITR: [illegible] Date: 1·31·13

## Automated Independent Technical Review

Count Sequence Number: 21922 Batch Number: 1LANDA1702
Counter ID: MCS HENC #1
Container ID: 92186
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/28/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 1-30-13

**Attachment 4 – Flammable Gas Analysis Form**

5832040

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **92186**

BDR Number: **LA13FG8009**

Sampling Date: **2/6/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 92.10 | U |
| 74-82-8 | Methane | 213.40 | U |
| 67-56-1 | Methanol | 27.87 | U |
| 60-29-7 | Ethyl Ether | 1.25 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.71 | U |
| 67-64-1 | Acetone | 16.90 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.24 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.55 | U |
| 78-93-3 | Methyl ethyl ketone | 9.86 | U |
| 110-82-7 | Cyclohexane | 5.84 | U |
| 71-43-2 | Benzene | 0.71 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.51 | U |
| 71-36-3 | 1-Butanol | 1.36 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.34 | U |
| 108-88-3 | Toluene | 3.09 | U |
| 108-90-7 | Chlorobenzene | 1.69 | U |
| 100-41-4 | Ethylbenzene | 2.62 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.48 | U |
| 95-47-6 | o-Xylene | 1.76 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.92 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130206C\
Data File : 92186.D
Acq On : 6 Feb 2013 1:40 pm
Operator : RJ
Sample :
InstName : Unit 8
Misc : 55 Gallon drum through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 06 13:48:51 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.259 | 96 | 2733417 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.936 | 117 | 2441073 | 179.50 ppm | 0.00 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Working Copy
Date: 10-2-12 ω

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 90843

6.2[4] Date Processed: 10-2-12

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D008, D007, D008

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] (S) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 7-13-13

4.3[5][B] (S) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] (S) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
BC 10-3-12 ~~☐ YES~~ ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brandon Chavez / [signature] [illegible] 10-2-12
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 90843

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 355.6 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): ~~355.0~~ 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 355.6 lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90843

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 92139 | | | |
| 10.1[4] | Daughter Drum Filter No. | AM-880 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | WO-1758 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 4116265 | | A | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☐ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | | | |
| | Model No. | 3cpx1.5-29-c | | | |
| | Serial No. | L-3541 | | | |
| | Date of Manufacture | 6-12 | | | |
| 10.2[5] | POC ID No | 92140 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Plastic Gaits | | N | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BC 204742 | | A | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 360.8 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 190.5 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N | | | |
| 10.3[5][A] | Free Liquid Volume/Units | A | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comments | | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[8] | Daughter Drum % Full (%) | 95% | | A | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Plastic wipe bags | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90843

Comments: Plastic, cardboard, suits

11.1[1] Performed By: Brandon Chavez / [signature] 224142 10-2-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jorez / [signature] 221452 10-3-12 1225
SOS or designee (print) Signature Z # Date Time

Working Copy
Date: 10-2-12 cw

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 414945
Lot No.: 2173616
Manufacture Date: 2011

5.[8] Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: HL-949
Manufacture Date: 8/11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 0206014 | 021151 |
| Cal. Expiration Date: | 10-19-12 | 06-11-13 |
| Tolerance: | +/- 4% cw and +/- 6% ccw | +/- 3% and +/- 6% ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Edder Rios, [signature] 18882 10-2-12
Waste Handling Technician (print) Signature Z# Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments:

8.1[1] Performed By: Edder Rios, [signature] 18882 10-2-12
Waste Handling Technician (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jerez, [signature] 22452 10-3-12
Supervisor or Designee (print) Signature Z# Date

Working Copy
Date: 10-2-12

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: BC 10-2-12 ~~72138~~

7.[25] Overpack drum closure ring torque wrench information:
M&TE No.: 040329
Cal. Expiration Date: 3-15-13
Range in ft-lb: 16-80
Tolerance: ±3% CW & -6% CCW

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] [illegible] 10-2-12
Waste Handling Technician (print) Signature Z# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-13-13

7.[36][D] 85-gal overpack drum gross weight (lb): 324.4 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] [illegible] 10-2-12
Waste Handling Technician (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jerez / [signature] 021458 10-3-12
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 9-19-12



## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: ~~92138~~ 92139 BC 10-2-12

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
Purchase Request #: 416265
Lot #: 0224225
Date of Manufacture: 2012

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
Manufacturer: BOP
Model #: 6CPVC 1.5-2.5 SPVC
Serial #: WO 17 88
Date of Manufacture: 7/11

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
Manufacturer: NUCFIL
Model #: 019 DS
Serial #: AM 860
Date of Manufacture: 7/12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 020614
Cal Expiration Date: 10-19-12
Range (ft-lbs or in-lbs): 40-200
Tolerance: +-7% cw
+ 6% ccw

Jam Nut / Bung torque wrench:
M&TE ID #: 021151
Cal Expiration Date: 6/11/2013
Range (ft-lbs or in-lbs): 16-80
Tolerance: +/- 3% cw
+/- 6% ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No
Print Name: Edie Rios Signature: [signature] Z#: 187822

**5. Weigh Drum Assembly**

RECORD weight information
Tare wight (lbs) 76.2
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Edie Rios Operator Sign: [signature] Z#: 187822 Date: 9-26-12
Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 Date: 10-2-12 BC

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

BC 10-2-12

DRUM ID#: ~~92138~~ 92139

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 040329

Cal expiration date: 3-15-13

Range/ Value (ft-lbs): 16-80

Tolerance ±3% cw & 6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 168.6

Scale ID#: 019065

Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date: 10-2-12

Verifier Print/Sign: [illegible] Date: 10-2-12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: 90843 Container Type: POC Gross Weight (lbs): 355
Container Seal #: None Filter Prefix: None Filter Serial #: EL-537; EL-596
RCRA Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: PARENT #S832040 WTS-12STD-715
Total PE-Ci Activity: 4.02E+00 Equivalent Combustible PE-Ci: 1.51E+00 AM-241 PE-Ci: 3.26E-01
Total Fissile Gram Equivalents: 44.4 Total Surface Dose Rate (mrem/hr): 7
EPA Code(s): D008 D007 D009 WL 9/25/12
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: None Comment: None
Certified RTR Comment: None
Prohibited Items: ■ Sealed > 4 Liters ■ Liquid ■ Pressurized Container ■ Impenetrable Item ■ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009
Nitrate salts mixed with Wastelog 770® from previous repack campaign. A minimum of 1:2 volumes of kitty litter/absorbent must be mixed with 1:0 volume of nitrate salts.
Performed By: Susan Ramsey / Signature: Susan B. Ramsey / 100681 / 9/6/12
Production Control (Print) Signature Z Number Date

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts – POC
Net Wt. 451b. Parent drum (SEDs attached) was part of WCRR nitrate salt repack campaign using Wastelog 770. This resulting daughter POC is being repacked to adjust admixture/nitrate salt ratio. Nitrate Salts carry waste codes for chromium, lead, & mercury. No hazardous chemicals present.

May require RWP for >100 and <1000 mrem/hr.

Performed By: Valerie Rhodes / Valerie Rhodes / 112609 / 9/25/12
WDP Engineering (Print) Signature Z Number Date

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns:

Processing Determination: ☐ Accept ☐ Reject
TRU Remediation Operations Comments: need to add kitty litter
Performed By: Gilbert Martinez / [signature] / 149225 / 9.26.12
TRU Remediation Operations (Print) Signature Z Number Date

IHS Review. [signature] 9/26/12 CSP. Contains Chromium, lead and Hg.

Document No: BP-DIV-AP-0107 JJ - 221452 - 9-26-12

## Nonacertified TRU Waste Drum Item Information

DrumID: 012071

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Waste Code | SNM (g) | RT | Auth (Bq/kg) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IN78675FB | | 28.910 | NITRATE SALTS | | 45.21 | 93 | 9/11 | 0468 | |
| 2 | IN78674FB | | 37.940 | NITRATE SALTS | | 143.4 | 93 | 9/11 | 0468 | |

## Nonacertified Waste Drum Material Summary

Gross Wt (kg): 150.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 188.63 | 73.87 |
| Totals | 188.63 | 73.87 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 9.21.12

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 90843 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | POC | | | | | |
| Filtered Vent Type (5.[1]) | 19DS | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Nathan Wales (CCP (Print)) 238866 (Z #)

Reviewed By: Sara Aragon (CCP (Print)) 237975 (Z #)

Comments: N/A

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) 190298 (Z #) 9.24.12 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90843.D
Acq On : 21 Sep 2012 2:39 pm (#1); 21-Sep-12, 14:39:01 (#2)
Operator : NW
Sample :
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 14:47:34 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed Sep 05 10:53:25 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Qv(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.581 | 96 | 6728712 | 201.25 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.907 | 117 | 6014259 | 177.00 | ppmv | 0.03 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

PROJECT NAME _____ NOTEBOOK NO. _____

10-2-12

0545 Assuming WCRR operations center. TColeman
0550 Beginning outside rounds.
0615 Pre job being conducted by 505.
0640 Beginning inside rounds.
0650 Outside rounds complete.
0705 Inside rounds complete.
0706 Rounds reviewed by 506.
0720 Initiating a drum movement from 50-69 to a transportainer
0721 Mode change complete. We are now in operations.
0732 Movement out of facility complete.
0738 Bagging on 90855.
0754 Bag on complete.
0814 Bagging off 90955, bagging on 90811.
0830 Bag off complete.
0853 Bagging off 90811, bagging on 90859.
0910 Bag on complete.
0936 Being relieved by OCO, Clarissa Velardo-TColeman.
0937 Assuming WCRRF operations center-Velarde.
0939 Starting movement into 50-69.
0955 Completed movement into 50-69.
0958 Bagging off 90859 and POC, bagging on 90756.
1000 Being relieved by OCO Terri Coleman - Velarde.
1001 Assuming WCRR operations center. TColeman.
1033 Bag on complete.
1041 Initiating a drum movement from 50-69 to a transportainer
1105 Drum movement out of facility complete.
1110 Bagging off, bagging on 90843
1130 Bag on complete.
1153 Bagging off 90843 and 1 POC, bagging on 90870.
1216 Bag on complete.
1226 Permission granted to lower the vehicle access gates to begin receipt of drums from Area 6.
1309 Bagging off 90870, bagging on 90810.
1326 Bag on complete.
1400 Initiating a drum movement from 50-69 to a transportainer
1404 Bagging off 90810, bagging on 90875
1405 Late entry at 1320, vehicle access gates restored. Transportainer secured. TC
1406 Drum movement out of ~~the~~ TC 10-2-12 facility complete.
1432 Initiating a drum movement from transportainer to 50-69.
1433 Bag off complete. Starting outside rounds.
1442 Move into facility complete.
1453 Outside rounds complete.
1511 Bagging off 90875 and 1 POC, TC 10-2-12
continued on next page. TColeman

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

continued from previous page. JColeman
1550 Bag of complete. Beginning Inside rounds.
1616 Inside rounds complete.
1622 Rounds reviewed by SOS.
1624 Mode change complete. We are now in warm stand
1630 End of day. Operations secure - JColeman

No further entries this page.

SIGNATURE DATE
READ AND UNDERSTOOD DATE

PROJECT NAME 10/2/12 NOTEBOOK NO.

0600 ~~Relieved SOM [illegible]~~ 10/2/12 Assumed SOM position.

0615 Attended prejob brief conducted by SOS. Discussed yesterday's processing SP-72 salt drums. Workers added 1.5/1 ratio of Kitty litter to waste and saw no significant decrease in dose rate => repacked into new POC's. Workers briefed to exit/entry requirements to WCRR yard.

0721 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.

0730 (Late Entry 0635) Per LANL IH and ES IH VOC monitoring of transportainer no longer required. Cancelled Standing Order WCRR-2012-0012 and briefed all personnel.

0735 Notified by Work Control that Characterization (Gamma Spec) to be emerged for tomorrow.

0736 Informed by Inventory Control that no outgoing shipment will take place today.

0738 RP-1 supervisor reported that yesterday's contamination on drum slide had decayed away overnight - verifying radon contamination.

1030 WO # 427964-01 Standing / Expedited WO released to Cut holes in walls in Bldg 50-84 to investigate Rodent infestation.

1200 On Solution Package conference call w/ prod control / engineering / LTP management. Discussed increase in production w/ SP 72 drums and need to keep shipments on schedule. Require SEDS / CFL to be increased.

1255 Notified by MSS supervisor that no evidence of rodents in walls or ceiling of 50-~~84~~ 10/3/12 - 84. Walkdown to scope new furnace install will ~~occur 10/3/12~~ occur tomorrow.

1545 Notified by OM that WCRR needs to be in a stand down tomorrow morning until Con Ops Brief is given on Procedure Compliance. Notified OCO's and SOS and RP-1 supervisor.

1624 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm.

1630 Secured SOM position.

10-4-12

No further entries this page

SIGNATURE DATE 10/2 20 12

READ AND UNDERSTOOD DATE 20

10-2-12 WCRR 505 Log Book

0600 Assuming 505 position for the day. [illegible]

0615 Starting Pre-Job brief. Discussed Barriers and Postings. Ensure that all entries and exit into the WCRRF yard are performed through the operations center. Continuing to process nitrate salt waste drums. One shipment in bound

0640 Concluded Pre-Job Brief.

0706 Signed off on inside and outside rounds.

0721 Mode Change Complete 50-69 and yard are now in Ops Mode.

0738 Starting to bag on first drum for the day

0750 Bag on Complete.

0814 Bagging off first drum and bagging on second drum.

0830 Bag off and Bag on complete.

0853 Bagging off second drum, Bagging on third drum

0910 Bag on Complete

1000 Bagging off third drum, Bagging on fourth drum.

1033 Bag on Complete

1041 Initiating Drum movement from 50-69 to Transportainer

1105 Drum movement complete out of facility

1110 Bagging off fourth drum, Bagging on fifth drum

1130 Bag on Complete

1153 Bagging ~~on~~ off fifth drum, Baggin on sixth drum 10-2-12

1216 Bag on Complete

1226 Initiating drum movement from Transport vehicle to Transportainers

1309 Bagging off sixth drum, Bagging on seventh

1326 Bag on Complete

1400 Drum movement from 50-69 to Transport Vehicle

1404 Bagging off seventh drum, Bagging on eight

1406 Drum movement out of 50-69 Complete.

1350 Bag off of last drum complete

1622 Signed off on rounds

1624 MODE Change Complete. WARM in 50-69 and yard

1630 Securing 505 position for the day. [illegible]

No Further Entries on this Page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S 832040



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0005 |
| Examination Date: | 1/15/2013 |
| Waste Container ID: | 92139 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0005 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt.: 76.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 43.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 90 % |

# CCP Radiography Data Sheet



Waste Container ID: 92139

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Hand tools, metal hardware, metal lid

AM:

OM:

OI:

C: Fiberboard insert sleeve, fiberboard material

R:

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 10.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 10.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 20.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 3.1 |
| Soils (S): | |
| Total WMP Weight: | 43.1 |

# CCP Radiography Data Sheet



Waste Container ID: 92139

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

| RTR Operator: | | |
|---|---|---|
| Dennis Powell<br>Eric Lyles | Lyles Dennis Powell | 1-15-13<br>1/15/2013 |
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 92139 | Count Sequence Number: | 21863 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 1/17/2013 11:50:04 AM | | |
| Description 1: | 1LANDA1698 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not Precision | | |
| Matrix Type: | Debris S5000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 43.1 kg | Net: | 43.1 kg |
| Container: | Volume: 208.0 l | Full: | 90.0 % |
| Density: | 0.230 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 21863 | Batch Number: | 1LANDA1698 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 92139 | Analysis Date: | 1/17/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 43100.0 g | | |
| Pu mass | 4.50E+000 | +- | 7.60E-001 g |
| TRU Alpha Activity | 7.47E-001 | +- | 2.20E-001 Ci |
| TRU Activity Concentration | 1.73E+004 | +- | 5.11E+003 nCi/g |
| Pu-239 Equivalent Activity | 7.57E-001 | +- | 2.20E-001 Ci |
| Pu-239 FGE | 4.24E+000 | +- | 7.13E-001 g |
| Decay heat | 2.42E-002 | +- | 7.34E-003 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.08E-002 | 7.74E-006 | 8.33E-007 | 6.14E-007 |
| PU238 | 4.13E-004 | 7.15E-003 | 1.21E-003 | 3.45E-005 |
| PU239 | 4.22E+000 | 2.65E-001 | 4.49E-002 | 1.28E-003 |
| PU240 | 2.70E-001 | 6.20E-002 | 1.05E-002 | 2.99E-004 |
| AM241 | 1.19E-001 | 4.12E-001 | 2.16E-001 | 1.37E-002 |
| PU241 | 5.36E-003 | 5.58E-001 | 9.43E-002 | 2.69E-003 |
| PU242 | 9.00E-004 | 3.57E-006 | 6.04E-007 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.56E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.30E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.65E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 4.43E-006 |
| AM243 | 1.52E-004 | 3.06E-005 | 3.28E-006 | 1.71E-006 |
| CM243 | 7.57E-008 | 3.94E-006 | 1.91E-006 | 2.64E-006 |

Errors quoted at 1.000 sigma

Operator: Martha Gu Date: 1.31.13

ITR: Date: 1-31-2013

## Automated Independent Technical Review

Count Sequence Number: 21863 Batch Number: 1LANDA1698
Counter ID: MCS HENC #1
Container ID: 92139
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/17/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings. | |
| - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | <br><br>Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 1-21-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **92139**

BDR Number: **LA13FG12007**

Sampling Date: **1/24/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 8.15 | U |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 30.57 | U |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130124c\
Data File : 92139.D
Acq On : 24 Jan 2013 12:23 pm (#1); 24 Jan 2013 12:22 pm (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 24 12:31:41 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Oct 03 14:43:18 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.063 | 96 | 9748994 | 204.00 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.642 | 117 | 8410993 | 179.25 | ppmv | 0.00 |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-12-0130 |
| Examination Date: | 12/20/2012 |
| Waste Container ID: | 92140 |
| Video/Audio Recorded Media Number: | LA-HERTR-12-0130 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA212 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 163.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 18.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 92140

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic Bag

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP):Rigid Liner/ Liner Bag (Inside POC) | 8.1 |
| Other:Fiberboard (CP),Fiberboard Liner/Sleeve(Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 16.4 |
| Soils (S): | |
| Total WMP Weight: | 18.4 |

# CCP Radiography Data Sheet



Waste Container ID: 92140

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.) There is separation between liner lid and liner therefore liner is vented.

RTR Operator:

| Dennis Powell | | 12/20/2012 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 92140 | Count Sequence Number: | 21765 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 1/3/2013 2:55:18 PM | | |
| Description 1: | 1LANDA1690 | | |
| Description 2: | POC- Gross Wt=163.5 kg | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 18.4 kg | Net: | 18.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.687 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. v1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 21765 | Batch Number: | 1LANDA1690 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 92140 | Analysis Date: | 1/3/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 18400.0 g | | |
| Pu mass | 2.91E+001 | +- | 4.51E+000 g |
| TRU Alpha Activity | 3.17E+000 | +- | 6.12E-001 Ci |
| TRU Activity Concentration | 1.72E+005 | +- | 3.32E+004 nCi/g |
| Pu-239 Equivalent Activity | 3.23E+000 | +- | 6.12E-001 Ci |
| Pu-239 FGE | 2.74E+001 | +- | 4.23E+000 g |
| Decay heat | 1.01E-001 | +- | 2.01E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.68E-002 | 1.20E-005 | 2.25E-006 | 1.68E-006 |
| PU238 | 2.67E-003 | 4.62E-002 | 7.17E-003 | 3.41E-005 |
| PU239 | 2.73E+001 | 1.72E+000 | 2.66E-001 | 1.26E-003 |
| PU240 | 1.74E+000 | 4.01E-001 | 6.22E-002 | 2.95E-004 |
| AM241 | 2.90E-001 | 1.01E+000 | 5.47E-001 | 3.87E-002 |
| PU241 | 3.47E-002 | 3.61E+000 | 5.60E-001 | 2.66E-003 |
| PU242 | 5.82E-003 | 2.31E-005 | 3.58E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.70E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.57E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.08E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 8.27E-006 |
| CM243 | 1.03E-006 | 5.37E-005 | 1.05E-005 | 7.86E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1-8-13

ITR: _____ Date: 1·9·13

## Automated Independent Technical Review

Count Sequence Number: 21765 Batch Number: 1LANDA1690
Counter ID: MCS HENC #1
Container ID: 92140
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/3/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamber Date: 1-7-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **92140**

BDR Number: **LA13FG2033**

Sampling Date: **4/3/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 177.70 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.88 | |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130403c\
Data File : 92140.D
Acq On : 3 Apr 2013 1:38 pm (#1); 03-Apr-13, 13:37:59 (#2)
Operator : GR
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 03 13:47:12 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.578 | 96 | 3735776 | 201.25 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.907 | 117 | 3202795 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.608 | GC1 | 1263m | 177.70 | ppmv | |
| 17) Toluene | 4.870 | 92 | 100797 | 8.88 | ppmv | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S832140

# S832140

Container 769251

File Options Reports Help

# S832140

| 769251 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S832140

- S832140
  - LA00000068309
  - LA00000068304
    - LASB02107
  - LA00000068324
  - LA00000068354 -EMPTY

Working Copy
Date: 9/5/13 HS

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S832146

6.2[4] Date Processed: 9-5-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brandon Chavez / [signature] 1204742 / 9-5-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S832140

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 326.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 40.0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 364.0 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A
EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1

Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5832140

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68309 | | | |
| 10.1[4] | Daughter Drum Filter No. | KL-542 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6718 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501321 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | BOP | | |
| | Model No. | LOCPVC1.5-2SPVC | LOCPVC1.5-2SPVC | | |
| | Serial No. | L-6908 | L-6613 | | |
| | Date of Manufacture | 1/13 | 1/13 | | |
| 10.2[5] | POC ID No | 68304 | 68324 | | |
| 10.2[7][B]/10.2[6] | POC Item Description | SLUDGE, NITRATE SALTS | NITRATE SALTS | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BG 207129 | BG 207129 | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 385.6 | 386.4 | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 1000 | 100 | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | 1 GALLON | N | | |
| 10.3[5][A] | Free Liquid Volume/Units | N A | A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | N | A | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 50% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | BAG OUT STUBS, KITTY LITTER | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 583240

Comments: ROOM TRASH, PLASTICS, SLUDGE, SALTS, NEANTRALIZER, KITTY LITTER, LEAD SHIELDING,

11.1[1] Performed By: BRIAN GALLEGOS / Bri Gallegos / 261129 9-05-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: G Wilk / G Wilk / 149235 / 9/9/13 0730
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

Working Copy
Date: 8/27/13 HS

**WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET**

5.[3] Overpack drum information:

Purchase Order No.: 501323
Lot No.: 0238025
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 108216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ±4% CW ±6% CCW | ±3% CW ±6% CCW |

Overpack filtered vent information:

Manufacturer: NVCFIL
Model No.: 013
Serial No.: JL-1892
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: MICHAEL MONTOYA / Jr Romero / [signature] / 151352 / 109702 / 8/27/13 / 8/27/13
Waste Handling Technician (print) Signature Z# Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: MICHAEL MONTOYA / Jr Romero / [signature] / 151352 / 109702 / 8/27/13 / 8/27/13
Waste Handling Technician (print) Signature Z# Date

8.1[6] Reviewed By: G Mk / [signature] / 14928 / 9-9-13
Supervisor or designee (print) Signature Z# Date

UET

Working Copy
Date: 9-5-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68354

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3%cw ±6%ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] Z047421 9-5-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 170.2 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] Z047421 9-5-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: G Mk / [signature] M9235 9-9-13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 68309

**1. Drum/Lid Assembly**

- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501321
Lot #: 0237720
Date of Manufacture: 2013

**2. Drum Liner Bag/Filter Assembly:**

- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC1.5.25PVC
Serial #: L-6718
Date of Manufacture: 01-13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Nucfil
Model #: 019DS
Serial #: KL-542
Date of Manufacture: 11-11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 038369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | +1-4% cw<br>+1-6% ccw | Tolerance: | +1-3% cw<br>+1-6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

☑ Yes ☐ No

Print Name: James Sadel Signature: [signature] Z#: 116662

**5. Weigh Drum Assembly**

RECORD weight information

Tare witght (lbs) 76.0
File ID #: 019065

☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: James Sadel Operator Sign: [signature] Z#: 116662 Date: 08-27-13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 Date: 9-5-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 68309

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 038373

Cal expiration date: 8-1143

Range/ Value (ft-lbs): 10-80

Tolerance ± 3% CW ± 6% CCW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 278.2

Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: B. Nussinger Date 9-04-13

Verifier Print/Sign: Gerald Espinoza Date: 9-5-13

72
NR
6.10.12

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S832140 Container Type: 55-GAL Gross Weight (lbs): 337
Inner Seal #: 013136 Filter Prefix: LAVC Filter Serial #: 02081
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 RM 434
Total PE-Ci Activity: 1.68E+01 Equivalent Combustible PE-Ci: 6.29E+00 AM-241 PE-Ci: 1.36E+00
Total Fissile Gram Equivalents: 185.4 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/23/2007 Comment: Liquids, Liquid Location: 24
Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☒ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ VE ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature: R. W. Jones Z Number: 117434 Date: 12.8.11

## WDP Engineering

SUSAN S RAMSEY Signature: Susan S. Ramsey Z Number: 100481 Date: 11/28/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 2771b. Four items ranging from 61b to 851b. ~~Two items have a Total SNM g is~~ Total SNM mass is 197g; two item contain majority of SNM mass. WR 12/14
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >1000 and <1000 mrem/hr @ 30cm
Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 12/15/11

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use flexamour gloves when processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with procedure

Performed By: Jose Perez (TRU Remediation Operations (Print)) Signature: Jose Perez Z Number: 221452 Date: 1-2-13
T20BM Shift D28 272995 1-14-13
IHS Review Jody Amalfitano CSP, No IH Concerns 12/4/12

# Discardable Waste Log Sheet

**DrumID: 013136**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-674A | 38.63 | NITRATE SALTS | | 127.86 | 52 | 6/11 | G468 12/6/82 IT APPEARS LIKE IXFS-672 ( 5.00KG 42.32G) & IXFS-674FA (33.63KG & 85.54G) WERE COMBINED INTO IXFS-674A. IXFS-672 WAS 53 MT. AT 7.79% ENRICHMENT. |
| 2 | IXFS-673OX-26 | 12.05 | NITRATE SALTS | | 42.73 | 52 | 6/11 | G468 11/24/82 |
| 3 | IXFS-676FA | 29.5 | NITRATE SALTS | | 20.02 | 52 | 6/11 | G468 11/24/82 |
| 4 | IXFS-666FE | 2.73 | NITRATE SALTS | | 6.76 | 52 | 6/11 | G468 11/24/83 |

82.91 kg

2

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 3/29/12

| Container No. (5.[1]) | 21 S872449 | 21 S793718 | S832140 | S833037 | S832330 | S842234 |
|---|---|---|---|---|---|---|
| Filtered Vent Type (5.[1]) | 72 | 72 | 72 | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm | 282.85 ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm | Ø ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell (CCP (Print)), 234183 (Z #)

Reviewed By: Sara Aragon (CCP (Print)), 237975 (Z #)

Comments: N/C

6.1[2][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC less than or equal to 7,000 ppm

6.1[2][B]/ 6.1[3] Performed By: Alicia Herrera (Waste Handling Operator (print)) [signature] 198450 (Z #), 4/2/12 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120329c\
Data File : S832140.D
Acq On : 29 Mar 2012 3:09 pm (#1); 29-Mar-12, 15:08:25 (#2)
Operator : SA
Sample :
Misc : 55 GALLON LFL DRUM THROUGH FILTER, 72 FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 15:17:43 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Mar 06 12:05:15 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.648 | 96 | 3795854 | 209.00 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.965 | 117 | 2590489 | 185.50 ppmv | 0.02 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Thu Mar 29 15:17:49 2012

09-05-13

0612 Assuming WCRRF Operations center - Welcome

0613 ASSUMING WCRRF OPERATIONS IN TRAINING, HASMITH

0620 PRE-JOB CONDUCTED BY SOS

0635 PRE-JOB CONCLUDED BY SOS

0645 OPERATOR ENTERING BUILDING 50-69 TO BEGIN PROCESSING

0822 ~~POC BAG ON~~ 9/5/13 HS OPERATORS NOTIFIED OPERATOR CENTER POC IN THE BOX

1100 BAGGING OFF 1 POC AND 1 DAUGHTER.

1226 ELEVATED CAMS WILL DEPOST TILL CAMS COME INTO NORMAL RANGE

1130 CAMS WITHIN NORMAL RANGE

1140 STARTING MOVEMENT INTO 50-69 MOVING IN S845031, S891513

1153 BAGGING ~~ON~~ 9/4/13 HS OFF, BAGGIN ON S832140

1212 BAG OFF COMPLETE

1252 MOVEMENT INTO TA50-69 CANCELLED

1337 STARTING MOVEMENT INTO TA50-69

1406 MOVEMENT INTO TA50-69 COMPLETED

1510 INSIDE ROUNDS STARTED

1511 STARTING MOVEMENT OUT OF TA 50-69

1535 MOVEMENT OUT OF TA50-69 COMPLETE

1536 ITEM #63 OOS, POD IN PLACE OK TO CONTINUE

1537 BEGIN OUTSIDE ROUNDS

1538 INSIDE ROUNDS COMPLETE

1546 #19 UNSAT ON OUTSIDE ROUNDS, FSR IN PLACE OKAY TO PROCEED, PER CSE DOCUMENTATION

1552 OUTSIDE ROUNDS COMPLETE

1611 ROUNDS REVIEWED BY SOS

1653 BAGGING OFF 2 POCS, 1 DAUGHTER, BAGGING ON S845031

1745 BAG ON BAG OFF COMPLETE

1803 SHIFT TURNOVER PERFORMED. TERRI COLEMAN H.SMITH

NO FURTHER ENTRIES ON THIS DAY

09/05/13

4-5-13 Day Shift Sam cdg

0616 ASSUMED SOM WATCH FOR 9-5-13.

0616 PREJOB UNDERWAY BY SOS.

0640 MANAGEMENT CALL IN

0730 OPERATORS ENTER FACILITY BUT A REQUIRED SPLIT IS DUE SHORTLY. THE REQUIRED SPLIT WILL HAVE TO BE MANAGED BY AN INVENTORY CONTROL PERSON WHO IS NOT YET QUAL'D. THE ENERGY SOLUTION QUAL HAD TO BE REWRITTEN TO ACCOMODATE WATS AND THE DISCONTINUANCE OF WO-DOP-0208. ENERGY SOLUTIONS IS AWAITING WATS COURSE ROSTERS TO COMPLETE THE QUAL.

0733 WCATS COURSE ROSTERS DISTRIBUTED

0900 ENERGY SOLUTIONS SEANDS DOWN. AWAITING QUAL.

0930 ISSUE WITH ADDITIONAL 2.4 PEC SOLVED WITHIN WCATS ~~AS~~ CT 4-5-13 ALSO, SO-0064-0 HAS BEEN REMOVED FROM SITE MAR TRACKING.

1030 WEEKLY PLANNING MEETING. QUAL RECEIVED. ENSOL STARTS UP

1135 DAILY CALL IN PERFORMED IN PERSON.

1300 ADDITIONAL WCATS ISSUES FOUND. EMPTY PARENT SPLIT ARE INCONSISTENT WITH PROGRAM. OBSERVED MULTIPLE TASKS AND SPLITS WERE ALL DIFFERENT.

1511 BEGINNING OUT MOVEMENT.

1535 MOVEMENT OUT COMPLETE.

1632 AT TA54 ODP TEAM MEETING.

1762 AT TA50

1800 PROCESSED 2 Parents, ~~1 Daughter and~~ CT 9-5-13 3 DAUGHTERS AND 3 POCS, COMMENCING TURNOVER.

1810 SECURE DAY SHIFT.

No Further Entries This Page.

9/5/13 WCRR SOS LOG Book

0600 Assuming SOS Position All ok

0615 Conducted shift Brief Discussed Drum's bagged on And In Facility Nitrate salts need Appropriate Kitty litter Ratio Proper PPE In well Heavymar glove at all times.

0640 Concluded shift brief. waiting for Inventory to be signed off.

0645 operators entering facility to begin processing

1100 Bagging off 1Roc And 1Daughter

1126 operators notified of elevated Cam. need to cycle

1130 Cams normal

1140 starting move Into 58-69

1153 Bagging off And Bagging on SS 32140

1212 Bag off complete pm 9/5/13

1257 Move In ~~Complete~~ Cancelled

1337 Started move In

1406 Move In complete

1510 started Rounds

1511 started move out

1535 move out complete

1611 Received Inside And outside Rounds.

1653 Bagging off 2 Rcs, 1 Daughter Bagging on 58-45031

1745 Bag on, off complete

1800 shift turn over with Clayton Mullins securing Position All ok

Further entries on this page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0108 |
| Examination Date: | 9/12/2013 |
| Waste Container ID: | 68304 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0108 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 175.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 29.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 90 % |

# CCP Radiography Data Sheet



Waste Container ID: 68304

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid, Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP), Liner/Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 25.9 |
| Soils (S): | |
| Total WMP Weight: | 29.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68304

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.)
There is separation between liner lid and liner therefore liner is vented.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 9/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68304 | Count Sequence Number: | 16584 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 10/2/2013 11:46:59 AM | | |
| Description 1: | 2LANDA1229 | | |
| Description 2: | POC - Gross Wt. = 175.0 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 29.9 kg | Net: | 29.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.745 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16584 | Batch Number: | 2LANDA1229 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68304 | Analysis Date: | 10/2/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 29900.0 g | | |
| Pu mass | 1.76E+002 | +- | 4.87E+001 g |
| TRU Alpha Activity | 1.95E+001 | +- | 5.50E+000 Ci |
| TRU Activity Concentration | 6.52E+005 | +- | 1.84E+005 nCi/g |
| Pu-239 Equivalent Activity | 1.99E+001 | +- | 5.51E+000 Ci |
| Pu-239 FGE | 1.66E+002 | +- | 4.86E+001 g |
| Decay heat | 6.22E-001 | +- | 1.79E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.80E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 9.14E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.00E-006 |
| NP237 | 1.04E-001 | 7.30E-005 | 1.40E-005 | 2.36E-006 |
| PU238 | 1.61E-002 | 2.76E-001 | 8.98E-002 | 1.11E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.67E-005 |
| PU239 | 1.65E+002 | 1.03E+001 | 3.01E+000 | 4.12E-002 |
| PU240 | 1.06E+001 | 2.40E+000 | 7.82E-001 | 9.64E-003 |
| AM241 | 1.92E+000 | 6.57E+000 | 4.54E+000 | 7.07E-002 |
| PU241 | 2.03E-001 | 2.09E+001 | 6.82E+000 | 8.41E-002 |
| PU242 | 3.53E-002 | 1.39E-004 | 4.54E-005 | 0.00E+000 |
| AM243 | 1.47E-003 | 2.94E-004 | 5.68E-005 | 1.38E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10-3-13

ITR: _____ Date: 10-4-13

## Automated Independent Technical Review

Count Sequence Number: 16584 Batch Number: 2LANDA1229
Counter ID: HENC #2
Container ID: 68304
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/2/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Pu239 FGE >200g with 2*TMU but <325g. |

Expert Review by: Sheri Chambers Date: 10-3-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68304**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 616.56 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131105C\
Data File : 68304.D
Acq On : 5 Nov 2013 12:04 pm (#1); 05-Nov-13, 12:03:35 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 12:12:30 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.539 | 96 | 5625644 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.855 | 117 | 4214837 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.624 | GC1 | 4636m | 616.56 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Wed Nov 06 12:28:56 2013

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0108 |
| Examination Date: | 9/12/2013 |
| Waste Container ID: | 68309 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0108 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 119.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 85.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68309

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Hardware

AM:

OM: Scrap lead

OI:

C:

R: Rubber gloves

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.1 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 2.0 |
| Plastics (waste materials) (XPM): | 5.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 58.5 |
| Soils (S): | |
| Total WMP Weight: | 85.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68309

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | [signature] | 9/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

```
|-----------------------------------------------------------------------|
|                          NDA 2000 Assay Report                        |
|-----------------------------------------------------------------------|

*************************    Item Information    *************************

Item ID:            68309              Count Sequence Number:  16497
Operator:           DCLTD231\Operator
Assay Start:        9/12/2013   1:23:56 PM
Description 1:      2LANDA1222
Description 2:      N/A
Location:           LANL TA-54
Comment:            AK-6
Matrix Type:        Homo Sol. S3000
Container Type:     55 gal Drum
Weight:             Net:        85.6   kg        Net:    85.6 kg
Container:          Volume:    208.0   l        Full:    80.0 %
Density:                         0.510 kg /l

************************   System Configuration   ************************

Counter:                        HENC #2
Count Type:                     Item Count
Collimator/Geometry Setting:    All Banks on GEO -  0

Errors quoted at  1.000 sigma
```

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16497 | Batch Number: | 2LANDA1222 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68309 | Analysis Date: | 9/12/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 85600.0 g | | |
| Pu mass | 3.03E+001 | +- | 5.39E+000 g |
| TRU Alpha Activity | 4.46E+000 | +- | 1.24E+000 Ci |
| TRU Activity Concentration | 5.21E+004 | +- | 1.44E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.53E+000 | +- | 1.24E+000 Ci |
| Pu-239 FGE | 2.86E+001 | +- | 5.06E+000 g |
| Decay heat | 1.44E-001 | +- | 4.09E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 3.78E-002 | 2.66E-005 | 4.09E-006 | 1.06E-006 |
| PU238 | 2.77E-003 | 4.74E-002 | 8.44E-003 | 3.49E-005 |
| PU239 | 2.84E+001 | 1.76E+000 | 3.14E-001 | 1.30E-003 |
| PU240 | 1.82E+000 | 4.13E-001 | 7.35E-002 | 3.03E-004 |
| AM241 | 6.52E-001 | 2.24E+000 | 1.19E+000 | 3.56E-002 |
| PU241 | 3.50E-002 | 3.61E+000 | 6.42E-001 | 2.65E-003 |
| PU242 | 6.07E-003 | 2.40E-005 | 4.27E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.39E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.11E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.29E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 8.81E-006 |
| AM243 | 6.90E-004 | 1.38E-004 | 2.14E-005 | 6.02E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/17/13

ITR: _____ Date: 9.17.13

## Automated Independent Technical Review

Count Sequence Number: 16497 Batch Number: 2LANDA1222
Counter ID: HENC #2
Container ID: 68309
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/12/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 9-16-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68309**

BDR Number: **LA13FG2102**

Sampling Date: **9/25/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 158.66 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130925C\
Data File : 68309.D
Acq On : 25 Sep 2013 11:00 am (#1); 25-Sep-13, 10:59:33 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 25 12:01:57 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.588 | 96 | 4809202 | 205.75 ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.887 | 117 | 3673230 | 177.50 ppmv | 0.03 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.614 | GC1 | 1193m | 158.66 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0108 |
| Examination Date: | 9/12/2013 |
| Waste Container ID: | 68324 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0108 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 175.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 29.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68324

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid, Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP), Liner/Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 29.9 |
| Soils (S): | |
| Total WMP Weight: | 29.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68324

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.)
There is separation between liner lid and liner therefore liner is vented.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 9/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68324 | Count Sequence Number: | 23650 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/25/2013 11:35:05 AM | | |
| Description 1: | 1LANDA1848 | | |
| Description 2: | POC, 175.0 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, Not precision | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 29.9 kg | Net: | 29.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.748 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23650 | Batch Number: | 1LANDA1848 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68324 | Analysis Date: | 9/25/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 29900.0 g | | | |
| Pu mass | 9.95E+001 | +- | 2.67E+001 | g |
| TRU Alpha Activity | 1.04E+001 | +- | 2.74E+000 | Ci |
| TRU Activity Concentration | 3.48E+005 | +- | 9.15E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.06E+001 | +- | 2.74E+000 | Ci |
| Pu-239 FGE | 9.38E+001 | +- | 2.67E+001 | g |
| Decay heat | 3.31E-001 | +- | 8.88E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.25E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.00E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.36E-006 |
| NP237 | 5.33E-002 | 3.76E-005 | 7.39E-006 | 6.86E-006 |
| PU238 | 9.10E-003 | 1.56E-001 | 4.87E-002 | 1.01E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.60E-005 |
| PU239 | 9.34E+001 | 5.79E+000 | 1.65E+000 | 3.77E-002 |
| PU240 | 5.97E+000 | 1.35E+000 | 4.32E-001 | 8.82E-003 |
| AM241 | 9.02E-001 | 3.09E+000 | 2.14E+000 | 8.53E-002 |
| PU241 | 1.15E-001 | 1.18E+001 | 3.77E+000 | 7.69E-002 |
| PU242 | 1.99E-002 | 7.87E-005 | 2.51E-005 | 0.00E+000 |
| AM243 | 7.50E-004 | 1.50E-004 | 2.94E-005 | 1.06E-005 |

Errors quoted at 1.000 sigma

Operator: Jim Barton Date: 9/26/13

ITR: [illegible] Date: 9.26.13

## Automated Independent Technical Review

Count Sequence Number: 23650 Batch Number: 1LANDA1848
Counter ID: MCS HENC #1
Container ID: 68324
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/25/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| No Add-a-Source warnings. | OK |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | OK |
| FGE is greater than the upper limit of 200.00 | Neutron data show multiplication. Neutron results not applied. Gamma results applied. Gamma |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate' Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test failed. | Not data affecting. |
| Section 4 - MGA Analysis | Isotopic analysis failed. AK isotopics applied. The AK |
| Results are marked as invalid. | information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Bart B. Marah Date: 9/25/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68324**

BDR Number: **LA13FG2115**

Sampling Date: **11/13/2013**

5832140

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 693.69 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131113c\
Data File : 68324.D
Acq On : 13 Nov 2013 2:19 pm (#1); 13-Nov-13, 14:19:17 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 13 14:28:53 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.545 | 96 | 4426188 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.855 | 117 | 3450026 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.543 | GC1 | 5216m | 693.69 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S832143

**S832143**

Container 747500

File Options Reports Help

# S832143

| 747500 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S832143

- S832143
  - LA00000068355 - EMPTY
  - LA00000068325 - LANL
    - LASB50045
  - LA00000068322 - WIPP

**ATTACHMENT 1**
Page 1 of 4

9-5-13

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 5832143

6.2[4] Date Processed: 9-5-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: GERALD ESPINOSA [signature] [illegible] 9-5-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5832143

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 294.6 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 294.6 lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A / / Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / / EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 832143

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68382 ~~50/3221~~ | | | |
| 10.1[4] | Daughter Drum Filter No. | KL-428 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-8171 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501323 1 | | A | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | 130P | | | |
| | Model No. | 6cpre1.52spre | | | |
| | Serial No. | L-6885 | | | |
| | Date of Manufacture | 1-13 | | | |
| 10.2[5] | POC ID No | 68325 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | nitrate salts Kitty litter | | N | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BC 204742 | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 376.2 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 1020.5 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N A | | A | |
| 10.3[5][A] | Free Liquid Volume/Units | 6 oz | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | | N | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | see comments | | A | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 80% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | plastic | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5832143

Comments: nitrate salts, plastic, Lead, kitty Litter

11.1[1] Performed By: Brandon Chavez / [signature] 20174121 / 8-5-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: G Mk / [signature] 149235 / 9/5/13 1655
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

ate: 8/27/13 HS

**WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET**

5.[3] Overpack drum information:

Purchase Order No.: 501323
Lot No.: 0238025
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 0388369 |
| Cal. Expiration Date: | 12-18-2013 | 12-18-2013 |
| Tolerance: | ±4% CW ±6% CW | ±3% CW ±6% CCW |

Overpack filtered vent information:

Manufacturer: MUCFIL
Model No.: 013
Serial No.: JL1880
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brian Gallegos / Bri Gallegos / 267129 8-27-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos / Bri Gallegos / 267129 8-27-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: GWD / [signature] / 149235 9/5/13
Supervisor or designee (print) Signature Z # Date

9-5-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68355

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3% CW ±6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] 1204742 9-5-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 166.6 lb

Comments: NC

8.1[1] Performed By: Brandon Chavez / [signature] 1204742 9-5-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: G Mk / [signature] 145231 9/5/13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 68322

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501321
Lot #: 0233226
Date of Manufacture: 2013

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC 1.5 25PVC
Serial #: L-5121
Date of Manufacture: 7/13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Millipore
Model #: 01405
Serial #: KL 428
Date of Manufacture: 7/13

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 120216 | M&TE ID #: | 0058369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 60-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | +/- 4% ccw +/- 6% cw | Tolerance: | +/- 3% ccw +/- 6% cw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Ian Marquez Signature: [signature] Z#: Z76708

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtight (lbs) 76.0
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Ian Marquez Operator Sign: [signature] Z#: Z76708 Date: 8-15-13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204782 Date: 9-5-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID# 68822

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 038373

Cal expiration date 9-11-13

Range/ Value (ft-lbs): 10-80

Tolerance ±3% CW ±6% CCW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs ): 288.4

Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: Brandon Chavez Date 9-5-13

Verifier Print/Sign: Joe Quintana Date 9/5/13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

72 HR 6.20.12

## Production Control

Container ID: S832143 Container Type: 55-GAL Gross Weight (lbs): 295

Inner Seal #: 013166 Filter Prefix: LAVC Filter Serial #: 03108

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS MST 12

Total PE-Ci Activity: 1.64E+01 Equivalent Combustible PE-Ci: 6.16E+00 AM-241 PE-Ci: 1.33E+00

Total Fissile Gram Equivalents: 181.5 Total Surface Dose Rate (mrem/hr): 2

EPA Code(s): None

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 5/2/2007 Comment: Impenetrable Obj,

Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000

TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts

Performed By: R. W. Jones (Production Control (Print)) Signature: R. W. Jones Z Number: 117434 Date: 12.8.11

## WDP Engineering

SUSAN G RAMSEY Signature: Susan G Ramsey Z Number: 100481 Date: 11/28/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown

Processing Determination: ☑ Accept ☐ Reject

WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 235 lb. Two items; one weighs 84 lb and other weighs 65 lb

Drums w/ nitrate salts may contain undocumented liquids

May require RWP for >1000 and <10000 mrem/hr @ 30 cm

Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 112609

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Do not push or press on waste with hands. Use Kevlar gloves when processing waste.

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use proper ratio of filler to waste in accordance with the procedure

Performed By: Clarissa Vilardo (TRU Remediation Operations (Print)) Signature: C Vilardo Z Number: 234179 Date: 1/24/12

Joe Jerez Z Number: 221452 Date: 1-7-13

HS Review Jeffrey Amelwood CSP, No HS concerns 12/4/12

RDBM Shift RBS 272995 1-14-13

## Noncertified TRU Waste Drum Item Information

DrumID: 013166

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Mass Code | SNM (g) | HT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-674FC | | 37.960 | NITRATE SALTS | | 179.3 | 52 | 5/11 | G468 | |
| 2 | IXFS-671FA | | 29.550 | NITRATE SALTS | | 13.52 | 52 | 5/11 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 133.6

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 192.84 | 67.51 |
| Totals | 192.84 | 67.51 |

ATTACHMENT 1


## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date: 11/6/12

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z | Date |
|---|---|---|---|
| Erik Lockhart | Erik Lockhart | 1234483 | 11-9-12 |

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| | | | |

| Container No. (5.[1]): | 5825920 | 5832143 | 5832338 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]). | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | 46.76 |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | Ø | 46.76 |

**NOTE** *Filtered vent data may be captured on a support organization data sheet*

| | | | |
|---|---|---|---|
| Container Number (5.[1]) | S825920 | S832143 | S830358 |
| Hydrogen Reading (ppm) (5.[10]) | Ø ppm | 494.84 ppm | 759.09 ppm |
| Methane Reading (ppm) (5.[10]) | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]) | Ø ppm | Ø ppm | 46.75 ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]) | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]) | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Alicia Herrera [signature] 198450 11/9/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 1169840 11-9-12
Waste Handling Supervisor (print) Signature Z # Date

Inst Name : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120106C\
Data File : S832143.D
Acq On : 6 Jan 2012 12:16 pm (#1); 06-Jan-12, 12:15:47 (#2)
Operator : GR
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER DRUM LID (72) (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 12:25:26 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.716 | 96 | 4959828 | 209.00 | ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 6.019 | 117 | 3979651 | 185.50 | ppmv | 0.07 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.613 | GC1 | 3895 | 494.84 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Fri Jan 06 12:25:32 2012

9-4-13
1815 Assuming WCRR operations center - JColeman
1828 Pre-job being conducted by SOS
1855 Pre-job concluded
1922 Operators entering 50-69 to begin operations on S813562
2031 Initiating a drum movement from 50-69 to a transportainer.
2155 Drum movement out of 50-69 complete.
2245 Bagging off 1 daughter, bagging on S853641.
2315 Bag off/on complete.
0030 Operators out for lunch.
0130 Operators entering 50-69 to resume operations.
0226 Bagging off 1 daughter, bagging on another daughter.
0241 Bag off/on complete.
0242 Initiating a drum movement from transportainer to 50-69.
0301 Drum movements completed.
0400 Beginning outside rounds.
0420 Item #19 to unwt, Okay to proceed, FSR in place.
0428 Outside rounds complete.
0444 Bagging off 1 daughter, 1 POC, bagging on S832143.
0450 Beginning inside rounds.
0504 Item #63 to ODS, Okay to proceed, POD in place.
0534 Bag off/on complete.
0540 Inside rounds complete.
0546 Both rounds reviewed by SOS.
0612 Shift turnover with OCC, Clarissa Delarde - JColeman
9-4-13

no further entries this page

09-05-13

0612 Assuming WCRRF Operations center - Orlando
0613 ASSUMING WCRRF OPERATIONS IN TRAINING, HASMITH
0620 PRE-JOB CONDUCTED BY SOS
0635 PRE-JOB CONCLUDED BY SOS
0645 OPERATOR ENTERING BUILDING 50-69 TO BEGIN PROCESSING
0822 ~~POC BAG ON~~ 9/5/13 HS OPERATORS NOTIFIED OPERATOR CENTER POC IN THE BOX
1100 BAGGING OFF 1 POC AND 1 DAUGHTER.
1126 ELEVATED CAMS WILL DEPOST TILL CAMS COME INTO NORMAL RANGE
1130 CAMS WITHIN NORMAL RANGE
1140 STARTING MOVEMENT INTO 50-69 MOVING IN S845031, S891513
1153 BAGGING ~~ON~~ 9/4/13 HS OFF, BAGGIN ON S832140
1212 BAG OFF COMPLETE
1252 MOVEMENT INTO TA50-69 CANCELLED
1337 STARTING MOVEMENT INTO TA50-69
1406 MOVEMENT INTO TA50-69 COMPLETED
1510 INSIDE ROUNDS STARTED
1511 STARTING MOVEMENT OUT OF TA50-69
1535 MOVEMENT OUT OF TA50-69 COMPLETE
1536 ITEM #63 OOS, POD IN PLACE OK TO CONTINUE
1537 BEGIN OUTSIDE ROUNDS
1538 INSIDE ROUNDS COMPLETE
1544 #19 LINSAT ON OUTSIDE ROUNDS, FSR IN PLACE OKAY TO PROCEED, PER CDE DOCUMENTATION
1552 OUTSIDE ROUNDS COMPLETE
1611 ROUNDS REVIEWED BY SOS
1653 BAGGING OFF 2 POCS, 1 DAUGHTER, BAGGING ON S845031
1745 BAG ON BAG OFF COMPLETE
1803 SHIFT TURNOVER PERFORMED, TERRI COLEMAN H. SMITH

09/05/13 NO FURTHER ENTRIES ON THIS DAY HS

9-4-13 NIGHTSHIFT WCRR SOM

1801 Reviewed the shift turnover check list and assumed the NIGHTSHIFT SOM position [illegible]

1850 Completed attending the pre-job brief conducted by the SOS (Jose) the safety topic was sharps in the glovebox - and outside slips traps and falls. Operators inside are required to place plastic down over the paint that is peeling, place furniture pads on bottom of stands, also introduce 6 new RADMORS Rep 55 and 859, and becautions during bag off of parent - noted a rust spot. The shift Order for sliding drums was discussed - WCRR-SH-13-003-R2 Drum movements and WCRR-SH-13-005 R0 Precautions for bag outs. Also Rounds MOV was discussed.

1950 Completed follow up with MSDS for [illegible] glycol in 55 gallon drum. Conducted follow-up requesting documentation for 8" round WCG filters/gaskets and repair of PDI-012 noted OOS on rounds.

1951 Late entry for 1922 - Operators enter 50/69 to initiate work

2040 SOM entered 50/69 and observed operators placing tape on floor where paint chipped up, and operators placed furniture pads on foot stands.

2050 Inspections were completed for the drum grabber.

2057 Operators initiated movements (7 daughters moved out) (empty daughters and 85s moved in, and 2 parents moved in). Observed correct tools utilized for placement of the drum coasters, radiological boundaries were observed, and adherence to the Drum Movement Shift Order was observed satisfactory.

2130 All drum movements were secured with WCATS database was updated - no issues noted, also operators initiated wiping down glovebox gloves and sweeping remaining contents of parent drum into the daughter drum prior to bag off.

2200 wipe down of glove box was completed, and operators weight parent for bag on.

2245 Operators initiate bag off of Parent 581356C and daughter, and initiate bag on of 9853641. (two daughters were generated with 581356C)

2320 Bag off and bag on completed.

2345 Parent drum 9853641 - SP-72 contains ~ 3-4 gallons of liquid noted with ph ~ 3

0010 Operators break for lunch.

0130 Operations return from lunch

0224 Operators bag off one daughter and bag on another and continue to process.

0445 Inside Operations bagging off 1 daughter / PDC and bagging on Parent 5832143, Also 2 parents were transferred into 50/69

0615 Reviewed Shift turn over checklist with Dayshift SOM

0616 Secured the nightshift SOM position [illegible]

No further Entries this page

9/4/13 WCRR 505 Log Book

1810 Performed 505 turnover with off going 505 Gilbert Martinez, Assuming 505 position for the evening. [illegible]

1820 Starting Pre-Job brief, Safety Topic discussing slips trips and fall's. Discussed paint peeling up in 50-69 in areas that have been painted. Operators will need to lay plastic down in areas where paint is chipping up. Once plastic is laid down, Parent drums and daughters are ready to be bagged off, operators will need to do a final wipe down prior to bagging off. Two additional parents and empties are in the high bay and ready to be moved in once plastic is complete. RCT turnover identified sharps in waste material being processed, ensure operators are wearing heavy duty gloves during processing.

1850 Pre-Job Complete

1915 Operators gathering supplies to take into processing facility to secure areas where paint is peeling

1940 Operator called out stating that area where paint is peeling is under the stands, they are placing tape over these areas and putting padding on the stands to hopefully assist in not peeling any more paint

2015 Operators finalizing the taping and placement of furniture pads on stands inside of 50-69.

2054 Moving out 7 daughter drums, moving in 2 parents 1 55 gallon and 1 55 gallon and empties also.

2155 Move out and Move in Complete 7 daughter drums moved out Transfer time 194

2231 Bagging off Parent and ~~daughter~~ 9-4-13 daughter that was left bagged on from day crew, bagging on Parent 585369.

2114 Bag on complete

2030 Operators breaking for lunch.

0130 Operators returning from lunch and will continue process. Operators reporting approximately 3 gallons of liquids processed so far on shipment.

0225 Bagging off one daughter and bagging on second

0327 Moved in two more parent drums into 50-69, both are 55 gallon drums.

Continued on next page

9/4/13 Continued from Previous Page WCRR SOS LogBook
0443 Bagging off one daughter and 1 BC, bagging on 5832143
0533 Bag on Bag off complete.
0546 Reviewed and signed rounds inside and outside.
0614 Turning over SOS position to Gilbert Martinez, Securing SOS position for the day. [illegible]

No further entries on this page

9/5/13 WCRR SOS LOG Book

0600 Assuming SOS Position. All ok

0615 Conducted shift Brief Discussed Drums bagged on And In Facility Nitrate salts need Appropriate Kitty litter Ratio Proper PPE In WCG Heavarmor glove at all times.

0640 Concluded shift brief. waiting for Inventory to be signed off.

0645 operators entering facility to begin processing

1100 Bagging off 1 Pol And 1 Daughter

1126 operators notified of elevated Cam. need to cycle

1130 Cams normal

1140 starting move Into 50-69.

1153 Bagging off And Bagging on SS 32146

1212 Bag off complete 9/5/13

1257 Move In ~~Complete~~ Cancelled

1317 started move In

1406 Move In complete

1510 started Rounds.

1511 started move out

1535 move out complete

1611 reviewed Inside and outside Rounds.

1653 Bagging off 2 Pols, 1 Daughter Bagging on 5848031

1745 Bag on/off complete

1400 shift turn over with clayton mullins securing Position. All ok

no
Further
entries
on
this
page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0110 |
| Examination Date: | 9/16/2013 |
| Waste Container ID: | 68322 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0110 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 131.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 97.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 60 % |

# CCP Radiography Data Sheet



Waste Container ID: 68322

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 81.6 |
| Soils (S): | |
| Total WMP Weight: | 97.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68322

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | [X] Yes [ ] No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | [ ] Yes [X] No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | [ ] Yes [X] No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | [ ] Yes [X] No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | [ ] Yes [X] No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | [ ] Yes [X] No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | [ ] Yes [X] No |
| Is there an indication of wastes containing explosives or compressed gases? | [ ] Yes [X] No |
| Is there an indication of PCBs liquids? | [ ] Yes [X] No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | [ ] Yes [X] No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | [ ] Yes [X] No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | [ ] Yes [X] No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | [ ] Yes [X] No |
| Are there sealed containers GREATER than 4 liters? | [ ] Yes [X] No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | [ ] Yes [X] No |

Comments: N/A

RTR Operator:

| Benito Maestas | | 9/16/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68322 | Count Sequence Number: | 23594 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/17/2013 3:25:27 PM | | |
| Description 1: | 1LANDA1842 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 97.6 kg | Net: | 97.6 kg |
| Container: | Volume: 208.0 l | Full: | 60.0 % |
| Density: | 0.780 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23594 | Batch Number: | 1LANDA1842 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68322 | Analysis Date: | 9/17/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 97600.0 g | | |
| Pu mass | 9.10E+001 | +- | 1.99E+001 g |
| TRU Alpha Activity | 1.02E+001 | +- | 2.32E+000 Ci |
| TRU Activity Concentration | 1.05E+005 | +- | 2.38E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.04E+001 | +- | 2.32E+000 Ci |
| Pu-239 FGE | 8.58E+001 | +- | 1.98E+001 g |
| Decay heat | 3.26E-001 | +- | 7.57E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.95E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.07E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.05E-006 |
| NP237 | 7.92E-002 | 5.58E-005 | 1.11E-005 | 4.83E-006 |
| PU238 | 8.33E-003 | 1.42E-001 | 3.77E-002 | 9.64E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.69E-005 |
| PU239 | 8.54E+001 | 5.30E+000 | 1.23E+000 | 3.59E-002 |
| PU240 | 5.46E+000 | 1.24E+000 | 3.37E-001 | 8.40E-003 |
| AM241 | 1.03E+000 | 3.54E+000 | 1.94E+000 | 1.21E-001 |
| PU241 | 1.05E-001 | 1.08E+001 | 2.94E+000 | 7.34E-002 |
| PU242 | 1.82E-002 | 7.20E-005 | 1.95E-005 | 0.00E+000 |
| AM243 | 2.84E-003 | 5.67E-004 | 1.13E-004 | 1.40E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.19.13

ITR: _____ Date: 9/20/13

## Automated Independent Technical Review

Count Sequence Number: 23594 Batch Number: 1LANDA1842
Counter ID: MCS HENC #1
Container ID: 68322
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/17/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | OK |
| FGE is greater than the upper limit of 200.00<br><br>Ones Rate Analysis complete with warnings. | Neutron data show multiplication. Gamma results applied, Gamma results consistent with AK. |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data. | Results taken from quantitative gamma data. |
| Results comparison test failed. | OK |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: [signature] Date: 9/19/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68322**

BDR Number: **LA13FG2102**

Sampling Date: **9/25/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130925C\
Data File : 68322.D
Acq On : 25 Sep 2013 12:34 pm (#1); 25-Sep-13, 12:33:57 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 25 12:42:38 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.578 | 96 | 4724431 | 205.75 | ppmv | 0.06 |
| 15) Chlorobenzene-d5 | 5.878 | 117 | 3612956 | 177.50 | ppmv | 0.02 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

31

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0110 |
| Examination Date: | 9/16/2013 |
| Waste Container ID: | 68325 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0110 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 170.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 25.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 55 % |

# CCP Radiography Data Sheet



Waste Container ID: 68325

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM:

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 25.4 |
| Soils (S): | |
| Total WMP Weight: | 25.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68325

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, liner is vented.

RTR Operator:

| Benito Maestas | | 9/16/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68325 | Count Sequence Number: | 23590 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/17/2013 12:09:38 PM | | |
| Description 1: | 1LANDA1842 | | |
| Description 2: | POC - Gross Wt. = 170.5 Kg | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 25.4 kg | Net: | 25.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.723 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23590 | Batch Number: | 1LANDA1842 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68325 | Analysis Date: | 9/17/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 25400.0 g | | |
| Pu mass | 5.75E+001 | +- | 1.77E+001 g |
| TRU Alpha Activity | 1.15E+001 | +- | 5.17E+000 Ci |
| TRU Activity Concentration | 4.54E+005 | +- | 2.04E+005 nCi/g |
| Pu-239 Equivalent Activity | 1.17E+001 | +- | 5.17E+000 Ci |
| Pu-239 FGE | 5.43E+001 | +- | 1.76E+001 g |
| Decay heat | 3.75E-001 | +- | 1.71E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.21E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.28E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.83E-006 |
| NP237 | 1.32E-001 | 9.28E-005 | 1.75E-005 | 4.86E-006 |
| PU238 | 5.26E-003 | 9.00E-002 | 3.16E-002 | 1.10E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.05E-005 |
| PU239 | 5.40E+001 | 3.35E+000 | 1.09E+000 | 4.08E-002 |
| PU240 | 3.45E+000 | 7.84E-001 | 2.79E-001 | 9.55E-003 |
| AM241 | 2.13E+000 | 7.31E+000 | 5.04E+000 | 2.45E-001 |
| PU241 | 6.65E-002 | 6.85E+000 | 2.44E+000 | 8.35E-002 |
| PU242 | 1.15E-002 | 4.55E-005 | 1.62E-005 | 0.00E+000 |
| AM243 | 9.87E-003 | 1.97E-003 | 3.77E-004 | 1.70E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.19.13

ITR: _____ Date: 9-20-13

## Automated Independent Technical Review

Count Sequence Number: 23590 Batch Number: 1LANDA1842
Counter ID: MCS HENC #1
Container ID: 68325
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/17/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>FGE is greater than the upper limit of 200.00<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Neutron data show multiplication. Neutron results not applied. Gamma results applied. Gamma results consistent with AK.<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test failed. | Results taken from quantitative gamma data.<br><br>OK |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Bart B. Marah Date: 9/18/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68325**

BDR Number: **LA14FG2008**

Sampling Date: **1/22/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 146.82 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140122c\
Data File : 68325.D
Acq On : 22 Jan 2014 1:20 pm (#1); 22-Jan-14, 13:19:47 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 13:28:22 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.535 | 96 | 2795370 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 2257155 | 177.50 | ppmv | -0.01 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.615 | GC1 | 1104m | 146.82 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S832144

**S832144**

Container Profile 753921

File Options Reports Help

# S832144

| 753921 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure

## Genealogy

S832144

- S832144
  - LA00000068640 – EMPTY
  - LA00000068508 – LANL
    - LASB50094
  - LA00000068651 – WIPP
  - LA00000068626 WIPP

Working Copy
Date: 11-13-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S832144

6.2[4] Date Processed: 11-13-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or ~~MET-L-X~~ in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2)
N/A ☑ N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Edward Nuttman
Waste Handling Tech (print) Signature Z # 173991 Date 11-14-13 ~~11-13-13~~ EM 11-14-13

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5832144

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 402.8 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): N/A lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 402.8 lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. ___ / N/A / ___
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

___ N/A ___ / /
EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5832144

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 686216 | 686651 | | |
| 10.1[4] | Daughter Drum Filter No. | CM-836 | CM-325 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10349 | L-10143 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | | | |
| | Model No. | 6CPCL1.5-Bmc | | | |
| | Serial No. | L-10318 | | | |
| | Date of Manufacture | 2/13 | | | |
| 10.2[5] | POC ID No | 68508 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Nitrate Salts | | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | GE 237720 | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 397.6 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 1.000 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | | 1 gallon | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | lead shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | N/A | |
| 10.3[10] | Remaining Waste Description | See Comments | See comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 40% | 100% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty litter Stubouts Plastic | Kitty litter, stub out bags Plastic | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5832144

Comments: Nitrate salts, kitty litter, lead, plastic, poly inner lid, stuck out bags.

11.1[1] Performed By: [illegible] / [illegible] 1228826 / 11-14-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Jose Jerez / [illegible] 1221452 / 11/14/13 0900
SOS or designee (print) Signature Z # Date/Time

Workbook Copy
11/7/13 HS

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238366
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12/18/13 | 8/5/14 |
| Tolerance: | +/- 4% cw<br>+/- 6% ccw | +/- 3% cw<br>+/- 6% ccw |

Overpack filtered vent information:

Manufacturer: NULFIL
Model No.: 013
Serial No.: JL 1068
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: JOE QUINTANA, Joe Z — 239987, 11/7/13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/A

8.1[1] Performed By: JOE QUINTANA, Joe Z — 239987, 11/7/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Jose Tovar, [signature] — 2214521, 11/14/13
Supervisor or designee (print) Signature Z # Date

11-13-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68640 ~~68460~~ 11-14-13

7.[23] Overpack drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16 - 80
Tolerance: +/- 3% cw +/- 6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Frederick Schulte / [signature] 1228820 / 11-14-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 163.4 lb

Comments: N/C

8.1[1] Performed By: Edward Martin / [signature] 1228911 11-14-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Jose Jerez / [signature] 1221421 11/14/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

11-7 13 JL

**WCRRF DRUM PREPARATION DATA SHEET**

5.[34][E] Drum ID No.: 68626

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC1.52SPVC
Serial No.: L-10349
Manufacture Date: 6-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4%rdg ±6%rdg | ±3%rdg ±6%rdg |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chavez / [signature] 204742 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-836
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 682 68626

Comments: N/A

5.[35] Performed By: Brandon Chavez / [signature] 2047642 / 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Jose Jerez / [signature] 1221521 / 11/14/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 608626

6.[9] Drum closure ring torque wrench information:

M&TE No.: C36245
Cal. Expiration Date: 08/05/2014
Range in ft-lb: 16-80
Tolerance: +/-3% cw and +/-6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Edward Martinez [signature] 17294 11-13-13 11-14-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | N/A | N/A |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: N/A in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: N/A in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 08626

6.[26] Scale File ID number: 619665

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 125.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: GERALD ESPINOZA [signature] 1237720 11/14/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Jose Jerez [signature] 1221421 11/14/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

11/12/13 HJ

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68651

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: LCAL 15-2 SNL
Serial No.: L-10143
Manufacture Date: 5-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/- 4% cw +/- 6% ccw | +/- 3% cw +/- 6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Federico Mebleh / [signature] 1220061 11-12-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: Nucfil
Model No.: 019DS
Serial No.: LM-328
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 685651

Comments: n/a

5.[35] Performed By: [illegible] [illegible] 122[illegible] 11-12-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Jose Jerez [illegible] 122[illegible] 11/14/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68651

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range: 16-50 ft-lb
Tolerance (+/-): +/- 3% or +/- 6% cw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick [illegible] / [signature] / 1223826 / 11-14-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 108651

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 399.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Edward Martinez [signature] 1259411 11-14-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Jose Juarez [signature] 1221459 11/14/13
Supervisor or designee (print) Signature Z # Date

UET Working Copy

111312

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 5832144

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 402.8

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/A

8.1[1] Performed By: Edward Mattison [signature] 123991 11-14-13 EM 11-14-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Jose Sevez [signature] 120452 11/14/13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Lonny Axtell [signature] 100965 11/16/13 1856 11/16/13
SOS/SOM or designee (print) Signature Z # Date Time

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Production Control** 85 11-4-13 72 HR Gile

Container ID: S832144 / Container Type: 85-GAL / Gross Weight (lbs): 411
Inner Seal #: 013735 / Filter Prefix: None / Filter Serial #: None
AK Waste Stream: LA-MHD01.001 / Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST12 ROOM 434 /
Total PE-Ci Activity: 1.07E+01 / Equivalent Combustible PE-Ci: 4.01E+00 / AM-241 PE-Ci: 8.68E-01
Total Fissile Gram Equivalents: 118.1 / Total Surface Dose Rate (mrem/hr): 2 /
EPA Code(s): None /
NCR RTR/NDA Comment: None /
RTR Pre-Screen Date: 5/2/2007 / Comment: Impenetrable Obj. /
Certified RTR Comment: None

Prohibited Items: ☐ Sealed > 4 Liters ☒ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ VE ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1:2 volumes of kitty litter to waste must be mixed with 1 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) R. W. Jones (Signature) 117434 (Z Number) 12-5-11 (Date)

**WDP Engineering** SUSAN S RAMSEY (Signature) 100481 11/28/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☑ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 351 lb. Five items ranging from 3 lb to 79 lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >1000 and <10000 mrem/hr @ 30 cm
Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) 112609 (Z Number) 12/15/11 (Date)

**TRU Remediation Operations**

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use Hexarmour gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure

Performed By: Vanessa Velarde (TRU Remediation Operations (Print)) (Signature) 234119 (Z Number) 12/24/12 (Date)
Jose Jerez (Signature) 221452 7-13

IHS Review: Julie Avallone CSP, No IH Concerns 12/14/12
Robin Shoff 282 272995 1-14-13

## Noncertified TRU Waste Drum Item Information

DrumID: 013735

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-677FB | | 35.910 | NITRATE SALTS | | 7.85 | 52 | 5/11 | G468 |
| 2 | IXFS-678FI | | 26.140 | NITRATE SALTS | | 48.36 | 52 | 5/11 | G468 |
| 3 | IXFS-679FI | | 1.360 | NITRATE SALTS | | 2.18 | 52 | 5/11 | G468 |
| 4 | IXFS-680FI | | 22.950 | NITRATE SALTS | | 6.05 | 52 | 5/11 | G468 |
| 5 | IXFS-681FC | | 23.870 | NITRATE SALTS | | 60.96 | 52 | 5/11 | G468 |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 186.4

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 125.4 | 110.23 |
| Totals | 125.4 | 110.23 |

ATTACHMENT 1


# HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5.[1] Sample Date 1/9/12.

5.[7] Certified CCP Technician

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Lacchelli | Erik Lacchelli | 1234567 | 1-9-12 |
| | | | |

EL 1-9-12

| Container No. (5.[1]): | S832498 | S842323 | S832144 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55gal | 55gal | 55gal |
| Current Filtered Vent No. (5.[1]): | 72 | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]) | 72 | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | 72.28 | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | Ø | 72.28 | Ø |

NOTE: *Filtered vent data may be captured on a support organization data sheet*

| | | | |
|---|---|---|---|
| Container Number (5.[11]) | S832498 | S842333 | S832144 |
| Hydrogen Reading (ppm) (5.[10]) | Ø ppm | 772.05 ppm | 909.24 ppm |
| Methane Reading (ppm) (5.[10]) | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (5.[11]) | Ø ppm | 72.28 ppm | Ø ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]) | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]) | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]) | N/A | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate (7.[9][F][a]/7.[9][G][b]) | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/A

8.1[1] Performed By: Alicia Herrera [signature] 198480 1/9/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 116984011 1-9-12
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120106C\
Data File : S832144.D
Acq On : 6 Jan 2012 11:52 am (#1); 06-Jan-12, 11:51:25 (#2)
Operator : GR
Sample :
Misc : 55 GAL LFL DRUM FROM UNDER DRUM LID (72) (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 12:00:04 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.677 | 96 | 4885946 | 209.00 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.993 | 117 | 3933735 | 185.50 | ppmv | 0.04 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.613 | GC1 | 7157 | 909.26 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Fri Jan 06 12:00:34 2012

11-13-13 CONTINUED FROM PREVIOUS PAGE H SMITH

1505 BAGGING OFF DAUGHTER 68654 BAGGING ON DAUG. 68629 HS 11/13/13.

1526 BAG ON - BAG OFF COMPLETED, CONTINUING TO PROCESS

1610 STARTING INSIDE ROUNDS

1625 BRIEF PAUSE - OPERATORS EXIT BUILDING TO CHANGE, DUE TO HEAVY SWEATING PER RCT's

1633 STARTING OUTSIDE ROUNDS

1636 ITEM #63 DOS. INSIDE ROUNDS, POD IN PLACE OKAY TO PROCEED PER CSE DOCUMENTATION

1643 INSIDE ROUNDS COMPLETED

1644 OUTSIDE ROUNDS COMPLETED

1650 OPERATORS RETURN TO PROCESS

1711 BAG OFF - BAG ON ~~DAUGHTER~~ 11-13-13 HS DENEST AND BAGGING ON 5844689

1720 11/13/13 1700 HS 1700 LATE ENTRY - INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS

11-13-13 1803 BEING RELIEVED BY OLD TERRI COLEMAN - H SMITH

NO FURTHER ENTRIES ON THIS PAGE H SMITH

13-13

N DAUGHTE

1803 Assuming WCRR operations center. - Coleman

1815 Pre-job being conducted by SOS.

PROCESS

1823 note entry at 1810, denesting of S844689 complete and bagge on. YC

ANGE,

1841 Pre-job concluded.

1906 Operators entering 50-69 to begin operations on S844689.

2119 Bagging off 1 daughter, bagging on another daughter.

OKBY

2130 Bagoff 1 on complete.

2243 Initiating a drum movement from transportainer to 50-69.

2252 Drum movement into 50-69 complete.

2305 Initiating a drum movement from 50-69 to a transportainer.

2315 Drum movement out of 50-69 complete.

BAGGING

2336 Bagging off 1 daughter.

1413 0000 Bag off complete.

OUNDS

0010 Operators out for lunch.

0030 Beginning outside rounds.

TH

0057 Outside rounds complete.

0137 Operators entering 50-69 after lunch.

0218 Denesting drum # S832144 and bagging it on.

0252 Denesting and bag on complete.

0400 Beginning inside rounds.

0415 Minor issue - The SOS reports that the light bulb on top of the WCG has blown out causing poor visibility at stations 3 and 8. The path forward - FSR and notifying electrician

0420 An FSR has been submitted for the light bulb on top of the WCG FSR# 114298.

0422 Item #63 is O.S. Okay to proceed per CSE documentation.

0424 Inside rounds complete.

0430 Bagging off 1 Daughter and 1 PAC, bagging on another daughter.

0439 Supervisor has signed off on both rounds.

0510 Bag off complete.

0522 Initiating a drum movement from 50-69 to a transportainer.

0536 Drum movement out of 50-69 complete.

0600 Air quality has arrived to perform the weekly stack monitoring.

3 0604 Air quality has completed the weekly stack monitoring.

3, 0607 Being relieved by OCO, Howard Smith - Coleman

No further entries this page.

11-14-13

0607 ASSUMING OPERATIONS CENTER — H SMITH

0615 STARTED PRE-JOB BRIEFING AND SHIFT TURN-OVER

0645 PRE-JOB COMPLETED

0724 ~~06~~ 11/14/13 HS MODE CHANGE DECREASE TO WARM STANDBY IN TA50-69 AND TA50-194/75 FACILITY.

0817 PERMISSION GRANTED TO BEGIN SHIPMENT OF WASTE OUT OF WCRR TO AREA G.

0842 SHIPMENT OUT OF WCRR COMPLETED, VEHICLE ACCESS GATE RESTORED

0849 MAINTENANCE ENTERING BUILDING TO REPAIR LIGHT FIXTURES IN GLOVEBOX

0941 MAINTENANCE CHECKED AND REPORTED LIGHT SWITCH WAS IN THE OFF POSITION, BUT WILL INSTALL NEW LAMPS

1011 MAINTENANCE EXIT BUILDING WORK COMPLETED.

1010 HS ~~1018~~ 11-13-13 OPERATORS ENTER TO BEGIN PROCESSING

1040 INSTALLED CAUTION TAG ON ROTO-GRIP DUE TO STATIC SPARKS DURING OPERATION

1218 BAGGING OFF 1 DAUGHTER, DENESTING, BAGGING ON 5845072

1315 OPERATOR NOTIFIED ~~HS~~ HS 11-14-13 OPS CENTER, HOT SPOT FOUND ON DRUM DURING BAG ON, WHICH WAS CONTAINED BY RCT.

1318 BAG ON - BAG OFF COMPLETE

1325 MODE CHANGE TA50-69 AND TA50-194/75 FACILITY IN WARM ~~B~~ HS 11-14-13 MODE

1326 MAINTENANCE CRAFTS ENTER BUILDING TO WORK ON ROTO-GRIP.

1343 OPERATORS EXITING BUILDING ACTIVATED PCM ALARM.

1343 CRAFTS EXIT DID NOT ENTER DUE TO CONTAMINATION

1344 TECH 40 AND I.H. ALSO TECH 36 HAD CONTAMINATION ON HIS BOOT, FIXED CONTAMINATION FOUND ON BOX ON PARENT DRUM, WHICH WAS TAPED TO CONTAIN AND OVERPACK, RCT CONDUCTING WHOLE ~~ROME~~ 11/14/13 HS ROOM

CONTINUED ON NEXT PAGE - H SMITH —

11-13-13 DAYSHIFT

0616 Received the shift turnover checklist and assumed the CCAR Scan position [illegible]

0618 Completed attending the pre-job brief conducted by the SOS (Clarissa) The safety topic was to stay focused and think thru the steps. There is one transfer scheduled out. Operators mentioned that the rotor group is seen to generate a static spark. The SOS reminded operators of the two shift orders in effect. Discussion focused on lead windows and where the ¼ in steel was placed. Noted Station 2 was taped with lead ~3 inches top of window - No shine identified by the RCTs. The ½" steel plate was placed on station 5 outside. The SOS will evaluate using ¼" steel on station 6 IMS13 [illegible] During bag offs the steel will be required to be removed so that operators can see what items may be loaded (RCGs). RCTs are required to be present when shielding is removed and replaced. Notification made to OM on static electricity.

0710 Completed daily phone call updating Plan of Day status for WCREF

0800 Performance to inspect TRU drums in the transportainer.

0803 Operators initiate Bag off of Daughter, HDC, and Bag on of Parent 55 5 3324

0817 RCTs inform operating center of red Beacon light in Rm 104 not working smell of faint smoke noted, RCT kept switch off, and RCTs posted doors with battery operated units on doors.

0830 Further evaluation identifies the strobe/horn/globe cam off spindle in Rm 104. An FSR was submitted for repair.

0837 Bag off and Bag on was completed, however RCTs note there were elevated cons, RCTs will allow cam to cycle, the CAM was A-3, noted on 11 DAC hour

0840 RP-1 reports 1 high density glove in [illegible] drawer due to shedding, also the cutter was thrown away, additional surveys are in progress.

0922 RCT reports a pinhole of work due to the use of cutters. Notification is made to the CM. The SOS requested personnel to exit Sealed and regroup in the break trailer.

0940 RP-1 reports all surveys (post) were NDA, and CAM was normal. The cutters were noted between 10K and 20K - which were tossed, new cutters will be provided.

1030 Completed Safety pause to discuss contamination control and proper techniques of bag offs/ bag outs and the positioning of the cutting tool and after the cut, what to do with the cutter, wiping the blade and placement of cutter and waste. The message was, expect the unexpected, be slow, meticulous and ensure proper steps and techniques when making cuts to control contamination. Operators are to work and

(Continued on Next Page)

11-13-13 DAYSHIFT continued

listen to RCTs and if questions arise ask prior to proceeding. It was noted, that the operator cutting the pigtail of the daughter drum, performed a double cut. He thought the 1st cut was all the way through, but it was not. Also, operators were holding the pigtail at a good/normal distance to initiate the second cut.

1030 Operators and SDS performed cold/mockup pigtail cuts in the break trailer with RCTs present. Upon completion of practice, all personnel were on the same page/thought and all were pleasant, including RCTs were satisfied to continue operations. During mockup, proper PPE was used.

1108 Operators initiate entrance into 50/69 to continue operating.

1226 Participated in the morn phone call with PM, OM, SDS and others

1235 Outside operators completed a movement of 11 drums from 50/69 to the transportainers.

1315 Discussed shift orders with SDS and ES/FM to incorporate mechanical means and two person rule for removal of drums from the red lift table. The procedure writer was contacted and will initiate changes in current draft for review.

1325 Inside Operators rep at bagging off daughter, bagging on mother and continue to process.

1336 Bag on and bagoff noted complete

1400 Obtained an update from the RCT that he had inside operators leave the 1/4 inch stainless steel plate on station 5 outside and added another 1/4 inch stainless steel plate to station 2 - per RCTs, station 2 was shielded with lead glass and tape (lead) - additional SS plate was added for extra precaution.

1629 Operations Center Operator reports two operators exiting 50/69 due to excessive sweating. They will change modesty's rehydrate and re enter.

1710 Inside Operators initiate bagoff of 1 daughter, bag on another daughter, denest prep, then bag on Parent S 8944669.

1807 Operations completed the denest and bag ons -

1811 Relieved by Rattell John Geordanek

Dr. Fulton initiates this page

11/13/13 Night Shift.

1811 Reviewed shift turnover checklist, approved and posted the nightshift operations watchbill. Assumed WCRR SOM position.

1845 Pre job brief conducted by SOS is concluded. IH safety topic was today's start safe message of hand injuries - primary discussion of glove selection/use. Talked about lessons learned of todays bag out during day shift. Stressed operators to slow down and if a mistake happens to stop and evaluate. Discussed the problems inventory control is having w/ WCATS and to ensure prepped empties are completed in WCATS prior to moving into 50-69. Discussed issue w/ Beacon Light for HSEA posting. Briefed the active shift orders.

2130 Completed bag off of 1 daughter - continuing to process.

2252 Operators moved in 2 drums from transportainer to 50-69 for processing.

11/14/13 0000 Completed all bag offs for parent # 844689 (2 daughters total). Port cover placed on WCG. Operators will denest and bag on after lunch.

0010 operators breaking for lunch.

0137 Resuming operations.

0252 Completed denesting 5832144 and bagged on WCG.

0415 SOS reported that light on the WCG @ stations 3 & 8 has burned out resulting in poor visibility. Directed to have FSR submitted and continue processing that waste which is ready to be bagged off and then place in safe configuration.

0420 FSR is submitted for WCG light - # 114298.

0450 Reviewed both inside and outside rounds.

0510 Completed bag off of 1 daughter and 1 POC.

0536 Completed move out of 3 drums from 50-69 to transportainer

11/14/13 0604 Relieved by J. Gundagnoli as SOM.

No further entries this page
MA

11-14-13 DAYSHIFT

0610 Reviewed the shift turnover checklist and assumed the SOM position from [illegible]

0640 Completed attending the pre-job brief conducted by (Clarissa) the SOS. The safety topic was ladder safety and fall clean up. There is one transfer scheduled out and one scheduled in from AREA-G WCG light burned out above/on top of the WCG. Notification was made to the OM requesting electrical support. The RCT provided updates from attending the monthly glovebox safety meeting. The current shift orders were briefed. Manual drum movements and Precautions to prevent bag tears.

0715 Complete the daily plan of the day phone call with AREA G.

0724 Mode Change: 50/69 and Yard transition from Operations/Operations to Winter/Winter

0800 PAT arrives to inspect drums and initiate transfer out to AREA G

0845 The transfer out is completed and personnel were observed wearing proper PPE. A total of 10 drums were transfered.

0850 Crafts arrive at WCRRF to replace the WCG light bulb/Relamp. WO# 479036-01 - 50-69 Relamp light above GB was reviewed and approved to conduct work. Crafts are briefed on RWP.

0955 Crafts exit the facility relamp WCG and evaluate Roto Grip. Crafts recommend caution tag the roto grip until the package is ready to work - based upon static on spark. Notification was made to the SOM.

1000 Mode Change: 50-69 and Yard transition from WARM/WARM to Operations/Operations

1040 OCC/SOM initiate caution tag 50-13-0026 was placed on the Roto Grip

1218 Inside operators initiate bag off of 1 drum later, and bag on of Parent drum 5845072

1235 Completed the daily noon Facility status report with PM/OM/SOM and Others.

1305 Crafts arrive to work on Roto Grip. RWP brief initiated by RCTs

1307 Reviewed WO# 00479050-01 - Verify no stray voltage

1318 Inside Operations complete the bag off and bag on of Parent 5845072

1325 Mode Change: 50/69 and Yard transition from Operations/Operations to Warm/WARM

1326 Crafts enter facility to work on the Roto Grip while Operators exit for lunch.

1343 Notification was made by RP-1 that an operator on ES IM were identified with contamination on the respirators - nasal smears will be taken as precautionary. One technician was exiting the PUM-2 when it alarmed noting contamination on the boot. RP-1 initiated smears on the room to contain. RP-1 will report levels when he obtains them.

(Continued on Next Page)

11-12-13
0600 Incoming 100RPF SOS position - Orlando
0615 Conducted pre job briefing, discussed safety and following procedures
0638 Pre job has been concluded.
0705 Operators entering 50.49 to continue processing.
0804 starting movement to transport rebaled pan over to shipment
0808 Bagging off 1 daughter, 1 POC, bagging on 9853-2 [illegible]
0811 notified by RCT that the Red Beacon light is high Bay area is orange is coming out from it.
0820 Beacon light issue has been resolved.
0831 Bag on, Bag off completed. elevated area
0911 Darks are back in range operators are not off respirator
0915 Vehicle access areas have been restored. Shipment to area G is complete.
0916 RCT calling a stop work pause work due to contamination from bag off out
0918 RCT's reporting 500 dpm on high dusting gloves RCTs performing surveys
0931 All workers HDA and operators are taking a break RCT to discuss minor issue
0940 Operators have discussed what went wrong with bag out and ways improvements can be made to avoid future issues. ES production manager and HS discussed safety and following procedures.
1030 SOS and operators performing demonstration on rotary ~~[illegible]~~ 0.13 hrs total
1100 Operators entering 50.49 to continue processing
1230 ~~[illegible]~~ Starting movement out of 50.49
1302 movement completed into 50.49
1321 Operators out from tunnel
1325 Operators entering 50.49 to continue processing
1505 Bagging off 1 daughter, Bagging on 1 daughter
1529 Bag on complete
1/14 1615 LUNCH Starting inside rounds.
1625 Brief pause RCT's reporting some operators entering 50.49 due to sweating ~~[illegible]~~ under PPE
1635 Starting outside rounds
1636 Inside rounds complete
1644 Outside rounds complete
1650 Operators continuing to process
1700 Rounds signed off by SOS
1705 Bagging off 1 daughter, Denoting then bagging on 5844-0654
- Continued on next page attached

# WCRRF SOS Log Book

11/13/13
1812 Assuming SOS position. CA
1821 Starting Pre-Job with turnover from day shift. Discussed hand injury prevention and ensuring you have the proper PPE.
1845 Pre-Job complete.
2119 Bagging off 1st daughter, bagging on a 2nd.
2130 ~~Bagging~~ cm 11-14-13 Bag off/on complete.
2242 Starting movement into 50-69.
2252 Movement in complete.
2305 Starting movement out of 50-69.
2315 Movement out complete.
2336 Bagging off 2nd daughter to complete processing of parent drum, will denest after lunch.
0000 Bag off complete.
0218 Starting to denest then bag on 5832144.
0252 Denesting and ~~start~~ cm 11-14-13 bag on complete.
0415 Minor issue lights above station 5 and 6 has gone out. Operators will bag off material in WCG, place lid back on parent drum, and prepare for maintenance.
0420 FSR#114298 has been submitted.
0436 Bagging off first daughter and 1 maybe 2 POC's, bagging ~~off~~ cm 11-14-13 on 2nd daughter.
0439 Signed off on the rounds.
0510 Bag off/on complete, was just 1 POC.
0522 Starting movement out of 50-69.
0536 Movement out complete.
11/14/13 0606 Turning over SOS position to Clarissa Velarde. CA

PROJECT NAME _____ NOTEBOOK NO. _____

0607 Assuming WCRRF SDS position - CRelade
0615 Pre job being conducted, discussed why respirators have to stay on till rem levels are checked, PPE inside SD-69 and Rem levels, also discussed TSE's administrative controls surveillances and prior ta's.
0645 Pre job concluded
0724 Mode change performed TASD-69 and WCRRF yard now in warm standby for electricians to trouble shoot lights on glovebox.
0935 minor issues resolved with lights on WCG, electricians notified that light switch was switched off that was reason for light outage. Electrians will still change out bulbs since they are here.
1000 Mode change performed TASD-69 and WCRRF yard now in operations.
1004 Operators entering SD-69 to continue processing.
1217 Operators bagging off, denesting and bagging on 3845072
1318 Bag on, bag off complete.
1344 notified by RCT while operators were performing panel bag off 1000 dpm of contamination was found near bolt on the bag. contamination was contained while performing respirators smears 2 respirators reading high on omnis, Tech 40 and 1H, PCM alarm tech #36 with contamination on left Boot. RCT's and lighting room maintenance here to work on vissa light will not be able to enter building. RCT, Admin will perform room surveys and precautionary nasal smears.
1400 RCT notified that Tech 40 respirator reading at 32 dpm and 48 alpha, 1H reading at 5.4 dpm and 18.4 beta, PCM on Tech #36 has cleared PCM and whole body PASK with no contamination, 2000 dpm was found on slide and will need to be discarded. RCTs will perform 200 smears inside room 102.
1425 RCTs have notified that drill used for bagging off will need to be discarded reading at 2120 dpm.
1430 late entry, SOM, SDS, ES OM have been notified and we are still within RWP's. 1346 - CRelade
1433 late entry mode change performed TASD-69 and WCRRF yard in warm standby for ~~light~~ RCT light repair @ 11-14-13 1325 CR
1514 ~~nasals from HPAL~~ @ 11-14-13 Results on nasals from HPAL are HDA. RCTs notified OPS center that a small area on the floor is at 152 dpm alpha.
1535 outside rounds completed.
1649 per RCT's all smears are HDA, maintenance entering - continued on next page - CRelade

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0130 |
| Examination Date: | 11/19/2013 |
| Waste Container ID: | 68508 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0130 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 180.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 35.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 68508

**Section 3: Container Inventory and Comments** (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM:

OR:

IN: Homogeneous solids

S:

**Section 4: Packaging Material and Waste Material Parameters**

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 35.4 |
| Soils (S): | |
| Total WMP Weight: | 35.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68508

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Benito Maestas | | 11/19/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68508 | Count Sequence Number: | 23888 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/21/2013 2:34:27 PM | | |
| Description 1: | 1LANDA1869 | | |
| Description 2: | POC 180.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 35.4 kg | Net: | 35.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.773 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23888 | Batch Number: | 1LANDA1869 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68508 | Analysis Date: | 11/21/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 35400.0 g | | | |
| Pu mass | 3.79E+001 | +- | 1.47E+001 | g |
| TRU Alpha Activity | 7.71E+000 | +- | 3.53E+000 | Ci |
| TRU Activity Concentration | 2.18E+005 | +- | 9.98E+004 | nCi/g |
| Pu-239 Equivalent Activity | 7.79E+000 | +- | 3.53E+000 | Ci |
| Pu-239 FGE | 3.58E+001 | +- | 1.46E+001 | g |
| Decay heat | 2.51E-001 | +- | 1.17E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.52E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.37E-006 |
| NP237 | 8.38E-002 | 5.91E-005 | 1.16E-005 | 3.45E-006 |
| PU238 | 3.47E-003 | 5.93E-002 | 2.55E-002 | 9.24E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.59E-005 |
| PU239 | 3.56E+001 | 2.21E+000 | 9.06E-001 | 3.44E-002 |
| PU240 | 2.28E+000 | 5.17E-001 | 2.24E-001 | 8.05E-003 |
| AM241 | 1.44E+000 | 4.92E+000 | 3.41E+000 | 1.65E-001 |
| PU241 | 4.35E-002 | 4.48E+000 | 1.94E+000 | 6.98E-002 |
| PU242 | 7.60E-003 | 3.00E-005 | 1.30E-005 | 0.00E+000 |
| AM243 | 2.62E-003 | 5.23E-004 | 1.04E-004 | 1.05E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/26/13

ITR: _____ Date: 11.27.13

## Automated Independent Technical Review

Count Sequence Number: 23888
Batch Number: 1LANDA1869
Counter ID: MCS HENC #1
Container ID: 68508
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 11/21/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlin Date: 11-26-13

Waste Container ID: **68508**

BDR Number: **LA13FG2130**

Sampling Date: **12/18/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 1096.93 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131218c\
Data File : 68508.D
Acq On : 18 Dec 2013 2:44 pm (#1); 18-Dec-13, 14:43:24 (#2)
Operator : EL
Sample :
Misc : POC Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 18 14:52:12 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.542 | 96 | 3323961 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 2638697 | 177.50 | ppmv | -0.01 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.619 | GC1 | 8248m | 1096.93 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0130 |
| Examination Date: | 11/19/2013 |
| Waste Container ID: | 68626 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0130 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 57.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 23.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 30 % |

# CCP Radiography Data Sheet



Waste Container ID: 68626

**Section 3: Container Inventory and Comments** (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

**Section 4: Packaging Material and Waste Material Parameters**

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 5.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 18.6 |
| Soils (S): | |
| Total WMP Weight: | 23.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68626

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Benito Maestas | [signature] | 11/19/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68626 | Count Sequence Number: | 23889 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/21/2013 3:22:19 PM | | |
| Description 1: | 1LANDA1869 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 23.6 kg | Net: | 23.6 kg |
| Container: | Volume: 208.0 l | Full: | 30.0 % |
| Density: | 0.380 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23889 | Batch Number: | 1LANDA1869 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68626 | Analysis Date: | 11/21/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 23600.0 g | | |
| Pu mass | 6.03E+000 | +- | 3.23E+000 g |
| TRU Alpha Activity | 1.88E+000 | +- | 2.83E-001 Ci |
| TRU Activity Concentration | 7.96E+004 | +- | 1.20E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.89E+000 | +- | 2.83E-001 Ci |
| Pu-239 FGE | 5.69E+000 | +- | 3.22E+000 g |
| Decay heat | 6.15E-002 | +- | 9.10E-003 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 5.88E-009 | 8.11E-007 | 3.36E-007 | 0.00E+000 |
| CS137 | 9.33E-009 | 8.11E-007 | 3.36E-007 | 3.32E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.82E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 8.31E-007 |
| NP237 | 3.08E-002 | 2.17E-005 | 2.88E-006 | 1.23E-006 |
| PU238 | 5.51E-004 | 9.42E-003 | 5.49E-003 | 3.32E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 7.31E-006 |
| PU239 | 5.66E+000 | 3.51E-001 | 2.00E-001 | 1.24E-002 |
| PU240 | 3.62E-001 | 8.22E-002 | 4.82E-002 | 2.90E-003 |
| AM241 | 4.19E-001 | 1.44E+000 | 1.95E-001 | 5.87E-002 |
| PU241 | 6.91E-003 | 7.12E-001 | 4.17E-001 | 2.51E-002 |
| PU242 | 1.21E-003 | 4.77E-006 | 2.80E-006 | 0.00E+000 |
| AM243 | 7.35E-004 | 1.47E-004 | 1.97E-005 | 3.85E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/26/13

ITR: _____ Date: 11.27.13

## Automated Independent Technical Review

Count Sequence Number: 23889 Batch Number: 1LANDA1869
Counter ID: MCS HENC #1
Container ID: 68626
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/21/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| No Warnings Reported. | |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Results are marked as invalid. | |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 11-26-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68626**

BDR Number: **LA13FG2121**

Sampling Date: **11/27/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131127C\
Data File : 68626.D
Acq On : 27 Nov 2013 10:17 am (#1); 27-Nov-13, 10:17:14 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 27 10:26:07 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.578 | 96 | 4330798 | 205.75 | ppmv | 0.06 |
| 15) Chlorobenzene-d5 | 5.878 | 117 | 3358609 | 177.50 | ppmv | 0.02 |

| Target Compounds | Qvalue |
|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0130 |
| Examination Date: | 11/19/2013 |
| Waste Container ID: | 68651 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0130 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 181.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 147.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68651

| Section 3: Container Inventory and Comments | (Detailed descriptions) |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Leather gloves, tape roll |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 7.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 1.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 135.6 |
| Soils (S): | |
| Total WMP Weight: | 147.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68651

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Benito Maestas | | 11/19/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68651 | Count Sequence Number: | 23887 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/21/2013 1:50:06 PM | | |
| Description 1: | 1LANDA1869 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 148.0 kg | Net: | 148.0 kg |
| Container: | Volume: 208.0 l | Full: | 85.0 % |
| Density: | 0.840 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23887 | Batch Number: | 1LANDA1869 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68651 | Analysis Date: | 11/21/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 148000.0 g | | |
| Pu mass | 7.94E+001 | +- | 2.84E+001 g |
| TRU Alpha Activity | 1.36E+001 | +- | 2.42E+000 Ci |
| TRU Activity Concentration | 9.17E+004 | +- | 1.64E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.37E+001 | +- | 2.42E+000 Ci |
| Pu-239 FGE | 7.49E+001 | +- | 2.83E+001 g |
| Decay heat | 4.39E-001 | +- | 7.77E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 2.17E-008 | 3.00E-006 | 1.67E-006 | 0.00E+000 |
| CS137 | 3.45E-008 | 3.00E-006 | 1.67E-006 | 1.26E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.32E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 4.03E-006 |
| NP237 | 1.59E-001 | 1.12E-004 | 2.32E-005 | 6.33E-006 |
| PU238 | 7.25E-003 | 1.24E-001 | 4.97E-002 | 2.88E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.74E-005 |
| PU239 | 7.45E+001 | 4.62E+000 | 1.75E+000 | 1.07E-001 |
| PU240 | 4.76E+000 | 1.08E+000 | 4.38E-001 | 2.51E-002 |
| AM241 | 2.26E+000 | 7.75E+000 | 1.61E+000 | 2.87E-001 |
| PU241 | 9.09E-002 | 9.37E+000 | 3.80E+000 | 2.17E-001 |
| PU242 | 1.59E-002 | 6.28E-005 | 2.54E-005 | 0.00E+000 |
| CM243 | 1.24E-005 | 6.10E-004 | 1.30E-004 | 2.99E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/26/13

ITR: _____ Date: 11-27-13

## Automated Independent Technical Review

Count Sequence Number: 23887 Batch Number: 1LANDA1869
Counter ID: MCS HENC #1
Container ID: 68651
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/21/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlin Date: 11-26-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68651**

BDR Number: **LA13FG2121**

Sampling Date: **11/27/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 216.78 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131127C\
Data File : 68651.D
Acq On : 27 Nov 2013 11:02 am (#1); 27-Nov-13, 11:01:44 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 27 11:13:53 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.552 | 96 | 4045787 | 205.75 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.858 | 117 | 3189791 | 177.50 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.618 | GC1 | 1630 | 216.78 ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S832145

**S832145**

Container 760960

File Options Reports Help

# S832145

| 760960 | TBD-TRU | T-TTRU-TEMP | Active | Decommissioned |
|---|---|---|---|---|

- General Information
- Weights/Volumes
- Location
- Account Information
- Waste Material Parameters
- Layers of Confinement
- Prohibited Items
- EPA Codes
- UHC
- Radioassay
- Radiological Survey
- Payload Preparation
- Container Closure
- Materials Added
- TRU Information
- TRU Information (TSDF)
- Radiological Calculations
- Shipping Description
- Site Treatment Plan
- Pending Tasks
- Genealogy
- Container Tags
- Task History
- Documentation
- Comment Log
- Edit Log

## Genealogy

S832145

- S832145
  - LA00000068312
    - LASB02092
  - LA00000068329
    - LASB02098
  - LA00000068362 – EMPTY

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET** 9/13

4.1[6][B] Parent Waste Container No.: S882145

6.2[4] Date Processed: 9-9-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-11-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brandon Chavez / [signature] 1204721 9-9-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S832145

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 407.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 407.0 lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A
FWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S832145

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68312 | 68329 | | |
| 10.1[4] | Daughter Drum Filter No. | KL-647 | KL-436 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6689 | L-6780 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 1-13 | 1-13 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No. | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | N/A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 1 gal | N/A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | Lead | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | see comments | see comments | N/A | |
| 10.3[13]/10.4[10]/10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 95% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | plastic | plastic | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S832145

Comments: plastic, Lead, Nitrate Salts, Lithium Liters, PH-2

11.1[1] Performed By: Brandon Chavez [signature] 149785 / 9-9-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilth [signature] 149275 / 9-9-13 1600
SOS or designee (print) Signature Z # Date Time

**ATTACHMENT 2**
Page 1 of 1

6-28-13

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501323
Lot No.: 0238025
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100214 | 0388169 |
| Cal. Expiration Date: | 12.18.13 | 12.18.13 |
| Tolerance: | ~~40-200~~ 18/cw to/cw GE 9.9.13 | ~~[illegible]~~ 54/cw to/cw GE 9.9.13 |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL-1943
Manufacture Date: 10-11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5.[11] Performed By Gerald Espinoza [signature] 1237720 6-28-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Gerald Espinoza [signature] 1237720 6-28-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Jose Jerez [signature] 1221451 9-9-13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

9-9-13 ω

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68362

7.[23] Overpack drum closure ring torque wrench information:

M&TE No.: 038373
Cal. Expiration Date: 9/1/13
Range in ft-lb: 10-80
Tolerance: ±3%cw ±6%occw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] 1204742 9-9-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 018065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 163.6 lb

Comments:

8.1[1] Performed By: Brandon Chavez / [signature] 1204742 9-9-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gark [signature] 149235 9-9-13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 68312

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 801321
Lot #: 02537720
Date of Manufacture: 2013

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CMC 1.5 25 PVC
Serial #: L-36689
Date of Manufacture: 1-13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Nutil
Model #: 019025
Serial #: KL-687
Date of Manufacture: 11-11

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 100716
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 110 - 600
Tolerance: +/- 4% low +/- 6% low

Jam Nut / Bung torque wrench:
M&TE ID #: 078369
Cal Expiration Date: 12-16-13
Range (ft-lbs or in-lbs): 10 - 80
Tolerance: +/- 3% low +/- 6% low

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: JAN MARQUEZ Signature: [signature] ZI#: 276708

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 76.0
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: JAN MARQUEZ Operator Sign: [signature] ZI#: 276708 Date: 8-27-13

Verifier Print: Brandon Chacez Verifier Sign: [signature] ZI#: 204742 Date: 9-9-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 68312

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 088373

Cal expiration date: 8-1-13

Range/ Value (ft-lbs): 10-80

Tolerance ± 3%CW ± 6%CCW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 2736

Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR

Operator Print/Sign: Brandon Chavez Date 8-8-13

Verifier Print/Sign: Joe Quintana Joe Q Date: 8/9/13

8-27-13 ar

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 68329

**1. Drum/Lid Assembly**

- [x] Remove and discard ¾" bung from lid
- [x] Remove Lid
- [x] Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501321
Lot #: 0237720
Date of Manufacture: 13

**2. Drum Liner Bag/Filter Assembly:**

- [x] Place yellow vinyl tape, with smear centered on tape, over filter
- [x] Fill bag with air from compressed air source
- [x] Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPW 1.5 25PK
Serial #: L-6780
Date of Manufacture: 1/13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- [x] Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: NUCON
Model #: 019DS
Serial #: KL-436
Date of Manufacture: 11/11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 038369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4%cw ±6%ccw | Tolerance: | ±3%cw ±6%ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: MICHAEL MONTOYA Signature: [signature] Z#: 191352

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtight (lbs) 76.0
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: MICHAEL MONTOYA Operator Sign: [signature] Z#: 191352 Date: 8/27/13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 Date: 9-9-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 68329

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions

NOTE: Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut

Record torque wrench information:

MT&E #: 038373

Cal expiration date: 9-11-13

Range/ Value (ft-lbs): 10-50

Tolerance ± 3% CW ± 6% CCW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid

RCRA Label:

✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information: 9-9-13

Gross Weight(lbs): ~~[illegible]~~ 173.8

Scale ID#: 018065

✓ Using a permanent marker, write the gross weight on the drum lid

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR

Operator Print/Sign: [illegible] Date 9-9-13

Verifier Print/Sign: Joe Quintana Date: 9/9/13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S832145 Container Type: 55-GAL Gross Weight (lbs): 419
Inner Seal #: 012004 Filter Prefix: LAVC Filter Serial #: 04243
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 RM 434
Total PE-Ci Activity: 1.30E+01 Equivalent Combustible PE-Ci: 4.87E+00 AM-241 PE-Ci: 1.07E+00
Total Fissile Gram Equivalents: 142.3 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/25/2007 Comment: Liquids, Impenetrable Obj, Liquid Location: 24
Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☑ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D002, D008 & D009 are on the label. A minimum of 1.2 volumes of kitty litter ~~zeolite~~ must be mixed with 1.0 volume of nitrate salts

Performed By: R. W. Jones (Production Control (Print)) Signature: R. W. Jones Z Number: 117434 Date: 12-8-11
SUSAN S. RAMEY Signature: Susan S. Ramey Z Number: 100481 Date: 11/28/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 359 lb. Five items; two heaviest items weigh 79 lb and 104 lb and others range from 6 lb to 43 lb.

Drums w/ nitrate salts may contain undocumented liquids

May require RWP for >1000 and <10000 mrem/hr

Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 12/15/11

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use Hexarmour gloves during processing
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure

Performed By: Vanessa Velard (TRU Remediation Operations (Print)) Signature: [illegible] Z Number: 234079 Date: 1/18/12
Jose Perez Signature: [illegible] Z Number: 221452 Date: 1-7-13

IHS Review Julian Amalbert CSP, No IH Concerns 12/4/12
Robin Shuit RS 272995 1-14-13

## Noncertified TRU Waste Drum Item Information

DrumID: 012004

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-688FB | | 35.680 | NITRATE SALTS | | 52.17 | 52 | 6/11 | G468 |
| 2 | IXFS-689-FD | | 2.730 | NITRATE SALTS | | 6.3 | 53 | 6/11 | G468 |
| 3 | IX6910X28 | | 19.320 | NITRATE SALTS | | 76.53 | 52 | 6/11 | G468 |
| 4 | IXFS-693-LB | | 12.740 | NITRATE SALTS | | 2.56 | 52 | 6/11 | G468 |
| 5 | IXFS-690-FA | | 47.280 | NITRATE SALTS | | 63.70 | 52 | 6/11 | G468 |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 190.

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 149.00 | 113.02 |
| 53 | 6.3 | 2.73 |
| Totals | 151.39 | 117.75 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 1/17/12

| Container No. (5.[1]) | 602044 | 604631 | 5832145 | 5833481 | | |
|---|---|---|---|---|---|---|
| Filtered Vent Type (5.[1]) | 19DS | 72 | 72 | 72 | | |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | No Filtered Sample JR 1/18/12 ppm | No Filtered Sample JR 1/18/12 ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | Ø ppm | Ø ppm | 462.19 ppm | 2010.10 ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | Ø ppm | Ø ppm | Ø ppm | Ø ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: ERIK LOECHELL / 234183
CCP (Print) / ID

Reviewed By: ERIK LOECHELL / 234183
CCP (Print) / ID

Comments: N/C

5.[8] (S) WCRRF container satisfies the following criteria: ☑ SAT ☐ UNSAT
- Hydrogen [illegible] equal to 3.2% (32,000 ppm)
- VOC [illegible] equal to 7,000 ppm

[illegible] Herrera [illegible] 1/18 [illegible]

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120117c\
Data File : S832145.D
Acq On : 17 Jan 2012 11:36 am (#1); 17-Jan-12, 11:35:27 (#2)
Operator : EL
Sample :
Misc : 55 GALLON LFL FROM UNDER DRUM LID 72 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 17 11:44:16 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.664 | 96 | 4624292 | 209.00 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.973 | 117 | 3737827 | 185.50 ppmv | 0.02 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.618 | GC1 | 3638m | 462.19 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Tue Jan 17 11:44:26 2012

9-9-13 Assuming WCRRF Operations Center - Velarde

0555 ASSUMING WCRRF OPERATIONS CENTER IN TRAINING HSMITH

0600 PRE JOB CONDUCTED BY SDS

0615 PRE JOB CONCLUDED

0650 OUTSIDE ROUNDS STARTED

0655 INSIDE ROUNDS STARTED, OPERATORS ENTERING TA 50-69

0658 ITEM #19 OUTSIDE ROUNDS UNSAT, FSR IN PLACE OKAY TO PROCEED PER CSE DOCUMENTATION

0720 OUTSIDE ROUNDS COMPLETED

0727 ITEM #63 DOS INSIDE ROUNDS, POD IN PLACE OKAY TO PROCEED PER CSE DOCUMENTATION

0735 INSIDE ROUNDS COMPLETE

0744 INSIDE ROUNDS & OUTSIDE ROUNDS SIGNED OFF BY ~~SDS~~ 9/9/13 HS SDS

0758 MODE CHANGE WCRRF & TA50-69 TO OPERATIONS

0800 BEGIN MOVEMENT FROM TA50-175/94 TO TA 50-69

0817 MOVEMENT COMPLETE INTO TA 50-69

0823 BAGGING ON S842213

0835 WILL NOT BAG ON S842213 DUE TO BAG BEING TORN BY DRUMLIFT, WILL BAG ON S832145 9/9/13 HS

9/9/13 HS ~~0834~~ 0943 BAG ON COMPLETE,

1052 OCO VELARDE OFF SITE, OCO CLAYTON MULLINS ASSUMMING OPS CENTER

1113 BAGGING OFF / DAUGHTER, BAGGING ON / DAUGHTER AND CONTINUING ON THE SAME DRUM

1130 OCO CLARISSA VELARDE ASSUMMING OPERATIONS CENTER

1131 BAG OFF COMPLETE

1231 OPERATORS LEAVE BUILDING, BREAK FOR LUNCH

1224 OPERATORS RE-ENTER BUILDING TO PROCESS

1405 BAG OFF, BAG ON #S842213

1439 BAG OFF COMPLETE

1552 STARTED INSIDE ROUNDS

1600 STARTING OUTSIDE ROUNDS

1615 ITEM #19 UNSAT, FSR IN PLACE, OK TO PROCEED ~~FSR IN PLACE~~ 9/9/13 HS

1616 9/9/13 HS ITEM #63 INSIDE ROUNDS ~~DOS~~ 9/9/13 HS UNSAT OK TO PROCEED PER CSE DOCUMENTATION + CONTINUE ON NEXT PAGE HS

9/9/13 CONTINUE FROM PREVIOUS PAGE. H SMITH
1620 COMPLETE OUTSIDE ROUNDS
1624 COMPLETE INSIDE ROUNDS
1656 BAGGING OFF, BAGGING ON POC, CONTINUING ON SAME DRUM
1657 BOTH ROUNDS REVIEWED BY SDS
1710 BAG OFF COMPLETE
1726 BAGGING LAST DRUM OF THE DAY, PUTTING ON PORT COVERS
1753 BAG OFF COMPLETE
1805 OPERATORS EXIT BUILDING TA50-69.
1811 SHIFT TURNOVER WITH OCD TERRI COLEMAN
9-9-13 Reload
1819

no further entries this page

9-9-13 DAYSHIFT

0554 Reviewed the shift turnover checklist and assumed the SOM position John Guadagnoli

0638 Completed attending the pre-job brief conducted by the SOS (Gilbert) - The safety topic was Highway Safety driving and speed limits. Roles and responsibilities were assigned - It was noted that 20 drums are scheduled to transfer to AREA 6. The monthly valve alignment 4124 is scheduled for 9-10-13. The SOM reminded the operators that there are two Shift Orders in effect. WCRR SH-13-003 R2 Manual Drum Movements and WCRR SH-13-005 R0 Precautions to Prevent Bag Tears.

0705 Completed the daily PSD call in with AREA 6 - SOM

0735 Production Inventory reports that WCATS is not recording accumulation start dates, Cost Codes or ship categories in TWSRs for transfers. WCATS Techs have been notified.

0748 All rounds inside and out were completed and reviewed.

0758 Mode Change: 50/69 and yard transition Cold/Warm to Operations/Operations

0817 The movement into 50/69 was completed 4 parent drums -

0835 The transfer scheduled from WCRR to AREA 6 was cancelled due to the TWSRs not having all information recorded in WCATS. Also the transfer coming up from AREA 6 - scheduled for tomorrow is noted to not have all the radiological data in WCATS. Technicians/RP-1 or P4-T may have to perform this function. The OM was notified.

0917 Completed review and sign off of work package 448096-1 Load Test the Versa Lift in the APCRC

0943 The 1st bag on was completed, after prepping the drum was 3832145

1015 Confirmed with production inventory that TWSRs will be corrected with WCATS support and the transfer out is expected to be conducted

1127 Completed review with the procedure writer - review of DOP-0202. The Shift Orders will be incorporated, and the standing order #117 will be cancelled - Dei Inventory of 50/69 using FRY - to be cancelled

1130 Operations inside reported completion of "Bag off" of one daughter and bag on another and continued to process.

1220 Completed daily phone call update to OM, SOM, PM.

1326 Discussed with Jack and CSE lead window placement on exterior of the WCR - (small windows) and utilization of Safety tempered glass on the inside of the pressure (WCR). The CSE (Art)

(Continued on next page)

9-9-13 Dayshift (Continued)

1326 (cont.) requested photos taken with clips (if available) of the small windows and large windows of the WCG. Notification of the request was made to the on-duty SOS (Gilbert).

1405 Inside Operations report bagging off and bagging on 5842213

1558 Operations initiated bag on and bag off of a daughter drum and will continue to process.

1656 Operations initiate Bag off and Bag On of PCC and continue.

1710 Bag on complete - continue to process.

1728 Operations initiated final bag off of PCC and will place the port covers onto the WCG.

1750 Per discussion with Production Inventory all TASKs are up to date and the transfer from WCPR to AREA-6 is scheduled to perform. Operations will need to verify Red label information is entered into the WCATS prior to the transfer from AREA6 to WCPR.

1753 Bag offs and port was installed noted - completed.

1807 Conducted shift checklist and discussed facility updates

1812 Secured the dayshift SOM position

No further Entries this page

9-9-13 WCRK SOS LOG BOOK

0600 Assuming SOS Position [illegible]
0015 Conducted shift Brief Discussed Vehicle SAFETY Also Discussed Call ins And there will only be 2 persons on vaction at one time. All Call in's will be taken by ES Cm Darrel Blain
0700 Shift brief complete
0747 Sighned off Inside and outside Rounds.
0748 Operator notified Cannot Perform Scale verification due to not having ~~counts~~ weights
0754 Weight were Pushed In one weight did not have tag had to Find another to complete verification.
0815 Weight was Found And moved in. [illegible]
0816 ~~0758~~ late entrie made change Complete WCRKF In operations. 0758 [illegible]
late entrie Started Move Into facility 0800 [illegible]
0817 Movement Complete Into 50-69.
0833 bagging on 5842213
0835 operators noted not bagging on 5842213 will bag on 5832145
0943 bag on complete
1052 OCO Clarissa Velarde Leaving temporarly OCO Clayton Mullins will stand watch
1113 bagging off / daughter Bagging on Another Hind Continuing
1130 OCO Clarissa Velarde is back
1131 bag off complete
1230 breaking for Lunch
1226 operators reentering facility
1405 Bag off / on 5842213
1439 bag off / on Complete
1552 started Rounds
1656 bagging off / on a FOL Continuing Down
1657 reviewed Inside and outside Rounds
1710 Bag off Complete
1726 Bagging off last grain filling on Port cover.
1755 Bag off Complete.
1810 Shift turn over with JOSE Jerez [illegible]

no Further entries on this page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0101 |
| Examination Date: | 9/17/2013 |
| Waste Container ID: | 68312 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0101 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 124.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 90.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 70 % |

# CCP Radiography Data Sheet



Waste Container ID: 68312

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, 90 mil liner lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 82.6 |
| Soils (S): | |
| Total WMP Weight: | 90.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68312

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons | | 9/17/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68312 | Count Sequence Number: | 16521 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 9/18/2013 2:35:49 PM | | |
| Description 1: | 2LANDA1225 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 90.6 kg | Net: | 90.6 kg |
| Container: | Volume: 208.0 l | Full: | 70.0 % |
| Density: | 0.620 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16521 | Batch Number: | 2LANDA1225 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68312 | Analysis Date: | 9/18/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 90600.0 g | | |
| Pu mass | 2.13E+001 | +- | 3.96E+000 g |
| TRU Alpha Activity | 3.47E+000 | +- | 1.01E+000 Ci |
| TRU Activity Concentration | 3.83E+004 | +- | 1.12E+004 nCi/g |
| Pu-239 Equivalent Activity | 3.52E+000 | +- | 1.01E+000 Ci |
| Pu-239 FGE | 2.01E+001 | +- | 3.95E+000 g |
| Decay heat | 1.12E-001 | +- | 3.36E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.86E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.65E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.54E-006 |
| NP237 | 4.57E-002 | 3.26E-005 | 5.61E-006 | 1.21E-006 |
| PU238 | 5.78E-003 | 1.00E-001 | 4.15E-002 | 1.52E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.00E-005 |
| PU239 | 2.00E+001 | 1.26E+000 | 2.48E-001 | 1.90E-002 |
| PU240 | 1.30E+000 | 2.98E-001 | 6.03E-002 | 4.52E-003 |
| AM241 | 5.23E-001 | 1.81E+000 | 9.77E-001 | 3.85E-002 |
| PU241 | 3.18E-002 | 3.30E+000 | 6.59E-001 | 5.01E-002 |
| PU242 | 2.11E-002 | 8.36E-005 | 2.27E-005 | 0.00E+000 |
| AM243 | 8.50E-004 | 1.72E-004 | 2.96E-005 | 7.06E-006 |
| CM243 | 2.96E-007 | 1.54E-005 | 6.76E-006 | 1.18E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.19.13

ITR: _____ Date: 9-20-13

## Automated Independent Technical Review

Count Sequence Number: 16521
Batch Number: 2LANDA1225
Counter ID: HENC #2
Container ID: 68312
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 9/18/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | OK |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Not data-affecting, gamma results applied. |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | OK |
| No Warnings Reported. | |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis | MGA analysis failed. FRAM results applied. FRAM results attached. |
| Results are marked as invalid. | |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Bart B. Marsh Date: 9/19/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68312**

BDR Number: **LA13FG2102**

Sampling Date: **9/25/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 120.36 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130925C\
Data File : 68312.D
Acq On : 25 Sep 2013 12:12 pm (#1); 25-Sep-13, 12:11:49 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 25 12:20:42 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.591 | 96 | 4880740 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.887 | 117 | 3722129 | 177.50 | ppmv | 0.03 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.614 | GC1 | 905m | 120.36 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

29

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0110 |
| Examination Date: | 9/16/2013 |
| Waste Container ID: | 68329 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0110 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 174.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 140.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68329

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R: Leaded rubber gloves, rubber gloves

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 119.6 |
| Soils (S): | |
| Total WMP Weight: | 140.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68329

| Section 5: RTR Summary<br>(Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Benito Maestas | | 9/16/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68329 | Count Sequence Number: | 23601 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/18/2013 3:21:06 PM | | |
| Description 1: | 1LANDA1843 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 141.0 kg | Net: | 141.0 kg |
| Container: | Volume: 208.0 l | Full: | 85.0 % |
| Density: | 0.800 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23601 | Batch Number: | 1LANDA1843 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68329 | Analysis Date: | 9/18/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 141000.0 g | | |
| Pu mass | 1.62E+002 | +- 5.02E+001 | g |
| TRU Alpha Activity | 1.74E+001 | +- 4.99E+000 | Ci |
| TRU Activity Concentration | 1.24E+005 | +- 3.54E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.78E+001 | +- 4.99E+000 | Ci |
| Pu-239 FGE | 1.53E+002 | +- 5.01E+001 | g |
| Decay heat | 5.55E-001 | +- 1.61E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 8.70E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.04E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.97E-006 |
| NP237 | 1.14E-001 | 8.03E-005 | 1.62E-005 | 4.70E-006 |
| PU238 | 1.48E-002 | 2.53E-001 | 9.09E-002 | 1.71E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.14E-005 |
| PU239 | 1.52E+002 | 9.41E+000 | 3.11E+000 | 6.35E-002 |
| PU240 | 9.88E+000 | 2.24E+000 | 8.05E-001 | 1.51E-002 |
| AM241 | 1.60E+000 | 5.50E+000 | 3.82E+000 | 2.10E-001 |
| PU241 | 1.87E-001 | 1.93E+001 | 6.91E+000 | 1.30E-001 |
| PU242 | 3.24E-002 | 1.28E-004 | 4.60E-005 | 0.00E+000 |
| AM243 | 2.92E-003 | 5.85E-004 | 1.19E-004 | 1.39E-005 |

Errors quoted at 1.000 sigma

Operator: Ann Barton Date: 9/19/13

ITR: Date: 9/20/13

## Automated Independent Technical Review

Count Sequence Number: 23601 Batch Number: 1LANDA1843
Counter ID: MCS HENC #1
Container ID: 68329
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/18/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Pu239 FGE >200g with 2*TMU but <325g. |

Expert Review by: Sheri Chambers Date: 9-19-13

014

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68329**

BDR Number: **LA13FG2102**

Sampling Date: **9/25/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 178.34 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130925C\
Data File : 68329.D
Acq On : 25 Sep 2013 12:45 pm (#1); 25-Sep-13, 12:44:48 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 25 12:53:56 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 3.581 | 96 | 4735981 | 205.75 ppmv | 0.06 |
| 15) Chlorobenzene-d5 | 5.878 | 117 | 3631833 | 177.50 ppmv | 0.02 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.613 | GC1 | 1341m | 178.34 ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed