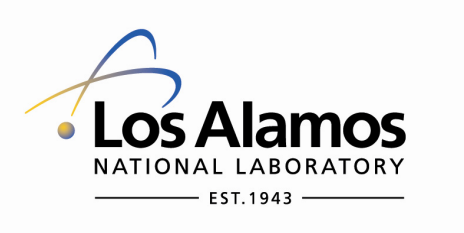
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Investigation/Remediation Report for Material Disposal Area B, Solid Waste Management Unit 21-015



Prepared by the Environmental Programs Directorate

Los Alamos National Laboratory, operated by Los Alamos National Security, LLC, for the U.S. Department of Energy under Contract No. DE-AC52-06NA25396, has prepared this document pursuant to the Compliance Order on Consent, signed March 1, 2005. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory. The U.S. government has rights to use, reproduce, and distribute this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.

EP2011-0226

Investigation/Remediation Report for Material Disposal Area B, Solid Waste Management Unit 21-015

September 2011

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EXECUTIVE SUMMARY

Material Disposal Area B (MDA B) is an inactive subsurface disposal site located in Technical Area 21 at Los Alamos National Laboratory (the Laboratory). From 1944 until it closed in 1948, MDA B received Laboratory wastes that contained both hazardous constituents and radionuclides. The March 2005 Compliance Order on Consent (Consent Order) contains investigation and corrective action requirements for hazardous constituents released from solid waste management units (SWMUs), including the SWMU that comprises MDA B (SWMU 21-015). The investigation/remediation work plan (IRWP), which was submitted in October 2006, proposed complete removal of waste rather than evaluating corrective measures alternatives. The New Mexico Environment Department (NMED) approved the IRWP with modifications in January 2007.

This investigation/remediation report summarizes the results of the preliminary investigations that were performed to support the IRWP, describes the work performed pursuant to the IRWP, and demonstrates that work performed satisfied the following four objectives:

- Objective #1: Characterize types and quantities of waste at MDA B
- Objective #2: Remove and properly dispose of the excavated wastes
- Objective #3: Perform confirmation sampling in the trenches after wastes are removed
- Objective #4: Prepare and implement a post-remediation sampling and analysis plan to define the nature and extent of any residual contamination

Objective #1: Characterize types and quantities of waste at MDA B

Preliminary investigative characterization was performed using geophysical and direct-push technologies (DPT) to define the trench boundaries, estimate waste volumes, and identify probable radiological and chemical contaminants. Once waste excavation activities began, definitive characterization for both chemical and radiological constituents was performed in accordance with the MDA B waste characterization strategy form and sampling and analysis plan (MDA B SAP).

Objective #2: Remove and properly dispose of the excavated wastes

All wastes were removed from the disposal trenches at MDA B and managed in accordance with all applicable regulations. Overburden material, consisting of soil and tuff capping the disposal trenches, was removed before the excavation of waste and contaminated soil. All of the 12,026 yd^3 of excavated overburden material that met the overburden criteria in the MDA B SAP was used as fill during backfilling operations. As required by NMED, overburden used as fill was placed deep in the excavations and was then topped with clean backfill material obtained from an off-site source.

The volume generated of soil mixed with waste that exhibited a hazardous characteristic was far less than originally anticipated. Only one small area of soil mixed with waste was excavated that exceeded the toxicity characteristic leaching procedure (TCLP) limit for cadmium. This waste was managed as low-level mixed waste.

In addition to direct sampling, the waste was visually examined and any potential anomalies were segregated from the bulk waste for further evaluation. Over 500 waste items ranging in size from 20-ml vials to large transformers were segregated, sampled, and managed separately. Substantially less characteristically mixed hazardous waste was generated than was originally estimated due to careful waste segregation practices. As of the date of this report some anomaly waste is still awaiting disposal.

The volume of low-level waste, however, was significantly greater than expected. The original estimate of the total volume of waste was based on the trench dimensions developed using the results of the geophysical investigations and the DPT investigation and a 20% bulking factor. The total volume of waste exceeded the initial forecast by just over 80%. This increase in volume was due to the waste depth in several areas exceeding the maximum estimated trench depth of 15 ft below ground surface (bgs) by an additional 20 ft. In addition, the actual bulking factor was approximately 40%.

At the time of the submission of this report four trench areas remain as open excavations. Plans are in place to backfill these areas with clean fill. All wastes remaining on-site at the time of this submission will be managed in accordance with applicable regulations until they are properly disposed of.

Objective #3: Perform confirmation sampling in the trenches after wastes are removed

The cleanup goal of the IRWP was to achieve residential soil screening levels (SSLs) for hazardous constituents and screening action levels (SALs) for radionuclides, if possible. The scope of the IRWP did not include a risk assessment. A formal risk assessment report that satisfies the requirements in Section XI.E of the Consent Order will be submitted at a later date to support a corrective action complete determination by NMED.

Once all wastes were removed, excavation within each area continued until field screening for radioactive contaminants indicated radionuclide activity levels were below residential SALs or until safety and/or practical limitations of slope lay-back requirements prevented further excavation. A systematic-random sampling design was used to collect a statistically valid number of confirmation samples throughout each trench. A Trimble VX Spatial Station measured the precise location where each confirmation sample was collected.

For hazardous constituents, the first step in the evaluation of the confirmation sampling data was to perform a point-by-point comparison of the hazardous constituent data from the final confirmation samples to the applicable residential SSL. The chemical confirmation data collected at MDA B demonstrates that all sample results are below the individual residential SSLs, except for two concentrations of arsenic. A statistical analysis of the arsenic site data compared to the applicable background data demonstrated that arsenic is not different from background.

For radionuclides, the first step in the evaluation of the confirmation sampling data was to perform a point-by-point comparison of the radionuclide data from the final confirmation samples to the applicable residential SAL. With the exception of one sample, all confirmation samples in the top 10 ft bgs were below residential SALs for radionuclides. This sample, which was located in Enclosure 1, slightly exceeded the residential SAL for plutonium-239/240. However, the 95% UCL for plutonium-239/240 from 0-10 ft bgs is well below the residential SAL. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

DOE is responsible for controlling the radiological clearance of MDA B for any future property transfers and for ensuring that potential radiation exposures to members of the public are as low as is reasonably achievable (ALARA). Final radiological dose assessments (ALARA analyses) that are required for DOE to fulfill the requirements in DOE Order 458.1, “Radiation Protection of the Public and the Environment,” (February 11, 2011) are outside the scope of the Consent Order.

- Objective #4: Prepare and implement a post-remediation sampling and analysis plan to define the nature and extent of any residual contamination

The nature and extent of any residual contamination at MDA B has been defined by results from prior investigations at MDA B, confirmation sample data from MDA B, soil vapor data from MDA V and the

results from the two post-remediation boreholes drilled in July 2011 as part of this IRWP. The prior MDA B investigations include five of the seven angled boreholes installed in October 1998 and the concurrent geophysical investigations. These data demonstrate that the nature and extent of any impact from historic waste disposal activities have been defined and that no contaminants from MDA B wastes have impacted the surrounding environment.

The vertical extent of any residual contamination has been defined, as all concentrations in these angled and vertical boreholes decreased with depth from within the bottom of the excavation and were below residential SSLs and SALs. The confirmation samples from the trench side walls defined the horizontal extent of any residual contamination in the excavation. No hazardous constituents were detected above residential SSLs in the walls of the excavation. Only one concentration of plutonium-239/240 was detected above the residential SAL from 0-10 ft in the wall of the excavation, and it was only slightly above the SAL. Concentrations within the walls were less than what was detected in the waste and decreased as areas were further excavated and sampled.

Soil-vapor data from the investigation of MDA V were also evaluated to confirm that no volatile hazardous constituents had migrated from the historic waste disposal trenches at MDA B. The sampling data collected during the most recent four quarters confirm that there is no evidence of any contaminant contribution from MDA B in the MDA V vapor monitoring wells.

- No perched aquifers or areas of high moisture content were observed during drilling of the borings associated with the MDA B boring network. The low moisture contents observed in these boring samples and the corresponding unsaturated hydraulic conductivity values confirm that MDA B is a dry disposal site.

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1.0 INTRODUCTION

Material Disposal Area (MDA) B is an inactive subsurface disposal site located in Technical Area 21 (TA-21) at Los Alamos National Laboratory (LANL or the Laboratory). From 1944 until it closed in 1948, MDA B received Laboratory wastes that contained both hazardous constituents and radionuclides. The March 2005 Compliance Order on Consent (Consent Order) contains investigation and corrective action requirements for hazardous constituents released from solid waste management units (SWMUs) and areas of concern (AOCs). MDA B was identified as SWMU 21-015 during the 1990 Resource Conservation and Recovery Act (RCRA) facility assessment. The Consent Order therefore contains investigation requirements for MDA B.

In January 2007, the New Mexico Environment Department (NMED) approved the Laboratory's investigation/remediation work plan (IRWP) for MDA B (2006, 095499; NMED 2007, 095475), which proposed complete removal of the waste material at MDA B. This investigation/remediation report (I/R report) describes the results of the work performed pursuant to the IRWP including the investigation of MDA B, the excavation of the buried wastes, and the results of the confirmation sampling and borehole investigation.

1.1 General site information

The Laboratory is a multidisciplinary research facility owned by the U.S. Department of Energy (DOE) and managed by Los Alamos National Security, LLC. The Laboratory is located in north-central New Mexico, approximately 60 mi north of Albuquerque and 20 mi northwest of Santa Fe (Figure 1.1-1). The Laboratory site covers 40 square mi of the Pajarito Plateau, consisting of a series of finger-like mesas separated by deep canyons containing perennial and intermittent streams running from west to east. Mesas on the Pajarito Plateau range in elevation from approximately 6200 to 7800 ft below ground surface (bgs) above sea level.

1.2 Site background

The Laboratory was established in 1943 as a military reservation to develop the first atomic bomb. Based on available evidence, the site that is now known as MDA B was actively used for the disposal of radioactively contaminated wastes from April 1944 to June 1948 (Figure 1.2-1). No construction drawings or original site engineering drawings or plans have been found that show the locations or dimensions of the trenches (LANL 1991, 007529).

Only one other disposal area for radioactively contaminated materials—today's MDA A—was active in the 1945 to 1946 time frame. Any contaminated material disposed of during this time would have gone to either MDA A or MDA B. MDA A is believed to have been closed sometime in 1946, and from then until June 9, 1948, MDA B was the only disposal pit open for radioactive wastes. On June 10, 1948, the first delivery was made to MDA C and MDA B was closed.

Most information about the waste inventory at MDA B comes from reports and memoranda generated by historic Laboratory organizations working at these sites and employee interviews. These sources provide evidence that the management of materials disposed of at MDA B was largely the responsibility of the waste-generation sites. The only site-specific documentation consisted of waste pickup log books that started in 1947. These log books documented the buildings served and the types of materials (e.g., trash, solutions, and chemicals) picked up.

The vast majority of waste disposed of at MDA B was contaminated with residual radioactivity, including routine laboratory waste, glassware, obsolete equipment and wooden laboratory furniture, demolition debris, building materials, clothing, paper, trash, and small amounts of chemicals from the laboratory areas. All waste and trash from the Chemistry and Metallurgy Research (CMR) Division laboratories were considered contaminated trash, and all waste and trash were to be thrown into the "hot" receptacles that were placed in each laboratory. The largest waste contributors may have been the contaminated laundry and building demolition debris as laboratory structures and equipment were upgraded after the war. Non-routine waste would have included materials from spills and accidental releases. No process evidence exists that large volumes of liquid- or solid-waste chemicals were disposed of at MDA B.

The radionuclides used during the time MDA B was active included plutonium, polonium, uranium, americium, curium, radioactive lanthanum, cesium, and actinium. Short-lived radionuclides, such as radioactive lanthanum, are no longer present because of radioactive decay. Most radioactively contaminated waste consisted of disposed laboratory items such as paper, rags, rubber gloves, glassware, and small experimental assemblies, which were placed in cardboard boxes by the waste originator and sealed with masking tape. Additional large waste items included metal debris such as air ducts and large metal apparatus. The latter type of material was typically placed in wooden boxes or wrapped with paper (Meyer 1952, 028154; LANL 1991, 007529; Ferguson et al. 1998, 058212).

After the closure of MDA B in 1948, a fence was constructed around the entire area. In 1966, the U.S. Geological Survey drilled 13 boreholes around the perimeter of MDA B. Results from these boreholes showed no indication of radioactive contamination. Following the drilling of these boreholes, the western two-thirds of MDA B were fenced, compacted, and paved. Some post-closure subsidence was observed, and in 1980 surface stabilization of the eastern end of MDA B was completed. In 1982, a new fence was installed 10 ft out from the old fence, vegetation was removed, and new soil was added, compacted, and seeded. An experimental cap was installed on the eastern end of the site in 1983 to evaluate alternate designs, and soil samples were collected to evaluate shallow contamination.

2.0 INVESTIGATION AND REMEDIATION OBJECTIVES

2.1 Background

Section IV.C.2.d of the Consent Order describes the requirements for the MDA B investigation work plan and the investigation report. The first step in the corrective action process is to perform an investigation to define the nature and extent of contamination at a SWMU or AOC. The next step is typically the performance of a corrective measures evaluation (CME), which is used to evaluate potential remedial alternatives and to develop a recommendation for a preferred remedy that is protective of human health and the environment.

In accordance with Section IV.C.2.d of the Consent Order, the Laboratory submitted the first IRWP for MDA B in March 2006 (LANL 2006, 091860). On August 17, 2006, NMED issued a notice of disapproval (NOD) for this IRWP (NMED 2006, 093536). On October 13, 2006, the Laboratory submitted a response to the NOD (LANL 2006, 160385.319) and the revised IRWP (LANL 2006, 095499). The activities proposed in the revised IRWP included the removal of all buried waste and contaminated soil/tuff above residential soil screening levels (SSLs) for hazardous constituents and screening action levels (SALs) for radionuclides and the investigation of the walls and floor of the trenches to determine the nature and extent of residual contamination. This direct-removal approach, which would not require a CME, was proposed after meetings with NMED.

NMED issued a notice of intent to approve the revised IRWP on November 27, 2006. NMED supported this proposed scope of work because:

- it would remove the source of contamination, making the approach effective and reliable in the short-term (during implementation) and long-term (following implementation);
- it would remove the primary obstacle to further site investigation; and
- it would pose few risks to the public's health or the surrounding businesses because the primary hazards would be contained within an engineered enclosure.

2.2 Investigation and Remediation Work Plan

The IRWP describes the Laboratory's proposed approach for excavating the wastes, performing confirmation sampling, and characterizing the nature and extent of any residual contamination. NMED issued an approval of the IRWP on January 31, 2007, that included the following technical modifications:

- The Laboratory's post-remediation sampling and analysis plan (SAP) must clarify the sources of historical data discussed in Appendix B of the IRWP;
- The Laboratory's air monitoring program for MDA B must include monitoring for beryllium in addition to airborne radioactive particles and airborne particulates;
- The Laboratory must collect one sample for every 50 yd^3 of lay-back or overburden material intended for use as backfill to confirm that the material is nonhazardous, meets residential SSLs, or both; and
- The Laboratory must notify and obtain prior approval from NMED if the use of drilling fluids other than air is necessary for installation of the boreholes at MDA B.

2.3 Regulatory Framework

In the 1984 Hazardous and Solid Waste Amendments to RCRA, Congress directed the U.S. Environmental Protection Agency (EPA) to require corrective action for all releases of hazardous waste and hazardous constituents from SWMUs at facilities seeking RCRA permits. SWMUs include any unit in which solid wastes have been managed at any time. Facilities seeking RCRA permits include facilities at which hazardous wastes are treated, stored, or disposed. The State of New Mexico was first authorized to administer the corrective action program on January 2, 1996.

The Consent Order is the enforceable document for the performance of corrective action at the Laboratory. This Consent Order addresses corrective action for releases of groundwater contaminants listed at 20.6.2.3103 New Mexico Administrative Code (NMAC); toxic pollutants listed at 20.6.2.7.VV NMAC; and nitrate and perchlorate pursuant to section 74-9-36(D) of the Solid Waste Act. For the purposes of this report, these contaminants are referred to as hazardous constituents.

As discussed above, the IRWP proposed changes to the scope of work for MDA B presented in Section IV.C.2.d of the Consent Order. Section III.M.1(3) of the Consent Order allows the Laboratory to propose alternate requirements in a work plan. NMED's approval of the IRWP allows the alternate requirements in the IRWP to be substituted for the requirements in Section IV.C.2.d of the Consent Order.

The Atomic Energy Act (AEA), as amended, 42 U.S.C. §§ 2011 *et seq.*, and the Department of Energy Organization Act, 42 U.S.C. §§ 7101 *et seq.*, and their implementing regulations, orders and directives, require DOE to protect the public health and safety, and, to this end, exclusively authorize DOE to regulate nuclear safety at its facilities. DOE's authority to regulate nuclear safety and worker protection is governed by the provisions of 10 C.F.R. Parts 830 through 835, respectively. Pursuant to those regulations, DOE is required to review and approve all activities and work, including activities and work

under this Consent Order, to ensure that its statutory and regulatory responsibilities for nuclear safety are met.

DOE is responsible for controlling the radiological evaluation of MDA B for any future property transfers and for ensuring that potential radiation exposures to members of the public are as low as is reasonably achievable (ALARA). Final radiological dose assessments (ALARA analyses) that are required for DOE to fulfill the requirements in DOE Order 458.1, "Radiation Protection of the Public and the Environment," (February 11, 2011) are outside the scope of the Consent Order.

2.4 Objectives

MDA B has been investigated numerous times since disposal operations were discontinued. The majority of these investigations focused on surface characterization and potential subsurface releases outside the actual disposal trenches. Although the nature and extent of any contamination released from MDA B was generally defined, the contents of the MDA B disposal trenches and the soil/tuff waste interface required further investigation. The scope of the IRWP was developed to address these data issues through meeting the following objectives:

- Objective #1: Characterize types and quantities of waste at MDA B
- Objective #2: Remove and properly dispose of the excavated wastes
- Objective #3: Perform confirmation sampling in the trenches after wastes are removed
- Objective #4: Prepare and implement a post-remediation SAP to define the nature and extent of any residual contamination

Each of these objectives is described below.

2.4.1 Objective #1: Characterize types and quantities of waste at MDA B

As discussed in section 1.2, there is little written documentation of waste disposal activities at MDA B. Process knowledge was compiled by reviewing the Laboratory historical records and interviewing employees. Because it was not safe to dig open-air test pits to collect more waste information and define the trench boundaries, the Laboratory conducted minimally intrusive investigations. Preliminary investigative characterization was performed using geophysical and direct-push technologies (DPT) to define the trench boundaries, estimate waste volumes, and identify probable radiological and chemical contaminants. The geophysical and DPT investigations were the best way to define trench sizes and estimate waste volumes without the exposure risk that would have resulted from open test pits or trenching. The results of the geophysical survey investigations are summarized in section 3.1. The scope and results of the DPT sampling program are summarized in section 3.4.

2.4.2 Objective #2: Remove and properly dispose of the excavated wastes

The "Waste Characterization Strategy Form for TA-21 MDA-B, 21-015 Excavation" (WCSF) and the "MDA-B Sampling and Analysis Plan" (MDA B SAP) (LANL 2010, 109754; LANL 2010, 110398) were prepared before excavation activities began to ensure that overburden and wastes were properly characterized upon excavation. Waste characterization activities are discussed in sections 4.2 and 4.3. The IRWP describes the procedures for excavating the trenches; characterizing overburden and lay-back materials, wastes, and contaminated soil; and managing wastes. Section 4.4 describes excavation activities by enclosure.

Sections 4.2 and 4.3 describe how waste characterization was performed as the overburden, lay-back material, wastes, and contaminated soil were excavated. The WCSF was drafted concurrently with the development of the MDA B SAP (LANL 2010, 109754; LANL 2010, 110398). The WCSF was developed to ensure compliance with the RCRA waste generator requirements in 40 CFR 262.11, "Hazardous Waste Determination." The WCSF specifies how wastes generated during the excavation of the waste disposal trenches at MDA B will be characterized and managed. DOE/LANS met with NMED to discuss the WCSF and the MDA B SAP and to respond to any questions before beginning excavation activities.

The volume of waste generated as of September 14, 2011 and the volume of waste shipped off-site for disposal as of September 19, 2011 are summarized in section 7.2.

2.4.3 Objective #3: Perform confirmation sampling in the trenches after wastes are removed

The IRWP states that the goal of the waste removal activities at MDA B was to meet residential SSLs for hazardous constituents and residential SALs for radionuclides on a point-by-point basis. A description of the implementation of the confirmation sampling protocol and a summary of the analytical results are provided in sections 5.0 and 6.0. The results of the confirmation sampling results are discussed in section 7.3.

2.4.4 Objective #4: Prepare and implement a post-remediation sampling and analysis plan to define the nature and extent of any residual contamination

The IRWP states that a post-remediation SAP will be prepared at the conclusion of excavation activities. The objective of this post-remediation SAP was to define the nature and extent of any residual contamination at MDA B by using data from previous RFI work, confirmation sampling data, and two new boreholes installed in accordance with the IRWP. The IRWP also describes the following possible contingencies as alternatives if residential cleanup levels cannot be achieved:

- Use industrial cleanup levels.
- Perform a site-specific human risk assessment to establish cleanup levels;
- Establish restrictive covenants or other institutional controls if property is transferred to a new owner or operator;
- Develop a long-term monitoring plan and institutional controls if the property remains under DOE ownership; or
- Implement a combination of these options.

Because of schedule constraints, the post-remediation SAP was prepared before the end of excavation activities, and the new boreholes were drilled in July 2011. The post-remediation SAP changes and the schedule constraints are discussed in section 2.5. The post-remediation SAP is described in sections 6.1 and 6.2, and the results of the borehole investigation are described in sections 6.3 and 6.4.

2.5 Changes to the IRWP

2.5.1 IRWP deviations

The complexity of this project led to several changes to the scope of work defined in the IRWP. These deviations fall into three main categories: (1) waste removal and waste characterization, (2) confirmation sampling, and (3) the borehole investigation.

The first change was related to field analysis. The Laboratory's original intent was to use a portable gas chromatograph/mass spectrometer (GC/MS) to analyze for organic chemicals. Before the beginning of excavation activities, the Laboratory determined that disposal facilities would not accept GC/MS data for waste characterization, which negated the benefit of using a portable GC/MS. An alternative approach was developed that specified field screening for gamma radiation and using an off-site laboratory for hazardous constituent and radionuclide analyses.

The approach specified in the revised IRWP (LANL 2006, 095499) for sampling of overburden, waste soil and debris, and excavated trench bottom and side walls, and the original June 15, 2010, MDA B SAP (LANL 2010, 110411), were both developed before the start of excavation activities. The MDA B project team met with NMED on July 8, 2010, to review the original MDA B SAP.

As excavation progressed, it became apparent that the sampling procedures in the original MDA B SAP were not compatible with actual excavation procedures and site conditions. The MDA B SAP was reviewed, and sampling procedures were modified to reflect actual conditions within the excavation environment. The effective date for the revised MDA B SAP (Revision 1) was August 10, 2010 (LANL 2010, 110398).

As the investigation progressed, wastes and anomalies were excavated that needed specialized sampling. As a result, the MDA B SAP was revised again to include provisions for sampling asbestos-containing material (ACM) and to modify waste characterization sampling so that it would reflect actual waste data rather than the original conservative assumptions regarding the possible types of waste. The effective date for Revision 2 of the SAP was November 3, 2010 (LANL 2010, 111195). These changes to the MDA B SAP (both revisions) are documented in the first quarterly progress report for cleanup activities at MDA B, which was submitted to NMED in December 2010 (LANL 2010, 111508).

Section 5.5 of the IRWP (LANL 2006, 095499) specified collection of a minimum of two samples from each confirmation sampling location, at depths corresponding to approximately 0–0.5 ft bgs and 1.5-2 ft bgs below the excavation bottom. This approach was changed in the MDA B SAP after it was determined that it was not safe to allow sampling personnel in the excavation for this type of sampling activity. Attachment F of the MDA B SAP, Revision 1 (LANL 2010, 110398), describes the confirmation sampling protocols. These protocols build on the confirmation sampling strategy outlined in the revised IRWP and provide the sampling rationale and frequency for the random grid sampling and for biased sampling (i.e., where field conditions indicate biased sampling is necessary). Section F.8 of the attachment states that sampling personnel will not be permitted to enter the excavated trench to collect confirmation samples for safety reasons. It then describes how an excavator will be used to remove 1 to 2 ft of soil/tuff for the sample rather than the more discrete sampling described in section 5.5 of the IRWP. These changes to the MDA B SAP are documented in the first quarterly progress report for cleanup activities at MDA B, which was submitted to NMED in December 2010 (LANL 2010, 111508).

The IRWP stated that the post-remediation SAP will be submitted, if necessary, to NMED for approval after completion of excavation activities. Because of scheduling constraints, which are summarized in the extension requests discussed in section 2.5.2, the "Sampling and Analysis Plan for Post-Remediation Borehole Drilling at Material Disposal Area B" (LANL 2010, 109266) was submitted to NMED on April 28, 2010. Because this post-remediation SAP was submitted to NMED early in the excavation process, it did not define the number or locations of the post-remediation boreholes.

The 15-d sampling notification and addendum to the April 28, 2010, post-remediation SAP was submitted to NMED on May 20, 2011 (LANL 2011, 203594). This addendum proposed to supplement the previously installed 1998 angled boreholes at MDA B with two additional vertical boreholes. One deep vertical borehole would be drilled to the base of the Cerro Toledo interval in grid cell row 250, where confirmation

samples collected from the excavated trench identified plutonium-239/249 and cesium-137 activities above 33 pCi/g and 5.6 pCi/g, respectively. This location is in the center of the overall MDA B site.

The second vertical borehole would be drilled in grid cell row 51, where initial samples identified uranium-234 (above 170 pCi/g), uranium-235 (above 17 pCi/g), uranium-238 (above 87 pCi/g) and total uranium concentrations (above 235 mg/kg) on the northern side wall and plutonium-239/249 activities above 33 pCi/g on the trench bottom. The proposed depth was 25 ft below the bottom of the waste trench. Because excavation activities were not complete, as was anticipated in the IRWP, these two locations were chosen based on "worst case" sampling data to identify any migration of contamination beyond the trench boundaries. Row 51 was excavated further after the borehole investigation to remove the material above residential SSLs and SALs.

The IRWP also stated that NMED approval of the post-remediation SAP was required before the borehole investigation could begin. NMED has not responded to either the April 28, 2010, post-remediation SAP or the May 20, 2011, post-remediation SAP addendum. In order to maintain the completion schedule, the Laboratory installed the two boreholes in July 2011. NMED did request limited split sampling from the boreholes and Courtney Perkins (NMED) visited the drilling site on July 15, 2011.

The IRWP assumed that Areas 9 and 10 would require excavation (Figure 1.1-2). Exploratory trenches excavated in February 2010 verified that waste was not present in the westernmost portion of MDA B, previously designated as Areas 9 and 10. A separate investigation report for MDA B Areas 9 and 10 was submitted to NMED in May 2010 (LANL 2010, 109526).

2.5.2 Schedule extensions

Four extension requests have been submitted to and granted by NMED for MDA B. Two extension requests were submitted in accordance with Section III.J.2 of the Consent Order, "Provisions Governing Extensions of Time", which describes the provisions for seeking extensions. The request must be in writing and include a proposed revised schedule. Two extension requests were submitted in accordance with Section III.H.3 of the Consent Order, "Procedure for Claiming Force Majeure", which describes the procedures for obtaining an extension for a force majeure event.

The first extension request was initially submitted to NMED on November 19, 2010. This extension request was withdrawn and a revised extension request was submitted on November 30, 2010 (LANL 2010, 111332). The revised letter requested an extension of the I/R report submittal date from December 31, 2010, to August 31, 2011, because of schedule impacts resulting from the following field events:

- On August 24, 2010, a small object and associated soil containing approximately 10 g of plutonium were excavated in Enclosure 1. Because this level of plutonium was significantly more than the Laboratory expected to encounter in a single excavation area, the Laboratory immediately paused work to evaluate the situation and determine the appropriate precautions required to ensure the safety of the public and workers. This event led to enhanced field monitoring and revised excavation procedures. Work resumed 28 days later on September 20, 2010.
- On October 13, 2010, a second radiological field condition related to plutonium occurred while excavating in Enclosure 1 using the revised procedures and detection equipment described above. The enclosure was put in a safe condition and all excavations were stopped. There was no release outside of the enclosure and no contamination of personnel.
- In response to this second event, the Laboratory worked with DOE Headquarters to obtain its approval of a revised facility authorization within 2 d. The Laboratory then retrained employees

and conducted prestart mockups based upon the current facility authorization. The Laboratory also changed from a 7-d work schedule to a 5-d work schedule as an employee safety measure. All affected procedures were updated, and excavation resumed the morning of October 24, 2010.

- On October 27, 2010, two degraded drums were found in Enclosure 12. The remote video camera showed a release of white powder from one of the drums, and instruments inside the enclosure detected volatile organic compound (VOC) vapors. Monitoring outside the enclosures did not detect any VOCs. Work inside the enclosure was stopped while the release was properly characterized and addressed. Work resumed on October 30, 2010.

The revised completion date requested by the Laboratory was based on the time lost to the work stoppages, reductions in excavation efficiency, and safety-driven changes in work schedules. NMED approved the extension request on December 9, 2010 (NMED 2010, 111456).

The second extension request was submitted to NMED on April 26, 2011 (LANL 2011, 202576). This request was submitted in accordance with Section III.H.3 of the Consent Order. Los Alamos experienced a severe wind storm (winds gusting to over 50 mph) early in the evening of Saturday, April 9, 2011. The power outages and fluctuations resulting from this event caused equipment problems in several enclosures that led to a work stoppage. Although this letter did not request an extension of the I/R report submittal date as a result of a force majeure event, it preserved the future option to request an extension if the storm-related work stoppage was later determined to have adversely affected the project schedule. NMED issued a notice of agreement for the force majeure request on May 2, 2011 (NMED 2011, 202846).

The third extension request was also related to a force majeure event, the Las Conchas fire. The extension request for MDA B in the July 21, 2011, letter (LANL 2011, 204379) requested an extension of the I/R report submittal date from September 9, 2011, to September 21, 2011. On June 26, 2011, an aspen tree blown down by wind struck a power line about 14 miles southwest of Los Alamos and caused the Las Conchas fire. In less than 48 h, the fire grew to more than 40,000 acres, consumed more than 60 homes and structures, and went on to become the largest wildland fire in New Mexico history. The Los Alamos townsite was evacuated for approximately 1 wk, and Los Alamos National Laboratory was closed from June 27 through July 5. Although a substantial number of normal operations resumed on July 13, 2011, there were still fire-related impacts to excavation activities at MDA B. NMED approved the extension request with modifications on July 28, 2011 (NMED 2011, 204548).

The fourth extension request was submitted to NMED on September 1, 2011 (LANL 2011, 206181). This letter requested an extension of the I/R report submittal date from September 21, 2011, to October 31, 2011, because of schedule impacts resulting from higher-activity material encountered in Enclosure 1. NMED approved the extension request on September 8, 2011 (NMED 2011, 206383).

3.0 SUMMARY OF PRE-EXCAVATION INVESTIGATION RESULTS

3.1 Geophysical Surveys

As discussed in section 1.2, no engineering or construction drawings were found for the disposal trenches at MDA B. As a result, nonintrusive geophysical surveys were conducted in 1996, 1997, and 1998 to delineate the locations and number of disposal trenches at MDA B. These survey results indicated the presence of several large trenches (Ferguson et al. 1998, 058212; Thavoris 2001, 083862).

The 1998 geophysical survey was the most comprehensive. It included the following three survey techniques: high-sensitivity metal detector (EM-61), terrain conductivity (EM-31), and ground-penetrating

radar (GPR) to look for metal objects, changes in material conductivity, and anomalous objects or surfaces. The 1998 geophysical surveys indicated a single primary trench in the eastern leg of MDA B (approximately 800 ft long and varying in width from about 25 to 60 ft). Depending on interpretation of the geophysical data, the western leg of MDA B was interpreted to contain either one continuous trench or three shorter end-to-end trenches (approximate total dimensions 1000 ft long and 40 ft wide). The depth of the existing cover was estimated to range from 1.3 to 7.2 ft bgs.

An additional geophysical survey was performed at MDA B under the current IRWP from October 27 through November 7, 2008. The objective of this survey was to delineate the lateral extent and probable depth of the disposal pits using EM-61, EM-31, and GPR. Comprehensive data from these activities are presented in "Geophysical Investigation of Material Disposal Area B" (ARM Geophysics 2009, 109161). The remainder of this section summarizes aspects of this geophysical survey that were used to support the DPT investigation described in section 3.4.

The EM-61 data revealed linear anomalies throughout the survey area, indicating the presence of metal material buried in linear disposal pits. A long, narrow pit was observed in the western leg of the survey area. The eastern leg of the survey area also contained several linear pits. Results indicated that the main eastern pit was wider on the western end and held the largest concentration of metal objects. Discontinuous anomalies were observed throughout the entire survey area, which may have been due to variations in the concentration of metal objects or the separation between the pits. Discontinuous anomalies in the eastern leg were possibly caused by the separation of four smaller pits on the southern side of the main linear pit.

The EM-31 data, which analyze terrain conductivity, showed anomalies consistent with the EM-61 data. The EM-31 data more clearly depict the previously inferred pit in the eastern leg of the survey area as continuous, indicating it is a single pit versus a series of smaller pits.

The GPR profiles demonstrated a good correlation between the pits' boundaries previously extrapolated from the EM data. Anomalous globes observed in the EM-61 data that extend outside of the main western trench were also observed in the GPR profile. This indicates deviations from the main trench that relate to areas where the trench was widened (ARM Geophysics 2009, 109161).

3.2 Surface Sampling

Surface investigations were intermittently performed at MDA B from 1966 to 2001. The results of these investigations were described in the historical investigation report in Appendix B of the IRWP (LANL 2006, 095499). Extensive changes to MDA B's surface have occurred over the past six decades, including the addition of soil, paving, and placement of an experimental barrier over portions of the area. For this reason, the data are not presented in this report and no additional surface characterization for hazardous constituents was conducted as part of this scope of work.

3.3 RFI Subsurface Investigations

3.3.1 Angled Boreholes (1998)

A subsurface investigation was conducted at MDA B in 1998 as part of the MDA B RCRA facility investigation (RFI) (LANL 1991, 007529; LANL 1998, 059506). A total of seven angled boreholes locations 21-10551 through 21-10557 were advanced beneath the MDA B disposal trenches as delineated by geophysical surveys and historical information (Figure 3.3-1). The rationale in support of selection of the boring sites and the drilling and sampling procedures are described below.

These boreholes were drilled using a Failing F-10 (equivalent) hollow-stem auger rig. Drilling locations were calculated so that each borehole would remain a minimum of 5 ft from the estimated outside corners of the disposal trench (LANL 1998, 059506). Continuous core samples were logged, and samples were collected every 10 ft beneath the trench. Angled borehole locations 21-10552, 21-10553, and 21-10557 were advanced beneath the disposal trench in the western leg of MDA B. Locations 21-10551 and 21-10555 were advanced beneath either end of the eastern leg, and 21-10554 was advanced beneath the estimated location of the chemical pit. Borehole location 21-10554 penetrated the subsurface corner of the disposal pit at a point about 11 ft from the top of the angled boring (approximately 8 ft bgs). Metal shavings observed in the core were analyzed and determined to be beryllium metal. Field screening in the 15- to 20-ft core interval indicated elevated gross alpha/beta/gamma activity over instrument background. As a result, the data from this borehole were not used in the evaluation of the nature and extent of contamination presented in sections 6.4 and 7.4.

One final angled borehole, location 21-10556, was installed at the far west end of MDA B, where trenches were expected but could not be identified by geophysical surveys. This area was previously known as Areas 9 and 10 (Figure 1.1-2). As described in section 2.5.1, it was later demonstrated to NMED that no wastes were disposed of in these areas. As a result, the data from this borehole were also not used in the evaluation of the nature and extent of contamination presented in sections 6.4 and 7.4.

Plate 1 shows the locations of each angled borehole. Borehole angles, total length of each borehole, and samples collected are presented in Figures 3.3-2 through 3.3-8. Fifty-five core samples were analyzed for semi volatile organic compounds (SVOCs), inorganic chemicals, and radionuclides. Pore-gas samples were also collected from each of the boreholes and analyzed for VOCs.

Inorganic chemical results above background values are presented in Table 3.3-1 and Figure 3.3-9. Lead was detected above background (LANL 1998, 059730) at several depths at location 21-10557 and at one depth at location 21-10551; concentrations decreased with depth. Arsenic was detected above background at one depth at location 21-10557 and at two depths at location 21-10556 and decreased with depth. Cadmium, mercury, and zinc were detected above background at one depth at location 21-10554 and decreased with depth.

No SVOCs were detected in the samples analyzed from the 1998 boreholes.

Three pore-gas samples were collected for VOC analysis from each of the seven boreholes angled beneath the MDA B trenches. The samples were collected in evacuated SUMMA canisters at discrete intervals by running an extraction tube to the bottom of the borehole and sealing it off with an inflatable borehole packer. A summary of the pore-gas sample results is presented in Table 3.3-2 and illustrated in Figure 3.3-10. The samples were collected at 35 ft, 75 ft, and 100 ft along the length of the angled boreholes (approximately 25 ft bgs, 53 ft bgs, and 70 ft bgs vertically bgs). The angled boreholes passed directly beneath the disposal trenches, where the highest potential for contamination existed. The highest detected concentrations were at trace levels [parts per billion by volume (ppbv)], with the highest concentrations being 1,1,1-trichloroethane (TCA) at 190 ppbv and trichloroethene (TCE) at 120 ppbv.

Table 3.3-3 and Figure 3.3-11 present the radionuclides detected. Americium-241, plutonium-239, strontium-90, tritium, and isotopic uranium were detected or detected above background. Concentrations of all radionuclides decreased with depth or did not change with depth in all boreholes.

The relationship of these findings to the definition of nature and extent is discussed in section 7.4.

3.3.2 MDA B EMFLUX VOC Sampling (2001)

In September 2001, EMFLUX passive soil-gas collectors were installed at 80 surface locations at MDA B to collect additional VOC data to further define the lateral extent of any potential VOC contamination (LANL 2001, 070231). Rather than drilling more boreholes for VOC sampling, the EMFLUX passive soil-gas collection method was used as a nonintrusive method of collecting this additional data. The EMFLUX method measures the surface flux of VOCs and allows for large areas to be sampled relatively quickly. A flux of VOCs at the surface can be correlated to subsurface vapor-phase VOCs. The sampling locations selected provide coverage of the surface of the disposal trenches (Figure 3.3-12). The EMFLUX method did not detect TCA, as did pore-gas analysis for the 1998 sampling, but did detect tetrachloroethene (PCE) and TCE (Figure 3.3-13). The data indicate most PCE and TCE detections were within the estimated boundaries of the waste trenches (Figures 3.3-13 and 3.3-14). No elevated concentrations of these VOCs were detected at the west end of the western leg of the site, outside the disposal trench boundaries.

3.4 Direct-Push Technology Sampling

As discussed in section 1.2, there were few disposal records for MDA B, and the total inventory and distribution of hazardous and radioactive materials was not known. Process knowledge was carefully compiled from reports and memoranda archived from the operating groups, logbooks, aerial photographs, and personal interviews. Because of the broad range of possible wastes, including radionuclides, and the proximity of the site to the public, it was not possible to safely dig open-air test pits to characterize the wastes buried at MDA B. The DPT investigation was used to collect waste data to support developing:

- safe waste retrieval and sorting procedures,
- an estimate of the quantity of radioactive material at risk (MAR), and
- an estimate of the types of hazardous constituents present in the waste to aid in the initial waste-sorting activities.

The DPT investigation was implemented in three phases. Phase I core sampling for all of MDA B occurred between August 13 and September 8, 2009. Phase I results are described in the “Investigation Report for Direct-Push Sampling, Material Disposal Area B, Solid Waste Management Unit 21-015, at Technical Area 21” (LANL 2009, 107344). Phase II core sampling occurred between September 17 and October 7, 2009. Phase III trench-boundary probing was performed in November 2009. No samples were collected during Phase III probing.

These investigation activities were performed according to the “Sampling and Analysis Plan for Direct-Push Technology at Material Disposal Area B” (LANL 2009, 106154). A total of 157 surface and shallow subsurface samples were collected from 87 locations during Phases I and II of the DPT investigation. Locations for Phase I DPT core sampling were selected based on the approximate waste footprints determined by the geophysical surveys described in section 3.1. MDA B was split into a grid of cells measuring 10 ft by10 ft. Core samples were collected from 40 locations during Phase I. Figure 3.4-1 identifies the DPT sampling locations for all three phases.

Fifty DPT core samples were collected within the first 5 ft bgs at 50 sampling locations within MDA B. The shallowest core samples at the other 20 locations varied in depth from the top 2 ft bgs to the top 7.5 ft bgs because of DPT refusal or the inability to fill the core sleeve. If possible, deeper core samples were collected after the surface core had been removed. The maximum core depth of 15 to 20 ft bgs was collected from location NG56 (Figure 3.4-1).

Sampling locations for Phase II of the DPT investigation were selected after reviewing the results of the Phase I investigation. These locations were focused on areas that had not been sampled during Phase I. Core samples were collected from 30 locations during Phase II using the same sampling procedure employed during the previous phase.

The DPT samples were submitted for the following laboratory definitive analyses for radioactive and hazardous constituents: gamma spectroscopy, alpha spectroscopy, strontium-90, tritium, volatile organic compounds, semi volatile organic compounds, metals, and toxicity characteristic leaching procedure (TCLP) analytes. Summary tables of the DPT core-sampling locations and data are provided in Appendix C. DVDs containing all DPT data is provided in Appendix G.

Residential SSLs were used to screen organic and inorganic chemicals (NMED 2009, 108070). For chemicals with no NMED SSL available, EPA regional screening levels were used (ww.epa.gov/region06/6pd/rcra_c/pd-n/screen.htm). Residential SALs for radionuclides were derived using the residual radioactivity (RESRAD) model, Version 6.5, in accordance with Laboratory guidance (LANL 2005, 088493; LANL 2009, 107655).

Inorganic and organic chemicals in DPT waste, soil, and tuff samples collected from MDA B that were detected above residential SSLs are presented in Table 3.4-1. Radionuclides detected in waste, soil, and tuff samples collected from MDA B are presented in Table 3.4-2. The remaining DPT core samples did not have concentrations above residential SSLs and SALs, and full sampling results are presented in Appendix G. DPT Sampling locations are presented in Figure 3.4-1. All contaminated soil and waste characterized during the DPT investigation was removed during the implementation of the IRWP.

3.5 Vapor monitoring at MDA V

NMED requested that the Laboratory continue to sample the vapor-monitoring wells at MDA V for tritium to support remediation activities at MDA B (NMED 2010, 111393; NMED 2011, 201232). MDA V is located in the southeastern section of DP Mesa, just outside of the main gate to TA-21 (Figure 1.1-2). Certificates of completion for the four SWMUs and one AOC at MDA V were issued by NMED on June 3, 2011 (NMED 2011, 203706). NMED stated that the Laboratory has satisfied the requirements of the Consent Order for corrective action at these SWMUs and AOC.

Two - vapor-monitoring wells were installed at MDA V in November 2009 within 10 ft of borehole location 21-24524 (Figure 3.5-1). Monitoring well 21-24524W has seven ports from depths of 45 ft bgs to 380 ft bgs. Monitoring well 21-24524S has two ports located at depths of 680 ft bgs and 715 ft bgs.

Figure 3.5-2 illustrates four quarters of tritium activities with depth. In general, the data do not indicate a change in tritium activity over the time period monitored. The moisture data follow a similar trend with depth with the tritium activity, with the maximum moisture content occurring in Qbtt and the Cerro Toledo interval (Qct). As discussed in section 7.4, there is no evidence of any contaminant contribution from MDA B in the MDA V vapor-monitoring wells.

4.0 SUMMARY OF EXCAVATION ACTIVITIES

Excavation progress was methodically tracked using cell identification (ID) codes composed of letters along an approximate north-south axis and numbers along an approximate east-west axis using the same 10 ft by 10 ft grid established for the DPT sampling as depicted in Figure 4.0-1. Excavation operations, which commenced on June 30, 2010, generally consisted of overburden removal, contaminated soil and waste removal, and confirmation sampling. The following subsections outline the methodology used in meeting the excavation and remediation objectives of this project.

4.1 Surface Sampling

As discussed in section 3.2, no further surface characterization was conducted as part of the current investigation and remediation project.

4.2 Overburden Removal and Sampling

Overburden material, consisting of soil and tuff capping the disposal trenches, was removed before the excavation of waste and contaminated soil. Overburden also included various other clean materials, such as a man-made cap that was installed in 1985 and base-course material that was added during site-preparation activities. Section 4.4 of the IRWP (LANL 2006, 095499) described the field screening and analytical procedures for determining if overburden or lay-back material could be returned to the excavation as fill. In NMED's January 31, 2007, approval with modifications (NMED 2007, 095475), NMED added the following three requirements to the Laboratory's proposed procedures for evaluating overburden and lay-back material:

- Samples must be submitted for alpha spectroscopy analysis;
- One sample must be collected from every 50 yd^3 of overburden and lay-back material intended for use as fill; and
- Any overburden and lay-back material returned to the excavation as fill must be placed in the deeper portions of the excavation.

The overburden was stockpiled or placed into containers labeled with a unique Laboratory material-tracking bar code. Before the soil could be used as backfill for the excavated trenches, samples from every 50 yd^3 were analyzed for hazardous constituents and radionuclides. Overburden samples collected from MDA B are listed in Table 4.2-1. The statistical analysis of overburden samples presented in Appendix E was conducted on 172 samples collected from the first sampling event and on 119 samples from the second and third sampling events.

Before enclosures were installed, several feet of overburden material were removed from the east end of MDA B and staged in a stockpile. This first stockpile was created during project activities in February 2010. Every 2-ft layer in this 8-ft-deep stockpile was divided into grid cells and sampled during April and May 2010. Between July and September 17, 2010, additional overburden was added to a second stockpile as foundation footers were excavated for the fixed enclosures constructed in the western portion of MDA B. Since September 21, 2010, overburden removed from inside enclosures has been stored primarily in containers. Additional overburden from outside the enclosures was added to the second stockpile in February and March 2011.

After the enclosures were installed, additional overburden was accumulated and sampled. A minimum of one composite sample was collected for each 50 yd^3 of overburden. Following sampling, excavated overburden material was subsequently stored in labeled containers awaiting analytical results to determine if the material could be used as backfill at MDA B. Appendix E contains a summary of the overburden data and the statistical analysis performed to confirm that the material met the criteria for use as on-site fill. Appendix G contains DVDs with all of the overburden data.

Several bins containing overburden were moved from Enclosure 12 to Enclosure 1. This operation was performed because the containers from Enclosure 1 were partially full and the mixing reduced the radioactivity density of individual containers. These containers were then classified as contaminated soil and disposed of properly. Initial overburden analytical results for these bins are no longer valid.

During activities associated with excavation of the trenches, approximately 12,026 yd^3 of excavated overburden material was found to meet the criteria in the MDA B SAP (LANL 2010, 110411) for use as fill. All of this material has been used at MDA B for fill. As required by NMED in its approval with modifications (NMED 2007, 095475), overburden used as fill was placed well below the ground surface and was then topped with clean backfill material obtained from an off-site source. Table 4.2-2 presents estimated volumes of waste and overburden removed, shipped, or reused as backfill during this investigation.

4.3 Summary of Excavation Methodology

Excavations were completed using a standard track-mounted hydraulic excavator to carefully expose and remove trench contents for inspection, identification, and removal. A sloping dig face was established to allow for initial visual inspection and characterization of the exposed waste. The dig face was exposed for the entire thickness of the trench, from the surface to the tuff beneath the buried waste. Advancement of the dig face was conducted in lifts of minimal practical thickness to minimize variability and volume of the waste material exposed at any given time.

NMED's approval with modifications required the Laboratory's MDA B air monitoring program to include monitoring for beryllium in addition to airborne radioactive particles and airborne particulates. Because there is no method to measure air borne beryllium real time, the Laboratory developed a two prong approach to ensuring worker safety. Prior to starting excavation activities, native soil samples were analyzed to determine the fractions of potentially toxic metals. The lowest health-based action level for then used to develop a concentration limit that would be safe for an unprotected worker in the excavation. chromium, not beryllium, was the driver for the site-specific 0.36 mg/m^3 dust limit. Particulate samples were also collected and submitted to an accredited laboratory for beryllium analysis to verify that beryllium concentrations never exceeded applicable health standards.

Dust-suppression liquid (i.e., a calcium chloride solution) was applied to the dig face and adjacent areas during active excavation. A dust track meter was used to measure the amount of particulate dust in the air. Operational conditions required a dust level below 0.36 mg/m^3. When dust levels exceeded that level, operations were suspended as dust suppressant was applied to the excavation area. Work was cleared to proceed after the dust levels dropped below 0.36 mg/m^3. Excavation proceeded until all waste was removed and tuff was encountered. Excavation continued into the tuff approximately 1 ft or until no readings were observed from the field-screening monitoring described in section 4.3.1. Confirmation sampling was then conducted as described in section 5.0.

4.3.1 Field monitoring

During excavation activities, industrial hygiene (IH) instrumentation was used inside the enclosures to monitor for immediate-danger-to-life-and-health conditions, toxic gases, and dust that could present a hazard to personnel entering the enclosure. Air quality was monitored by two systems. The first is an Industrial Scientific iTrans system that monitors for O_2, H_2S, LEL, and CO. This system consisted of a series of real-time monitoring sensors that are affixed to the enclosure and transmit back to the control room. The indicator panel included a digital readout with pre-set alarms. The iTrans sensors are placed between the dig face and the air movers (downwind of the excavation/sampling location). The second system is a RAE Systems Multi-Rae Plus. This multi-RAE consists of two separate monitoring devises; one located on the excavator connected to a plastic tube – the end of which is located at the bucket of the excavator; the second RAE, multi-gas monitor, was placed adjacent to the excavation. These two multi-RAEs monitor O_2, H_2S, LEL, CO, and VOCs, and transmit wirelessly to the control room of the enclosure where levels are monitored and recorded by an Industrial Hygienist or other qualified worker.

Field screening for radioactivity levels on surfaces and in the work environment was also performed within the enclosure during excavation. The same monitoring was performed during personnel entry and egress. All work within the enclosure was conducted using the level of respiratory protection dictated by IH monitoring.

To facilitate real-time MAR screening, a Field Instrument for Detection of Low-Energy Radiation (FIDLER) was installed on the boom on every excavator bucket. If the material in the bucket exhibited activity levels that exceeded the established threshold value, it was placed back into the dig face and covered with clean soil until a path forward was determined (LANL 2010, 110397). If the initial FIDLER readings indicated a safe activity level, a sample was taken from each bucket and sent for screening using gamma spectroscopy analysis. These MAR screening results were used to determine approximate radioactivity levels, which provided preliminary characterization data and supported MAR tracking until further data were received. Anomalies (e.g., bottles, containers, cylinders) were set aside for further examination by waste management personnel and/or sampling, as required for characterization before proper disposition.

Continuous air monitoring (CAM) was used to measure alpha-emitting airborne particles. When CAM alarms were triggered, project activities were suspended until it was determined that the enclosure was in a safe configuration to allow personnel to reenter and resume operations. The operational alarm level for airborne alpha particulates was eight derived air counts (or 2.5 mrem within the enclosure).

A high-volume air monitoring system was used to test for the presence of airborne asbestos. Potential ACM was found during excavation activities inside enclosures 3 and 12. Although solid samples confirmed that the material was asbestos, the air samples collected from the high-volume monitoring system confirmed that friable airborne asbestos concentrations were below the 8-h time-weighted average permissible exposure limit of 0.1 fiber/cm^3 [29 CFR 1910.1001(c)].

Eight air-monitoring network (AIRNET) stations were located along the northern boundary of MDA B to monitor ambient air outside of the enclosures. The results of this sampling program are described in section 4.5.

4.3.2 Waste Sampling

Sampling of waste, soil, and debris was conducted in accordance with the MDA B WCSF and the MDA B SAP (LANL 2010, 109754; LANL 2010, 110398). Sampling procedures for contaminated soil and waste are described in Attachment B of the MDA B SAP, Rev. 2 (LANL 2010, 111195).

The WCSF first evaluated acceptable knowledge (AK) to determine if there was any clear documentation that listed wastes were disposed of at MDA B. Listed wastes are defined in 40 CFR Part 261, Subpart D. AK reviews at the Laboratory are based on the guidance provided by the EPA's Management of Remediation Waste under RCRA (EPA 530-F-98-026), “Determination of When Contamination is caused by Listed Hazardous Waste.” Because the determination of whether or not a waste is listed is based upon the generator’s knowledge of the source of the waste, the lack of AK at MDA B led to the conclusion that no wastes at MDA B would meet the EPA’s criteria for listed wastes.

The limited AK also led to a conservative initial sampling strategy for hazardous constituents. The June 15, 2010, MDA B SAP (LANL 2010, 110411) required full-suite sampling of each composite pile of soil (i.e., one sample per 4 × 20 yd^3 bin) to determine if the waste exhibited the toxicity characteristic for one or more constituents. The WCSF and the MDA B SAP required other characteristics to be determined on a case-by-case basis (e.g., liquid wastes or containerized gases). The Laboratory met with NMED on July 8, 2010, to review the original, June 15, 2010, MDA B SAP (LANL 2010, 110411).

The MDA B SAP (LANL 2010, 110411) was first revised on August 10, 2010, to reflect the types of contaminated soil and waste being generated (LANL 2010, 110398). Of the 93 sample sets (i.e., approximately 400 bins) collected during the early summer of 2010, only one bin exhibited a toxicity characteristic due to cadmium. This bin was anomalous because it contained discolored soil. The MDA B SAP was then revised to focus full-suite analyses on anomalies such as liquids, sludges, discolored soil, or ash (LANL 2010, 111195). This revision to the MDA B SAP, Rev. 1 (LANL 2010, 111195) was described in the first quarterly progress report submitted to NMED in December 2010 (LANL 2010, 111508).

The ACM sampling protocol was amended in the November 3, 2010, Revision 2 of the MDA B SAP, Rev. 2 (LANL 2010, 111195). This revision to the MDA B SAP was also described in the first quarterly progress report submitted to NMED in December 2010 (LANL 2010, 111508).

All samples collected during this investigation were in compliance with the approved Laboratory sampling and documentation procedures at the time of collection. Appendix B describes the quality assurance and quality control program for samples collected during MDA B activities.

The Laboratory submitted a request for an approval of an area of contamination designation for MDA B. This request was based on the conservative assumption that significant volumes of soil mixed with hazardous waste could be generated as the trenches were excavated. This request specified the boundaries of the proposed area of contamination, the rationale for how the boundaries were established, and an explanation of how the boundaries were delineated. The request also described the activities to be conducted within the area of contamination. Approval was granted by NMED on October 2, 2007. Only one bin of hazardous waste was generated during the entire project. It was, therefore, not necessary to use the area of contamination designation.

Packaging operations at the MDA B site began with the inspection and preparation of empty containers before they were placed in the enclosure. The decision as to the type of container was made with input from the Laboratory's Waste Management Group. Filling of the containers was controlled by a number of factors including, but not limited to, type of waste, weight, the selected disposal facility, and MAR screening results.

The original estimate of the total volume of waste was based on the trench dimensions developed from the results of the geophysical investigations and the DPT investigation and a 20% bulking factor assumed during packaging. The total volume of waste exceeded the initial forecast by just over 80% (see Table 4.3-1). This increase resulted from the fact that the waste depth in several areas exceeded the maximum estimated trench depth of 15 ft bgs. In addition, the actual bulking factor was approximately 40%. Table 4.3-1 summarizes the original estimates for trench depths and waste volumes, as well as the actual trench depths and waste volumes.

4.4 Enclosure Excavations

Each enclosure had distinctive attributes. Enclosures 1 and 2 were moveable. Enclosures 3 and 4 were combined into a single fixed, temporary enclosure (Enclosure 3) using a synthetic fabric material along the roofline. Enclosures 5 and 6 were also combined into a single fixed, temporary enclosure (Enclosure 5). Enclosures 7 and 8 were combined into a single fixed, temporary enclosure (Enclosure 7). Enclosures 9, 10, and 11 were combined into a single fixed, temporary enclosure (Enclosure 9). Enclosures 12 and 13 were combined into a single fixed, temporary enclosure (Enclosure 12). Enclosures 9 and 12 were combined towards the end of the project to facilitate the completion of excavation activities.

MDA B waste trench depths, widths, and waste volumes have greatly exceeded original project estimates, causing proportionate impacts to the time required to safely remove and package historic buried wastes. To ensure the safety of the public and workers, the Laboratory had to estimate waste volumes, radiological inventory, and trench dimensions based on historical records and the results of nonintrusive investigations. The geophysical and DPT investigations were the best way to define trench sizes and estimate waste volumes without the exposure that would have resulted from open excavations.

Detailed descriptions of excavation activities for each enclosure are summarized below.

4.4.1 Enclosure 1

Located on the western portion of MDA B near the center of the site, Enclosure 1 was a movable structure with an approximate footprint 60 ft long by 60 ft wide. Based on the area of this enclosure, a maximum of six grid cells could be excavated each time before the structure was moved. Enclosure 1 began operation on June 30, 2010. Waste excavation and confirmation sampling activities were completed on September 14, 2011. Excavation depths varied from 7 to 17 ft bgs. During investigation and remediation activities, 197 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Plate 1 shows the location of the excavated grid cells.

10,169 yd^3 of waste debris, contaminated soil, and overburden were excavated from Enclosure 1, which exceeded the original forecast (see Table 4.3-1). Enclosure 1 waste containers were typically filled from 85% to 99% with contaminated soil and tuff. Waste debris items, which constituted the remainder of waste container contents, included scrap metal, metal plates, sheet metal, rebar, metal pipe, cables, wires, wire mesh, crushed metal cans, crushed 55-gal. drums, broken glass, concrete, asphalt, graphite pieces, ceramic pieces, wood and plywood, plastic pieces, plastic sheeting, rubber hose, personal protective equipment (PPE), paper trash, bricks, strips of film, cardboard, and cloth. Large debris items included chain link fencing, a small shed, a turbine fan, several open oversized metal boxes, and pieces of two crushed vehicles.

Anomalies removed from the excavated soil included various bottles containing liquids, a glass jar with a pink substance and liquid, a bottle with apparent crystallization, a bottle containing powder, a 3 ft by 2 ft tank, a white tank containing liquid, two neon gas cylinders, sealed non-pressurized containers, other non-pressurized cylinders, leaded glass plates, electrical panels, capacitors, a transformer, an old crushed vehicle, and lead acid batteries. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195) .

On July 25, 2011, a zone of elevated radioactivity was encountered in Enclosure 1, row 209. This discovery occurred within 30 ft of the end of the surveyed waste trench in a volume representing the last 1% of the approximately 2000-ft waste trench length at MDA B. Excavation was immediately paused in accordance with the project's stringent safety protocols. A representative sample of the soil was then obtained and sent to an off-site laboratory for a full-suite analysis including both chemical and radiological constituents. Characterization of material removed from this area indicated that the total radiological content of this last 1% of the MDA B trench would ultimately amount to more than half of the entire project MAR at completion. A mitigation approach was developed that was protective of workers and the public, while allowing excavation to continue at less than 25% of previously achieved project excavation rates.

Area 5 is located to the south and adjacent to the trench area of Enclosure 1 (Plate 1). The review of a 1946 aerial photograph indicated that Area 5 may have been a ramp used to access the disposal trench. Pre-excavation geophysical investigation and DPT sampling provided further evidence that Area 5 was a ramp and not a continuation of the trench. The DPT sampling results showed that refusal was encountered (believed to be the depth to native tuff) within Area 5 at a depth generally less than 5 ft.

Following the removal of the clean soil and base course added during the site grading process, 16 test pits were installed within Area 5 to better define the nature and extent of the contamination observed during the DPT investigation. Each cell containing a DPT sample (AL225, AM228, AM230, AN223, and AN226) was excavated to remove the contamination observed from DPT sample results. An additional 11 test pits were also excavated down to the surface of the tuff in order to confirm that no buried waste was present and to determine the depth to the tuff surface. If the initial round of field screening samples identified concentrations of plutonium-239/240 above residential SALs, the additional soil was removed down to native tuff and sampled to verify that confirmation results for the area were below residential SALs (see section 5.1).

4.4.2 Enclosure 2

Located on the eastern portion of MDA B, Enclosure 2 was a movable structure with an approximate footprint 60 ft long by 60 ft wide. Enclosure 2 began operation on July 19, 2010, and operations were completed on July 19, 2011. Based on the area of the enclosure, a maximum of six grid cells could be excavated before the structure was moved. Excavation depths varied from 6 to 30 ft bgs, which exceeded the original maximum depth estimate by almost 20 ft.

During investigation and remediation activities, 133 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Plate 1 shows the location of the excavated grid cells. 8,367 yd^3 of waste debris, contaminated soil, and overburden were excavated from Enclosure 2, which exceeded the original forecast (see Table 4.3-1).

Enclosure 2 waste containers were typically filled from 70% to 99% with contaminated soil and tuff. Waste debris items, which constituted the remainder of container contents, included scrap metal, metal plates, sheet metal, rebar, metal pipe, cables, wire, wire mesh, crushed metal cans, crushed 55-gal. drums, broken glass, concrete, asphalt, graphite pieces, wood, plastic pieces, plastic sheeting, rubber hose, PPE, bricks, tile pieces, cloth, and cardboard. Large debris items included file cabinets, chain link fencing, motors, electrical panels, an I-beam, folding chairs, six metal tanks, a set of metal stairs, and a safe.

Anomalies removed from the excavated soil included light bulbs, batteries, fire extinguishers, a transformer, a breached gas cylinder, and a water tank that returned a high reading from a FIDLER. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.4.3 Enclosure 3

Located on the western portion of MDA B at the far western end of the site, Enclosure 3 was a fixed, temporary structure with a footprint 220 ft long by 75 ft wide. Enclosure 3 began operation on September 20, 2010, and operations were completed on January 31, 2011. Excavation depths varied from 7 to 16 ft bgs, which exceeded the original maximum depth estimate by almost 5 ft.

During investigation and remediation activities, 81 grid cells were excavated within enclosure 3. Overburden material, contaminated soil, and waste debris have been removed. Grid cell AG167, which was located just north of the main trench, was also excavated because it was identified as the possible location of the ramp used to access the disposal trench during MDA B operations. Plate 1 shows the location of the excavated grid cells. 3,157 yd^3 of waste debris, contaminated soil, and overburden were excavated from Enclosure 3, which exceeded the original forecast (see Table 4.3-1).

Enclosure 3 waste containers were typically filled from 85% to 99% with contaminated soil and tuff. Waste debris items, which constitute the remainder of container contents, included scrap metal, sheet metal, rebar, metal pipe, wires, crushed metal cans, crushed 55-gal. drums, broken glass, asphalt, ceramic pieces, plastic pieces, plastic sheeting, rubber hose, PPE, used filters, and cardboard.

Anomalies removed from the excavated soil included sealed or plugged bottles, fire extinguishers, gas cylinders, other sealed cylinders, lead bricks, three 250-gal. tanks, a sealed canister, batteries, a brown cylinder, an asbestos container, white powder, bluish powder, pipe suspected to be lead, an electrical box, and an electrical panel. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.4.4 Enclosure 5

Located on the western portion of MDA B, Enclosure 5 is a fixed, temporary structure with a footprint 280 ft long by 75 ft wide. Enclosure 5 began operation on March 15, 2011, and operations were completed on August 2, 2011. The maximum excavation depth was approximately 12 ft bgs, which was close to the original estimate of 11 ft bgs.

During investigation and remediation activities, 80 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Plate 1 shows the location of the excavated grid cells. 2,970 yd^3 of waste debris, contaminated soil, and overburden were excavated from Enclosure 5, which exceeded the original forecast (see Table 4.3-1).

Enclosure 5 waste containers were typically filled from 85% to 99% with contaminated soil and tuff. Waste debris items, which constituted the remainder of container contents, included scrap metal, rebar, metal pipe, cables, wires, crushed 55-gal. drums, broken glass, concrete, asphalt, graphite pieces, wood, plastic pieces, plastic sheeting, rubber hose, PPE, bricks, cloth, and tree roots and branches.

Anomalies removed from the excavated soil included an amber bottle containing liquid and six small gas cylinders. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.4.5 Enclosure 7

Located on the western portion of MDA B, Enclosure 7 was a fixed, temporary structure with a footprint 140 ft long by 75 ft wide. Enclosure 7 began operation on September 22, 2010, and excavations were completed on December 12, 2010. Excavation depths varied from 12 to 17 ft bgs, which exceeded the original maximum depth estimate by almost 6 ft.

During investigation and remediation activities, 48 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Plate 1 shows the location of the excavated grid cells. 2,386 yd^3 of waste debris, contaminated soil, and overburden were excavated from Enclosure 7, which exceeded the original forecast (see Table 4.3-1).

Enclosure 7 waste containers were typically filled from 80% to 99% with contaminated soil and tuff. Waste debris items, which constituted the remainder of container contents, included sheet metal, rebar, metal pipe, cables, wires, wire mesh, a crushed 55-gal. drum, broken glass, concrete, asphalt, a plastic drum, rubber hose, rubber gaskets, PPE, slate pieces, clay pipe, used filters, paper trash, cloth, and a porcelain sink.

Anomalies removed from the excavated soil included gas cylinders, light fixtures, fire extinguishers, ACM pipes, an electrical box, and an electric motor. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.4.6 Enclosure 9

Located on the eastern portion of MDA B, Enclosure 9 is a fixed, temporary structure with a footprint 280 ft long by 75 ft wide. Enclosure 9 began operation on February 11, 2011, and operations were completed on September 13, 2011. The maximum excavation depth was approximately 18 ft bgs, which was 5 ft deeper than the original estimate of 13 ft bgs. During investigation and remediation activities, 156 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Six additional grid cells located outside the main trench were excavated because of an anomaly in the area revealed by the geophysics survey. Plate 1 shows the location of the excavated grid cells. 6,835 yd^3 of debris, contaminated soil, and overburden were excavated from enclosure 9, which exceeded the original forecast (see Table 4.3-1).

On February 22, 2011, several jars containing beryllium shavings were uncovered. Excavation activities within Enclosure 9 were placed on standby. Air samples, swipes, and soil samples were taken in each enclosure to determine the extent of possible beryllium contamination. Personnel were given training specific to working in beryllium-contaminated areas. The standby was lifted on April 19, 2010, and operations resumed under the assumption that the enclosure was a beryllium area. Excavation resumed in row 74, relocating operations further from the area in which the jars of beryllium shavings were found. The enclosure was down-posted from a beryllium area on May 12, 2011.

Enclosure 9 waste containers were typically filled 95% to 100% with contaminated soil and tuff. Waste debris items, which constituted the remainder of waste container contents, included scrap metal, sheet metal, metal plates, rebar, metal pipe, cables, wires, crushed metal cans, crushed 55-gal. drums, broken glass, concrete chunks, asphalt chunks, ceramic tile, graphite pieces, jars of beryllium shavings, wood, plastic pieces, plastic sheeting, rubber hose, PPE, cloth, and cardboard. Large debris items included chainlink fencing, metal tanks, and unpressurized gas cylinders.

Anomalies removed from the excavated soil included pressurized cylinders, sealed bottles with unknown liquid and solid contents, a capacitor, artillery shells, sabot rounds, and chunks of lead. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.4.7 Enclosure 12

Located on the eastern portion of MDA B, Enclosure 12 is a fixed, temporary structure with a footprint 220 ft long by 75 ft wide. Enclosure 12 began operation on October 10, 2010, and waste removal was completed on April 26, 2011. Excavation depths varied from 15 to 21 ft bgs, which exceeded the original maximum depth estimate by almost 10 ft.

During investigation and remediation activities, 100 grid cells were excavated, removing overburden material, contaminated soil, and waste debris. Plate 1 shows the location of the excavated grid cells. 5,473 yd^3 of debris, contaminated soil, and overburden have been excavated from Enclosure 12, which exceed the original forecast (see Table 4.3-1).

On October 27, 2010, two drums containing white powder were uncovered and placed into the anomaly pile for sampling. The drums were in poor condition. When one of the drums was accidentally breached during the transfer, it released a cloud of white powder, which triggered the use of the dust-suppression

system. Liquid was later observed trickling from behind one of the drums. When this drum was picked up, no liquid was seen coming from the drum; therefore it appears likely that the liquid was dust-suppression water. This assumption was later confirmed by the analytical results.

VOC vapors were also detected. Napthalene was determined to be the major constituent of the white powder and the source of the vapors. Excavation was on standby in enclosure 12 until November 9, 2010, when the material was characterized and the enclosure was determined to be safe for further excavation. Excavation operations resumed the following day. This work stoppage was one of the factors in the November 2010 extension request described in section 2.5.2 (LANL 2010, 111332).

Enclosure 12 waste containers were typically filled 50% to 99% with contaminated soil and tuff. Waste debris items, which constituted the remainder of container contents, included scrap metal, sheet metal, metal pipe, wires, a crushed metal can, crushed 55-gal. drums, broken glass, wood, plastic pieces, rubber weather stripping, rubber hose, PPE, and rolls of film.

Additional anomalies included light bulbs, a box apparatus with bulbs, ACM pipe, and a possible thermocouple apparatus. These anomalies were characterized and packaged separately in accordance with the MDA B SAP, Rev. 2 (LANL 2010, 111195).

4.5 Air Sampling

Eight AIRNET stations are located along the northern boundary of MDA B. The locations of these monitoring stations are shown in Figure 4.5-1. Each AIRNET station collected samples of airborne radionuclides, such as isotopic plutonium, americium, and uranium, on a particulate filter.

Samples were collected from these AIRNET stations on a biweekly basis. These samples were sent to an off-site analytical laboratory to be analyzed for isotopic plutonium with alpha spectroscopy, according to EPA requirements in 40 CFR 61, “National Emission Standards for Hazardous Air Pollutants” (NESHAPs), Appendix B, Test Methods. The analytical laboratory cut the filters in half, making an A and B sample for each particular AIRNET station in each sample period.

The B sample was dissolved, and radiochemical separation was used to isolate the isotopic plutonium in the sample. Alpha spectroscopy was used to determine isotopic plutonium concentrations in the air sample. Air concentrations were converted to an estimated radioactive dose for that 2-wk sample period. Year-to-date sums and trends based on these 2-wk dose measurements were generated to evaluate each station’s compliance status in comparison with EPA’s limit of 10 mrem/yr dose from the air pathway to a representative member of the public. These air sampling plots are provided in Appendix F.

The maximum biweekly dose measured at the eight stations during the project period (June 21, 2010, through August 15, 2011) was 1.05 mrem. Most biweekly doses measured below 0.04 mrem. The maximum year-to-date accumulated total dose for any of these eight stations was 3.10 mrem. The average accumulated total for all stations during the project period was 0.98 mrem. These values are all less than the 5 mrem Laboratory administrative rolling 12-month allocation for the project. The EPA regulatory limit of 10 mrem/y applies collectively to all Laboratory operations.

The A sample from the particulate filter was composited with all the other Laboratory AIRNET samples collected at the same location during a 3-mo period into a single, composite sample that was destructively analyzed for levels of isotopic plutonium, uranium, americium, and other contaminants. This analysis provided a more sensitive air concentration measurement, which was used for NESHAPs compliance reporting. Results from analyses of quarterly composited samples were well below the yearly Laboratory dose allocation for all sites.

Plots of biweekly and quarterly composited air samples collected over the course of the MDA B investigation and remediation are presented in Appendix F.

5.0 TRENCH CONFIRMATION SAMPLING

Section 4.4 of the IRWP (LANL 2006, 095499) describes the general approach for field screening of the excavation floor and side walls and the collection of confirmation samples. Once all visible waste was excavated, field screening was used to determine if further excavation was required. The original intent was to analyze for organic chemicals using a portable GC/MS and to perform radionuclide screening for alpha, beta, and gamma radiation. Material would then be excavated from the walls and/or floors of the trench until field screening indicated that residual contaminant levels were at, or below, residential SSLs for hazardous constituents and SALs for radionuclides.

As described in section 2.5.1, the portable GC/MS was intended to be used for both field screening and waste characterization. Before the beginning of excavation activities, the Laboratory determined that disposal facilities would not accept GC/MS data for waste characterization, which negated the benefit of using a portable GC/MS. An alternative approach was developed that used field screening for gamma radiation and an off-site laboratory for hazardous constituent and radionuclide analyses.

Field screening at the dig-face was performed using an excavator-boom-mounted FIDLER, and gamma radiation measurement of representative samples of waste and confirmation locations were analyzed on-site with gamma spectroscopy using a high-purity germanium detector. These revised screening procedures were described in the MDA B SAP, Rev. 2 (LANL 2010, 111195). They were also documented in the quarterly project reports submitted to NMED [e.g, (LANL 2010, 111508)] and the November 2010 extension request (LANL 2010, 111332). A photoionization detector (PID) was used to screen for VOC's, and a RAE Systems MultiRAE was used to screen for carbon monoxide, lower explosive limit, hydrogen sulfide, and oxygen.

A confirmation sampling program was developed based upon an initial estimate of the number of samples that would be statistically valid. During the course of the remediation, the statistical validity of the number of samples was periodically re-evaluated to verify that the total number of samples was sufficient. Analytical data were compared with residential cleanup levels on a point-by-point basis. The first sample was collected from a location that was selected using a random-number generator. Subsequent confirmation samples were collected at 50-ft intervals along the trench's bottom and side walls.

In order to determine whether the site has been appropriately sampled and adequately characterized based on the work plan proposed sampling frequency an analysis was conducted using confirmation samples collected and data from the MDA B trenches. This analysis included using statistical tools contained in the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*. The results of the MARSSIM analysis indicated that the number of samples collected for each radionuclide detected from 0–10 ft and from all depths exceeded the number of samples needed to illustrate that the site was appropriately sampled (Appendix H). Therefore, there is a 95% confidence that the site is adequately characterized.

Excavation within each area continued until field screening for radioactive contaminants indicated no detectable activity. Once tuff was encountered, excavation proceeded 1 ft into the tuff, per the IRWP (LANL 2006, 095499), until field screening revealed no abnormal or elevated readings. Confirmation samples of geologic material were then collected in accordance with the MDA B SAP (LANL 2010, 110411; LANL 2010, 110398; LANL 2010, 111195). Samples were collected at a depth of 0 to 2 ft into the excavated surface as discussed in section 2.5.1. A Trimble VX Spatial Station measured the precise location where each confirmation sample was collected.

Utilizing Standard Operating Procedure 06.09, Spade and Scoop Method for the Collection of Soil Samples (Revision 3), sample collection was conducted as described below. Sampling for the trench bottoms and sidewalls was conducted using an excavator bucket due to safety concerns with personnel working directly within an excavation (see section 2.5.1). The excavator operator removed 1-2 ft of soil/tuff from the trench sample location using the excavator bucket. The material from the bucket of the excavator was placed upon a sheet of plastic to allow the sampler to complete sample collection as soon as possible following removal of the material from the trench. Sample media was screened for VOCs and alpha, beta and gamma radiation prior to collection of the sample. No VOCs were detected during this screening process. If the sample consisted of broken tuff, the sampler further reduced the size using a decontaminated rock hammer or stainless steel trowel, only to the extent required to containerize the sample. The material was then passed through a 2.00 mm sieve into a sample bowl in order to remove foreign material. The sample material from the bowl was placed into appropriate sampling containers. Efforts were made to prevent the potential loss of VOCs by filling the sample container for VOCs first, and then all remaining sample containers were filled. All sample containers were filled to the top to minimize headspace. Following sample collection all samples were kept at a temperature of 4 °C until delivered to the sample management office, where samples were prepared for shipment to the analytical laboratory.

Confirmation samples were then shipped to a certified off-site laboratory for hazardous constituent analysis. Analyses included TAL metals, VOCs, SVOCs, dioxins/furans, polychlorinated biphenyls (PCBs), perchlorate, nitrate, cyanide, and total uranium. In cases where confirmation sample results indicated concentrations above residential SSLs, the area was excavated further and re-sampled.

Confirmation samples were also shipped to a certified off-site laboratory for radionuclide analysis for tritium, isotopic uranium, isotopic plutonium, strontium 90, and gamma-emitting radionuclides. Excavation continued for radionuclides to achieve residential SALs unless deeper excavation could not be performed because of safety and/or the practical limitations of slope lay-back requirements. The coordinates of these locations were recorded using a global positioning system or other survey methods.

During the course of this investigation, 187 confirmation samples were collected, 21 of which were sampled in the same location by NMED. Plates 2 through 8 show these confirmation sample locations. Table 5.0-1 presents location and sample information for each of the confirmation and split samples collected at MDA B. Sections 5.1 through 5.7 summarize the confirmation sampling results by enclosure.

The trench walls and floors were also inspected for the presence of any significant fractures that could serve as a migration pathway for waste constituents. Rock fractures are a common feature of welded ash-flow tuffs such as in the Bandelier Tuff. Although fracture apertures were not measured or studied during the course of the excavation remediation, visual and video inspection of completed excavation walls and floor cuts into the Bandelier Tuff do not show any evidence of abnormal fracturing. This is supported by the fact that tuff walls were stable and did not shown signs of weakening or collapse during excavation of MDA B. In addition, analytical results from the vertical boreholes indicate a pathway for contaminant infiltration and migration is not present.

5.1 Enclosure 1

Forty-three confirmation samples were collected. Plate 2 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs at any depth. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. Only one radionuclide constituent at one location (plutonium-239/240) slightly exceeded its residential SAL in the top 10 ft. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

Five samples collected within Area 5 during DPT sampling and sixteen additional confirmation samples collected during the IR showed no inorganic or organic hazardous constituents exceeding their respective residential SSLs at any depth in Area 5. Twenty five confirmation samples within Area 5 were collected and analyzed for plutonium-239/240 during the course of the remediation. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

5.2 Enclosure 2

Twenty-one confirmation samples were collected. Plate 3 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No radionuclide constituents exceeded their respective residential SALs in the top 10 ft. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

5.3 Enclosure 3

Seventeen confirmation samples were collected, and the entire excavation area was backfilled. Plate 4 shows the confirmation sampling locations. Grid cell AG167 was excavated outside Enclosure 3, as this was thought to be the location of a ramp used to access the disposal trench during MDA B operations. Five confirmation samples were collected from this cell.

With the exception of arsenic, no inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No confirmation radionuclide concentrations in the samples collected from Enclosure 3 were above the residential SALs in the top 10 ft bgs. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

Analytical results for arsenic in the confirmation samples collected from the north side wall and the excavation floor in row 160 (CSMDAB-10-26776 and CSMDAB-10-26777) slightly exceeded the arsenic residential SSL of 3.9 mg/kg. Using two separate statistical tests, the arsenic confirmation results were compared with arsenic background data for Qbt 2, 3, and 4 to determine if these confirmation samples are consistent with background.

The Gehan and quantile statistical tests were performed to compare arsenic confirmation data and Qbt 2, 3, and 4 background data using EPA's ProUCL version 4.1 software program (available at http://www.epa.gov/osp/hstl/tsc/software.htm). Because there were 10% nondetects in the combined confirmation and background data sets, the Gehan test was performed with a 95% confidence coefficient, and the quantile test was evaluated at the 90^{th} quantile.

The p-values for both tests were greater than 0.05 (Table 5.3-1). A box plot comparing the arsenic confirmation data and the Laboratory background data is presented in Figure 5.3-1. Based on the results of the statistical comparisons, arsenic confirmation data was not statistically different from arsenic background data. Therefore, the cleanup level for arsenic established in the IRWP has been satisfied.

5.4 Enclosure 5

Eighteen confirmation samples were collected, and the entire excavation area was backfilled. Plate 5 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No

radionuclide concentrations in the confirmation samples collected from Enclosure 5 were above the residential SALs in the top 10 ft bgs. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

5.5 Enclosure 7

Thirteen confirmation samples were collected, and the entire excavated area was backfilled. Plate 6 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No radionuclide concentrations in the confirmation samples collected from Enclosure 7 were above the residential SALs in the top 10 ft bgs. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

5.6 Enclosure 9

Twenty-five confirmation samples were collected. Plate 7 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No radionuclide concentrations in the confirmation samples collected from Enclosure 9 were above the residential SALs in the top 10 ft bgs. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

5.7 Enclosure 12

Nineteen confirmation samples were collected, and the entire excavation area was backfilled. Plate 8 shows the confirmation sampling locations. No inorganic or organic hazardous constituents exceeded their respective residential SSLs. Detected inorganic constituent concentrations by sample are presented in Table 5.1-1. Detected organic constituent concentrations by sample are presented in Table 5.1-2. No radionuclide concentrations in the confirmation samples collected from Enclosure 12 were above the residential SALs in the top 10 ft bgs. Detected radionuclide concentrations by sample are presented in Table 5.1-3.

6.0 BOREHOLE INVESTIGATION

6.1 Post-Remediation Sampling and Analysis Plan

Section IV.C.2.d.iii of the Consent Order requires the installation of eight borings or the number defined by NMED in the approved investigation work plan. This section of the Consent Order also requires that two of these borings be advanced to the base of the Cerro Toledo. The IRWP (LANL 2006, 095499) proposed changes to the post-remediation scope of work as outlined in the Consent Order. Section 4.1 of the IRWP, “Justification for Proposed Work,” summarized prior studies that generated sampling results that were used to help define the nature and extent of any residual contamination. These studies include

- the angled boreholes and geophysical investigations performed in 1998,
- the vapor monitoring program at MDA V, and
- data from the confirmation sampling at MDA B.

NMED's approval of the IRWP post-remediation scope of work replaces the eight boreholes in the Consent Order as allowed by Section III.M.1.3 of the Consent Order.

The IRWP stated that the post-remediation SAP will be submitted to NMED for approval after completion of excavation activities. Because of scheduling constraints, the MDA B post-remediation borehole drilling SAP was submitted to NMED on April 28, 2010 (LANL 2010, 109266). This SAP described methods for drilling; borehole soil, rock, perched groundwater, and pore-gas sampling; geotechnical analysis; geophysical logging; borehole abandonment; equipment decontamination; and investigation-derived waste management. Because it was submitted to NMED early in the excavation process, it did not define the number or locations of the post-remediation boreholes. As summarized in section 2.5.1, the 15-day sampling notification and addendum were then submitted to NMED on May 20, 2011 (LANL 2011, 203594).

6.2 Post-Remediation SAP Objectives

The principal objectives of the borehole investigation were to:

- characterize the nature and extent associated with any residual hazardous constituent or radionuclide contamination exceeding the residential SSLs/SALs at MDA B,
- evaluate the permeability of the tuff unit overlying the Cerro Toledo interval, and
- determine if perched groundwater is present beneath the site.

6.3 Field Work Summary

Two vertical boreholes were drilled in July 2011 using a CME-85 hollow-stem auger rig. Plate 1 shows the locations of these vertical boreholes.

Continuous core were logged by an on-site geologist at 5-ft intervals using a 5-ft-long core barrel from the ground surface to total depth (TD). The only drilling fluid used during the installation of these boreholes was air. Geologic unit stratigraphy was fully characterized. A detailed account of drilling activities and geologic logging is provided in the "Completion Report for Confirmation Boreholes at Material Disposal Area B, Revision 1 (EP2011-0327, September 2011).

Vertical borehole location MDAB-612802 was selected from row 250 because of its central location at MDA B and because it was also the location of a previous confirmation sample with elevated plutonium-239/240 and cesium-137 in the bottom of the excavation. Location MDAB-612802 was advanced 12.5 ft bgs into the Cerro Toledo interval, a TD of 325 ft bgs. Analytical results for soil samples collected from this borehole are presented in Figure 6.3-1.

Vertical borehole location MDAB-612898, which is in the center of row 51, was also a previous confirmation sample location and had elevated plutonium-239/240 in the bottom. Shortly after drilling began at this location, the drill bit broke at 12 ft bgs. The drill rig was moved 5 ft west of the original borehole to new location MDAB-614478. From the base of the trench to 40 ft, there was no recovery of core while drilling at this location. Drilling continued with no recovery until a large quartzite cobble was pulled up on the 35–40 ft run. The quartzite cobble was removed from the end of the core barrel, and the subsequent 40–45 ft run contained core recovery. Total depth was reached for location MDAB-614478 at 50 ft bgs (Figure 6.3-2). The drill rig was then moved approximately 5 ft to the west of location MDAB-614478 to a third shallow location, MDAB-614483 (Figure 6.3-3). The third borehole was drilled so that a sample could be collected at the base of the trench.

A minimum of four samples was collected from the deep borehole and two samples from the shallow borehole. The sampling intervals were selected using the following criteria:

- the sample exhibiting the highest field-screening detection;
- the sample collected from the maximum depth in each borehole that shows field-screening evidence of contamination;
- the sample located immediately below the base of the disposal trench;
- the sample from the base of the borehole; and
- a sample from a fracture-fill material and adjacent tuff matrix (paired sample) if fracture material volume is present in sufficient volume to sample.

Utilizing Standard Operating Procedure 06.09, Spade and Scoop Method for the Collection of Soil Samples (Revision 3), sample collection was conducted as described below. Drilling was accomplished using a hollow-stem auger rig. Continuous lithologic logging and tuff sample collection was accomplished using a 5-ft long, 3-in diameter core barrel that was advanced into the undisturbed tuff ahead of the drill augers. Following the removal of the core barrel from the borehole, the barrel was opened, screened for VOCs (using a photo ionization detector (PID)) and alpha, beta and gamma radiation, and the lithology was logged. If a particular interval was selected for analytical sampling, samples of the broken tuff were removed from the core barrel and placed into the sampling bowl. The sampler further reduced the size using a decontaminated rock hammer or stainless steel trowel, only to the extent required to containerize the sample. Samples for VOCs were collected first, and then all remaining sample containers were filled. All sample containers were filled to the top to minimize headspace. Following sample collection all samples were kept at a temperature of 4 °C until delivered to the sample management office, where samples were prepared for shipment to the analytical laboratory.

Field screening for VOCs was performed using headspace analysis at 10-ft intervals in each borehole, in accordance with Section IX.B of the Consent Order. Headspace vapor screening of subsurface core for VOCs was performed using a PID equipped with an 11.7 electron volt lamp, as specified in Standard Operating Procedure 06.33, Headspace Vapor Screening with a Photo Ionization Detector. The maximum sustained reading and the ambient air temperature was recorded in the field borehole log for each sample. Radiological screening targeted gross alpha, beta, and gamma radiation. Field screening for alpha, beta, and gamma radiation was conducted within 6 in. of the core material. All instrument background checks, background ranges, and calibration procedures were documented daily in the field logbooks.

These samples were submitted to a laboratory for hazardous constituent analysis of VOCs, SVOCs, pH, PCBs, dioxins/furans, nitrates, perchlorate, TAL metals, total uranium, and cyanide. Confirmation samples were also shipped to an off-site laboratory for radionuclide analysis of tritium, isotopic uranium, isotopic plutonium, strontium-90, and gamma-emitting radionuclides in accordance with the approved IRWP (LANL 2006, 095499).

Soil pore gas was collected from both boreholes using a two-bladder straddle packer configuration from within the open borehole. One sample was collected at a depth equivalent to the base of the target disposal unit. A second sample was collected from the TD of the borehole. The soil-vapor sample is collected from the center of the straddle packer assembly, resulting in a sample horizon approximately 6.5 ft above the base of the available open borehole.

The following three changes to field procedures were noted in the 15-d sampling notification and addendum (LANL 2011, 203594):

- *Borehole Plug and Abandonment*. From a worker safety perspective, it was necessary to plug and abandon the boreholes once soil-vapor gas samples had been collected. The open borehole poses an inherent risk to ongoing field operations.
- *Borehole Geophysical Logging.* Geophysical logging of the subsurface was deferred until the lithologic logging was reviewed to determine if significant porous or fractured zones were present.
- *Geotechnical Analysis.* Collection of geotechnical samples was based on conditions observed in the field during drilling and visual inspection of the recovered core instead of a minimum number.

6.4 Investigation Results

Analytical results for the borehole samples are presented in Appendix G (on DVDs included with this document).

6.4.1 Hazardous Constituents

No hazardous constituents were detected at concentrations above residential SSLs in the new vertical borehole samples. Detected inorganic constituent concentrations by sample are presented in Table 6.4-1. Detected organic constituent concentrations by sample are presented in Table 6.4-2.

6.4.2 Radionuclides

Radionuclide results for the vertical boreholes were below residential SALs (Table 6.4-3). Both locations chosen for the vertical boreholes were based on previous confirmation sample locations with radiological concentrations above residential SALs. The sample collected at the base of the trench while drilling the borehole at row 250 showed no detections of cesium-137 or plutonium-239/240. In the shallow borehole, plutonium-239/240 was detected (12.2 pCi/g) at the base of the trench, decreased with depth from the bottom of the excavation, and was below the residential SAL. There were detected concentrations americium-241, tritium, and isotopic uranium in the other vertical boreholes but these concentrations were low, were below or slightly above background for isotopic uranium, and decreased with depth.

Row 51 was excavated further after the borehole investigation to remove the material above the residential SAL.

6.4.3 Soil Vapor

Laboratory analytical results for the soil-vapor samples collected from the five angled boreholes and two vertical boreholes are discussed in this section. Analytical results for the borehole samples are presented in Appendix G (on DVDs included with this document). Organic constituents detected are presented in Table 6.4-4. Tritium chemical concentrations detected in borehole soil-vapor samples are presented in Table 6.4-5.

VOC concentrations in pore gas samples collected form MDA B boreholes were less than those detected in samples collected at MDA V, which is located just to the southeast of MDA B. The VOC data from MDA V were screened to determine whether VOCs in subsurface pore gas were a potential source of groundwater contamination through migration of pore gas to groundwater. This screening process is described in the MDA V investigation report (LANL 2007, 099942), accounts for equilibrium partitioning between VOCs in the gas and liquid phases and compares measured concentrations of VOCs in pore gas to concentrations required to exceed groundwater cleanup standards. The results of this screening

indicate that VOCs in subsurface pore gas at MDA V are not a potential source of groundwater contamination. By extension this conclusion also holds true for VOCs in subsurface pore gas at MDA B.

LANL has conducted modeling analyses of the tritium transport in the vadose zone and the regional aquifer beneath MDA V, just to the southeast of MDA B. The analyses indicate that if the highest reported tritium activity at MDA V (~70,000 pCi/L) in the vadose zone was assumed to be a continuous constant-concentration source, the drinking water MCL for tritium (20,000 pCi/L) for the regional groundwater would not be exceeded (LANL 2011, 206438). The analyses take into account the processes of contaminant transport in the vadose zone and the regional aquifer. Based on this analysis, the maximum concentration detected at MDA B (9,942pCi/L) will not exceed the drinking water MCL for tritium.

6.4.4 Conclusions

The results of the vertical borehole investigation satisfied the three project objectives:

- Characterize the nature and extent associated with any residual hazardous constituent or radionuclide contamination exceeding the residential standards at MDA B. All samples from the borehole investigation were below residential SSLs for hazardous constituents and below SALs for radionuclides and decreased with depth from the bottom of the excavation. No hazardous constituents were detected above residential SSLs in the walls of the excavation. Plutonium-239/240 was the only radionuclide detected above its residential SAL in the walls of the excavation. Concentrations in the walls of the excavation were less than what was detected in the waste and decreased as areas were further excavated and sampled. These data support the conclusion that the nature and extent associated with any residual hazardous constituent or radionuclide contamination from historic waste disposal activities at MDA B has been defined.
- ***Evaluate the permeability of the tuff unit overlying the Cerro Toledo interval.*** Eight core samples were collected for geotechnical analyses from several stratigraphic units while drilling borehole location MDAB-612802. The units sampled included Units 3, 1v, and 1g of the Tshirege Member of the Bandelier Tuff (Qbt3, Qbt1v, and Qbt1g), the Tsankawi Pumice Bed (Qbtt), and the Cerro Toledo interval (Qct). The Tsankawi Pumice Bed overlies the Cerro Toledo interval. Analyses were conducted that enable calculations of permeability for each of these samples. Table 6.4-6 presents the saturated hydraulic conductivity and moisture content as provided by the laboratory. Additional calculations have been conducted to determine saturated permeability and unsaturated conductivity. These values are also presented in Table 6.4-6. The low moisture contents observed in these samples and the corresponding unsaturated hydraulic conductivity values are consistent with MDA B being a dry disposal site.
- ***Determine if perched groundwater is present beneath the site.*** No perched aquifers or areas of high moisture content were observed during drilling of any of the borings associated with the MDA B borehole network.

7.0 SUMMARY AND CONCLUSIONS

7.1 Objective #1: Characterize types and quantities of waste at MDA B

MDA B, which was one of the first disposal sites at the Laboratory for radioactively contaminated wastes, operated from April 1944 to June 1948.There were few disposal records for MDA B and the total waste inventory was unknown. Process knowledge was compiled by reviewing the Laboratory historical records. Because it was not safe to dig open-air test pits to collect more waste information and define the trench

boundaries, the Laboratory conducted minimally intrusive investigations. Preliminary investigative characterization was performed using geophysical and direct push technologies to define the trench boundaries, estimate waste volumes, and identify probable radiological and chemical contaminants. Once waste excavation activities began, definitive characterization for both chemical and radiological constituents was performed in accordance with the MDA B WCSF (LANL 2010, 109754) and MDA B SAP, Rev. 2 (LANL 2010, 111195). Table 7.1-1 summarizes the types and quantities of waste excavated at MDA B.

The volume generated of soil mixed with waste that exhibited a hazardous characteristic was far less than originally anticipated. Only one small area of soil mixed with waste was excavated that exceeded the toxicity characteristic leaching procedure limit for cadmium. This waste was managed as low-level mixed waste.

In addition to direct sampling, the waste was visually examined and any potential anomalies were segregated from the bulk waste for further evaluation. Over 500 waste items ranging in size from 20-ml vials to large transformers were segregated, sampled, and managed separately. Substantially less characteristically mixed hazardous waste was generated than was originally estimated due to careful waste segregation practices. As of the date of this report some anomaly waste is still awaiting disposal.

Excavation continued in each trench until all waste was removed. The original estimate of the total volume of waste was based on the trench dimensions developed based on the results of the geophysical investigations and the DPT investigation and a 20% bulking factor. The final volume of waste exceeded this initial estimate by approximately 90%. This increase resulted from the fact that waste depth in several areas exceeded the maximum estimated trench depth of 15 ft bgs by an additional 20 ft. In addition, the actual bulking factor was approximately 40%.

7.2 Objective #2: Remove and properly dispose of the excavated wastes

All wastes were removed from the trenches. Overburden material, consisting of soil and tuff capping the disposal trenches, was removed before the excavation of waste and contaminated soil. All of the 12,026 yd^3 of excavated overburden material that met the overburden criteria in the MDA B SAP, Rev. 2 (LANL 2010, 111195) was used as fill during backfilling operations.

A total of 43,222 yd^3 (which includes a 3,300 yd^3 credit for trench investigations at Areas 9 and 10) of waste was removed from the disposal trenches at MDA B as of September 14, 2011. The waste consists of 43,202 yd^3 of low-level radioactive waste and 20 yd^3 of mixed low-level waste. As required by NMED, overburden used as fill was placed deep in the excavation and was then topped with clean backfill material obtained from an off-site source.

As of September 23, 2011, a total of 32,709 yd^3 (77%) has been shipped for disposal. All wastes remaining on-site at the time of this report submittal are containerized and will be properly managed until disposal.

7.3 Objective #3: Perform confirmation sampling in the trenches after wastes are removed

Once all wastes were removed, excavation within each area continued until field screening for radioactive contaminants indicated no detectable activity or until deeper excavation could not be performed because of safety and/or the practical limitations of slope lay-back requirements. A systematic random-sampling design was used to collect a statistically valid number of samples throughout each trench. Samples were collected at a depth of 0 to 2 ft into the excavated surface as discussed in section 2.5.1 above. A Trimble VX Spatial Station measured the precise location where each confirmation sample was collected.

Confirmation samples were then shipped to a certified off-site laboratory for hazardous constituent analysis. Analyses included TAL metals, VOCs, SVOCs, dioxins/furans, PCBs, perchlorate, nitrate, cyanide, and total uranium. Confirmation samples were also shipped to a certified off-site laboratory for radionuclide analysis for tritium, isotopic uranium, isotopic plutonium, strontium-90, and gamma-emitting radionuclides.

The cleanup goal of the IRWP (LANL 2006, 095499) was to achieve residential SSLs for hazardous constituents and residential SALs for radionuclides. The scope of the IRWP did not, however, include a risk assessment. A formal risk assessment report that satisfies the requirements in Section XI.E of the Consent Order will be submitted at a later date to support a request for a corrective action complete determination from NMED.

A primary assumption for the residential scenario is that exposure to contaminated media occurs from 0–10 ft bgs. This exposure depth interval (0–10 ft bgs) is the standard depth applied to the residential scenario in all Consent Order risk assessments, as well as associated dose assessments, and has been accepted by NMED and DOE in the investigation reports submitted to date.

The first step was to perform a point-by-point comparison of the hazardous constituent data from the final confirmation samples to the applicable residential SSL. With the exception of arsenic in Enclosure 3, no hazardous constituent concentrations in the confirmation samples from the MDA B trenches exceeded residential SSLs (Table 7.3-1). As discussed in section 5.3, the arsenic confirmation data was not statistically different from background data, thereby meeting the cleanup goal for arsenic.

The second step was to perform a point-by-point comparison of the radionuclide data from the final confirmation samples to the applicable residential SAL. Concentrations for all radionuclides were below the residential SALs from 0–10 ft bgs (Table 7.3-2), except for one location which slightly exceeded the residential SAL for plutonium 239/240. The 95% UCL (9.85 pCi/g) for plutonium 239/240 from 0–10 ft bgs was below the residential SAL (see Appendix H for ProUCL input and output files). There were also hits of plutonium-239/240 and cesium-137 above 33 pCi/g at depths greater than 10 ft; where residential SALs are not applicable.

The Atomic Energy Act (AEA), as amended, 42 U.S.C. §§ 2011 et seq., and the Department of Energy Organization Act, 42 U.S.C. §§ 7101 et seq., and their implementing regulations, orders and directives, require DOE to protect the public health and safety, and, to this end, exclusively authorize DOE to regulate nuclear safety at its facilities. DOE's authority to regulate nuclear safety and worker protection is governed by the provisions of 10 C.F.R. Parts 830 through 835, respectively. Pursuant to those regulations, DOE is required to review and approve all activities and work, including activities and work under this Consent Order, to ensure that its statutory and regulatory responsibilities for nuclear safety are met.

DOE is responsible for controlling the radiological evaluation of MDA B for any future property transfers and for ensuring that potential radiation exposures to members of the public are as low as is reasonably achievable (ALARA). Final radiological dose assessments (ALARA analyses) that are required for DOE to fulfill the requirements in DOE Order 458.1, "Radiation Protection of the Public and the Environment," (February 11, 2011) are outside the scope of the Consent Order.

7.4 Objective #4: Prepare and implement a post-remediation sampling and analysis plan to define the nature and extent of any residual contamination.

The nature and extent of any residual contamination at MDA B has been defined by results from prior investigations at MDA B, confirmation sample data from MDA B, soil vapor data from MDA V and the

results from the two post-remediation boreholes drilled in July 2011 as part of this IRWP. The prior MDA B investigations include five of the seven angled boreholes installed in October 1998 and the concurrent geophysical investigations. These data demonstrate that the nature and extent of any impact from historic waste disposal activities have been defined and that no contaminants from MDA B wastes have impacted the surrounding environment.

This network of boreholes defines the vertical extent of any residual contamination that may have been associated with past disposal practices across the MDA B site. With the exception of angled boring location 21-10554, all samples collected from the angled and vertical borings were below residential SSLs/SALs. As discussed in section 3.3.1, the location 21-10554 encountered a waste trench and cannot be used for determining the nature and extent of residual impact. Also as in section 3.3.1, angled boring location 21-10556, was installed at the far west end of MDA B, where trenches were expected but could not be identified by geophysical surveys. This area was previously known as Areas 9 and 10 (Figure 1.1-2). Because was demonstrated to NMED that no wastes were disposed of in these areas, the data from this borehole were not used in the evaluation of the nature and extent of contamination. Figures 7.4-1 through 7.4-10 illustrate the relationship between a boring and the nearest confirmation sample location.

The confirmation samples collected defined the horizontal extent of any residual contamination from historic disposal practices at MDA B. Horizontal extent is defined because the concentrations decreased from what was detected in the waste and decreased as areas were further excavated and sampled. In addition, the definition of extent is supported by the following:

- Aluminum, beryllium, iron, magnesium, manganese, potassium, sodium, silver, thallium, and vanadium were not detected above background in the trench walls.
- Arsenic and nickel concentrations were less than or equal to the max Qbt 2, 3, 4 concentrations. The maximum wall concentrations for cobalt and selenium were only slightly above background; 3.48 versus the background value of 3.14, and 0.418 versus the background value of 0.3, respectively.
- The maximum wall concentrations for chromium, copper, cyanide, lead, mercury, uranium, and zinc are an order of magnitude or more below the residential SSLs. This is also true for cobalt and selenium.
- The maximum wall concentrations for antimony and cadmium are about 25% and 15% of the residential SSLs, respectively.
- All organics were infrequently detected and were generally below the estimated quantitation limits, with maximum wall concentrations less than SSLs by several orders of magnitude.

Soil vapor data from the investigation of MDA V were also evaluated to confirm that no volatile waste constituents had migrated from the historic waste disposal trenches at MDA B. The sampling data collected during the most recent four quarters (Figure 7.4-11) show that there is no evidence of any contaminant contribution from MDA B in the MDA V vapor monitoring wells. In addition, pore gas evaluations at MDA V indicate no potential groundwater impacts from VOCs and tritium.

Additionally, no perched aquifers or areas of high moisture content were observed during drilling of any of the borings associated with the MDA B boring network.

- These data, combined with the confirmation sampling data and the MDA V soil vapor monitoring results, demonstrate that the nature and extent of residual contamination from historic waste disposal activities have been defined and that no contaminants from MDA B wastes have impacted the surrounding environment. Because the IRWP remediation goal of meeting

residential SSLs and SALs in the top 10 ft, was met, it is not necessary to implement any of the cleanup alternatives discussed in Section 2.4.4.

8.0 REFERENCES AND MAP DATA SOURCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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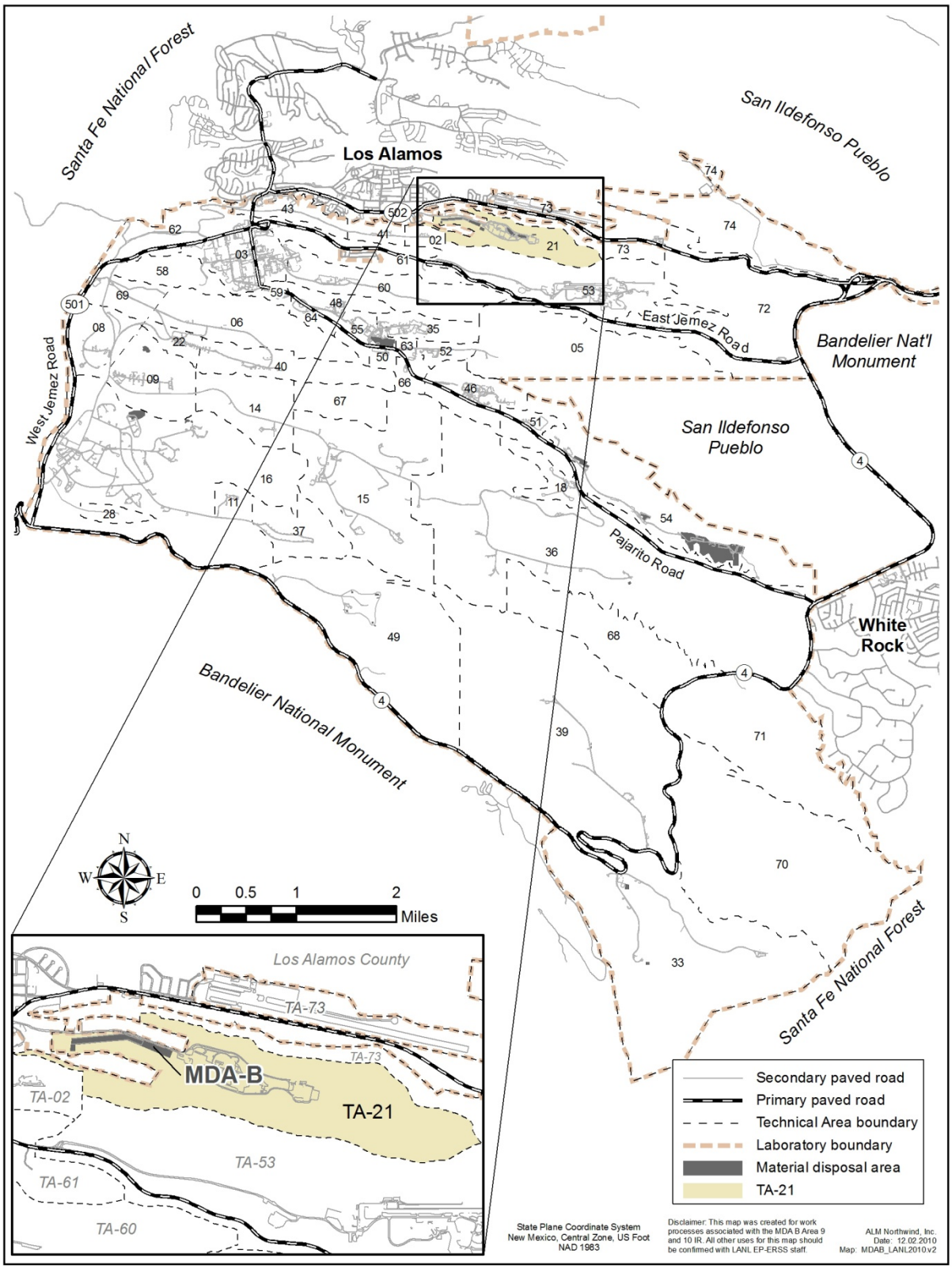


Figure 1.1-1 MDA B in TA-21 with respect to Laboratory TAs and surrounding landholdings

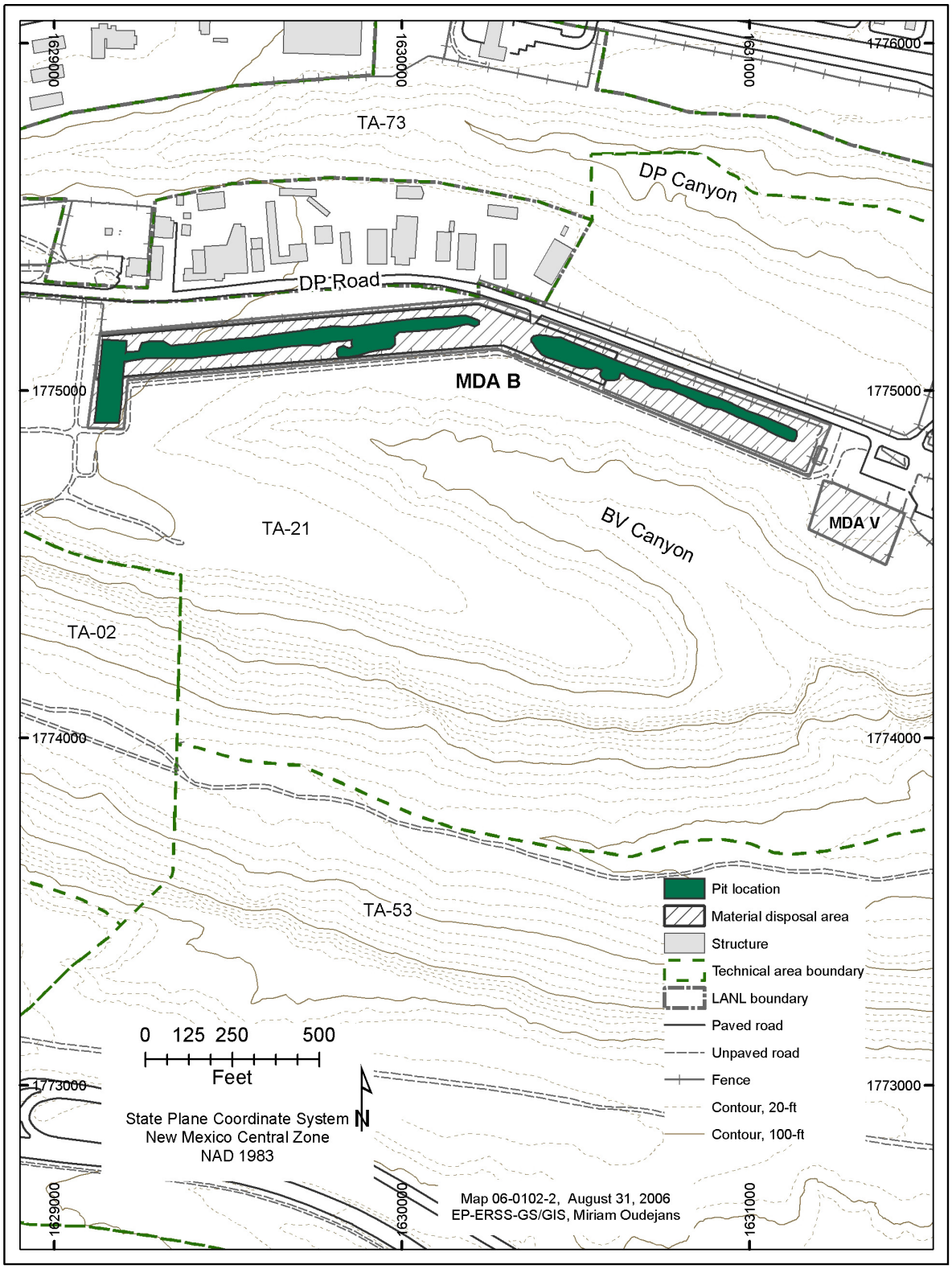


Figure 1.2-1 MDA B in TA-21 site plan

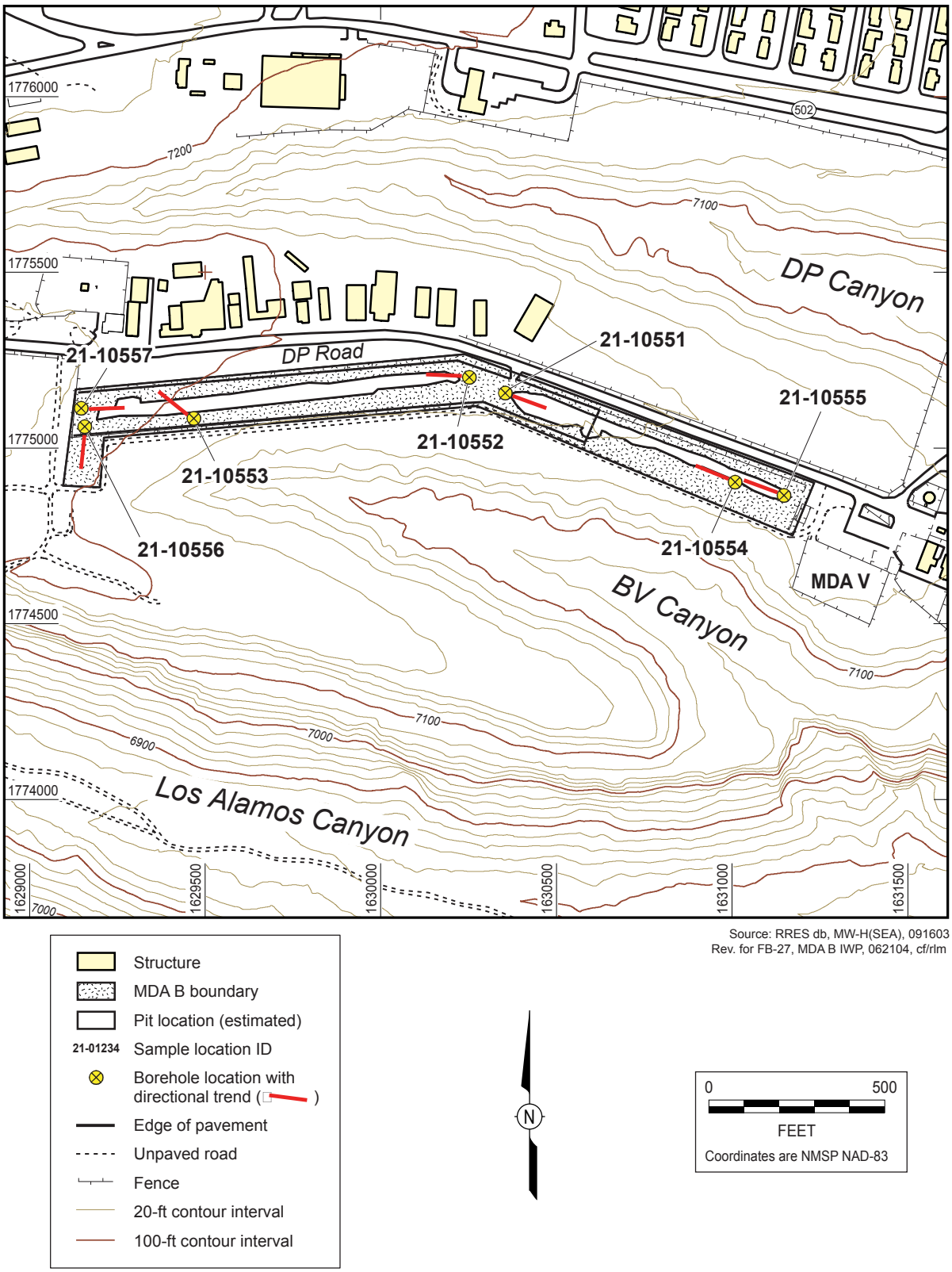


Figure 3.3-1 Locations of angled boreholes drilled in 1998

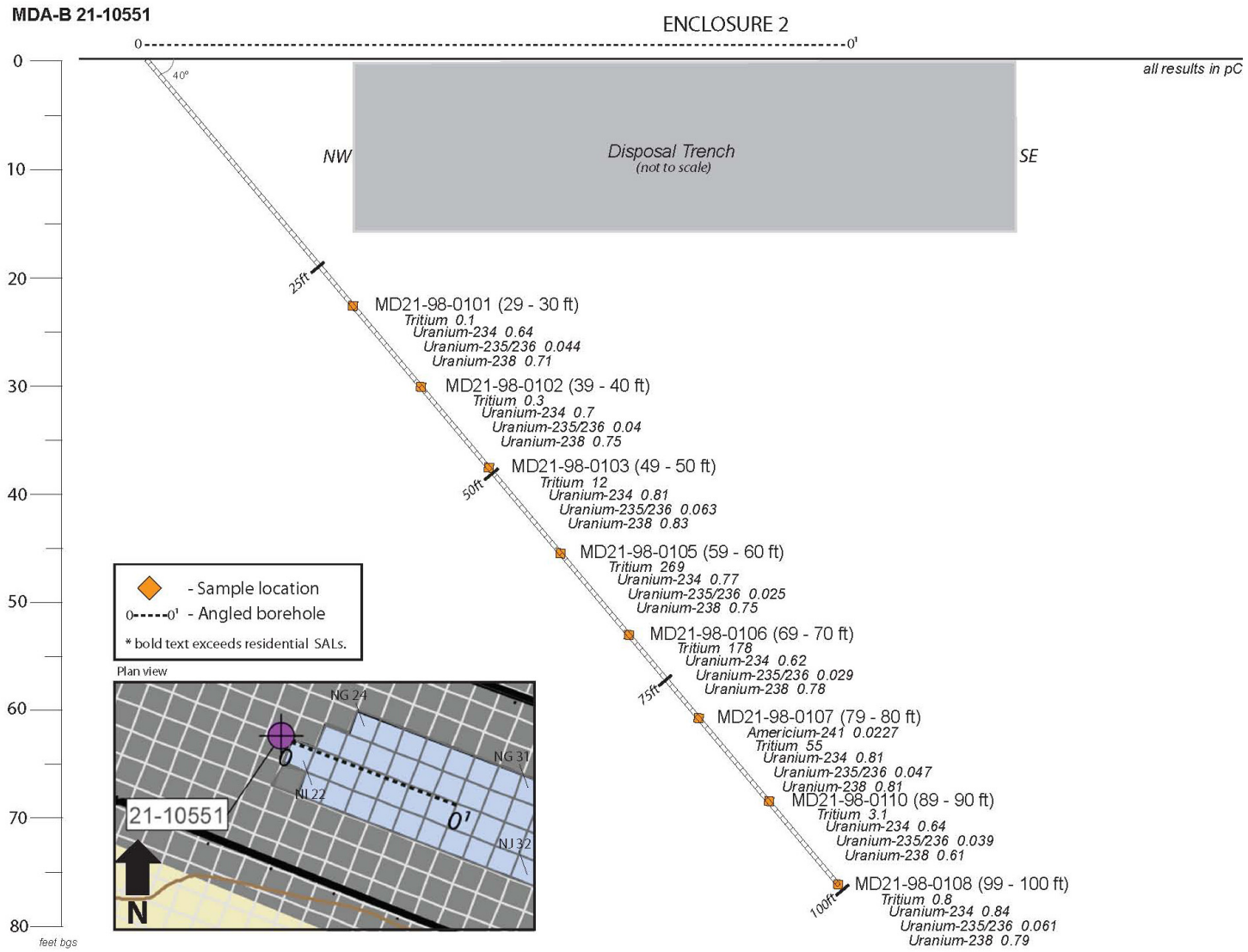


Figure 3.3-2 Schematic profile of MDA B location ID 21-10551

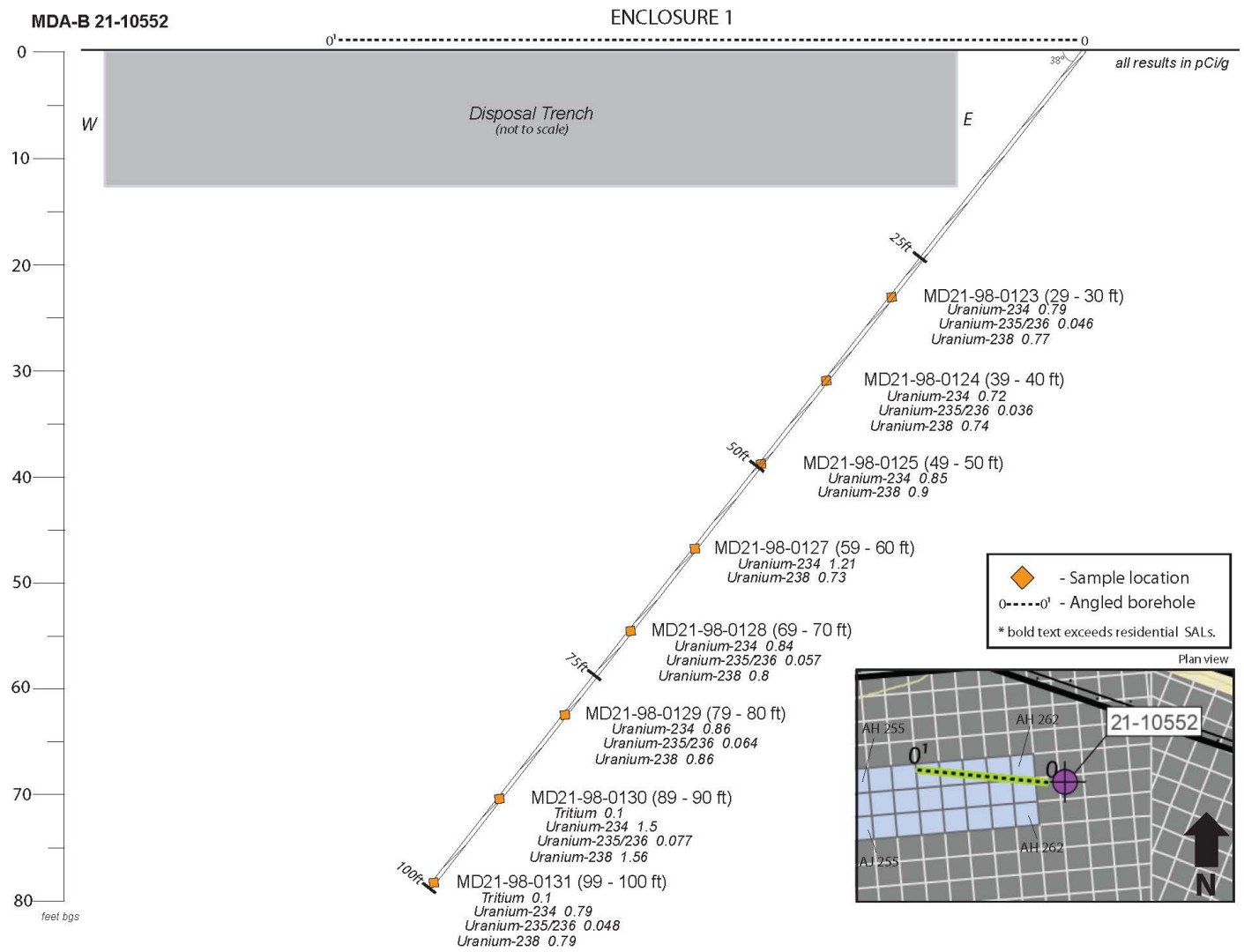


Figure 3.3-3 Schematic profile of MDA B location ID 21-10552

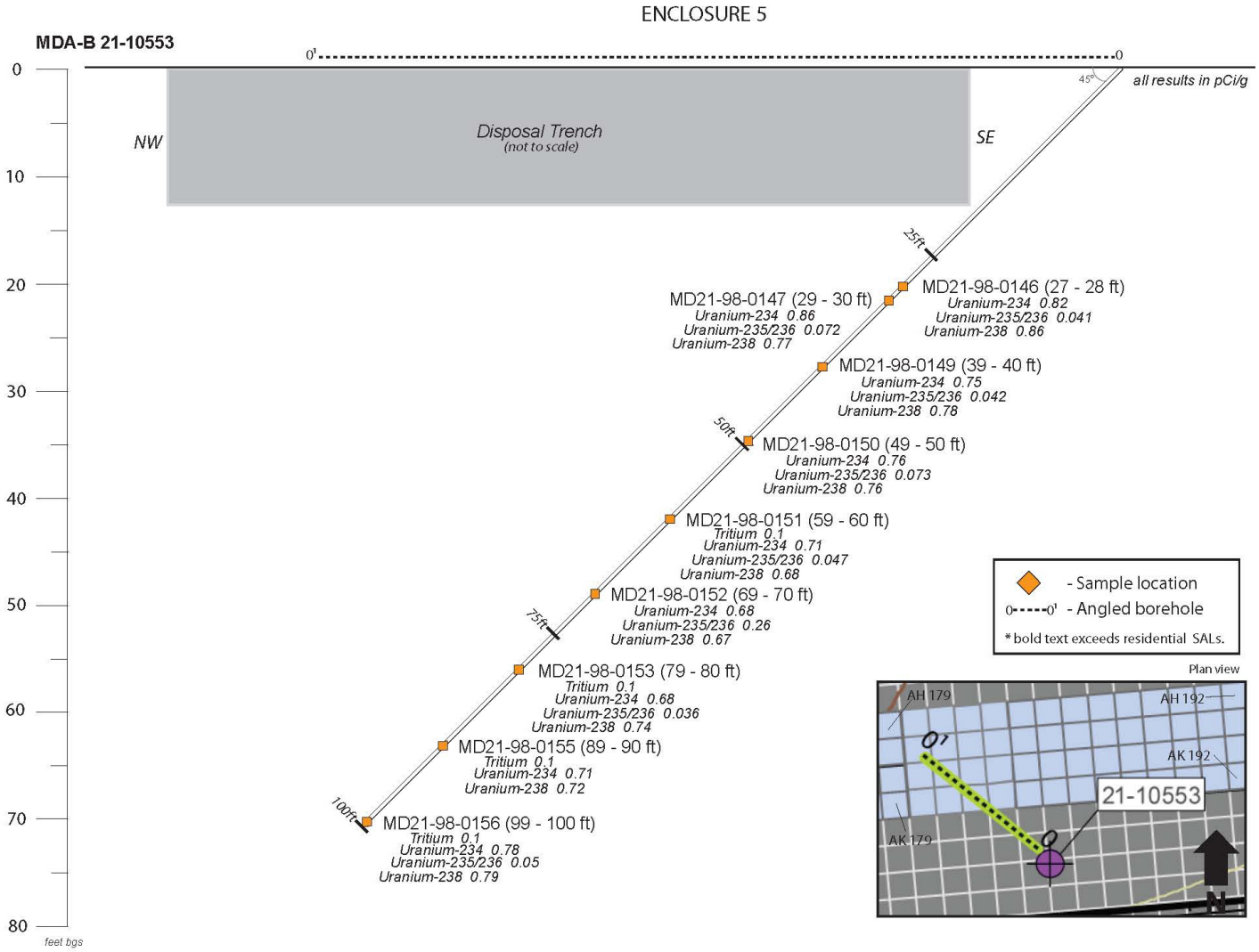


Figure 3.3-4 Schematic profile of MDA B location ID 21-10553

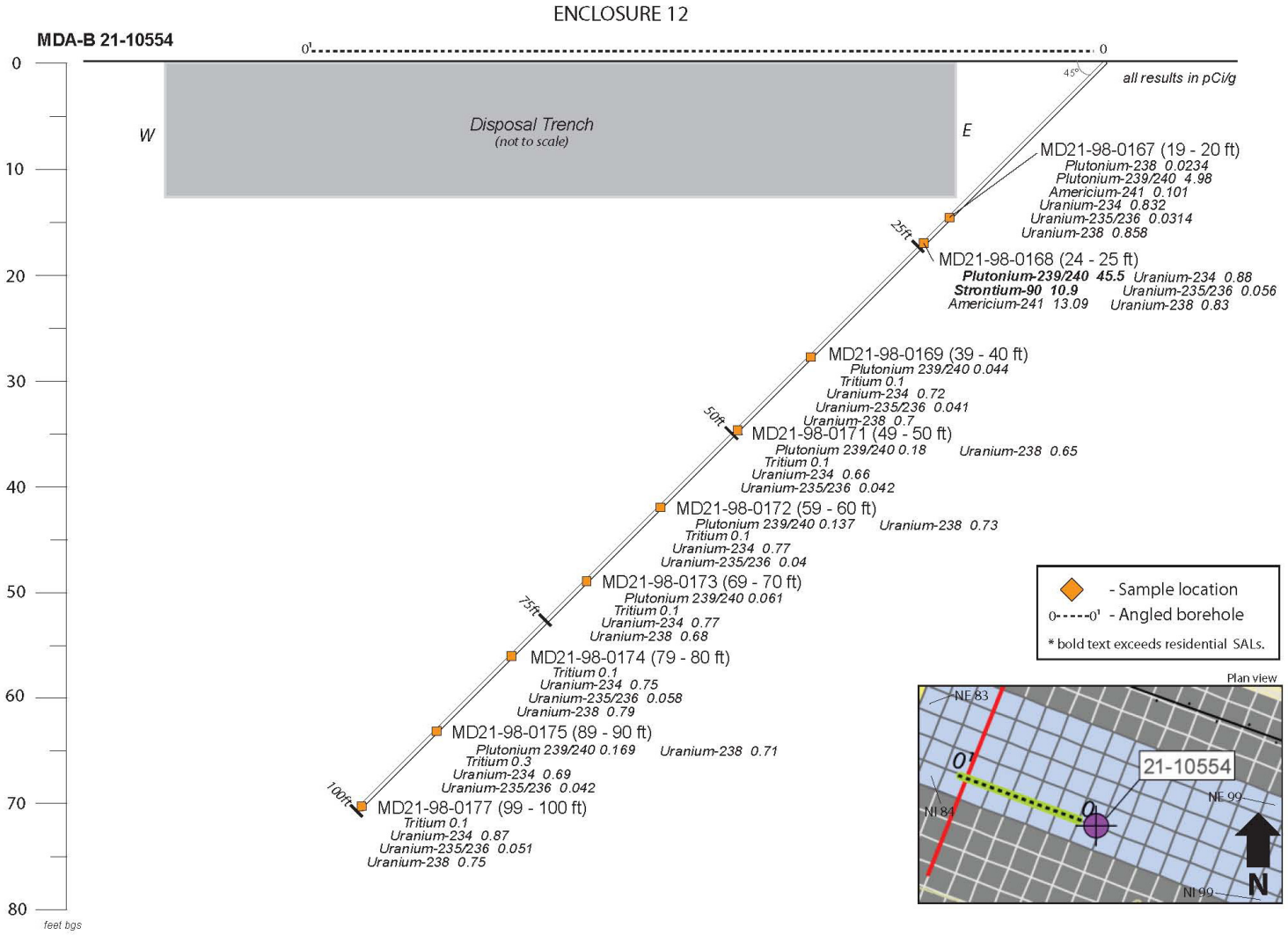


Figure 3.3-5 Schematic profile of MDA B location ID 21-10554

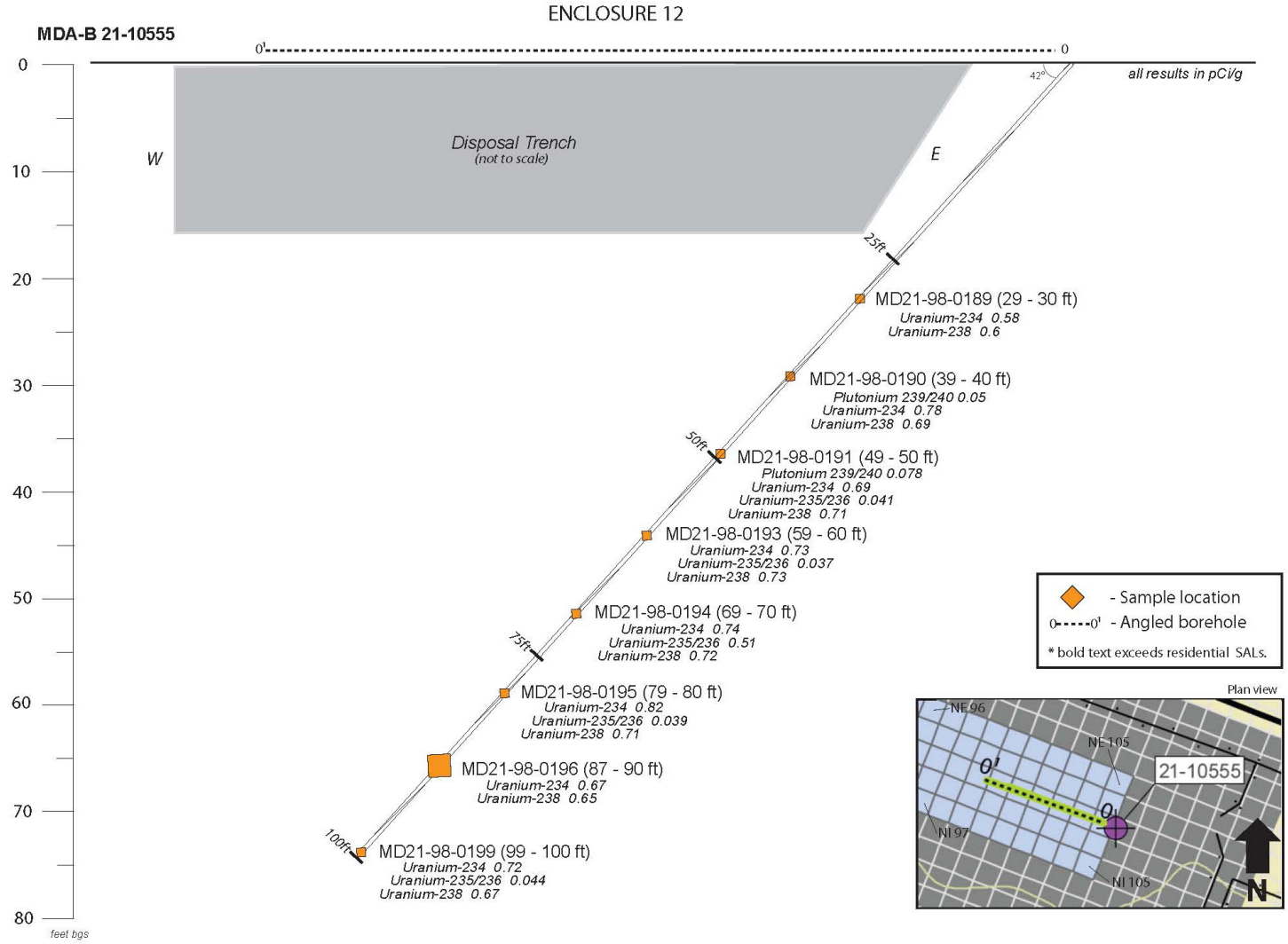


Figure 3.3-6 Schematic profile of MDA B location ID 21-10555

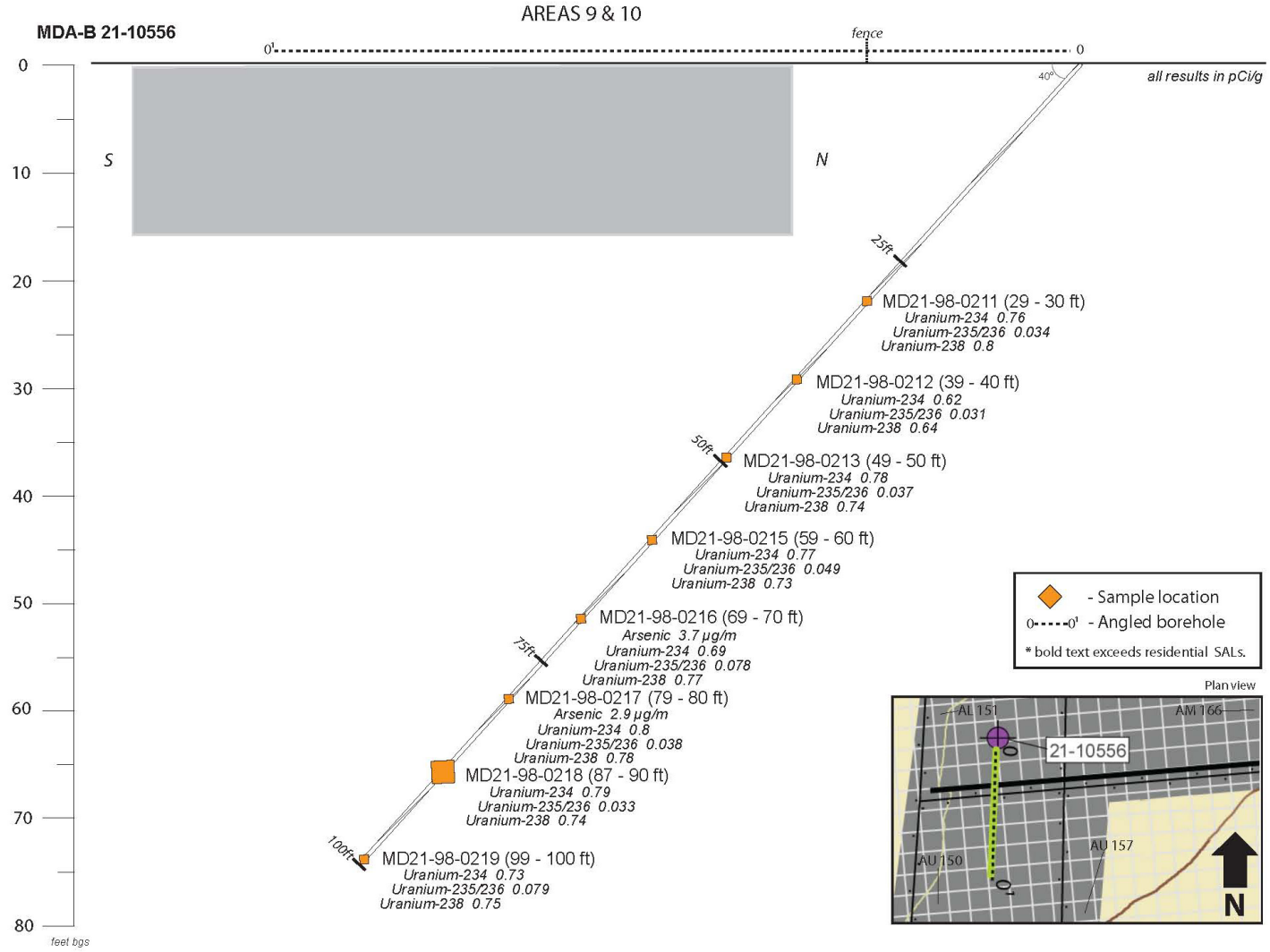


Figure 3.3-7 Schematic profile of MDA B location ID 21-10556

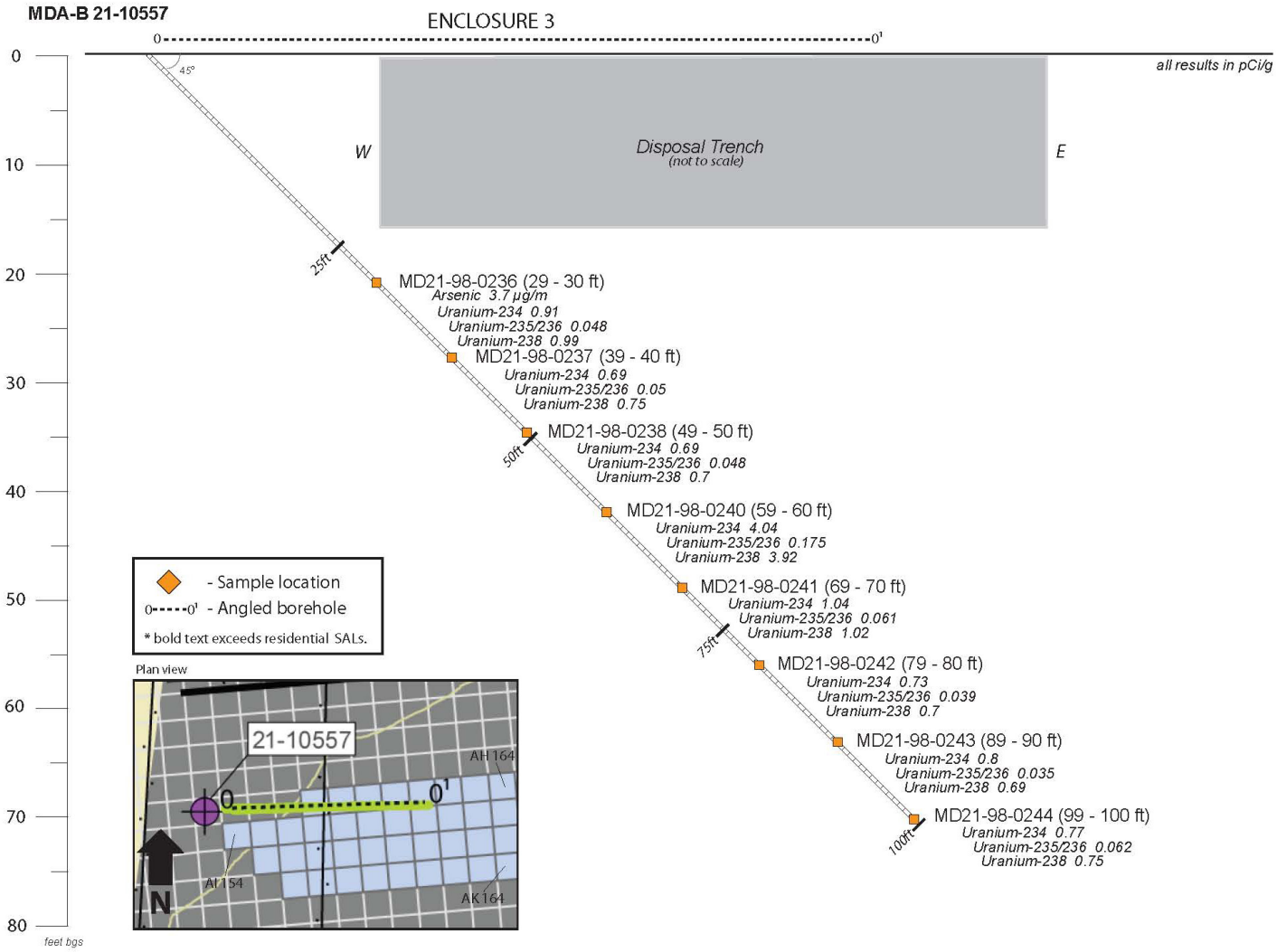


Figure 3.3-8 Schematic profile of MDA B location ID 21-10557

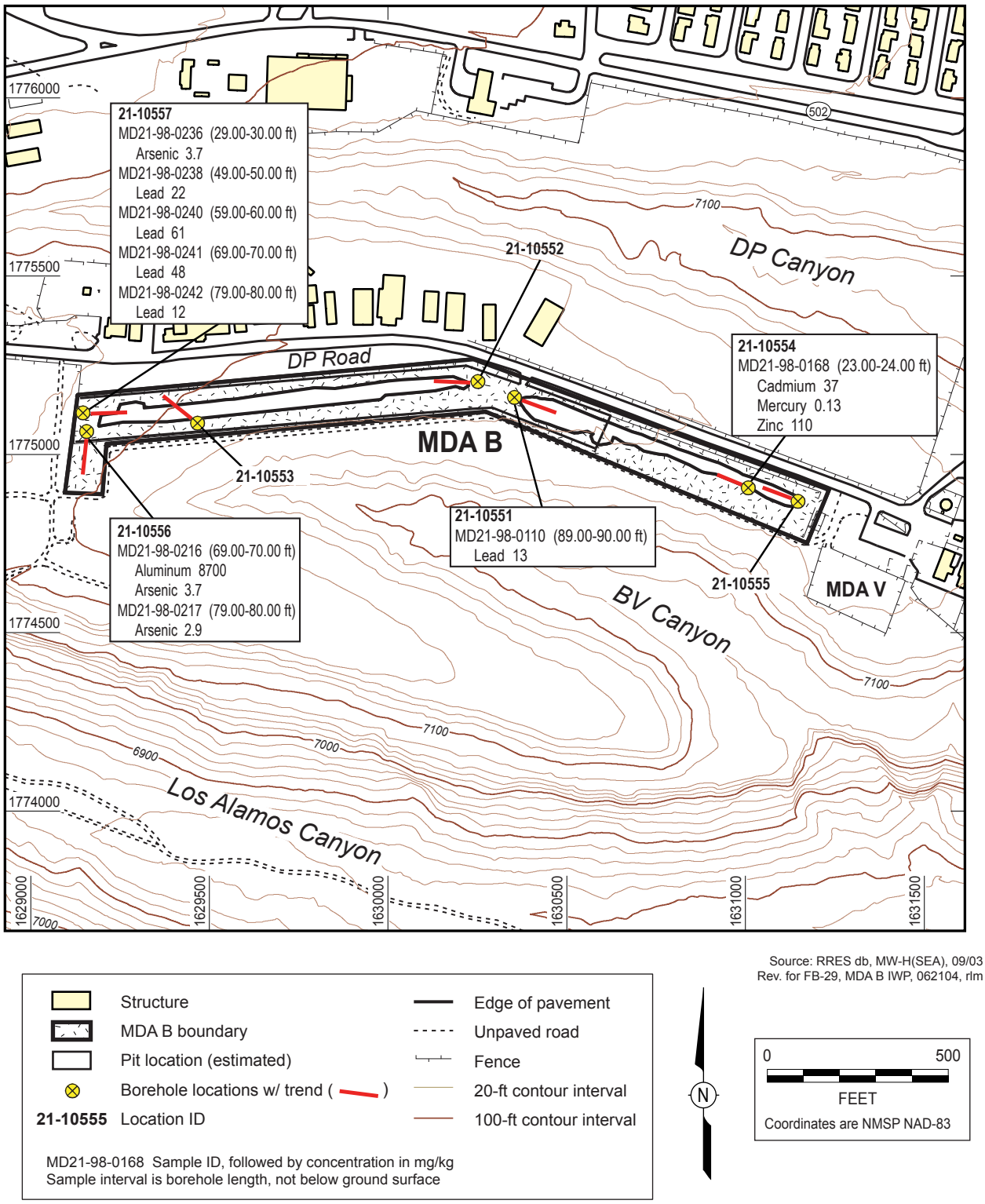


Figure 3.3-9 Inorganic chemicals above background in 1998 angled borehole samples

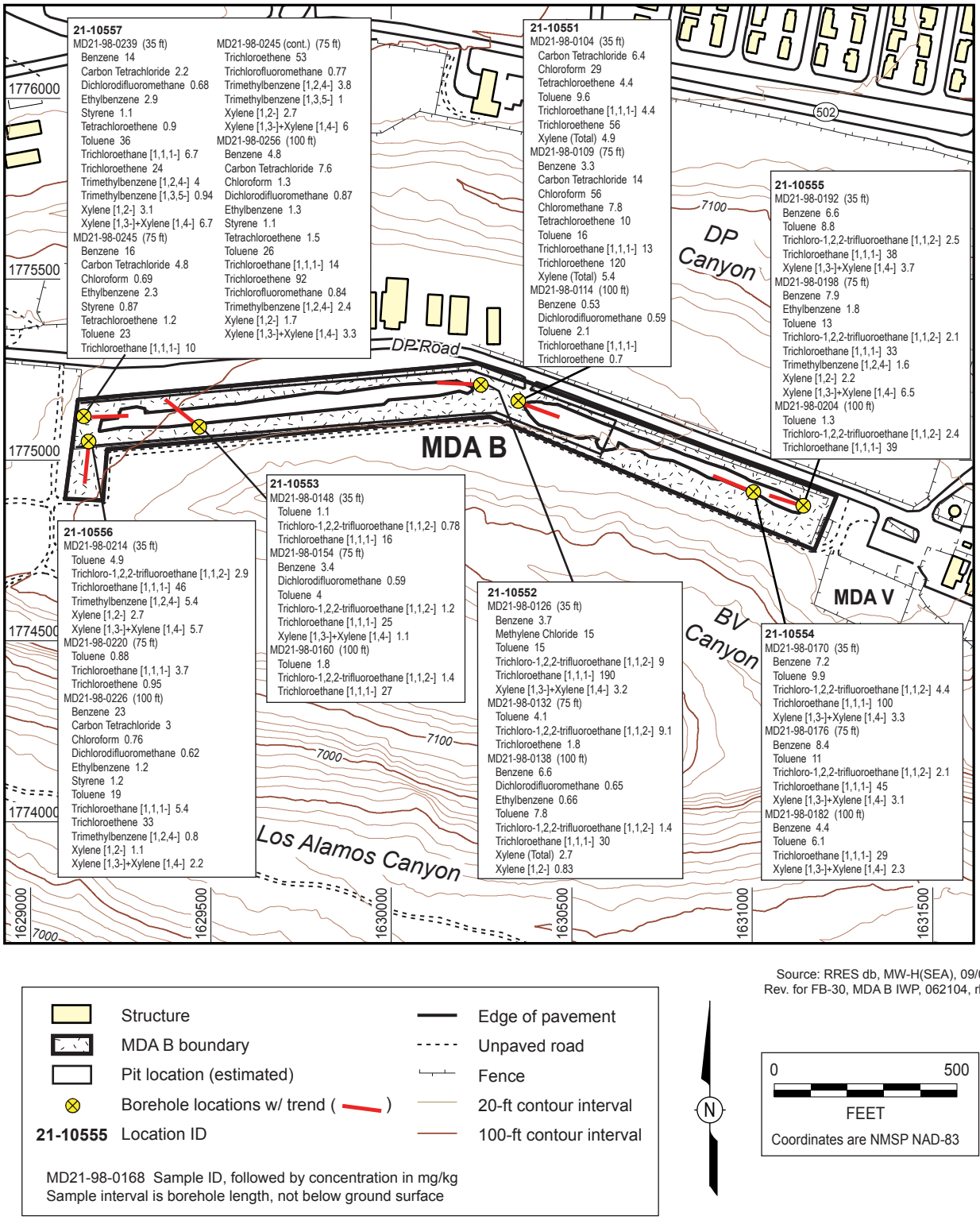
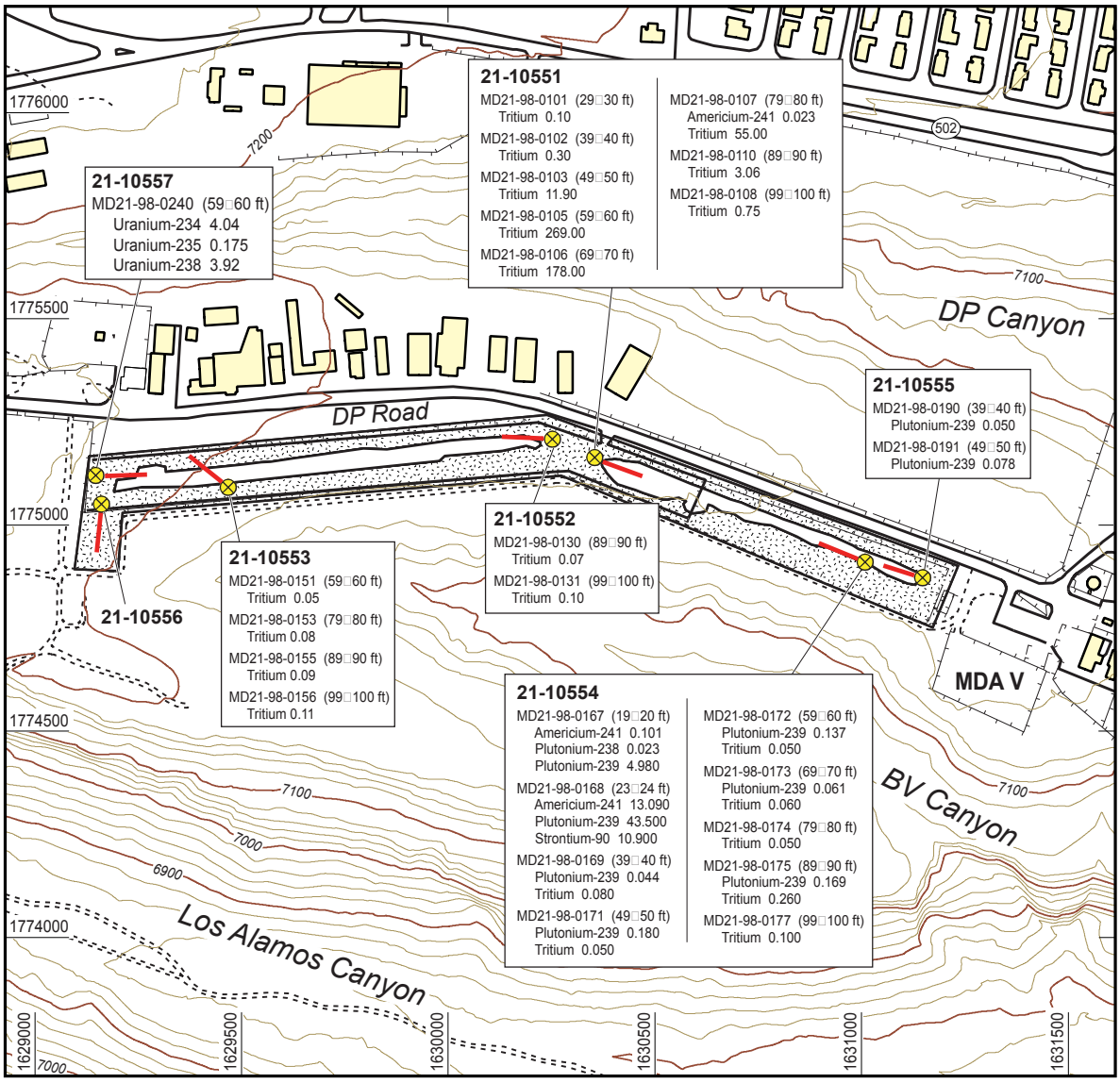


Figure 3.3-10 Volatile organic compounds detected in pore-gas samples from 1998 angled boreholes



Source: RRES db, MW-H(SEA), 09/03
Rev. for FB-28, MDA B IWP, 062204, cf/rlm

Figure 3.3-11 Radionuclides above background in 1998 angled borehole samples

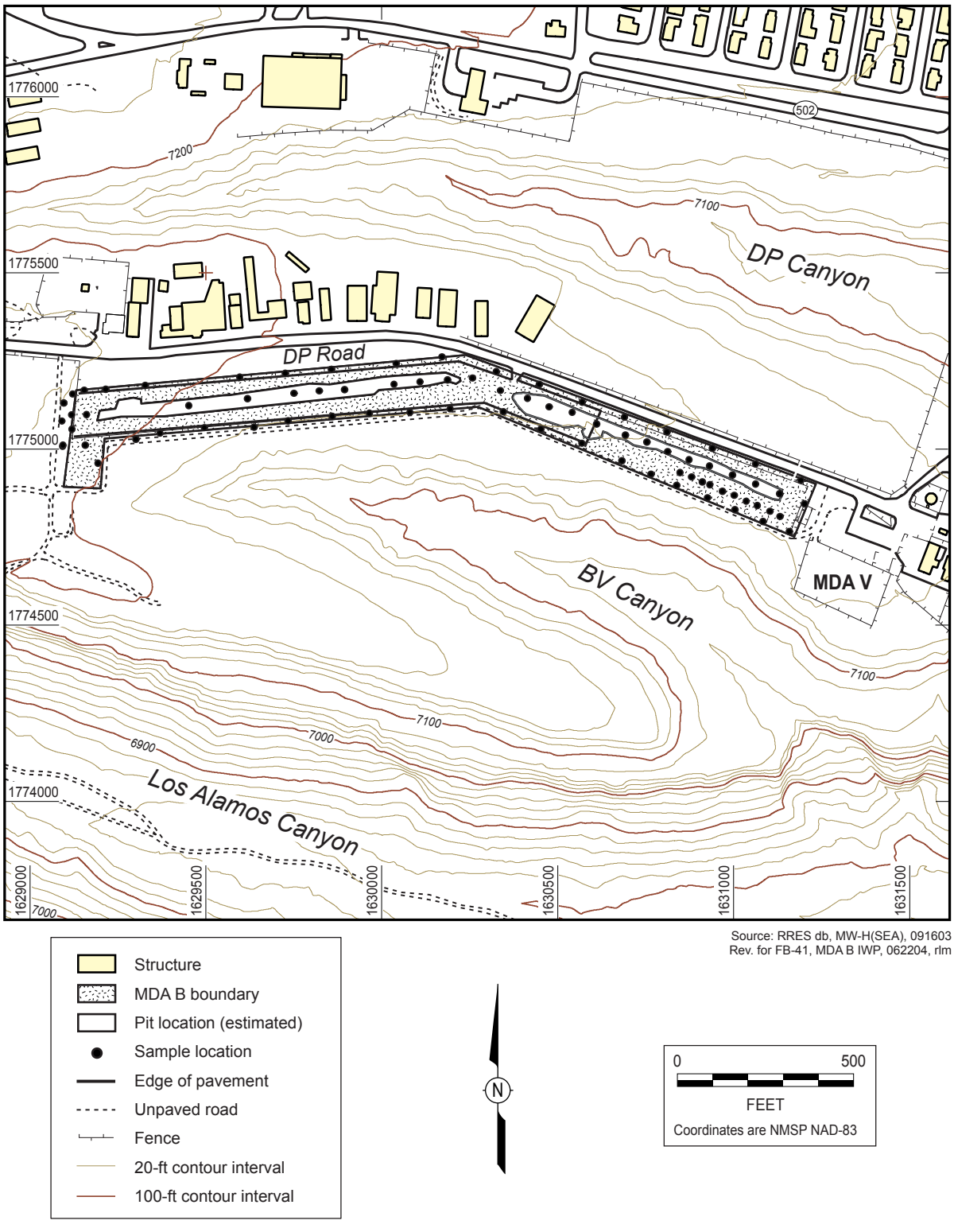


Figure 3.3-12 EMFLUX passive soil-gas VOC sample locations

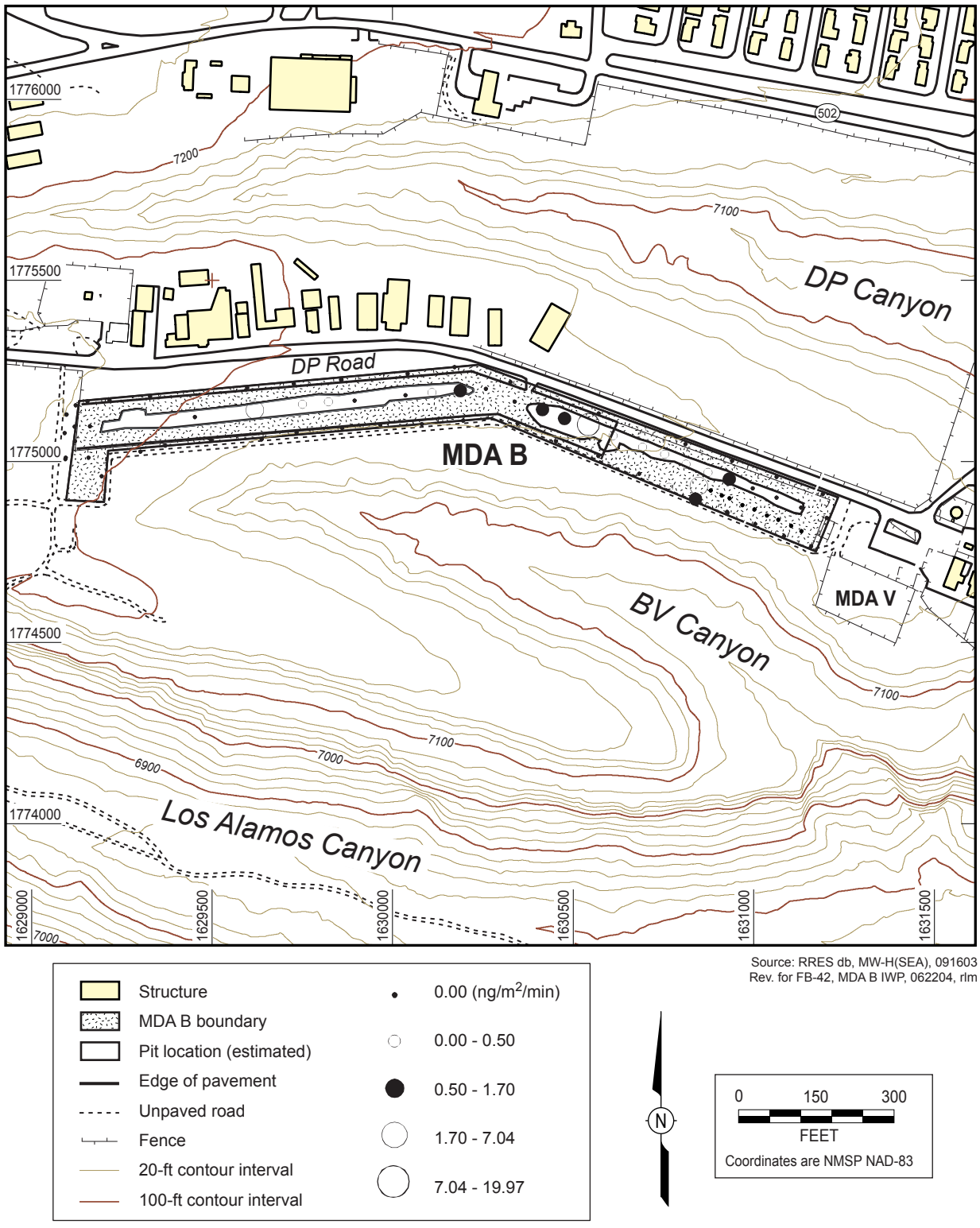


Figure 3.3-13 PCE concentrations in EMFLUX passive soil-gas samples

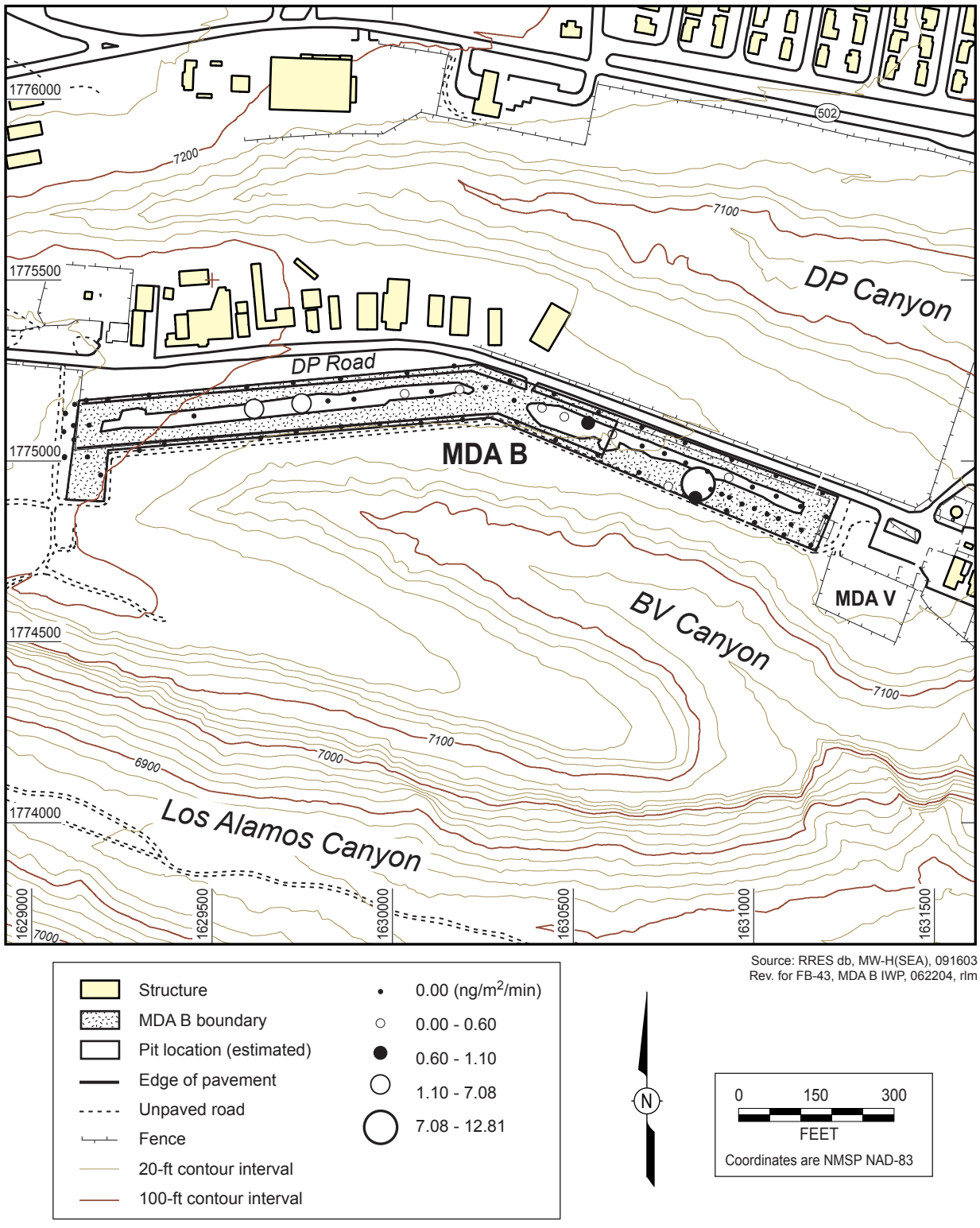


Figure 3.3-14 TCE concentration in EMFLUX passive soil-gas samples



Figure 3.4-1 DPT Sampling Locations

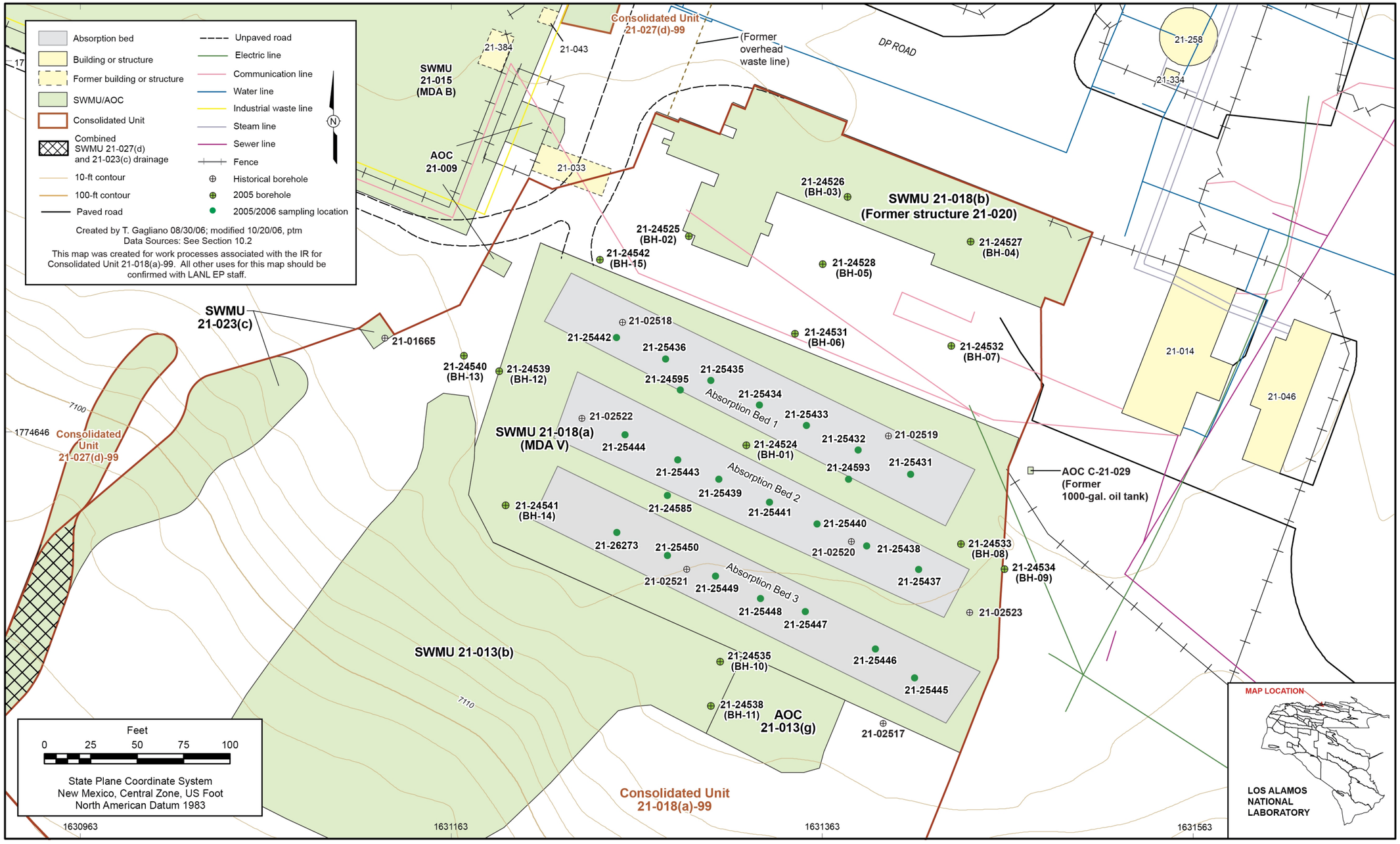


Figure 3.5-1 Locations of boreholes at MDA V [Consolidated Unit 21-018(a)-99]

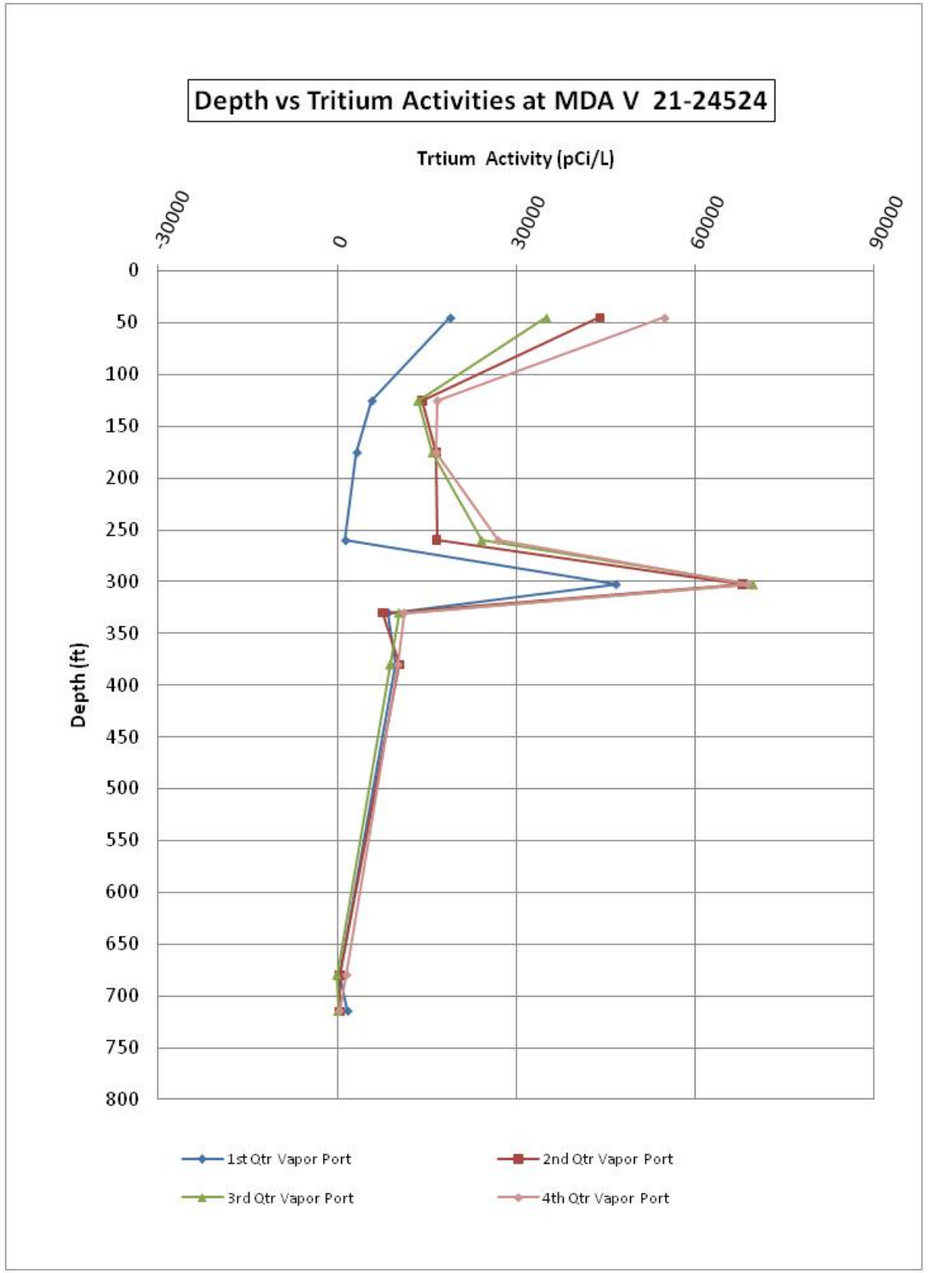


Figure 3.5-2 Quarterly tritium activities at vapor-monitoring well 21-24524

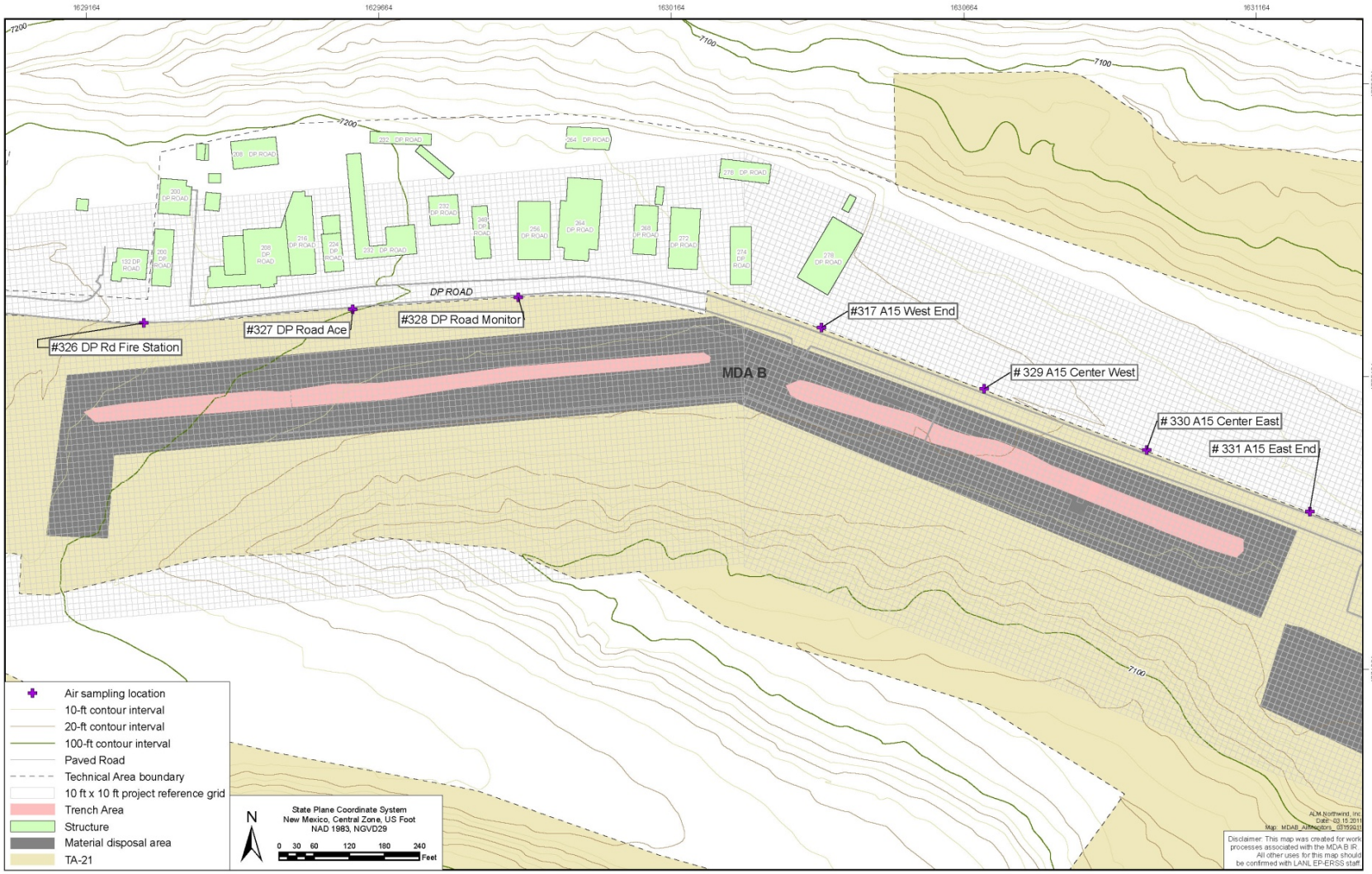


Figure 4.0-1 Grid-cell locations within MDA B and AIRNET stations near MDA B excavation

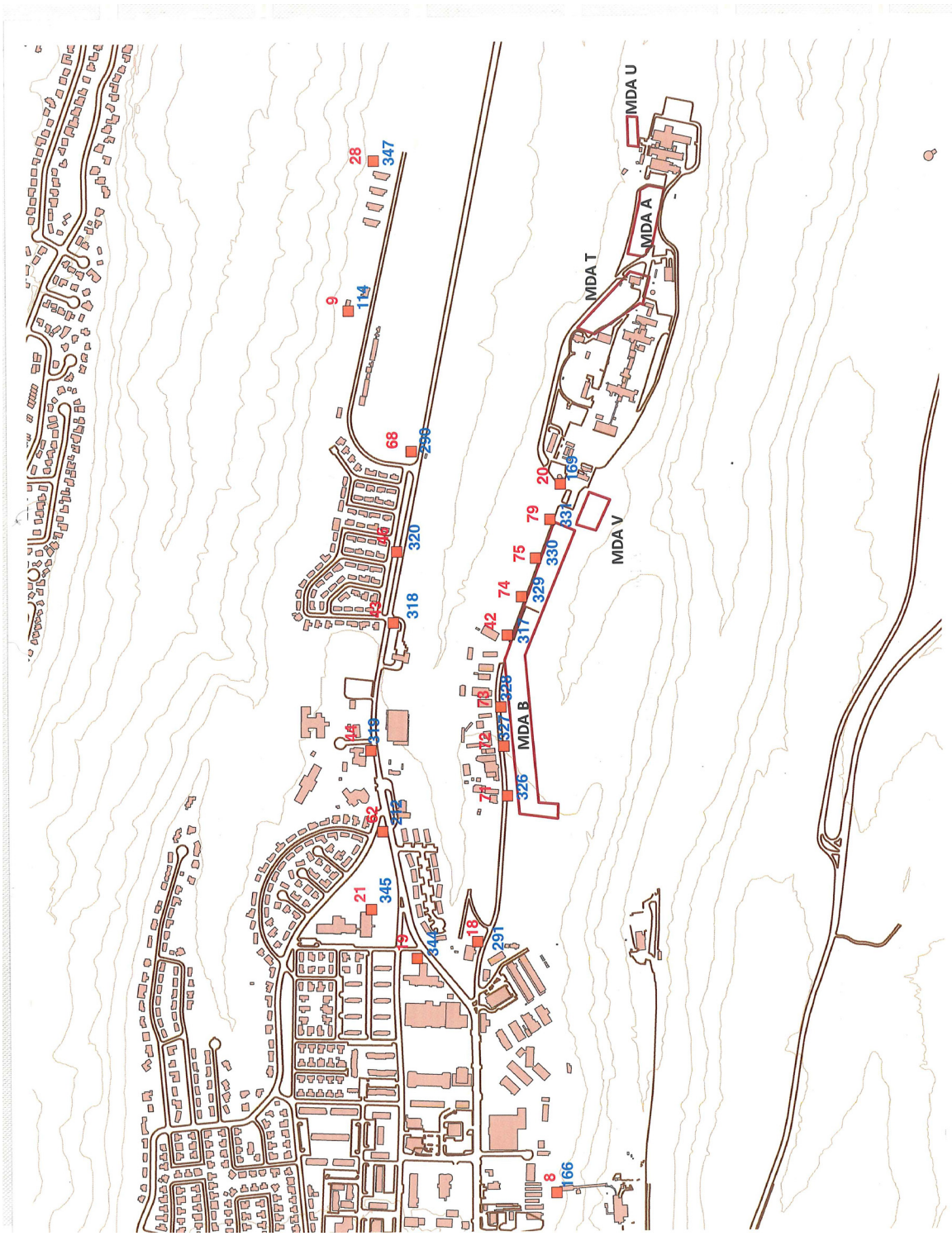


Figure 4.5-1 AIRNET stations with quick turnaround analysis near MDA B

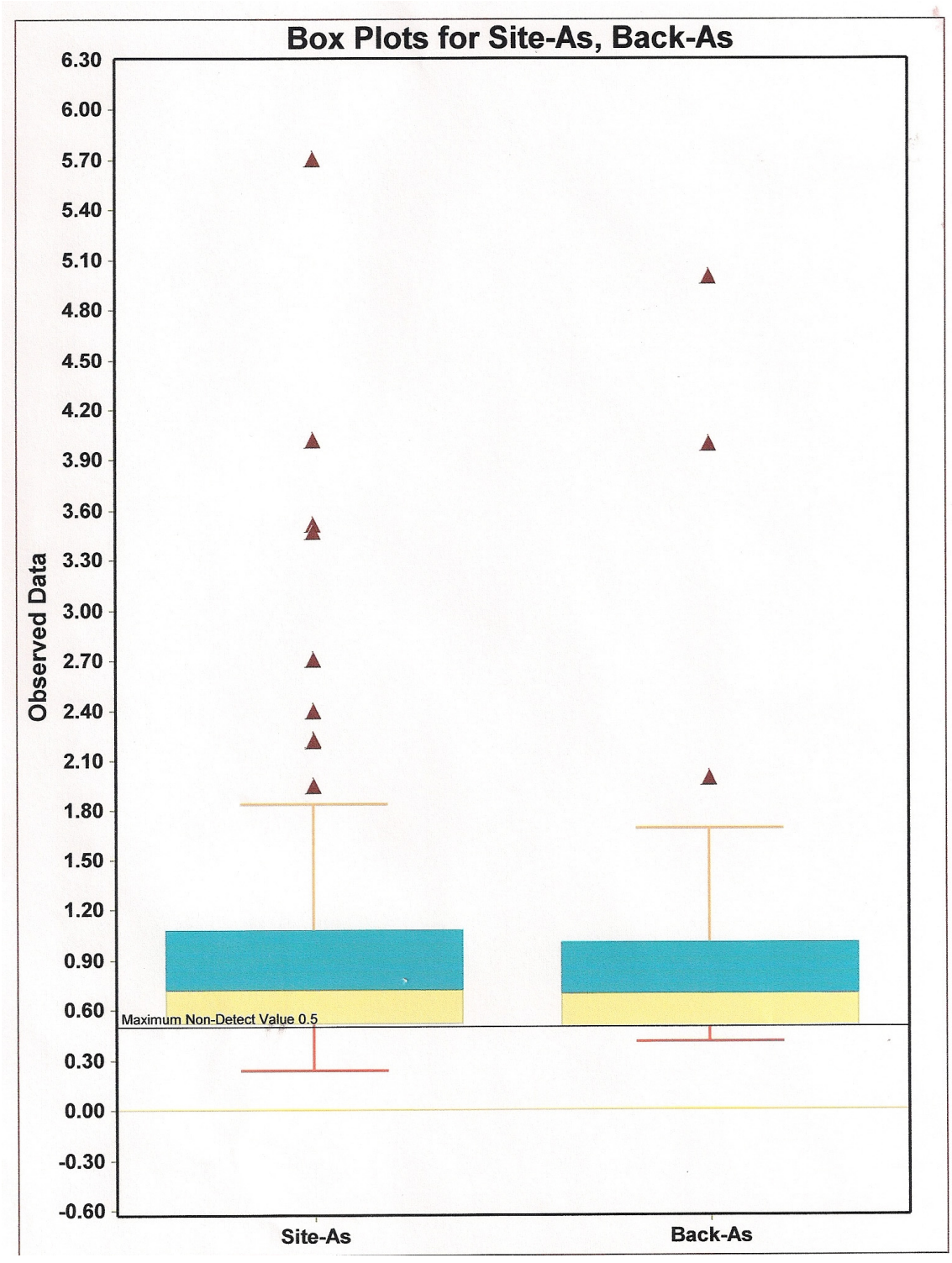


Figure 5.3-1 Box plot for Arsenic in enclosure 3

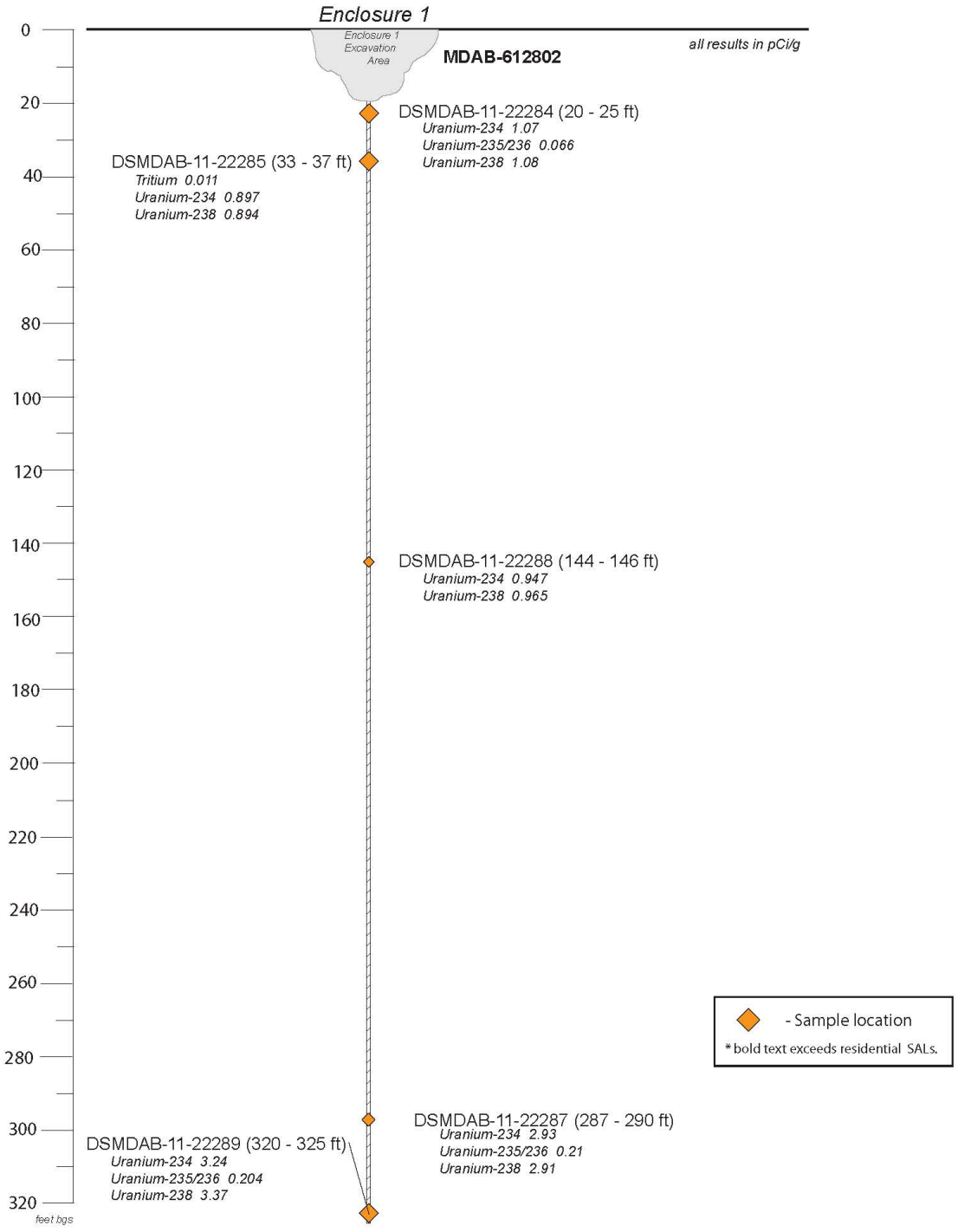


Figure 6.3-1 Schematic of MDAB-612802

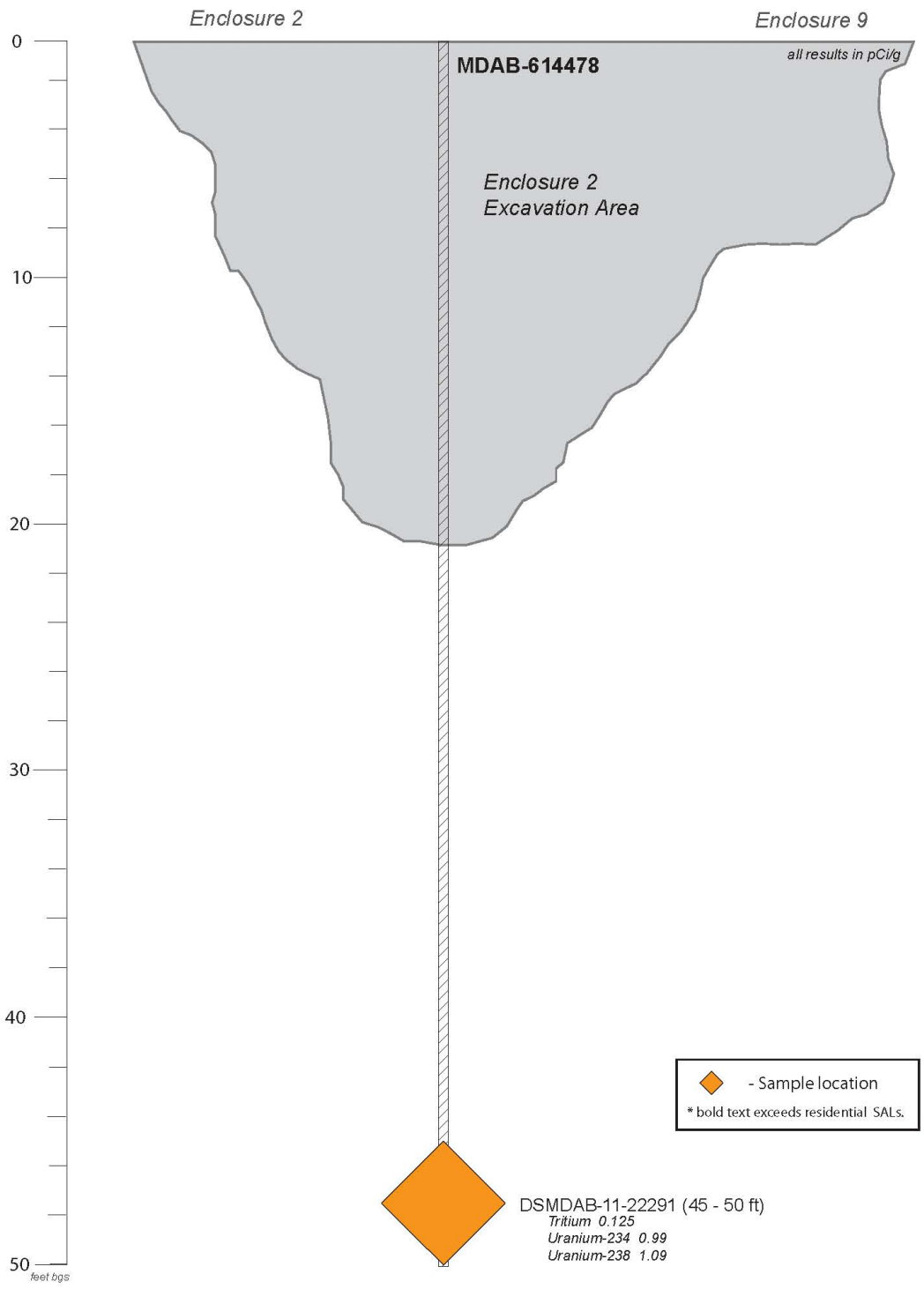


Figure 6.3-2 Schematic of MDAB-614478

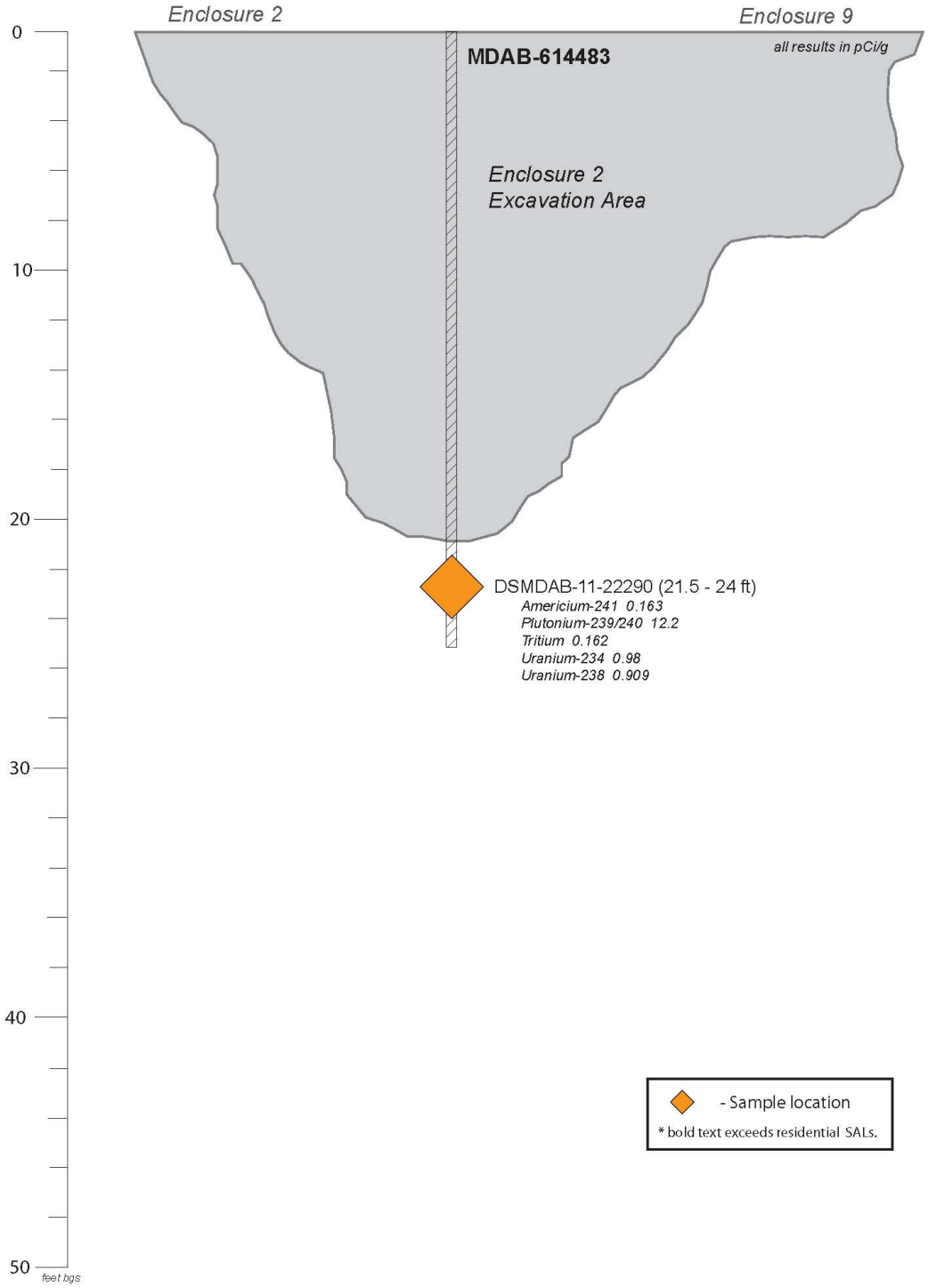


Figure 6.3-3 Schematic of MDAB-614483

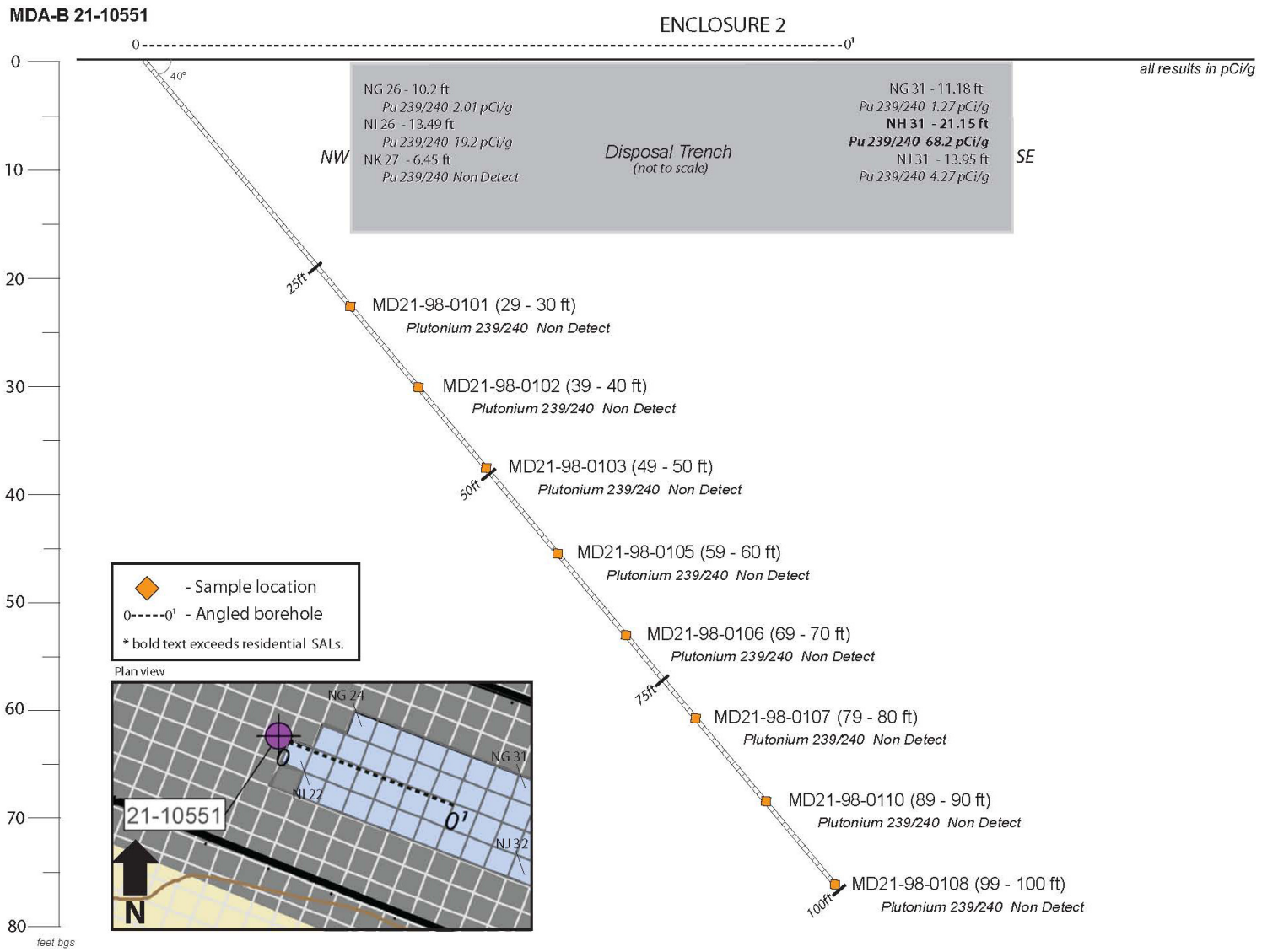


Figure 7.4-1 Borehole diagram of 21-10551

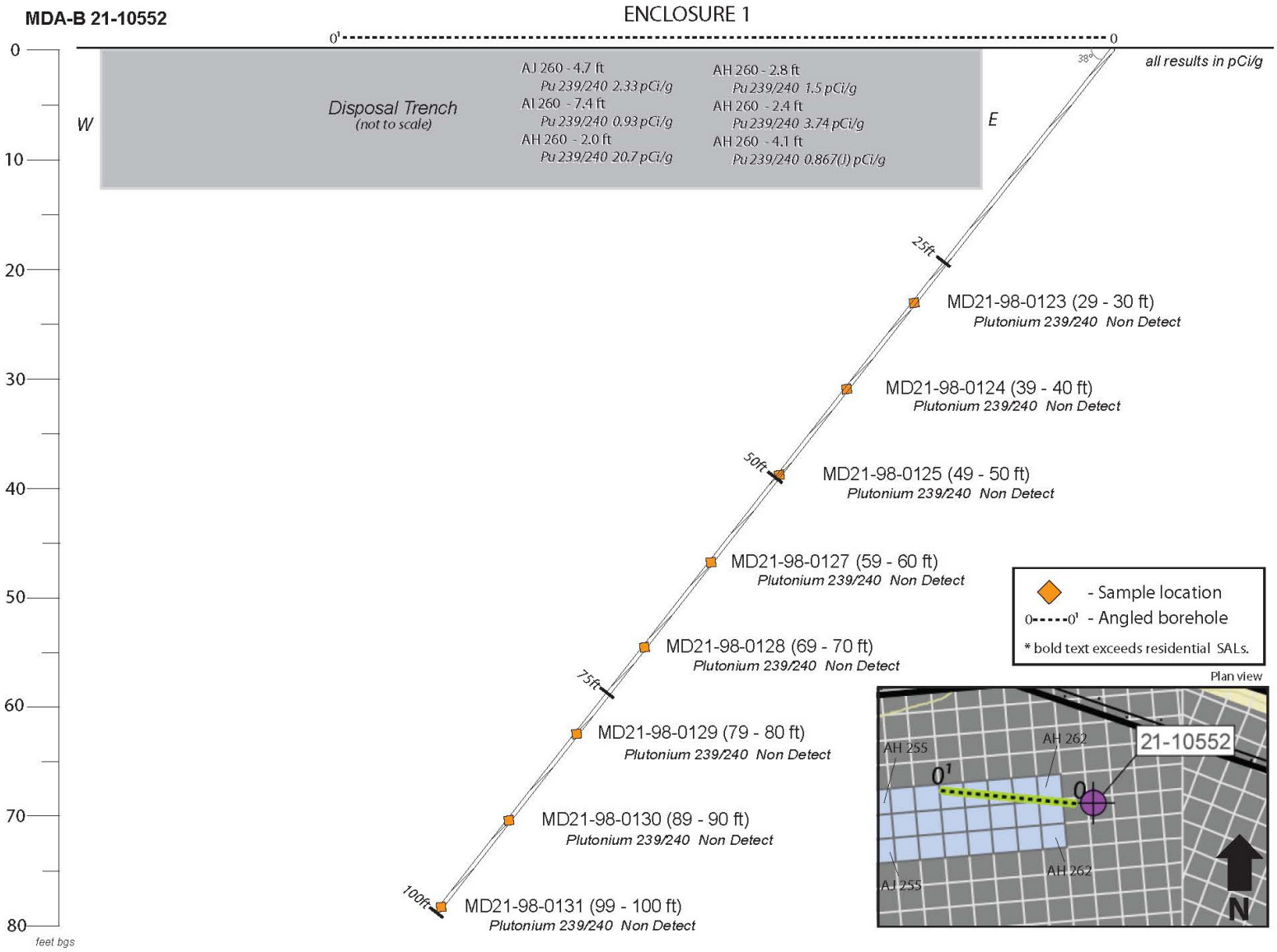


Figure 7.4-2 Borehole diagram of 21-10552

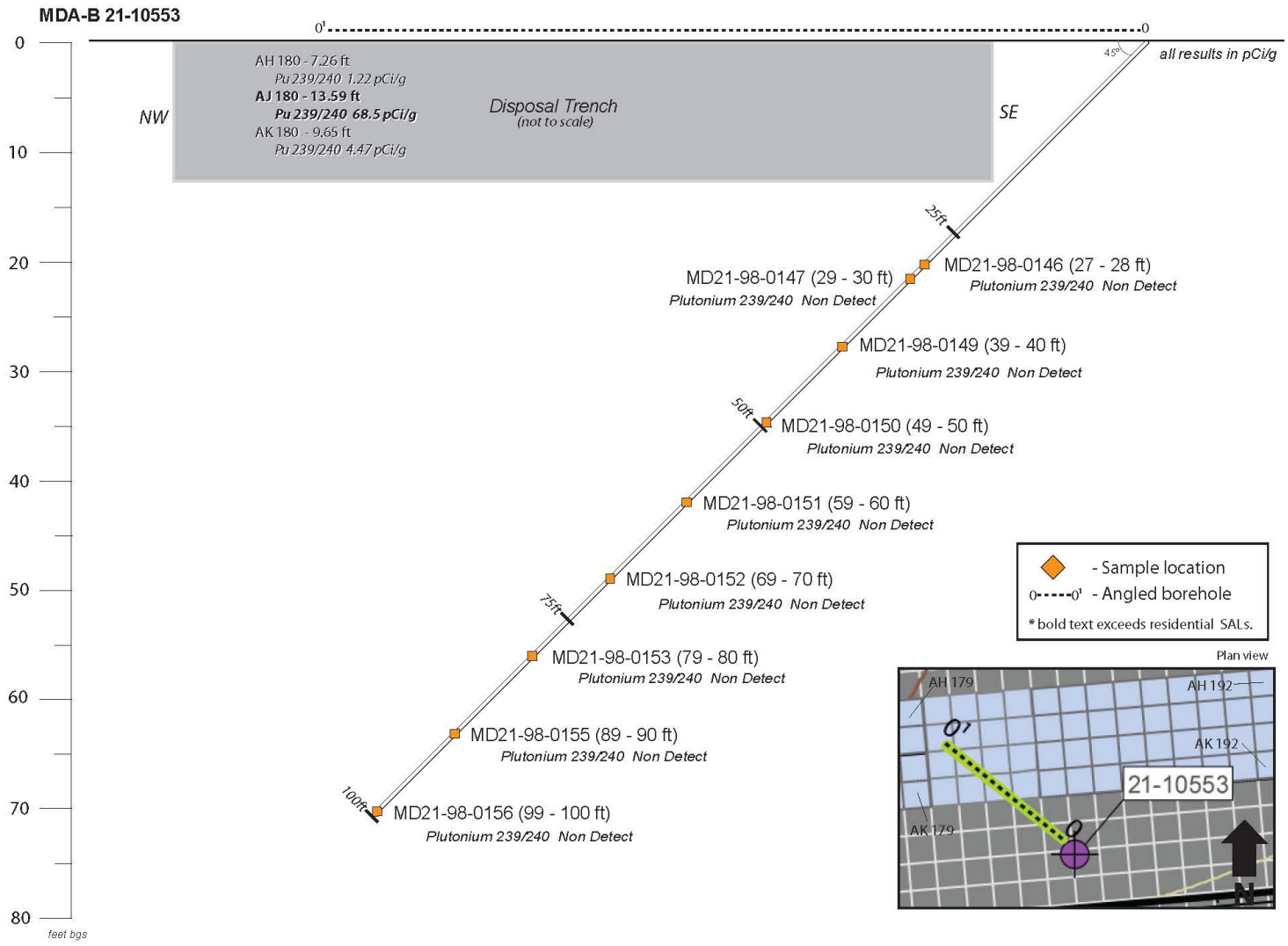


Figure 7.4-3 Borehole diagram of 21-10553

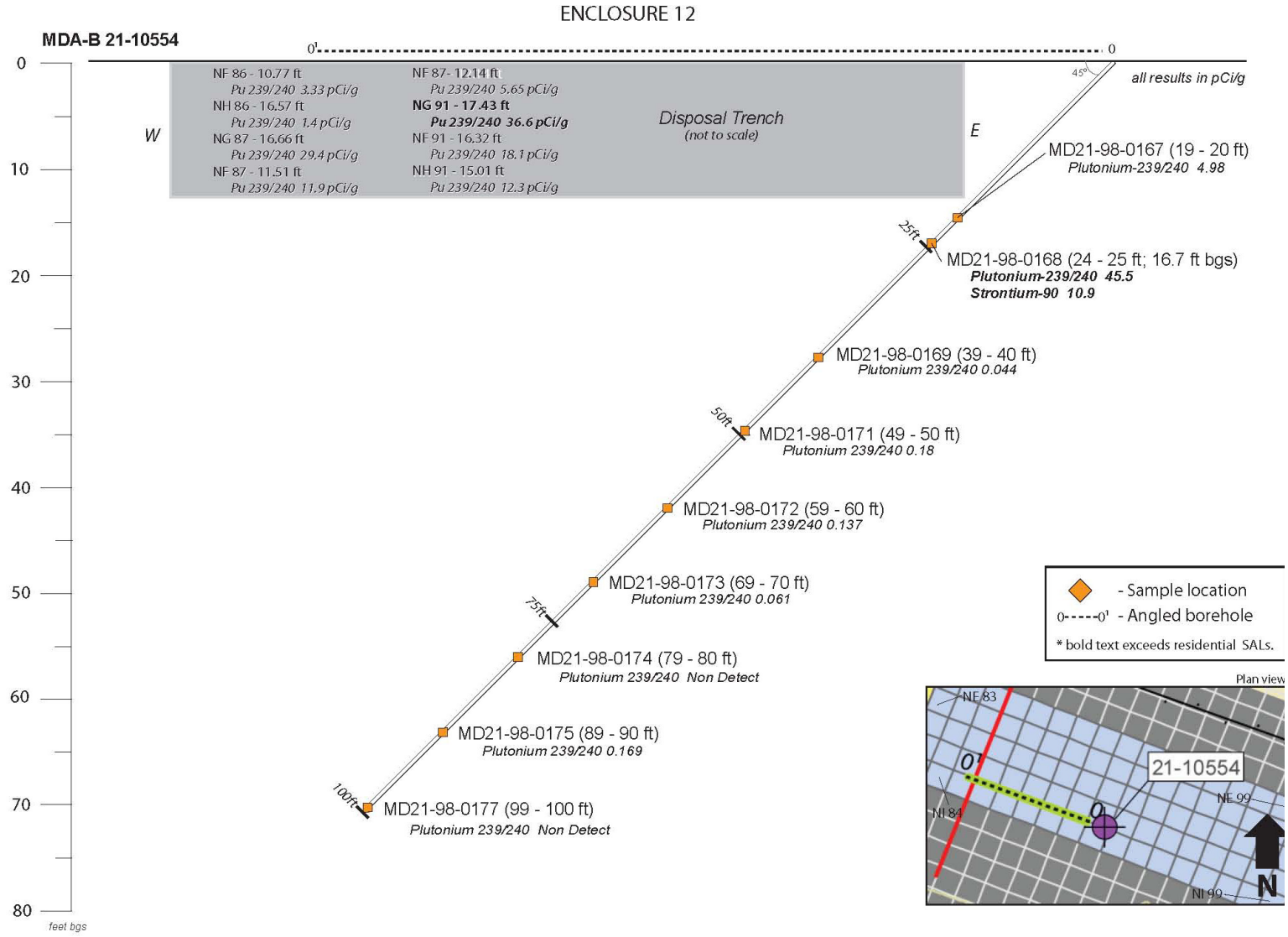


Figure 7.4-4 Borehole diagram of 21-10554

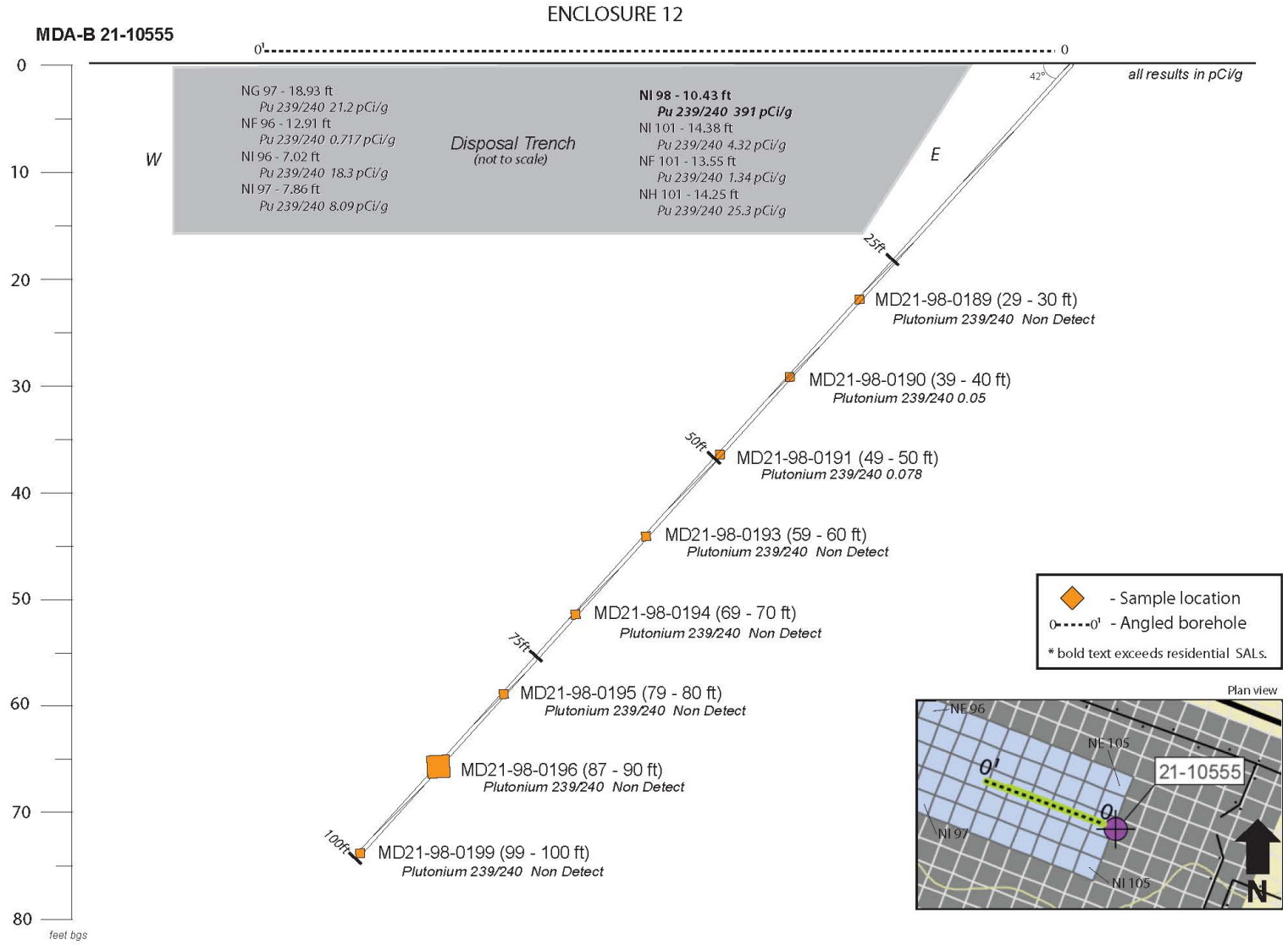


Figure 7.4-5 Borehole diagram of 21-10555

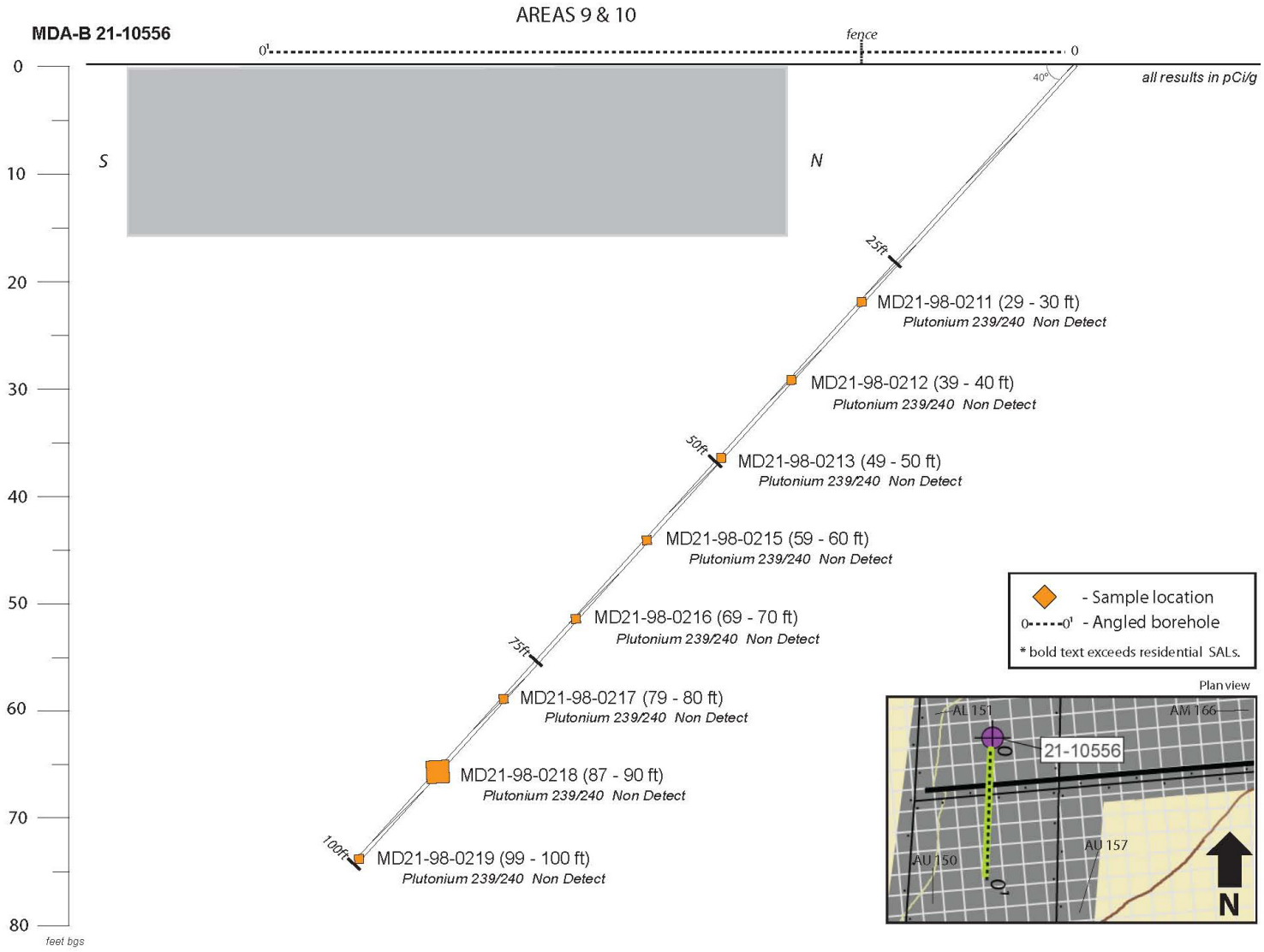


Figure 7.4-6 Borehole diagram of 21-10556

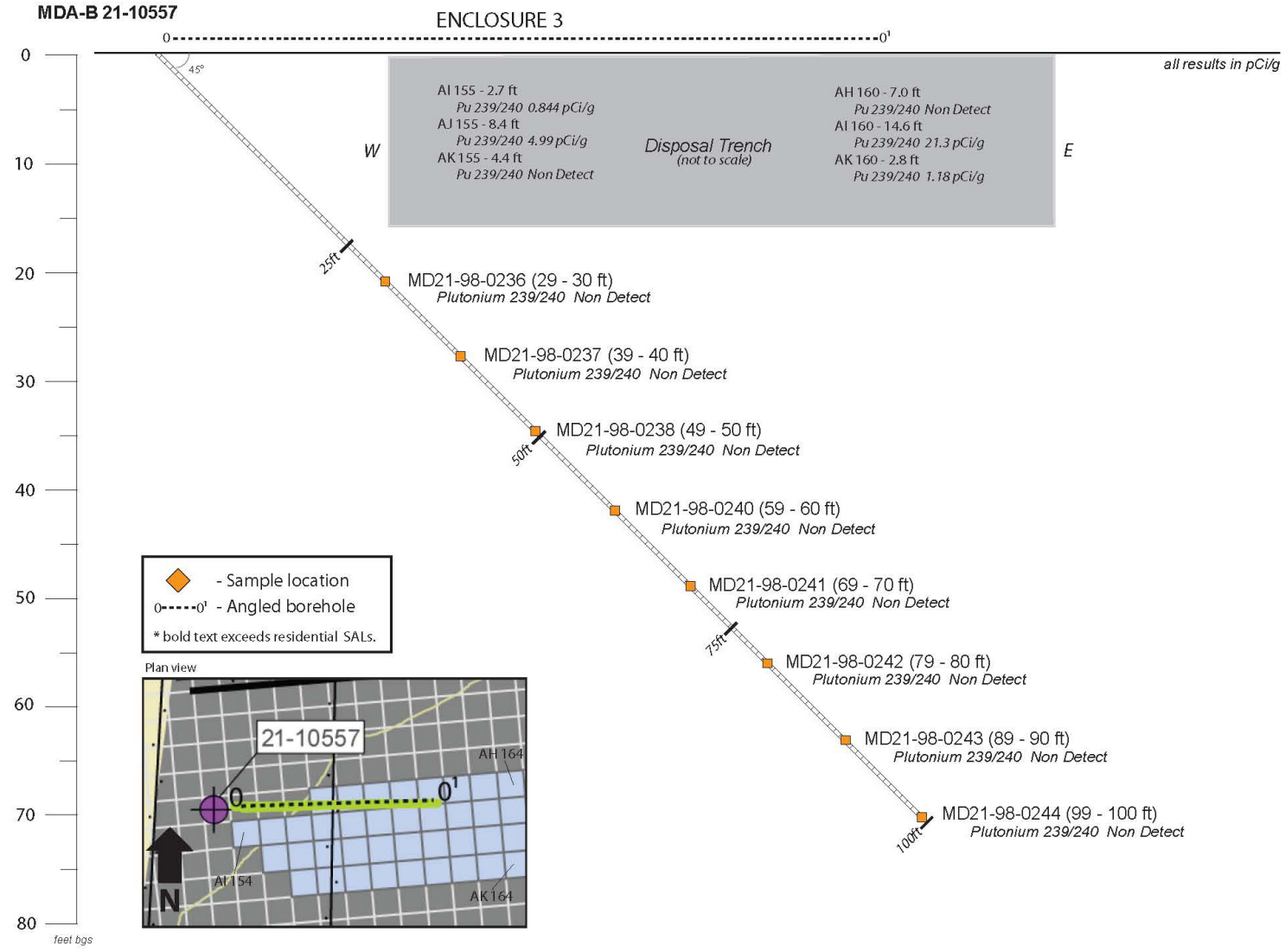


Figure 7.4-7 Borehole diagram of 21-10557

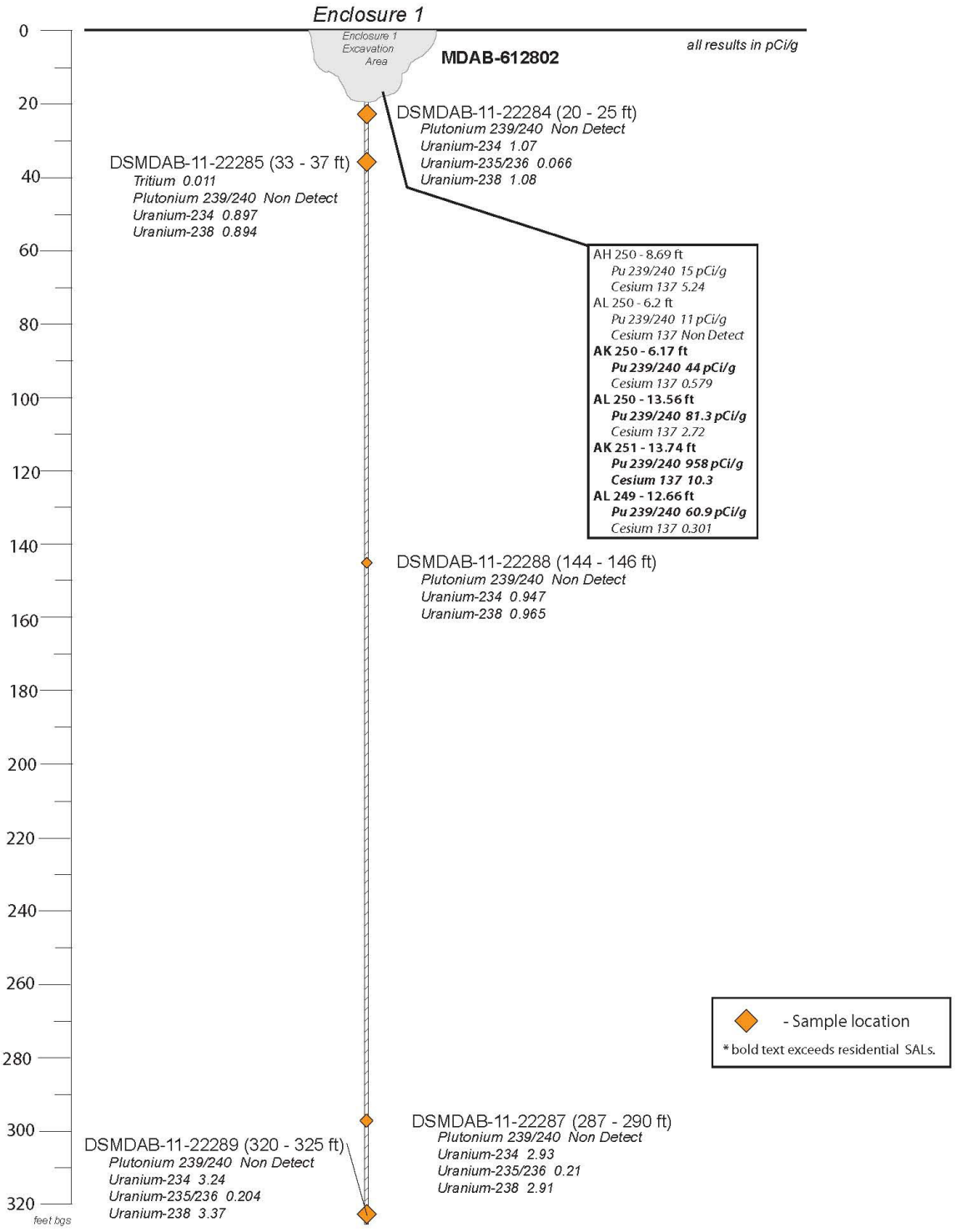


Figure 7.4-8 Borehole diagram of MDAB-612802

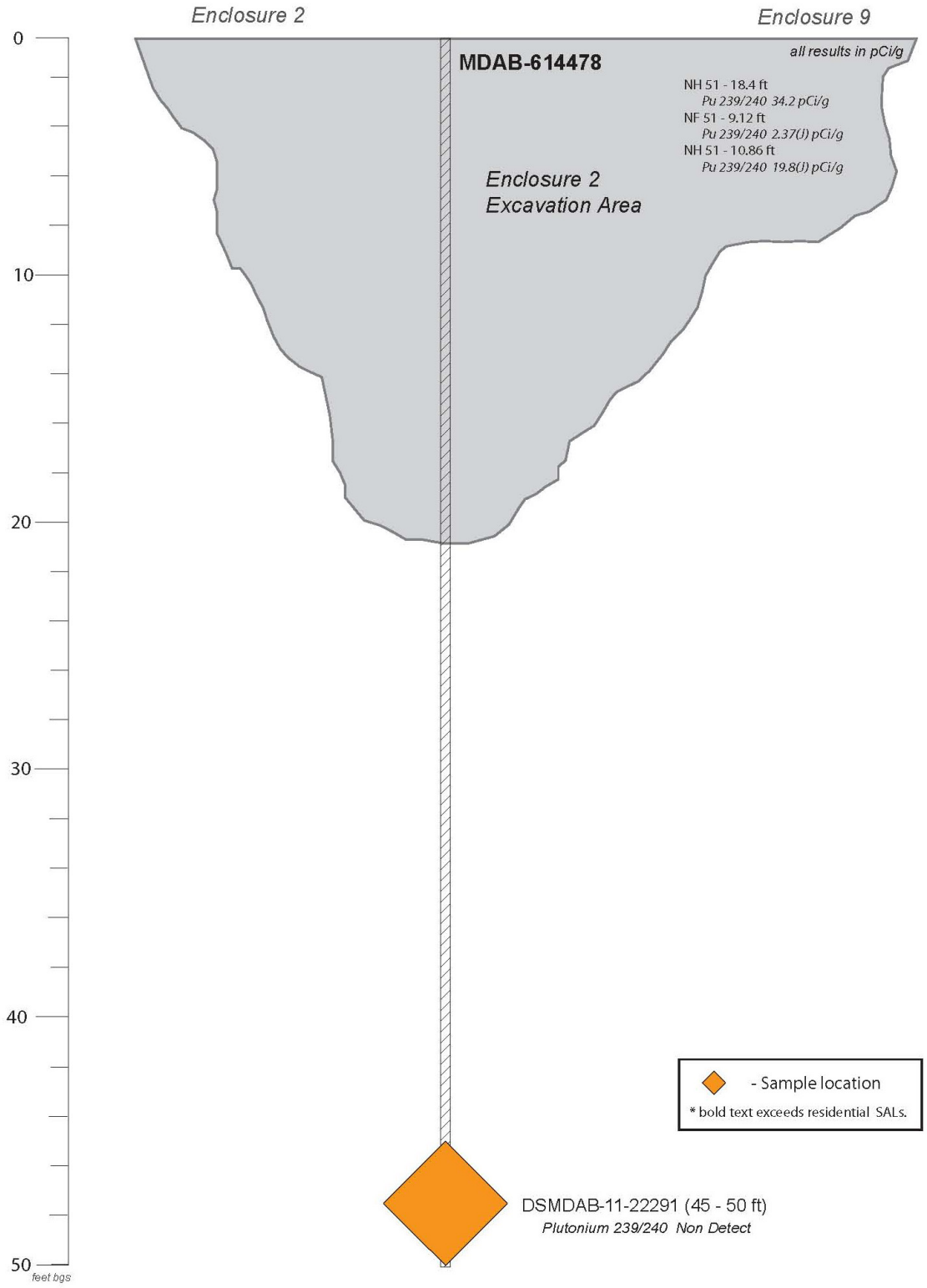


Figure 7.4-9 Borehole diagram of MDAB-614478

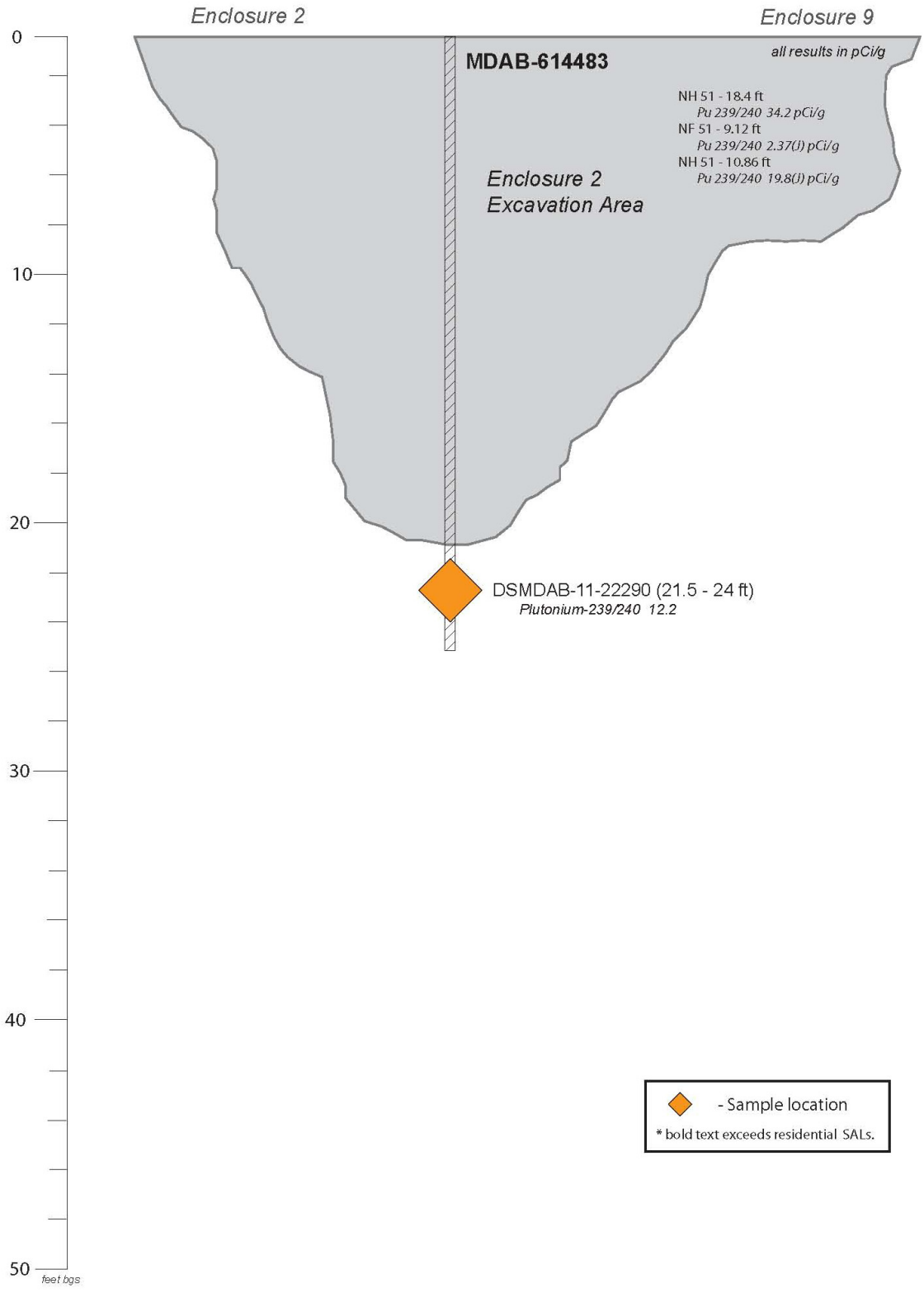


Figure 7.4-10 Borehole diagram of MDAB-614483

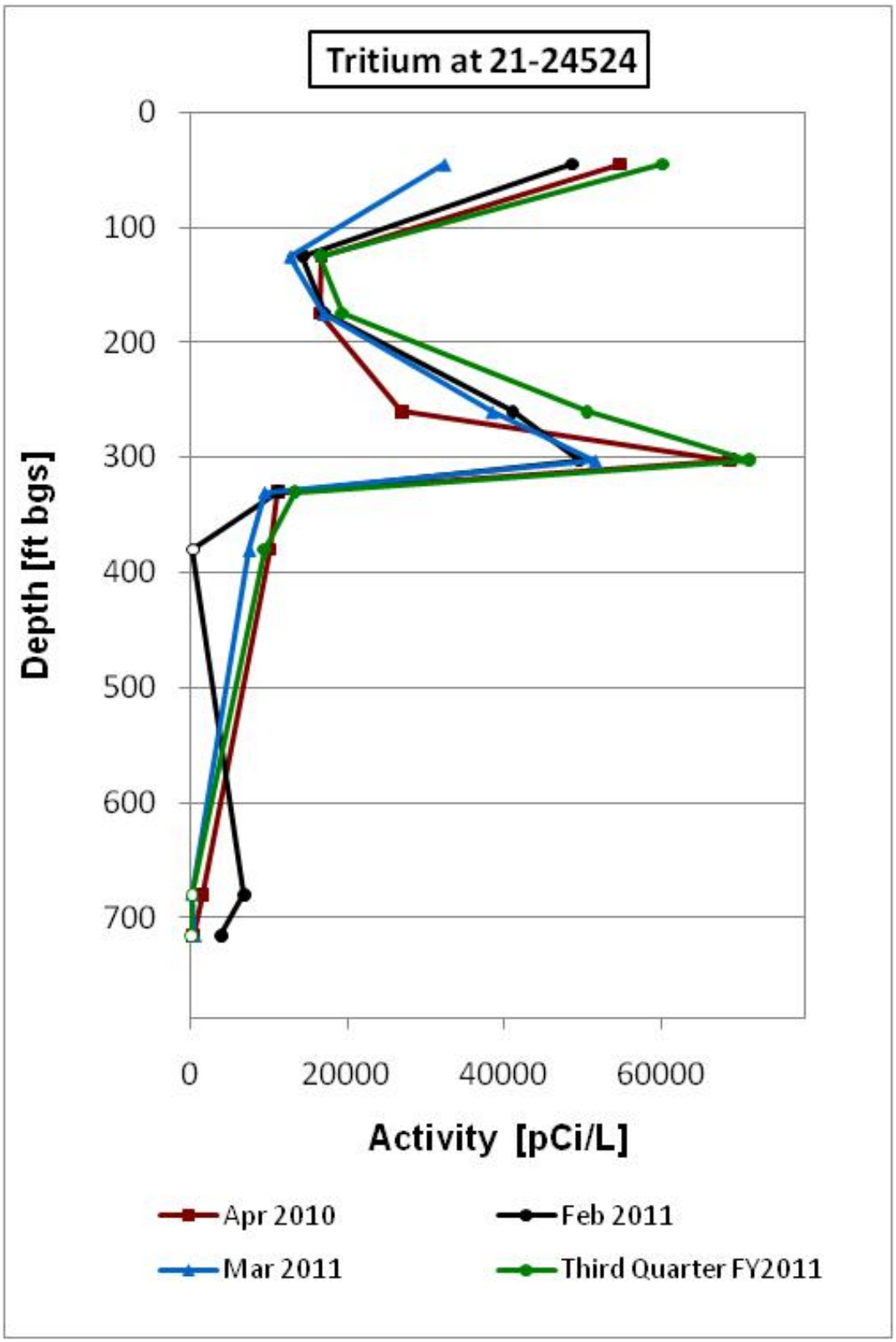


Figure 7.4-11 Vertical profile of tritium in vapor-monitoring well 21-24524

Table 3.3-1
Inorganic Chemical Results above Background Value in Subsurface Samples Collected in 1998 at MDA B

Sample ID	Location ID	Depth (ft)	Medium	Aluminum	Antimony	Arsenic	Cadmium	Lead	Mercury	Selenium	Silver	Thallium	Zinc
Qbt 2,3,4 Background Value[a]				**7340**	**0.5**	**2.79**	**1.63**	**11.2**	**0.1**	**0.3**	**1**	**1.1**	**63.5**
Residential Soil Screening Levels (mg/kg)[b]				**7.81E+04**	**3.13E+01**	**3.9E+00**	**7.79E+01**	**4.0E+02**	**7.71E+00**	**3.91E+02**	**3.91E+02**	**5.16E+00**	**2.35E+04**
MD21-98-0101	21-10551	29.00-30.00	Tuff	—[c]	11 (UJ)[d]	—	—	—	0.11 (U)[e]	0.53 (UJ)	2.1 (UJ)	—	—
MD21-98-0102	21-10551	39.00-40.00	Tuff	—	11 (UJ)	—	—	—	0.11 (U)	0.54 (UJ)	2.2 (UJ)	—	—
MD21-98-0103	21-10551	49.00-50.00	Tuff	—	11 (UJ)	—	—	—	0.11 (U)	0.54 (UJ)	2.2 (UJ)	—	—
MD21-98-0105	21-10551	59.00-60.00	Tuff	—	11 (UJ)	—	—	—	0.11 (U)	0.56 (UJ)	2.2 (UJ)	—	—
MD21-98-0106	21-10551	69.00-70.00	Tuff	—	11 (UJ)	—	—	—	0.11 (U)	0.55 (UJ)	2.2 (UJ)	—	—
MD21-98-0107	21-10551	79.00-80.00	Tuff	—	—	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	—	—
MD21-98-0110	21-10551	89.00-90.00	Tuff	—	—	—	—	13	0.11 (U)	1.1 (U)	2.2 (U)	—	—
MD21-98-0108	21-10551	99.00-100.00	Tuff	—	—	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	—	—
MD21-98-0123	21-10552	29.00-30.00	Tuff	—	—	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	—	—
MD21-98-0124	21-10552	39.00-40.00	Tuff	—	—	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	—	—
MD21-98-0125	21-10552	49.00-50.00	Tuff	—	—	—	—	—	0.11 (U)	0.53 (U)	2.1 (U)	—	—
MD21-98-0127	21-10552	59.00-60.00	Tuff	—	—	—	—	—	0.11 (U)	0.53 (U)	2.1 (U)	—	—
MD21-98-0128	21-10552	69.00-70.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0129	21-10552	79.00-80.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0130	21-10552	89.00-90.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0131	21-10552	99.00-100.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0146	21-10553	27.00-30.00	Tuff	—	—	—	—	—	0.11 (U)	0.53 (U)	2.1 (U)	—	—
MD21-98-0147	21-10553	29.00-30.00	Tuff	—	—	—	—	—	0.11 (U)	0.53 (U)	2.1 (U)	—	—
MD21-98-0149	21-10553	39.00-40.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0150	21-10553	49.00-50.00	Tuff	—	—	—	—	—	0.11 (U)	0.55 (U)	2.2 (U)	—	—

Table 3.3-1 (continued)

Sample ID	Location ID	Depth (ft)	Medium	Aluminum	Antimony	Arsenic	Cadmium	Lead	Mercury	Selenium	Silver	Thallium	Zinc
Qbt 2,3,4 Background Value[a]				**7340**	**0.5**	**2.79**	**1.63**	**11.2**	**0.1**	**0.3**	**1**	**1.1**	**63.5**
Residential Soil Screening Levels (mg/kg)[b]				**7.81E+04**	**3.13E+01**	**3.9E+00**	**7.79E+01**	**4.0E+02**	**7.71E+00**	**3.91E+02**	**3.91E+02**	**5.16E+00**	**2.35E+04**
MD21-98-0151	21-10553	59.00-60.00	Tuff	—	—	—	—	—	0.13 (U)	0.63 (U)	2.5 (U)	—	—
MD21-98-0152	21-10553	69.00-70.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0153	21-10553	79.00-80.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0155	21-10553	89.00-90.00	Tuff	—	—	—	—	—	0.11 (U)	0.53 (U)	2.1 (U)	—	—
MD21-98-0156	21-10553	99.00-100.00	Tuff	—	—	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0168	21-10554	23.00-24.00	Tuff	—	10 (U)	—	37	—	0.13	1 (U)	2.1 (U)	—	110
MD21-98-0169	21-10554	39.00-40.00	Tuff	—	11 (U)	—	—	—	0.11 (U)	1.1 (U)	2.1 (U)	—	—
MD21-98-0171	21-10554	49.00-50.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0172	21-10554	59.00-60.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0173	21-10554	69.00-70.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0174	21-10554	79.00-80.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0175	21-10554	89.00-90.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0177	21-10554	99.00-100.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0189	21-10555	29.00-30.00	Tuff	—	—	—	—	—	—	1 (U)	2 (U)	—	—
MD21-98-0190	21-10555	39.00-40.00	Tuff	—	—	—	—	—	—	1 (U)	2 (U)	—	—
MD21-98-0191	21-10555	49.00-50.00	Tuff	—	—	—	—	—	0.11 (U)	1.1 (U)	2.1 (U)	—	—
MD21-98-0193	21-10555	59.00-60.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0194	21-10555	69.00-70.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0195	21-10555	79.00-80.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0196	21-10555	88.00-90.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0197	21-10555	88.00-90.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—

Table 3.3-1 (continued)

Sample ID	Location ID	Depth (ft)	Medium	Aluminum	Antimony	Arsenic	Cadmium	Lead	Mercury	Selenium	Silver	Thallium	Zinc
Qbt 2,3,4 Background Value[a]				**7340**	**0.5**	**2.79**	**1.63**	**11.2**	**0.1**	**0.3**	**1**	**1.1**	**63.5**
Residential Soil Screening Levels (mg/kg)[b]				**7.81E+04**	**3.13E+01**	**3.9E+00**	**7.79E+01**	**4.0E+02**	**7.71E+00**	**3.91E+02**	**3.91E+02**	**5.16E+00**	**2.35E+04**
MD21-98-0199	21-10555	99.00-100.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0211	21-10556	29.00-30.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0212	21-10556	39.00-40.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0213	21-10556	49.00-50.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0215	21-10556	59.00-60.00	Tuff	—	10 (U)	—	—	—	—	1 (U)	2.1 (U)	—	—
MD21-98-0216	21-10556	69.00-70.00	Tuff	8700	11 (U)	3.7	—	—	0.11 (U)	0.55 (U)	2.2 (U)	—	—
MD21-98-0217	21-10556	79.00-80.00	Tuff	—	11 (U)	2.9	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0218	21-10556	89.00-90.00	Tuff	—	11 (U)	—	—	—	0.11 (U)	0.54 (U)	2.2 (U)	—	—
MD21-98-0219	21-10556	99.00-100.00	Tuff	—	10 (U)	—	—	—	—	0.52 (U)	2.1 (U)	—	—
MD21-98-0236	21-10557	29.00-30.00	Tuff	—	11 (U)	3.3	—	—	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0237	21-10557	39.00-40.00	Tuff	—	11 (U)	—	—	—	0.11 (U)	1.1 (U)	2.1 (U)	2.1 (U)	—
MD21-98-0238	21-10557	49.00-50.00	Tuff	—	11 (U)	—	—	22	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0240	21-10557	59.00-60.00	Tuff	—	11 (U)	—	—	61	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0241	21-10557	69.00-70.00	Tuff	—	11 (U)	—	—	48	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0242	21-10557	79.00-80.00	Tuff	—	11 (U)	—	—	12	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0243	21-10557	89.00-90.00	Tuff	—	11 (U)	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—
MD21-98-0244	21-10557	99.00-100.00	Tuff	—	11 (U)	—	—	—	0.11 (U)	1.1 (U)	2.2 (U)	2.2 (U)	—

Note: Units are mg/kg.Depths are angled distance from top of borehole, not vertical depth below ground surface.

[a] Background values from LANL 1998, 059730.

[b] Soil screening levels from NMED2009, 108070.

[c] — = Not detected or not detected above background unless otherwise marked.

[d] UJ = The analyte was not detected, with an expectation that the reported result is more uncertain then usual, and is estimated.

[e] U = The analyte was not detected.

Table 3.3-2
Summary of Pore-Gas Sample Results Collected in 1998 at MDA B

Sample ID	Location ID	Analyte Name	Result (ppbv)	Collection Date
MD21-98-0226	21-10556	Benzene	23	10/2/1998
MD21-98-0245	21-10557	Benzene	16	10/8/1998
MD21-98-0239	21-10557	Benzene	14	10/7/1998
MD21-98-0176	21-10554	Benzene	8.4	9/23/1998
MD21-98-0198	21-10555	Benzene	7.9	9/28/1998
MD21-98-0170	21-10554	Benzene	7.2	9/22/1998
MD21-98-0138	21-10552	Benzene	6.6	9/15/1998
MD21-98-0192	21-10555	Benzene	6.6	9/25/1998
MD21-98-0256	21-10557	Benzene	4.8	10/8/1998
MD21-98-0182	21-10554	Benzene	4.4	9/24/1998
MD21-98-0126	21-10552	Benzene	3.7	9/11/1998
MD21-98-0154	21-10553	Benzene	3.4	9/18/1998
MD21-98-0109	21-10551	Benzene	3.3	9/4/1998
MD21-98-0114	21-10551	Benzene	0.53	9/10/1998
MD21-98-0109	21-10551	Carbon Tetrachloride	14	9/4/1998
MD21-98-0256	21-10557	Carbon Tetrachloride	7.6	10/8/1998
MD21-98-0104	21-10551	Carbon Tetrachloride	6.4	9/3/1998
MD21-98-0245	21-10557	Carbon Tetrachloride	4.8	10/8/1998
MD21-98-0226	21-10556	Carbon Tetrachloride	3	10/2/1998
MD21-98-0239	21-10557	Carbon Tetrachloride	2.2	10/7/1998
MD21-98-0109	21-10551	Chloroform	56	9/4/1998
MD21-98-0104	21-10551	Chloroform	29	9/3/1998
MD21-98-0256	21-10557	Chloroform	1.3	10/8/1998
MD21-98-0226	21-10556	Chloroform	0.76	10/2/1998
MD21-98-0245	21-10557	Chloroform	0.69	10/8/1998
MD21-98-0109	21-10551	Chloromethane	7.8	9/4/1998
MD21-98-0256	21-10557	Dichlorodifluoromethane	0.87	10/8/1998
MD21-98-0239	21-10557	Dichlorodifluoromethane	0.68	10/7/1998
MD21-98-0138	21-10552	Dichlorodifluoromethane	0.65	9/15/1998
MD21-98-0226	21-10556	Dichlorodifluoromethane	0.62	10/2/1998
MD21-98-0114	21-10551	Dichlorodifluoromethane	0.59	9/10/1998
MD21-98-0154	21-10553	Dichlorodifluoromethane	0.59	9/18/1998
MD21-98-0239	21-10557	Ethylbenzene	2.9	10/7/1998
MD21-98-0245	21-10557	Ethylbenzene	2.3	10/8/1998
MD21-98-0198	21-10555	Ethylbenzene	1.8	9/28/1998
MD21-98-0256	21-10557	Ethylbenzene	1.3	10/8/1998

Table 3.3-2 (continued)

Sample ID	Location ID	Analyte Name	Result (ppbv)	Collection Date
MD21-98-0226	21-10556	Ethylbenzene	1.2	10/2/1998
MD21-98-0138	21-10552	Ethylbenzene	0.66	9/15/1998
MD21-98-0126	21-10552	Methylene Chloride	15	9/11/1998
MD21-98-0226	21-10556	Styrene	1.2	10/2/1998
MD21-98-0239	21-10557	Styrene	1.1	10/7/1998
MD21-98-0245	21-10557	Styrene	0.87	10/8/1998
MD21-98-0109	21-10551	Tetrachloroethene	10	9/4/1998
MD21-98-0104	21-10551	Tetrachloroethene	4.4	9/3/1998
MD21-98-0256	21-10557	Tetrachloroethene	1.5	10/8/1998
MD21-98-0245	21-10557	Tetrachloroethene	1.2	10/8/1998
MD21-98-0239	21-10557	Tetrachloroethene	0.9	10/7/1998
MD21-98-0239	21-10557	Toluene	36	10/7/1998
MD21-98-0256	21-10557	Toluene	26	10/8/1998
MD21-98-0245	21-10557	Toluene	23	10/8/1998
MD21-98-0226	21-10556	Toluene	19	10/2/1998
MD21-98-0109	21-10551	Toluene	16	9/4/1998
MD21-98-0126	21-10552	Toluene	15	9/11/1998
MD21-98-0198	21-10555	Toluene	13	9/28/1998
MD21-98-0176	21-10554	Toluene	11	9/23/1998
MD21-98-0170	21-10554	Toluene	9.9	9/22/1998
MD21-98-0104	21-10551	Toluene	9.6	9/3/1998
MD21-98-0192	21-10555	Toluene	8.8	9/25/1998
MD21-98-0138	21-10552	Toluene	7.8	9/15/1998
MD21-98-0182	21-10554	Toluene	6.1	9/24/1998
MD21-98-0214	21-10556	Toluene	4.9	9/30/1998
MD21-98-0132	21-10552	Toluene	4.1	9/14/1998
MD21-98-0154	21-10553	Toluene	4	9/18/1998
MD21-98-0114	21-10551	Toluene	2.1	9/10/1998
MD21-98-0160	21-10553	Toluene	1.8	9/18/1998
MD21-98-0204	21-10555	Toluene	1.3	9/28/1998
MD21-98-0148	21-10553	Toluene	1.1	9/17/1998
MD21-98-0220	21-10556	Toluene	0.88	10/1/1998
MD21-98-0132	21-10552	Trichloro-1,2,2-trifluoroethane[1,1,2-]	9.1	9/14/1998
MD21-98-0126	21-10552	Trichloro-1,2,2-trifluoroethane[1,1,2-]	9	9/11/1998
MD21-98-0170	21-10554	Trichloro-1,2,2-trifluoroethane[1,1,2-]	4.4	9/22/1998
MD21-98-0214	21-10556	Trichloro-1,2,2-trifluoroethane[1,1,2-]	2.9	9/30/1998
MD21-98-0192	21-10555	Trichloro-1,2,2-trifluoroethane[1,1,2-]	2.5	9/25/1998

Table 3.3-2 (continued)

Sample ID	Location ID	Analyte Name	Result (ppbv)	Collection Date
MD21-98-0204	21-10555	Trichloro-1,2,2-trifluoroethane[1,1,2-]	2.4	9/28/1998
MD21-98-0198	21-10555	Trichloro-1,2,2-trifluoroethane[1,1,2-]	2.1	9/28/1998
MD21-98-0176	21-10554	Trichloro-1,2,2-trifluoroethane[1,1,2-]	2.1	9/23/1998
MD21-98-0138	21-10552	Trichloro-1,2,2-trifluoroethane[1,1,2-]	1.4	9/15/1998
MD21-98-0160	21-10553	Trichloro-1,2,2-trifluoroethane[1,1,2-]	1.4	9/18/1998
MD21-98-0154	21-10553	Trichloro-1,2,2-trifluoroethane[1,1,2-]	1.2	9/18/1998
MD21-98-0148	21-10553	Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.78	9/17/1998
MD21-98-0126	21-10552	Trichloroethane[1,1,1-]	190	9/11/1998
MD21-98-0170	21-10554	Trichloroethane[1,1,1-]	100	9/22/1998
MD21-98-0214	21-10556	Trichloroethane[1,1,1-]	46	9/30/1998
MD21-98-0176	21-10554	Trichloroethane[1,1,1-]	45	9/23/1998
MD21-98-0204	21-10555	Trichloroethane[1,1,1-]	39	9/28/1998
MD21-98-0192	21-10555	Trichloroethane[1,1,1-]	38	9/25/1998
MD21-98-0198	21-10555	Trichloroethane[1,1,1-]	33	9/28/1998
MD21-98-0138	21-10552	Trichloroethane[1,1,1-]	30	9/15/1998
MD21-98-0182	21-10554	Trichloroethane[1,1,1-]	29	9/24/1998
MD21-98-0104	21-10551	Trichloroethane[1,1,1-]	28	9/3/1998
MD21-98-0160	21-10553	Trichloroethane[1,1,1-]	27	9/18/1998
MD21-98-0154	21-10553	Trichloroethane[1,1,1-]	25	9/18/1998
MD21-98-0148	21-10553	Trichloroethane[1,1,1-]	16	9/17/1998
MD21-98-0256	21-10557	Trichloroethane[1,1,1-]	14	10/8/1998
MD21-98-0109	21-10551	Trichloroethane[1,1,1-]	13	9/4/1998
MD21-98-0245	21-10557	Trichloroethane[1,1,1-]	10	10/8/1998
MD21-98-0239	21-10557	Trichloroethane[1,1,1-]	6.7	10/7/1998
MD21-98-0226	21-10556	Trichloroethane[1,1,1-]	5.4	10/2/1998
MD21-98-0220	21-10556	Trichloroethane[1,1,1-]	3.7	10/1/1998
MD21-98-0114	21-10551	Trichloroethane[1,1,1-]	2.9	9/10/1998
MD21-98-0109	21-10551	Trichloroethene	120	9/4/1998
MD21-98-0256	21-10557	Trichloroethene	92	10/8/1998
MD21-98-0104	21-10551	Trichloroethene	56	9/3/1998
MD21-98-0245	21-10557	Trichloroethene	53	10/8/1998
MD21-98-0226	21-10556	Trichloroethene	33	10/2/1998
MD21-98-0239	21-10557	Trichloroethene	24	10/7/1998
MD21-98-0132	21-10552	Trichloroethene	1.8	9/14/1998
MD21-98-0220	21-10556	Trichloroethene	0.95	10/1/1998
MD21-98-0114	21-10551	Trichloroethene	0.7	9/10/1998
MD21-98-0256	21-10557	Trichlorofluoromethane	0.84	10/8/1998

Table 3.3-2 (continued)

Sample ID	Location ID	Analyte Name	Result (ppbv)	Collection Date
MD21-98-0245	21-10557	Trichlorofluoromethane	0.77	10/8/1998
MD21-98-0214	21-10556	Trimethylbenzene[1,2,4-]	5.4	9/30/1998
MD21-98-0239	21-10557	Trimethylbenzene[1,2,4-]	4	10/7/1998
MD21-98-0245	21-10557	Trimethylbenzene[1,2,4-]	3.8	10/8/1998
MD21-98-0256	21-10557	Trimethylbenzene[1,2,4-]	2.4	10/8/1998
MD21-98-0198	21-10555	Trimethylbenzene[1,2,4-]	1.6	9/28/1998
MD21-98-0226	21-10556	Trimethylbenzene[1,2,4-]	0.8	10/2/1998
MD21-98-0245	21-10557	Trimethylbenzene[1,3,5-]	1	10/8/1998
MD21-98-0239	21-10557	Trimethylbenzene[1,3,5-]	0.94	10/7/1998
MD21-98-0109	21-10551	Xylene (Total)	5.4	9/4/1998
MD21-98-0104	21-10551	Xylene (Total)	4.9	9/3/1998
MD21-98-0138	21-10552	Xylene (Total)	2.7	9/15/1998
MD21-98-0239	21-10557	Xylene[1,2-]	3.1	10/7/1998
MD21-98-0214	21-10556	Xylene[1,2-]	2.7	9/30/1998
MD21-98-0245	21-10557	Xylene[1,2-]	2.7	10/8/1998
MD21-98-0198	21-10555	Xylene[1,2-]	2.2	9/28/1998
MD21-98-0256	21-10557	Xylene[1,2-]	1.7	10/8/1998
MD21-98-0226	21-10556	Xylene[1,2-]	1.1	10/2/1998
MD21-98-0138	21-10552	Xylene[1,2-]	0.83	9/15/1998
MD21-98-0239	21-10557	Xylene[1,3-]+Xylene[1,4-]	6.7	10/7/1998
MD21-98-0198	21-10555	Xylene[1,3-]+Xylene[1,4-]	6.5	9/28/1998
MD21-98-0245	21-10557	Xylene[1,3-]+Xylene[1,4-]	6	10/8/1998
MD21-98-0214	21-10556	Xylene[1,3-]+Xylene[1,4-]	5.7	9/30/1998
MD21-98-0192	21-10555	Xylene[1,3-]+Xylene[1,4-]	3.7	9/25/1998
MD21-98-0170	21-10554	Xylene[1,3-]+Xylene[1,4-]	3.3	9/22/1998
MD21-98-0256	21-10557	Xylene[1,3-]+Xylene[1,4-]	3.3	10/8/1998
MD21-98-0126	21-10552	Xylene[1,3-]+Xylene[1,4-]	3.2	9/11/1998
MD21-98-0176	21-10554	Xylene[1,3-]+Xylene[1,4-]	3.1	9/23/1998
MD21-98-0182	21-10554	Xylene[1,3-]+Xylene[1,4-]	2.3	9/24/1998
MD21-98-0226	21-10556	Xylene[1,3-]+Xylene[1,4-]	2.2	10/2/1998
MD21-98-0154	21-10553	Xylene[1,3-]+Xylene[1,4-]	1.1	9/18/1998

Table 3.3-3
Radionuclides Detected above Background Value in Subsurface Samples Collected in 1998 at MDA B

Sample ID	Location ID	Depth (ft)	Medium	Americium-241	Plutonium-239	Strontium-90	Tritium	Uranium-234	Uranium-235	Uranium-238
Qbt 2,3,4 Background Value[b]								**1.98**	**0.09**	**1.93**
Residential Screening Action Levels (pCi/g)[b]				**30**	**33**	**5.7**	**750**	**170**	**17**	**87**
SWMU 21-015										
MD21-98-0101	21-10551	29.00-30.00	Tuff	—[c]	—	—	0.1	—	—	—
MD21-98-0102	21-10551	39.00-40.00	Tuff	—	—	—	0.3	—	—	—
MD21-98-0103	21-10551	49.00-50.00	Tuff	—	—	—	11.9	—	—	—
MD21-98-0105	21-10551	59.00-60.00	Tuff	—	—	—	269	—	—	—
MD21-98-0106	21-10551	69.00-70.00	Tuff	—	—	—	178	—	—	—
MD21-98-0107	21-10551	79.00-80.00	Tuff	0.0227	—	—	55	—	—	—
MD21-98-0110	21-10551	89.00-90.00	Tuff	—	—	—	3.06	—	—	—
MD21-98-0108	21-10551	99.00-100.00	Tuff	—	—	—	0.75	—	—	—
MD21-98-0130	21-10552	89.00-90.00	Tuff	—	—	—	0.07	—	—	—
MD21-98-0131	21-10552	99.00-100.00	Tuff	—	—	—	0.1	—	—	—
MD21-98-0151	21-10553	59.00-60.00	Tuff	—	—	—	0.05	—	—	—
MD21-98-0153	21-10553	79.00-80.00	Tuff	—	—	—	0.08	—	—	—
MD21-98-0155	21-10553	89.00-90.00	Tuff	—	—	—	0.09	—	—	—
MD21-98-0156	21-10553	99.00-100.00	Tuff	—	—	—	0.11	—	—	—
MD21-98-0168	21-10554	23.00-24.00	Tuff	13.09	43.5	10.9	—	—	—	—
MD21-98-0169	21-10554	39.00-40.00	Tuff	—	0.044	—	0.08	—	—	—
MD21-98-0171	21-10554	49.00-50.00	Tuff	—	0.18	—	0.05	—	—	—
MD21-98-0172	21-10554	59.00-60.00	Tuff	—	0.137	—	0.05	—	—	—

Table 3.3-3 (continued)

Sample ID	Location ID	Depth (ft)	Medium	Americium-241	Plutonium-239	Strontium-90	Tritium	Uranium-234	Uranium-235	Uranium-238
Qbt 2,3,4 Background Value[b]								**1.98**	**0.09**	**1.93**
Residential Screening Action Levels (pCi/g)[b]				**30**	**33**	**5.7**	**750**	**170**	**17**	**87**
MD21-98-0173	21-10554	69.00-70.00	Tuff	—	0.061	—	0.06	—	—	—
MD21-98-0174	21-10554	79.00-80.00	Tuff	—	—	—	0.05	—	—	—
MD21-98-0175	21-10554	89.00-90.00	Tuff	—	0.169	—	0.26	—	—	—
MD21-98-0177	21-10554	99.00-100.00	Tuff	—	—	—	0.1	—	—	—
MD21-98-0190	21-10555	39.00-40.00	Tuff	—	0.05	—	—	—	—	—
MD21-98-0191	21-10555	49.00-50.00	Tuff	—	0.078	—	—	—	—	—
MD21-98-0240	21-10557	59.00-60.00	Tuff	—	—	—	—	4.04	0.175	3.92

Notes: Units are pCi/g. Depths are angled distance from top of borehole, not vertical depth below ground surface.

[a] Background values from LANL 1998, 059730.

[b] Soil radionuclide screening action levels from LANL 2009, 107655.

[c] Not detected or not detected above background unless otherwise marked.

Table 3.4-1
Inorganic and Organic Detections Above Residential SSLs in DPT Samples

Constituent	Residential SSL	Number of samples above Residential SSL	Maximum Detected Concentration	Sampling Location of Maximum Detect	Depth
Antimony	31.3 mg/kg	2	99.8 mg/kg	AJ183	5 to 9 ft
Arsenic	3.9 mg/kg	4	8.7 mg/kg	AI217	5 to 8 ft
Lead	400 mg/kg	1	744 mg/kg	AI157	5 to 9 ft
Mercury	7.71 mg/kg	6	23.7 mg/kg	AI176	5 to 9 ft
Benzo(a)pyrene	0.621 mg/kg	1	1.9 mg/kg	AI251	0 to 5 ft

Table 3.4-2
Radionuclide Detections Above Residential SALs in DPT Samples

Constituent	Residential SAL	Number of samples above Residential SAL	Maximum Detected Concentration	Sampling Location of Maximum Detect	Depth
Americium-241	30 pCi/g	2	83.7 pCi/g	AI211	10 to 12.5 ft
Cesium-137	5.6 pCi/g	1	1869.3 pCi/g	AI164	5 to 10 ft
Plutonium-238	37 pCi/g	2	234.666 pCi/g	AI209	10 to 10.2 ft
Plutonium-239/240*	33 pCi/g	54	53,752.3 pCi/g	AI209	10 to 10.2 ft
Strontium-90	5.7 pCi/g	3	2980.3 pCi/g	AI164	10 to 12 ft
Thorium-228	2.3 pCi/g	1	7.0878 pCi/g	AI183	0 to 5 ft
Thorium-230	5 pCi/g	2	14.953 pCi/g	AI183	0 to 5 ft
Uranium-238	87 pCi/g	1	92.2 pCi/g	AI186	0 to 6 ft

* Plutonium-239/240 is the radionuclide that was detected above SALs or SSLs at the highest percentage.

Table 4.2-1
Overburden Samples Collected during Excavation Activities

Sample ID	Soil Type	Sample ID	Soil Type	Sample ID	Soil Type
MD21-10-16019	below SSLs and SALs*	MD21-10-16044	below SSLs and SALs	MD21-10-16069	below SSLs and SALs
MD21-10-16020	below SSLs and SALs	MD21-10-16045	below SSLs and SALs	MD21-10-16070	below SSLs and SALs
MD21-10-16021	below SSLs and SALs	MD21-10-16046	below SSLs and SALs	MD21-10-16071	below SSLs and SALs
MD21-10-16022	below SSLs and SALs	MD21-10-16047	below SSLs and SALs	MD21-10-16072	below SSLs and SALs
MD21-10-16023	below SSLs and SALs	MD21-10-16048	below SSLs and SALs	MD21-10-16073	below SSLs and SALs
MD21-10-16024	below SSLs and SALs	MD21-10-16049	below SSLs and SALs	MD21-10-16074	below SSLs and SALs
MD21-10-16025	below SSLs and SALs	MD21-10-16050	below SSLs and SALs	MD21-10-16075	below SSLs and SALs
MD21-10-16026	below SSLs and SALs	MD21-10-16051	below SSLs and SALs	MD21-10-16076	below SSLs and SALs
MD21-10-16027	below SSLs and SALs	MD21-10-16052	below SSLs and SALs	MD21-10-16077	below SSLs and SALs
MD21-10-16028	below SSLs and SALs	MD21-10-16053	below SSLs and SALs	MD21-10-16078	below SSLs and SALs
MD21-10-16029	below SSLs and SALs	MD21-10-16054	below SSLs and SALs	MD21-10-16079	below SSLs and SALs
MD21-10-16030	below SSLs and SALs	MD21-10-16055	below SSLs and SALs	MD21-10-16080	below SSLs and SALs
MD21-10-16031	below SSLs and SALs	MD21-10-16056	below SSLs and SALs	MD21-10-16081	below SSLs and SALs
MD21-10-16032	below SSLs and SALs	MD21-10-16057	below SSLs and SALs	MD21-10-16082	below SSLs and SALs
MD21-10-16033	below SSLs and SALs	MD21-10-16058	below SSLs and SALs	MD21-10-16083	below SSLs and SALs
MD21-10-16034	below SSLs and SALs	MD21-10-16059	below SSLs and SALs	MD21-10-16084	below SSLs and SALs
MD21-10-16035	below SSLs and SALs	MD21-10-16060	below SSLs and SALs	MD21-10-16085	below SSLs and SALs
MD21-10-16036	below SSLs and SALs	MD21-10-16061	below SSLs and SALs	MD21-10-16086	below SSLs and SALs
MD21-10-16037	below SSLs and SALs	MD21-10-16062	below SSLs and SALs	MD21-10-16087	below SSLs and SALs
MD21-10-16038	below SSLs and SALs	MD21-10-16063	below SSLs and SALs	MD21-10-16088	below SSLs and SALs
MD21-10-16039	below SSLs and SALs	MD21-10-16064	below SSLs and SALs	MD21-10-16089	below SSLs and SALs
MD21-10-16040	below SSLs and SALs	MD21-10-16065	below SSLs and SALs	MD21-10-16090	below SSLs and SALs
MD21-10-16041	below SSLs and SALs	MD21-10-16066	below SSLs and SALs	MD21-10-16091	below SSLs and SALs
MD21-10-16042	below SSLs and SALs	MD21-10-16067	below SSLs and SALs	MD21-10-16092	below SSLs and SALs
MD21-10-16043	below SSLs and SALs	MD21-10-16068	below SSLs and SALs	MD21-10-16093	below SSLs and SALs

Table 4.2-1 (continued)

Sample ID	Soil Type	Sample ID	Soil Type	Sample ID	Soil Type
MD21-10-16094	below SSLs and SALs	MD21-10-16121	below SSLs and SALs	MD21-10-16150	below SSLs and SALs
MD21-10-16095	below SSLs and SALs	MD21-10-16122	below SSLs and SALs	MD21-10-16151	below SSLs and SALs
MD21-10-16096	below SSLs and SALs	MD21-10-16123	below SSLs and SALs	MD21-10-16152	below SSLs and SALs
MD21-10-16097	below SSLs and SALs	MD21-10-16124	below SSLs and SALs	MD21-10-16153	below SSLs and SALs
MD21-10-16098	below SSLs and SALs	MD21-10-16125	below SSLs and SALs	MD21-10-16154	below SSLs and SALs
MD21-10-16099	below SSLs and SALs	MD21-10-16126	below SSLs and SALs	MD21-10-16155	below SSLs and SALs
MD21-10-16100	below SSLs and SALs	MD21-10-16127	below SSLs and SALs	MD21-10-16156	below SSLs and SALs
MD21-10-16101	below SSLs and SALs	MD21-10-16129	below SSLs and SALs	MD21-10-16157	below SSLs and SALs
MD21-10-16102	below SSLs and SALs	MD21-10-16130	below SSLs and SALs	MD21-10-16158	below SSLs and SALs
MD21-10-16103	below SSLs and SALs	MD21-10-16131	below SSLs and SALs	MD21-10-16159	below SSLs and SALs
MD21-10-16104	below SSLs and SALs	MD21-10-16132	below SSLs and SALs	MD21-10-16160	below SSLs and SALs
MD21-10-16105	below SSLs and SALs	MD21-10-16133	below SSLs and SALs	MD21-10-16161	below SSLs and SALs
MD21-10-16106	below SSLs and SALs	MD21-10-16134	below SSLs and SALs	MD21-10-16162	below SSLs and SALs
MD21-10-16107	below SSLs and SALs	MD21-10-16135	below SSLs and SALs	MD21-10-16163	below SSLs and SALs
MD21-10-16108	below SSLs and SALs	MD21-10-16136	below SSLs and SALs	MD21-10-16164	below SSLs and SALs
MD21-10-16109	below SSLs and SALs	MD21-10-16137	below SSLs and SALs	MD21-10-16165	below SSLs and SALs
MD21-10-16110	below SSLs and SALs	MD21-10-16139	below SSLs and SALs	MD21-10-16166	below SSLs and SALs
MD21-10-16111	below SSLs and SALs	MD21-10-16140	below SSLs and SALs	MD21-10-16167	below SSLs and SALs
MD21-10-16112	below SSLs and SALs	MD21-10-16141	below SSLs and SALs	MD21-10-16168	below SSLs and SALs
MD21-10-16113	below SSLs and SALs	MD21-10-16142	below SSLs and SALs	MD21-10-16169	below SSLs and SALs
MD21-10-16114	below SSLs and SALs	MD21-10-16143	below SSLs and SALs	MD21-10-16170	below SSLs and SALs
MD21-10-16115	below SSLs and SALs	MD21-10-16144	below SSLs and SALs	MD21-10-16171	below SSLs and SALs
MD21-10-16116	below SSLs and SALs	MD21-10-16145	below SSLs and SALs	MD21-10-16172	below SSLs and SALs
MD21-10-16117	below SSLs and SALs	MD21-10-16146	below SSLs and SALs	MD21-10-16173	below SSLs and SALs
MD21-10-16118	below SSLs and SALs	MD21-10-16147	below SSLs and SALs	MD21-10-16174	below SSLs and SALs
MD21-10-16119	below SSLs and SALs	MD21-10-16148	below SSLs and SALs	MD21-10-16175	below SSLs and SALs
MD21-10-16120	below SSLs and SALs	MD21-10-16149	below SSLs and SALs	MD21-10-16176	below SSLs and SALs
MD21-10-16177	below SSLs and SALs	MD21-10-16204	below SSLs and SALs	MD21-10-16260	below SSLs and SALs

Table 4.2-1 (continued)

Sample ID	Soil Type	Sample ID	Soil Type	Sample ID	Soil Type
MD21-10-16178	below SSLs and SALs	MD21-10-16205	below SSLs and SALs	MD21-10-16261	below SSLs and SALs
MD21-10-16179	below SSLs and SALs	MD21-10-16206	below SSLs and SALs	MD21-10-16262	below SSLs and SALs
MD21-10-16180	below SSLs and SALs	MD21-10-16207	below SSLs and SALs	MD21-10-16263	below SSLs and SALs
MD21-10-16181	below SSLs and SALs	MD21-10-16208	below SSLs and SALs	MD21-10-16264	below SSLs and SALs
MD21-10-16182	below SSLs and SALs	MD21-10-16209	below SSLs and SALs	MD21-10-16265	below SSLs and SALs
MD21-10-16183	below SSLs and SALs	MD21-10-16210	below SSLs and SALs	MD21-10-16266	below SSLs and SALs
MD21-10-16184	below SSLs and SALs	MD21-10-16211	below SSLs and SALs	MD21-10-16267	below SSLs and SALs
MD21-10-16185	below SSLs and SALs	MD21-10-16212	below SSLs and SALs	MD21-10-16270	below SSLs and SALs
MD21-10-16186	below SSLs and SALs	MD21-10-16213	below SSLs and SALs	MD21-10-16271	below SSLs and SALs
MD21-10-16187	below SSLs and SALs	MD21-10-16214	below SSLs and SALs	MD21-10-16272	below SSLs and SALs
MD21-10-16188	below SSLs and SALs	MD21-10-16215	below SSLs and SALs	MD21-10-16273	below SSLs and SALs
MD21-10-16189	below SSLs and SALs	MD21-10-16216	below SSLs and SALs	MD21-10-16274	below SSLs and SALs
MD21-10-16190	below SSLs and SALs	MD21-10-16217	below SSLs and SALs	MD21-10-16275	below SSLs and SALs
MD21-10-16191	below SSLs and SALs	MD21-10-16218	below SSLs and SALs	MD21-10-16276	below SSLs and SALs
MD21-10-16192	below SSLs and SALs	MD21-10-16219	below SSLs and SALs	MDABEWS1-10-21228	below SSLs and SALs
MD21-10-16193	below SSLs and SALs	MD21-10-16220	below SSLs and SALs	MDABEWS1-10-21229	below SSLs and SALs
MD21-10-16194	below SSLs and SALs	MD21-10-16249	below SSLs and SALs	MDABEWS1-10-21230	below SSLs and SALs
MD21-10-16195	below SSLs and SALs	MD21-10-16250	below SSLs and SALs	MDABEWS1-10-21231	below SSLs and SALs
MD21-10-16196	below SSLs and SALs	MD21-10-16251	below SSLs and SALs	MDABEWS1-10-21232	below SSLs and SALs
MD21-10-16197	below SSLs and SALs	MD21-10-16252	below SSLs and SALs	MDABEWS1-10-21233	below SSLs and SALs
MD21-10-16198	below SSLs and SALs	MD21-10-16253	below SSLs and SALs	MDABEWS1-10-21234	below SSLs and SALs
MD21-10-16199	below SSLs and SALs	MD21-10-16254	below SSLs and SALs	MDABEWS1-10-21235	below SSLs and SALs
MD21-10-16200	below SSLs and SALs	MD21-10-16255	below SSLs and SALs	MDABEWS1-10-21236	below SSLs and SALs
MD21-10-16201	below SSLs and SALs	MD21-10-16256	below SSLs and SALs	MDABEWS1-10-21237	below SSLs and SALs
MD21-10-16202	below SSLs and SALs	MD21-10-16257	below SSLs and SALs	MDABEWS1-10-21238	below SSLs and SALs
MD21-10-16203	below SSLs and SALs	MD21-10-16259	below SSLs and SALs	MDABEWS1-10-21239	below SSLs and SALs
MDABEWS1-10-21240	below SSLs and SALs	MDABEWS1-10-21263	below SSLs and SALs	MDABEWS1-10-21285	below SSLs and SALs
MDABEWS1-10-21241	below SSLs and SALs	MDABEWS1-10-21264	below SSLs and SALs	MDABEWS1-10-21287	below SSLs and SALs

Table 4.2-1 (continued)

Sample ID	Soil Type	Sample ID	Soil Type	Sample ID	Soil Type
MDABEWS1-10-21242	below SSLs and SALs	MDABEWS1-10-21265	below SSLs and SALs	MDABEWS1-10-21288	below SSLs and SALs
MDABEWS1-10-21244	below SSLs and SALs	MDABEWS1-10-21266	below SSLs and SALs	MDABEWS1-10-21289	below SSLs and SALs
MDABEWS1-10-21245	below SSLs and SALs	MDABEWS1-10-21267	below SSLs and SALs	MDABEWS1-10-21290	below SSLs and SALs
MDABEWS1-10-21246	below SSLs and SALs	MDABEWS1-10-21268	below SSLs and SALs	MDABEWS1-10-21291	below SSLs and SALs
MDABEWS1-10-21247	below SSLs and SALs	MDABEWS1-10-21269	below SSLs and SALs	MDABEWS1-10-21293	below SSLs and SALs
MDABEWS1-10-21249	below SSLs and SALs	MDABEWS1-10-21270	below SSLs and SALs	MDABEWS1-10-21296	below SSLs and SALs
MDABEWS1-10-21250	below SSLs and SALs	MDABEWS1-10-21271	below SSLs and SALs	MDABEWS1-10-21297	below SSLs and SALs
MDABEWS1-10-21251	below SSLs and SALs	MDABEWS1-10-21272	below SSLs and SALs	MDABEWS1-10-21298	below SSLs and SALs
MDABEWS1-10-21252	below SSLs and SALs	MDABEWS1-10-21273	below SSLs and SALs	MDABEWS1-10-21299	below SSLs and SALs
MDABEWS1-10-21253	below SSLs and SALs	MDABEWS1-10-21274	below SSLs and SALs	MDABEWS1-10-21300	below SSLs and SALs
MDABEWS1-10-21254	below SSLs and SALs	MDABEWS1-10-21275	below SSLs and SALs	MDABEWS1-10-21301	below SSLs and SALs
MDABEWS1-10-21255	below SSLs and SALs	MDABEWS1-10-21276	below SSLs and SALs	MDABEWS1-10-21302	below SSLs and SALs
MDABEWS1-10-21256	below SSLs and SALs	MDABEWS1-10-21277	below SSLs and SALs	MDABEWS1-10-21303	below SSLs and SALs
MDABEWS1-10-21257	below SSLs and SALs	MDABEWS1-10-21278	below SSLs and SALs	MDABEWS1-10-21307	below SSLs and SALs
MDABEWS1-10-21258	below SSLs and SALs	MDABEWS1-10-21279	below SSLs and SALs	MDABEWS1-10-21308	below SSLs and SALs
MDABEWS1-10-21260	below SSLs and SALs	MDABEWS1-10-21280	below SSLs and SALs	MDABEWS1-10-21309	below SSLs and SALs
MDABEWS1-10-21261	below SSLs and SALs	MDABEWS1-10-21281	below SSLs and SALs		
MDABEWS1-10-21262	below SSLs and SALs	MDABEWS1-10-21284	below SSLs and SALs		

* Source: SSLs from NMED 2009, 108070, or http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm; SALs from LANL 2009, 107655.

Table 4.2-2
Waste Volumes Removed

Total Waste Removed (yd^3)	Awaiting Characterization (waste type TBD[a]) (yd^3)	Clean Soil Backfill below SSLs and SALs[b] (yd^3)	LLW to TA-54[c] (yd^3)	LLW to Clive (yd^3)	LLW to NNSS (yd^3)	MLLW to Clive (yd^3)	Industrial Waste Shipped[d] (yd^3)	New Mexico Special Waste[e] (yd^3)
39,922	9200	782	12,728	13,376	3690	20	117	9

[a] TBD = To be determined.

[b] SSLs from (NMED 2009, 108070) or http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm, and SALs from (LANL 2009, 107655).

[c] Disposed at TA-54, MDA G.

[d] Industrial waste shipped to Waste Control Specialists in Andrews, Texas, or Clean Harbors-Deer Trail in Deer Trail, Colorado

[e] Includes ACM.

Table 4.3-1
Excavation Completion Summary

	Enclosures	1	2	3/4	5/6	7/8	9/10/11	12/13	Area 5	Total (CY)
Ex. end date		14-Sep-11	19-Jul-11	26-Jan-11	28-Jul-11	10-Dec-10	13-Sep-11	26-Apr-11	19-Sep-11	
Qty Forecast	30-Jun-10	4,651	4,699	1,619	1,,757	1,383	4,251	2,529	1,127	22,016
Qty Actual	19-Sep-11	10,169	8,367	3,157	2,970	2,386	6,825	5,473	576	39,922
Projected avg. depth (ft.)		10 - 11	9 - 10	9 -10	9 -11	9 - 11	11 - 3	11 - 13	3 -5	
Actual max. depth (ft.)		18.57	29.4	14.81	11.86	15.57	18.04	22.13	5	

*Packaging of excavated material still in process as of 26 September 2011.

Table 5.0-1
Confirmation Samples Collected during Excavation Activities

Enclosure	Sample ID	Location ID	Grid Cell	NMED Split Sample ID	Trench Location	Date Collected	X_Coordinate	Y_Coordinate	Elevation	Sample Depth
1	CSMDAB-10-24585	MDAB-612790	AJ260	MDA-B-260-Swall	South-side wall	08/11/2010	1630213.183	1775183.589	7182.3	4.7
1	CSMDAB-10-24586	MDAB-612791	AH260	MDA-B-260-Nwall	North-side wall	08/11/2010	1630213.196	1775203.692	7182.7	4.3
1	CSMDAB-10-24587	MDAB-612792	AI260	MDA-B-260-floor	Excavation floor	08/11/2010	1630212.605	1775193.884	7179.6	7.4
1	CSMDAB-10-24589	MDAB-612794	AH260	NS	North-side wall	09/16/2010	1630201.889	1775207.004	7185	2
1	CSMDAB-10-24590	MDAB-612795	AH260	NS	North-side wall	09/16/2010	1630215.095	1775208.673	7184.2	2.8
1	CSMDAB-10-24591	MDAB-612796	AH260	NS	North-side wall	09/16/2010	1630221.236	1775209.667	7184.6	2.4
1	CSMDAB-10-24592	MDAB-612797	AH260	NS	North-side wall	10/13/2010	1630212.13	1775207.7	7182.9	4.1
1	CSMDAB-10-24593	MDAB-612798	AI255	NS	Excavation floor	01/05/2011	1630164.31	1775194.59	7180.809	6.69
1	CSMDAB-10-24594	MDAB-612799	AH255	NS	North-side wall	01/05/2011	1630165.06	1775205.05	7184.136	3.36
1	CSMDAB-10-24595	MDAB-612800	AJ255	NS	South-side wall	01/05/2011	1630164.61	1775182.44	7183.976	3.52
1	CSMDAB-10-24596	MDAB-612801	AH250	NS	North-side wall	01/29/2011	1630112.63	1775198.83	7179.81	8.69
1	CSMDAB-10-24597	MDAB-612802	AI250	yes	Excavation floor	01/29/2011	1630113.5	1775187.52	7175.22	13.28
1	CSMDAB-10-24598	MDAB-612803	AJ250	NS	South-side wall	01/29/2011	1630113.88	1775173.07	7179.02	9.48
1	CSMDAB-10-24599	MDAB-612804	AH240	NS	North-side wall	04/19/2011	1630013.88	1775192.25	7178.71	9.79
1	CSMDAB-11-13873	MDAB-614399	AL250	NS	South-side wall	05/26/2011	1630121.99	1775167.54	7182.3	6.2
1	CSMDAB-11-13874	MDAB-612803	AK250	NS	South-side wall	05/26/2011	1630113.88	1775173.07	7182.33	6.17
1	CSMDAB-11-13875	MDAB-614398	AL249	NS	Excavation floor	05/26/2011	1630109.63	1775189.25	7175.84	12.66
1	CSMDAB-11-13876	MDAB-614601	AH225	NS	North-side wall	07/21/2011	1629868.019	1775177.95	7182.308	6.19
1	CSMDAB-11-13877	MDAB-614600	AI225	NS	Excavation floor	07/21/2011	1629869.14	1775163.55	7173.3	15.2
1	CSMDAB-11-23966	MDAB-614489	AK225	NS	South-side wall	07/21/2011	1629870.687	1775147.24	7180.305	8.19
1	CSMDAB-11-23967	MDAB-614490	AH229	NS	North-side wall	07/21/2011	1629905.782	1775183.12	7177.29	10.96
1	CSMDAB-11-23968	MDAB-614491	AI229	NS	Excavation floor	07/21/2011	1629909.33	1775171.22	7171.32	16.93
1	CSMDAB-11-23969	MDAB-614492	AJ230	NS	South-side wall	07/21/2011	1629912.8	1775158.525	7179.491	8.76
1	CSMDAB-11-24007	MDAB-614498	AG220	NS	North-side wall	07/20/2011	1629810.257	1775176.204	7186.294	2.71
1	CSMDAB-11-24008	MDAB-614499	AI220	NS	Excavation floor	07/20/2011	1629813.867	1775157.76	7182.242	6.76
1	CSMDAB-11-24009	MDAB-614500	AK220	NS	South-side wall	07/21/2011	1629815.545	1775145.48	7183.747	5.25
1	CSMDAB-11-25984	MDAB-614674	AH215	NS	North-side wall	08/15/2011	1629764.375	1775168.381	7180.39	9.11
1	CSMDAB-11-25985	MDAB-614675	AJ215	NS	Excavation floor	08/15/2011	1629769.852	1775150.762	7175.125	14.38
1	CSMDAB-11-25986	MDAB-614676	AL215	NS	South-side wall	08/15/2011	1629764.46	1775131.191	7179.656	9.84
1	CSMDAB-11-26997	MDAB-614694	AH210	NS	North-side wall	09/02/2011	1629716.966	1775161.998	7181.02	8.98
1	CSMDAB-11-26998	MDAB-614695	AJ210	NS	Excavation floor	09/02/2011	1629719.736	1775141.254	7174.19	15.81
1	CSMDAB-11-27000	MDAB-614696	AK210	NS	South-side wall	09/02/2011	1629718.647	1775130.025	7180.23	9.77
1	CSMDAB-11-27001	MDAB-614697	205	NS	South-side wall	09/22/2011	1629666.66	1775124.59	7178.57	12.43
1	CSMDAB-11-27002	MDAB-614698	205	NS	North-side wall	09/22/2011	1629662.8	1775155.76	7179.56	11.44
1	CSMDAB-11-27936	MDAB-614715	210	NS	Excavation floor	09/20/2011	1629717.58	1775142.26	7170.86	19.14
1	CSMDAB-11-27937	MDAB-614716	215	NS	South-side wall	09/21/2011	1629764.16	1775130.96	7179.59	9.91
1	CSMDAB-11-27938	MDAB-614717	245	NS	North-side wall	09/21/2011	1630062.82	1775200.57	7183.92	4.58
1	CSMDAB-11-27939	MDAB-614718	210	NS	North-side wall	09/21/2011	1629716.19	1775163.37	7179.85	10.15

Table 5.0-1 (continued)

Enclosure	Sample ID	Location ID	Grid Cell	NMED Split Sample ID	Trench Location	Date Collected	X_Coordinate	Y_Coordinate	Elevation	Sample Depth
1	CSMDAB-11-27940	MDAB-614719	250	NS	South-side wall	09/21/2011	1630116.66	1775162.47	7182.52	5.98
1	CSMDAB-11-27941	MDAB-614720	210	NS	South-side wall	09/22/2011	1629710.43	1775122.77	7174.98	15.02
1	CSMDAB-11-3808	MDAB-614332	AJ240	NS	South-side wall	04/19/2011	1630017.8	1775167.42	7179.82	8.68
1	CSMDAB-11-3809	MDAB-614334	AJ245	NS	South-side wall	04/19/2011	1630066.42	1775174.69	7178.54	9.96
1	CSMDAB-11-3811	MDAB-614337	AI235	NS	Excavation floor	04/20/2011	1629962.8	1775177.64	7171.21	17.29
1	CSMDAB-11-3812	MDAB-614338	AJ235	NS	South-side wall	04/20/2011	1629968.69	1775165.09	7178.03	10.47
1	CSMDAB-11-3817	MDAB-614335	AI245	NS	Excavation floor	04/19/2011	1630062.87	1775186.18	7176.21	12.29
1	CSMDAB-11-3818	MDAB-614333	AI240	NS	Excavation floor	04/19/2011	1630013.6	1775180.22	7172.63	15.87
1	CSMDAB-11-3819	MDAB-612802	AL250	NS	Excavation floor	05/26/2011	1630113.5	1775187.52	7174.94	13.56
1	CSMDAB-11-3820	MDAB-614339	AG235	NS	North-side wall	04/20/2011	1629965.25	1775189.65	7179.79	8.71
1	CSMDAB-11-3821	MDAB-614397	AK251	NS	Excavation floor	05/26/2011	1630125.5	1775188.63	7174.76	13.74
1	CSMDAB-11-4549	MDAB-614336	AH245	NS	North-side wall	04/19/2011	1630063.13	1775197.54	7180.09	8.41
12	CSMDAB-11-10125	MDAB-614275	NI98	NS	South-side wall	04/26/2011	1631068.9	1774872.54	7161.17	10.43
12	CSMDAB-11-4855	MDAB-613862	NG87	NS	Excavation floor	03/24/2011	1630968.425	1774931.449	7156.84	16.66
12	CSMDAB-11-4856	MDAB-613863	NF87	NS	North-side wall	03/24/2011	1630972.26	1774941.975	7158.28	15.22
12	CSMDAB-11-4857	MDAB-613864	NH86	NS	South-side wall	03/24/2011	1630964.404	1774922.115	7156.93	16.57
12	CSMDAB-11-4858	MDAB-613865	NG91	NS	Excavation floor	03/23/2011	1631010.473	1774913.843	7155.07	17.43
12	CSMDAB-11-4859	MDAB-613866	NF91	NS	North-side wall	03/23/2011	1631013.479	1774925.894	7156.18	16.32
12	CSMDAB-11-4860	MDAB-613867	NH91	NS	South-side wall	03/23/2011	1631007.927	1774904.128	7157.49	15.01
12	CSMDAB-11-4861	MDAB-613868	NG97	NS	Excavation floor	03/23/2011	1631063.929	1774893.038	7152.67	18.93
12	CSMDAB-11-4862	MDAB-613869	NF96	NS	North-side wall	03/23/2011	1631066.122	1774909.814	7158.69	12.91
12	CSMDAB-11-4863	MDAB-613870	NI97	NS	South-side wall	03/23/2011	1631058.916	1774879.665	7159.92	11.68
12	CSMDAB-11-4864	MDAB-613871	NI101	NS	South-side wall	03/23/2011	1631096.864	1774865.385	7156.62	14.38
12	CSMDAB-11-5775	MDAB-613975	NF101	NS	North-side wall	03/23/2011	1631107.88	1774888.344	7157.45	13.55
12	CSMDAB-11-5776	MDAB-613976	NH101	NS	Excavation floor	03/23/2011	1631102.54	1774875.587	7156.75	14.25
12	CSMDAB-11-9163	MDAB-614274	NI96	NS	South-side wall	04/07/2011	1631049.17	1774878.94	7164.58	7.02
12	CSMDAB-11-9164	MDAB-613870	NI97	NS	South-side wall	04/07/2011	1631058.916	1774879.665	7163.74	7.86
12	CSMDAB-11-9165	MDAB-614275	NI98	NS	South-side wall	04/07/2011	1631068.9	1774872.54	7161.17	10.43
12	CSMDAB-11-9166	MDAB-613863	NF87	NS	North-side wall	04/07/2011	1630972.26	1774941.975	7161.99	11.51
12	CSMDAB-11-9167	MDAB-614277	NF87	NS	North-side wall	04/07/2011	1630981.7	1774942.82	7161.36	12.14
12	CSMDAB-11-9168	MDAB-614276	NF86	NS	North-side wall	04/07/2011	1630970.79	1774946.68	7162.73	10.77
2	CSMDAB-10-25077	MDAB-612898	NH51	MDA-B-51-floor	Excavation floor	10/11/2010	1630635.448	1775057.849	7162.1	18.4
2	CSMDAB-10-25079	MDAB-612900	NF51	NS	North-side wall	11/23/2010	1630639.75	1775072.76	7171.381	9.12
2	CSMDAB-10-25080	MDAB-612901	NH51	NS	South-side wall	11/23/2010	1630628.67	1775050.48	7169.636	10.86
2	CSMDAB-10-25083	MDAB-612904	NH46	yes	Excavation floor	01/29/2011	1630588.91	1775076.18	7158.41	23.09
2	CSMDAB-10-25084	MDAB-612905	NF46	NS	North-side wall	01/29/2011	1630594	1775095.55	7167.8	13.7
2	CSMDAB-10-25085	MDAB-612906	NH46	NS	South-side wall	01/29/2011	1630587.81	1775067.31	7161.06	20.44

Table 5.0-1 (continued)

Enclosure	Sample ID	Location ID	Grid Cell	NMED Split Sample ID	Trench Location	Date Collected	X_Coordinate	Y_Coordinate	Elevation	Sample Depth
2	CSMDAB-10-25086	MDAB-612907	NG31	NS	North-side wall	07/22/2011	1630452.69	1775138.12	7172.32	11.18
2	CSMDAB-10-25087	MDAB-612908	NH31	NS	Excavation floor	07/22/2011	1630447.66	1775123.61	7162.35	21.15
2	CSMDAB-10-25088	MDAB-612909	NJ31	NS	South-side wall	07/22/2011	1630445.32	1775109.96	7169.55	13.95
2	CSMDAB-10-25089	MDAB-612910	NF36	NS	North-side wall	07/22/2011	1630499.63	1775122.39	7170.18	12.82
2	CSMDAB-10-25090	MDAB-612911	NH36	NS	Excavation floor	07/22/2011	1630493.32	1775111.97	7153.44	29.56
2	CSMDAB-10-25091	MDAB-612912	NI36	NS	South-side wall	07/22/2011	1630491.55	1775100.38	7163.97	19.03
2	CSMDAB-11-24386	MDAB-614604	NI41	NS	South-side wall	07/22/2011	1630538.36	1775079.13	7167.23	15.27
2	CSMDAB-11-24387	MDAB-614603	NG41	NS	Excavation floor	07/22/2011	1630542.81	1775096.63	7159.61	22.89
2	CSMDAB-11-24388	MDAB-614602	NF41	NS	North-side wall	07/22/2011	1630547.64	1775111.33	7168.04	14.46
2	CSMDAB-11-24851	MDAB-614643	NF50	NS	West-side wall	07/30/2011	1630632.883	1775079.303	7172.512	7.988
2	CSMDAB-11-24852	MDAB-614644	NF52	NS	East-side wall	07/30/2011	1630647.949	1775072.783	7172.299	8.201
2	CSMDAB-11-24853	MDAB-614645	NF51	NS	Excavation floor	07/30/2011	1630639.577	1775077.978	7173.222	7.278
2	CSMDAB-11-4539	MDAB-614592	NG26	NS	North-side wall	07/19/2011	1630409.51	1775151.65	7174.3	10.2
2	CSMDAB-11-4540	MDAB-614593	NI26	NS	Excavation floor	07/19/2011	1630402.12	1775134.13	7171.01	13.49
2	CSMDAB-11-4541	MDAB-614594	NK27	NS	South-side wall	07/19/2011	1630395.24	1775111.96	7178.05	6.45
3	CSMDAB-10-26776	MDAB-613126	AH160	MDA-B-160-Nwall	North-side wall	10/18/2010	1629216.43	1775115.89	7201	7
3	CSMDAB-10-26777	MDAB-613127	AI160	MDA-B-160-Floor	Excavation floor	10/18/2010	1629217.67	1775107.82	7193.4	14.6
3	CSMDAB-10-26778	MDAB-613128	AK160	MDA-B-160-Swall	South-side wall	10/18/2010	1629220.39	1775090.06	7205.2	2.8
3	CSMDAB-10-26779	MDAB-613129	AI155	MDA-B-155-Nwall	North-side wall	10/18/2010	1629170.57	1775087.35	7206.3	2.7
3	CSMDAB-10-26780	MDAB-613130	AJ155	MDA-B-155-Floor	Excavation floor	10/18/2010	1629169.82	1775099.26	7200.6	8.4
3	CSMDAB-10-26781	MDAB-613131	AK155	MDA-B-155-Swall	South-side wall	10/18/2010	1629169.74	1775108.77	7204.6	4.4
3	CSMDAB-10-26782	MDAB-613132	AH166	yes	North-side wall	01/10/2011	1629277.15	1775119.65	7197.998	8
3	CSMDAB-10-26783	MDAB-613133	AK166	yes	South-side wall	01/10/2011	1629277.45	1775095.8	7198.566	7.43
3	CSMDAB-10-26784	MDAB-613134	AJ166	yes	Excavation floor	01/10/2011	1629277.16	1775108.68	7191.4	14.6
3	CSMDAB-10-26785	MDAB-613135	AI171	yes	North-side wall	01/10/2011	1629324.34	1775122.77	7197.21	6.29
3	CSMDAB-10-26786	MDAB-613136	AK171	yes	South-side wall	01/10/2011	1629329.17	1775100.3	7195.4	8.1
3	CSMDAB-10-26787	MDAB-613137	AJ171	yes	Excavation floor	01/10/2011	1629326.72	1775112.58	7191.64	11.86
3	MDABEWS2-11-4532	MDAB-613857	AG167	NS	South-side wall	01/26/2011	1629287.94	1775130.82	7200.49	5.01
3	MDABEWS2-11-4533	MDAB-613858	AG168	NS	East-side wall	01/26/2011	1629292.42	1775135.33	7201.43	4.07
3	MDABEWS2-11-4535	MDAB-613860	AG167	NS	West-side wall	01/26/2011	1629283.51	1775134.45	7201.52	3.98
3	MDABEWS2-11-4536	MDAB-613859	AF167	NS	North-side wall	01/26/2011	1629289.43	1775140.77	7201.57	3.93
3	MDABEWS2-11-4537	MDAB-613861	AG167	NS	Excavation floor	01/26/2011	1629287.27	1775135.7	7200.34	5.16
5	CSMDAB-11-14064	MDAB-614400	AH176	NS	North-side wall	07/06/2011	1629372.85	1775128.62	7190.88	10.62
5	CSMDAB-11-14065	MDAB-614401	AJ175	NS	Excavation floor	07/06/2011	1629371.08	1775112.81	7186.98	14.52
5	CSMDAB-11-14066	MDAB-614402	AK175	NS	South-side wall	07/06/2011	1629368.4	1775101.25	7191.88	9.62
5	CSMDAB-11-14067	MDAB-614403	AH180	NS	North-side wall	07/07/2011	1629412.47	1775134.83	7191.74	7.26
5	CSMDAB-11-14068	MDAB-614404	AJ180	NS	Excavation floor	07/07/2011	1629415.73	1775118.35	7185.41	13.59
5	CSMDAB-11-14069	MDAB-614405	AK180	NS	South-side wall	07/07/2011	1629417.09	1775106.56	7189.35	9.65
5	CSMDAB-11-14070	MDAB-614406	AH185	NS	North-side wall	07/07/2011	1629467.03	1775138.71	7191.31	5.69

Table 5.0-1 (continued)

Enclosure	Sample ID	Location ID	Grid Cell	NMED Split Sample ID	Trench Location	Date Collected	X_Coordinate	Y_Coordinate	Elevation	Sample Depth
5	CSMDAB-11-14071	MDAB-614407	AJ184	NS	Excavation floor	07/07/2011	1629460.03	1775120.76	7187.83	9.17
5	CSMDAB-11-14072	MDAB-614408	AK184	NS	South-side wall	07/07/2011	1629463.88	1775108.01	7189.37	7.63
5	CSMDAB-11-14073	MDAB-614409	AI191	NS	North-side wall	07/08/2011	1629522.64	1775138.66	7191.82	3.18
5	CSMDAB-11-14074	MDAB-614410	AJ190	NS	Excavation floor	07/08/2011	1629519.16	1775125.85	7189.43	5.57
5	CSMDAB-11-14075	MDAB-614411	AK190	NS	South-side wall	07/08/2011	1629519.07	1775112.64	7188.12	6.88
5	CSMDAB-11-14076	MDAB-614412	AH175	NS	North-side wall	07/22/2011	1629366.67	1775133.62	7195.299	6.2
5	CSMDAB-11-14077	MDAB-614413	AL185	NS	South-side wall	07/22/2011	1629469.978	1775104.451	7189.577	7.42
5	CSMDAB-11-14078	MDAB-614414	AJ190	NS	Excavation floor	07/22/2011	1629516.767	1775126.904	7186.95	8.05
5	CSMDAB-11-14079	MDAB-614415	AH190	NS	North-side wall	07/22/2011	1629515.286	1775145.904	7189.042	5.96
5	CSMDAB-11-14080	MDAB-614416	AL190	NS	South-side wall	07/22/2011	1629520.848	1775107.779	7188.206	6.79
5	CSMDAB-11-14081	MDAB-614417	AJ185	NS	Excavation floor	07/22/2011	1629464.805	1775122.268	7185.465	11.53
7	CSMDAB-10-26802	MDAB-613141	AH196	MDA-B-196-Nwall	North-side wall	10/19/2010	1629572.28	1775149.98	7188.6	4.9
7	CSMDAB-10-26803	MDAB-613142	AI196	MDA-B-196-Floor	Excavation floor	10/19/2010	1629575.9	1775138.19	7181.1	12.4
7	CSMDAB-10-26804	MDAB-613143	AK196	MDA-B-196-Swall	South-side wall	10/19/2010	1629576.96	1775118.51	7187.4	6.1
7	CSMDAB-10-26805	MDAB-613144	AH200	NS	North-side wall	11/10/2010	1629615.8	1775151.26	7185.79	6.21
7	CSMDAB-10-26806	MDAB-613145	AK200	NS	South-side wall	11/10/2010	1629620.2	1775123.13	7186.3	5.7
7	CSMDAB-10-26807	MDAB-613146	AJ200	NS	Excavation floor	11/10/2010	1629614.83	1775134.31	7177.3	14.7
7	CSMDAB-10-26808	MDAB-613147	AH205	NS	North-side wall	12/10/2010	1629663.27	1775153.19	7180.53	10.47
7	CSMDAB-10-26809	MDAB-613148	AK205	NS	South-side wall	12/10/2010	1629667.16	1775124.69	7179.06	11.94
7	CSMDAB-10-26810	MDAB-613149	AJ205	NS	Excavation floor	12/10/2010	1629667.47	1775141.88	7174.26	16.74
7	CSMDAB-10-26811	MDAB-613142	AI196	NS	Excavation floor	11/10/2010	1629575.9	1775138.19	7181.06	12.44
7	CSMDAB-10-26812	MDAB-613151	AJ200	NS	Excavation floor	12/10/2010	1629616.25	1775133.91	7176.78	15.22
9	CSMDAB-11-25730	MDAB-614648	NF57	NS	North-side wall	08/08/2011	1630697.854	1775052.202	7169.857	9.643
9	CSMDAB-11-25731	MDAB-614649	NG57	NS	Excavation floor	08/08/2011	1630693.624	1775041.417	7161.509	17.991
9	CSMDAB-11-25732	MDAB-614650	NH57	NS	South-side wall	08/08/2011	1630688.833	1775028.241	7166.077	13.423
9	CSMDAB-11-25734	MDAB-614651	NF60	NS	North-side wall	08/09/2011	1630727.701	1775041.404	7168.791	8.709
9	CSMDAB-11-25735	MDAB-614652	NG60	NS	Excavation floor	08/08/2011	1630720.766	1775029.808	7159.941	17.559
9	CSMDAB-11-25737	MDAB-614653	NH61	NS	South-side wall	08/08/2011	1630722.666	1775016.107	7166.983	10.517
9	CSMDAB-11-27591	MDAB-614702	81.5	NS	South-side wall	09/16/2011	1630916.66	1774934.96	7164.36	9.64
9	CSMDAB-11-27592	MDAB-614703	76.5	NS	North-side wall	09/19/2011	1630880.98	1774982.56	7167.29	7.71
9	CSMDAB-11-27593	MDAB-614704	76.5	NS	Excavation floor	09/19/2011	1630875.35	1774966.73	7157.4	17.6
9	CSMDAB-11-27594	MDAB-614705	76.5	NS	South-side wall	09/19/2011	1630867.69	1774953.49	7164.31	10.69
9	CSMDAB-11-27942	MDAB-614721	76	NS	South-side wall	09/20/2011	1630867.82	1774952.6	7165.19	9.81
9	CSMDAB-11-27943	MDAB-614722	81	NS	North-side wall	09/20/2011	1630867.82	1774952.6	7165.19	8.81
9	CSMDAB-11-27944	MDAB-614723	64.5	NS	North-side wall	09/19/2011	1630773.79	1775027.11	7166.89	9.11
9	CSMDAB-11-27945	MDAB-614724	71	NS	North-side wall	09/20/2011	1630839.03	1775000.52	7165.16	10.34
9	CSMDAB-11-27946	MDAB-614725	71	NS	Excavation floor	09/20/2011	1630827.73	1774988.39	7155.34	20.16
9	CSMDAB-11-27947	MDAB-614726	71	NS	South-side wall	09/20/2011	1630821.91	1774970.53	7168.02	7.48
9	CSMDAB-11-5056	MDAB-613930	81.5	NS	North-side wall	09/16/2011	1630927.65	1774964.35	7165.55	8.45

Table 5.0-1 (continued)

Enclosure	Sample ID	Location ID	Grid Cell	NMED Split Sample ID	Trench Location	Date Collected	X_Coordinate	Y_Coordinate	Elevation	Sample Depth
9	CSMDAB-11-5057	MDAB-613931	NI57	NS	South-side wall	08/24/2011	1630689.38	1775023.4	7168.39	11.11
9	CSMDAB-11-5058	MDAB-613932	NI61	NS	South-side wall	08/24/2011	1630723.8	1775012.02	7164.65	12.85
9	CSMDAB-11-5059	MDAB-613933	81.5	NS	Excavation floor	09/16/2011	1630918.19	1774949.5	7154.23	19.77
9	CSMDAB-11-5060	MDAB-613934	NF65	NS	North-side wall	08/09/2011	1630771.584	1775026.332	7166.626	9.374
9	CSMDAB-11-5061	MDAB-613935	NG65	NS	Excavation floor	08/09/2011	1630766.705	1775015.579	7159.547	16.453
9	CSMDAB-11-5062	MDAB-613936	NH65	NS	South-side wall	08/09/2011	1630764.877	1775000.083	7165.259	10.741
9	CSMDAB-11-5063	MDAB-613937	NF72	NS	North-side wall	08/09/2011	1630834.986	1774998.151	7165.019	10.481
9	CSMDAB-11-5064	MDAB-613938	NG72	NS	Excavation floor	08/09/2011	1630830.681	1774988.225	7158.578	16.922
9	CSMDAB-11-5065	MDAB-613939	NH72	NS	South-side wall	08/09/2011	1630826.311	1774975.261	7167.411	8.089
Area 5	CSMDAB-11-25880	MDAB-614656	AL222	NS	East-side wall	08/09/2011	1629837.61	1775133.468	7181.971	
Area 5	CSMDAB-11-25881	MDAB-614657	AL225	NS	East-side wall	08/11/2011	1629868.04	1775136.055	7182.118	
Area 5	CSMDAB-11-25882	MDAB-614658	AL228	NS	East-side wall	08/11/2011	1629898.017	1775137.81	7180.96	
Area 5	CSMDAB-11-25883	MDAB-614659	AL231	NS	East-side wall	08/12/2011	1629928.477	1775140.374	7182.035	
Area 5	CSMDAB-11-25884	MDAB-614660	AL234	NS	East-side wall	08/12/2011	1629957.8	1775142.396	7181.201	
Area 5	CSMDAB-11-25885	MDAB-614661	AM225	NS	East-side wall	08/11/2011	1629861.178	1775124.35	7181.403	
Area 5	CSMDAB-11-25886	MDAB-614662	AM227	NS	East-side wall	08/11/2011	1629887.453	1775127.579	7180.635	
Area 5	CSMDAB-11-25887	MDAB-614663	AM228	NS	East-side wall	08/11/2011	1629898.567	1775126.818	7179.652	
Area 5	CSMDAB-11-25888	MDAB-614664	AM230	NS	East-side wall	08/11/2011	1629918.822	1775129.737	7181.635	
Area 5	CSMDAB-11-25889	MDAB-614665	AM232	NS	East-side wall	08/12/2011	1629939.259	1775131.576	7180.798	
Area 5	CSMDAB-11-25890	MDAB-614666	AN222	NS	East-side wall	08/09/2011	1629840.927	1775110.387	7180.243	
Area 5	CSMDAB-11-25891	MDAB-614667	AN223	NS	East-side wall	08/09/2011	1629850.183	1775111.325	7180.226	
Area 5	CSMDAB-11-25892	MDAB-614668	AN226	NS	East-side wall	08/11/2011	1629879.756	1775115.53	7179.82	
Area 5	CSMDAB-11-25893	MDAB-614669	AN228	NS	East-side wall	08/11/2011	1629900.331	1775119.026	7178.678	
Area 5	CSMDAB-11-25894	MDAB-614670	AN231	NS	East-side wall	08/12/2011	1629929.302	1775121.62	7181.38	
Area 5	CSMDAB-11-25895	MDAB-614671	AN234	NS	East-side wall	08/12/2011	1629960.537	1775123.517	7179.144	
Area 5	CSMDAB-11-27623	MDAB-614706	AM232	NS	No Information	09/16/2011	1629939.4	1775130.05	7179.98	7.77
Area 5	CSMDAB-11-27624	MDAB-614707	AM230	NS	No Information	09/16/2011	1629919.4	1775127.87	7180.32	7.18
Area 5	CSMDAB-11-27625	MDAB-614708	AN228	NS	No Information	09/19/2011	1629899.98	1775117.82	7178.48	9.02
Area 5	CSMDAB-11-27626	MDAB-614709	AM228	NS	No Information	09/20/2011	1629898.56	1775126.83	7177.48	10.02
Area 5	CSMDAB-11-27627	MDAB-614710	AL228	NS	No Information	09/20/2011	1629898.04	1775137.81	7178.71	8.79
Area 5	CSMDAB-11-27628	MDAB-614711	AM227	NS	No Information	09/21/2011	1629889.02	1775125.91	7175.97	11.53
Area 5	CSMDAB-11-27629	MDAB-614712	AN226	NS	No Information	09/20/2011	1629879.77	1775115.53	7176.27	11.23
Area 5	CSMDAB-11-27630	MDAB-614713	AN223	NS	No Information	09/20/2011	1629850.2	1775111.33	7176.14	11.61
Area 5	CSMDAB-11-27631	MDAB-614714	AN222	NS	No Information	09/21/2011	1629841.59	1775113.42	7175.36	12.64

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

				Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
				Analytical Suite	METALS	METALS	METALS	METALS	METALS	METALS	METALS
				Background Value (mg/kg)	7340	0.5	2.79	46	1.21	1.63	2200
				Residential SSL (mg/kg)	78100	31.3	3.9	15600	156	77.9	—
Sample Name	Enclosure	Sample Depth (ft)	Location	NMED Split							
CSMDAB-10-24585	1	4.7	AJ260, South-side wall	MDA-B-260-Swall	1640 (J+)	ND	0.681 (J)	33.6	0.245	ND	4790
CSMDAB-10-24586	1	4.3	AH260, North-side wall	MDA-B-260-Nwall	727 (J+)	ND	0.41 (J)	14.8	0.253	ND	2670
CSMDAB-10-24587	1	7.4	AI260, Excavation floor	MDA-B-260-floor	546 (J+)	1.07	0.23 (J)	11.4	0.316	ND	880
CSMDAB-10-24593	1	6.69	AI255, Excavation floor	NS	292	ND	0.228 (J)	10.8	0.199	ND	195
CSMDAB-10-24594	1	3.36	AH255, North-side wall	NS	1070	ND	0.412 (J)	29.5	0.218	ND	1390
CSMDAB-10-24595	1	3.52	AJ255, South-side wall	NS	2590	0.566 (J)	0.635 (J)	41.1	0.339	ND	1190
CSMDAB-10-24596	1	8.69	AH250, North-side wall	NS	645 (J+)	ND	0.558 (J)	16.8	0.37	0.886	1150
CSMDAB-10-24597	1	13.28	AI250, Excavation floor	yes	624 (J+)	0.886 (J)	0.38 (J)	16.1	0.306	ND	1980
CSMDAB-10-24598	1	9.48	AJ250, South-side wall	NS	1040 (J+)	0.669 (J)	0.607 (J)	22.1	0.263	ND	2930
CSMDAB-10-24599	1	9.79	AH240, North-side wall	NS	599 (J+)	0.664 (J)	0.416 (J)	12.9	0.4	ND	ND
CSMDAB-10-25077	2	18.4	NH51, Excavation floor	MDA-B-51-floor	1110 (J+)	0.66 (J)	0.566 (J)	18.1	0.383	0.115 (J)	486
CSMDAB-10-25080	2	10.86	NH51, South-side wall	NS	3990	0.656 (J)	1.36	48.6 (J+)	0.621	ND	2730
CSMDAB-10-25083	2	23.09	NH46, Excavation floor	yes	983 (J+)	0.481 (J)	0.343 (J)	12.4	0.277	ND	1050
CSMDAB-10-25084	2	13.7	NF46, North-side wall	NS	5190 (J+)	0.369 (J)	0.721 (J)	61	0.538	ND	1260
CSMDAB-10-25085	2	20.44	NH46, South-side wall	NS	2220 (J+)	ND	1.23	23.9	0.557	ND	848
CSMDAB-10-25086	2	11.18	NG31, North-side wall	NS	414	ND	1.12	14.2	0.471	ND	224
CSMDAB-10-25087	2	21.15	NH31, Excavation floor	NS	4230	ND	0.908 (J)	53.3	0.393	ND	1350
CSMDAB-10-25088	2	13.95	NJ31, South-side wall	NS	4950	ND	1.25	34.3	0.525	ND	1240
CSMDAB-10-25089	2	12.82	NF36, North-side wall	NS	3180	ND	0.772 (J)	36.8	0.39	ND	609
CSMDAB-10-25090	2	29.56	NH36, Excavation floor	NS	4130	ND	3.47	63.2	0.688	ND	805
CSMDAB-10-25091	2	19.03	NI36, South-side wall	NS	524	ND	0.635 (J)	17.1	0.265	ND	265
CSMDAB-10-26776	3	7	AH160, North-side wall	MDA-B-160-Nwall	1410 (J+)	ND	**4.02 EXCEED**	11.3	0.433	ND	531
CSMDAB-10-26777	3	14.6	AI160, Excavation floor	MDA-B-160-Floor	1740 (J+)	ND	**5.71 EXCEED**	17.8	0.377	ND	612
CSMDAB-10-26778	3	2.8	AK160, South-side wall	MDA-B-160-Swall	4900 (J+)	ND	2.71	75.8	0.638	ND	1730
CSMDAB-10-26779	3	2.7	AI155, North-side wall	MDA-B-155-Nwall	2160 (J+)	ND	2.4	23.2	0.408	ND	1980
CSMDAB-10-26780	3	8.4	AJ155, Excavation floor	MDA-B-155-Floor	1830 (J+)	ND	2.23	23.1	0.443	0.276 (J)	1170
CSMDAB-10-26781	3	4.4	AK155, South-side wall	MDA-B-155-Swall	6760 (J+)	ND	2.22	178	0.79	ND	5210
CSMDAB-10-26782	3	8	AH166, North-side wall	yes	1410 (J+)	1.43	0.542 (J)	15.7	0.419	ND	1280 (J)
CSMDAB-10-26783	3	7.43	AK166, South-side wall	yes	2550 (J+)	0.418 (J)	0.848 (J)	35	0.643	ND	1430 (J)
CSMDAB-10-26784	3	14.6	AJ166, Excavation floor	yes	2030 (J+)	ND	0.843 (J)	23.6	0.603	ND	1590 (J)
CSMDAB-10-26785	3	6.29	AI171, North-side wall	yes	375 (J+)	ND	0.347 (J)	10.4	0.233	ND	404 (J)
CSMDAB-10-26786	3	8.1	AK171, South-side wall	yes	1840 (J+)	ND	1.53	28.3	0.401	ND	760 (J)
CSMDAB-10-26787	3	11.86	AJ171, Excavation floor	yes	783 (J+)	0.389 (J)	0.441 (J)	13.2	0.319	ND	555 (J)
CSMDAB-10-26802	7	4.9	AH196, North-side wall	MDA-B-196-Nwall	2770 (J+)	ND	0.881 (J)	52.7	0.391	ND	2730
CSMDAB-10-26803	7	12.4	AI196, Excavation floor	MDA-B-196-Floor	1460 (J+)	ND	0.595 (J)	24.7	0.343	ND	871
CSMDAB-10-26804	7	6.1	AK196, South-side wall	MDA-B-196-Swall	2080 (J+)	ND	1.14	31.1	0.422	ND	699
CSMDAB-10-26805	7	6.21	AH200, North-side wall	NS	3850	0.474 (J)	1.56	46.4	1.05	ND	2180
CSMDAB-10-26806	7	5.7	AK200, South-side wall	NS	5000	0.404 (J)	1.85	69	0.994	ND	2940
CSMDAB-10-26808	7	10.47	AH205, North-side wall	NS	3690	1.1	1.4	40.4	0.516	ND	1280 (J-)
CSMDAB-10-26809	7	11.94	AK205, South-side wall	NS	849	ND	0.362 (J)	12.3	0.24	0.208 (J)	1750 (J-)
CSMDAB-10-26810	7	16.74	AJ205, Excavation floor	NS	1350	0.773 (J)	3.52	15.1	0.386	0.255 (J)	579 (J-)
CSMDAB-10-26812	7	15.22	AJ200, Excavation floor	NS	1320	0.394 (J)	0.542 (J)	14.9	0.566	ND	815 (J-)
CSMDAB-11-13876	1	6.19	AH225, North-side wall	NS	608	ND	0.717 (J)	11	0.398	ND	1090

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

				Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
				Analytical Suite	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**
				Background Value (mg/kg)	**7340**	**0.5**	**2.79**	**46**	**1.21**	**1.63**	**2200**
				Residential SSL (mg/kg)	**78100**	**31.3**	**3.9**	**15600**	**156**	**77.9**	**—**
CSMDAB-11-13877	1	15.2	AI225, Excavation floor	NS	1300	ND	0.751 (J)	10.9	0.771	ND	682
CSMDAB-11-14064	5	10.62	AH176, North-side wall	NS	2380	ND	0.665 (J)	27.2 (J)	0.543	ND	868
CSMDAB-11-14065	5	14.52	AJ175, Excavation floor	NS	485	ND	0.36 (J)	13.6 (J)	0.27	ND	397
CSMDAB-11-14066	5	9.62	AK175, South-side wall	NS	1990	ND	1.09	23.4 (J)	0.413	ND	585
CSMDAB-11-14067	5	7.26	AH180, North-side wall	NS	2000	ND	0.819 (J)	25.3 (J+)	0.552	ND	846
CSMDAB-11-14068	5	13.59	AJ180, Excavation floor	NS	1150	ND	0.622 (J)	17.1 (J+)	0.312	ND	1000
CSMDAB-11-14069	5	9.65	AK180, South-side wall	NS	475	ND	0.661 (J)	11.2 (J+)	0.278	ND	420
CSMDAB-11-14070	5	5.69	AH185, North-side wall	NS	2220	ND	0.684 (J)	32 (J+)	0.427	ND	1920
CSMDAB-11-14071	5	9.17	AJ184, Excavation floor	NS	931	ND	0.609 (J)	15.4 (J+)	0.439	0.121 (J)	858
CSMDAB-11-14072	5	7.63	AK184, South-side wall	NS	1510	ND	0.62 (J)	23.1 (J+)	0.322	ND	792
CSMDAB-11-14073	5	3.18	AI191, North-side wall	NS	1850	ND	0.781 (J)	39.2 (J-)	0.437	ND	2410
CSMDAB-11-14074	5	5.57	AJ190, Excavation floor	NS	2280	ND	0.885 (J)	31.7 (J-)	0.462	ND	3290
CSMDAB-11-14075	5	6.88	AK190, South-side wall	NS	2210	ND	0.752 (J)	30.8 (J-)	0.404	ND	2320
CSMDAB-11-23966	1	8.19	AK225, South-side wall	NS	878	ND	1.72	7.24	0.284	ND	926
CSMDAB-11-23967	1	10.96	AH229, North-side wall	NS	5050	ND	0.66 (J)	69.7	0.523	ND	1070
CSMDAB-11-23968	1	16.93	AI229, Excavation floor	NS	2680	ND	1.21	28.2	0.445	ND	517
CSMDAB-11-23969	1	8.76	AJ230, South-side wall	NS	1830	ND	1.08	39.5	0.609	ND	733
CSMDAB-11-24007	1	2.71	AG220, North-side wall	NS	910	ND	0.512 (J)	19.2	0.244	ND	1120
CSMDAB-11-24008	1	6.76	AI220, Excavation floor	NS	2090	ND	0.595 (J)	33	0.459	ND	1780
CSMDAB-11-24009	1	5.25	AK220, South-side wall	NS	838	ND	0.44 (J)	17.9	0.223	ND	499
CSMDAB-11-24386	2	15.27	NI41, South-side wall	NS	1000	ND	0.567 (J)	16.7	0.341	ND	813
CSMDAB-11-24387	2	22.89	NG41, Excavation floor	NS	1010	ND	0.872 (J)	32.5	0.453	ND	521
CSMDAB-11-24388	2	14.46	NF41, North-side wall	NS	3700	ND	0.368 (J)	43.5	0.293	ND	996
CSMDAB-11-24851	2	7.988	NF50, West-side wall	NS	—	—	—	—	—	—	—
CSMDAB-11-24852	2	8.201	NF52, East-side wall	NS	—	—	—	—	—	—	—
CSMDAB-11-24853	2	7.278	NF51, Excavation floor	NS	—	—	—	—	—	—	—
CSMDAB-11-25730	9	9.643	NF57, North-side wall	NS	2320	2.15	0.79 (J)	29.3	0.405	ND	2050
CSMDAB-11-25731	9	17.991	NG57, Excavation floor	NS	2420	ND	0.554 (J)	25.2	0.644	ND	3930
CSMDAB-11-25732	9	13.423	NH57, South-side wall	NS	675	ND	0.405 (J)	12.6	0.336	0.204 (J)	771
CSMDAB-11-25734	9	8.709	NF60, North-side wall	NS	373	ND	0.395 (J)	10.7	0.357	ND	ND
CSMDAB-11-25735	9	17.559	NG60, Excavation floor	NS	528	ND	0.396 (J)	10.9	0.274	ND	837
CSMDAB-11-25737	9	10.517	NH61, South-side wall	NS	1570	ND	1.95	22	0.324	3.95	1320
CSMDAB-11-25880	Area 5	—	AL222, East-side wall	NS	—	—	1.28	65.4	—	ND	—
CSMDAB-11-25881	Area 5	—	AL225, East-side wall	NS	—	—	1	38.4	—	ND	—
CSMDAB-11-25882	Area 5	—	AL228, East-side wall	NS	—	—	1.03	27.8	—	ND	—
CSMDAB-11-25883	Area 5	—	AL231, East-side wall	NS	—	—	0.908 (J)	38.3	—	ND	—
CSMDAB-11-25884	Area 5	—	AL234, East-side wall	NS	—	—	0.889 (J)	37.8	—	ND	—
CSMDAB-11-25885	Area 5	—	AM225, East-side wall	NS	—	—	1.2	57.1	—	ND	—
CSMDAB-11-25886	Area 5	—	AM227, East-side wall	NS	—	—	1.07	49.3	—	ND	—
CSMDAB-11-25887	Area 5	—	AM228, East-side wall	NS	—	—	1.48	64.2	—	ND	—
CSMDAB-11-25888	Area 5	—	AM230, East-side wall	NS	—	—	1.07	55.3	—	ND	—
CSMDAB-11-25889	Area 5	—	AM232, East-side wall	NS	—	—	1.39	59.7	—	ND	—
CSMDAB-11-25890	Area 5	—	AN222, East-side wall	NS	—	—	1.54	68.8	—	ND	—
CSMDAB-11-25891	Area 5	—	AN223, East-side wall	NS	—	—	1.43	64.3	—	ND	—

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

				Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
				Analytical Suite	METALS	METALS	METALS	METALS	METALS	METALS	METALS
				Background Value (mg/kg)	7340	0.5	2.79	46	1.21	1.63	2200
				Residential SSL (mg/kg)	78100	31.3	3.9	15600	156	77.9	—
CSMDAB-11-25892	Area 5	—	AN226, East-side wall	NS	—	—	0.898 (J)	39.1	—	ND	—
CSMDAB-11-25893	Area 5	—	AN228, East-side wall	NS	—	—	1.57	72.8	—	ND	—
CSMDAB-11-25894	Area 5	—	AN231, East-side wall	NS	—	—	1.22	62.5	—	ND	—
CSMDAB-11-25895	Area 5	—	AN234, East-side wall	NS	—	—	0.949 (J)	40.2	—	ND	—
CSMDAB-11-25984	1	9.11	AH215, North-side wall	NS	2030 (J+)	ND	0.631 (J)	18.3	0.592	0.527 (J)	722
CSMDAB-11-25985	1	14.38	AJ215, Excavation floor	NS	1300 (J+)	ND	0.422 (J)	11.5	0.613	ND	921
CSMDAB-11-25986	1	9.84	AL215, South-side wall	NS	1100 (J+)	ND	0.41 (J)	13.7	0.335	ND	1200
CSMDAB-11-26997	1	8.98	AH210, North-side wall	NS	2600	2.99	0.812 (J)	31	0.521	0.492 (J)	1090
CSMDAB-11-26998	1	15.81	AJ210, Excavation floor	NS	1390	0.442 (J)	0.466 (J)	16.6	0.298	ND	760
CSMDAB-11-27000	1	9.77	AK210, South-side wall	NS	1150	0.45 (J)	0.508 (J)	21.8	0.328	ND	556
CSMDAB-11-27591	9	9.64	81.5, South-side wall	NS	493 (J)	ND	0.573 (J)	11.9	0.306	ND	293 (J)
CSMDAB-11-27592	9	7.71	76.5, North-side wall	NS	254 (J+)	ND	0.46 (J)	8.53	0.167	ND	480
CSMDAB-11-27593	9	17.6	76.5, Excavation floor	NS	1710 (J+)	1.1	0.498 (J)	22.5	0.706	ND	806
CSMDAB-11-27594	9	10.69	76.5, South-side wall	NS	1150 (J+)	ND	0.709 (J)	17.5	0.377	ND	1450
CSMDAB-11-3808	1	8.68	AJ240, South-side wall	NS	3010 (J+)	0.744 (J)	0.851 (J)	45.5	0.472	11.8	2650
CSMDAB-11-3809	1	9.96	AJ245, South-side wall	NS	684 (J+)	7.18	0.485 (J)	13.5	0.786	0.81	800
CSMDAB-11-3811	1	17.29	AI235, Excavation floor	NS	3490	1.98	0.872 (J)	37.6	0.427	0.134 (J)	3590
CSMDAB-11-3812	1	10.47	AJ235, South-side wall	NS	5830	0.618 (J)	0.494 (J)	48.1	0.512	ND	2320
CSMDAB-11-3817	1	12.29	AI245, Excavation floor	NS	327 (J+)	0.626 (J)	0.345 (J)	10.3	0.237	1.24	1040
CSMDAB-11-3818	1	15.87	AI240, Excavation floor	NS	1820 (J+)	2.24	0.666 (J)	62.8	0.614	0.679	1880
CSMDAB-11-3820	1	8.71	AG235, North-side wall	NS	2020	0.92 (J)	1.04 (J)	20.5	0.351	ND	1390
CSMDAB-11-4539	2	10.2	NG26, North-side wall	NS	1020 (J+)	0.515 (J)	0.646 (J)	26.5	0.292	ND	1640
CSMDAB-11-4540	2	13.49	NI26, Excavation floor	NS	1450 (J+)	ND	0.775 (J)	28.4	0.353	ND	1890
CSMDAB-11-4541	2	6.45	NK27, South-side wall	NS	3500 (J+)	ND	0.568 (J)	45.2	0.384	ND	1550
CSMDAB-11-4549	1	8.41	AH245, North-side wall	NS	2460 (J+)	0.556 (J)	0.702 (J)	28.5	0.526	1.2	4750
CSMDAB-11-4855	12	16.66	NG87, Excavation floor	NS	1230 (J+)	ND	0.455 (J)	31.4	0.233	0.261 (J)	2810
CSMDAB-11-4856	12	15.22	NF87, North-side wall	NS	362 (J+)	ND	0.519 (J)	11.8	0.17	0.111 (J)	1770
CSMDAB-11-4857	12	16.57	NH86, South-side wall	NS	422 (J+)	ND	0.372 (J)	9.23	0.338	ND	ND
CSMDAB-11-4858	12	17.43	NG91, Excavation floor	NS	901 (J+)	ND	0.452 (J)	12.2	0.279	0.11 (J)	1480
CSMDAB-11-4859	12	16.32	NF91, North-side wall	NS	727 (J+)	0.535 (J)	0.748 (J)	11.7	0.167	0.664	2150
CSMDAB-11-4860	12	15.01	NH91, South-side wall	NS	1360 (J+)	ND	0.756 (J)	17.5	0.439	ND	2820
CSMDAB-11-4861	12	18.93	NG97, Excavation floor	NS	1230 (J+)	ND	0.449 (J)	15.9	0.177	0.114 (J)	12800
CSMDAB-11-4862	12	12.91	NF96, North-side wall	NS	2870 (J+)	ND	0.984 (J)	50.9	0.324	0.113 (J)	4200
CSMDAB-11-4863	12	11.68	NI97, South-side wall	NS	683 (J+)	ND	0.621 (J)	8.66	0.156	ND	4150
CSMDAB-11-4864	12	14.38	NI101, South-side wall	NS	365 (J+)	0.429 (J)	0.725 (J)	6.97	0.241	ND	245
CSMDAB-11-5056	9	8.45	81.5, North-side wall	NS	998 (J)	ND	0.797 (J)	11.9	0.425	ND	892 (J)
CSMDAB-11-5057	9	11.11	NI57, South-side wall	NS	—	—	—	—	—	—	—
CSMDAB-11-5059	9	19.77	81.5, Excavation floor	NS	854 (J)	ND	0.378 (J)	11.4	0.49	ND	324 (J)
CSMDAB-11-5060	9	9.374	NF65, North-side wall	NS	892	ND	0.602 (J)	14.5	0.254	3.46	819
CSMDAB-11-5061	9	16.453	NG65, Excavation floor	NS	1060	ND	0.32 (J)	11.5	0.349	ND	3040
CSMDAB-11-5062	9	10.741	NH65, South-side wall	NS	1100	ND	0.467 (J)	17.8	0.33	ND	1530
CSMDAB-11-5063	9	10.481	NF72, North-side wall	NS	2200	0.484 (J)	0.56 (J)	20.9	0.407	11.9	1710
CSMDAB-11-5064	9	16.922	NG72, Excavation floor	NS	2310	ND	0.577 (J)	18.7	0.383	0.152 (J)	1800
CSMDAB-11-5065	9	8.089	NH72, South-side wall	NS	1320	1.44	0.522 (J)	18	0.282	0.653	2160

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

				Analyte	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
				Analytical Suite	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**
				Background Value (mg/kg)	**7340**	**0.5**	**2.79**	**46**	**1.21**	**1.63**	**2200**
				Residential SSL (mg/kg)	**78100**	**31.3**	**3.9**	**15600**	**156**	**77.9**	**—**
CSMDAB-11-5775	12	13.55	NF101, North-side wall	NS	1290 (J+)	ND	0.571 (J)	20.2	0.138	ND	2050
CSMDAB-11-5776	12	14.25	NH101, Excavation floor	NS	660 (J+)	ND	0.251 (J)	7.57	0.194	ND	7280

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Chromium	Cobalt	Copper	Cyanide (total)	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Nitrite
METALS	METALS	METALS	WET_CHEM	METALS	METALS	METALS	METALS	METALS	METALS	ANION	ANION
7.14	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**—**	**—**
219	**23**	**3130**	**1560**	**54800**	**400**	**—**	**10700**	**23**	**1560**	**125000**	**7820**
2.94	1.01	4.27	ND	8100	3.35	807	265	0.00664 (J)	2.53	ND	ND
0.972	0.264 (J)	1.96	ND	7300	0.459 (J)	339	247	0.0454	1.18	1.1	ND
0.739	0.156 (J)	1.42	ND	5880	0.552 (J)	184	196	ND	0.962	ND	ND
ND	0.254 (J)	ND	ND	5480	ND	92.4 (J+)	218	0.0396	ND	ND	ND
ND	0.472 (J)	ND	ND	7600	ND	282 (J+)	234	0.0384	ND	0.822 (J)	ND
ND	0.657	ND	ND	6290	ND	526 (J+)	256	0.022	ND	0.976 (J)	ND
0.868	0.281 (J)	8.69	ND	6550	4.38	215	228	0.254 (J-)	3.16	ND	ND
1.02	0.328 (J)	2.72	ND	5790	4.87	250	252	0.349 (J-)	0.806	1.07 (J)	ND
1.52	0.64	3.01	ND	5540	4.88	407	306	0.173 (J-)	1.83	1.21	ND
ND	0.405 (J)	ND	ND	6130	ND	163	223	0.0244	ND	ND	ND
1.17	0.464 (J)	4.71	ND	6760	5.67	232	265	0.0496	0.831	ND	ND
3.15	1.28	3.79	ND	7870	7.58	906 (J+)	224	0.0617	4.45	1.45	ND
ND	0.337 (J)	ND	ND	6790	ND	277	222	0.01 (J-)	ND	1.17	ND
ND	0.617	ND	ND	3920	ND	774	43.5	0.00855 (J-)	ND	1.01 (J)	ND
ND	0.693	ND	ND	8500	ND	490	256	0.00647 (J-)	ND	ND	ND
1.06	0.344 (J)	1.53	0.392	6650	4.26	96.2	289	0.00583 (J)	1.91	ND	ND
3.55	1.14	4.25	0.413	5810	15.7	695	125	0.479	2.37	2.09	ND
2.4	0.72	2.16	ND	4400	4.18	707	94.2	0.136	3.01	1.5	ND
1.77	0.58	2.17	ND	6180	4.62	367	178	ND	1.83	1.44	ND
3.41	2.06	1.66	ND	17000	12.4	541	475	0.00861 (J)	2.23	1.74	ND
1.18	0.289 (J)	1.68	ND	6870	3.04	115	221	0.0199	0.871	1.29	ND
1.92	0.578	ND	ND	4710	5.48	345 (J+)	212	0.0249	2.59	ND	ND
1.9	0.647	2	ND	6090	8.67	333 (J+)	236	0.348	2.88	ND	ND
4.42	2.34	4.68	ND	9450	16.6	888 (J+)	281	0.0249	4.92	ND	ND
2.07	1.34	2.71	ND	6670	5.52	699 (J+)	290	0.0107 (J)	2.57	ND	ND
2.07	0.847	2.54	0.0915 (J)	5950	7.14	406 (J+)	277	0.119	2.85	ND	ND
5.42	3.48	4.88	ND	10600	9.06	1610 (J+)	314	0.0144	7	ND	ND
1.48	0.467 (J)	1.4	ND	7160	5.44	413 (J+)	226	0.162	3.63 (J)	1.08 (J)	ND
2.64	1.01	3.91	ND	8820	7.33	525 (J+)	290	0.0125	2.74 (J)	1.2	ND
1.78	0.565	1.93	ND	8190	6.85	485 (J+)	252	0.00977 (J)	1.7 (J)	0.969 (J)	ND
2.08	0.244 (J)	1.33	ND	7120	4.27	122 (J+)	192	0.0375	0.929 (J)	0.917 (J)	ND
2.9	0.697	2.26	ND	7420	8.41	394 (J+)	261	0.0117 (J)	1.84 (J)	0.878 (J)	ND
1.2	0.253 (J)	1.12	ND	6160	8.63	202 (J+)	264	0.00823 (J)	0.913 (J)	0.967 (J)	ND
2.69	1.14	3.02	ND	8030	8.27	712 (J+)	253	0.0214	2.39	ND	ND
2.55	0.87	3.03	ND	7500	14.2	432 (J+)	297	0.0192	1.56	ND	ND
1.76	0.973	2.91	ND	8380	22.4	403 (J+)	293	0.00816 (J)	2.44	ND	ND
3.24 (J)	1.08	4.22	ND	7310	77.3	1050 (J+)	221	0.212	4.97	ND	ND
5.14 (J)	2.19	7.67	ND	8840	36.2	1150 (J+)	342	0.0572	5.88	1.01 (J)	ND
ND	1.41	ND	ND	8970	ND	696	294	0.0935	ND	1.41	ND
ND	0.301 (J)	ND	ND	5730	ND	237	220	0.0271	ND	1.25	ND
ND	0.307 (J)	ND	ND	5650	ND	282	270	ND	ND	1.26	ND
ND	0.36 (J)	ND	ND	6000	ND	349	223	0.178	ND	ND	ND
0.909	0.326 (J)	1.38	ND	5330	2.69	156 (J+)	224	0.00739 (J)	1.35	1.18	ND

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Chromium	Cobalt	Copper	Cyanide (total)	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Nitrite
METALS	METALS	METALS	WET_CHEM	METALS	METALS	METALS	METALS	METALS	METALS	ANION	ANION
7.14	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**—**	**—**
219	**23**	**3130**	**1560**	**54800**	**400**	**—**	**10700**	**23**	**1560**	**125000**	**7820**
0.938	0.391 (J)	1.69	ND	5020	5.73	280 (J+)	228	0.0066 (J)	1.45	ND	ND
2.03	0.516 (J)	1.93	0.136 (J)	6520	7.23	552 (J+)	242	0.0441	2.04	1.24	ND
0.782	0.191 (J)	1.24	ND	4670	4.75	133 (J+)	208	0.00753 (J)	0.734	1.24	ND
1.82	0.425 (J)	1.48	ND	6480	16.1	374 (J+)	255	ND	1.48	1.18	ND
1.83	0.473 (J)	2.23	ND	7090	38.6	542 (J+)	310	0.0106 (J)	1.8	1.24 (J-)	ND
1.37	0.495	3.14	ND	5390	15.4	268 (J+)	212	2.24	1.46	1.45 (J-)	ND
0.72	0.214 (J)	1.28	ND	5210	5.59	124 (J+)	212	0.901	1.61	1.17 (J-)	ND
1.86	0.539	1.66	ND	7370	8.92	560 (J+)	280	0.0195	1.73	1.19 (J-)	ND
1.06	0.358 (J)	2.17	ND	6010	7.19	252 (J+)	227	0.101	1.04	1.19 (J-)	ND
1.68	0.553	2.2	ND	6850	8.48	345 (J+)	297	0.04	1.52	1.15 (J-)	ND
2.11	0.777 (J-)	ND	ND	7060	ND	525 (J+)	249	0.344	2.74	1.16 (J-)	ND
3.08	0.795 (J-)	ND	ND	10500	73.1 (J-)	711 (J+)	235	0.0954	2.85	1.37 (J-)	ND
ND	0.725 (J-)	ND	ND	7310	71.2 (J-)	696 (J+)	235	ND	2.59	1.17 (J-)	ND
0.881	0.33 (J)	1.09	ND	4530	43.3	266 (J+)	240	ND	1.21	ND	ND
2.92	0.961	2.93	ND	4770	4.2	783 (J+)	97.8	0.00733 (J)	3.48	ND	ND
2.48	0.648	2.66	ND	6210	4.49	342 (J+)	247	0.00456 (J)	2.06	1.19	ND
1.39	0.438 (J)	1.66	ND	5460	3.41	395 (J+)	219	ND	2.47	ND	ND
0.971	0.496	1.97	ND	6590	3.79	213 (J+)	258	0.00874 (J)	1.52	ND	ND
1.64	0.49 (J)	1.76	ND	5430	34.5	591 (J+)	207	0.0115 (J)	2.63	1.42	ND
0.997	0.429 (J)	2.14	ND	5000	3.85	197 (J+)	239	0.0127	1.55	ND	ND
1.25	0.403 (J)	1.43	ND	7570	3.62	247	226	ND	1.46	ND	ND
1.48	0.381 (J)	2.02	ND	6950	3.09	203	270	ND	1.11	ND	ND
1.98	0.7	1.8	ND	3840	2.56	562	68.1	ND	2.18	1.85	ND
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
1.97	0.939	3.27	ND	6830	4.8	535	201	0.089	2.02	4.08	ND
2.23	1.08	4.07	ND	8800	6.46	522	226	0.1	1.75	2.75	ND
1.06	0.517	2.22	ND	6300	4.97	203	235	CSMDAB-11-5057	0.696	2.1	ND
ND	0.459 (J)	ND	ND	5990	5.15	267	262	0.164	ND	ND	ND
0.789	0.491 (J)	2.21	ND	5740	5.02	176	218	0.428	0.746	2.82	ND
2.37	0.92	4.81	ND	5930	26.7	430	217	0.694	1.85	2.32	ND
7.48 (J)	—	—	—	—	10.8	—	—	0.0157	—	—	—
3.12	—	—	—	—	12.4	—	—	0.0396	—	—	—
2.24	—	—	—	—	6.93	—	—	0.0242	—	—	—
2.67	—	—	—	—	6	—	—	0.0401	—	—	—
2.8	—	—	—	—	5.78	—	—	0.0142	—	—	—
3.87	—	—	—	—	10.5	—	—	0.0829	—	—	—
3.47	—	—	—	—	10.1	—	—	0.0858	—	—	—
5.9	—	—	—	—	11	—	—	0.0706	—	—	—
3.24	—	—	—	—	8.12	—	—	0.0652	—	—	—
5.18	—	—	—	—	16.1	—	—	0.0836	—	—	—
21.9	—	—	—	—	19.1	—	—	0.0987	—	—	—
5.52 (J)	—	—	—	—	14.7	—	—	0.0762	—	—	—

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Chromium	Cobalt	Copper	Cyanide (total)	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Nitrite
METALS	METALS	METALS	WET_CHEM	METALS	METALS	METALS	METALS	METALS	METALS	ANION	ANION
7.14	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**—**	**—**
219	**23**	**3130**	**1560**	**54800**	**400**	**—**	**10700**	**23**	**1560**	**125000**	**7820**
2.85	—	—	—	—	7.69	—	—	0.0684	—	—	—
5.59	—	—	—	—	12.8	—	—	0.117	—	—	—
6.07	—	—	—	—	9.05	—	—	0.0545	—	—	—
2.59	—	—	—	—	7.53	—	—	0.101	—	—	—
1.92	0.663	2.04	ND	5480	9.88	498 (J+)	269	0.679 (J-)	2.77	ND	ND
1.31	0.371 (J)	1.41	ND	5040	3.98	361 (J+)	257	0.00624 (J-)	1.82	ND	ND
1.49	0.651	2	ND	5000	4.89	357 (J+)	258	0.128 (J-)	1.87	ND	ND
2.11	1.14	3.8	ND	7150	7.66	598 (J+)	264	2.02	2.32	1.32	ND
1.68	0.696	2.72	ND	6240	10.1	361 (J+)	333	0.116	1.48	1.26	ND
1.32	0.678	3.26	ND	5660	7.97	211 (J+)	254	0.166	1.61	1.24	ND
0.995 (J)	0.375 (J)	1.52	ND	4910	3.19 (J)	128 (J-)	226	ND	1.94	1.23 (J-)	ND
1.1	0.225 (J)	0.617 (J)	ND	3920	3.03	94.2 (J+)	223	0.00727 (J)	1.36	1.78 (J-)	ND
1.56	0.423 (J)	1.78	ND	4960	4.93	365 (J+)	221	0.0221	2.88	3 (J-)	ND
2.21	0.365 (J)	1.3	0.338	4720	4.37	356 (J+)	236	0.0173	1.9	2.55 (J-)	ND
ND	0.702	ND	ND	7330	ND	618	210	0.039	ND	1.28	ND
ND	0.346 (J)	ND	ND	5390	ND	201	230	0.0198	ND	ND	ND
3.98	1.14	5.25	ND	6850	7.72	660	270	0.115 (J)	3.12	1.89	ND
3.04	1.02	3.44	ND	4400	4.73	914	71.8	0.0292 (J)	3.52	ND	ND
ND	0.35 (J)	ND	ND	4490	ND	144	242	0.0258	ND	ND	ND
ND	0.449 (J)	ND	ND	6000	ND	482	228	0.0563	ND	1.38	ND
1.55	0.686	1.78	ND	5550	35.9	406	262	0.00746 (J)	1.68	ND	ND
1.82	0.637	2.07	ND	5630	2.7	332 (J+)	222	0.0247	2.02	1.38	ND
1.11	0.479 (J)	2.12	ND	4660	2.99	376 (J+)	228	0.0548	2.72	1.26	ND
2.18	0.928	1.96	ND	3660	3.06	688 (J+)	51.3	0.0142	2.96	1.72	ND
ND	0.905	ND	7.22	6150	ND	715	220	0.0746	ND	1.6	ND
ND	0.415 (J)	ND	0.338	5670	ND	346	194	0.917	ND	19.5	ND
ND	0.206 (J)	ND	ND	5160	ND	157	237	0.00987 (J)	ND	2.79	ND
ND	0.193 (J)	ND	ND	4900	ND	146	228	0.42	ND	1.3	ND
0.925	0.255 (J)	1.69	ND	6030	4.51	284	270	ND	0.73	3.22	ND
0.864	0.2 (J)	1.43	ND	5220	4.08	257	229	0.01 (J)	0.885	6.36	ND
1.27	0.611	1.91	ND	5890	4.6	515	244	ND	2.13	4.1	ND
1.62	0.496 (J)	1.58	ND	5590	4.27	1100	220	0.00491 (J)	1.71	2.4	ND
2.31	1.18	3.02	ND	6960	6.6	872	233	0.00662 (J)	2.45	2.55	ND
1.06	0.311 (J)	1.96	ND	5560	4.38	405	256	0.0171	1.15	2.24	ND
0.749	0.175 (J)	1.32	ND	5270	4.06	84.2	264	ND	1.38	1.24	ND
1.62 (J)	0.391 (J)	1.33	ND	4170	3.05 (J)	267 (J-)	162	0.00716 (J)	2.34	1.6 (J-)	ND
—	—	—	—	—	—	—	—	0.0173 (J-)	—	—	—
ND	0.438 (J)	2.03	ND	4660	5.79 (J)	389 (J-)	262	ND	1.1	2.12 (J-)	ND
ND	0.643	ND	ND	5440	ND	195	243	0.365	ND	ND	ND
ND	0.685	ND	ND	7330	181	375	386	0.0452	ND	ND	ND
ND	0.58	ND	ND	5280	ND	321	209	0.0317	ND	ND	ND
ND	0.685	843	ND	6220	ND	351	250	0.806	ND	ND	ND
ND	0.731	ND	ND	6890	ND	465	263	0.131	ND	ND	ND
ND	0.705	ND	ND	6660	ND	359	248	0.31	ND	ND	ND

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Chromium	Cobalt	Copper	Cyanide (total)	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Nitrite
METALS	**METALS**	**METALS**	**WET_CHEM**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**ANION**	**ANION**
7.14	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**—**	**—**
219	**23**	**3130**	**1560**	**54800**	**400**	**—**	**10700**	**23**	**1560**	**125000**	**7820**
1.27	0.368 (J)	1.94	ND	5260	3.32	401	224	ND	1.24	2.03	ND
0.843	0.21 (J)	1.85	ND	4810	3.19	609	227	ND	1.31	2.1	ND

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Perchlorate	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
PERCHLORATE	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**
—	**3500**	**0.3**	**1**	**2770**	**1.1**	**2.4**	**17**	**63.5**
54.8	**—**	**391**	**391**	**—**	**5.16**	**235**	**391**	**23500**
ND	291	ND	ND	173	ND	0.369	7.67	35.6
ND	171	ND	ND	138	ND	0.53	2.56	42.1
ND	142	ND	ND	127	ND	0.378	1.85	35
ND	ND	ND	ND	72.3	0.0775 (J)	0.469	1.54	37.3
ND	ND	ND	ND	86.1	0.0946 (J)	0.4	3.5	37.1
ND	ND	ND	ND	54.2	0.105 (J)	0.576	4.09	19
ND	156	ND	ND	126	ND	0.567	2.24	43.2
ND	203	ND	ND	185	ND	7.43	1.9	47
ND	233	ND	ND	159	0.0759 (J)	21	3.22	39.7
ND	ND	ND	ND	ND	0.111 (J)	ND	1.98 (J)	36.9 (J)
0.00176 (J)	222	ND	ND	119	ND	1.26 (J)	3.15	39
0.000827 (J)	637	ND	ND	110	ND	1.08	8.01	31.1
ND	205	ND	ND	ND	ND	0.538	2.58	ND
ND	813	ND	0.143 (J)	ND	0.07 (J)	0.357	5.16	ND
0.00178 (J)	373	ND	ND	ND	0.151 (J)	0.587	4.55	40.9
ND	154	ND	0.135 (J)	80.5 (J)	0.0648 (J)	3.38	2.77	37.3
0.00237	525	ND	0.476	107 (J)	0.113 (J)	10.4	6.56	21.4
0.00201 (J)	639	ND	0.177 (J)	135 (J)	0.0867 (J)	0.924	4.43	11.9 (J)
0.0055	373	ND	0.234 (J)	133 (J)	0.067 (J)	7.76	4.27	26.5
0.00488	405	ND	0.884	66.4 (J)	0.197 (J)	11	17.5	49.6
0.000896 (J)	140	ND	0.175 (J)	63.2 (J)	ND	0.662	2.95	34.2
ND	291	ND	ND	ND	0.134 (J)	0.781	3.51	17.8
0.00145 (J)	384	ND	ND	ND	0.179 (J)	1.24	4.31	23.5
ND	753	ND	0.208 (J)	ND	0.178 (J)	0.79	11.8	36.5
ND	390	ND	0.122 (J)	ND	0.113 (J)	1.26	4.96	21.9
0.00344	344	ND	0.133 (J)	ND	0.0847 (J)	1.02	3.27	35.3
ND	1280	ND	0.156 (J)	ND	0.189 (J)	0.961	13.3	33.4
0.00199 (J)	262	ND	ND	72.3	0.0675 (J)	0.486	3.05	38.4
0.000573 (J)	419	ND	ND	75.7	0.107 (J)	0.388	5.35	45.2
0.000604 (J)	341	ND	ND	76.6	0.0877 (J)	0.489	3.94	39.3
ND	138	ND	ND	96.4	ND	0.794	1.65	44.7
ND	306	ND	ND	64.1	0.0659 (J)	0.371	3.93	37.3
ND	165	ND	ND	86.4	ND	0.452	1.71	41.1
ND	316	ND	0.122 (J)	65.5	0.0912 (J)	0.7	6.88	37.4
ND	276	ND	0.115 (J)	86.6	ND	1.29	4.44	50.8
ND	287	ND	0.136 (J)	47.6	0.0873 (J)	0.693	4.96	46.2
ND	472 (J+)	ND	ND	70.2	ND	0.616	7.51	26.8 (J)
ND	681 (J+)	ND	ND	110	ND	0.919	12.2	39.4
0.00333	537	ND	ND	ND	ND	1.46 (J+)	8.71	51.1
ND	183	ND	ND	ND	ND	0.519 (J+)	2.05	44.3
ND	210	ND	ND	ND	ND	0.737 (J+)	2.38	37.6
0.0867	248	ND	ND	ND	ND	5.62 (J+)	3.61	46.3
ND	138	ND	ND	71.2	ND	0.657	2.21	32.5

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Perchlorate	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
PERCHLORATE	METALS	METALS	METALS	METALS	METALS	METALS	METALS	METALS
—	3500	0.3	1	2770	1.1	2.4	17	63.5
54.8	—	391	391	—	5.16	235	391	23500
0.000831 (J)	182	ND	ND	62.6	0.0819 (J)	7.4	2.28	49.4
—	365	ND	ND	63.9	0.0961 (J)	0.845	4.41	34.7
—	119	ND	ND	66.6	ND	0.558	1.61	30.9 (J)
—	266	ND	ND	68.6	0.111 (J)	0.621	3.17	44
ND	300 (J+)	ND	ND	73	ND	0.511 (J)	4.79	37.6 (J-)
0.00134 (J)	210 (J+)	ND	ND	69.7	ND	0.596 (J)	3.19	33.9 (J-)
ND	126 (J+)	ND	ND	71	ND	0.38 (J)	1.77	23.3 (J-)
ND	263 (J+)	ND	ND	86.1	ND	0.439 (J)	4.3	46.3 (J-)
0.00109 (J)	186 (J+)	ND	ND	87.3	ND	1.11 (J)	2.74	40.3 (J-)
ND	232 (J+)	ND	ND	79.3	ND	0.484 (J)	3.88	40.2 (J-)
0.000611 (J)	257 (J)	ND	0.711 (J-)	ND	0.078 (J)	4	4.78	50.9
ND	323	ND	0.92 (J-)	ND	0.171 (J)	0.55	6.59	38.1
ND	326	ND	0.627 (J-)	ND	0.158 (J)	0.502	6.58	38.5
ND	167	ND	ND	76.7	0.109 (J)	0.615	2.13	29.5 (J)
0.000695 (J)	628	ND	0.125 (J)	178	0.0779 (J)	0.259	6.56	13.3 (J)
1.69	297	ND	0.122 (J)	49.9	0.0716 (J)	0.994	5.22	31.7
0.00166 (J)	272	ND	ND	51.5	0.0626 (J)	0.59	3.5	30.7
ND	168	ND	ND	94.3	ND	0.561	2.71	37.3
ND	323	ND	ND	79.1	0.121 (J)	0.63	3.85	27.1 (J)
ND	156	ND	ND	85.7	ND	0.473	2.41	30.3
0.000635 (J)	173	ND	0.177 (J)	59.5 (J)	ND	0.679	2.53	34.5
0.00129 (J)	167	ND	0.146 (J)	52.7 (J)	ND	0.887	3.55	32
0.00375	528	ND	0.19 (J)	293 (J)	ND	1.56	4.17	10 (J)
—	—	—	—	—	—	7.25	—	—
—	—	—	—	—	—	0.471	—	—
—	—	—	—	—	—	1.11	—	—
0.00557	400	ND	0.197 (J)	135	ND	1.09	4.34	34.9
0.144	332	ND	0.283 (J)	157	ND	0.713	4.7	35.6
0.00258	158	ND	ND	126	ND	1.36	1.67	46.2
0.00129 (J)	207	ND	ND	ND	ND	1.2	1.44	46.7
0.0409	137	ND	0.115 (J)	112	ND	1.86	1.69	40.9
0.0669	265	ND	ND	136	ND	3.1	4.33	38.4
—	—	ND	0.319 (J)	—	—	—	—	—
—	—	ND	0.244 (J)	—	—	—	—	—
—	—	ND	0.165 (J)	—	—	—	—	—
—	—	ND	0.239 (J)	—	—	—	—	—
—	—	ND	0.141 (J)	—	—	—	—	—
—	—	ND	0.3 (J)	—	—	—	—	—
—	—	ND	0.219 (J)	—	—	—	—	—
—	—	ND	0.33 (J)	—	—	—	—	—
—	—	ND	0.222 (J)	—	—	—	—	—
—	—	ND	0.398 (J)	—	—	—	—	—
—	—	ND	0.403 (J)	—	—	—	—	—
—	—	ND	0.38 (J)	—	—	—	—	—

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Perchlorate	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
PERCHLORATE	METALS	METALS	METALS	METALS	METALS	METALS	METALS	METALS
—	**3500**	**0.3**	**1**	**2770**	**1.1**	**2.4**	**17**	**63.5**
54.8	**—**	**391**	**391**	**—**	**5.16**	**235**	**391**	**23500**
—	—	ND	0.24 (J)	—	—	—	—	—
—	—	ND	0.402 (J)	—	—	—	—	—
—	—	ND	0.436 (J)	—	—	—	—	—
—	—	ND	0.21 (J)	—	—	—	—	—
ND	284 (J)	ND	ND	70.9 (J)	ND	8.75	3.32	40.7
0.000773 (J)	235 (J)	ND	ND	74.5 (J)	ND	0.958	2.03	34
ND	203 (J)	ND	ND	95.2 (J)	ND	1.03	2.24	52.9
ND	343 (J+)	0.418 (J)	ND	71.5	0.0758 (J)	2.45	4.49	41
ND	294 (J+)	ND	ND	146	0.0651 (J)	2.23	2.33	53.9
ND	207 (J+)	ND	ND	122	ND	0.439	2.33	48.7
0.0124	122 (J)	ND	ND	77.5	ND	0.517 (J-)	1.46	30.4
0.0556	111	ND	ND	1650 (J+)	ND	0.429	0.974	27.8
0.00595	257	ND	ND	1060 (J+)	0.0838 (J)	1.58	2.37	36.4
0.00268	211	ND	ND	90.4 (J+)	ND	1.78	2.39	38.9
ND	331	ND	0.129 (J)	ND	0.103 (J)	ND	5.36	33.6 (J)
ND	ND	ND	ND	ND	ND	ND	1.96 (J)	30.3 (J)
ND	404	ND	ND	88.1	ND	11.2 (J-)	5.36	71.9
ND	653	ND	ND	171	ND	2.66 (J-)	6.23	10.8
ND	ND	ND	0.141 (J)	ND	ND	ND	1.35 (J)	47.9 (J)
0.00102 (J)	250	ND	0.116 (J)	ND	0.0716 (J)	ND	2.77 (J)	49.3 (J)
ND	275	ND	ND	57.6	ND	0.542 (J-)	3.05	37.6
0.0022	211	0.332 (J)	ND	104	0.1 (J)	0.72	4.47	22.6
0.000787 (J)	299	ND	ND	52.1	0.0643 (J)	0.77	2.82	27.2
0.000583 (J)	631	ND	0.147 (J)	72.7	ND	0.164	5.2	8.93
ND	296	ND	0.126 (J)	ND	0.0619 (J)	ND	4.66 (J)	42.7 (J)
0.000749 (J)	ND	ND	3.5	ND	ND	1.17	2.02	53.2
ND	ND	ND	ND	ND	ND	1.18	1.26	37.4
ND	ND	ND	ND	ND	ND	ND	1.19	31.3
0.00192 (J)	180	ND	ND	105	ND	0.667	1.66	28.3
0.00153 (J)	180	ND	ND	137	ND	0.821	1.24	24.9
0.000926 (J)	239	ND	ND	132	ND	0.661	3.03	26.9
ND	263	ND	ND	268	ND	3.84	2.9	24.6
0.000615 (J)	666	ND	ND	243	0.127 (J)	13.2	6.51	23.4
0.000839 (J)	170	ND	ND	154	ND	1.3	1.7	27.4
0.00366	130	ND	ND	129	ND	0.502	1.11	34.6
ND	181 (J)	ND	ND	70.3	ND	0.713 (J-)	2.13	19.2 (J)
—	—	—	—	—	—	—	—	—
0.0146	296 (J)	0.386 (J)	ND	121	ND	8.34 (J-)	2.12	32.9
0.000815 (J)	191	ND	0.135 (J)	ND	ND	1.92	2.09	57.2
ND	302	ND	0.126 (J)	ND	0.169 (J)	1.6	9.33	60.5
0.000858 (J)	193	ND	0.128 (J)	ND	ND	ND	2.07	35.8
0.00508	238	ND	0.331 (J)	ND	ND	1.82	2.55	137
0.00659	330	ND	ND	ND	ND	3.13	2.95	92
0.00297	239	ND	0.114 (J)	ND	ND	1.26	2.66	57.9

Table 5.1-1
Inorganic Analytes Detected during Confirmation Sampling

Perchlorate	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
PERCHLORATE	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**	**METALS**
—	**3500**	**0.3**	**1**	**2770**	**1.1**	**2.4**	**17**	**63.5**
54.8	**—**	**391**	**391**	**—**	**5.16**	**235**	**391**	**23500**
ND	283	ND	ND	168	ND	0.409	2.37	36
0.00059 (J)	180	ND	ND	224	ND	0.427	1.12	31.4

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

			Analyte		Acenaphthene	Acenaphthylene	Acetone	Aldrin	Aniline	Anthracene	Azobenzene	Benzene
			Analytical Suite		SVOC	SVOC	VOC	PEST	SVOC	SVOC	SVOC	VOC
			Residential SSL (mg/kg)		3440	—	67500	0.284	850	17200	51	15.5
Sample Name	Enclosure	Sample Depth (ft)	Location	NMED Split								
CSMDAB-10-24585	1	4.7	AJ260, South-side wall	MDA-B-260-Swall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24586	1	4.3	AH260, North-side wall	MDA-B-260-Nwall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24587	1	7.4	AI260, Excavation floor	MDA-B-260-floor	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24593	1	6.69	AI255, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24594	1	3.36	AH255, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24595	1	3.52	AJ255, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24596	1	8.69	AH250, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24597	1	13.28	AI250, Excavation floor	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24598	1	9.48	AJ250, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-24599	1	9.79	AH240, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25077	2	18.4	NH51, Excavation floor	MDA-B-51-floor	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25079	2	9.12	NF51, North-side wall	NS	ND	ND	0.00172 (J)	ND	ND	ND	ND	ND
CSMDAB-10-25080	2	10.86	NH51, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25083	2	23.09	NH46, Excavation floor	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25084	2	13.7	NF46, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25085	2	20.44	NH46, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25086	2	11.18	NG31, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25087	2	21.15	NH31, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25088	2	13.95	NJ31, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25089	2	12.82	NF36, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25090	2	29.56	NH36, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-25091	2	19.03	NI36, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26776	3	7	AH160, North-side wall	MDA-B-160-Nwall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26777	3	14.6	AI160, Excavation floor	MDA-B-160-Floor	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26778	3	2.8	AK160, South-side wall	MDA-B-160-Swall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26779	3	2.7	AI155, North-side wall	MDA-B-155-Nwall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26780	3	8.4	AJ155, Excavation floor	MDA-B-155-Floor	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26781	3	4.4	AK155, South-side wall	MDA-B-155-Swall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26782	3	8	AH166, North-side wall	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26783	3	7.43	AK166, South-side wall	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26784	3	14.6	AJ166, Excavation floor	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26785	3	6.29	AI171, North-side wall	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26786	3	8.1	AK171, South-side wall	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26787	3	11.86	AJ171, Excavation floor	yes	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26802	7	4.9	AH196, North-side wall	MDA-B-196-Nwall	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

CSMDAB-10-26803	7	12.4	AI196, Excavation floor	MDA-B-196-Floor	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26804	7	6.1	AK196, South-side wall	MDA-B-196-Swall	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26805	7	6.21	AH200, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26806	7	5.7	AK200, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26807	7	14.7	AJ200, Excavation floor	NS	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
CSMDAB-10-26808	7	10.47	AH205, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26809	7	11.94	AK205, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26810	7	16.74	AJ205, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	7	15.22	AJ200, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-13876	1	6.19	AH225, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-13877	1	15.2	AI225, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14064	5	10.62	AH176, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14065	5	14.52	AJ175, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14066	5	9.62	AK175, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14067	5	7.26	AH180, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14068	5	13.59	AJ180, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14069	5	9.65	AK180, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14070	5	5.69	AH185, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14071	5	9.17	AJ184, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14072	5	7.63	AK184, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14073	5	3.18	AI191, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14074	5	5.57	AJ190, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-14075	5	6.88	AK190, South-side wall	NS	ND	ND	0.00185 (J)	ND	ND	ND	ND	ND
CSMDAB-11-23966	1	8.19	AK225, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-23967	1	10.96	AH229, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-23968	1	16.93	AI229, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-23969	1	8.76	AJ230, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24007	1	2.71	AG220, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24008	1	6.76	AI220, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24009	1	5.25	AK220, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24386	2	15.27	NI41, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24387	2	22.89	NG41, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-24388	2	14.46	NF41, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25730	9	9.643	NF57, North-side wall	NS	ND	ND	0.00547	ND	ND	ND	ND	ND
CSMDAB-11-25731	9	17.991	NG57, Excavation floor	NS	ND	ND	0.0101	ND	ND	ND	ND	ND
CSMDAB-11-25732	9	13.423	NH57, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25734	9	8.709	NF60, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25735	9	17.559	NG60, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25737	9	10.517	NH61, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25984	1	9.11	AH215, North-side wall	NS	ND	ND	0.00353 (J)	ND	ND	ND	ND	ND
CSMDAB-11-25985	1	14.38	AJ215, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-25986	1	9.84	AL215, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-26997	1	8.98	AH210, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-26998	1	15.81	AJ210, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-27000	1	9.77	AK210, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-27591	9	9.64	81.5, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-27592	9	7.71	76.5, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-27593	9	17.6	76.5, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-27594	9	10.69	76.5, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3808	1	8.68	AJ240, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3809	1	9.96	AJ245, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3811	1	17.29	AI235, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

CSMDAB-11-3812	1	10.47	AJ235, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3817	1	12.29	AI245, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3818	1	15.87	AI240, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-3820	1	8.71	AG235, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4539	2	10.2	NG26, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4540	2	13.49	NI26, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4541	2	6.45	NK27, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4549	1	8.41	AH245, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4855	12	16.66	NG87, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4856	12	15.22	NF87, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4857	12	16.57	NH86, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4858	12	17.43	NG91, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4859	12	16.32	NF91, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4860	12	15.01	NH91, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4861	12	18.93	NG97, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4862	12	12.91	NF96, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4863	12	11.68	NI97, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-4864	12	14.38	NI101, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5056	9	8.45	81.5, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5059	9	19.77	81.5, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5060	9	9.374	NF65, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5061	9	16.453	NG65, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5062	9	10.741	NH65, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5063	9	10.481	NF72, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5064	9	16.922	NG72, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5065	9	8.089	NH72, South-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5775	12	13.55	NF101, North-side wall	NS	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-11-5776	12	14.25	NH101, Excavation floor	NS	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	BHC[alpha-]	BHC[beta-]	BHC[delta-]	BHC[gamma-]	Bis(2-chloroethoxy)methane
SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	PEST	PEST	PEST	PEST	SVOC
6.21	0.621	6.21	—	62.1	240000	6100	0.772	2.7	—	5.17	180
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.0205 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
0.0134 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Bis(2-chloroethyl)ether	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Bromophenyl-phenylether[4-]	Butanone[2-]	Butylbenzene[n-]	Butylbenzene[sec-]	Butylbenzene[tert-]
SVOC	SVOC	VOC	VOC	VOC	VOC	VOC	SVOC	VOC	VOC	VOC	VOC
2.56	347	300	160	5.25	620	22.3	—	39600	3910	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Butylbenzylphthalate	Carbon disulfide	Carbon tetrachloride	Chlordane[alpha-]	Chlordane[gamma-]	Chloro-3-methylphenol[4-]	Chloroaniline[4-]	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane
SVOC	VOC	VOC	PEST	PEST	SVOC	SVOC	VOC	VOC	VOC	VOC	VOC
2600	1940	4.38	—	—	6100	24	508	11.9	43600	5.72	35.6
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Chloronaphthalene[2-]	Chlorophenol[2-]	Chlorophenyl-phenyl[4-] ether	Chlorotoluene[2-]	Chlorotoluene[4-]	Chrysene	D[2,4-]	Dalapon	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
SVOC	SVOC	SVOC	VOC	VOC	SVOC	HERB	HERB	HERB	PEST	PEST	PEST
6260	391	—	1560	1600	621	690	1800	490	20.3	14.3	17.2
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00165	0.0068
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0085 (J)	0.0176
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000352 (J)	ND	0.000419 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	0.121	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	0.0125 (J)	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000757 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000354 (J)	ND	0.000387 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Dibenz(a,h)anthracene	Dibenzofuran	Dibromo-3-chloropropane[1,2-]	Dibromoethane[1,2-]	Dibromomethane	Dicamba	Dichlorobenzene[1,2-]	Dichlorobenzene[1,2-]	Dichlorobenzene[1,3-]	Dichlorobenzene[1,3-]	Dichlorobenzene[1,4-]	Dichlorobenzene[1,4-]
SVOC	SVOC	VOC	VOC	VOC	HERB	SVOC	VOC	SVOC	VOC	VOC	SVOC
0.621	**78**	**0.194**	**0.574**	**782**	**1800**	**3010**	**3010**	**—**	**—**	**32.2**	**32.2**
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Dichlorobenzidine[3,3'-]	Dichlorodifluoromethane	Dichloroethane[1,1-]	Dichloroethane[1,2-]	Dichloroethene[1,1-]	Dichloroethene[cis-1,2-]	Dichloroethene[trans-1,2-]	Dichlorophenol[2,4-]	Dichloropropane[1,2-]	Dichloropropane[1,3-]	Dichloropropane[2,2-]	Dichloropropene[1,1-]
SVOC	VOC	VOC	VOC	VOC	VOC	VOC	SVOC	VOC	VOC	VOC	VOC
10.8	**481**	**62.9**	**7.74**	**618**	**782**	**273**	**183**	**14.7**	**1600**	**—**	**—**
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	0.000507 (J)	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Dichloropropene[cis-1,3-]	Dichloropropene[trans-1,3-]	Dichlorprop	Dieldrin	Diethylphthalate	Dimethyl phthalate	Dimethylphenol[2,4-]	Di-n-butylphthalate	Dinitro-2-methylphenol[4,6-]	Dinitrophenol[2,4-]	Dinitrotoluene[2,4-]	Dinitrotoluene[2,6-]
VOC	VOC	HERB	PEST	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC
—	—	—	0.304	48900	611000	1220	6110	6.11	122	15.7	61.2
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	0.107 (J)	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Di-n-octylphthalate	Dinoseb	Diphenylamine	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Ethylbenzene	Fluoranthene	Fluorene
SVOC	HERB	SVOC	PEST	PEST	PEST	PEST	PEST	PEST	VOC	SVOC	SVOC
—	61	1500	367	367	—	18.3	—	—	69.7	2290	2290
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	0.000729 (J)	ND	ND	ND	0.0261 (J)	ND
ND	ND	ND	ND	ND	ND	0.00101 (J)	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	0.000759 (J)	ND	ND	ND	0.0145 (J)	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Heptachlor	Heptachlor epoxide	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (total)	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachlorodibenzodioxins (total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofurans (total)	Hexachloroethane
PEST	PEST	DIOXIN_FURAN	DIOXIN_FURAN	DIOXIN_FURAN	DIOXIN_FURAN	SVOC	SVOC	SVOC	DIOXIN_FURAN	DIOXIN_FURAN	DIOXIN_FURAN	SVOC
1.08	**0.53**	**—**	**—**	**—**	**—**	**3.04**	**61.1**	**367**	**—**	**—**	**—**	**61.1**
ND	ND	0.00000168 (J)	0.00000288 (J)	0.00000195 (J)	0.00000559	ND	ND	ND	ND	ND	0.000000603 (J)	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000718 (J+)	0.0000161	0.00000357 (J)	0.00000661	ND	ND	ND	0.00000317 (J)	ND	0.00000247 (J)	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000137 (J)	0.00000341 (J)	0.000000576 (J)	0.000000576 (J)	ND	ND	ND	0.000000479 (J)	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
CSMDAB-10-26812	CSMDAB-10-26812	—	—	—	—	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	—	—	—	CSMDAB-10-26812
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.0000057	0.0000147	0.00000263 (J)	0.00000495	ND	ND	ND	ND	ND	0.00000113 (J)	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000471	0.00000957	0.0000113	0.0000186	ND	ND	ND	ND	ND	0.00000864	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	0.000586 (J)	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000337 (J)	0.0000077 (J)	0.00000256 (J)	0.00000556	ND	ND	ND	ND	ND	0.00000101 (J)	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	ND	0.000000417 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000102 (J)	0.00000102 (J)	ND	0.000000416 (J)	ND	ND	ND	ND	ND	ND	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	0.00000262 (J)	0.00000673	0.00000443	0.00000806	ND	ND	ND	0.00000227 (J)	0.000000636 (J)	0.00000489	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND
ND	ND	—	—	—	—	ND	ND	ND	—	—	—	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Hexanone[2-]	Indeno(1,2,3-cd)pyrene	Iodomethane	Isophorone	Isopropylbenzene	Isopropyltoluene[4-]	MCPA	MCPP	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]	Methylene chloride	Methylnaphthalene[2-]
VOC	SVOC	VOC	SVOC	VOC	VOC	HERB	HERB	PEST	VOC	VOC	SVOC
210	6.21	—	5120	3210	—	31	61	310	5950	199	310
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	0.00038 (J)	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00301 (J)	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	0.000774 (J)	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Methylphenol[2-]	Methylphenol[4-]	Naphthalene	Naphthalene	Nitroaniline[2-]	Nitroaniline[3-]	Nitroaniline[4-]	Nitrobenzene	Nitrophenol[2-]	Nitrophenol[4-]	Nitrosodimethylamine[N-]	Nitroso-di-n-propylamine[N-]	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]
SVOC	SVOC	SVOC	VOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	DIOXIN_FURAN
3100	310	45	45	610	—	240	49.4	—	—	0.0954	0.69	—
ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	0.0000133
ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00000107 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	0.00000996
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0000857
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0000368 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	0.0205	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	0.00113	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00000208 (J)
ND	ND	ND	0.00057 (J)	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	0.000449 (J)	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00000619 (J)
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0000257
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0000257
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	—

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Oxybis[1-chloropropane][2,2'-]	Pentachlorodibenzofurans (total)	Pentachlorophenol	Phenanthrene	Phenol	Propylbenzene[1-]	Pyrene	Pyridine	Styrene	T[2,4,5-]	Tetrachlorodibenzodioxins (total)	Tetrachlorodibenzofurans (total)
DIOXIN_FURAN	SVOC	DIOXIN_FURAN	SVOC	SVOC	SVOC	VOC	SVOC	SVOC	VOC	HERB	DIOXIN_FURAN	DIOXIN_FURAN
—	4.6	—	29.8	1830	18300	3400	1720	78	8970	610	—	—
0.00000888 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000000286 (J)
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
0.00000234 (J)	ND	0.00000131 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0000022 (J)
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	CSMDAB-10-26812	—	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
0.00000243 (J)	ND	0.00000254 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	0.0137 (J)	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	0.0201 (J)	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
0.00000286 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	0.0124 (J)	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
0.00000196 (J)	ND	0.000000435 (J)	ND	ND	ND	ND	ND	ND	ND	ND	0.000000115 (J)	0.000000305 (J)
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—
—	ND	—	ND	ND	ND	ND	ND	ND	ND	ND	—	—

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Tetrachloroethane[1,1,1,2-]	Tetrachloroethane[1,1,2,2-]	Tetrachloroethene	Toluene	Toxaphene (technical grade)	TP[2,4,5-]	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichlorobenzene[1,2,4-]	Trichloroethane[1,1,1-]	Trichloroethane[1,1,2-]	Trichloroethene	Trichlorofluoromethane
VOC	VOC	VOC	VOC	PEST	HERB	VOC	SVOC	VOC	VOC	VOC	VOC
29.2	7.98	6.99	5570	4.42	490	104000	143	21800	17.2	45.7	2010
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000957 (J)	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	0.000863 (J)	ND	ND	ND	ND	ND	ND	ND	0.0194	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000676 (J)	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00165	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

Trichlorophenol[2,4,5-]	Trichlorophenol[2,4,6-]	Trichloropropane[1,2,3-]	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Vinyl chloride	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
SVOC	SVOC	VOC	VOC	VOC	VOC	VOC	VOC
6110	61.1	0.915	62	780	0.865	9550	1090
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812	CSMDAB-10-26812
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-2
Organic Analytes Detected during Confirmation Sampling

ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

				Analyte	Americium-241	Cesium-134	Cesium-137	Cobalt-60	Plutonium-238
				Analytical Suite	AM_241	GAMMA_SPEC	GAMMA_SPEC	GAMMA_SPEC	ISO_PU
				Background Value (pCi/g)	0.05	—	0.1	—	0.05
				Residential SSL (pCi/g)	30	2.4	5.6	1.3	37
Sample Name	Enclosure	Sample Depth (ft)	Location	NMED Split					
CSMDAB-10-24585	1	4.7	AJ260, South-side wall	MDA-B-260-Swall	ND	ND	ND	ND	ND
CSMDAB-10-24587	1	7.4	AI260, Excavation floor	MDA-B-260-floor	ND	ND	ND	ND	ND
CSMDAB-10-24589	1	2	AH260, North-side wall	NS	0.247	—	—	—	0.123
CSMDAB-10-24590	1	2.8	AH260, North-side wall	NS	ND	—	—	—	ND
CSMDAB-10-24591	1	2.4	AH260, North-side wall	NS	ND	—	—	—	0.0654
CSMDAB-10-24592	1	4.1	AH260, North-side wall	NS	ND	ND	ND	ND	0.203 (J)
CSMDAB-10-24593	1	6.69	AI255, Excavation floor	NS	0.0726	ND	ND	ND	ND
CSMDAB-10-24594	1	3.36	AH255, North-side wall	NS	0.0926	ND	ND	ND	ND
CSMDAB-10-24595	1	3.52	AJ255, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-10-24596	1	8.69	AH250, North-side wall	NS	0.303	ND	5.24	ND	ND
CSMDAB-10-24599	1	9.79	AH240, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-10-25077	2	18.4	NH51, Excavation floor	MDA-B-51-floor	0.658	ND	ND	ND	0.387 (J)
CSMDAB-10-25080	2	10.86	NH51, South-side wall	NS	0.473	ND	ND	ND	0.147 (J)
CSMDAB-10-25083	2	23.09	NH46, Excavation floor	yes	0.574 (J+)	ND	ND	ND	0.2
CSMDAB-10-25084	2	13.7	NF46, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-10-25085	2	20.44	NH46, South-side wall	NS	0.285	ND	ND	ND	ND
CSMDAB-10-25086	2	11.18	NG31, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-10-25087	2	21.15	NH31, Excavation floor	NS	0.748	ND	0.334	ND	0.311
CSMDAB-10-25088	2	13.95	NJ31, South-side wall	NS	0.199	ND	0.109	ND	ND
CSMDAB-10-25089	2	12.82	NF36, North-side wall	NS	0.104	ND	ND	ND	ND
CSMDAB-10-25090	2	29.56	NH36, Excavation floor	NS	0.985	ND	ND	ND	0.268
CSMDAB-10-25091	2	19.03	NI36, South-side wall	NS	1.84	ND	ND	ND	0.441
CSMDAB-10-26776	3	7	AH160, North-side wall	MDA-B-160-Nwall	ND	ND	ND	ND	ND
CSMDAB-10-26777	3	14.6	AI160, Excavation floor	MDA-B-160-Floor	ND	ND	ND	ND	0.426
CSMDAB-10-26778	3	2.8	AK160, South-side wall	MDA-B-160-Swall	ND	ND	ND	ND	ND
CSMDAB-10-26779	3	2.7	AI155, North-side wall	MDA-B-155-Nwall	ND	ND	ND	ND	ND
CSMDAB-10-26780	3	8.4	AJ155, Excavation floor	MDA-B-155-Floor	ND	ND	ND	ND	ND
CSMDAB-10-26781	3	4.4	AK155, South-side wall	MDA-B-155-Swall	ND	ND	ND	ND	ND
CSMDAB-10-26782	3	8	AH166, North-side wall	yes	ND	ND	ND	ND	ND
CSMDAB-10-26783	3	7.43	AK166, South-side wall	yes	ND	ND	ND	ND	ND
CSMDAB-10-26784	3	14.6	AJ166, Excavation floor	yes	ND	ND	ND	ND	ND
CSMDAB-10-26785	3	6.29	AI171, North-side wall	yes	0.22	ND	ND	ND	ND
CSMDAB-10-26786	3	8.1	AK171, South-side wall	yes	ND	ND	ND	ND	ND
CSMDAB-10-26787	3	11.86	AJ171, Excavation floor	yes	0.335	ND	ND	ND	ND
CSMDAB-10-26802	7	4.9	AH196, North-side wall	MDA-B-196-Nwall	ND	ND	ND	ND	ND
CSMDAB-10-26804	7	6.1	AK196, South-side wall	MDA-B-196-Swall	ND	ND	ND	ND	ND
CSMDAB-10-26805	7	6.21	AH200, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-10-26806	7	5.7	AK200, South-side wall	NS	0.609	ND	ND	ND	ND
CSMDAB-10-26810	7	16.74	AJ205, Excavation floor	NS	0.472	ND	ND	ND	0.367
CSMDAB-10-26811	7	12.44	AI196, Excavation floor	NS	ND	ND	ND	ND	0.185
CSMDAB-10-26812	7	15.22	AJ200, Excavation floor	NS	0.361	ND	ND	ND	ND
CSMDAB-11-10125	12	10.43	NI98, South-side wall	NS	7.82	ND	ND	ND	ND
CSMDAB-11-13873	1	6.2	AL250, South-side wall	NS	—	ND	ND	ND	ND
CSMDAB-11-13875	1	12.66	AL249, Excavation floor	NS	—	ND	0.301	ND	ND
CSMDAB-11-13876	1	6.19	AH225, North-side wall	NS	0.269	ND	ND	ND	ND
CSMDAB-11-13877	1	15.2	AI225, Excavation floor	NS	ND	ND	ND	ND	0.157

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

CSMDAB-11-14065	5	14.52	AJ175, Excavation floor	NS	0.524	ND	ND	ND	ND
CSMDAB-11-14066	5	9.62	AK175, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14067	5	7.26	AH180, North-side wall	NS	ND	ND	ND	ND	0.504
CSMDAB-11-14068	5	13.59	AJ180, Excavation floor	NS	1.94	ND	ND	ND	0.953
CSMDAB-11-14069	5	9.65	AK180, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14070	5	5.69	AH185, North-side wall	NS	0.626	ND	ND	ND	ND
CSMDAB-11-14076	5	6.2	AH175, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14077	5	7.42	AL185, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14078	5	8.05	AJ190, Excavation floor	NS	0.414	ND	ND	ND	ND
CSMDAB-11-14079	5	5.96	AH190, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14080	5	6.79	AL190, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-14081	5	11.53	AJ185, Excavation floor	NS	0.239	ND	ND	ND	ND
CSMDAB-11-23966	1	8.19	AK225, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-23967	1	10.96	AH229, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-23968	1	16.93	AI229, Excavation floor	NS	0.22	ND	ND	ND	ND
CSMDAB-11-23969	1	8.76	AJ230, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-24007	1	2.71	AG220, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-24008	1	6.76	AI220, Excavation floor	NS	ND	ND	ND	ND	ND
CSMDAB-11-24009	1	5.25	AK220, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-24386	2	15.27	NI41, South-side wall	NS	0.561	ND	ND	ND	ND
CSMDAB-11-24387	2	22.89	NG41, Excavation floor	NS	0.207	ND	ND	ND	ND
CSMDAB-11-24388	2	14.46	NF41, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-24851	2	7.988	NF50, West-side wall	NS	—	—	—	—	—
CSMDAB-11-24852	2	8.201	NF52, East-side wall	NS	—	—	—	—	—
CSMDAB-11-24853	2	7.278	NF51, Excavation floor	NS	—	—	—	—	—
CSMDAB-11-25730	9	9.643	NF57, North-side wall	NS	0.117	ND	ND	ND	ND
CSMDAB-11-25731	9	17.991	NG57, Excavation floor	NS	0.44	ND	ND	ND	0.167
CSMDAB-11-25734	9	8.709	NF60, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-25735	9	17.559	NG60, Excavation floor	NS	1.18	ND	ND	ND	0.407
CSMDAB-11-25880	Area 5	—	AL222, East-side wall	NS	—	—	—	—	0.117
CSMDAB-11-25881	Area 5	—	AL225, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25883	Area 5	—	AL231, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25884	Area 5	—	AL234, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25885	Area 5	—	AM225, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25894	Area 5	—	AN231, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25895	Area 5	—	AN234, East-side wall	NS	—	—	—	—	ND
CSMDAB-11-25984	1	9.11	AH215, North-side wall	NS	0.587	ND	ND	ND	ND
CSMDAB-11-25985	1	14.38	AJ215, Excavation floor	NS	ND	ND	ND	ND	ND
CSMDAB-11-27001	1	12.43	205, South-side wall	NS	0.225	ND	ND	ND	ND
CSMDAB-11-27002	1	11.44	205, North-side wall	NS	0.663	ND	ND	ND	ND
CSMDAB-11-27591	9	9.64	81.5, South-side wall	NS	0.0966	ND	ND	ND	ND
CSMDAB-11-27592	9	7.71	76.5, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-27593	9	17.6	76.5, Excavation floor	NS	0.11	ND	ND	ND	ND
CSMDAB-11-27594	9	10.69	76.5, South-side wall	NS	0.067 (J-)	ND	ND	ND	0.727
CSMDAB-11-27623	Area 5	7.77	AM232	NS	—	—	—	—	ND
CSMDAB-11-27624	Area 5	7.18	AM230	NS	—	—	—	—	ND
CSMDAB-11-27625	Area 5	9.02	AN228	NS	—	—	—	—	ND
CSMDAB-11-27626	Area 5	10.02	AM228	NS	—	—	—	—	ND
CSMDAB-11-27627	Area 5	8.79	AL228	NS	—	—	—	—	ND
CSMDAB-11-27628	Area 5	11.53	AM227	NS	—	—	—	—	ND
CSMDAB-11-27629	Area 5	11.23	AN226	NS	—	—	—	—	ND
CSMDAB-11-27630	Area 5	11.61	AN223	NS	—	—	—	—	ND
CSMDAB-11-27631	Area 5	12.64	AN222	NS	—	—	—	—	ND
CSMDAB-11-27936	1	19.14	210, Excavation floor	NS	—	—	—	—	ND
CSMDAB-11-27937	1	9.91	215, South-side wall	NS	—	—	—	—	0.299
CSMDAB-11-27938	1	4.58	245, North-side wall	NS	—	—	—	—	ND
CSMDAB-11-27939	1	10.15	210, North-side wall	NS	—	—	—	—	0.279

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

CSMDAB-11-27940	1	5.98	250, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-27941	1	15.02	210, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-27942	9	9.81	76, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-27943	9	8.81	81, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-27944	9	9.11	64.5, North-side wall	NS	—	—	—	—	ND
CSMDAB-11-27945	9	10.34	71, North-side wall	NS	—	—	—	—	ND
CSMDAB-11-27946	9	20.16	71, Excavation floor	NS	—	—	—	—	0.229
CSMDAB-11-27947	9	7.48	71, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-3808	1	8.68	AJ240, South-side wall	NS	0.267	ND	ND	ND	0.204
CSMDAB-11-3809	1	9.96	AJ245, South-side wall	NS	0.336	ND	ND	ND	ND
CSMDAB-11-3811	1	17.29	AI235, Excavation floor	NS	6.89	ND	ND	ND	1.69
CSMDAB-11-3812	1	10.47	AJ235, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-3817	1	12.29	AI245, Excavation floor	NS	4.16	ND	ND	ND	1.07
CSMDAB-11-3818	1	15.87	AI240, Excavation floor	NS	0.563	ND	ND	ND	ND
CSMDAB-11-3819	1	13.56	AL250, Excavation floor	NS	—	ND	2.72	ND	ND
CSMDAB-11-3820	1	8.71	AG235, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-3821	1	13.74	AK251, Excavation floor	NS	—	ND	10.3 EXCEED	ND	6.3
CSMDAB-11-4539	2	10.2	NG26, North-side wall	NS	0.0922	ND	0.342	ND	ND
CSMDAB-11-4540	2	13.49	NI26, Excavation floor	NS	0.706	ND	ND	ND	ND
CSMDAB-11-4541	2	6.45	NK27, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-4855	12	16.66	NG87, Excavation floor	NS	0.729	ND	ND	ND	0.185
CSMDAB-11-4857	12	16.57	NH86, South-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-4858	12	17.43	NG91, Excavation floor	NS	0.608	ND	ND	ND	0.212
CSMDAB-11-4859	12	16.32	NF91, North-side wall	NS	0.387	ND	ND	ND	0.0684
CSMDAB-11-4860	12	15.01	NH91, South-side wall	NS	0.184	ND	ND	ND	ND
CSMDAB-11-4861	12	18.93	NG97, Excavation floor	NS	0.475	ND	ND	ND	0.103
CSMDAB-11-4862	12	12.91	NF96, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-4864	12	14.38	NI101, South-side wall	NS	0.0949	ND	ND	ND	0.0619
CSMDAB-11-5056	9	8.45	81.5, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-5057	9	11.11	NI57, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-5058	9	12.85	NI61, South-side wall	NS	—	—	—	—	0.114
CSMDAB-11-5059	9	19.77	81.5, Excavation floor	NS	ND	ND	ND	ND	ND
CSMDAB-11-5061	9	16.453	NG65, Excavation floor	NS	0.662	ND	ND	ND	0.161
CSMDAB-11-5062	9	10.741	NH65, South-side wall	NS	0.175	ND	ND	ND	ND
CSMDAB-11-5775	12	13.55	NF101, North-side wall	NS	ND	ND	ND	ND	ND
CSMDAB-11-5776	12	14.25	NH101, Excavation floor	NS	0.578	ND	ND	ND	0.15
CSMDAB-11-9163	12	7.02	NI96, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-9164	12	7.86	NI97, South-side wall	NS	—	—	—	—	ND
CSMDAB-11-9166	12	11.51	NF87, North-side wall	NS	—	—	—	—	ND
CSMDAB-11-9167	12	12.14	NF87, North-side wall	NS	—	—	—	—	ND
CSMDAB-11-9168	12	10.77	NF86, North-side wall	NS	—	—	—	—	ND
MDABEWS2-11-4532	3	5.01	AG167, South-side wall	NS	—	—	—	—	ND
MDABEWS2-11-4533	3	4.07	AG168, East-side wall	NS	—	—	—	—	ND
MDABEWS2-11-4535	3	3.98	AG167, West-side wall	NS	—	—	—	—	ND
MDABEWS2-11-4536	3	3.93	AF167, North-side wall	NS	—	—	—	—	ND
MDABEWS2-11-4537	3	5.16	AG167, Excavation floor	NS	—	—	—	—	ND

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

Plutonium-239/240	Sodium-22	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
ISO_PU	GAMMA_SPEC	SR_90	H3	ISO_U	ISO_U	ISO_U
0.05	**—**	**1**	**0.3**	**1.98**	**—**	**1.93**
33	**1.6**	**5.7**	**750**	**170**	**17**	**87**
2.33	ND	ND	ND	0.789	ND	0.799
0.93	ND	ND	ND	0.857	ND	0.859
20.7	—	—	—	—	—	—
1.5	—	—	—	—	—	—
3.74	—	—	—	—	—	—
0.867 (J)	ND	—	—	0.843	0.12	0.759
2.52	ND	ND	ND	0.799	0.0723	0.799
4.53	ND	ND	ND	0.902	0.0653	0.893
0.423	ND	ND	ND	0.765	0.0601	0.766
15	ND	1.38	ND	0.905	ND	1.02
2.04	ND	ND	ND	0.81	0.111	0.824
34.2 EXCEED	ND	ND	0.0896629	1.58	0.112	1.54
19.8 (J)	ND	ND	0.125233	1.24	0.0748	0.868
31.9	ND	ND	0.0351603	1.14	ND	0.854
ND	ND	ND	0.0417807	1.47	ND	1.37
13.2	ND	ND	0.0269592	0.952	ND	0.976
1.27	ND	ND	0.0290769	2.31	0.124	2.19
68.2 EXCEED	ND	ND	0.13109	5.91	0.296	5.02
4.27	ND	ND	0.0427143	1.62	ND	1.65
5.77	ND	ND	0.0346552	4.7	0.306	4.58
53.8 EXCEED	ND	ND	0.044829	8.32	0.485	6.41
87.9 EXCEED	ND	ND	ND	1.1 (J+)	ND	1.06 (J+)
ND	ND	ND	ND	0.813	0.0598	0.778
21.3	ND	ND	ND	1.08	ND	0.945
1.18	ND	ND	ND	0.8	ND	0.859
0.844	ND	ND	ND	1.01	ND	0.976
4.99	ND	ND	ND	1.12	0.0888	1.12
ND	ND	ND	ND	0.817	ND	0.928
1.51	ND	ND	0.195405	0.909	0.0448	0.855
0.754	ND	ND	1.5361	0.815	0.066	0.887
1.46	ND	ND	0.0749095	0.953	0.105	0.972
8.79	ND	ND	0.0152591	1.45	0.208	1.36
1.76	ND	ND	ND	0.823	0.076	0.827
14	ND	ND	0.0320997	0.993	0.0813	0.961
0.653	ND	ND	ND	0.858	ND	0.792
2.74	ND	ND	0.0480166	0.837	ND	0.838
5.6	ND	ND	ND	1.01	0.13	0.95
9.39	ND	ND	ND	1.01	0.0827	0.981
19.5 (J)	ND	ND	0.0213746	1.03	0.073	1.03
7.27	ND	ND	—	1.02	0.11	1.02
11.8 (J)	ND	ND	0.0186432	3.15	0.214	2.84
391 EXCEED	ND	ND	—	1.06	ND	1.09
11	ND	—	—	—	—	—
60.9 EXCEED	ND	—	—	—	—	—
7.89	ND	ND	ND	0.976	ND	0.925
3.67	ND	ND	ND	3.21	0.173	3.3

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

10.3	ND	ND	ND	0.777	ND	0.866
ND	ND	ND	0.0182698	0.768	ND	0.793
1.22	ND	ND	ND	0.857	ND	0.937
68.5 EXCEED	ND	ND	0.00938436	1.13	ND	1.25
4.47	ND	ND	0.0092719	0.707	ND	0.874
19.1	ND	ND	0.0177972	0.989	ND	1.04
0.802	ND	1.27	—	0.836	ND	0.778
0.361	ND	ND	—	0.732	ND	0.867
0.798	ND	ND	—	0.854	ND	0.884
1.4	ND	ND	—	0.706	ND	0.805
0.228	ND	ND	—	0.695	ND	0.794
4.11	ND	ND	—	0.851	ND	0.971
0.418	ND	ND	0.0215098	1.01	0.07	1.02
ND	ND	ND	0.0279421	1.4	0.0881	1.4
5.89	ND	ND	0.0152634	1.17	0.0823	1.25
0.541	ND	ND	ND	0.77	ND	0.797
0.591	ND	ND	ND	0.845	ND	0.787
0.134	ND	ND	ND	0.727	ND	0.793
0.653	ND	ND	ND	0.734	0.0579	0.656
29.1	ND	ND	ND	0.832	0.0694	0.999
9.24	ND	ND	0.015196	1.25	0.0911	1.18
0.47	ND	ND	0.0439345	1.97	0.0819	2.01
—	—	—	—	3.26	0.158	2.73
—	—	—	—	1.22	0.0708	1.4
—	—	—	—	1.59	0.0925	1.58
2.89	ND	ND	0.393564	2.45	0.137	1.48
31.8	ND	ND	0.522058	1.64	ND	1.16
0.686	ND	ND	0.18882	3.92	0.119	1.27
61.5 EXCEED	ND	ND	1.06915	3.78	0.183	2.45
7.81	—	—	—	—	—	—
17.3	—	—	—	—	—	—
27.5	—	—	—	—	—	—
2.96	—	—	—	—	—	—
31.8	—	—	—	—	—	—
31.7	—	—	—	—	—	—
21	—	—	—	—	—	—
19.9	ND	ND	ND	4.82	0.349	4.82
2.54	ND	ND	ND	0.911	0.08	0.944
11.2	ND	—	—	—	—	—
19.7	ND	—	—	—	—	—
5.15	ND	ND	ND	0.845	ND	0.849
ND	ND	ND	8.47	0.801	ND	0.853
5.31	ND	ND	66.0572	1.65	0.0769	1.3
2.41	ND	ND	22.7684	1.61	0.122	1.37
2.24	—	—	—	—	—	—
2.22	—	—	—	—	—	—
11.2	—	—	—	—	—	—
4.52	—	—	—	—	—	—
0.542	—	—	—	—	—	—
ND	—	—	—	—	—	—
ND	—	—	—	—	—	—
0.404	—	—	—	—	—	—
ND	—	—	—	—	—	—
1.32	—	—	—	—	—	—
40.2 EXCEED	—	—	—	—	—	—
0.234	—	—	—	—	—	—
16.3	—	—	—	—	—	—

Table 5.1-3
Radionuclides Detected during Confirmation Sampling

ND	—	—	—	—	—	—
19.3	—	—	—	—	—	—
0.396	ND	ND	8.05456	0.913	0.0544	0.876
1.37	ND	ND	0.0582977	0.882	0.0687	0.988
0.218	—	—	—	—	—	—
0.73	—	—	—	—	—	—
18.7	—	—	—	—	—	—
0.439	—	—	—	—	—	—
9.9	ND	ND	ND	0.908	0.0564	0.987
5.38	ND	ND	ND	1.98	0.151	1.84
286 EXCEED	ND	ND	ND	5.67	0.291	5.64
0.945	ND	ND	ND	2.24	0.179	2.31
148 EXCEED	ND	ND	0.146115	1.4	0.14	1.39
20.7	ND	ND	ND	1.32	0.105	1.23
81.3 EXCEED	ND	—	—	—	—	—
2.01	ND	ND	ND	1.1	0.0779	1.11
958 EXCEED	ND	—	—	—	—	—
2.01	ND	ND	0.602107	0.79	0.074	0.851
19.2	ND	ND	350.297	0.9	ND	0.812
ND	ND	ND	0.637897	1.43	0.111	1.48
29.4	ND	ND	0.0652086	3.11	0.0897	1.27
1.4	ND	ND	0.0402062	0.903	0.0571	0.794
36.6 EXCEED	ND	ND	0.015722	1.18	0.0952	1.07
18.1	ND	ND	0.0190082	1.25	ND	1.05
12.3	ND	ND	0.0243368	0.858	ND	1.03
21.2	ND	ND	0.0829326	2.95	0.195	2.97
0.717	ND	ND	0.0328182	8.59	0.508	7.56
4.32	ND	ND	0.0106491	0.864	ND	0.832
1.36	ND	ND	0.169033	0.97	ND	0.863
2.11	—	—	—	—	—	—
1.1	—	—	—	—	—	—
1.31	ND	ND	0.232922	4.42	0.168	3.98
23.6	ND	ND	0.224058	1.2	0.0744	1.16
9.63	ND	ND	0.311527	0.955	0.0774	0.822
1.34	ND	ND	0.0194798	1.08	0.0697	1
25.3	ND	ND	ND	1.02	ND	0.971
18.3	—	—	—	—	—	—
8.09	—	—	—	—	—	—
11.9	—	—	—	—	—	—
5.65	—	—	—	—	—	—
3.33	—	—	—	—	—	—
2.09	—	—	—	—	—	—
0.189	—	—	—	—	—	—
0.597	—	—	—	—	—	—
ND	—	—	—	—	—	—
0.36	—	—	—	—	—	—

Table 5.3-1
Results of Statistical Tests for Arsenic in tuff at MDA B

Analyte	Gehan p-value	Quantile p-value	Site data different from background?
Arsenic	0.239	0.985	No

Table 6.4-1
Inorganic Chemicals Detected in Vertical Borehole Samples

Sample ID	Location ID	Aluminum	Arsenic	Barium	Beryllium	Calcium	Chromium	Cobalt	Copper
Analytical Suite		**Metals**	**Metals**	**Metals**	**Metals**	**Metals**	**Metals**	**Metals**	**Metals**
Residential SSL (mg/kg)[a]		**78,100**	**3.9**	**15,600**	**156**	**na[b]**	**219**	**23[c]**	**3130**
DSMDAB-11-22284	AI250	247	0.345 (J)	9.5	0.247	200	5.84	0.335 (J)	1.29
DSMDAB-11-22285	AI250	—[d]	—	—	—	—	—	—	—
DSMDAB-11-22287	AI250	631 (J+)	ND[e]	2.52	0.322	252 (J+)	1.06	ND	0.664 (J)
DSMDAB-11-22289	AI250	710 (J+)	ND	4.94	0.285	286 (J+)	1.01	ND	0.635 (J)
DSMDAB-11-22290	NH50 (COL51W)	226 (J+)	0.34 (J)	7.11	0.245	924 (J+)	1.37	0.196 (J)	1.45
DSMDAB-11-22291	NH51 (COL51MID)	656	0.303 (J)	7.25	0.19	243 (J+)	1.82	0.245 (J)	0.948 (J)

Table 6.4-1 (continued)

Sample ID	Location ID	Iron	Lead	Magnesium	Manganese	Nickel	Nitrate	Perchlorate	Potassium
Analytical Suite		**Metals**	**Metals**	**Metals**	**Metals**	**Metals**	**Anion**	**Perchlorate**	**Metals**
Residential SSL (mg/kg)[a]		**54,800**	**400**	**na**	**10,700**	**1560**	**125,000**	**54.8**	**na**
DSMDAB-11-22284	AI250	3190	2.49	65.1	184 (J+)	0.331 (J)	ND	ND	112
DSMDAB-11-22285	AI250	—	—	—	—	—	ND	ND	—
DSMDAB-11-22287	AI250	1730 (J+)	ND	91.5 (J+)	52.4 (J+)	0.196 (J)	1.25	ND	202
DSMDAB-11-22289	AI250	1970 (J+)	9.23 (J)	143 (J+)	122 (J+)	0.42 (J)	1.35 (J-)	ND	220
DSMDAB-11-22290	NH50 (COL51W)	5290	2.52	150 (J+)	209	0.501	ND	0.000842 (J)	105
DSMDAB-11-22291	NH51 (COL51MID)	4740	3.05	102 (J+)	246	0.497	1.21 (J-)	0.0296	123

Table 6.4-1 (continued)

Sample ID	Location ID	Silver	Sodium	Uranium	Vanadium	Zinc
Analytical Suite		**Metals**	**Metals**	**Metals**	**Metals**	**Metals**
Residential SSL (mg/kg)[a]		**391**	**na**	**235[f]**	**391**	**23,500**
DSMDAB-11-22284	AI250	ND	75.7	0.634	0.83	34.2
DSMDAB-11-22285	AI250	—	—	—	—	—
DSMDAB-11-22287	AI250	ND	339	0.139	0.823	7.51 (J)
DSMDAB-11-22289	AI250	ND	344	0.269	1.01	48.1
DSMDAB-11-22290	NH50 (COL51W)	0.165 (J)	73.2	0.496	1.36	32.9
DSMDAB-11-22291	NH51 (COL51MID)	ND	82.8	0.434	1.37	32.1

[a] SSLs are from NMED (2009, 108070), unless indicated otherwise.

[b] na = Not available.

[c] SSL for cobalt is from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[d] — = No analysis performed.

[e] ND = Not detected.

[f] SSL for uranium soluble salts.

Table 6.4-2
Organic Chemicals Detected in Vertical Borehole Samples

Sample ID	Location ID	Acetone	Tetrachlorodibenzofurans (total)
Analytical Suite		VOC	Dioxin/Furan
Residential SSL (mg/kg)[a]		67,500	na[b]
DSMDAB-11-22284	AI250	ND[c]	—[d]
DSMDAB-11-22285	AI250	ND	—
DSMDAB-11-22287	AI250	ND	0.00000071 (J)
DSMDAB-11-22289	AI250	ND	0.000000644 (J)
DSMDAB-11-22290	NH50 (COL51W)	0.00524	—
DSMDAB-11-22291	NH51 (COL51MID)	ND	—

[a] SSLs are from NMED (2009, 108070).

[b] na = Not available.

[c] ND = Not detected.

[d] — = No analysis performed.

Table 6.4-3
Radionuclides Detected in Vertical Borehole Samples

Sample ID	Location ID	Americium-241	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Analytical Suite		Am-241	Isotopic	H^3	Isotopic	Isotopic	Isotopic
Residential SAL (pCi/g)[a]		30	33	750	170	17	87
DSMDAB-11-22284	AI250	ND[b]	ND	ND	1.07	0.066	1.08
DSMDAB-11-22285	AI250	ND	ND	0.0105127	0.897	ND	0.894
DSMDAB-11-22287	AI250	ND	ND	ND	2.93	0.21	2.91
DSMDAB-11-22288	AI250	ND	ND	—[c]	0.947	ND	0.965
DSMDAB-11-22289	AI250	ND	ND	ND	3.24	0.204	3.37
DSMDAB-11-22290	NH50 (COL51W)	0.163	12.2	0.162274	0.98	ND	0.909
DSMDAB-11-22291	NH51 (COL51MID)	ND	ND	0.124568	0.99	ND	1.09

[a] SALs are from LANL (2009, 107655), unless indicated otherwise.

[b] ND = Not detected.

[c] — = No analysis performed.

Table 6.4-4
Organic Chemicals Detected in Soil Vapor during Borehole Sampling

	Analyte	Acetone	Benzene	Butadiene[1,3-]	Carbon tetrachloride	Chloroform	Cyclohexane	Hexane	n-Heptane	Propylene	Toluene	Trichloroethene
	Analytical Suite	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
Sample Name	Location	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
DSMDAB-11-22308	AI250	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	12
DSMDAB-11-22309	AI250	ND	ND	ND	52	11	ND	ND	ND	ND	380	520
DSMDAB-11-22312	NH51 (COL51MID)	87	18	23	ND	ND	12	27	13	310	38	14
DSMDAB-11-22313	NH51 (COL51MID)	60	11	38	ND	ND	ND	21	18	350	460	45

Table 6.4-5
Tritium Detected in Soil Vapor during Borehole Sampling

	Analyte	Tritium
	Analytical Suite	H3
Sample Name	Location	(pCi/L)
DSMDAB-11-22306	AI250	ND
DSMDAB-11-22307	AI250	ND
DSMDAB-11-22310	NH51	7226.38
DSMDAB-11-22311	NH51	9942.68 (J)

Table 6.4-6
Permeability Data for the tuff unit overlying the Cerro Toledo interval

Sample ID	Depth (ft bgs)	Stratigraphic Unit	Saturated Hydraulic Conductivity (cm/s)	Permeability (m2)	Volumetric Moisture Content (%)	Calculated Unsaturated Hydraulic Conductivity (cm/s)
DSMDAB-11-23971	25.0-27.5	Qbt3	1.2E-02	1.2E-11	6.6	3.1E-08
DSMDAB-11-23972	27.5-30.0	Qbt3	4.4E-03	4.5E-12	9.8	1.6E-06
DSMDAB-11-23973	180-182.5	Qbt1v	7.2E-03	7.3E-12	8.9	6.8E-07
DSMDAB-11-23974	182.5-185	Qbt1v	4.2E-03	4.3E-12	9.4	2.5E-07
DSMDAB-11-23975	240-242.5	Qbt1g	1.2E-03	1.2E-12	12.9	2.0E-07
DSMDAB-11-23976	242.5-245	Qbt1g	1.8E-03	1.8E-12	11.6	1.0E-07
DSMDAB-11-23977	292.5-295	Qbtt	1.3E-03	1.3E-12	12.4	1.7E-07
DSMDAB-11-23978	317.5-320	Qct	1.3E-02	1.3E-11	19.6	3.0E-07

Table 7.1-1
Types and Quantities of Waste at MDA B

Waste Type	Report Category	TOTAL
LLW (Excavated Materials)	Total # Container Shipped	2,349.00
	Total Actual Volume Shipped (CY)	31,869.70
MLLW (Excavated Materials)	Total # Container Shipped	2.00
	Total Actual Volume Shipped (CY)	18.22
Industrial	Total # Container Shipped	17.00
	Total Actual Volume Shipped (CY)	349.00
Hazardous	Total # Container Shipped	-
	Total Actual Volume Shipped (CY)	-
NMSW	Total # Container Shipped	15.00
	Total Actual Volume Shipped (CY)	2.80
Overburden Soil (use as backfill)	Total # Container - DUMPED	38.00
	Total Actual Volume DUMPED (CY)	684.00

Table 7.3-1
Comparison of Maximum Chemical Concentrations with Residential SSLs

Chemicals	Maximum Detected Concentrations (mg/kg)	Residential SSLs[a] (mg/kg)
Antimony	7.18	31.3
Barium	178	15600
Cadmium	11.9	77.9
Chromium	21.9	219[b]
Cobalt	3.48	23[c]
Copper	843	3130
Cyanide	7.22	1560
Iron	17000	54800
Lead	181	400
Mercury	2.24	7.71[d]
Nitrate	19.5	125000
Perchlorate	1.69	54.8
Selenium	0.418	391
Silver	3.5	391
Uranium	21	235
Zinc	137	23500
Acetone	0.0101	67500
Benzo(a)anthracene	0.124	6.21
Benzo(a)pyrene	0.209	0.621
Benzo(b)fluoranthene	0.26	6.21
Benzo(g,h,i)perylene	0.142	1720[e]
Benzo(k)fluoranthene	0.0878	62.2
Bis(2-ethylhexyl)phthalate	0.122	347
Butanone[2-]	0.0217	39600
Chrysene	0.121	621
DDT[4,4'-]	0.0176	17.2
DDE[4,4'-]	0.0085	14.3
DDD[4,4'-]	0.000354	20.3
Dibenz(a,h)anthracene	0.0553	0.621
Dichloroethene[cis-1,2-]	0.000507	782
Diethylphthalate	0.107	48900
Endrin	0.00101	18.3
Fluoranthene	0.0465	2290

Table 7.3-1 (continued)

Chemicals	Maximum Detected Concentrations (mg/kg)	Residential SSLs[a] (mg/kg)
Heptachlor epoxide	0.000586	0.53c
Hexanone[2-]	0.0348	210c
Indeno(1,2,3-cd)pyrene	0.13	6.21
Isopropyltoluene[4-]	0.000774	3210[f]
Methyl-2-pentanone[4-]	0.00311	5950
Methylene chloride	0.00301	199
Naphthalene	0.0205	45
Pyrene	0.0657	1720
TCDD[2,3,7,8-] equivalent	0.000000277g	0.0000405
Tetrachloroethene	0.000863	6.99
Trichloroethene	0.0194	45.7
Trimethylbenzene[1,2,4-]	0.000432	62c

[a] SSLs from NMED (2009, 108070) unless otherwise noted.

[b] Hexavalent chromium SSL used.

[c] SSL from EPA regional tables (http://www.epa.gov/region06/6pd/rcra_c/pd-n/screen.htm).

[d] Elemental mercury SSL used.

[e] Pyrene SSL used as surrogate based on structural similarity.

[f] Isopropylbenzene SSL used as surrogate based on structural similarity.

[g] Concentration is derived using the maximum detected concentration of each congener detected times the toxic equivalency factor and then summed.

Table 7.3-2
Comparison of Maximum Radionuclide Concentrations with Residential SALs (0–10 ft)

Radionuclides	Maximum Detected Concentrations (0–10 ft) (pCi/g)	Residential SALs* (pCi/g)
Americium-241	0.626	30
Cesium-137	5.24	5.6
Plutonium-238	0.504	37
Plutonium-239/240	40.2	33
Strontium-90	1.38	5.7
Tritium	8.47	750
Uranium-234	4.82	170
Uranium-235	0.349	17
Uranium-238	4.82	87

* SALs from LANL (2009, 107655).

Table 7.3-3
Comparison of Maximum Radionuclide Concentrations with Residential SALs Below 10 ft at MDA B

Radionuclides	Maximum Detected Concentrations (pCi/g)	Residential SALs (pCi/g)
Americium-241	7.82	30
Cesium-137	10.3	5.6
Plutonium-238	6.3	37
Plutonium-239/240	958	33
Tritium	350.3	750
Uranium-234	8.59	170
Uranium-235	0.508	17
Uranium-238	7.56	87

Appendix A

Acronyms and Abbreviations,
Metric Conversion Table, and Data Qualifier Definitions

A-1.0 ACRONYMS AND ABBREVIATIONS

2,4-D	2,4-dichlorophenoxyacetic acid
2,4-DB	2,4-dichlorophenoxybutyric acid
2,4,5-T	2,4,5-trichlorophenoxyacetic acid
1,1,1-TCA	1,1,1-trichloroethane
2,4,5-TP	2,4,5-trichlorophenoxypropionic acid
ACM	asbestos-containing material
AIRNET	air-monitoring network
AK	acceptable knowledge
AOC	area of concern
bgs	below ground surface
BHC	benzene hexachloride
CAM	continuous air monitoring
CFR	Code of Federal Regulations
CME	corrective measures evaluation
COC	chain of custody
Consent Order	Compliance Order on Consent
DDD	dichlorodiphenyldichloroethane
DDE	dichlorophenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DOE	Department of Energy (U.S.)
DPT	direct-push technology
EPA	Environmental Protection Agency (U.S.)
FIDLER	Field Instrument for Detection of Low-Energy Radiation
GPR	ground-penetrating radar
HE	high explosives
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
ID	identification
IH	industrial hygiene
I/R	investigation/remediation
IRWP	investigation/remediation work plan
LAL	lower acceptance limit
LANL	Los Alamos National Laboratory

LANS	Los Alamos National Security, LLC
LLW	low-level waste
MAR	material at risk
MCPA	methyl-4-chlorophenoxyacetic(2-) acid
MCPP	methyl-4-chlorophenoxypropionic(2-) acid
MDA	material disposal area
MDL	method detection limit
MLLW	mixed low-level waste
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NOD	notice of disapproval (NMED
PCB	polychlorinated biphenyl
PCE	tetrachloroethene (also perchloroethane)
PE-Ci	plutonium-239-equivalent curie
PETN	pentaerythritol tetranitrate
PID	photoionization detector
PPE	personal protective equipment
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RESRAD	residual radioactivity (computer code)
RPD	relative percent difference
RFI	RCRA facility investigation
SAL	screening action level
SAP	sampling and analysis plan
SOP	standard operating procedure
SOW	statement of work
SSL	soil screening level
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TA	technical area

TAL	target analyte list (EPA)
TATB	triaminotrinitrobenzene
TCE	trichloroethane
TCLP	toxicity characteristic leaching procedure
TD	total depth
TPH	total petroleum hydrocarbons
UAL	upper acceptance limit
UCL	upper confidence limit
VOC	volatile organic compound
WCSF	waste characterization strategy form

A-2.0 METRIC CONVERSION TABLE

Multiply SI (Metric) Unit	By	To Obtain U.S. Customary Unit
kilometers (km)	0.622	miles (mi)
kilometers (km)	3281	feet (ft)
meters (m)	3.281	feet (ft)
meters (m)	39.37	inches (in.)
centimeters (cm)	0.03281	feet (ft)
centimeters (cm)	0.394	inches (in.)
milliimeters (mm)	0.0394	inches (in.)
micrometers or microns (µm)	0.0000394	inches (in.)
square kilometers (km^2)	0.3861	square miles (mi^2)
hectares (ha)	2.5	acres
square meters (m^2)	10.764	square feet (ft^2)
cubic meters (m^3)	35.31	cubic feet (ft^3)
kilograms (kg)	2.2046	pounds (lb)
grams (g)	0.0353	ounces (oz)
grams per cubic centimeter (g/cm^3)	62.422	pounds per cubic foot (lb/ft^3)
milligrams per kilogram (mg/kg)	1	parts per million (ppm)
micrograms per gram (µg/g)	1	parts per million (ppm)
liters (L)	0.26	gallons (gal.)
milligrams per liter (mg/L)	1	parts per million (ppm)
degrees Celsius (°C)	9/5 + 32	degrees Fahrenheit (°F)

A-3.0 DATA QUALIFIER DEFINITIONS

Data Qualifier	Definition
U	The analyte was analyzed for but not detected.
J	The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis.
J+	The analyte was positively identified, and the result is likely to be biased high.
J-	The analyte was positively identified, and the result is likely to be biased low.
UJ	The analyte was not positively identified in the sample, and the associated value is an estimate of the sample-specific detection or quantitation limit.
R	The data are rejected as a result of major problems with quality assurance/quality control (QA/QC) parameters.

Appendix B

Quality Assurance and Quality Control Program

B-1.0 INTRODUCTION

Before excavation, 136 core samples were collected from Material Disposal Area (MDA) B via direct-push technology (DPT) in 2009 to provide preliminary characterization of the waste. Overburden and lay-back samples were collected from MDA B to determine if the material could be reused as backfill in the excavated trenches following site remediation activities. Results from 84 overburden soil and fill samples are included in the data for this report. A total of 182 confirmation samples were also collected to determine if uncontaminated tuff had been reached. Results from 7 soil borehole samples from 3 boreholes drilled in 2011, along with 58 borehole samples from 7 boreholes drilled in 1998, are also presented in this report. This appendix presents the analytical methods used and data quality review for these samples.

Quality assurance (QA), quality control (QC), and data validation procedures were implemented in accordance with the Los Alamos National Laboratory (LANL or the Laboratory) Quality Assurance Plan for the Environmental Programs Directorate (EP-DIR-QAP-0001), the MDA B investigation/remediation work plan, and sampling and analysis plan (SAP) (LANL 2006, 095499; LANL 2010, 110411; LANL 2010, 110398; LANL 2010, 111195). The results of these QA/QC activities were used to estimate the accuracy, bias, and precision of the analytical measurements. QC samples, including method blanks, blank spikes, matrix spikes, laboratory control samples, internal standards, initial and continuing calibrations, and surrogates (where necessary) were used to assess laboratory accuracy and bias.

The type and frequency of QC analyses are described in the MDA B SAP. Other QC factors, such as sample preservation and holding times, were also assessed. The requirements for sample preservation and holding times are presented in Standard Operating Procedure (SOP) 5056, Sample Containers and Preservation. Evaluating these QC indicators allows estimates to be made regarding the accuracy, bias, and precision of the analytical suites. A focused data validation was also performed for all the data packages (identified by request number) including a more detailed review of the raw data.

The following SOPs, along with others listed in Table B-1.0-1, which are available at http://www.lanl.gov/environment/all/qa/adep.shtml, were used for data validation:

- SOP-5161, Routine Validation of Volatile Organic Compound (VOC) Analytical Data
- SOP-5162, Routine Validation of Semivolatile Organic Compound (SVOC) Analytical Data
- SOP-5163, Routine Validation of Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data
- SOP-5164, Routine Validation of High Explosives Analytical Data
- SOP-5165, Routine Validation of Metals Analytical Data
- SOP-5166, Routine Validation of Gamma Spectroscopy, Chemical Separation Alpha Spectrometry, Gas Proportional Counting, and Liquid Scintillation Analytical Data
- SOP-5169, Routine Validation of Dioxin Furan Analytical Data (EPA Method 1618 and SW-846 EPA Method 8290)

Analytical data are provided in Appendix G (on DVD).

Analytical data were reviewed and evaluated based on U.S. Environmental Protection Agency (EPA) National Functional Guidelines, where applicable (EPA 1994, 048639; EPA 1999, 066649). Data have also been assessed using guidelines established in SW-846, “Test Methods for Evaluating Solid Waste,

Laboratory Manuals, Physical/Chemical Methods" (EPA 1997, 057589). As a result of the data validation and assessment efforts, qualifiers have been assigned to the appropriate analytical records.

B-2.0 LABORATORY ANALYSIS SUMMARY

DPT, overburden, confirmation, and borehole samples collected from MDA B are shown in Appendix G (on DVD). Overburden samples were collected from the stockpile in the west lay-down yard and from the containerized overburden. A total of 53 overburden field trip blanks were collected along with 27 field duplicates and 28 field rinsate samples. A total of 182 confirmation samples collected, along with 34 field trip blanks, 12 field duplicates, and 8 field rinsates are included in this report. Finally, the report also includes results from 7 soil boring samples with 5 field trip blanks, 1 field rinsate, and 1 field duplicate from boreholes drilled in 2011, along with 58 soil boring samples and 1 field duplicate from boreholes drilled in 1998.

Samples were submitted to accredited analytical laboratories for numerous analyses, including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), high explosives (HE), herbicides, pesticides, total petroleum hydrocarbon (TPH) diesel-range organics, TPH gasoline-range organics, dioxins and furans, perchlorate, nitrate, total cyanide, polychlorinated biphenyls (PCBs), target analyte list (TAL) metals, americium-241, gamma spectroscopy, isotopic plutonium, isotopic uranium, tritium, and strontium-90. Table B-2.0-1 shows the analytical methods used. Excavation grid location and confirmatory sampling locations are presented on Plates 1 through 8 of the investigation/remediation report. Validated analytical results are presented in Appendix G (on DVD).

Inorganic, organic, and radionuclide analyses for both the confirmation samples and the overburden samples are summarized in the following sections. The required minimum detectable activity or estimated quantitation limit is prescribed in the analytical services statement of work (SOW) (LANL 2008, 109962).

B-3.0 ORGANIC CHEMICAL ANALYSES

Organic chemical analyses include identification and quantitation of dioxins/furans, pesticides (PEST), herbicides (HERB), polychlorinated biphenyls (PCB), high explosives (HEXP), volatile organic compounds (VOC), and semivolatile organic compounds (SVOC). Identification of some organic compounds requires additional testing, the toxicity characteristic leaching procedure (TCLP), to determine the toxicity leaching characteristics.

B-3.1 Maintenance of Chain of Custody

Chain of custody (COC) was properly maintained for all confirmation, overburden, and soil boring samples.

B-3.2 Sample Documentation

All samples were properly documented in the field.

B-3.3 Sample Preservation

Preservation criteria were met for all samples analyzed for organic chemicals.

B-3.4 Holding Times

Holding times were met for all confirmation samples and soil borings samples. A total of 63 PEST results for DPT samples, 137 SVOC results, 63 PEST results, 120 VOC results, and 32 HERB-TCLP results for overburden samples were flagged as estimated not detected (UJ), and 6 VOC results and 1 SVOC result

for overburden samples were flagged as estimated low (J-) because the holding time between sample extraction and analysis was exceeded by less than 2 times the holding time required by the analysis method. A total of 68 SVOC results from overburden were qualified as rejected (R) because the holding time between sample extraction and analysis was exceeded by greater than 2 times the holding time required by the analysis method.

B-3.5 Initial and Continuing Calibration Verification

A total of 2 PCB results, 105 HERB results, 166 PEST results, 126 SVOC results, and 156 VOC results from DPT samples; 8 VOC results from pore-gas samples; 72 HERB results, 20 HERB-TCLP results, 566 PEST results, 370 PEST-TCLP results, 358 SVOC results, 35 SVOC-TCLP results, 608 VOC results, and 67 VOC-TCLP results from overburden samples; and 3 VOC results and 3 SVOC results from confirmation samples were qualified as estimated not detected (UJ), and 1 HERB, 2 PCB, 13 PEST results, and 6 VOC results for DPT samples; 1 HERB result, 1 VOC result, and 28 PEST results for overburden samples, and 3 VOC results and 3 SVOC results for confirmation samples were qualified as estimated (J) because the affected analytes were analyzed with an initial calibration verification and/or continuing calibration verification that was recovered outside method-specific limits.

A total of 25 HEXP results from overburden samples were qualified as estimated not detected (UJ), 1 VOC results from a DPT sample and 2 VOC results from overburden samples were qualified as estimated (J), and 5 HEXP results, 75 VOC results, and 65 VOC-TCLP results from overburden samples were qualified as rejected (R) because the affected analytes were analyzed with relative response factors of less than 0.05 outside method-required limits for their initial and/or continuing calibration verification results. Five PCB results for DPT samples were qualified as estimated (J) because the continuing calibration standard was not run within the method-specified time window.

B-3.6 Analyte Identification

Twelve SVOC results and eight VOC results from DPT samples and one SVOC result from an overburden sample were qualified as estimated not detected (UJ) because the mass spectra of the analyte did not meet method-specified criteria.

Spectral reviews were within acceptable limits for all organic analyses of confirmation and soil-boring sample results.

B-3.7 Analyte Quantitation

Two VOC results from pore-gas samples and 11 PEST results, 11 PEST-TCLP results, 26 SVOC results, and 7 VOC results from overburden samples were qualified as estimated, not detected (UJ) because the initial calibration exceeded percent risk-specific dose criteria from the method or the correlation coefficient for the curve was less than 0.995.

B-3.8 Method Blank, Instrument and Continuing Calibration Blanks

A total of 89 VOC results and 41 SVOC results from DPT samples; 123 dioxin/furan results, 110 VOC results, and 8 VOC-TCLP results from overburden samples; 23 dioxin/furan results and 7 VOC results from confirmation samples; and six dioxin/furan results from soil-boring samples were qualified as not detected (U) because the results were less than or equal to 5 times the concentration of the same analyte in the method blank. Three dioxin/furan results from soil-boring samples; 29 dioxin/furan results from overburden samples; and 6 dioxin/furan results from confirmation samples were qualified as estimated (J) because the analyte was present in the method blank but at a concentration in the sample greater than 5 times the concentration of the same analyte in the method blank.

B-3.9 Field Trip Blanks

Field trip blanks are analyzed only for VOCs. No field trip blanks were collected for DPT samples, since those results are preliminary. A total of 36 VOC results from overburden samples and 4 VOC results from confirmation samples were flagged as not detected (U) because the concentration of the affected analytes in the samples was less than or equal to 5 times the concentration of the same analytes in the associated trip blanks, rinsates, or equipment blanks.

B-3.10 Matrix Spikes

One HEXP result from an overburden sample was qualified as estimated not detected (UJ) because the matrix spike or matrix spike duplicate percent recovery was greater than 10% but less than the lower acceptance limit (LAL).

Five HEXP results from overburden samples and two dioxin/furan results from confirmation samples were qualified as estimated high (J+) because the matrix spike or matrix spike duplicate percent recovery was greater than the upper acceptance limit (UAL).

B-3.11 Matrix Spike and Matrix Spike Duplicates

Eleven HEXP results from overburden samples, three HEXP results from confirmation samples, and one HEXP result from a soil-boring sample were qualified as estimated not detected (UJ) because the relative percent difference (RPD) between the matrix spike and matrix spike duplicate was greater than 30%.

B-3.12 Surrogate Recoveries

A total of 8 HERB results and 21 PEST results from DPT samples; and 33 PEST results, 7 PEST-TCLP results, and 150 SVOC results from overburden samples were qualified as estimated not detected (UJ), and 3 SVOC results from overburden samples were qualified as estimated low (J-) because surrogate recoveries for associated analytes were less than the LAL but greater than or equal to 10%. One PCB result and ten VOC results from DPT samples; and three VOC results from confirmation samples were qualified as estimated biased high (J+) because surrogate recoveries were above the UAL. A total of 136 SVOC results from borehole samples were qualified as estimated not detected (UJ) because at least one surrogate recovery was greater than the UAL and one surrogate recovery was less than the LAL.

B-3.13 Internal Standard Responses

A total of 349 VOC results and 2 SVOC results from DPT samples were qualified as estimated not detected (UJ), and 89 SVOC results and 12 VOC results from DPT samples were qualified as estimated (J) because internal standard counts were greater than 10% and less than 50% of the value specified by the analytical method. Internal standard responses were within method-specified limits for all confirmation sample, overburden, and soil-boring organic results.

B-3.14 Laboratory Control Spike Recoveries

A total of 2 SVOC results from DPT samples; 59 HERB results and 268 PEST results from overburden samples; 9 SVOC results from confirmation samples; and 1 SVOC result from a pore-gas sample were qualified as estimated not detected (UJ), and 1 HERB result and 5 PEST results from overburden samples were qualified as estimated low (J-) because the laboratory control spike was less than the LAL but greater than 10% recovery.

Eight PEST results, five dioxin/furan results, and one SVOC result from overburden samples were qualified as estimated biased high (J+) because the laboratory control spike percent recovery was greater than the UAL.

Twenty SVOC results and three PEST results from overburden samples were rejected (R) because the laboratory control spike recovery was less than 10%.

B-3.15 Laboratory Duplicates Precision

Laboratory duplicates indicated acceptable precision for all organic results.

B-4.0 INORGANIC ANALYSES

Inorganic analyses included analyses for anions, metals, perchlorates, and total cyanide.

B-4.1 Maintenance of Chain of Custody

COC was properly maintained for all inorganic DPT, overburden, confirmation, and soil-boring samples.

B-4.2 Sample Documentation

All samples were properly documented in the field.

B-4.3 Sample Preservation

Sample preservation requirements were met for all inorganic analyses of DPT, overburden, and confirmation samples.

B-4.4 Holding Times

Four wet chemistry results for overburden samples were qualified as estimated low (J-) because the holding time between sample extraction and analysis was exceeded by less than 2 times the method holding time.

Holding times were met for all inorganic analyses of DPT, overburden, confirmation, and soil-boring samples.

B-4.5 Initial and Continuing Calibration Verification

Initial and/or continuing calibration verification was within acceptable limits for all inorganic analyses of overburden, confirmation, and soil-boring samples.

Two metals results for DPT samples were qualified as estimated (J) because the initial calibration verification or continuing calibration verification was recovered outside acceptable limits.

B-4.6 Analyte Identification (Including Internal Standards and Spectral Review)

Internal standard comparisons and spectral review were within acceptable limits for all inorganic analyses of overburden, confirmation, and soil-boring samples.

Spectral criteria were met for all samples.

B-4.7 Analyte Quantitation

A total of 344 metals results and 13 anion results from overburden samples; and 168 metals results and 9 anion results from confirmation samples were qualified as not detected (U) because the affected analyte concentrations in the samples were less than or equal to 5 times the concentration of the same analytes in the corresponding trip blanks, rinsates, or equipment blanks.

Four metals-TCLP results from overburden samples were qualified as estimated (J), and 108 metals-TCLP results from overburden samples were qualified as estimated not detected (UJ) because the affected results were not analyzed with a valid calibration curve and/or a calibration standard at the reporting limit.

Seven metals results from overburden samples were qualified as estimated (J) because the result was between the instrumental detection limit and the estimated detection limit.

B-4.8 Method Blank, Instrument Blank and Continuing Calibration Blank

A total of 14 metals results from DPT samples; 220 metals results and 59 metals-TCLP results from overburden samples; 42 metals results from confirmation samples; and 11 metals results from soil-boring samples were qualified as estimated (J) because the analyte was detected at more than 5 times the concentration of the same analyte in the method blank. A total of 60 metals results from DPT samples; 58 metals results and 182 metals-TCLP results from overburden samples; 18 metals results from confirmation samples; and 2 metals results and 1 cyanide result from soil-boring samples were qualified as not detected (U) because the results were less than or equal to 5 times the concentration of the same analyte in the method blank.

A total of 25 metals results from DPT samples; and 3 metals-TCLP results and 46 metals results from overburden samples were qualified as not detected (U) because the concentration of analyte in the sample was less than or equal to 5 times the concentration of the same analyte in the continuing calibration blank.

B-4.9 Internal Standard Responses

Seventy-five metals results from DPT samples were qualified as estimated (J), and one metals result from a DPT sample was qualified as estimated not detected (UJ) because internal standard counts were greater than 125% of those in the initial calibration blank.

B-4.10 Laboratory Control Spike Recoveries

Laboratory control spike recoveries were within method acceptance limits for all DPT, overburden, confirmation sample, and soil-boring sample inorganic results.

B-4.11 Matrix Spikes and Matrix Spike Duplicates

Fourteen metals results from overburden samples and three metals results from confirmation samples were qualified as rejected (R) because the matrix spike recovery was less than 10%.

A total of 186 metals results from DPT samples; 388 metals results and 4 wet chemistry results from overburden samples; 135 metals results from confirmation samples; and 16 metals results from soil-boring samples were qualified as estimated biased high (J+), and 2 metals results from DPT samples were qualified as estimated not detected (UJ) because the matrix spike or matrix spike duplicate percent recovery was greater than the UAL. One metals result from a DPT sample; 69 metals results and 15 metals-TCLP results from overburden samples; 6 metals results from confirmation samples; and 1 anion result and 1 metals result from soil-boring samples were qualified as estimated not detected (UJ), and 48 metals results from DPT samples; 92 metals results for overburden samples; 15 anions results and 40 metals results from confirmation samples; and 2 anion results from soil-boring samples were qualified as estimated low (J-) because the matrix spike or matrix spike duplicate percent recovery was greater than 10% but less than the LAL. Three DPT results, 4 confirmation sample results, and 14 metals results from soil-boring samples were rejected (R) because the matrix spike or matrix spike duplicate percent recovery was less than 10%.

B-4.12 Laboratory Duplicate Precision

A total of 37 metals results from DPT samples; 90 metals results from overburden samples; and 37 metals results from confirmation samples were qualified as estimated (J) because the sample and the laboratory duplicate results were greater than or equal to 5 times the reporting limit and the RPD was greater than the UAL.

Ten metals results from DPT samples were qualified as estimated (J) because the difference in the result between the sample serial dilution and sample result was greater than 10%.

B-5.0 RADIOCHEMICAL ANALYSES

Confirmation, DPT, and overburden samples were analyzed for gamma-emitting radionuclides by gamma spectroscopy; for americium-241, isotopic plutonium, isotopic uranium, and isotopic thorium by chemical separation alpha spectrometry; for tritium by liquid scintillation; and for strontium-90 by gas proportional counting.

B-5.1 Maintenance of Chain of Custody

COC was properly maintained for all radionuclide DPT, overburden, confirmation, and soil-boring samples.

B-5.2 Sample Documentation

Samples were properly documented in the field.

B-5.3 Sample Preservation

No sample preservation is required for radionuclides.

B-5.4 Holding Times

Holding times were met for all radionuclide analyses.

B-5.5 Analyte Quantitation (Including Spectral Interferences)

A total of 9 gamma spectroscopy results from overburden samples, 67 gamma spectroscopy results from confirmation samples, and 7 gamma spectroscopy results from soil-boring samples were qualified as

rejected (R), and 37 gamma spectroscopy results from overburden samples were qualified as not detected (U) because spectral interferences prevented the positive identification of the analyte.

A total of 6 americium-241 results, 454 gamma spectroscopy results, 24 tritium results, 53 isotopic plutonium (IsoPu) results, three isotopic thorium (IsoTh) results, 35 isotopic uranium (IsoU) results, and 108 strontium-90 (Sr90) results from DPT samples; 98 americium-241 results, 964 gamma spectroscopy results, 43 tritium results, 162 IsoPu results, 106 IsoU results, and 256 Sr90 results from overburden samples; 50 americium-241 results, 453 gamma spectroscopy results, 45 tritium results, 120 IsoPu results, 45 IsoU results, and 122 Sr90 results from confirmation samples; 61 americium-241 results, 285 gamma spectroscopy results, 39 tritium results, 119 IsoPu results, 10 IsoU results, and 63 Sr90 results from soil-boring samples; and 2 tritium results from pore-gas samples were qualified as not detected (U) because the detected concentration was less than the minimum detectable activity. A total of 7 americium-241 results, 20 gamma spectroscopy results, 30 IsoPu results, 66 IsoTh, 73 IsoU results, and one Sr90 result from DPT samples; 39 americium-241 results, 6 gamma spectroscopy results, 66 IsoPu results, and 72 IsoU results from overburden samples; 1 americium-241 result, 2 gamma spectroscopy results, 9 IsoPu results, 5 IsoTh results, and1 IsoU result from confirmation samples; and 1 IsoU result from a soil-boring sample were qualified as estimated not detected (U) because the detected concentration was less than 3 times the 1 sigma total propagated uncertainty.

B-5.6 Method Blanks

One tritium result, one IsoPu result, and six IsoU results from DPT samples; three IsoPu results and one IsoU result from overburden samples; three IsoPu results from confirmation samples, and one tritium result from a pore-gas sample were qualified as estimated (J) because the related analyte was detected in the method blank but the result in the sample was greater than 5 times the concentration in the method blank.

A total of 54 tritium results, 10 IsoPu results, and 4 Sr90 results from DPT samples were qualified as not detected (U) because the sample result was less than or equal to 5 times the analyte result in the method blank.

B-5.7 Laboratory Control Spike Recoveries

Laboratory control spike percent recoveries were within acceptable limits for all radionuclide analyses for overburden, confirmation, and soil-boring sample results. Five americium-241 results from DPT samples were qualified as estimated not detected (UJ) because the laboratory control spike recovery was greater than 10% but less than the LAL.

B-5.8 Tracer Recoveries

Three americium-241 results and four IsoPu results from DPT samples; three IsoU and two IsoPu results from overburden samples; and one americium-241 result and two IsoPu results from confirmation samples were qualified as estimated biased low (J-) because the tracer was recovered below the LAL but above 10% recovery. One americium-241 result from a DPT sample; one americium-241 result from an overburden sample; and two IsoPu results and one americium-241 result from confirmation samples were qualified as estimated not detected (UJ) because the tracer was recovered below the LAL but above 10% recovery, and the result was higher than the minimum detectable limit. Five americium-241 results, two IsoPu results, three IsoTh results, and two IsoPu results from DPT samples; and five IsoU results and one americium-241 result from confirmatory samples were qualified as estimated biased high (J+) because the tracer recovery percent was greater than the UAL.

B-5.9 Laboratory Duplicates

One IsoPu result from an overburden sample; and one americium-241 result and one IsoPu result from confirmation samples were qualified as rejected (R) because the activity level was above the minimum detectable activity level and the sample had a duplicate error ratio or replicate error ratio greater than the analytical laboratory's acceptance limits. A total of 7 IsoPu results from DPT samples; 27 IsoPu results and 14 tritium results from overburden samples; and 10 IsoPu results, 2 americium-241 results, and 10 IsoU results from confirmation samples were qualified as estimated (J) because the activity level was above the minimum detectable activity level and the sample had a duplicate error ratio or replicate error ratio greater than the analytical laboratory's acceptance limits.

A total of 2 americium-241 results, 49 gamma spectroscopy results, 1 tritium result, 7 IsoPu results, 28 IsoTh results, 9 IsoU results, and 4 Sr90 results from DPT samples were qualified as estimated not detected (UJ), and 3 gamma spectroscopy results, 5 tritium results, 17 IsoPu results, 4 IsoTh results, 30 IsoU results, and 5 Sr90 results from DPT samples; and 4 IsoU results from overburden samples were qualified as estimated (J) because a laboratory duplicate sample was either not prepared or not analyzed for unspecified reasons.

B-6.0 FIELD QUALITY CONTROL SUMMARY

B-6.1 Field Trip Blanks

Fifty-three field trip blanks were collected in association with overburden sampling. One field trip blank associated with overburden samples had detectable concentrations of methylene chloride; seven had detectable concentrations of acetone; one had a detectable concentration of xylene[1,3]+xylene[1,4]; one had a detectable concentration of butanone [2-]; one had a detectable concentration of chloromethane; one had a detectable concentration of chlorotoluene[4-]; and two had a detectable concentration of toluene. These detections were above the method detection limit (MDL), but below the practical quantitation limit (PQL). One field trip blank had a detectable level of acetone, one had a detectable concentration of chloroform, and three had detectable levels of methylene chloride above the PQL. From associated overburden samples, 5 acetone and 29 methylene chloride results were qualified as nondetects (U) because they were indistinguishable from associated field trip blank results.

Thirty-four field trip blanks were collected in association with confirmation sampling. Eight of these field trip blanks had detectable levels of acetone; one had a detectable level of methylene chloride; one had a detectable level of butylbenzene [n-]; one had a detectable level of isopropyltoluene; one had a detectable level of level of tetrachloroethene; one had a detectable level of toluene; and two had a detectable level of trimethylbenzene[1,2,4-]. These results were above the MDL but below the PQL. One field trip blank had a detectable level of acetone, and one had a detectable level of trimethylbenzene[1,2,4-] above the PQL. Acetone from three associated confirmation sample results and methylene chloride from one associated confirmation sample result were flagged as nondetects (U) because they were indistinguishable from associated field trip blank results.

Five field trip blanks were collected in association with soil-boring samples. Acetone was detected in two field trip blank results above the MDL but below the PQL and in one field trip blank result at a concentration above the PQL. No soil-boring samples associated with these field trip blanks contained acetone, so none were flagged.

B-6.2 Field Rinsates

Twenty-eight field rinsates were collected in association with overburden sampling. Twenty-three field rinsates collected in association with overburden sampling had detectable, usually quantifiable,

concentrations of sodium, potassium, and manganese. Twenty-two field rinsates had detectable concentrations of aluminum, barium, and iron; 20 had detectable concentrations of copper; 17 had detectable concentrations of calcium, sodium, and nickel; 16 had detectable concentrations of magnesium; 15 had detectable concentrations of zinc; 11 had detectable concentrations of chromium, magnesium and lead; 10 had detectable concentrations of vanadium; 9 had detectable concentrations of uranium; 6 had detectable concentrations of nitrate; 4 had detectable concentrations of thallium; 3 had detectable concentrations of beryllium; 2 had detectable concentrations of cobalt and perchlorate; and 1 had detectable concentrations of arsenic, antimony, and selenium. From associated overburden samples, 14 arsenic, 55 copper, 5 chromium, 166 sodium, 20 lead, 24 zinc, 3 uranium, 13 nitrate, 27 thallium, and 14 nickel results were flagged as nondetects (U) because they were indistinguishable from associated rinsate results.

Eight field rinsates were collected in association with confirmation sampling. All eight field rinsates had detectable concentrations of sodium, calcium, chromium, aluminum, manganese, barium, copper, lead, iron, and zinc. Seven had detectable concentrations of uranium and nickel; six had detectable concentrations of potassium; four had detectable concentrations of cadmium; three had detectable concentrations of chromium; two had detectable concentrations of cyanide and magnesium; and one had detectable concentrations of mercury and selenium. From associated confirmation samples, 3 calcium, 26 copper, 27 chromium, 32 sodium, 25 lead, 1 mercury, 2 zinc, 9 nitrate, 9 potassium, 8 uranium, and 26 nickel results were qualified as nondetects (U) because they were indistinguishable from associated rinsate results.

One field rinsate was collected in association with soil borings. Results for calcium and sodium were above the PQL for this sample. The result for manganese was above the MDL but below the PQL. No results from these analytes from corresponding soil-boring samples were detected, so none were qualified.

B-7.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

EPA (U.S. Environmental Protection Agency), February 1994. “USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,” EPA-540/R-94/013, Office of Emergency and Remedial Response, Washington, D.C. (EPA 1994, 048639)

EPA (U.S. Environmental Protection Agency), 1997. “Test Methods for Evaluating Solid Waste, Laboratory Manual, Physical/Chemical Methods,” SW-846, 3rd ed., Update III, Office of Solid Waste and Emergency Response, Washington, D.C. (EPA 1997, 057589)

EPA (U.S. Environmental Protection Agency), October 1999. “USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,” EPA540/R-99/008, Office of Emergency and Remedial Response, Washington, D.C. (EPA 1999, 066649)

LANL (Los Alamos National Laboratory), October 2006. “Investigation/Remediation Work Plan for Material Disposal Area B, Solid Waste Management Unit 21-015, at Technical Area 21, Revision 1,” Los Alamos National Laboratory document LA-UR-06-6918, Los Alamos, New Mexico. (LANL 2006, 095499)

LANL (Los Alamos National Laboratory), June 30, 2008. “Exhibit 'D' Scope of Work and Technical Specifications, Analytical Laboratory Services for General Inorganic, Organic, Radiochemical, Asbestos, Low-Level Tritium, Particle Analysis, Bioassay, Dissolved Organic Carbon Fractionation, and PCB Congeners,” Los Alamos National Laboratory document RFP No. 63639-RFP-08, Los Alamos, New Mexico. (LANL 2008, 109962)

LANL (Los Alamos National Laboratory), June 15, 2010. “MDA-B Sampling and Analysis Plan,” TA-21 Document No. TA21-MDAB-PLAN-00017, Rev. 0, Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2010, 110411)

LANL (Los Alamos National Laboratory), August 10, 2010. “MDA-B Sampling and Analysis Plan,” TA-21 Document No. TA21-MDAB-PLAN-00017, Rev. 1, Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2010, 110398)

LANL (Los Alamos National Laboratory), November 3, 2010. “MDA-B Sampling and Analysis Plan,” TA-21 Document No. TA21-MDAB-PLAN-00017, Rev. 2, Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2010, 111195)

Table B-1.0-1
Data Validation Procedures

Procedure	Title	Effective Date
SOP-5161, Rev. 0	Routine Validation of Volatile Organic Compound (VOC) Analytical Data	6/10/2008
SOP-5162, Rev. 0	Routine Validation of Semivolatile Organic Compound (SVOC) Analytical Data	6/30/2008
SOP-5163, Rev. 0	Routine Validation of Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data	6/17/2008
SOP-5164, Rev. 0	Routine Validation of High Explosive Analytical Data	6/17/2008
SOP-5165, Rev. 0	Routine Validation of Metals Analytical Data	6/17/2008
SOP-5166, Rev. 0	Routine Validation of Gamma Spectroscopy, Chemical Separation Alpha Spectrometry, Gas Proportional Counting, and Liquid Scintillation Analytical Data	6/30/2008
SOP-5167, Rev. 0	Routine Validation of General Chemistry Analytical Data	6/30/2008
SOP-5168, Rev. 0	Routine Validation of LC/MS/MS High Explosive Analytical Data	7/1/2008
SOP-5169, Rev. 0	Routine Validation of Dioxin Furan Analytical Data (EPA Method 1618 and SW-846 EPA Method 8290)	6/3/2008
SOP-5171, Rev. 0	Routine Validation of Total Petroleum Hydrocarbons Gasoline Range Organics/Diesel Range Organics Analytical Data (Method 8015B)	6/30/2008
SOP-5191, Rev. 0	Routine Validation of LC/MS/MS Perchlorate Analytical Data (SW-846 EPA Method 6850)	6/30/2008

Table B-2.0-1
Analytical Methods Used for Sample Analyses

Analytical Method	Analytical Suite	Target Analyte(s)
SW-846:8260B	Volatile organic compounds	Analytical services SOW Attachment 3, Table VII(a) (LANL 2008, 109962)
SW-846:8270C	Semivolatile organic compounds	Analytical services SOW Attachment 3, Table IX(a) (LANL 2008, 109962)
SW-846:8015M	Total petroleum hydrocarbons, including diesel-range organics and gasoline-range organics	Analytical services SOW Attachment 3, Table I (LANL 2008, 109962)
SW-846:9012A	Wet chemistry	Total cyanide, Nitrate-nitrite as nitrogen
SW-846:8081A	Pesticides	Analytical services SOW Attachment 3, Table V(a) (LANL 2008, 109962)
SW-846:8151A	Herbicides	Chlorinated herbicides
SW-846:8082	Polychlorinated biphenyls	Analytical services SOW Attachment 3, Table VI(a) (LANL 2008, 109962)
SW-846:6020	Metals	Aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, thallium, uranium, vanadium, zinc
SW-846:8280A	Dioxans and furans	Analytical services SOW Attachment 3, Table XI (LANL 2008, 109962)
SW-846:7471A and SW-846:7470A	Mercury	Elemental mercury

Table B-2.0-1 (continued)

Analytical Method	Analytical Suite	Target Analyte(s)
SW-846:6850	Perchlorate	ClO_4
SW-846:8321A	High explosives	Analytical services SOW Attachment 3, Table XII (LANL 2008, 109962)
EPA:901.1	Gamma spectroscopy	Cesium-134, cesium-137, cobalt-60, europium-152, ruthenium-106, sodium-22, thorium-228
HASL-300:AM-241	Americium-241	americium-241
EPA:906.0	Tritium	Tritium
EPA:300.0	Anion	Nitrite and nitrate
EPA:905.0	Strontium-90	Strontium-90
HASL-300:ISOTH	Thorium	Thorium-228, thorium-230, thorium-232
HASL-300:ISOPU	Plutonium	Plutonium-238, plutonium-239/240
HASL-300:ISOU	Uranium	Uranium-234, uranium-235/236, uranium-238

Appendix C

Direct-Push Technology Sampling Data Summary Tables

Table C-1
DPT Core Samples Taken during DPT Activities

Location ID	Sample ID	Depth (ft)	Location ID	Sample ID	Depth (ft)
NF95	MDAB_00_04-09-10390	0-5	NI34	MDAB_00_04-09-12957	0-5
	MDAB_04_08-09-10391	5-8		MDAB_04_08-09-12958	5-10
NG103	MDAB_00_04-09-10394	0-5	NI38	MDAB_00_04-09-10313	0-3
	MDAB_04_08-09-10395	5-10	NI43	MDAB_00_04-09-10309	0-5
	MDAB_08_12-09-10396	10-11		MDAB_04_08-09-10310	5-7
NG75	MDAB_00_04-09-10329	0-5	NJ30	MDAB_00_04-09-10293	0-5
	MDAB_04_08-09-10330	5-10		MDAB_04_08-09-10294	5-9.5
	MDAB_08_12-09-10331	10-15.5	NJ35	MDAB_00_04-09-10297	0-4.5
NG77	MDAB_00_04-09-10382	0-5	AL225	MDAB_00_04-09-13004	0-2.5
	MDAB_04_08-09-10383	5-10	AM228	MDAB_00_04-09-10281	0-4
	MDAB_08_12-09-10385	10-15	AM232	MDAB_00_04-09-10285	0-4
	MDAB_12_16-09-10384	15-16	AN223	MDAB_00_04-09-13008	0-4.5
NI85	MDAB_00_04-09-10389	0-4	AN226	MDAB_00_04-09-10277	0-3
NG56	MDAB_00_04-09-10317	0-5	AL256	MDAB_00_04-09-10273	0-5
	MDAB_04_08-09-10318	5-10	AL258	MDAB_00_04-09-12973	0-4
	MDAB_08_12-09-10319	10-15	AN256	MDAB_00_04-09-12979	0-5
	MDAB_12_16-09-10320	15-20		MDAB_04_08-09-12978	5-7
NG61	MDAB_00_04-09-10325	0-5	AI224	MDAB_00_04-09-10253	0-2
	MDAB_04_08-09-10326	5-10	AI229	MDAB_00_04-09-10398	0-5
	MDAB_08_12-09-10327	10-15		MDAB_04_08-09-10399	5-10
	MDAB_12_16-09-10328	15-16	AI234	MDAB_00_04-09-10258	0-5
NH59	MDAB_00_04-09-10321	0-5		MDAB_04_08-09-10257	5-10
	MDAB_04_08-09-10322	5-10		MDAB_08_12-09-10259	10-13
	MDAB_08_12-09-10323	10-15	AI239	MDAB_00_04-09-12997	0-5
	MDAB_12_16-09-10324	15-16		MDAB_04_08-09-12998	5-10
NI48	MDAB_00_04-09-10301	0-5		MDAB_08_12-09-12999	10-12.5
NH27	MDAB_00_04-09-10289	0-5	AI244	MDAB_00_04-09-12995	0-3
	MDAB_04_08-09-10290	5-10	AI245	MDAB_00_04-09-10261	0-5
NH33	MDAB_00_04-09-10305	0-2.5		MDAB_04_08-09-10262	5-12
NH40	MDAB_00_04-09-12961	0-5	AI246	MDAB_00_04-09-12991	0-5
	MDAB_04_08-09-12962	5-10		MDAB_04_08-09-12990	5-12
	MDAB_08_12-09-12964	10-15	AI250	MDAB_00_04-09-12986	0-5
	MDAB_12_16-09-12963	15-18		MDAB_04_08-09-12988	5-10
NH45	MDAB_00_04-09-12965	0-2		MDAB_08_12-09-12987	10-13
NI29	MDAB_00_04-09-12969	0-5	AI251	MDAB_00_04-09-10265	0-5
	MDAB_04_08-09-12970	5-10		MDAB_04_08-09-10266	5-9

Table C-1 (continued)

Location ID	Sample ID	Depth (ft)	Location ID	Sample ID	Depth (ft)
AI252	MDAB_00_04-09-12981	0-5	AI164	MDAB_00_04-09-13053	0-5
AI256	MDAB_00_04-09-10269	0-5		MDAB_04_08-09-13054	5-10
	MDAB_04_08-09-10270	5-9		MDAB_08_12-09-13056	10-12
AH215	MDAB_00_04-09-10245	0-5	AI167	MDAB_00_04-09-13041	0-5
	MDAB_04_08-09-10246	5-7		MDAB_04_08-09-13042	5-10
AI191	MDAB_00_04-09-10229	0-4.5		MDAB_08_12-09-13043	10-11
AI193	MDAB_00_04-09-13028	0-5	AI171	MDAB_00_04-09-13097	0-5
	MDAB_04_08-09-13027	5-7		MDAB_04_08-09-13098	5-10
AI199	MDAB_00_04-09-13021	0-5	AI175	MDAB_00_04-09-13112	0-5
	MDAB_04_08-09-13023	5-8		MDAB_04_08-09-13111	5-9
AI200	MDAB_00_04-09-10233	0-5	AI176	MDAB_00_04-09-10213	0-5
	MDAB_04_08-09-10234	5-11		MDAB_04_08-09-10214	5-9
AI201	MDAB_00_04-09-13020	0-5	AI179	MDAB_00_04-09-13115	0-5
	MDAB_04_08-09-13017	5-8		MDAB_04_08-09-13116	5-10
AI207	MDAB_00_04-09-13013	0-5	AI180	MDAB_00_04-09-10221	0-5
	MDAB_04_08-09-13014	5-10		MDAB_04_08-09-10222	5-10
	MDAB_08_12-09-13015	10-15	AI183	MDAB_00_04-09-13038	0-5
AI209	MDAB_00_04-09-10237	0-5	AI185	MDAB_00_04-09-10225	0-5
	MDAB_04_08-09-10238	5-10		MDAB_04_08-09-10226	5-6
	MDAB_12_16-09-10240	10-10.2	AI186	MDAB_00_04-09-13031	0-6
AI211	MDAB_00_04-09-13012	0-5	AJ158	MDAB_00_04-09-10201	0-5
	MDAB_04_08-09-13011	5-10		MDAB_04_08-09-10202	5-9
	MDAB_08_12-09-13010	10-12.5	AJ181	MDAB_00_04-09-13122	0-5
AI213	MDAB_00_04-09-10241	0-5		MDAB_04_08-09-13124	5-10
	MDAB_04_08-09-10242	5-11	AJ183	MDAB_00_04-09-10217	0-5
AI217	MDAB_00_04-09-10249	0-5		MDAB_04_08-09-10218	5-9
	MDAB_04_08-09-10250	5-8	AJI85	MDAB_00_04-09-13034	0-7.5
AI155	MDAB_00_04-09-10193	0-5	AG165	MDAB_00_04-09-13105	0-2.5
	MDAB_04_08-09-10194	5-9	AG167	MDAB_00_04-09-10205	0-4
AI157	MDAB_00_04-09-10197	0-5	AG168	MDAB_00_04-09-13104	0-2.5
	MDAB_04_08-09-10198	5-9	AH167	MDAB_00_04-09-10209	0-4
AI160	MDAB_00_04-09-13049	0-5	WST-600902	MDAB_00_04-10-462	n/a*
	MDAB_04_08-09-13050	5-11		MDAB_00_04-10-463	n/a
				MDAB_00_04-10-464	n/a

* n/a = Not applicable as this was a composite waste sample.

Table C-2
DPT Core Samples Maximum Inorganic
Chemical Concentrations Detects above Residential SSLs

Analyte	Residential SSL (mg/kg)	SSL Source Document	Maximum Detected Concentration (mg/kg)	Above Residential SSLs?
Aluminum	78,100	NMED Dec 2009[a]	12,900	No[b]
Antimony	31	NMED Dec 2009	99.8	Yes[c]
Arsenic	3.9	NMED Dec 2009	8.7	Yes
Barium	15,600	NMED Dec 2009	1790	No
Beryllium	156	NMED Dec 2009	5	No
Cadmium	78	NMED Dec 2009	29.1	No
Calcium	na[d]	na	42,200	n/a[e]
Chromium	219	NMED Dec 2009	133	No
Cobalt	23	EPA June 2011[f]	6.8	No
Copper	3130	NMED Dec 2009	198	No
Iron	54,800	NMED Dec 2009	21,900	No
Lead	400	NMED Dec 2009	744	Yes
Magnesium	na	na	3110	n/a
Manganese	10,700	NMED Dec 2009	658	No
Mercury	7.7[g]	NMED Dec 2009	23.7	Yes
Nickel	1560	NMED Dec 2009	31.4	No
Potassium	na	na	2360	n/a
Selenium	391	NMED Dec 2009	1.9	No
Silver	391	NMED Dec 2009	5.2	No
Sodium	na	na	269	n/a
Sulfide, reactive	na	na	196	n/a
Thallium	5.2	NMED Dec 2009	0.85	No
Uranium	235	NMED Dec 2009	68.4	No
Vanadium	391	NMED Dec 2009	29.7	No
Zinc	23,500	NMED Dec 2009	1230	No

[a] SSLs are from NMED (2009, 108070).

[b] No = Does not exceed SSL.

[c] Yes = Exceeds SSL.

[d] na = Not available.

[e] n/a = Not applicable.

[f] SSL for cobalt is from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[g] SSL is for elemental mercury.

Table C-3
Inorganic Chemicals Detected in DPT Samples

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
Residential SSL[a] (mg/kg)				**78,100**	**31**	**3.9**	**15,600**	**156**	**78**	**na[b]**	**219**
MDAB_00_04-09-10390	NF95	0-5	ALLH[c]	12,600	ND[d]	3.8 (J)	151	0.99	0.066	1920	4.8 (J)
MDAB_00_04-09-10394	NG103	0-5	ALLH	12,900	ND	4 (J)	136	1.1	0.059	2320	6
MDAB_04_08-09-10395	NG103	5-10	ALLH	3680	ND	1.3	47	0.43	0.053	794	3
MDAB_00_04-09-10329	NG75	0-5	ALLH	9450	ND	3.2 (J)	116	0.9	0.076	1600	4 (J)
MDAB_04_08-09-10330	NG75	5-10	ALLH	1990	ND	0.87 (J)	24.3	0.34	ND	812	1.4
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	2290	ND	0.89 (J)	31.3	0.34	0.042 (J)	1270	2.1
MDAB_00_04-09-10382	NG77	0-5	ALLH	8890	ND	3.4 (J)	136	0.84	0.12	1890	4.5 (J)
MDAB_04_08-09-10383	NG77	5-10	ALLH	1490	ND	0.94 (J)	24.8	0.3	ND	802	1.4
MDAB_08_12-09-10385	NG77	10-15	ALLH	3490	ND	0.99 (J)	36.4	0.43	0.034 (J)	875	2.3
MDAB_00_04-09-10389	NI85	0-4	ALLH	1660	ND	0.46 (J)	16	0.47	0.03 (J)	355	1.1
MDAB_00_04-09-10317	NG56	0-5	ALLH	8120	ND	2.2	110	0.81	0.07	1810	5.4
MDAB_04_08-09-10318	NG56	5-10	ALLH	2420	ND	0.95 (J)	30.9	0.59	0.041 (J)	675	1.1
MDAB_12_16-09-10320	NG56	15-20	ALLH	845	ND	0.6 (J)	16	0.42	0.11	334	3.4
MDAB_00_04-09-10325	NG61	0-5	ALLH	7110	ND	2.4	123	0.71	0.1	2230	6.6
MDAB_04_08-09-10326	NG61	5-10	ALLH	2650	ND	0.82 (J)	38.4	0.37	0.025 (J)	1180	1.8
MDAB_08_12-09-10327	NG61	10-15	ALLH	2680	ND	0.79 (J)	31.3	0.37	ND	797	1.7
MDAB_00_04-09-10321	NH59	0-5	ALLH	6900	ND	2.1	84.7	0.71	0.16	1850	4.8
MDAB_04_08-09-10322	NH59	5-10	ALLH	3660	ND	1.4	51.5	0.51	0.024 (J)	2110	2.8
MDAB_08_12-09-10323	NH59	10-15	ALLH	3200	ND	1.2	40.8	0.43	0.028 (J)	997	2.5
MDAB_00_04-09-10301	NI48	0-5	ALLH	6310	0.57	1.9	63.1	0.61	0.079	3860	5 (J)
MDAB_00_04-09-10289	NH27	0-5	ALLH	3050	62.7	1.5	129	0.34	0.095	21,300	5.4

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
Residential SSL[a] (mg/kg)				78,100	31	3.9	15,600	156	78	na	219
MDAB_04_08-09-10290	NH27	5-10	ALLH	3460	0.65	1.4	46.2	0.46	0.064	1220	3.3
MDAB_04_08-09-12962	NH40	5-10	ALLH	3290 (J+)	ND	1.5	29.2	0.4	0.023 (J)	1600 (J+)	2.7
MDAB_08_12-09-12964	NH40	10-15	ALLH	3250 (J+)	ND	1.4	32.6	0.44	ND	1250 (J+)	2.6
MDAB_12_16-09-12963	NH40	15-18	ALLH	2280 (J+)	ND	1.2	21.2	0.33	0.13	917 (J+)	2
MDAB_00_04-09-12969	NI29	0-5	ALLH	8270 (J+)	0.6 (J)	2.8	1790	0.71	0.11	3610	10.1
MDAB_04_08-09-12970	NI29	5-10	ALLH	4790 (J+)	ND	2.2	1480	0.49	0.25	2710	4
MDAB_00_04-09-12957	NI34	0-5	ALLH	5300 (J+)	ND	2.1	95.7	0.52	0.065	6440 (J+)	6.8
MDAB_04_08-09-12958	NI34	5-10	ALLH	3000 (J+)	ND	1.6	26.6	0.4	0.032 (J)	1030 (J+)	2.6
MDAB_00_04-09-10313	NI38	0-3	ALLH	1770	ND	0.75 (J)	52.2	0.35	0.036 (J)	591	2.1
MDAB_00_04-09-10309	NI43	0-5	ALLH	8050	0.22 (J)	2.4	70.2	0.77	ND	2170	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	281	ND	1.2	22.5	0.25	264	ND	1.2
MDAB_00_04-09-10293	NJ30	0-5	ALLH	6340	0.35 (J)	1.1	49.9	0.67	0.023 (J)	1570	4
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	4430	0.15 (J)	0.61 (J)	24.2	0.44	ND	703	2.7
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	3000	0.29 (J)	1.3	44	0.52	0.061	5690	3.2
MDAB_00_04-09-10281	AM228	0-4	ALLH	3640	ND	1.6	59	0.44	0.068	1680	4.1
MDAB_00_04-09-10285	AM232	0-4	ALLH	4460	ND	1.4	168	0.39	0.045 (J)	11200	4.3
MDAB_00_04-09-10277	AN226	0-3	ALLH	4350	ND	2.2	79	0.63	0.078	1650	4.9
MDAB_00_04-09-10273	AL256	0-5	ALLH	5800	ND	1.5	76.1	0.8	0.035 (J)	1210	4.3
MDAB_00_04-09-12973	AL258	0-40	ALLH	8250 (J+)	ND	2.9	125	0.85	0.069	2960	9.1
MDAB_00_04-09-12979	AN256	0-5	ALLH	9130 (J+)	ND	2.9	141	0.97	0.037 (J)	2550	7.6
MDAB_00_04-09-10253	AI224	0-2	ALLH	5960 (J)	ND	1.8 (J+)	101 (J+)	0.67 (J)	0.16 (J+)	1780 (J-)	7.1
MDAB_00_04-09-10398	AI229	0-5	ALLH	4060	ND	1.5	75.2	0.54	0.045 (J)	1010	3
MDAB_04_08-09-10399	AI229	5-10	ALLH	3450	1.5	1.5	53	0.55	0.031 (J)	1130	2.9

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
Residential SSL[a] (mg/kg)				**78,100**	**31**	**3.9**	**15,600**	**156**	**78**	**na**	**219**
MDAB_00_04-09-10258	AI234	0-5	ALLH	3130	ND	2	53.9	0.4	0.029 (J)	8670	4.1
MDAB_04_08-09-10257	AI234	5-10	ALLH	1770	ND	1.1	23.3	0.43	0.026 (J)	487	1.7
MDAB_08_12-09-10259	AI234	10-13	ALLH	2070	ND	1.4	32.9	1	0.1	572	3.7
MDAB_00_04-09-12997	AI239	0-5	ALLH	3520 (J+)	ND	1.5	44.8	0.42	0.057	935	3.7
MDAB_04_08-09-12998	AI239	5-10	ALLH	3740 (J+)	ND	1.4	43.2	0.65	0.024 (J)	1140	2.9
MDAB_00_04-09-10261	AI245	0-5	ALLH	2600	ND	1.5	41.6	0.44	0.09	2420	2.9
MDAB_04_08-09-10262	AI245	5-12	ALLH	2230	ND	1.2	32	0.43	0.4	1090	2
MDAB_00_04-09-12986	AI250	0-5	ALLH	2140 (J+)	29.5	1.4	160	0.3	0.084	42,200	3.9
MDAB_00_04-09-10265	AI251	0-5	ALLH	4030	ND	2	51.8	0.58	0.064	7490	133
MDAB_04_08-09-10266	AI251	5-9	ALLH	1710	ND	0.91 (J)	30.4	0.29	0.44	702	2.6
MDAB_00_04-09-12981	AI252	0-5	ALLH	1880 (J+)	ND	1.1	27.8	0.4	ND	681	2.2
MDAB_00_04-09-10269	AI256	0-5	ALLH	2160	ND	1.3	37.8	0.35	0.038 (J)	2690	3
MDAB_00_04-09-10245	AH215	0-5	ALLH	2410	ND	2.1 (J)	38.5	0.49	0.84	891	8.2
MDAB_04_08-09-10246	AH215	5-7	ALLH	4990 (J)	ND	2 (J+)	24.8 (J+)	1.6	1.6 (J+)	956 (J-)	3.7
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	2430 (J+)	ND	1.7	51	0.27 (J-)	0.077	759 (J-)	3.7 (J-)
MDAB_00_04-09-13028	AI193	0-5	ALLH	4570	ND	1.38	87 (J+)	0.656	0.554	2090 (J+)	5.6
MDAB_00_04-09-13021	AI199	0-5	ALLH	3060	ND	1.12	46.8 (J)	0.515	ND	1210 (J+)	2.96
MDAB_00_04-09-10233	AI200	0-5	ALLH	3870 (J)	ND	2	62.8	0.4 (J)	0.066	1070 (J)	3.3 (J)
MDAB_04_08-09-10234	AI200	5-11	ALLH	4120 (J)	ND	2.2	123	0.33 (J)	29.1	1220 (J)	7.3 (J)
MDAB_00_04-09-13020	AI201	0-5	ALLH	6030	ND	1.32	65.7 (J)	0.726	ND	3300 (J+)	19.6
MDAB_00_04-09-13013	AI207	0-5	ALLH	5040	ND	1.3	45.7 (J)	0.796	ND	3670 (J+)	4.86
MDAB_04_08-09-13014	AI207	5-10	ALLH	2140	ND	0.816 (J)	30.7 (J)	0.448	ND	627 (J+)	2.22
MDAB_00_04-09-10237	AI209	0-5	ALLH	3680 (J)	ND	1.4	63.8	0.31 (J)	0.065	3540 (J)	4.9 (J)
MDAB_04_08-09-10238	AI209	5-10	ALLH	2440	ND	ND	43.2	0.54	0.094 (J)	1310	2.7 (J)

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
Residential SSL[a] (mg/kg)				**78,100**	**31**	**3.9**	**15,600**	**156**	**78**	**na**	**219**
MDAB_00_04-09-13012	AI211	0-5	ALLH	2220	ND	0.95 (J)	26.5 (J)	0.51	ND	578 (J+)	1.95
MDAB_00_04-09-10241	AI213	0-5	ALLH	2100	ND	0.89 (J)	31.3	0.51	0.058 (J)	646	3.1
MDAB_04_08-09-10242	AI213	5-11	ALLH	2570	ND	ND	33.8	0.51	0.32	803	2.8
MDAB_00_04-09-10249	AI217	0-5	ALLH	4070 (J)	ND	1.1 (J+)	70.3 (J+)	0.57	0.1 (J+)	1900 (J-)	4
MDAB_04_08-09-10250	AI217	5-8	ALLH	1980	ND	8.7	34.6	0.4	0.55	638	4.4
MDAB_00_04-09-10193	AI155	0-5	FILL[e]	6520	ND	2.07	142	0.872	0.137 (J)	1680	7.56
MDAB_04_08-09-10194	AI155	5-9	ALLH	8870	ND	7.32	82.6	1.82	ND	3520	11.1
MDAB_00_04-09-10197	AI157	0-5	ALLH	3900 (J+)	ND	1.7 (J+)	95.4 (J)	0.39 (J)	0.19	1460	5 (J)
MDAB_04_08-09-10198	AI157	5-9	ALLH	3190 (J)	ND	3.8	77.1	0.59 (J)	0.52	1070 (J)	13 (J)
MDAB_04_08-09-13050	AI160	5-11	ALLH	4800	ND	2.9	75.2	0.55	0.17	1790	6.6
MDAB_00_04-09-13053	AI164	0-5	ALLH	6250	ND	3	155	0.7	0.22	2060	8
MDAB_04_08-09-13054	AI164	5-10	QBT3[f]	7010	ND	2.8	115	0.75	0.058	1740	6.3
MDAB_00_04-09-13041	AI167	0-5	ALLH	4900	ND	2.4	85.1	0.49	0.086	1060	5
MDAB_04_08-09-13042	AI167	5-10	ALLH	8490	ND	3.8	100	0.73	0.045 (J)	1710	7.5
MDAB_00_04-09-13097	AI171	0-5	ALLH	3980	ND	1.64	57.9	0.621	ND	898	4.47
MDAB_04_08-09-13098	AI171	5-10	ALLH	4810	ND	2.2	66.2	5	10.3	2320	6.6
MDAB_00_04-09-13112	AI175	0-5	ALLH	3720	ND	1.69	63	0.526	ND	996	4.32
MDAB_00_04-09-10213	AI176	0-5	ALLH	7900	ND	2.8	102 (J+)	0.87 (J+)	ND	1720 (J+)	5
MDAB_04_08-09-10214	AI176	5-9	ALLH	5870	ND	3.2 (J)	99 (J+)	0.78 (J+)	10.8 (J+)	1890 (J+)	6.9
MDAB_00_04-09-13115	AI179	0-5	ALLH	5350	ND	2.06	77.4	0.721	ND	1720	5.24
MDAB_00_04-09-10221	AI180	0-5	ALLH	4180 (J+)	ND	2.8	83.3 (J)	0.39 (J)	0.064	1340 (J)	4.3 (J-)
MDAB_04_08-09-10222	AI180	5-10	ALLH	3580 (J+)	ND	2.2	148	0.32 (J-)	0.41	2420 (J-)	5.6 (J-)
MDAB_00_04-09-13038	AI183	0-5	ALLH	1790 (J+)	ND	2.48	37.8	0.423	587 (J+)	1.6	0.555
MDAB_00_04-09-10225	AI185	0-5	ALLH	2990 (J)	8.9 (J-)	1.8	57.7	0.33 (J-)	0.058	661 (J-)	2.8 (J)

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
Residential SSL[a] (mg/kg)				**78,100**	**31**	**3.9**	**15,600**	**156**	**78**	**na**	**219**
MDAB_04_08-09-10226	AI185	5-6	ALLH	2280 (J+)	ND	2.4	71.6	0.3 (J)	0.35	1250 (J)	6.9 (J-)
MDAB_00_04-09-13031	AI186	0-6	ALLH	1950	ND	1.47	41.1 (J+)	0.447	ND	634 (J+)	1.82
MDAB_00_04-09-10201	AJ158	0-5	ALLH	2780 (J+)	0.5 (J)	2.1	44.7 (J+)	0.49	0.078 (J+)	689	2.3
MDAB_04_08-09-10202	AJ158	5-9	ALLH	1820 (J+)	0.21 (J)	2.7	28 (J+)	0.4	0.36 (J+)	941	1.1 (J)
MDAB_00_04-09-13122	AJ181	0-5	ALLH	3590	ND	3.71	42.5	0.513	ND	924	3.65
MDAB_04_08-09-13124	AJ181	5-10	ALLH	7320	ND	2.5	116	0.835	ND	3370	6.65
MDAB_00_04-09-10217	AJ183	0-5	ALLH	5080	ND	3	80.1 (J+)	0.71 (J+)	ND	1260 (J+)	3.7
MDAB_04_08-09-10218	AJ183	5-9	ALLH	10,200	99.8	4 (J)	268 (J+)	2.3 (J+)	4.3 (J+)	4000 (J+)	10.8
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	3260	ND	1.05 (J)	39.4 (J+)	0.417	0.301 (J)	892 (J+)	2.38
MDAB_00_04-09-13105	AG165	0-2.5	QBT3	7720	ND	2.3	122	0.72	0.16	3180	6.6
MDAB_00_04-09-10205	AG167	0-4	ALLH	11,900	ND	2.9 (J)	155 (J+)	0.98 (J+)	0.32 (J+)	3610 (J+)	8.7
MDAB_00_04-09-13104	AG168	0-2.5	FILL	5430	ND	1.7	86.1	0.52	0.077	5190	6.2
MDAB_00_04-09-10209	AH167	0-4	ALLH	7150 (J+)	0.26 (J)	2.3	132 (J+)	0.71 (J)	0.13 (J+)	9130	7.8
MDAB_00_04-10-462	WST-600902[g]	n/a[h]	FILL	2480	ND	1.9	39	0.42	0.077	10,500	2.8
MDAB_00_04-10-463	WST-600902	n/a	FILL	4610	ND	2.3	110	0.64	0.14	1640	4.4
MDAB_00_04-10-464	WST-600902	n/a	FILL	3700	ND	2.5	62.3	0.67	0.045 (J)	1390	2.9

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Residential SSL[a] (mg/kg)				**23[i]**	**3130**	**54,800**	**400**	**na**	**10,700**	**7.7[j]**	**1560**
MDAB_00_04-09-10390	NF95	0-5	ALLH	5.1	7.3	11,200	15.6	2040	321	0.0337 (J)	7.4
MDAB_00_04-09-10394	NG103	0-5	ALLH	5.5	7.5	13,400	14.5	2150	312	0.0245 (J)	8.3
MDAB_04_08-09-10395	NG103	5-10	ALLH	2.1	4	4520	8.4	650	170	0.0123 (J)	2.9
MDAB_00_04-09-10329	NG75	0-5	ALLH	5	6.2	9600	15.8	1650	435	ND	6.9
MDAB_04_08-09-10330	NG75	5-10	ALLH	0.57	1.7	3150	5.4	402	164	ND	1.8
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	0.99	1.8	3490	6.4	477	165	ND	2.2
MDAB_00_04-09-10382	NG77	0-5	ALLH	4.4	6.6	10,100	13	1610	297	ND	6.9
MDAB_04_08-09-10383	NG77	5-10	ALLH	0.62	1.4	2730	4.4	314	156	ND	1.8
MDAB_08_12-09-10385	NG77	10-15	ALLH	0.96	2.2	3660	5.2	590	143	ND	2.3
MDAB_00_04-09-10389	NI85	0-4	ALLH	0.62	1.4	2730	4.4	314	156	ND	1.8
MDAB_00_04-09-10317	NG56	0-5	ALLH	3.7	5.1	6850	13.1	1760	276	ND	5.4
MDAB_04_08-09-10318	NG56	5-10	ALLH	0.93	1.9	2960	4.9	435	164	13.8	2.2
MDAB_12_16-09-10320	NG56	15-20	ALLH	0.59	2.8	5520	5.7	195	179	0.502	4.3
MDAB_00_04-09-10325	NG61	0-5	ALLH	4.1	6.2	7930	15.1	1650	287	ND	5.5
MDAB_04_08-09-10326	NG61	5-10	ALLH	0.82	2.3	3670	8.8	472	170	ND	2.5
MDAB_08_12-09-10327	NG61	10-15	ALLH	0.65	2	3090	6.5	469	138	ND	2.1
MDAB_00_04-09-10321	NH59	0-5	ALLH	2.5	13.9	6370	14.2	1180	225	0.179	4.5
MDAB_04_08-09-10322	NH59	5-10	ALLH	1.4	2.9	4110	6.4	708	220	0.799	3.6
MDAB_08_12-09-10323	NH59	10-15	ALLH	0.95	2.6	4400	10.4	550	165	ND	2.8
MDAB_00_04-09-10301	NI48	0-5	ALLH	3.5	8.5	9770	19.4	1990	255	0.229	6.9
MDAB_00_04-09-10289	NH27	0-5	ALLH	2.6	6.6	5880	23.7	1080	187	0.125	4.4
MDAB_04_08-09-10290	NH27	5-10	ALLH	1.6	4.3	5480	9.3	535	189	0.0207 (J)	3.7

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Residential SSL[a] (mg/kg)				**23[i]**	**3130**	**54,800**	**400**	**na**	**10,700**	**7.7[j]**	**1560**
MDAB_04_08-09-12962	NH40	5-10	ALLH	0.82	2.4	4620	6.7	543	156	0.0205 (J)	2.9
MDAB_08_12-09-12964	NH40	10-15	ALLH	0.8	2.4	4980	6.1	533	170	0.0241 (J)	2.9
MDAB_12_16-09-12963	NH40	15-18	ALLH	0.62	1.9	4360	4.6	422	171	0.163	2.3
MDAB_00_04-09-12969	NI29	0-5	ALLH	4.5	7	10,400	18.4	1300	258	0.166	7.2
MDAB_04_08-09-12970	NI29	5-10	ALLH	1.8	3.8	6480	42.8	1070	349	0.0691	4.6
MDAB_00_04-09-12957	NI34	0-5	ALLH	2.5	4.3	7590	11	888	212	0.0877	5
MDAB_04_08-09-12958	NI34	5-10	ALLH	1	2.3	5060	6.7	453	202	0.0154 (J)	2.9
MDAB_00_04-09-10313	NI38	0-3	ALLH	1.1	2.7	5290	5.6	291	217	0.0153 (J)	1.9
MDAB_00_04-09-10309	NI43	0-5	ALLH	1.2	5.9	10,300	6.9	1520	122	0.0304 (J)	5.2
MDAB_04_08-09-10310	NI43	5-7	ALLH	0.68	1.6	5740	2.1	97.7	291	ND	2.6
MDAB_00_04-09-10293	NJ30	0-5	ALLH	1.4	3.9	5910	8	854	125	0.107	3.6
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	0.75	2.1	3320	3	691	42.5	0.0177 (J)	2.9
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	1.3	4.4	6030	10.7	467	214	ND	3.7
MDAB_00_04-09-10281	AM228	0-4	ALLH	2	3.9	5060	12.3	781	182	0.0775	3.7
MDAB_00_04-09-10285	AM232	0-4	ALLH	1.5	3.2	6040	10.5	650	167	0.124	3.6
MDAB_00_04-09-10277	AN226	0-3	ALLH	2.8	5.3	6490	14.8	1010	243	0.193	4.9
MDAB_00_04-09-10273	AL256	0-5	ALLH	1.6	4	5170	7	1110	117	0.045	5.1
MDAB_00_04-09-12973	AL258	0-40	ALLH	4.7	6.5	11,000	11.9	1560	293	0.106	9.2
MDAB_00_04-09-12979	AN256	0-5	ALLH	4.1	7.8	9740	11.2	1730	199	0.07	8
MDAB_00_04-09-10253	AI224	0-2	ALLH	4.2	4.7	8540	18.2 (J+)	983 (J-)	350	0.129	7
MDAB_00_04-09-10398	AI229	0-5	ALLH	3.5	3.9	4780	10.5	676	199	0.0476	4.2
MDAB_04_08-09-10399	AI229	5-10	ALLH	2.3	2.7	4500	8.2	774	212	0.0269 (J)	3.8

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Residential SSL[a] (mg/kg)				**23[i]**	**3130**	**54,800**	**400**	**na**	**10,700**	**7.7[j]**	**1560**
MDAB_00_04-09-10258	AI234	0-5	ALLH	1.5	6.1	4470	10.4	737	167	0.0352 (J)	3.2
MDAB_04_08-09-10257	AI234	5-10	ALLH	0.64	2.2	3250	5.1	316	183	0.0214 (J)	1.9
MDAB_08_12-09-10259	AI234	10-13	ALLH	2	9.1	4950	6.5	348	227	0.0358 (J)	3.5
MDAB_00_04-09-12997	AI239	0-5	ALLH	1.8	3.5	6460 (J+)	9.6	600 (J+)	244 (J+)	10.3	3.8
MDAB_04_08-09-12998	AI239	5-10	ALLH	0.9	3.2	5620 (J+)	5.9	667 (J+)	168 (J+)	ND	3.1
MDAB_00_04-09-10261	AI245	0-5	ALLH	1.4	5.7	4390	15.1	585	196	0.155	2.9
MDAB_04_08-09-10262	AI245	5-12	ALLH	0.77	2.5	3960	7.4	385	178	0.0485	2.2
MDAB_00_04-09-12986	AI250	0-5	ALLH	2.4	3.5	4790 (J+)	21.9	1250 (J+)	157 (J+)	ND	2.9
MDAB_00_04-09-10265	AI251	0-5	ALLH	2.6	7.6	8430	8.4	815	223	0.203	10
MDAB_04_08-09-10266	AI251	5-9	ALLH	0.72	5.5	2880	22.3	253	148	0.0692	1.9
MDAB_00_04-09-12981	AI252	0-5	ALLH	0.58	2	3870 (J+)	5.6	309 (J+)	209 (J+)	ND	1.9
MDAB_00_04-09-10269	AI256	0-5	ALLH	1.1	3	3880	7.3	471	182	0.0556	3.2
MDAB_00_04-09-10245	AH215	0-5	ALLH	2.4	32.5	21,900	65	502	278	2.52	16.7
MDAB_04_08-09-10246	AH215	5-7	ALLH	0.86	4.3	5920 (J)	16.2 (J+)	1550 (J-)	143 (J)	0.0214 (J)	5.3
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	1.3 (J-)	3.9	4740	15.4	453	178 (J-)	0.0275 (J)	3.6 (J-)
MDAB_00_04-09-13028	AI193	0-5	ALLH	2.52	198 (J+)	8100	17	984 (J+)	293	0.088 (J+)	4.19
MDAB_00_04-09-13021	AI199	0-5	ALLH	0.961	2.8 (J)	7290	15.2	534 (J+)	282	0.0981 (J)	3.11
MDAB_00_04-09-10233	AI200	0-5	ALLH	1.9 (J)	3.4	5970 (J)	13.4	590 (J)	223 (J)	0.0552	4.1 (J)
MDAB_04_08-09-10234	AI200	5-11	ALLH	2.5 (J)	14.1	6420 (J)	62	735 (J)	274 (J)	23.2	10.2 (J)
MDAB_00_04-09-13020	AI201	0-5	ALLH	1.93	101 (J)	9180	35.1	1010 (J+)	252	3.14 (J)	4.82
MDAB_00_04-09-13013	AI207	0-5	ALLH	1.39	6.85 (J)	8910	143	770 (J+)	276	0.282 (J)	4.08
MDAB_04_08-09-13014	AI207	5-10	ALLH	1.59	2.89 (J)	6760	11.8	378 (J+)	306	0.0528 (J)	31.4

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Residential SSL[a] (mg/kg)				**23[i]**	**3130**	**54,800**	**400**	**na**	**10,700**	**7.7[j]**	**1560**
MDAB_00_04-09-10237	AI209	0-5	ALLH	1.7 (J)	4.9	5650 (J)	19.9	707 (J)	155 (J)	0.288	3.4 (J)
MDAB_04_08-09-10238	AI209	5-10	ALLH	0.82	2.3 (J)	4960	16.7	457	214	0.147	2.5
MDAB_00_04-09-13012	AI211	0-5	ALLH	0.636	2.19 (J)	7260	12	392 (J+)	268	0.0282 (J)	3.2
MDAB_00_04-09-10241	AI213	0-5	ALLH	0.91	1.9 (J)	4780	13.8	403	288	0.054	2.7
MDAB_04_08-09-10242	AI213	5-11	ALLH	1.2	3	4700	20.6	529	250	0.254	3.2
MDAB_00_04-09-10249	AI217	0-5	ALLH	1.9	3.1	6360	15.4 (J+)	729 (J-)	226	0.0887	4.1
MDAB_04_08-09-10250	AI217	5-8	ALLH	0.89	4.8	4070	17	405	223	0.1	2.7
MDAB_00_04-09-10193	AI155	0-5	FILL	3.75	24.5	10800	22.2	1150	320	0.0143	5.75
MDAB_04_08-09-10194	AI155	5-9	ALLH	1.92	9.49	10400	16.3	3110	269	0.435	12.9
MDAB_00_04-09-10197	AI157	0-5	ALLH	2.7	21.5	6790 (J)	21.9	896 (J+)	220 (J)	0.0378 (J-)	5.4
MDAB_04_08-09-10198	AI157	5-9	ALLH	2.1 (J)	10.9	6450 (J)	744	825 (J)	277 (J)	2.81 (J-)	12 (J)
MDAB_04_08-09-13050	AI160	5-11	ALLH	2.2	10.7 (J)	7540	29.4	822	306	0.0695	5.6
MDAB_00_04-09-13053	AI164	0-5	ALLH	4.2	15.8 (J)	9950	19.7 (J+)	1190	323 (J-)	0.0234 (J)	7
MDAB_04_08-09-13054	AI164	5-10	QBT3	3.9	4.4 (J)	8120	11.4 (J+)	1110	257 (J-)	ND	5.2
MDAB_00_04-09-13041	AI167	0-5	ALLH	2.2	4.7 (J)	6980	13.8	800	287	ND	4.5
MDAB_04_08-09-13042	AI167	5-10	ALLH	3.3	4.3 (J)	8880	13.6	1330	300	ND	5.5
MDAB_00_04-09-13097	AI171	0-5	ALLH	1.69	5.01	7930	11.3	631	248 (J+)	0.166 (J+)	4.05
MDAB_04_08-09-13098	AI171	5-10	ALLH	2.6	9.1 (J)	12,300	12.7 (J-)	719	160 (J+)	11.9	6.4
MDAB_00_04-09-13112	AI175	0-5	ALLH	1.74	3.28	7830	64.2	618	249 (J+)	0.034 (J+)	3.8
MDAB_00_04-09-10213	AI176	0-5	ALLH	4.9 (J+)	3.3	10,600	21.4 (J+)	1240 (J+)	391 (J-)	0.0167 (J)	4.1
MDAB_04_08-09-10214	AI176	5-9	ALLH	3.8 (J+)	19.3	14,500	25.5 (J+)	1050 (J+)	329 (J-)	23.7	6
MDAB_00_04-09-13115	AI179	0-5	ALLH	3.43	4.18	9690	15.5	931	317 (J+)	0.0558 (J+)	4.74

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Residential SSL[a] (mg/kg)				**23[i]**	**3130**	**54,800**	**400**	**na**	**10,700**	**7.7[j]**	**1560**
MDAB_00_04-09-10221	AI180	0-5	ALLH	2.2 (J-)	3.5	6230 (J)	17.2	732 (J)	203 (J-)	0.0945	4.2 (J-)
MDAB_04_08-09-10222	AI180	5-10	ALLH	2.7 (J-)	16	11,800	26.4	862	184 (J-)	14.8	5.2 (J-)
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	34.2 (J-)	6160	11.8 (J)	347 (J+)	194	0.021	2.72
MDAB_00_04-09-10225	AI185	0-5	ALLH	1.3 (J)	3.6	5540 (J)	14.6	444 (J)	192 (J)	0.0607	3.2 (J)
MDAB_04_08-09-10226	AI185	5-6	ALLH	1.9 (J-)	18.7	9120	18.9	400	161 (J-)	0.454	4 (J-)
MDAB_00_04-09-13031	AI186	0-6	ALLH	0.716	2.56 (J+)	6500	22.1	380 (J+)	239	0.0122 (J+)	3.27
MDAB_00_04-09-10201	AJ158	0-5	ALLH	1.1	3.1	5140 (J)	19.2 (J+)	442 (J)	195 (J)	ND	2.9
MDAB_04_08-09-10202	AJ158	5-9	ALLH	0.72	6.2	4610	21.6 (J+)	363	173	ND	2.7
MDAB_00_04-09-13122	AJ181	0-5	ALLH	1.02	3.14	7540	16.7	589	218 (J+)	0.0316 (J+)	3.38
MDAB_04_08-09-13124	AJ181	5-10	ALLH	3.53	13.5	10,100	20.3	1400	263 (J+)	0.59 (J+)	6.29
MDAB_00_04-09-10217	AJ183	0-5	ALLH	2 (J+)	4.2	7760	24.9 (J+)	911 (J+)	269 (J-)	ND	3.5
MDAB_04_08-09-10218	AJ183	5-9	ALLH	6.8 (J+)	15.4	18,100	31 (J+)	1780 (J+)	460 (J-)	0.829	18.3
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	1.4	11.3 (J+)	7900	16.4	456 (J+)	299	0.0287 (J+)	3.81
MDAB_00_04-09-13105	AG165	0-2.5	QBT3	2.6	6.8 (J)	9230	11 (J-)	1140	239 (J+)	0.0195 (J)	5.6
MDAB_00_04-09-10205	AG167	0-4	ALLH	6.6 (J+)	10	12,200	48.6 (J+)	1790 (J+)	658 (J-)	0.0155 (J)	6.7
MDAB_00_04-09-13104	AG168	0-2.5	FILL	2.2	5.8 (J)	7290	16 (J-)	841	200 (J+)	ND	4.6
MDAB_00_04-09-10209	AH167	0-4	ALLH	2.3	6.4	8430	22.5 (J+)	1180	206	ND	5.5
MDAB_00_04-10-462	WST-600902	n/a	FILL	1.3	4.2	4410	9.4	734	194	ND	4.4
MDAB_00_04-10-463	WST-600902	n/a	FILL	2.1	5.9	6760	10.5	569	291	0.0656	4.9
MDAB_00_04-10-464	WST-600902	n/a	FILL	1.6	3.5	5970	9.3	478	270	0.0138 (J)	3.8

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_00_04-09-10390	NF95	0-5	ALLH	1290	ND	0.13 (J)	252	ND	0.3	1.4	20.1	29.2
MDAB_00_04-09-10394	NG103	0-5	ALLH	1400	ND	0.13 (J)	269	ND	0.28	0.93	20.2	31.3
MDAB_04_08-09-10395	NG103	5-10	ALLH	513	0.13 (J)	0.074 (J)	56.2	ND	ND	1.3	7.2	24.1
MDAB_00_04-09-10329	NG75	0-5	ALLH	1120	ND	0.11 (J)	188	ND	0.41	0.95	15	32.4
MDAB_04_08-09-10330	NG75	5-10	ALLH	275	0.2 (J)	0.04 (J)	64.2	ND	ND	0.6	3.4	18.8
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	310	0.19 (J)	0.042 (J)	74.1	ND	ND	3.6	4.6	21.2
MDAB_00_04-09-10382	NG77	0-5	ALLH	1270	ND	0.1 (J)	213	ND	0.85	0.84	15.9	28.1
MDAB_04_08-09-10383	NG77	5-10	ALLH	205	0.19 (J)	0.042 (J)	79.2	ND	ND	0.6	2.8	17
MDAB_08_12-09-10385	NG77	10-15	ALLH	390	0.19 (J)	0.056 (J)	121	ND	ND	0.47	5.2	19.5
MDAB_00_04-09-10389	NI85	0-4	ALLH	219	0.17 (J)	0.036 (J)	114	ND	ND	0.58	2.4	30.8
MDAB_00_04-09-10317	NG56	0-5	ALLH	693	0.095 (J)	0.081 (J)	163	ND	0.34	0.69	18	22.3
MDAB_04_08-09-10318	NG56	5-10	ALLH	314	0.16 (J)	0.044 (J)	75.4	ND	0.41	0.45	3.5	17.8
MDAB_12_16-09-10320	NG56	15-20	ALLH	166	0.19 (J)	5.2	116	ND	ND	0.68	2.2	52.2
MDAB_00_04-09-10325	NG61	0-5	ALLH	840	ND	0.095 (J)	186	ND	0.22	1.8	17.7	27
MDAB_04_08-09-10326	NG61	5-10	ALLH	380	0.17 (J)	0.054 (J)	75.4	ND	ND	0.56	3.5	23.6
MDAB_08_12-09-10327	NG61	10-15	ALLH	348	0.2 (J)	0.047 (J)	202	ND	ND	0.44	3.8	19.6
MDAB_00_04-09-10321	NH59	0-5	ALLH	737	ND	0.12 (J)	194	ND	0.33	1	10.9	33.6
MDAB_04_08-09-10322	NH59	5-10	ALLH	417	0.14 (J)	0.062 (J)	100	ND	0.23	0.81	5	28
MDAB_08_12-09-10323	NH59	10-15	ALLH	441	0.17 (J)	0.061 (J)	122	ND	0.16 (J)	0.58	4.4	30.2
MDAB_00_04-09-10301	NI48	0-5	ALLH	927	0.13 (J)	0.041 (J)	70.4 (J)	ND	ND	0.53	20.4	71.3
MDAB_00_04-09-10289	NH27	0-5	ALLH	459	0.09 (J)	0.03 (J)	62.1	ND	0.26	0.66	10.6	111

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_04_08-09-10290	NH27	5-10	ALLH	518	0.23 (J)	0.038 (J)	46.9	ND	0.35	0.54	7	36.5
MDAB_04_08-09-12962	NH40	5-10	ALLH	491	1.2	ND	73.7	ND	0.36	0.43	5.5	26.8
MDAB_08_12-09-12964	NH40	10-15	ALLH	495	1.4	ND	77.9	ND	ND	0.51	4.7	28.3
MDAB_12_16-09-12963	NH40	15-18	ALLH	333	1.4	ND	73.6	ND	ND	0.59	3.5	38.1
MDAB_00_04-09-12969	NI29	0-5	ALLH	1020	1.2	0.052 (J)	83.3	ND	ND	1.1	19.6	38.6
MDAB_04_08-09-12970	NI29	5-10	ALLH	827	1.7	0.035 (J)	108	ND	0.43	0.71	9.5	39.7
MDAB_00_04-09-12957	NI34	0-5	ALLH	732	1.2	0.032 (J)	80.4	ND	ND	0.78	12.4	28.7
MDAB_04_08-09-12958	NI34	5-10	ALLH	401	1.4	ND	83.2	ND	0.3	0.52	4.8	28.4
MDAB_00_04-09-10313	NI38	0-3	ALLH	278	0.25 (J)	ND	46.3	ND	ND	0.58	4.5	33.4
MDAB_00_04-09-10309	NI43	0-5	ALLH	923	0.19 (J)	0.033 (J)	89.3	ND	ND	0.69	19.1	36.6
MDAB_04_08-09-10310	NI43	5-7	ALLH	64.8	0.34 (J)	ND	39.3	ND	ND	0.53	3	37.2
MDAB_00_04-09-10293	NJ30	0-5	ALLH	896	ND	0.032 (J)	84.4	ND	ND	4.8	6.8	26.3
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	621	ND	ND	111	ND	ND	11.9	4.4	9.5
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	416	0.21 (J)	ND	63.9	ND	ND	0.65	6.7	54.2
MDAB_00_04-09-10281	AM228	0-4	ALLH	620	1.4	0.031 (J)	57	ND	ND	0.53	8.5	28
MDAB_00_04-09-10285	AM232	0-4	ALLH	438	1.3	ND	71.3	ND	ND	0.55	8.7	20.1
MDAB_00_04-09-10277	AN226	0-3	ALLH	744	1.4	0.048 (J)	62.5	ND	0.17 (J)	0.57	12.6	36.2
MDAB_00_04-09-10273	AL256	0-5	ALLH	865	0.82	ND	65.3	ND	ND	0.37	8.3	15.6
MDAB_00_04-09-12973	AL258	0-40	ALLH	1100	1.3	0.032 (J)	71.1	ND	ND	0.78	20.1	29.9
MDAB_00_04-09-12979	AN256	0-5	ALLH	1350	1	0.032 (J)	96.6	ND	ND	0.52	16.3	25.3
MDAB_00_04-09-10253	AI224	0-2	ALLH	827 (J)	0.24 (J)	0.11 (J+)	62.2	196	ND	1.1 (J)	15.1	37.9

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_00_04-09-10398	AI229	0-5	ALLH	661	1.2	ND	39	ND	ND	0.5	6.8	20.8
MDAB_04_08-09-10399	AI229	5-10	ALLH	624	1.3	ND	54.8	ND	ND	0.46	6.3	21.7
MDAB_00_04-09-10258	AI234	0-5	ALLH	420	1.3	0.025 (J)	69.1	ND	0.17 (J)	0.54	6.2	32.8
MDAB_04_08-09-10257	AI234	5-10	ALLH	294	1.8	ND	54.5	ND	0.25	0.43	2.9	22.8
MDAB_08_12-09-10259	AI234	10-13	ALLH	296	1.6	0.034 (J)	52.2	ND	ND	7.4	3	97
MDAB_00_04-09-12997	AI239	0-5	ALLH	586 (J+)	1.1	0.034 (J)	49.2 (J+)	ND	ND	0.74	7.6	43
MDAB_04_08-09-12998	AI239	5-10	ALLH	458 (J+)	1	ND	79.4 (J+)	ND	ND	0.73	6.6	19.9
MDAB_00_04-09-10261	AI245	0-5	ALLH	512	1.6	0.046 (J)	54.5	ND	ND	0.72	6.3	35.1
MDAB_04_08-09-10262	AI245	5-12	ALLH	338	1.5	0.18 (J)	47.3	ND	ND	3.1	3.7	46.9
MDAB_00_04-09-12986	AI250	0-5	ALLH	379 (J+)	0.68	ND	57.3 (J+)	ND	0.41	0.38	6.4	147
MDAB_00_04-09-10265	AI251	0-5	ALLH	668	1.7	0.031 (J)	84.2	ND	ND	0.54	19.2	28.7
MDAB_04_08-09-10266	AI251	5-9	ALLH	240	1.4	0.029 (J)	43.1	ND	ND	0.52	2.2	138
MDAB_00_04-09-12981	AI252	0-5	ALLH	265 (J+)	1.2	ND	67.9 (J+)	ND	0.4	0.64	3.4	24.4
MDAB_00_04-09-10269	AI256	0-5	ALLH	346	1.3	ND	52.4	ND	ND	0.43	5.9	25.8
MDAB_00_04-09-10245	AH215	0-5	ALLH	317	0.46 (J)	0.12 (J)	59.1	ND	ND	68.4	5.6	159
MDAB_04_08-09-10246	AH215	5-7	ALLH	634 (J)	0.43 (J)	0.094 (J+)	55.9	ND	ND	34.6 (J)	5.6	40
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	314	0.13 (J)	0.052 (J)	46.2 (J-)	ND	ND	0.54	6.7 (J-)	27.6
MDAB_00_04-09-13028	AI193	0-5	ALLH	601 (J+)	ND	0.23 (J)	59.7	ND	0.185 (J)	3.07	12	49.1 (J)
MDAB_00_04-09-13021	AI199	0-5	ALLH	367 (J+)	ND	ND	90.8 (J)	ND	ND	0.677	6.41	38.1
MDAB_00_04-09-10233	AI200	0-5	ALLH	383 (J)	0.13 (J)	0.23	50.5 (J)	ND	ND	0.72	8.6 (J)	28.5
MDAB_04_08-09-10234	AI200	5-11	ALLH	563 (J)	0.24 (J)	1.9	85.9 (J)	ND	0.19 (J)	4.2	8.7 (J)	287

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_00_04-09-13020	AI201	0-5	ALLH	629 (J+)	ND	ND	79.7 (J)	ND	ND	0.772	10.9	60.1
MDAB_00_04-09-13013	AI207	0-5	ALLH	517 (J+)	ND	ND	70.5 (J)	ND	ND	0.581	9.16	58.2
MDAB_04_08-09-13014	AI207	5-10	ALLH	275 (J+)	ND	ND	70.1 (J)	ND	ND	0.596	4.92 (J)	38.7
MDAB_00_04-09-10237	AI209	0-5	ALLH	501 (J)	0.11 (J)	0.088 (J)	82.9 (J)	ND	ND	0.5	8.2 (J)	34.8
MDAB_04_08-09-10238	AI209	5-10	ALLH	296	0.55 (J)	0.075 (J)	76.9	ND	0.69	0.54	4.3	87.4
MDAB_00_04-09-13012	AI211	0-5	ALLH	237 (J+)	ND	ND	82.8 (J)	ND	ND	0.663	4.9 (J)	40
MDAB_00_04-09-10241	AI213	0-5	ALLH	245	0.53 (J)	0.07 (J)	56.3 (J)	ND	ND	0.43	4.5	39.1
MDAB_04_08-09-10242	AI213	5-11	ALLH	305	0.4 (J)	0.16 (J)	52.8 (J)	ND	ND	1.9	4.4	59.2
MDAB_00_04-09-10249	AI217	0-5	ALLH	460 (J)	0.49 (J)	0.093 (J+)	61.9	ND	ND	0.49 (J)	7	34.4
MDAB_04_08-09-10250	AI217	5-8	ALLH	289	1.8	0.035 (J)	61.6	ND	ND	0.45	3.9	84.8
MDAB_00_04-09-10193	AI155	0-5	FILL	1060	ND	0.552 (J)	67.4	ND	0.165 (J)	1.83	19.8	53.5
MDAB_04_08-09-10194	AI155	5-9	ALLH	2360	ND	0.278 (J)	69.1	ND	0.506	2.75	15.1	28.3
MDAB_00_04-09-10197	AI157	0-5	ALLH	616 (J+)	0.34 (J)	1.1	70.2	ND	ND	1.8 (J)	9.4 (J)	59.3
MDAB_04_08-09-10198	AI157	5-9	ALLH	497 (J)	0.35 (J)	0.23	52.1 (J)	ND	ND	3.8 (J)	6 (J)	314
MDAB_04_08-09-13050	AI160	5-11	ALLH	734	1.6	0.083 (J)	76.8	ND	ND	1.2	9.5	112
MDAB_00_04-09-13053	AI164	0-5	ALLH	862	1.3	0.28	96.6	32.4	ND	1.2	19.8	42.4
MDAB_04_08-09-13054	AI164	5-10	QBT3	1200	0.99	0.04 (J)	63.6	32.2	ND	0.8	14.9	20.5
MDAB_00_04-09-13041	AI167	0-5	ALLH	667	1.5	0.058 (J)	57.8	ND	ND	0.81	10.6	32.2
MDAB_04_08-09-13042	AI167	5-10	ALLH	1300	1.9	0.039 (J)	60.8	33.6	0.17 (J)	0.77	15.1	24.1
MDAB_00_04-09-13097	AI171	0-5	ALLH	579	ND	ND	74.9 (J)	ND	ND	1.44	9.71	34.1
MDAB_04_08-09-13098	AI171	5-10	ALLH	706	1.3	0.036 (J)	67.1	33.7	0.19 (J)	18.9	10	217

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_00_04-09-13112	AI175	0-5	ALLH	505	ND	ND	78.5 (J)	ND	ND	0.923	10.5	30.6
MDAB_00_04-09-10213	AI176	0-5	ALLH	973 (J+)	0.25 (J)	0.11 (J+)	75.4 (J+)	ND	0.25	1.1	23.5 (J+)	43.3 (J+)
MDAB_04_08-09-10214	AI176	5-9	ALLH	845 (J+)	0.29 (J)	0.15 (J+)	106 (J+)	ND	ND	33	18.4 (J+)	603 (J+)
MDAB_00_04-09-13115	AI179	0-5	ALLH	695	ND	ND	66.3 (J)	ND	ND	0.789	11.9	34.4
MDAB_00_04-09-10221	AI180	0-5	ALLH	550 (J)	0.12 (J)	0.08 (J)	38.4 (J-)	ND	0.28	0.56	10 (J-)	35.4
MDAB_04_08-09-10222	AI180	5-10	ALLH	468	0.11 (J)	0.087 (J)	107 (J-)	ND	0.38	0.73	11.8 (J-)	424
MDAB_00_04-09-13038	AI183	0-5	ALLH	286 (J+)	ND	0.19 (J)	ND	ND	0.201	0.637	4.27	30.4
MDAB_00_04-09-10225	AI185	0-5	ALLH	302	ND	0.058 (J)	39.5 (J)	ND	ND	1.5	6.7 (J)	32.1
MDAB_04_08-09-10226	AI185	5-6	ALLH	289 (J)	0.33 (J)	0.31	85.3 (J-)	ND	ND	1.7	7.4 (J-)	293
MDAB_00_04-09-13031	AI186	0-6	ALLH	294 (J+)	ND	0.198 (J)	51.7	ND	0.13 (J)	0.717	4.76	33.3 (J)
MDAB_00_04-09-10201	AJ158	0-5	ALLH	376 (J)	0.3 (J)	0.13 (J+)	39.8	ND	ND	0.49 (J)	6.8	27.1
MDAB_04_08-09-10202	AJ158	5-9	ALLH	272	0.36 (J)	0.25 (J+)	39.1	ND	ND	0.55 (J)	6.1	72.4
MDAB_00_04-09-13122	AJ181	0-5	ALLH	453	ND	ND	79.8 (J)	ND	ND	0.656	7.8	39.6
MDAB_04_08-09-13124	AJ181	5-10	ALLH	968	ND	ND	89.5 (J)	ND	ND	0.933	17.3	42.3
MDAB_00_04-09-10217	AJ183	0-5	ALLH	639 (J+)	0.32 (J)	0.11 (J+)	76.3 (J+)	73.6	ND	0.94	17.5 (J+)	47 (J+)
MDAB_04_08-09-10218	AJ183	5-9	ALLH	1380 (J+)	0.51 (J)	0.31 (J+)	125 (J+)	ND	ND	5.1	28.5 (J+)	1230 (J+)
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	369 (J+)	ND	0.202 (J)	53.1	ND	0.104 (J)	0.633	6.02	213 (J)
MDAB_00_04-09-13105	AG165	0-2.5	QBT3	893	1.1	0.04 (J)	57.3	ND	0.25	0.7	13.2	63.4
MDAB_00_04-09-10205	AG167	0-4	ALLH	1500 (J+)	ND	0.22 (J+)	132 (J+)	ND	0.55 (J)	0.57	29.7 (J+)	90.9 (J+)
MDAB_00_04-09-13104	AG168	0-2.5	FILL	685	0.83	0.04 (J)	48.9	ND	ND	0.55	9.5	50.5
MDAB_00_04-09-10209	AH167	0-4	ALLH	820	ND	0.19 (J+)	60.2	ND	ND	0.52 (J)	15.3 (J)	37.1

Table C-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Potassium	Selenium	Silver	Sodium	Sulfide, Reactive	Thallium	Uranium	Vanadium	Zinc
Residential SSL[a] (mg/kg)				**na**	**391**	**391**	**na**	**na**	**5.2**	**235**	**391**	**23,500**
MDAB_00_04-10-462	WST-600902	n/a	FILL	378	1.5	0.027 (J)	100	ND	ND	0.62	12.6	143
MDAB_00_04-10-463	WST-600902	n/a	FILL	519	1.4	0.033 (J)	87.5	ND	ND	1.8	10.8	43.8
MDAB_00_04-10-464	WST-600902	n/a	FILL	432	1.6	0.026 (J)	105	ND	ND	0.89	8.7	29.2

[a] SSLs are from NMED (2009, 108070), unless indicated otherwise.

[b] na = Not available.

[c] ALLH = All horizons (soil).

[d] ND = Not detected.

[e] FILL = Fill material, undifferentiated.

[f] QBT3 = Quaternary Tshirege Member of Bandelier Tuff 3.

[g] WST-600902 is a composite waste sample.

[h] n/a = Not applicable.

[i] SSL for cobalt is from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[j] SSL is for elemental mercury.

Table C-4
DPT Core Sample Maximum Organic
Chemical Concentration Detections above Residential SSLs

Analyte	Residential SSL (mg/kg)	SSL Source Document	Maximum Detected Concentration (mg/kg)	Above Residential SSLs?
Acenaphthene	3440	NMED Dec 2009[a]	0.053	No[b]
Acenaphthylene	1720	Pyrene as surrogate	0.0238	No
Acetone	67,500	NMED Dec 2009	4.7	No
Aldrin	0.284	NMED Dec 2009	0.0004	No
Anthracene	17,200	NMED Dec 2009	0.24	No
Aroclor-1242	2.22	NMED Dec 2009	0.464	No
Aroclor-1248	2.22	NMED Dec 2009	5.3	Yes[c]
Aroclor-1254	1.12	NMED Dec 2009	0.26	No
Aroclor-1260	2.22	NMED Dec 2009	2.7	Yes
Benzene	15.5	NMED Dec 2009	0.025	No
Benzo(a)anthracene	6.21	NMED Dec 2009	1.8	No
Benzo(a)pyrene	0.621	NMED Dec 2009	1.9	Yes
Benzo(b)fluoranthene	6.21	NMED Dec 2009	2.3	No
Benzo(g,h,i)perylene	1720	Pyrene as surrogate	0.73	No
Benzo(k)fluoranthene	62.1	NMED Dec 2009	1.8	No
Benzoic acid	240,000	EPA June 2011[d]	2.1	No
Benzyl alcohol	6100	EPA June 2011	0.089	No
BHC[alpha-]	0.772	NMED Dec 2009	0.00111	No
BHC[gamma-]	5.17	NMED Dec 2009	0.00016	No
Bis(2-ethylhexyl)phthalate	347	NMED Dec 2009	1.29	No
Bromobenzene	300	EPA June 2011[d]	0.0031	No
Bromoform	61	EPA June 2011	0.016	No
Butanone[2-]	39,600	NMED Dec 2009	0.029	No
Carbon disulfide	1940	NMED Dec 2009	0.0015	No
Carbon tetrachloride	4.38	NMED Dec 2009	0.00077	No
Chlordane (alpha + gamma)	16.2	NMED Dec 2009	0.0101	No
Chloronaphthalene[2-]	6260	NMED Dec 2009	0.0206	No
Chrysene	621	NMED Dec 2009	1.7	No
DB[2,4-]	490	EPA June 2011	0.55	No
DDD[4,4'-]	20.3	NMED Dec 2009	0.0102	No
DDE[4,4'-]	14.3	NMED Dec 2009	0.0406	No
DDT[4,4'-]	17.2	NMED Dec 2009	0.0551	No
Dibenz(a,h)anthracene	0.621	NMED Dec 2009	0.35	No
Dibenzofuran	78	EPA June 2011	0.091	No
Dichloroethene[1,1-]	618	NMED Dec 2009	0.000546	No

Table C-4 (continued)

Analyte	Residential SSL (mg/kg)	SSL Source Document	Maximum Concentration Detected (mg/kg)	Above Residential Standards?
Diethylphthalate	48,900	NMED Dec 2009	0.06	No
Dimethyl phthalate	611,000	NMED Dec 2009	0.12	No
Di-n-butylphthalate	6110	NMED Dec 2009	17.6	No
Di-n-octylphthalate	6110	Di-n-butylphthalate as surrogate	0.12	No
Endrin aldehyde	18.3	Endrin as surrogate	0.00149	No
Endrin ketone	18.3	Endrin as surrogate	0.0008	No
Fluoranthene	2290	NMED Dec 2009	2.7	No
Fluorene	2290	NMED Dec 2009	0.0233	No
Heptachlor epoxide	0.53	EPA June 2011	0.00017	No
Hexanone[2-]	210	EPA June 2011	0.71	No
Indeno(1,2,3-cd)pyrene	6.2	NMED Dec 2009	0.81	No
Isopropyltoluene[4-]	3130	EPA June 2011	0.00055	No
Methoxychlor[4,4'-]	310	EPA June 2011	0.00062	No
Methyl-2-pentanone[4-]	5950	EPA June 2011	0.12	No
Methylene chloride	199	NMED Dec 2009	0.018	No
Methylnaphthalene[2-]	310	EPA June 2011	0.63	No
Naphthalene	45	NMED Dec 2009	0.45	No
Phenanthrene	1830	NMED Dec 2009	0.91	No
Phenol	18,300	NMED Dec 2009	0.96	No
Pyrene	1720	NMED Dec 2009	2.1	No
Styrene	8970	NMED Dec 2009	0.0083	No
T[2,4,5-]	610	EPA June 2011	0.022	No
Tetrachloroethene	699	NMED Dec 2009	0.0045	No
Toluene	5570	NMED Dec 2009	0.067	No
Trichloroethene	45.7	NMED Dec 2009	0.12	No
Trichlorofluoromethane	2010	NMED Dec 2009	0.002	No
Trimethylbenzene[1,2,4-]	62	EPA June 2011	0.0013	No
Trimethylbenzene[1,3,5-]	780	EPA June 2011	0.0031	No
Xylene (Total)	1090	NMED Dec 2009	0.023	No

[a] SSLs are from NMED (2009, 108070).

[b] No = Does not exceed SSL.

[c] Yes = Exceeds SSL.

[d] SSL from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

Table C-5
Organic Chemicals Detected in DPT Samples

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				3440	1720	67,500	0.284	17,200	2.22	1.12	2.22
MDAB_00_04-09-10390	NF95	0-5	ALLH[b]	ND[c]	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0062 (J)
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0061 (J)
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0047 (J)
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0073 (J)
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.4

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				3440	1720	67,500	0.284	17,200	2.22	1.12	2.22
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	0.011 (J)	ND	ND	ND	0.038	0.049
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.13	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	0.019 (J)	ND	ND	ND	0.016 (J)	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.026 (J)
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.024 (J)	0.01 (J)
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0034 (J)
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0096 (J)
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	0.016 (J)	0.0077 (J)

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				3440	1720	67,500	0.284	17,200	2.22	1.12	2.22
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	0.017 (J)	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	0.022 (J)	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	0.022	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	0.029 (J)	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	0.041 (J)	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.056	0.02 (J)
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	ND	ND	0.00016 (J)	ND	ND	0.022 (J)	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.15 (J)	0.06 (J)
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	0.015 (J)	0.0089 (J)
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.013 (J)	0.011 (J)
MDAB_00_04-09-10265	AI251	0-5	ALLH	0.053 (J)	ND	ND	ND	0.24 (J)	ND	0.044	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	0.037 (J+)	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				3440	1720	67,500	0.284	17,200	2.22	1.12	2.22
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0068 (J)
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	0.017 (J)	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	0.0097 (J)	ND	ND	ND	ND	0.0063 (J)
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	0.0075	0.0099	0.0157
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.252
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.148
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.016
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0089
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	0.0106 (J)	0.0092 (J)
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.083
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0018 (J)
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	0.021 (J)	ND	ND	ND	0.2 (J)	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				3440	1720	67,500	0.284	17,200	2.22	1.12	2.22
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	0.0237 (J)	0.0238 (J)	ND	ND	0.0258 (J)	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	0.00018 (J)	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	0.0004 (J)	ND	ND	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	0.0106	ND	ND	ND	0.0129 (J)	0.0222
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	0.034 (J)
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	0.49
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	0.044 (J)	0.0003 (J)	ND	ND	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0155 (J)
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Aldrin	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260
Residential SSL[a] (mg/kg)				**3440**	**1720**	**67,500**	**0.284**	**17,200**	**2.22**	**1.12**	**2.22**
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	ND	0.0077 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0058 (J)
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	0.00025 (J)	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	0.464	0.26	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL[d]	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902[e]	n/a[f]	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				15.5	6.21	0.621	6.21	1720	62.1	240,000	6100
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				15.5	6.21	0.621	6.21	1720	62.1	240,000	6100
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				15.5	6.21	0.621	6.21	1720	62.1	240,000	6100
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.62 (J)	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				**15.5**	**6.21**	**0.621**	**6.21**	**1720**	**62.1**	**240,000**	**6100**
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	1.8	1.9	2.3	0.73	1.8	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	0.043 (J)	ND	ND	0.089 (J)
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	0.0205 (J)	0.013 (J)	0.025 (J)	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				15.5	6.21	0.621	6.21	1720	62.1	240,000	6100
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	0.0013 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	0.025 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl Alcohol
Residential SSL[a] (mg/kg)				**15.5**	**6.21**	**0.621**	**6.21**	**1720**	**62.1**	**240,000**	**6100**
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	0.24 (J)	0.19 (J)	0.28 (J)	0.1 (J)	0.3 (J)	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	0.00067 (J+)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	ND	ND	0.43 (J)	ND	2 (J)	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	2.1 (J)	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	2 (J)	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0014 (J)	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	0.0015 (J)	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0011 (J)	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.0012 (J)	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.001 (J)	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	0.0009 (J)	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0013 (J)	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.00087 (J)	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	0.0011 (J)	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	0.0014 (J)	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	0.19 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	0.08 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	0.016	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	0.013	ND	0.00079 (J)	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	0.17 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	0.069 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	0.083 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	0.0882 (J)	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	0.109 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	0.055 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	0.24 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	0.1 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	0.00016 (J)	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0004 (J)	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	0.000785	ND	1.29	ND	ND	ND	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	0.24 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	0.15(J)	ND	ND	ND	ND	0.00077 (J+)
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	0.0806 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	0.0869 (J)	ND	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	0.15 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	0.11 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	0.08 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	0.0971 (J)	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	0.019 (J)	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	0.00018 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	0.06 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	0.073 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	0.094 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	0.0031 (J)	ND	ND	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	0.14 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	0.32 (J)	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	BHC[alpha-]	BHC[gamma-]	Bis(2-ethylhexyl)phthalate	Bromobenzene	Bromoform	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride
Residential SSL[a] (mg/kg)				0.772	5.17	347	300	61	39,600	1940	4.38
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	0.00013 (J)	ND	0.12 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	0.00111	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_0 8-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0014 (J)
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0082 (J)	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	0.55	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	0.3 (J)	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0011 (J)
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	ND	ND	1.7	ND	ND	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	0.2	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	ND	0.000834 (J)	0.00168 (J)
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	0.0015 (J)	0.0018 (J)	ND	ND	ND	ND	0.0028	0.0035
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	0.00151 (J)	0.00238	ND	ND	ND	ND	0.00162 (J)	0.00783 (J)
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	ND	ND	ND	0.000554 (J)	0.0105 (J)	0.0197
MDAB_08_12-09-13015	AI207	10-15	ALLH	0.00111 (J)	0.00216 (J)	ND	0.0389 (J)	ND	0.0102	0.0406	0.0551
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	0.0034
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	0.0086	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	ND	ND	0.00097 (J)	0.0013 (J)	0.0047
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.00181	0.00649
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	0.0206 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	0.00052 (J)	0.00017 (J)	ND	ND	ND	0.00098 (J)	0.0055	0.0034
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	0.00045 (J)	0.0015 (J)	0.0024
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0022 (J)	0.0017 (J)
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	0.13	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.00238 (J)
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	0.13	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	ND	ND	ND	0.026 (J)	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.00243 (J)	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	ND	0.055 (J)	ND	0.00043 (J)	0.0012 (J)	0.00094 (J)

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Chlordane[alpha-]	Chlordane[gamma-]	Chloronaphthalene[2-]	Chrysene	DB[2,4-]	DDD[4,4'-]	DDE[4,4'-]	DDT[4,4'-]
Residential SSL[a] (mg/kg)				16.2	16.2	6260	621	490	20.3	14.3	17.2
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	0.06 (J)	ND	0.0006 (J)	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	0.0038	ND	0.32 (J)	ND	ND	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	ND	ND	ND	ND	0.000958 (J)	0.00391	0.00539 (J)
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	ND	ND	0.014 (J)	0.022 (J)
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	0.22	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	0.037 (J)	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	0.12 (J)	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	0.042 (J)	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	0.041 (J)	ND	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	0.04 (J)	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	0.06 (J)	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	0.049 (J)	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	0.13 (J)	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	0.042 (J)	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	0.35 (J)	0.047 (J)	ND	ND	ND	5.2	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	0.108 (J)	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	ND	ND	0.47	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	0.00149 (J)
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	0.1 (J)	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	ND	0.12 (J)	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	0.075 (J)	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	0.058 (J)	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dibenzofuran	Dichloroethene[1,1-]	Diethylphthalate	Dimethyl Phthalate	Di-n-butylphthalate	Di-n-octylphthalate	Endrin Aldehyde
Residential SSL[a] (mg/kg)				**0.621**	**78**	**618**	**48,900**	**611,000**	**6110**	**6110**	**18.3**
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	0.12 (J)	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	0.091 (J)	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	0.05 (J)	ND	ND	ND	ND	1	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	ND	0.000546 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				18.3	2290	2290	0.53[g]	6.2	3130	310	5950
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	0.00055 (J)	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.00062 (J)	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				18.3	2290	2290	0.53[g]	6.2	3130	310	5950
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				18.3	2290	2290	0.53[g]	6.2	3130	310	5950
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	0.0008 (J)	ND	ND	0.00017 (J)	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	2.7	ND	ND	0.81	ND	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	0.12 (J+)

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				18.3	2290	2290	0.53[g]	6.2	3130	310	5950
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	0.033 (J)	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	0.00033 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	0.0131 (J)	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	0.0248 (J)	0.0233 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				18.3	2290	2290	0.53[g]	6.2	3130	310	5950
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	0.037 (J)	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	0.41	ND	ND	0.11 (J)	ND	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Endrin Ketone	Fluoranthene	Fluorene	Heptachlor Epoxide	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methoxychlor[4,4'-]	Methyl-2-pentanone[4-]
Residential SSL[a] (mg/kg)				**18.3**	**2290**	**2290**	**0.53[g]**	**6.2**	**3130**	**310**	**5950**
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				**199**	**310**	**45**	**1830**	**18,300**	**1720**	**8970**	**610**
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	ND	ND	0.00027 (J)	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				**199**	**310**	**45**	**1830**	**18,300**	**1720**	**8970**	**610**
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	0.011 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	0.0084 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	0.0056 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	0.0036 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10281	AM228	0-4	ALLH	0.0051 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	0.0037 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10277	AN226	0-3	ALLH	0.0049 (J)	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				199	310	45	1830	18,300	1720	8970	610
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	0.0051 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	0.0035 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	0.011	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	0.014	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	0.016	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	0.0093 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	0.0078	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	0.0049 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12986	AI250	0-5	ALLH	0.003 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	0.016	ND	0.12 (J)	0.91	ND	2.1	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				**199**	**310**	**45**	**1830**	**18,300**	**1720**	**8970**	**610**
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	0.00049 (J)	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	0.0224 (J)	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	0.0131 (J)	ND	0.0245 (J)	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	ND	0.0292 (J)	0.0138 (J)	ND	ND	ND	ND	ND
MDAB_04_08-09-13014	AI207	5-10	ALLH	ND	0.0259 (J)	0.0139 (J)	ND	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	0.142	0.071 (J)	0.0838 (J)	ND	0.0344 (J)	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	ND	ND	ND	0.00034 (J)	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	0.0051 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	0.013 (J)	ND	ND	ND	0.0124 (J)	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	0.0292 (J)	ND	0.0278 (J)	ND	0.0248 (J)	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	0.0034 (J)	0.1 (J)	0.078 (J)	0.054 (J)	ND	ND	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				199	310	45	1830	18,300	1720	8970	610
MDAB_00_04-09-13049	AI160	0-5	ALLH	0.0039 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	0.0029 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	0.0036 (J)	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	0.0057	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	0.00818 (J)	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	0.049 (J)	ND	ND	0.96	ND	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	0.34 (J)	0.22 (J)	0.15 (J)	ND	0.041 (J)	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	0.00661	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	0.0083	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	0.63	0.45	0.2 (J)	ND	0.045 (J)	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	0.0064	ND	ND	ND	0.094 (J)	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	0.0046 (J)	ND	ND	0.13 (J)	0.084 (J)	0.25 (J)	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	0.0385 (J)	0.0219 (J)	0.0229 (J)	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	0.12 (J)	0.066 (J)	0.093 (J)	ND	ND	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Phenanthrene	Phenol	Pyrene	Styrene	T[2,4,5-]
Residential SSL[a] (mg/kg)				**199**	**310**	**45**	**1830**	**18,300**	**1720**	**8970**	**610**
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	0.016 (J+)	ND	ND	ND	0.14 (J)	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	0.018	ND	ND	ND	ND	ND	ND	0.012
MDAB_00_04-10-463	WST-600902	n/a	FILL	0.008	ND	ND	ND	ND	ND	ND	0.022
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				699	5570	45.7	2010	62[g]	780	1090
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	ND	0.0007 (J)	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	ND	0.0012 (J)	ND	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	ND	ND	0.00084 (J)	ND	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	ND	0.00082 (J)	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	ND	0.00081 (J)	ND	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	ND	0.00074 (J)	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	ND	0.00067 (J)	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	ND	0.00057 (J)	0.00061 (J)	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	ND	0.00059 (J)	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				699	5570	45.7	2010	62[g]	780	1090
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	ND	0.00067 (J)	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	ND	0.00077 (J)	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	ND	0.0013 (J)	ND	ND
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	ND	0.000446 (J)	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				**699**	**5570**	**45.7**	**2010**	**62[g]**	**780**	**1090**
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	0.0052 (J)	ND	ND	ND	0.0011 (J)
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				**699**	**5570**	**45.7**	**2010**	**62[g]**	**780**	**1090**
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	0.011 (J+)	ND	ND	ND	0.00098 (J)
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13027	AI193	5-7	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13021	AI199	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	0.0012 (J)	ND	ND	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	0.0045 (J+)	ND	0.12 (J+)	0.00033 (J+)	0.00071 (J)	ND	ND
MDAB_00_04-09-13020	AI201	0-5	ALLH	ND	ND	0.000596 (J)	ND	ND	ND	ND
MDAB_00_04-09-13013	AI207	0-5	ALLH	0.000412 (J)	ND	0.00745	ND	ND	ND	ND
MDAB_04_08-09-13014	AI207	5-10	ALLH	0.000635 (J)	ND	0.0175	ND	ND	ND	ND
MDAB_08_12-09-13015	AI207	10-15	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	0.098	ND	ND	ND	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	0.000711 (J)	ND	ND	ND	ND
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	0.0019 (J)	ND	ND	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	0.0053 (J)	ND	ND	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10193	AI155	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				699	5570	45.7	2010	62[g]	780	1090
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13054	AI164	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	ND	0.001 (J)	ND	0.00083 (J)
MDAB_00_04-09-13115	AI179	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	0.067 (J)	ND	0.002 (J)	ND	0.0031 (J)	0.023 (J)
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	0.00042 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10201	AJ158	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10202	AJ158	5-9	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-13124	AJ181	5-10	ALLH	ND	0.000497 (J)	ND	ND	ND	ND	ND
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10218	AJ183	5-9	ALLH	ND	ND	ND	ND	0.00068 (J)	ND	ND

Table C-5 (continued)

Sample ID	Location ID	Depth (ft)	Media	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)
Residential SSL[a] (mg/kg)				**699**	**5570**	**45.7**	**2010**	**62[g]**	**780**	**1090**
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	0.03 (J)	0.00066 (J+)	0.0012 (J+)	ND	ND	ND
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	0.01	ND	ND	ND	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	0.0036 (J)	ND	ND	ND	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	0.0012 (J)	ND	ND	ND	ND	ND

[a] SSLs are from NMED (2009, 108070), unless indicated otherwise.
[b] ALLH = All horizons [soil].
[c] ND = Not detected.
[d] FILL = Fill Material, undifferentiated.
[e] WST-600902 is a composite waste sample.
[f] n/a = Not applicable.
[g] SSL from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

Table C-6
DPT Core Samples Maximum
Radionuclide Concentrations Detected above Residential SALs

Analyte	Residential SAL (pCi/g)	SAL Source Document	Maximum Detected Concentration (pCi/g)	Above Residential SALs?
Americium-241	30	LANL 2009[a]	83.7	Yes[b]
Cesium-137	5.6	LANL 2009	1869.3	Yes
Plutonium-238	37	LANL 2009	234.666	Yes
Plutonium-239/240	33	LANL 2009	53,752.3	Yes
Strontium-90	5.7	LANL 2009	2980.3	Yes
Thorium-228	2.3	LANL 2009	7.09	Yes
Thorium-230	5	LANL 2009	14.95	Yes
Thorium-232	5	LANL 2009	1.66	No[c]
Tritium	750	LANL 2009	68.01	No
Uranium-234	170	LANL 2009	90.3	No
Uranium-235/236	17	LANL 2009	5.92	No
Uranium-238	86	LANL 2009	92.2	Yes

[a] SALs are from LANL (2009, 107655).

[b] Yes = Exceeds SAL.

[c] No = Does not exceed SAL.

Table C-7
Radionuclides Detected in DPT Samples

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				**30**	**5.6**	**37**	**33**	**5.7**	**2.3**
MDAB_00_04-09-10390	NF95	0-5	ALLH[b]	ND[c]	ND	0.1748	20.2179	ND	ND
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	11.2911	ND	ND
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	0.9473	ND	ND
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	1.0961	249.749	ND	ND
MDAB_08_12-09-10396	NG103	10-11	ALLH	ND	ND	0.2552	55.459	ND	ND
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	ND	4.3411	ND	ND
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	ND	4.3523	ND	ND
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	ND	2.1906	ND	ND
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	1.9059	ND	ND
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	0.4416	92.5522	ND	ND
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	0.4496	108.507	ND	ND
MDAB_12_16-09-10384	NG77	15-16	ALLH	12.5744	ND	2.4345	531.35	2.453	ND
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	0.4154	6.674	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	ND	34.3335	1.106	ND
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	0.713	162.508	0.623	ND
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	1.7033	ND	ND
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	1.8626	1.165	ND
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	5.499	ND	ND
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	5.0535	ND	ND
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	5.6021	2.261	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				30	5.6	37	33	5.7	2.3
MDAB_12_16-09-10328	NG61	15-16	ALLH	ND	ND	0.2145	52.777	2.424	ND
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	5.6481	1.341	ND
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	0.8757	185.214	ND	ND
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	1.6044	1.508	ND
MDAB_12_16-09-10324	NH59	15-16	ALLH	ND	ND	0.6355	152.641	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	ND	9.6545	ND	ND
MDAB_00_04-09-10289	NH27	0-5	ALLH	0.9505	ND	ND	13.4402	ND	ND
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	ND	1.6361	ND	ND
MDAB_00_04-09-10305	NH33	0-2.5	ALLH	ND	ND	ND	4.0353	ND	ND
MDAB_00_04-09-12961	NH40	0-5	ALLH	0.5169 (J-)	ND	ND	6.2053	ND	ND
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	ND	11.2995	ND	ND
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	72.4624 (J+)	9348.46 (J+)	ND	ND
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	1.4068	335.866	ND	ND
MDAB_00_04-09-12965	NH45	0-2	ALLH	ND	ND	0.2346	35.756	ND	ND
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	1.2682	108.599	ND	ND
MDAB_04_08-09-12970	NI29	5-10	ALLH	ND	ND	1.2496	43.6534	ND	ND
MDAB_00_04-09-12957	NI34	0-5	ALLH	2.4464 (J-)	ND	ND	3.9773	ND	ND
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	ND	3.9946	ND	ND
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	ND	1.1432	ND	ND
MDAB_00_04-09-10309	NI43	0-5	ALLH	ND	ND	ND	1.1192	ND	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				30	5.6	37	33	5.7	2.3
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	ND	3.7325	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	ND	0.9621	ND	ND
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	ND	4.4825	ND	ND
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	19.4	0.174	1.45 (J-)	143 (J-)	0.27	2.08
MDAB_00_04-09-10281	AM228	0-4	ALLH	ND	ND	4.5799	415.699	ND	0.5211
MDAB_00_04-09-10285	AM232	0-4	ALLH	ND	ND	ND	51.0375	ND	0.4405
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	7.18	0.126	0.848	95	ND	1.47
MDAB_00_04-09-10277	AN226	0-3	ALLH	ND	ND	0.8888	97.4464	ND	0.4402
MDAB_00_04-09-10273	AL256	0-5	ALLH	ND	ND	ND	5.2004	ND	ND
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	8.1144	ND	ND
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	ND	1.6723	ND	ND
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	ND	1.9442	ND	ND
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	0.5378	111.375	ND	ND
MDAB_00_04-09-10398	AI229	0-5	ALLH	ND	ND	ND	5.7757	ND	0.4668
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	2.3867	ND	0.4251
MDAB_00_04-09-10258	AI234	0-5	ALLH	ND	ND	0.9886	101.228	ND	0.4489
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	2.1439	ND	ND
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	ND	0.9944	193.748	ND	ND
MDAB_00_04-09-12997	AI239	0-5	ALLH	ND	ND	0.9932	123.375	ND	ND
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	ND	2.4	ND	ND
MDAB_08_12-09-12999	AI239	10-12.5	ALLH	ND	ND	ND	1.4522	ND	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				30	5.6	37	33	5.7	2.3
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	3.8246	329.355	ND	ND
MDAB_00_04-09-10261	AI245	0-5	ALLH	ND	ND	1.1938	111.672	0.84	0.4842
MDAB_04_08-09-10262	AI245	5-12	ALLH	ND	1.5134	0.8339	161.145	ND	0.363
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	ND	63.7895	ND	ND
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	ND	10.6234	ND	ND
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	ND	13.3117	ND	ND
MDAB_04_08-09-12988	AI250	5-10	ALLH	ND	5.3204	2.171	607.482	1.396	ND
MDAB_08_12-09-12987	AI250	10-13	ALLH	ND	ND	ND	23.3258	ND	ND
MDAB_00_04-09-10265	AI251	0-5	ALLH	ND	ND	ND	1.724	ND	0.4664
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	ND	13.075	ND	ND
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	ND	7.5235	ND	ND
MDAB_00_04-09-10269	AI256	0-5	ALLH	ND	ND	ND	12.1782	ND	ND
MDAB_04_08-09-10270	AI256	5-9	ALLH	ND	ND	ND	172.713	ND	ND
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	0.6206	142.508	ND	ND
MDAB_04_08-09-10246	AH215	5-7	ALLH	ND	ND	ND	2.2225	ND	ND
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	9.8424	ND	ND
MDAB_00_04-09-13028	AI193	0-5	ALLH	0.0634	ND	ND	2.91 (J)	ND	1.3
MDAB_04_08-09-13027	AI193	5-7	ALLH	10.7	ND	ND	796	ND	1.14
MDAB_00_04-09-13021	AI99	0-5	ALLH	0.428	ND	ND	13.6	ND	1.72
MDAB_04_08-09-13023	AI99	5-8	ALLH	0.457	ND	ND	17.7	ND	1.49
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	8.9939	ND	ND
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	0.8089	152.745	ND	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				30	5.6	37	33	5.7	2.3
MDAB_00_04-09-13020	AI201	0-5	ALLH	0.244 (J+)	ND	ND	11.5	ND	1.56
MDAB_04_08-09-13017	AI201	5-8	ALLH	8.12	ND	ND	1090	ND	1.57
MDAB_00_04-09-13013	AI207	0-5	ALLH	0.123	0.0768	ND	4.61	ND	1.62
MDAB_04_08-09-13014	AI207	5-10	ALLH	0.725	ND	ND	22.9	ND	1.57
MDAB_08_12-09-13015	AI207	10-15	ALLH	8.9603 (J+)	ND	9.8991 (J)	2193.94 (J)	0.592 (J)	ND
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	3.5931	ND	ND
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	18.4621	ND	ND
MDAB_12_16-09-10240	AI209	10-10.2	ALLH	28.1957	ND	234.666	53752.3	702.742	ND
MDAB_00_04-09-13012	AI211	0-5	ALLH	ND	ND	ND	3.02	ND	1.84
MDAB_04_08-09-13011	AI211	5-10	ALLH	ND	ND	ND	0.719 (J)	ND	1.68
MDAB_08_12-09-13010	AI211	10-12.5	ALLH	83.7 (J-)	0.294	32.2 (J-)	4800 (J-)	1.13	1.84
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	2.5286	ND	ND
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	0.2351	ND	57.129	ND	ND
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	5.0036	ND	ND
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	ND	ND	11.7434	ND	0.4087
MDAB_00_04-09-10193	AI155	0-5	FILL[d]	ND	ND	ND	ND	ND	ND
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	28.4296	ND	ND
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	0.3201	ND	4.8563	ND	ND
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	0.882	345.212	ND	ND
MDAB_00_04-09-13049	AI160	0-5	ALLH	ND	ND	ND	7.4869 (J)	ND	ND
MDAB_04_08-09-13050	AI160	5-11	ALLH	2.1204 (J+)	ND	4.0795 (J)	1258.09 (J)	1.146 (J)	ND
MDAB_00_04-09-13053	AI164	0-5	ALLH	ND	0.3102 (J)	ND	3.9656 (J)	ND	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				30	5.6	37	33	5.7	2.3
MDAB_04_08-09-13054	AI164	5-10	QBT3[e]	ND	1869.3 (J)	0.4698 (J)	140.701 (J)	ND	ND
MDAB_08_12-09-13056	AI164	10-12	QBT3	ND	ND	24.788 (J)	6231.84 (J)	2980.3 (J)	ND
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	ND	40.3018 (J)	ND	ND
MDAB_04_08-09-13042	AI167	5-10	ALLH	ND	ND	ND	2.5744 (J)	1.366 (J)	ND
MDAB_08_12-09-13043	AI167	10-11	ALLH	ND	0.395 (J)	ND	9.865 (J)	ND	ND
MDAB_00_04-09-13097	AI171	0-5	ALLH	0.511	ND	ND	15.4 (J)	ND	1.52
MDAB_04_08-09-13098	AI171	5-10	ALLH	7.6557 (J+)	ND	2.0475 (J)	400.792 (J)	4.127 (J)	ND
MDAB_00_04-09-13112	AI175	0-5	ALLH	2.03	ND	ND	13.1 (J)	ND	1.69
MDAB_04_08-09-13111	AI175	5-9	ALLH	ND	ND	ND	6.9732	ND	ND
MDAB_00_04-09-10213	AI176	0-5	ALLH	ND	ND	ND	22.8771	ND	ND
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	165.507	ND	ND
MDAB_00_04-09-13115	AI179	0-5	ALLH	0.162	ND	ND	9.25 (J)	ND	1.29
MDAB_04_08-09-13116	AI179	5-10	ALLH	21.5	ND	ND	1090	ND	1.35
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	2.9065	ND	ND
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	0.9818	243.155	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	ND	ND	1.5225 (J)	326.088 (J)	ND	7.0878 (J+)
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	15.513	2586.66	2.024	ND
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	66.3571	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	0.12	ND	ND	4.42 (J)	ND	1.17
MDAB_00_04-09-10201	AJ158	0-5	ALLH	0.062	ND	ND	1.16	0.397	1.18
MDAB_04_08-09-10202	AJ158	5-9	ALLH	0.07	ND	ND	2.77	0.63	1.31
MDAB_00_04-09-13122	AJ181	0-5	ALLH	0.824 (J+)	ND	ND	24.8 (J)	ND	1.33

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Thorium-228
Residential SAL[a] (pCi/g)				**30**	**5.6**	**37**	**33**	**5.7**	**2.3**
MDAB_04_08-09-13124	AJ181	5-10	ALLH	30.2	ND	ND	1640	ND	1.58
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	20.9599	ND	ND
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	0.39	ND	ND	14.3 (J)	ND	1.24
MDAB_00_04-09-13105	AG165	0-2.5	QBT3	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10205	AG167	0-4	ALLH	ND	ND	ND	50.2221	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-10209	AH167	0-4	ALLH	ND	ND	ND	0.83	ND	1.38
MDAB_00_04-10-462	WST-600902[f]	n/a[g]	FILL	ND	ND	1.308	159.984	ND	ND
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	0.2571	36.9119	ND	ND
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	0.1422	ND	9.8392	ND	ND

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				5	5	750	170	17	86
MDAB_00_04-09-10390	NF95	0-5	ALLH	ND	ND	ND	1.2107	ND	0.9604
MDAB_04_08-09-10391	NF95	5-8	ALLH	ND	ND	ND	1.232	ND	1.0838
MDAB_00_04-09-10394	NG103	0-5	ALLH	ND	ND	ND	0.8211	ND	0.8317
MDAB_04_08-09-10395	NG103	5-10	ALLH	ND	ND	ND	1.7295	ND	1.6917
MDAB_08_12-09-10396	NG103	10-11	ALLH	ND	ND	ND	0.6892	ND	0.7507
MDAB_00_04-09-10329	NG75	0-5	ALLH	ND	ND	14.0361	1.1578	ND	1.1427
MDAB_04_08-09-10330	NG75	5-10	ALLH	ND	ND	68.0132	1.0859	ND	1.0623
MDAB_08_12-09-10331	NG75	10-15.5	ALLH	ND	ND	39.6182	0.7879	ND	0.8058
MDAB_00_04-09-10382	NG77	0-5	ALLH	ND	ND	ND	1.0095	ND	0.9555
MDAB_04_08-09-10383	NG77	5-10	ALLH	ND	ND	ND	0.9267	ND	1.1556
MDAB_08_12-09-10385	NG77	10-15	ALLH	ND	ND	0.702606	ND	ND	ND
MDAB_12_16-09-10384	NG77	15-16	ALLH	ND	ND	ND	4.613	ND	3.0162
MDAB_00_04-09-10389	NI85	0-4	ALLH	ND	ND	ND	1.0067	ND	ND
MDAB_00_04-09-10317	NG56	0-5	ALLH	ND	ND	1.20555	1.061	ND	1.0609
MDAB_04_08-09-10318	NG56	5-10	ALLH	ND	ND	1.34009	0.9639	ND	0.9314
MDAB_08_12-09-10319	NG56	10-15	ALLH	ND	ND	ND	0.9394	ND	0.905
MDAB_12_16-09-10320	NG56	15-20	ALLH	ND	ND	ND	1.3911	ND	1.0046
MDAB_00_04-09-10325	NG61	0-5	ALLH	ND	ND	ND	0.9957	ND	0.9658
MDAB_04_08-09-10326	NG61	5-10	ALLH	ND	ND	ND	1.0028	ND	0.7269
MDAB_08_12-09-10327	NG61	10-15	ALLH	ND	ND	ND	0.9649	ND	0.9597
MDAB_12_16-09-10328	NG61	15-16	ALLH	ND	ND	ND	3.8837	ND	1.9375

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				5	5	750	170	17	86
MDAB_00_04-09-10321	NH59	0-5	ALLH	ND	ND	ND	1.0232	ND	0.9472
MDAB_04_08-09-10322	NH59	5-10	ALLH	ND	ND	ND	1.1091	ND	0.9638
MDAB_08_12-09-10323	NH59	10-15	ALLH	ND	ND	ND	0.9426	ND	0.974
MDAB_12_16-09-10324	NH59	15-16	ALLH	ND	ND	ND	0.9611	ND	ND
MDAB_00_04-09-10301	NI48	0-5	ALLH	ND	ND	0.876509	0.9228	ND	0.8893
MDAB_00_04-09-10289	NH27	0-5	ALLH	ND	ND	5.48631	0.8456	ND	0.7459
MDAB_04_08-09-10290	NH27	5-10	ALLH	ND	ND	2.22131	0.9776	ND	1.2706
MDAB_00_04-09-10305	NH33	0-2.5	ALLH	ND	ND	1.1507	0.9237	ND	0.9503
MDAB_00_04-09-12961	NH40	0-5	ALLH	ND	ND	3.231	1.1447	0.0625	1.1672
MDAB_04_08-09-12962	NH40	5-10	ALLH	ND	ND	2.4623	1.0993	0.0467	1.0847
MDAB_08_12-09-12964	NH40	10-15	ALLH	ND	ND	2.6435	1.3152	ND	1.2591
MDAB_12_16-09-12963	NH40	15-18	ALLH	ND	ND	2.3154	1.1013	ND	1.2076
MDAB_00_04-09-12965	NH45	0-2	ALLH	ND	ND	5.2561	0.9482	ND	1.2068
MDAB_00_04-09-12969	NI29	0-5	ALLH	ND	ND	3.7264	1.187	0.0585	1.2775
MDAB_04_08-09-12970	NI29	5-10	ALLH	ND	ND	1.0817	1.2603	0.0664	1.2733
MDAB_00_04-09-12957	NI34	0-5	ALLH	ND	ND	1.5126	1.0674	0.0641	1.0411
MDAB_04_08-09-12958	NI34	5-10	ALLH	ND	ND	2.3146	1.0012	0.0576	1.125
MDAB_00_04-09-10313	NI38	0-3	ALLH	ND	ND	2.48163	ND	ND	0.9926
MDAB_00_04-09-10309	NI43	0-5	ALLH	ND	ND	1.74318	1.0692	ND	1.0245
MDAB_04_08-09-10310	NI43	5-7	ALLH	ND	ND	2.55464	ND	ND	ND
MDAB_00_04-09-10293	NJ30	0-5	ALLH	ND	ND	1.44941	1.4893	ND	1.9575
MDAB_04_08-09-10294	NJ30	5-9.5	ALLH	ND	ND	2.04824	4.0671	ND	5.0235
MDAB_00_04-09-10297	NJ35	0-4.5	ALLH	ND	ND	1.79731	0.8213	ND	1.0155

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				5	5	750	170	17	86
MDAB_00_04-09-13004	AL225	0-2.5	ALLH	1.32	1.6	0.0291395	1.55	0.0962	1.44
MDAB_00_04-09-10281	AM228	0-4	ALLH	0.4015	0.419	ND	1.1536	ND	1.2211
MDAB_00_04-09-10285	AM232	0-4	ALLH	0.3912	0.4077	ND	1.1882	ND	1.0757
MDAB_00_04-09-13008	AN223	0-4.5	ALLH	1.12	1.39	0.0208029	0.994	ND	0.834
MDAB_00_04-09-10277	AN226	0-3	ALLH	0.3577	0.5549	ND	0.9838	ND	1.0407
MDAB_00_04-09-10273	AL256	0-5	ALLH	ND	ND	2.6435	1.1191	ND	1.2379
MDAB_00_04-09-12973	AL258	0-4	ALLH	ND	ND	ND	1.0206	0.0628	1.0591
MDAB_00_04-09-12979	AN256	0-5	ALLH	ND	ND	1.9134	1.1219	0.071	1.1936
MDAB_04_08-09-12978	AN256	5-7	ALLH	ND	ND	1.1718	1.7086	0.0714	1.7011
MDAB_00_04-09-10253	AI224	0-2	ALLH	ND	ND	1.0679	1.1629	ND	1.2541
MDAB_00_04-09-10398	AI229	0-5	ALLH	0.4487	ND	ND	1.1899	ND	1.0003
MDAB_04_08-09-10399	AI229	5-10	ALLH	ND	ND	ND	1.2427	ND	1.2503
MDAB_00_04-09-10258	AI234	0-5	ALLH	0.3872	0.5089	ND	0.9956	ND	0.8975
MDAB_04_08-09-10257	AI234	5-10	ALLH	ND	ND	ND	1.1922	ND	1.1027
MDAB_08_12-09-10259	AI234	10-13	ALLH	ND	0.3795	ND	3.4219	ND	2.7509
MDAB_00_04-09-12997	AI239	0-5	ALLH	ND	ND	1.2036	1.7006	ND	1.3652
MDAB_04_08-09-12998	AI239	5-10	ALLH	ND	ND	1.4949	1.4209	ND	1.3477
MDAB_08_12-09-12999	AI239	10-12.5	ALLH	ND	ND	1.7011	0.9735	ND	0.9009
MDAB_00_04-09-12995	AI244	0-3	ALLH	ND	ND	2.456	1.1554	ND	0.9976
MDAB_00_04-09-10261	AI245	0-5	ALLH	0.5256	0.5312	ND	0.9955	ND	0.9953
MDAB_04_08-09-10262	AI245	5-12	ALLH	0.4212	0.3635	ND	2.1275	ND	2.1639
MDAB_00_04-09-12991	AI246	0-5	ALLH	ND	ND	3.9773	1.0051	ND	0.9054
MDAB_04_08-09-12990	AI246	5-12	ALLH	ND	ND	1.3307	1.2809	ND	1.3594

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				5	5	750	170	17	86
MDAB_00_04-09-12986	AI250	0-5	ALLH	ND	ND	1.4719	1.0967	ND	0.9665
MDAB_04_08-09-12988	AI250	5-10	ALLH	ND	ND	1.3332	1.5227	ND	1.3877
MDAB_08_12-09-12987	AI250	10-13	ALLH	ND	ND	ND	0.9388	ND	1.0971
MDAB_00_04-09-10265	AI251	0-5	ALLH	0.3564	0.3654	ND	1.1564	ND	1.1983
MDAB_04_08-09-10266	AI251	5-9	ALLH	ND	ND	1.42608	1.0629	ND	0.7939
MDAB_00_04-09-12981	AI252	0-5	ALLH	ND	ND	1.7918	1.02	ND	0.9723
MDAB_00_04-09-10269	AI256	0-5	ALLH	ND	ND	1.22063	0.9791	ND	0.9396
MDAB_04_08-09-10270	AI256	5-9	ALLH	ND	ND	2.32038	1.154	ND	0.729
MDAB_00_04-09-10245	AH215	0-5	ALLH	ND	ND	ND	18.8396	0.7316	18.6713
MDAB_04_08-09-10246	AH215	5-7	ALLH	0.3119	ND	ND	6.7486	ND	6.5593
MDAB_00_04-09-10229	AI191	0-4.5	ALLH	ND	ND	ND	1.2098	ND	0.9016
MDAB_00_04-09-13028	AI193	0-5	ALLH	0.915	1.11	ND	3.36	0.154	1.58 (J)
MDAB_04_08-09-13027	AI193	5-7	ALLH	0.644	1.03	ND	9.35	0.642	4.08
MDAB_00_04-09-13021	AI99	0-5	ALLH	0.935	1.51	0.0178137	0.958	0.0756	0.989
MDAB_04_08-09-13023	AI99	5-8	ALLH	0.961	1.57	0.0267534	0.843	ND	0.912
MDAB_00_04-09-10233	AI200	0-5	ALLH	ND	ND	ND	1.0653	ND	0.88
MDAB_04_08-09-10234	AI200	5-11	ALLH	ND	ND	ND	1.4775	ND	1.4824
MDAB_00_04-09-13020	AI201	0-5	ALLH	0.95	1.66	ND	1.2	0.0695	0.882
MDAB_04_08-09-13017	AI201	5-8	ALLH	1.19	1.34	0.0217449	1.48	0.158	1.11
MDAB_00_04-09-13013	AI207	0-5	ALLH	0.985	1.54	ND	0.895	ND	0.967
MDAB_04_08-09-13014	AI207	5-10	ALLH	0.996	1.32	0.0223628	0.891	ND	0.93
MDAB_08_12-09-13015	AI207	10-15	ALLH	13.9906 (J+)	ND	ND	12.2416 (J)	0.6267 (J)	9.4203 (J)
MDAB_00_04-09-10237	AI209	0-5	ALLH	ND	ND	ND	0.8123	ND	0.7521

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				5	5	750	170	17	86
MDAB_04_08-09-10238	AI209	5-10	ALLH	ND	ND	ND	1.0946	ND	1.0505
MDAB_12_16-09-10240	AI209	10-10.2	ALLH	ND	ND	11.171	16.4943	ND	14.7428
MDAB_00_04-09-13012	AI211	0-5	ALLH	0.907	1.55	0.0189918	1.13	ND	0.861
MDAB_04_08-09-13011	AI211	5-10	ALLH	1.1	1.58	ND	0.887	0.0678	0.811
MDAB_08_12-09-13010	AI211	10-12.5	ALLH	1.15	1.37	0.027653	4.46	0.257	3.2
MDAB_00_04-09-10241	AI213	0-5	ALLH	ND	ND	ND	0.9734	ND	0.9754
MDAB_04_08-09-10242	AI213	5-11	ALLH	ND	ND	ND	1.9235	ND	1.4604
MDAB_00_04-09-10249	AI217	0-5	ALLH	ND	ND	ND	0.9768	ND	0.9173
MDAB_04_08-09-10250	AI217	5-8	ALLH	ND	0.4412	ND	1.0088	ND	1.0391
MDAB_00_04-09-10193	AI155	0-5	FILL	ND	ND	ND	1.0198	ND	0.9043
MDAB_04_08-09-10194	AI155	5-9	ALLH	ND	ND	ND	11.5213	0.4743	10.9779
MDAB_00_04-09-10197	AI157	0-5	ALLH	ND	ND	ND	1.1992	ND	1.1845
MDAB_04_08-09-10198	AI157	5-9	ALLH	ND	ND	19.4775 (J)	1.5683	ND	1.411
MDAB_00_04-09-13049	AI160	0-5	ALLH	3.9891 (J)	ND	1.8858 (J)	1.0783 (J)	ND	1.0149 (J)
MDAB_04_08-09-13050	AI160	5-11	ALLH	ND	ND	ND	1.098 (J)	ND	0.7515 (J)
MDAB_00_04-09-13053	AI164	0-5	ALLH	0.297 (J)	ND	ND	0.8418 (J)	ND	0.8414 (J)
MDAB_04_08-09-13054	AI164	5-10	QBT3	0.4235 (J)	ND	ND	8.8827 (J)	0.4387 (J)	7.8551 (J)
MDAB_08_12-09-13056	AI164	10-12	QBT3	ND	ND	ND	10.8848 (J)	0.9985 (J)	6.4131 (J)
MDAB_00_04-09-13041	AI167	0-5	ALLH	ND	ND	2.1766 (J)	0.7792 (J)	ND	0.7074 (J)
MDAB_04_08-09-13042	AI167	5-10	ALLH	0.4559 (J)	ND	4.2643 (J)	0.9267 (J)	ND	0.8866 (J)
MDAB_08_12-09-13043	AI167	10-11	ALLH	ND	ND	16.234 (J)	0.931 (J)	ND	0.862 (J)
MDAB_00_04-09-13097	AI171	0-5	ALLH	1.18	1.47	ND	1.17	ND	1.29 (J)
MDAB_04_08-09-13098	AI171	5-10	ALLH	ND	ND	ND	10.2152 (J)	0.3859 (J)	9.2367 (J)

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				**5**	**5**	**750**	**170**	**17**	**86**
MDAB_00_04-09-13112	AI175	0-5	ALLH	1	1.41	ND	1.19	ND	1.24 (J)
MDAB_04_08-09-13111	AI175	5-9	ALLH	ND	ND	52.644	2.618	0.1225	2.3276
MDAB_00_04-09-10213	AI176	0-5	ALLH	ND	ND	ND	1.6794	ND	1.4716
MDAB_04_08-09-10214	AI176	5-9	ALLH	ND	ND	ND	8.9061	ND	8.8977
MDAB_00_04-09-13115	AI179	0-5	ALLH	0.949	1.22	ND	1.02	ND	1.14 (J)
MDAB_04_08-09-13116	AI179	5-10	ALLH	0.771	1.14	ND	10.6	0.906	10.4
MDAB_00_04-09-10221	AI180	0-5	ALLH	ND	ND	ND	0.8551	ND	1.1176
MDAB_04_08-09-10222	AI180	5-10	ALLH	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13038	AI183	0-5	ALLH	14.953 (J+)	ND	ND	2.2571 (J)	ND	2.1896 (J)
MDAB_00_04-09-10225	AI185	0-5	ALLH	ND	ND	ND	0.8702	ND	0.9368
MDAB_04_08-09-10226	AI185	5-6	ALLH	ND	ND	ND	ND	ND	ND
MDAB_00_04-09-13031	AI186	0-6	ALLH	0.82	1.11	ND	90.3	5.92	92.2
MDAB_00_04-09-10201	AJ158	0-5	ALLH	0.639	1.15	ND	0.695	ND	0.714
MDAB_04_08-09-10202	AJ158	5-9	ALLH	0.736	1.27	ND	0.97	ND	0.771
MDAB_00_04-09-13122	AJ181	0-5	ALLH	0.716	1.25	ND	0.853	ND	0.798 (J)
MDAB_04_08-09-13124	AJ181	5-10	ALLH	1.12	1.26	ND	0.955 (J+)	ND	0.79 (J+)
MDAB_00_04-09-10217	AJ183	0-5	ALLH	ND	ND	ND	1.2506	ND	1.1923
MDAB_00_04-09-13034	AJ185	0-7.5	ALLH	0.68	1.19	ND	0.703	ND	0.692 (J)
MDAB_00_04-09-13105	AG165	0-2.5	QBT3	ND	ND	6.7408 (J)	0.8262 (J)	ND	0.6959 (J)
MDAB_00_04-09-10205	AG167	0-4	ALLH	ND	ND	ND	1.253	ND	ND
MDAB_00_04-09-13104	AG168	0-2.5	FILL	ND	ND	ND	0.8109 (J)	ND	0.7261 (J)
MDAB_00_04-09-10209	AH167	0-4	ALLH	0.857	1.34	ND	0.764	ND	0.774
MDAB_00_04-10-462	WST-600902	n/a	FILL	ND	ND	6.0291	0.8446	ND	0.8538

Table C-7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Thorium-230	Thorium-232	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL[a] (pCi/g)				**5**	**5**	**750**	**170**	**17**	**86**
MDAB_00_04-10-463	WST-600902	n/a	FILL	ND	ND	10.6685	1.1937	0.0717	1.209
MDAB_00_04-10-464	WST-600902	n/a	FILL	ND	ND	17.5286	0.8752	ND	0.9899

[a] SALs are from LANL (2009, 107655).

[b] ALLH = All horizons (soil).

[c] ND = Not detected.

[d] FILL = Fill Material, undifferentiated.

[e] QBT3 = Quaternary Tshirege Member of Bandelier Tuff 3.

[f] WST-600902 is a composite waste sample.

[g] n/a = Not applicable.

REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), December 2009. "Radionuclide Screening Action Levels (SALs) from RESRAD, Version 6.5," Los Alamos National Laboratory document LA-UR-09-8111, Los Alamos, New Mexico. (LANL 2009, 107655)

NMED (New Mexico Environment Department), December 2009. "Technical Background Document for Development of Soil Screening Levels, Revision 5.0," with revised Table A-1, New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2009, 108070)

Appendix D

Historical Borehole Data

D-1.0 INTRODUCTION

A subsurface investigation was conducted at Material Disposal Area (MDA) B in 1998. A total of seven angled boreholes were advanced beneath the MDA B disposal trenches as delineated by geophysical surveys and historical information. Boreholes were advanced in different areas of the site to show nature and extent of contaminants beneath the disposal trenches.

- Three boreholes were advanced beneath the trenches in the western leg.
- Two boreholes were advanced beneath either end of the trench in the eastern leg.
- One borehole was advanced beneath the estimated area of the chemical pit.
- One borehole was advanced beneath the area at the far west of MDA B.

Drilling locations were calculated so that each borehole would remain a minimum of 5 ft from the estimated outside corners of the disposal trench (1998, 059506). Continuous-core samples were logged, and samples were collected every 10 ft beneath the trench in cooling unit 3 of the Tshirege Member of the Bandelier Tuff (Qbt3). Fifty-five samples were analyzed for inorganic chemicals, organic chemicals, and radionuclides. Several radionuclide and inorganic chemicals were detected, but the results were below soil screening levels (SSLs) and screening action levels (SALs). There were no organic chemicals detected. Tables D-1.0-1 and D-1.0-2 present the analytes detected for inorganic chemicals and radionuclides, respectively.

Radionuclide results for six of the seven angled boreholes were below residential SALs. Borehole 21-10554 showed results of plutonium-239/240 and strontium-90 above residential SALs in one of nine samples. This borehole was advanced beneath the estimated location of the chemical pit and penetrated the subsurface corner of the disposal pit at a point approximately 11 ft from the top of the angled boring (approximately 8 ft below ground surface [bgs]). Metal shavings observed in the core were analyzed and determined to be beryllium metal. Field screening in the 15- to 20-ft core interval indicated elevated gross alpha/beta/gamma activity over instrument background.

A sample was collected along the length of borehole 21-10554 before contacting the disposal trench, and several samples were collected following contact with the disposal trench. The sample collected before contact with the trench (19–20 ft) showed results below SALs, while the sample following contact (24–25 ft) exhibited results of plutonium-239/240 (43.5 pCi/g) and strontium-90 (10.9 pCi/g) above residential SALs. The following seven samples collected along the length of the borehole resulted in detections below residential SALs and below 1 pCi/g of radionuclides detected.

Tritium was detected in four of the seven angled boreholes. Tritium concentrations were detected in boreholes 21-10552, 21-10553, and 21-10554 below 1 pCi/g. Borehole 21-10551 was the only borehole that detected tritium above 1 pCi/g, with concentrations peaking at approximately 45 ft bgs (269 pCi/g) and then decreasing with depth. The deepest sample collected in this borehole (approximately 75 ft bgs) showed a tritium concentration of 0.8 pCi/g. Tritium was not detected in boreholes 21-10555, 21-10556, or 21-10557.

Three vapor samples were collected for volatile organic compound (VOC) analysis from each borehole. The samples were collected in evacuated SUMMA canisters at discrete intervals by running an extraction tube to the bottom of the borehole and sealing it off with an inflatable borehole packer. Vapor samples were collected at 35 ft, 75 ft, and 100 ft along the length of the borehole (approximately 25 ft, 53 ft, and 70 ft vertically bgs). The angled boreholes pass directly beneath the disposal trenches, where the highest potential for contamination exists. The highest detected concentrations were at trace levels, with the

highest being 1,1,1-trichloroethane (190 parts per billion by volume [ppbv]) and trichloroethene (120 ppbv) (LANL 2006, 095499). Table D-1.0-3 presents the VOCs detected in the soil-vapor samples collected.

Samples collected from these angled boreholes demonstrate a consistent decrease in contaminant concentration with depth. Analysis of these results confirms that nature and extent of any contaminants below the disposal trenches have been defined.

D-2.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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LANL (Los Alamos National Laboratory), October 2006. "Investigation/Remediation Work Plan for Material Disposal Area B, Solid Waste Management Unit 21-015, at Technical Area 21, Revision 1," Los Alamos National Laboratory document LA-UR-06-6918, Los Alamos, New Mexico. (LANL 2006, 095499)

LANL (Los Alamos National Laboratory), December 2009. "Radionuclide Screening Action Levels (SALs) from RESRAD, Version 6.5," Los Alamos National Laboratory document LA-UR-09-8111, Los Alamos, New Mexico. (LANL 2009, 107655)

NMED (New Mexico Environment Department), December 2009. "Technical Background Document for Development of Soil Screening Levels, Revision 5.0," with revised Table A-1, New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2009, 108070)

Table D-1.0-1
Inorganic Chemicals Detected in Angled Borehole Samples

Sample ID	Distance Along Angled Borehole (ft)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron
Residential SSL (mg/kg)[a]		**78,100**	**31.3**	**3.9**	**15,600**	**156**	**77.9**	**na[b]**	**219**	**23[c]**	**3130**	**54,800**
MD21-98-0101	29-30	110	11 (J-)	1.5 (J-)	3.8 (J-)	0.53 (J-)	0.53 (J-)	200	1.1 (J-)	1.1 (J-)	1.1 (J-)	1200
MD21-98-0102	39-40	280	11 (J-)	1.6 (J-)	7.6 (J-)	0.54 (J-)	0.54 (J-)	150	1.1 (J-)	1.1 (J-)	1.1 (J-)	1900
MD21-98-0103	49-50	980	11 (J-)	1.6 (J-)	12 (J-)	0.54 (J-)	0.54 (J-)	160	2.6 (J-)	1.1 (J-)	1.4 (J-)	1800
MD21-98-0105	59-60	690	11 (J-)	1.7 (J-)	17 (J-)	0.56 (J-)	0.56 (J-)	160	1.1 (J-)	1.1 (J-)	1.8 (J-)	2100
MD21-98-0106	69-70	560	11 (J-)	1.8 (J-)	11 (J-)	0.55 (J-)	0.55 (J-)	170	1.1 (J-)	1.1 (J-)	1.1 (J-)	2000
MD21-98-0107	79-80	2900	ND[d]	2.7	27	0.91	ND	390	1.9	ND	ND	4900
MD21-98-0108	89-90	320	ND	ND	6.2	ND	ND	270	ND	ND	ND	3400
MD21-98-0110	99-100	960	ND	ND	15	ND	ND	350	ND	ND	ND	3800
MD21-98-0123	29-30	230	ND	ND	8	ND	ND	240	ND	ND	ND	3200
MD21-98-0124	39-40	2500	ND	ND	20	0.63	ND	660	1.6	ND	1.5	3900
MD21-98-0125	49-50	200	ND	ND	7	ND	ND	530	2.1	ND	ND	3600
MD21-98-0127	59-60	220	ND	ND	5.7	ND	ND	790	ND	ND	ND	3300
MD21-98-0128	69-70	210	ND	ND	4.3	ND	ND	730	2.7	ND	ND	3000
MD21-98-0129	79-80	230	ND	ND	2.8	ND	ND	780	ND	ND	ND	3100
MD21-98-0130	89-90	280	ND	ND	2.6	ND	ND	910	1.7	ND	ND	2800
MD21-98-0131	99-100	290	ND	ND	3.3	ND	ND	810	1.8	ND	ND	2500
MD21-98-0146	27-30	240	ND	1.1	8.8	ND	ND	610	2.2	ND	ND	3200
MD21-98-0147	29-30	290	ND	ND	7.8	ND	ND	610	1.9	ND	ND	3300
MD21-98-0149	39-40	370	ND	1.1	7.9	ND	ND	650	ND	ND	ND	2900
MD21-98-0150	49-50	690	ND	ND	5.9	ND	ND	730	ND	ND	ND	1800

Table D-1.0-1 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron
Residential SSL (mg/kg)[a]		**78,100**	**31.3**	**3.9**	**15,600**	**156**	**77.9**	**na[b]**	**219**	**23[c]**	**3130**	**54,800**
MD21-98-0151	59-60	570	ND	ND	5.4	ND	ND	840	1.5	ND	ND	3100
MD21-98-0152	69-70	380	ND	ND	6.6	ND	ND	640	1.3	ND	ND	2400
MD21-98-0153	79-80	280	ND	ND	4.5	ND	ND	780	1.3	ND	ND	1800
MD21-98-0155	89-90	310	ND	ND	4.4	ND	ND	750	1.8	ND	ND	1500
MD21-98-0156	99-100	670	ND	ND	5.7	ND	ND	710	2.2	ND	ND	1800
MD21-98-0167	19-20	3200	ND	2	25	ND	ND	500	3.2	ND	2.2	4900
MD21-98-0168	23-24	770	ND	1.5	10	ND	37	490	4.9	ND	ND	2800
MD21-98-0169	39-40	2400	ND	2.1	11	ND	ND	900	1.9	ND	ND	4400
MD21-98-0171	49-50	210	ND	1.2	3.6	ND	ND	840	1.1	ND	ND	2600
MD21-98-0172	59-60	210	ND	1.1	3.6	ND	ND	930	1.1	ND	ND	2100
MD21-98-0173	69-70	1300	ND	1.2	7.1	ND	ND	840	2.4	ND	ND	3000
MD21-98-0174	79-80	610	ND	1.1	3.9	ND	ND	900	2.7	ND	ND	3000
MD21-98-0175	89-90	320	ND	ND	2.6	ND	ND	880	6.9	ND	ND	2000
MD21-98-0177	99-100	410	ND	1.4	3.6	ND	ND	1000	2.4	ND	ND	2700
MD21-98-0189	29-30	320	ND	1	7.2	ND	ND	290	ND	ND	ND	2500
MD21-98-0190	39-40	270	ND	1.2	7.2	ND	ND	380	ND	ND	ND	2800
MD21-98-0191	49-50	5500	ND	2.3	39	1.2	ND	880	2.3	1.4	ND	5700
MD21-98-0193	59-60	330	ND	1.4	8.8	ND	ND	470	1.4	ND	ND	2000
MD21-98-0194	69-70	430	ND	1.5	15	ND	ND	880	1.5	ND	1.3	2400
MD21-98-0195	79-80	390	ND	1.6	9.2	ND	ND	310	2.3	ND	1.4	2800
MD21-98-0196	88-90	330	ND	1.3	16	ND	ND	260	1.7	ND	1.1	3300

Table D-1.0-1 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron
Residential SSL (mg/kg)[a]		**78,100**	**31.3**	**3.9**	**15,600**	**156**	**77.9**	**na[b]**	**219**	**23[c]**	**3130**	**54,800**
MD21-98-0199	99-100	290	ND	1.4	9.6	ND	ND	270	ND	ND	1	3000
MD21-98-0211	29-30	630	ND	2.2	13	ND	ND	260	ND	ND	1.4	4000
MD21-98-0212	39-40	2600	ND	2	13	ND	ND	410	1.8	1.2	1.7	5500
MD21-98-0213	49-50	420	ND	1.7	12	ND	ND	250	ND	ND	1.2	3700
MD21-98-0215	59-60	2000	ND	2.3	11	0.54	ND	440	1.8	1.1	2.1	4800
MD21-98-0216	69-70	8700	ND	3.7	36	1	ND	1200	6.5	2.1	4	9300
MD21-98-0217	79-80	5000	ND	2.9	29	0.78	ND	850	3.3	1.6	2.7	6800
MD21-98-0218	89-90	4900	ND	2.3	28	0.92	ND	750	5.1	1.4	2.5	5900
MD21-98-0219	99-100	230	ND	1.3	5.1	ND	ND	530	2.6	ND	ND	3000
MD21-98-0236	29-30	5700	ND	3.3	17	0.88	ND	1500	3.4	1.3	3.3	5500
MD21-98-0237	39-40	1700	ND	2.6	12	ND	ND	560	2	ND	1.5	3900
MD21-98-0238	49-50	290	ND	1.8	5.7	ND	ND	480	ND	ND	1.3	2600
MD21-98-0240	59-60	2600	ND	2.7	15	ND	ND	430	1.6	ND	1.6	4000
MD21-98-0241	69-70	420	ND	1.9	2.1	ND	ND	850	5.4	ND	1.1	2600
MD21-98-0242	79-80	2400	ND	2.7	6.2	ND	ND	860	3.7	ND	1.5	2800
MD21-98-0243	89-90	1600	ND	1.6	7.3	ND	ND	830	1.6	ND	1.6	2600
MD21-98-0244	99-100	340	ND	1.3	6	ND	ND	620	1.9	ND	1.4	1900

Table D-1.0-1 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Vanadium	Zinc
Residential SSL (mg/kg)[a]		**400**	**na**	**10,700**	**7.7[e]**	**1560**	**na**	**391**	**391**	**na**	**391**	**23,500**
MD21-98-0101	29-30	1.1 (J-)	51	100 (J-)	ND	2.1 (J-)	90	0.53 (J-)	2.1 (J-)	52	0.64 (J-)	6.7 (J-)
MD21-98-0102	39-40	1.2 (J-)	44	150 (J-)	ND	2.2 (J-)	130	0.54 (J-)	2.2 (J-)	70	1.7 (J-)	6 (J-)
MD21-98-0103	49-50	1.1 (J-)	110	150 (J-)	ND	2.2 (J-)	230	0.54 (J-)	2.2 (J-)	73	2.1 (J-)	21 (J-)
MD21-98-0105	59-60	1.7 (J-)	110 (J-)	190	ND	2.2 (J-)	200	0.56 (J-)	2.2 (J-)	50	2.1 (J-)	30 (J-)
MD21-98-0106	69-70	1.7 (J-)	71	190 (J-)	ND	2.2 (J-)	140	0.55 (J-)	2.2 (J-)	49	2.3 (J-)	16 (J-)
MD21-98-0107	79-80	3.2	230	310	ND	ND	250	ND	ND	92	4.3	22
MD21-98-0108	89-90	9	97	230	ND	ND	110	ND	ND	79	0.85	31
MD21-98-0110	99-100	13	150	280	ND	ND	160	ND	ND	66	2.2	31
MD21-98-0123	29-30	2	130	ND	ND	ND	110	ND	ND	85	0.81	21
MD21-98-0124	39-40	4.6	450	ND	ND	ND	340	ND	ND	64	2.7	35
MD21-98-0125	49-50	5.2	110	210	ND	ND	72	ND	ND	65	1.3	36
MD21-98-0127	59-60	5.1	130	220	ND	ND	120	ND	ND	110	0.89	27
MD21-98-0128	69-70	2.4	130	230	ND	ND	110	ND	ND	110	0.87	28
MD21-98-0129	79-80	4.2	130	210	ND	ND	110	ND	ND	120	0.88	25
MD21-98-0130	89-90	4.7	160	200	ND	ND	160	ND	ND	150	0.83	29
MD21-98-0131	99-100	ND	160	190	ND	ND	190	ND	ND	160	0.61	32
MD21-98-0146	27-30	3.2	120	200	ND	ND	93	ND	ND	110	ND	23
MD21-98-0147	29-30	4	130	210	ND	ND	90	ND	ND	120	ND	27
MD21-98-0149	39-40	4.2	140	220	ND	ND	92	ND	ND	86	ND	23
MD21-98-0150	49-50	2	240	140	ND	ND	150	ND	ND	98	ND	22
MD21-98-0151	59-60	4.2	180	230	ND	ND	140	ND	ND	110	ND	25
MD21-98-0152	69-70	3.7	140	160	ND	ND	99	ND	ND	94	ND	24

Table D-1.0-1 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Vanadium	Zinc
Residential SSL (mg/kg)[a]		**400**	**na**	**10,700**	**7.7[e]**	**1560**	**na**	**391**	**391**	**na**	**391**	**23,500**
MD21-98-0153	79-80	2.4	150	140	ND	ND	120	ND	ND	110	ND	22
MD21-98-0155	89-90	2.3	180	120	ND	ND	110	ND	ND	120	ND	20
MD21-98-0156	99-100	1.8	230	130	ND	ND	150	ND	ND	96	ND	22
MD21-98-0167	19-20	6.1	500	180 (J-)	ND	2.3	450	ND	ND	110	3	33
MD21-98-0168	23-24	6.3	180	170 (J-)	0.13	2.4	160	ND	ND	85	1.1	110
MD21-98-0169	39-40	3	470 (J-)	190	ND	2.3	330	ND	ND	78	2.3	19
MD21-98-0171	49-50	2.3	160	170 (J-)	ND	ND	120	ND	ND	110	ND	19
MD21-98-0172	59-60	2.6	180	180 (J-)	ND	ND	130	ND	ND	120	0.56	23
MD21-98-0173	69-70	1.9	220	180 (J-)	ND	ND	180	ND	ND	75	0.99	23
MD21-98-0174	79-80	2.6	190	170 (J-)	ND	ND	140	ND	ND	84	0.79	22
MD21-98-0175	89-90	2.6	150	140	ND	3.4	160	ND	ND	130	0.63	26
MD21-98-0177	99-100	4.3	240	180	ND	ND	230	ND	ND	170	0.83	26
MD21-98-0189	29-30	ND	120	190 (J-)	ND	ND	130	ND	ND	84	0.61	20
MD21-98-0190	39-40	ND	92	190 (J-)	ND	ND	99	ND	ND	78	0.68	13
MD21-98-0191	49-50	ND	680	220 (J-)	ND	ND	530	ND	ND	79	4.8	30
MD21-98-0193	59-60	1.6	67	120 (J-)	ND	ND	100	ND	ND	97	0.62	10
MD21-98-0194	69-70	2.3	340	180 (J-)	ND	ND	240	ND	ND	140	1.3	23
MD21-98-0195	79-80	2.1	91	230 (J-)	ND	ND	120	ND	ND	98	1.4	30
MD21-98-0196	88-90	2.5	80	230 (J-)	ND	ND	110	ND	ND	96	1.7	25
MD21-98-0199	99-100	2	74	200 (J-)	ND	ND	110	ND	ND	86	1.2	21
MD21-98-0211	29-30	2.4	180	230 (J-)	ND	2.4	140	ND	ND	55	1.6	23
MD21-98-0212	39-40	2.6	400	160 (J-)	ND	ND	350	ND	ND	57	2.9	22
MD21-98-0213	49-50	2.4	160	220 (J-)	ND	ND	130	ND	ND	66	1.3	19

Table D-1.0-1 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Vanadium	Zinc
Residential SSL (mg/kg)[a]		**400**	**na**	**10,700**	**7.7[e]**	**1560**	**na**	**391**	**391**	**na**	**391**	**23,500**
MD21-98-0215	59-60	3	390	200 (J-)	ND	ND	310	ND	ND	59	3	33
MD21-98-0216	69-70	7.6	1300	ND	ND	4.2	970	ND	ND	190	8.9	49
MD21-98-0217	79-80	4.2	800	ND	ND	3.2	540	ND	ND	140	6.6	34
MD21-98-0218	89-90	4.3	ND	230	ND	3.3	580	ND	ND	120	5.1	41
MD21-98-0219	99-100	2.1	120	ND	ND	ND	88	ND	ND	67	1.1	31
MD21-98-0236	29-30	4.8	1000	180 (J-)	ND	3	880	ND	ND	81	4.4	46
MD21-98-0237	39-40	10	310	190 (J-)	ND	2.9	280	ND	ND	52	2.2	32
MD21-98-0238	49-50	22	110	190 (J-)	ND	ND	130	ND	ND	69	ND	33
MD21-98-0240	59-60	61	330	240 (J-)	ND	2.4	350	ND	ND	63	2.3	41
MD21-98-0241	69-70	48	230	190 (J-)	ND	2.9	340	ND	ND	190	0.96	44
MD21-98-0242	79-80	12	370	180 (J-)	ND	2.3	400	ND	ND	160	1.9	44
MD21-98-0243	89-90	4.5	400	220 (J-)	ND	ND	390	ND	ND	120	1.2	40
MD21-98-0244	99-100	3.3	140	180 (J-)	ND	ND	160	ND	ND	90	ND	35

[a] SSLs are from NMED (2009, 108070), unless indicated otherwise.

[b] na = Not available.

[c] SSL for cobalt is from www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[d] ND = Not detected.

[e] SSL is for elemental mercury.

Table D-1.0-2
Radionuclides Detected in Angled Borehole Samples

Sample ID	Distance Along Angled Borehole (ft)	Americium-241	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL (pCi/g)[a]		30	33	5.7	750	170	17	87
Analytical Method		Am-241	Isotopic	Sr-90	H^3	Isotopic	Isotopic	Isotopic
MD21-98-0101	29-30	ND[b]	ND	ND	0.1	0.64	0.044	0.71
MD21-98-0102	39-40	ND	ND	ND	0.3	0.7	0.04	0.75
MD21-98-0103	49-50	ND	ND	ND	12	0.81	0.063	0.83
MD21-98-0105	59-60	ND	ND	ND	269	0.77	0.025	0.75
MD21-98-0106	69-70	ND	ND	ND	178	0.62	0.029	0.78
MD21-98-0107	79-80	0.0227	ND	ND	55	0.81	0.047	0.81
MD21-98-0108	89-90	ND	ND	ND	0.8	0.84	0.061	0.79
MD21-98-0110	99-100	ND	ND	ND	3.1	0.64	0.039	0.61
MD21-98-0123	29-30	ND	ND	ND	ND	0.79	0.046	0.77
MD21-98-0124	39-40	ND	ND	ND	ND	0.72	0.036	0.74
MD21-98-0125	49-50	ND	ND	ND	ND	0.85	ND	0.9
MD21-98-0127	59-60	ND	ND	ND	ND	1.21	ND	0.73
MD21-98-0128	69-70	ND	ND	ND	ND	0.84	0.057	0.8
MD21-98-0129	79-80	ND	ND	ND	ND	0.86	0.064	0.86
MD21-98-0130	89-90	ND	ND	ND	0.1	1.5	0.077	1.56
MD21-98-0131	99-100	ND	ND	ND	0.1	0.79	0.048	0.79
MD21-98-0146	27-30	ND	ND	ND	ND	0.82	0.041	0.86
MD21-98-0147	29-30	ND	ND	ND	ND	0.86	0.072	0.77
MD21-98-0149	39-40	ND	ND	ND	ND	0.75	0.042	0.78
MD21-98-0150	49-50	ND	ND	ND	ND	0.76	0.073	0.76

Table D-1.0-2 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Americium-241	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL (pCi/g)[a]		30	33	5.7	750	170	17	87
Analytical Method		Am-241	Isotopic	Sr-90	H^3	Isotopic	Isotopic	Isotopic
MD21-98-0151	59-60	ND	ND	ND	0.1	0.71	0.047	0.68
MD21-98-0152	69-70	ND	ND	ND	ND	0.68	0.026	0.67
MD21-98-0153	79-80	ND	ND	ND	0.1	0.68	0.036	0.74
MD21-98-0155	89-90	ND	ND	ND	0.1	0.71	ND	0.72
MD21-98-0156	99-100	ND	ND	ND	0.1	0.78	0.05	0.79
MD21-98-0167	19-20	0.1	4.98	ND	0.05	0.83	0.03	0.86
MD21-98-0168	23-24	13.09	43.5	10.9	ND	0.88	0.056	0.83
MD21-98-0169	39-40	ND	0.044	ND	0.1	0.72	0.041	0.7
MD21-98-0171	49-50	ND	0.18	ND	0.1	0.66	0.042	0.65
MD21-98-0172	59-60	ND	0.137	ND	0.1	0.77	0.04	0.73
MD21-98-0173	69-70	ND	0.061	ND	0.1	0.77	ND	0.68
MD21-98-0174	79-80	ND	ND	ND	0.1	0.75	0.058	0.79
MD21-98-0175	89-90	ND	0.169	ND	0.3	0.69	0.042	0.71
MD21-98-0177	99-100	ND	ND	ND	0.1	0.87	0.051	0.75
MD21-98-0189	29-30	ND	ND	ND	ND	0.58	ND	0.6
MD21-98-0190	39-40	ND	0.05	ND	ND	0.78	ND	0.69
MD21-98-0191	49-50	ND	0.078	ND	ND	0.69	0.041	0.71
MD21-98-0193	59-60	ND	ND	ND	ND	0.73	0.037	0.73
MD21-98-0194	69-70	ND	ND	ND	ND	0.74	0.051	0.72

Table D-1.0-2 (continued)

Sample ID	Distance Along Angled Borehole (ft)	Americium-241	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Residential SAL (pCi/g)[a]		30	33	5.7	750	170	17	87
Analytical Method		Am-241	Isotopic	Sr-90	H^3	Isotopic	Isotopic	Isotopic
MD21-98-0195	79-80	ND	ND	ND	ND	0.82	0.039	0.71
MD21-98-0196	88-90	ND	ND	ND	ND	0.67	ND	0.65
MD21-98-0199	99-100	ND	ND	ND	ND	0.72	0.044	0.67
MD21-98-0211	29-30	ND	ND	ND	ND	0.76	0.034	0.8
MD21-98-0212	39-40	ND	ND	ND	ND	0.62	0.031	0.64
MD21-98-0213	49-50	ND	ND	ND	ND	0.78	0.037	0.74
MD21-98-0215	59-60	ND	ND	ND	ND	0.77	0.049	0.73
MD21-98-0216	69-70	ND	ND	ND	ND	0.69	0.078	0.77
MD21-98-0217	79-80	ND	ND	ND	ND	0.8	0.038	0.78
MD21-98-0218	89-90	ND	ND	ND	ND	0.79	0.033	0.74
MD21-98-0219	99-100	ND	ND	ND	ND	0.73	0.079	0.75
MD21-98-0236	29-30	ND	ND	ND	ND	0.91	0.048	0.99
MD21-98-0237	39-40	ND	ND	ND	ND	0.69	0.05	0.75
MD21-98-0238	49-50	ND	ND	ND	ND	0.69	0.048	0.7
MD21-98-0240	59-60	ND	ND	ND	ND	4.04	0.175	3.92
MD21-98-0241	69-70	ND	ND	ND	ND	1.04	0.061	1.02
MD21-98-0242	79-80	ND	ND	ND	ND	0.73	0.039	0.7
MD21-98-0243	89-90	ND	ND	ND	ND	0.8	0.035	0.69
MD21-98-0244	99-100	ND	ND	ND	ND	0.77	0.062	0.75

[a] SALs are from LANL (2009, 107655).

[b] ND = Not detected.

Table D-1.0-3
VOCs Detected in Pore Gas in Angled Borehole Samples

Location ID	Sample ID	Depth (ft bgs)	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	Dichlorodifluoromethane	Ethylbenzene	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichloroethane[1,1,1-]	Trichloroethene	Trichlorofluoromethane	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
21-10551	MD21-98-0104	35	ND*	6.4	29	ND	ND	ND	ND	ND	4.4	9.6	ND	28	56	ND	ND	ND	4.9	ND	ND
21-10551	MD21-98-0109	75	3.3	14	56	7.8	ND	ND	ND	ND	10	16	ND	13	120	ND	ND	ND	5.4	ND	ND
21-10551	MD21-98-0114	100	0.53	ND	ND	ND	0.59	ND	ND	ND	ND	2.1	ND	2.9	0.7	ND	ND	ND	ND	ND	ND
21-10552	MD21-98-0126	35	3.7	ND	ND	ND	ND	ND	15	ND	ND	15	9	190	ND	ND	ND	ND	ND	ND	3.2
21-10552	MD21-98-0132	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.1	9.1	ND	1.8	ND	ND	ND	ND	ND	ND
21-10552	MD21-98-0138	100	6.6	ND	ND	ND	0.65	0.66	ND	ND	ND	7.8	1.4	30	ND	ND	ND	ND	2.7	0.83	ND
21-10553	MD21-98-0148	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	0.78	16	ND	ND	ND	ND	ND	ND	ND
21-10553	MD21-98-0154	75	3.4	ND	ND	ND	0.59	ND	ND	ND	ND	4	1.2	25	ND	ND	ND	ND	ND	ND	1.1
21-10553	MD21-98-0160	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	1.4	27	ND	ND	ND	ND	ND	ND	ND
21-10554	MD21-98-0170	35	7.2	ND	ND	ND	ND	ND	ND	ND	ND	9.9	4.4	100	ND	ND	ND	ND	ND	ND	3.3
21-10554	MD21-98-0176	75	8.4	ND	ND	ND	ND	ND	ND	ND	ND	11	2.1	45	ND	ND	ND	ND	ND	ND	3.1
21-10554	MD21-98-0182	100	4.4	ND	ND	ND	ND	ND	ND	ND	ND	6.1	ND	29	ND	ND	ND	ND	ND	ND	2.3
21-10555	MD21-98-0192	35	6.6	ND	ND	ND	ND	ND	ND	ND	ND	8.8	2.5	38	ND	ND	ND	ND	ND	ND	3.7
21-10555	MD21-98-0198	100	7.9	ND	ND	ND	ND	1.8	ND	ND	ND	13	2.1	33	ND	ND	1.6	ND	ND	2.2	6.5
21-10556	MD21-98-0214	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.9	2.9	46	ND	ND	5.4	ND	ND	2.7	5.7
21-10556	MD21-98-0220	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.88	ND	3.7	0.95	ND	ND	ND	ND	ND	ND
21-10556	MD21-98-0226	100	23	3	0.76	ND	0.62	1.2	ND	1.2	ND	19	ND	5.4	33	ND	0.8	ND	ND	1.1	2.2
21-10557	MD21-98-0239	35	14	2.2	ND	ND	0.68	2.9	ND	1.1	0.9	36	ND	6.7	24	ND	4	0.94	ND	3.1	6.7
21-10557	MD21-98-0245	75	16	4.8	0.69	ND	ND	2.3	ND	0.87	1.2	23	ND	10	53	0.77	3.8	1	ND	2.7	6
21-10557	MD21-98-0256	100	4.8	7.6	1.3	ND	0.87	1.3	ND	ND	1.5	26	ND	14	92	0.84	2.4	ND	ND	1.7	3.3

Note: All units are ppbv.

*ND = Not detected.

Appendix E

Overburden Data Summary and Statistics

E-1.0 INTRODUCTION

Overburden was removed from the Material Disposal Area (MDA) B site, stockpiled, and sampled before the waste trenches were excavated. After the contaminated soil and buried waste debris was removed from the waste trenches and confirmation sampling had confirmed that contamination was no longer an unacceptable risk, overburden material characterized as below residential soil screening levels (SSLs) and screening action levels (SALs) was reused to backfill the excavated trenches. Backfilling operations proceeded from September 9, 2010, through September 12, 2011. Plate 1 of the investigation/remediation report (I/R report) shows the excavated and backfilled grid cell and confirmation sample locations.

E-2.0 OVERBURDEN SAMPLE STATISTICS

Two separate overburden stockpiles and 63 overburden containers were sampled. Before the overburden could be used as backfill for the excavated trenches, samples were analyzed for organic chemicals, inorganic chemicals, and radionuclides. Statistical analysis of overburden samples was conducted on 172 samples collected from the first stockpile and on 74 samples from the second stockpile and overburden containers.

Separate statistical analyses were performed for the first stockpile (preenclosure overburden) and the second stockpile and containers (postenclosure overburden). The preenclosure stockpile was sampled during April and May 2010, comprising 6292 yd^3 of overburden that was removed before the installation of enclosures 1 and 2. The postenclosure stockpile comprised 1970 yd^3 of overburden excavated from the foundations for fixed enclosures 3, 7, and 12, and removed inside enclosures before excavation of contaminated soil and waste between July and September 17, 2010. Since September 21, 2010, overburden removed from inside enclosures has been stored primarily in containers. Additional overburden was added to the second stockpile in February and March 2011. Overburden exhibiting analytical results below residential SSLs and SALs was reused as backfill in the excavated trenches.

Basic descriptive statistics were calculated for the overburden results, including the number of samples; the detection rate; and the mean concentrations, standard deviation, minimum concentrations, median concentrations, and maximum concentrations. A two-step statistical process was used to characterize the overburden. The first step assessed whether the maximum detected concentration for a given analyte exceeded residential screening levels. Four sets of screening levels were employed during this step:

- the New Mexico Environment Department (NMED) SSLs,
- the U.S. Environmental Protection Agency (EPA) regional SSLs,
- the Los Alamos National Laboratory radionuclide SALs, and
- the toxicity characteristic leaching procedure (TCLP) standards.

The order of precedence for performing comparisons for inorganic and organic chemicals was NMED SSLs, followed by EPA SSLs (where no NMED SSL exists for the analyte), and TCLP limits, if available. If the maximum measured value for an analyte did not exceed the relevant screening level, the overburden was considered clean for that analyte and no further statistical analysis was performed on that analyte. If the maximum detected concentration for an analyte exceeded the applicable screening level, then the second step of this statistical analysis was performed. The second step calculated an upper confidence limit (UCL) of the overburden data available for that analyte from each stockpile or storage bin. The 95% UCL is used to compare the site mean concentration to the cleanup standard, residential SSLs or SALs.

E-2.1 Preenclosure Overburden

Statistical results for the preenclosure overburden samples collected from the first stockpile are presented in Table E-2.1-1 for inorganic chemicals, Table E-2.1-2 for organic chemicals, and Table E-2.1-3 for radionuclides.

Preenclosure overburden results for 282 analytes were evaluated in the first step. For those analytes detected above a screening level, the second statistical step was used to calculate the 95% UCL of the results to determine if the material would be classified as clean or as waste. The EPA software program ProUCL (EPA 2007, 102895) was used to perform these calculations.

Five analytes exceeded at least one of the screening levels: arsenic, thallium, benzo(a)pyrene, radium-226, and plutonium-239/240. The 95% UCLs calculated for these five analytes are presented in Table E-2.1-4. None of the 95% UCLs exceeded the residential SSLs or SALs. Based on this analysis, the overburden stockpiled from April to May 2010 was suitable for use as backfill.

E-2.2 Postenclosure Overburden

Statistical results for the combined postenclosure overburden stockpile and containers are presented in Table E-2.2-1 for inorganic chemicals, Table E-2.2-2 for organic chemicals, and Table E-2.2-3 for radionuclides. These results include both overburden stockpiled in July to September 2010 and February and March 2011 and overburden collected in containers since September 21, 2010.

A total of 280 analytes were evaluated in the first step. Only one arsenic result exceeded the residential SSL, so the second step of statistical analysis was performed for the arsenic results collected from the second overburden stockpile. The 95% UCL calculated for arsenic results from the second stockpile is presented in Table E-2.2-4. The arsenic 95% UCL did not exceed the residential SSL. Based on this analysis, the postenclosure overburden stockpile and overburden stored in containers was suitable for use as backfill.

E-3.0 RERERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

EPA (U.S. Environmental Protection Agency), April 2007. "ProUCL Version 4.00.02 User Guide," EPA/600/R-07/038, Office of Research and Development, Washington, D.C. (EPA 2007, 102895)

LANL (Los Alamos National Laboratory), December 2009. "Radionuclide Screening Action Levels (SALs) from RESRAD, Version 6.5," Los Alamos National Laboratory document LA-UR-09-8111, Los Alamos, New Mexico. (LANL 2009, 107655)

NMED (New Mexico Environment Department), December 2009. "Technical Background Document for Development of Soil Screening Levels, Revision 5.0," with revised Table A-1, New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2009, 108070)

Table E-2.1-1
Inorganic Chemicals Detected in Preenclosure Overburden Samples

Total Inorganic Chemical Results										
Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Aluminum	172	172	100%	6868.8	1674.2	2810	7210	10,400	78,100	No[b]
Antimony	172	52	30%	0.8	0.9	0.08	0.3	5.3	31.3	No
Arsenic	172	158	92%	2.4	0.7	1.0	2.5	7.3	3.9	Yes[c]
Barium	172	172	100%	99.1	25.8	35.7	102	235	15,600	No
Beryllium	172	172	100%	0.7	0.1	0.3	0.7	0.9	156	No
Cadmium	172	143	83%	0.2	0.2	0.04	0.1	0.7	77.9	No
Calcium	172	172	100%	2292.4	1566.8	759	2065	18,400	na[d]	n/a[e]
Chromium	172	172	100%	6.0	1.5	2.4	6.2	13	113,000	No
Cobalt	172	172	100%	3.8	1.1	1.6	3.8	8.6	23[f]	No
Copper	172	128	74%	7.5	5.3	2.3	6.4	56.5	3130	No
Iron	172	172	100%	9169.4	1697	4540	9000	14,000	54,800	No
Lead	172	172	100%	14.4	4.2	5.5	14.2	33.9	400	No
Magnesium	172	172	100%	1292.4	303.7	534	1330	2100	na	n/a
Manganese	172	158	92%	273.8	79.5	124	260	860	10,700	No
Mercury	172	145	84%	0.03	0.01	0.009	0.03	0.1	7.7[g]	No
Nickel	172	162	94%	5.5	1.1	2.5	5.6	8.6	1560	No
Potassium	172	172	100%	1013.8	246.8	390	1060	1500	na	n/a
Selenium	172	115	67%	1.0	0.3	0.3	1	2.4	391	No
Silver	172	120	70%	0.4	0.5	0.03	0.1	1.2	391	No
Sodium	172	47	27%	124.9	52.4	28	119	240	na	n/a
Thallium	172	64	37%	0.5	0.6	0.09	0.2	6.8	5.2	Yes
Uranium	172	172	100%	0.8	0.2	0.4	0.8	2.1	235[h]	n/a
Vanadium	172	172	100%	15	3.3	6.9	15.2	22	391	No
Zinc	172	163	95%	37.7	13.6	15.7	34.8	158	23,500	No

Table E-2.1-1 (continued)

TCLP Results										
Analyte	Number of Analyses	Detects	Detection Rate	Mean (µg/L)	Standard Deviation (µg/L)	Minimum (µg/L)	Median (µg/L)	Maximum (µg/L)	TCLP Level[i] (µg/L)	Maximum Concentration above TCLP Standards
Barium	172	172	100%	694.7	123.7	380	677.5	1100	100,000	No
Cadmium	172	15	9%	19.9	18.1	1.1	10	50	1000	No
Chromium	172	5	3%	45.9	37.5	13	20	100	5000	n/a
Lead	172	24	14%	18.2	13.6	2.5	13.8	44.1	5000	No
Mercury	172	26	15%	1.3	0.5	0.2	1	2	200	No
Selenium	172	23	13%	24.6	15.1	6.3	19.2	52	1000	No

[a] Source: NMED ((2009, 108070)) unless otherwise noted.

[b] No = Does not exceed SSLs.

[c] Yes = Exceeds SSLs.

[d] na = Not available.

[e] n/a = Not applicable. Statistics were not performed on analytes that were below detection limits.

[f] Source: www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[g] SSL is for elemental mercury.

[h] SSL for uranium soluble salts.

[i] Source: 40 CFR 261.24.

Table E-2.1-2
Organic Chemicals Detected in Preenclosure Overburden Samples

Total Organic Chemical Results										
Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Acenaphthene	172	4	2%	0.3	0.1	0.03	0.4	0.9	3440	No[b]
Acetone	172	4	2%	0.02	0.005	0.005	0.02	0.05	67,500	No
Anthracene	172	2	1%	0.3	0.08	0.03	0.4	0.4	17,200	No
Benzo(a)anthracene	172	2	1%	0.3	0.09	0.03	0.4	0.8	6.2	No
Benzo(a)pyrene	172	2	1%	0.3	0.09	0.03	0.4	0.7	0.6	Yes[c]
Benzo(b)fluoranthene	172	5	3%	0.3	0.1	0.01	0.4	1	6.2	No
Benzo(g,h,i)perylene	172	3	2%	0.3	0.09	0.03	0.4	0.4	na[d]	n/a[e]
Benzo(k)fluoranthene	172	2	1%	0.3	0.08	0.03	0.4	0.5	62.1	No
Bis(2-ethylhexyl) phthalate	172	21	12%	0.4	0.3	0.06	0.4	3.6	347	No
Butylbenzylphthalate	172	1	1%	0.4	0.3	0.04	0.4	3.6	260[f]	No
Carbazole	46	2	4%	0.4	0.04	0.2	0.4	0.4	na	n/a
Chlordane[alpha-]	172	5	3%	0.006	0.006	0.002	0.004	0.04	na	n/a
Chlordane[gamma-]	172	13	8%	0.006	0.006	0.0003	0.004	0.04	na	n/a
Chrysene	172	3	2%	0.3	0.09	0.03	0.4	0.6	621	No
Dichlorodiphenyldichloroethane (DDD)[4,4'-]	172	4	2%	0.006	0.006	0.0002	0.004	0.04	20.3	No
Dichlorophenyltrichloroethylene (DDE)[4,4'-]	172	22	13%	0.006	0.006	0.0006	0.004	0.04	14.3	No
Dichlorodiphenyltrichloroethane (DDT)[4,4'-]	172	27	16%	0.006	0.006	0.001	0.004	0.04	17.2	No
Dibenz(a,h)anthracene	172	1	1%	0.3	0.08	0.03	0.4	0.4	0.6	No
Dibenzofuran	172	1	1%	0.4	0.3	0.1	0.4	3.6	78[f]	No
Dicamba	172	3	2%	0.03	0.02	0.005	0.04	0.1	1800[f]	No

Table E-2.1-2 (continued)

Total Organic Chemical Results										
Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Dieldrin	172	4	2%	0.006	0.006	0.0004	0.004	0.04	0.3	No
Diethylphthalate	172	5	3%	0.4	0.3	0.07	0.4	3.6	48,900	No
Di-n-butylphthalate	172	3	2%	0.4	0.3	0.05	0.4	3.6	6110	No
Fluoranthene	172	13	8%	0.3	0.2	0.01	0.4	1.6	2290	No
Fluorene	172	1	1%	0.3	0.08	0.03	0.4	0.4	2290	No
Heptachlor epoxide	172	1	1%	0.006	0.006	0.002	0.004	0.04	0.053[f]	No
Indeno(1,2,3-cd)pyrene	172	2	1%	0.3	0.08	0.03	0.4	0.4	6.2	No
Isopropyltoluene[4-]	172	2	1%	0.005	0.001	0.0005	0.006	0.006	na	n/a
Methyl chlorophenoxy acetic acid (MCPA)	172	6	3%	6.7	3.0	0.7	8.7	9.4	31[f]	No
2- (2-methyl-4-chlorophenoxy) propionic acid (MCPP)	172	6	3%	6.8	2.9	0.4	8.7	9.4	61[f]	No
Methylene chloride	172	42	24%	0.01	0.01	0.002	0.005	0.06	199	No
Naphthalene	172	1	1%	0.3	0.08	0.03	0.4	0.4	45	No
Phenanthrene	172	8	5%	0.3	0.1	0.02	0.4	1.2	1830	No
Pyrene	172	13	8%	0.3	0.2	0.01	0.4	1.9	1720	No
Trichlorophenoxyacetic acid (T)[2,4,5-]	172	2	1%	0.02	0.009	0.004	0.02	0.03	610[f]	No
Toluene	172	1	1%	0.005	0.001	0.0009	0.006	0.006	5570	No
Trichlorofluoromethane	172	2	1%	0.009	0.003	0.0003	0.01	0.01	2010	No
Trimethylbenzene [1,2,4-]	172	7	4%	0.003	0.002	0.0004	0.001	0.006	62[f]	No

Table E-2.1-2 (continued)

TCLP Results										
Analyte	Number of Analyses	Detects	Detection Rate	Mean (µg/L)	Standard Deviation (µg/L)	Minimum (µg/L)	Median (µg/L)	Maximum (µg/L)	TCLP Level[g] (µg/L)	Maximum Concentration above TCLP Standards
BHC[gamma-]	172	1	1%	0.5	0.09	0.07	0.5	0.5	400	No
Dichlorobenzene[1,4-]	172	1	1%	63	22.1	36	50	100	7500	No
Trichloroethene	172	6	3%	124.9	191.1	01.0	50	500	500	No

[a] Source: NMED (2009, 108070) unless otherwise noted.

[b] No = Does not exceed SSLs.

[c] Yes= Exceeds SSLs.

[d] na = Not available.

[e] n/a = Not applicable. Statistics were not performed on analytes that were below detection limits.

[f] Source: www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[g] Source: 40 CFR 261.24.

Table E-2.1-3
Radionuclides Detected in Preenclosure Overburden Samples

Analyte	Analytical Suite	Number of Analyses	Detects	Detection Rate	Mean (pCi/g)	Standard Deviation (pCi/g)	Minimum (pCi/g)	Median (pCi/g)	Maximum (pCi/g)	Residential SAL[a] (pCi/g)	Maximum Concentration above Residential SALs
Americium-241	Am-241[b]	172	97	56%	0.07	0.07	0.0005	0.05	0.6	30	No[c]
Cesium-137	Gamma[d]	172	3	2%	0.02	0.04	−0.09	0.02	0.2	5.6	No
Plutonium-238	Isotopic[e]	172	36	21%	0.03	0.02	−0.004	0.03	0.1	37	No
Plutonium-239/240	Isotopic	172	172	100%	2.0	3.3	0.04	1.3	33.7	33	Yes[f]
Strontium-90	Sr-90[g]	172	1	1%	0.03	0.1	−0.4	0.03	0.5	5.7	No
Tritium	H^{3h}	172	136	79%	8.0	13.5	−0.2	1.7	69.7	750	No
Uranium-234	Isotopic	172	172	100%	0.8	0.4	0.2	0.7	3.4	170	No
Uranium-235	Isotopic	80	7	9%	0.03	0.02	−0.008	0.03	0.07	17	No
Uranium-235/236	Isotopic	92	15	16%	0.04	0.03	0	0.04	0.18	17	No
Uranium-238	Isotopic	172	172	100%	0.7	0.3	0.3	0.7	2.8	87	No

[a] Source: LANL (2009, 107655).

[b] Am-241 = Americium-241 analysis.

[c] No = Does not exceed SALs.

[d] Gamma = Gamma spectroscopy.

[e] Isotopic = Isotopic analysis.

[f] Yes = Exceeds SALs.

[g] Sr-90 = Strontium-90 analysis.

[h] H^3 = Tritium analysis.

Table E-2.1-4
Upper Confidence Limits for Chemicals
Exceeding SSLs and SALs in the Preenclosure Overburden Samples

Analyte	Number of Analyses	Detection Rate	95% Upper Confidence Limit	Residential SSL[a] (mg/kg)	Residential SAL[b] (pCi/g)	UCL above Residential SSLs/SALs
Arsenic	172	92%	2.519	3.9	n/a[c]	No[d]
Benzo(a)pyrene	172	1%	0.374	0.621	n/a	No
Plutonium-239/240	172	100%	3.573	n/a	33	No
Radium-226	127	24%	1.77	n/a	5	No
Thallium	172	37%	0.694	5.16	n/a	No

[a] Source: NMED (2009, 108070).

[b] Source: LANL (2009, 107655).

[c] n/a = Not applicable.

[d] No = Does not exceed SSLs and SALs.

Table E-2.2-1
Inorganic Chemicals Detected in Postenclosure Overburden Samples

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Aluminum	74	74	100%	5610.8	1750.8	2450	5590	10,300	78,100	No[b]
Antimony	74	13	18%	1.1	0.5	0.4	1.0	4.9	31.3	No
Arsenic	74	74	100%	1.6	0.7	0.5	1.5	6.6	3.9	Yes[c]
Barium	74	74	100%	96.5	61.9	33.7	80	558	15,600	No
Beryllium	74	74	100%	0.5	0.2	0.2	0.5	1.1	156	No
Cadmium	74	44	59%	0.4	0.5	0.1	0.4	4.3	77.9	No
Calcium	74	74	100%	4309.2	1834.4	1220	3785	8590	na[d]	n/a[e]
Chromium	74	69	93%	7.7	2.1	2.1	7.6	13	219	No
Cobalt	74	74	100%	3.5	0.9	0.8	3.6	5.7	23[f]	No
Copper	74	63	85%	31.8	105.1	1.6	10.1	855	3130	No
Cyanide (total)	67	6	9%	0.3	0.4	0.09	0.3	3.4	1560	No
Iron	74	74	100%	11,133.2	1463.4	6140	10,950	15,000	54,800	No
Lead	74	54	73%	12.8	9.3	5	9.4	50.4	400	No
Magnesium	74	74	100%	1749.9	472.9	498	1675.0	3130	na	n/a
Manganese	74	74	100%	275.5	41.1	172	277.0	395	10,700	No
Mercury	74	68	92%	0.03	0.04	0.007	0.02	0.3	7.7[g]	No
Nickel	74	70	95%	6.3	1.4	1.6	6.2	10.1	1560	No
Nitrate	74	56	76%	3.7	4.9	0.9	1.9	29.6	125,000	No
Perchlorate	67	53	79%	0.007	0.01	0.0005	0.002	0.08	54.8	No
Potassium	74	74	100%	894.1	261.3	409	839.5	1490	na	n/a

Table E-2.2-1 (continued)

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Silver	74	37	50%	0.7	0.7	0.1	0.5	3.6	391	No
Sodium	74	33	45%	220.4	81.8	74.6	227	479	na	n/a
Thallium	74	58	78%	0.2	0.4	0.06	0.2	3.3	5.16	No
Uranium	74	70	95%	0.9	0.4	0.4	0.8	2.4	235[h]	No
Vanadium	74	74	100%	19.3	4.7	4.3	19.4	29.6	391	No
Zinc	74	57	77%	64.2	94.5	24.7	31.2	516	23,500	No

[a] Source: NMED (2009, 108070), unless otherwise noted.

[b] No = Does not exceed SSL.

[c] Yes = Exceeds SSL.

[d] na = Not available.

[e] n/a = Not applicable. Statistics were not performed on analytes that were below detection limits.

[f] Source: www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

[g] SSL is for elemental mercury.

[h] SSL for uranium soluble salts.

Table E-2.2-2
Organic Chemicals Detected in Postenclosure Overburden Samples

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Acenaphthene	74	1	1%	0.06	0.07	0.02	0.04	0.4	3440	No[b]
Aroclor-1232	55	1	2%	0.01	0.02	3.4E-03	0.02	0.08	1.76	No
Aroclor-1254	55	6	11%	0.01	0.02	2.2E-03	0.02	0.08	1.12	No
Aroclor-1260	55	8	15%	0.01	0.01	2.3E-03	0.02	0.08	2.22	No
Benzo(a)anthracene	74	4	5%	0.06	0.07	0.01	0.04	0.4	6.21	No
Benzo(a)pyrene	74	3	4%	0.06	0.07	0.01	0.04	0.4	0.621	No
Benzo(b)fluoranthene	74	5	7%	0.06	0.07	0.01	0.04	0.4	6.21	No
Benzo(g,h,i)perylene	74	3	4%	0.06	0.07	0.02	0.04	0.4	na[c]	n/a[d]
Benzo(k)fluoranthene	74	1	1%	0.06	0.07	0.01	0.04	0.4	62.1	No
Chlordane[alpha-]	74	6	8%	2.2E-03	2.6E-03	4.5E-04	7.3E-04	7.3E-03	na	n/a
Chlordane[gamma-]	74	5	7%	2.2E-03	2.6E-03	5.7E-04	7.3E-04	7.3E-03	na	n/a
Chrysene	74	5	7%	0.06	0.07	0.01	0.04	0.4	621	No
D[2,4-]	74	1	1%	7.6E-03	9.6E-03	4.0E-03	5.4E-03	0.05	690[e]	No
DDD[4,4'-]	74	5	7%	4.2E-03	5.3E-03	4.1E-04	1.5E-03	0.01	20.3	No
DDE[4,4'-]	74	10	14%	4.3E-03	5.3E-03	4.7E-04	1.5E-03	0.01	14.3	No
DDT[4,4'-]	74	16	22%	4.8E-03	5.5E-03	4.4E-04	1.5E-03	0.01	17.2	No
Dibenz(a,h)anthracene	74	1	1%	0.06	0.07	0.01	0.04	0.4	0.621	No
Dichlorprop	74	4	5%	7.5E-03	9.6E-03	2.9E-03	5.4E-03	0.05	na	n/a
Dieldrin	74	4	5%	4.2E-03	5.3E-03	3.7E-04	1.5E-03	0.01	0.304	No
Diethylphthalate	74	1	1%	0.59	0.7	0.12	0.36	0.4	48,900	No
Di-n-octylphthalate	74	1	1%	0.60	0.7	0.16	0.36	0.4	na	n/a

Table E-2.2-2 (continued)

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL[a] (mg/kg)	Maximum Concentration above Residential SSLs
Endosulfan II	74	1	1%	4.3E-03	5.3E-03	4.1E-04	1.5E-03	0.01	na	n/a
Endrin ketone	74	2	3%	4.3E-03	5.3E-03	5.2E-04	1.5E-03	0.01	na	n/a
Fluoranthene	74	6	8%	0.06	0.07	0.01	0.04	0.4	2290	No
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	57	39	68%	6.6E-06	9.9E-06	3.2E-07	1.9E-06	4.3E-05	na	n/a
Heptachlorodibenzodioxins (total)	57	42	74%	1.5E-05	2.4E-05	0	4.3E-06	1.1E-04	na	n/a
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	57	37	65%	3.9E-06	6.0E-06	2.3E-07	9.1E-07	2.2E-05	na	n/a
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	57	5	9%	5.5E-07	3.0E-07	2.8E-07	4.7E-07	2.4E-06	na	n/a
Heptachlorodibenzofurans (total)	57	40	70%	8.5E-06	1.4E-05	0	1.8E-06	5.3E-05	na	n/a
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	57	5	9%	5.6E-07	3.3E-07	2.6E-07	4.7E-07	2.6E-06	na	n/a
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	57	14	25%	9.5E-07	1.3E-06	2.6E-07	4.8E-07	8.4E-06	na	n/a
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	57	9	16%	6.6E-07	5.6E-07	2.6E-07	4.8E-07	3.7E-06	na	n/a
Hexachlorodibenzodioxins (total)	57	24	42%	4.8E-06	1.0E-05	0	4.8E-07	5.6E-05	na	n/a
Hexachlorodibenzofuran[1,2,3,4,7,8-]	57	10	18%	8.6E-07	1.2E-06	1.6E-07	4.8E-07	7.3E-06	na	n/a
Hexachlorodibenzofuran[1,2,3,6,7,8-]	57	11	19%	9.2E-07	1.3E-06	1.5E-07	4.8E-07	7.5E-06	na	n/a
Hexachlorodibenzofuran[1,2,3,7,8,9-]	57	8	14%	7.6E-07	9.7E-07	1.8E-07	4.8E-07	6.6E-06	na	n/a
Hexachlorodibenzofuran[2,3,4,6,7,8-]	57	11	19%	1.3E-06	2.2E-06	1.6E-07	4.8E-07	1.1E-05	na	n/a
Hexachlorodibenzofurans (total)	57	28	49%	1.5E-05	3.3E-05	0	5.3E-07	1.6E-04	na	n/a
Indeno(1,2,3-cd)pyrene	74	3	4%	0.06	0.07	0.01	0.04	0.4	6.21	No
Isopropyltoluene[4-]	74	2	3%	1.1E-03	6.6E-05	1.0E-03	1.1E-03	1.6E-03	na	n/a
MCPP	74	4	5%	1.48	7.9	0.3	1.08	10.8	61e	No
Methylnaphthalene[2-]	74	12	16%	0.06	0.08	7.2E-03	0.04	0.4	310e	No

Table E-2.2-2 (continued)

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL [a] (mg/kg)	Maximum Concentration above Residential SSLs
Naphthalene (SVOC analysis)	74	6	8%	0.06	0.07	0.02	0.04	0.4	45	No
Naphthalene (VOC analysis)	16	1	6%	1.0E-03	1.8E-04	3.4E-04	1.1E-03	1.1E-03	45	No
Nitrotoluene[4-]	58	3	5%	0.49	0.07	0.1	0.5	0.5	244	No
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	57	45	79%	4.7E-05	7.2E-05	1.8E-06	1.4E-05	3.1E-04	na	n/a
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	57	29	51%	4.4E-06	6.2E-06	6.6E-07	1.4E-06	2.4E-05	na	n/a
Pentachlorodibenzodioxin[1,2,3,7,8-]	57	8	14%	6.6E-07	6.6E-07	2.0E-07	4.7E-07	4.6E-06	na	n/a
Pentachlorodibenzodioxins (total)	57	11	19%	2.0E-06	4.9E-06	0	4.7E-07	3.0E-05	na	n/a
Pentachlorodibenzofuran[1,2,3,7,8-]	57	6	11%	5.0E-07	1.6E-07	1.5E-07	4.7E-07	1.3E-06	na	n/a
Pentachlorodibenzofuran[2,3,4,7,8-]	57	15	26%	1.9E-06	3.7E-06	1.5E-07	4.8E-07	1.9E-05	na	n/a
Pentachlorodibenzofurans (total)	57	37	65%	2.3E-05	5.5E-05	0	6.6E-07	2.6E-04	na	n/a
Phenanthrene	74	6	8%	0.06	0.07	0.01	0.04	0.4	1830	No
Pyrene	74	7	9%	0.06	0.07	0.01	0.04	0.4	1720	No
TATB (triaminotrinitrobenzene)	58	5	9%	1	0.02	1	1	1.1	na	n/a
Tetrachlorodibenzodioxin[2,3,7,8-]	57	1	2%	1.3E-07	6.4E-08	8.1E-08	9.7E-08	3.7E-07	0.000045	No
Tetrachlorodibenzodioxins (total)	57	8	14%	2.6E-07	6.1E-07	0	9.6E-08	4.1E-06	na	n/a
Tetrachlorodibenzofuran[2,3,7,8-]	57	15	26%	4.7E-07	3.2E-07	1.5E-07	3.9E-07	1.7E-06	0.000374	No
Tetrachlorodibenzofurans (total)	57	26	46%	9.6E-06	2.1E-05	0	9.9E-07	9.9E-05	na	n/a
Toluene	74	7	9%	1.0E-03	1.3E-04	4.1E-04	1.1E-03	1.1E-03	5570	No

Table E-2.2-2 (continued)

Analyte	Number of Analyses	Detects	Detection Rate	Mean (mg/kg)	Standard Deviation (mg/kg)	Minimum (mg/kg)	Median (mg/kg)	Maximum (mg/kg)	Residential SSL [a] (mg/kg)	Maximum Concentration above Residential SSLs
Trichloroethene	74	1	1%	1.1E-03	8.6E-05	3.9E-04	1.1E-03	1.2E-03	45.7	No
Trimethylbenzene[1,2,4-]	74	2	3%	1.1E-03	1.1E-04	3.6E-04	1.1E-03	1.2E-03	62e	No
Xylene[1,3-]+xylene[1,4-]	74	10	14%	2.0E-03	4.8E-04	4.0E-04	2.1E-03	2.3E-03	1090	No

[a] Source: NMED (2009, 108070), unless otherwise noted.

[b] No = Does not exceed SSL.

[c] na = Not available.

[d] n/a = Not applicable.

[e] Source: www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

Table E-2.2-3
Radionuclides Detected in Postenclosure Overburden Samples

Analyte	Analytical Suite	Number of Analyses	Detects	Detection Rate	Mean (pCi/g)	Standard Deviation (pCi/g)	Minimum (pCi/g)	Median (pCi/g)	Maximum (pCi/g)	Residential SAL[a] (pCi/g)	Maximum Concentration above Residential SALs
Americium-241	Am-241[b]	74	21	28%	0.12	0.3	−0.05	0.03	1.8	30	No[c]
Cesium-137	Gamma[d]	74	9	12%	0.02	0.05	−0.05	7.3E-03	0.2	5.6	No
Plutonium-238	Isotopic[e]	74	6	8%	0.02	0.1	−1	9.2E-03	0.4	37	No
Plutonium-239/240	Isotopic	74	59	80%	1.7	3.1	−4.2E-03	0.4	15.9	33	No
Tritium	H^3 [f]	77	68	88%	14.2	61.3	−1.6E-03	0.2	373.2	750	No
Uranium-234	Isotopic	74	74	100%	1	0.4	0.5	1	3.6	170	No
Uranium-235/236	Isotopic	74	53	72%	0.07	0.02	−7.7E-03	0.06	0.2	17	No
Uranium-238	Isotopic	74	74	100%	1	0.3	0.6	0.9	2.5	87	No

[a] Source: LANL (2009, 107655).

[b] Am-241 = Americium-241 analysis.

[c] No = Does not exceed SAL.

[d] Gamma = Gamma spectroscopy.

[e] Isotopic = Isotopic analysis.

[f] H^3 = Tritium analysis.

Table E-2.2-4
Upper Confidence Limit for Chemicals
Exceeding SSLs in the Postenclosure Overburden Sample Set

Analyte	Number of Analyses	Detection Rate	95% Upper Confidence Limit	Residential SSL[a] (mg/kg)	UCL above Residential SSL
Arsenic	74	100%	1.887	3.9	No[b]

[a] Source: NMED (2009, 108070).

[b] No = Does not exceed residential SSLs.

Appendix F

Air Sampling Plots

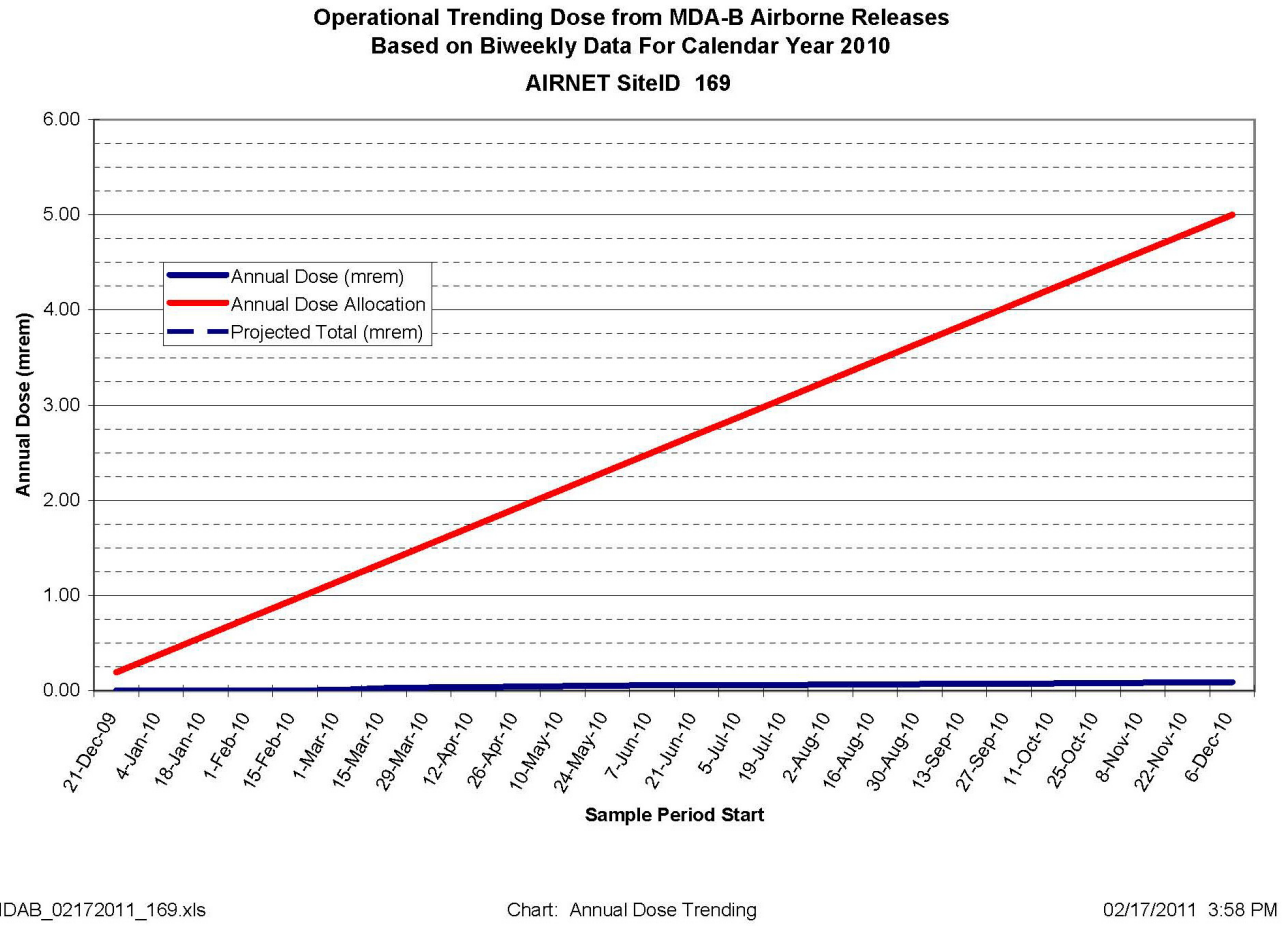


Figure F-1 AIRNET Site ID 169 from 2010

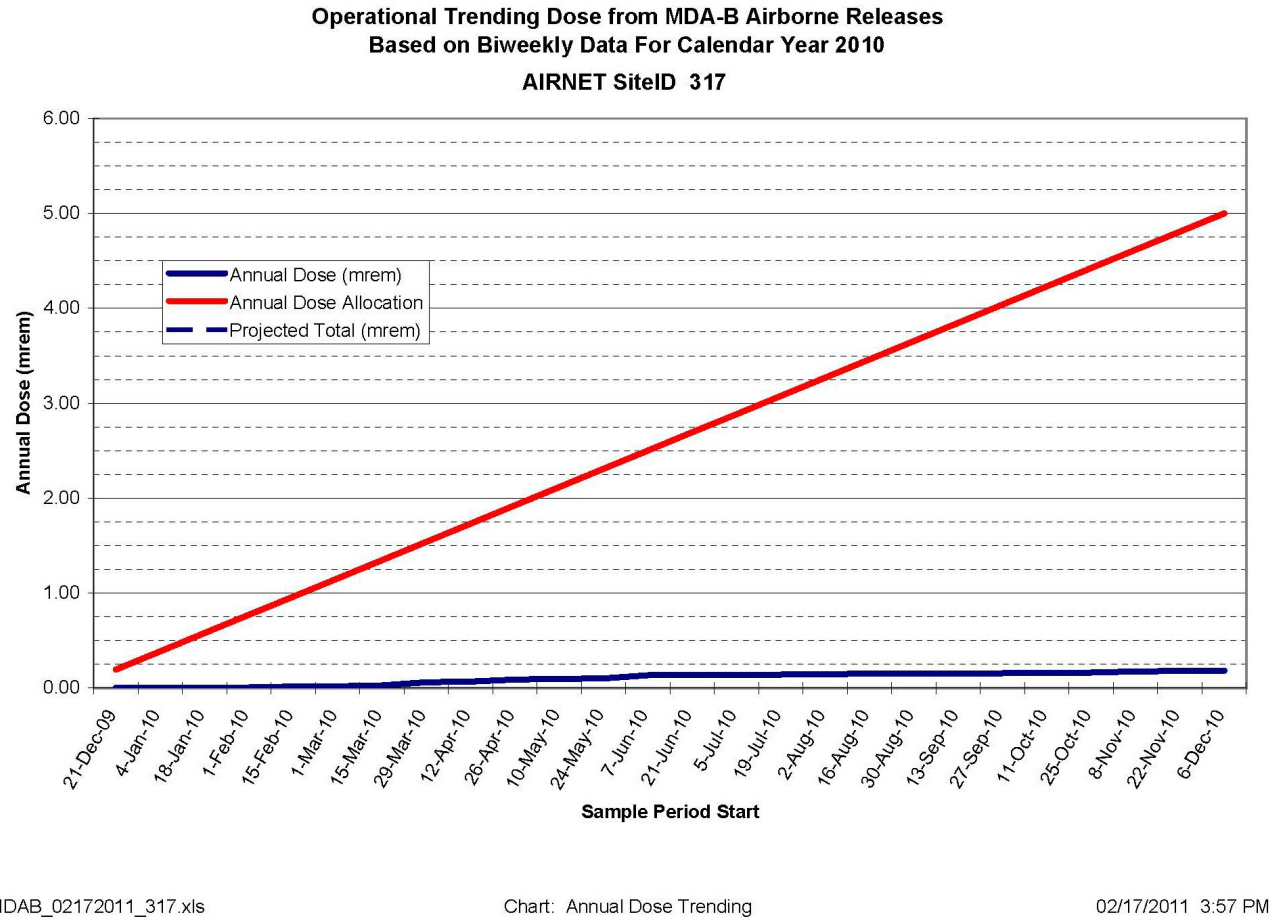


Figure F-2 AIRNET Site ID 317 from 2010

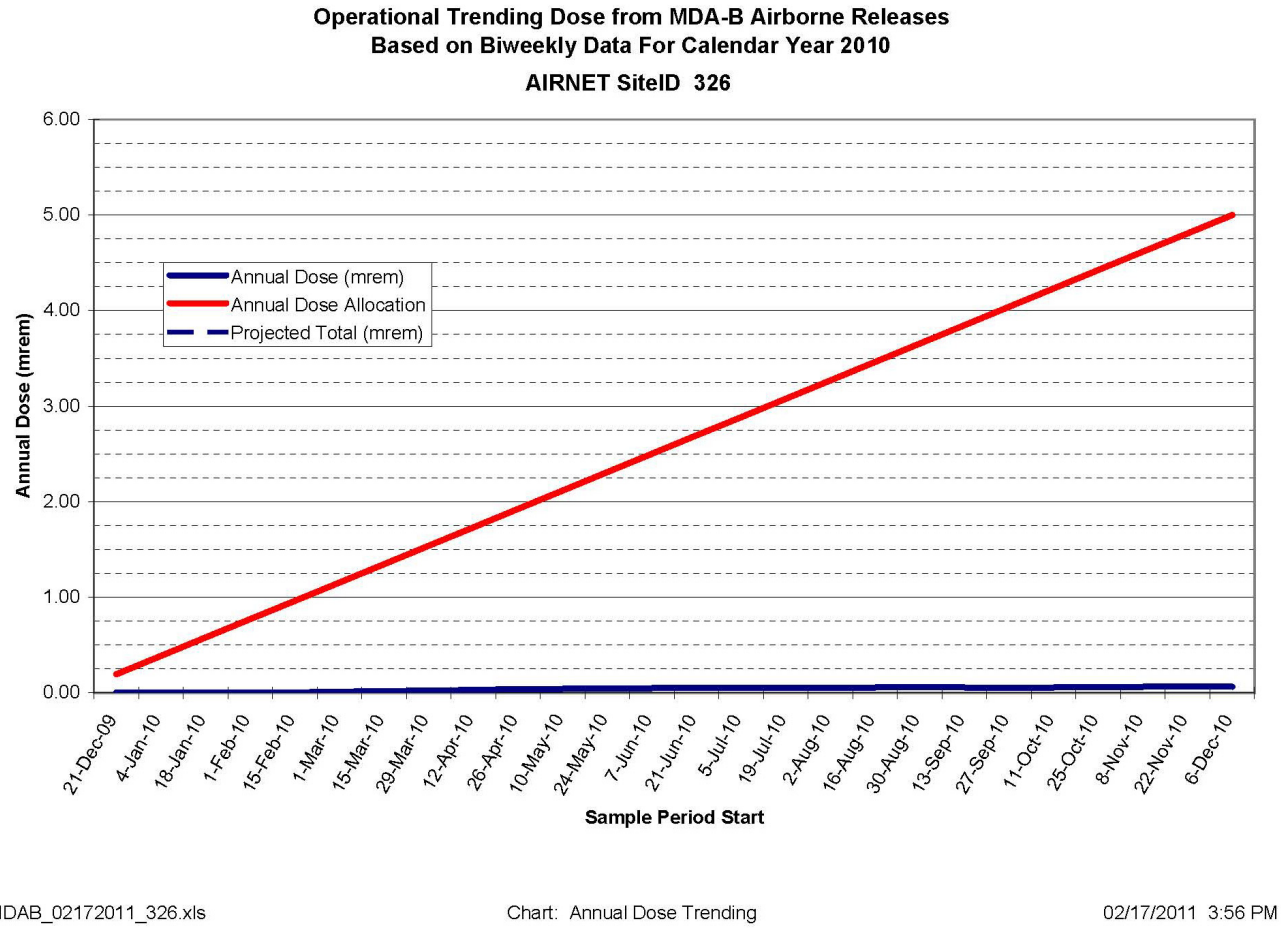


Figure F-3 AIRNET Site ID 326 from 2010

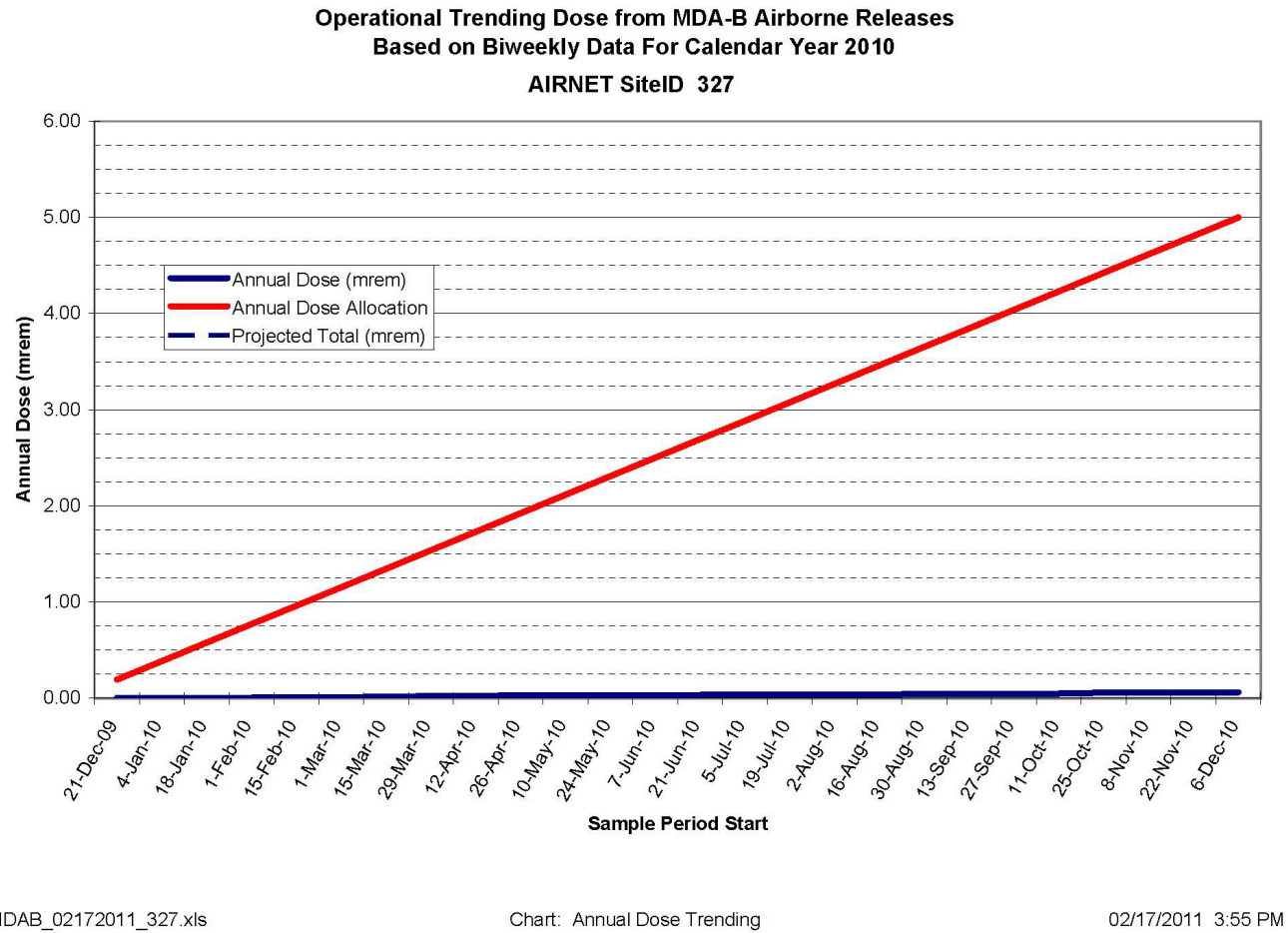


Figure F-4 AIRNET Site ID 327 from 2010

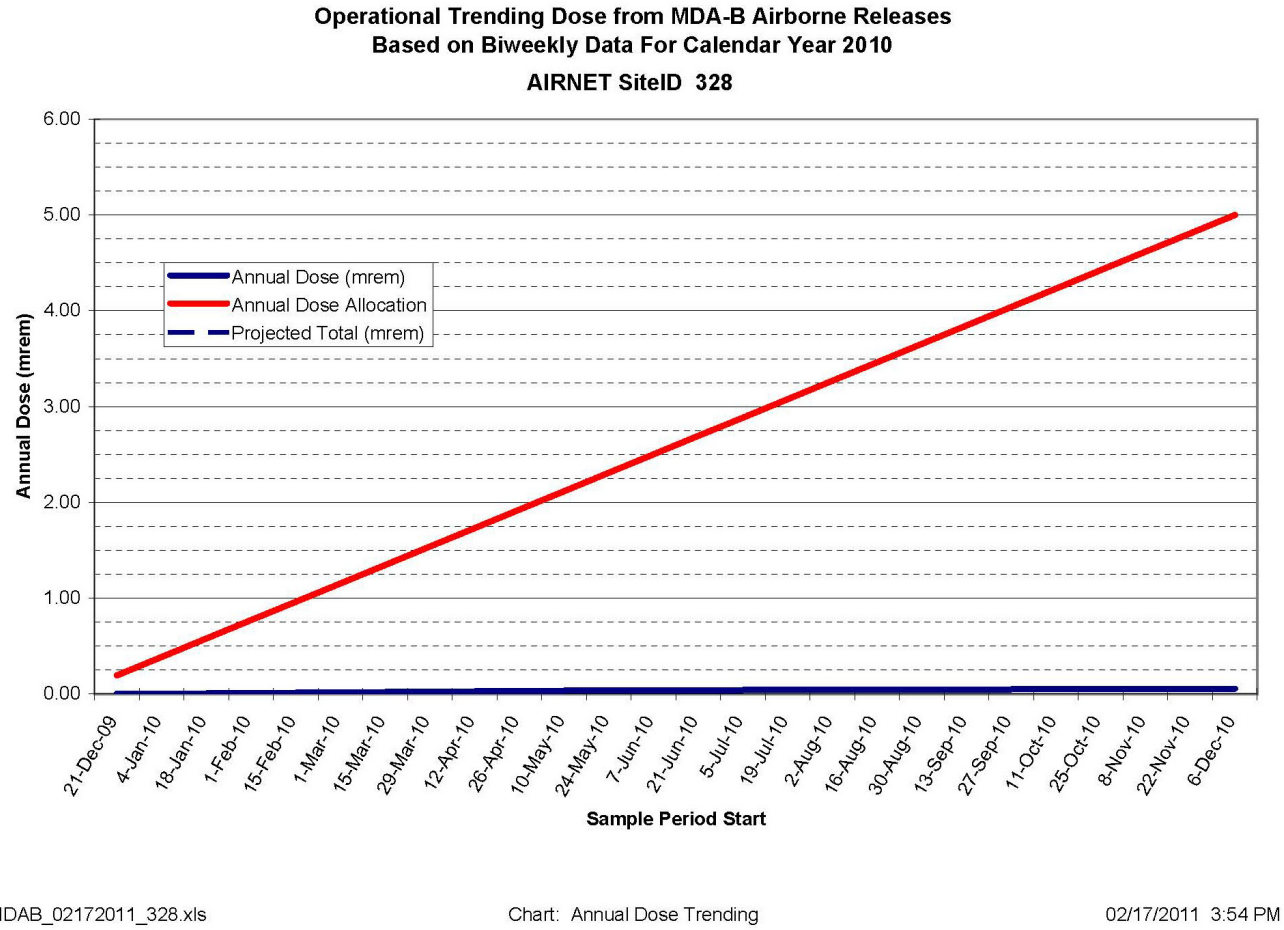


Figure F-5 AIRNET Site ID 328 from 2010

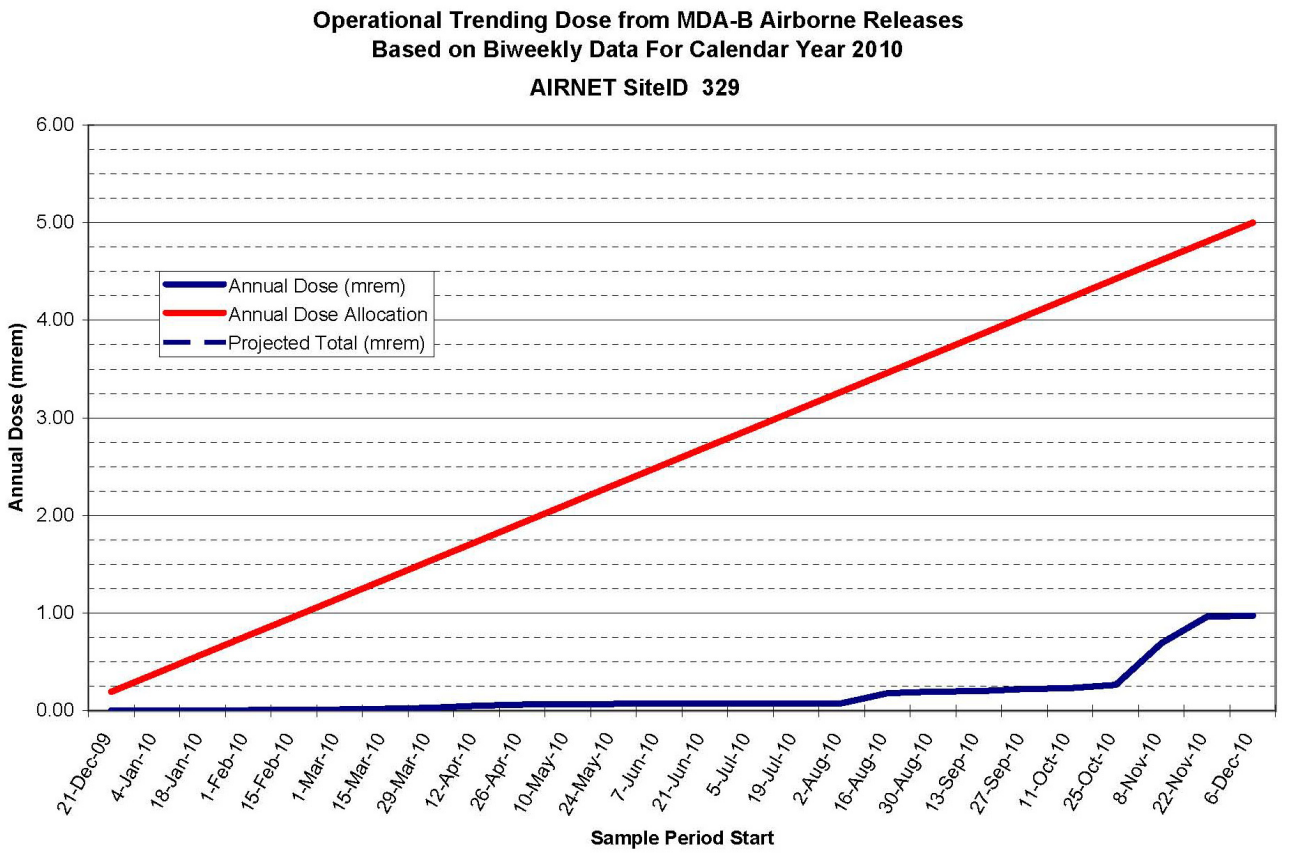


Figure F-6 AIRNET Site ID 329 from 2010

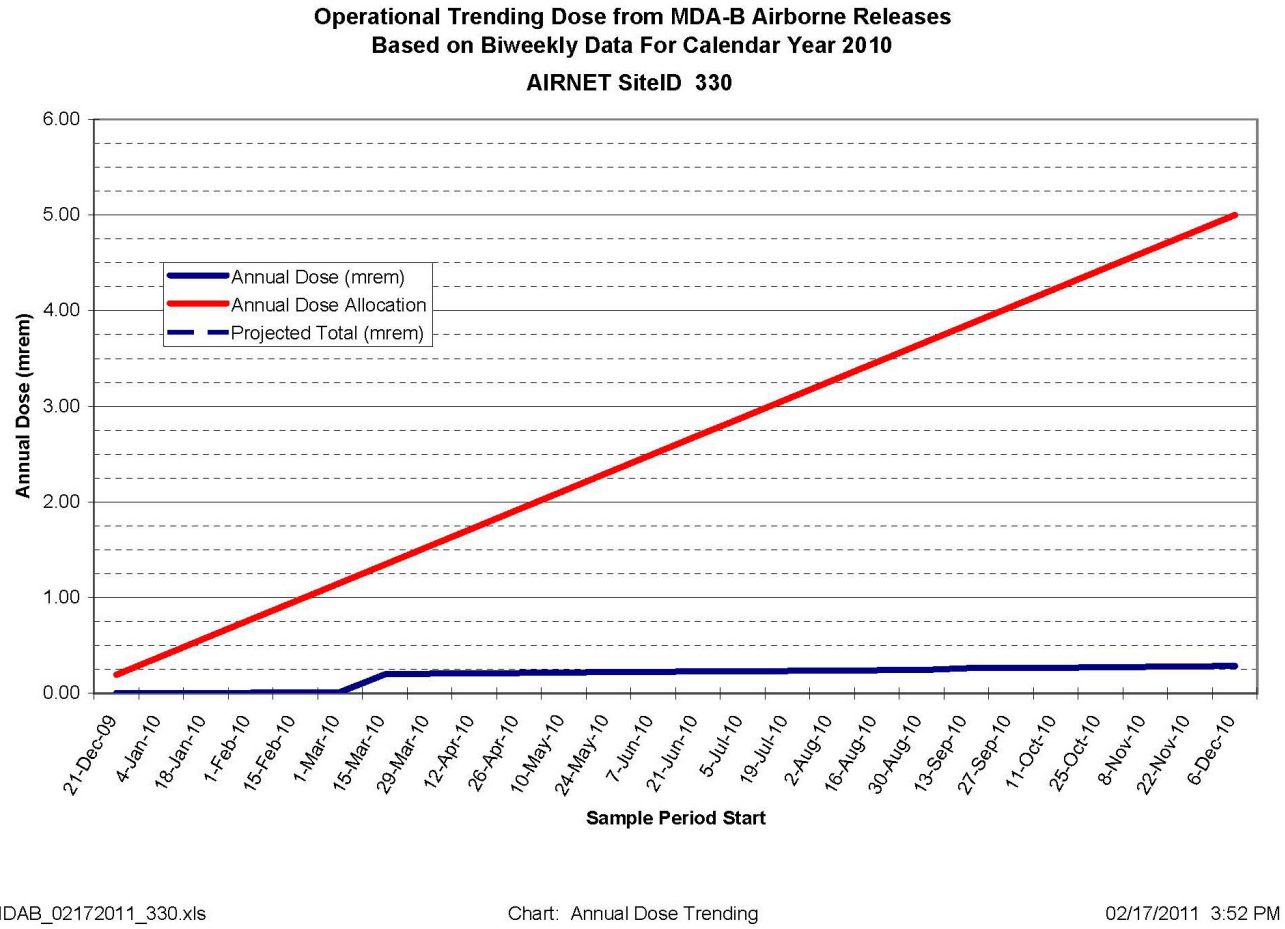


Figure F-7 AIRNET Site ID 330 from 2010

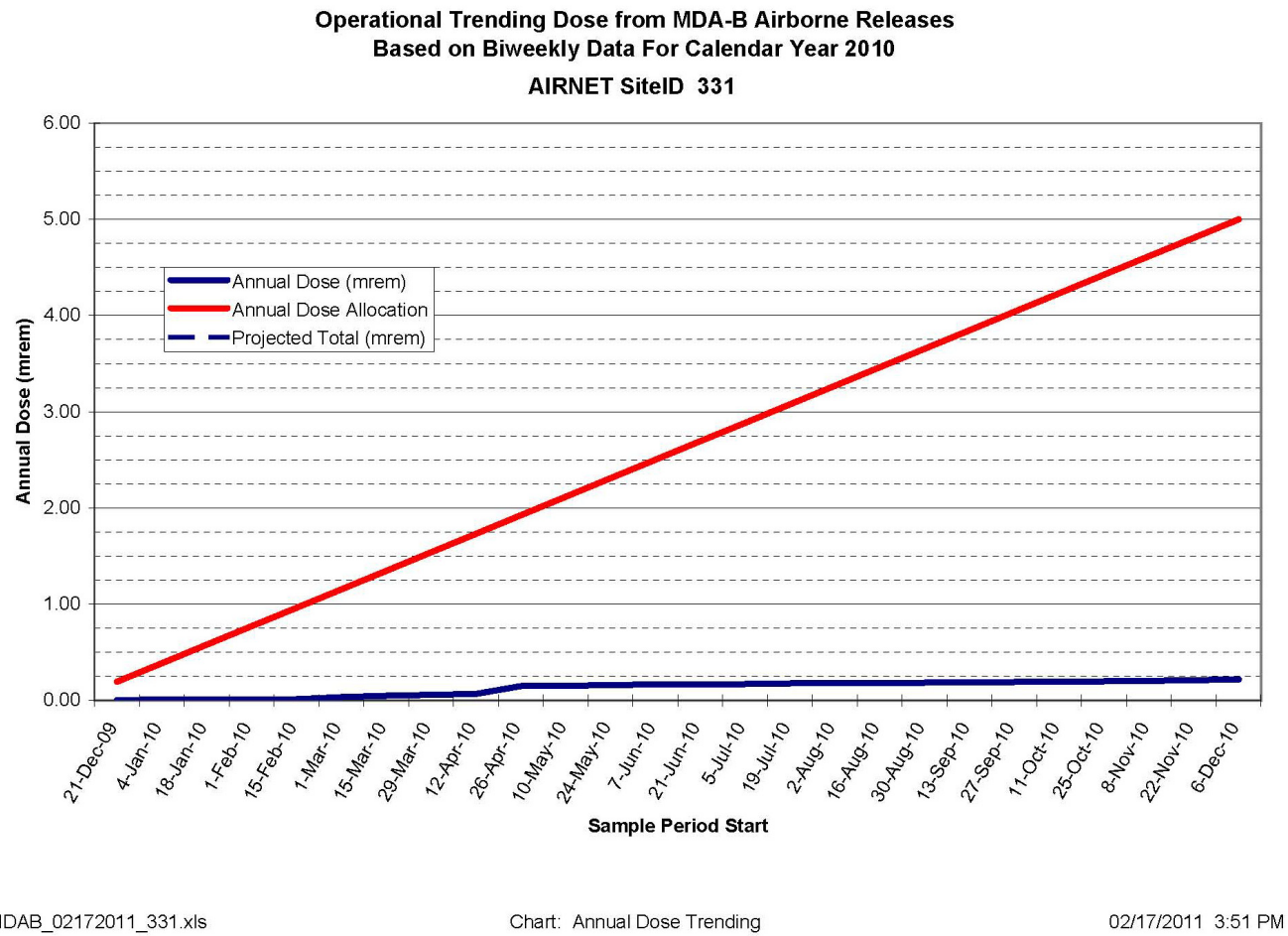


Figure F-8 AIRNET Site ID 331 from 2010

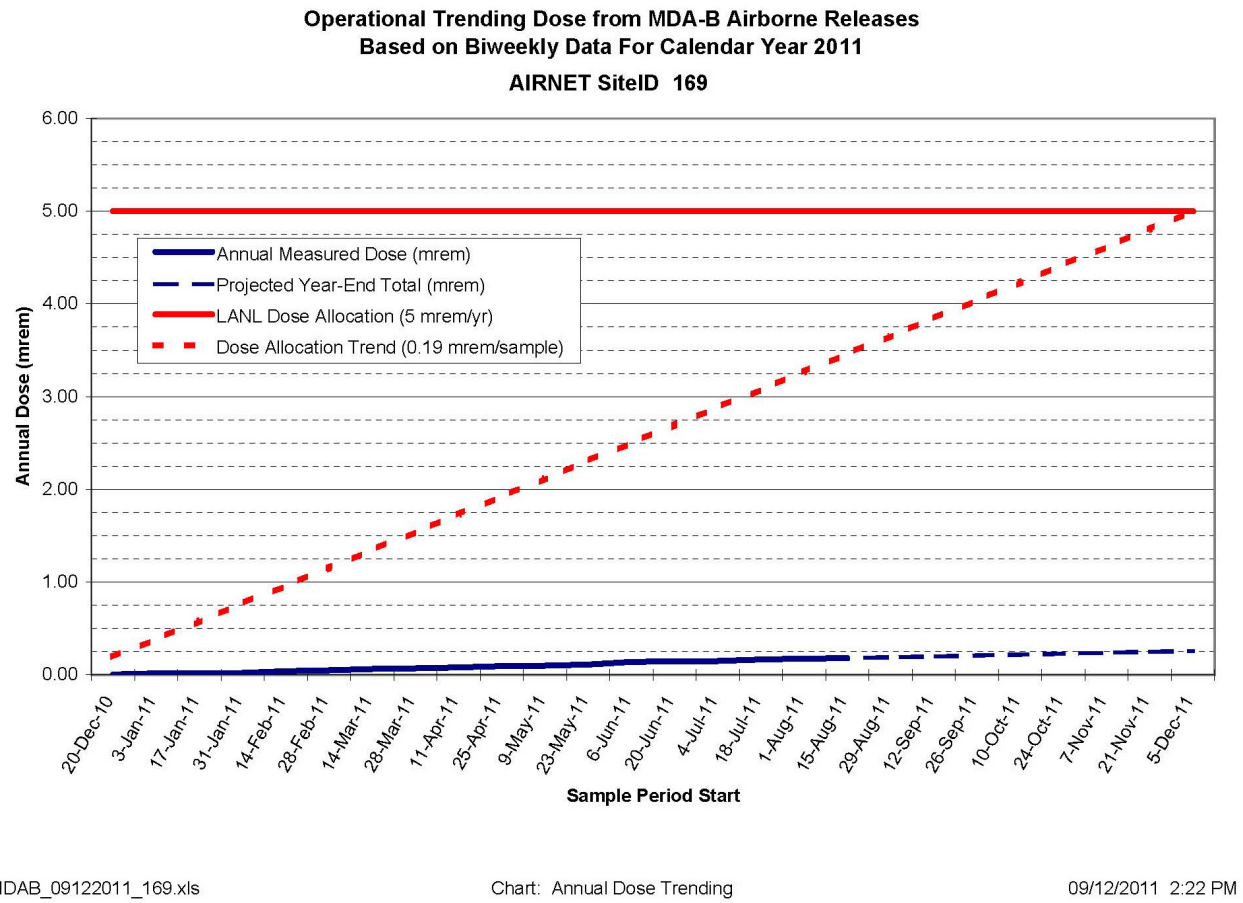


Figure F-9 AIRNET Site ID 169 from 2011

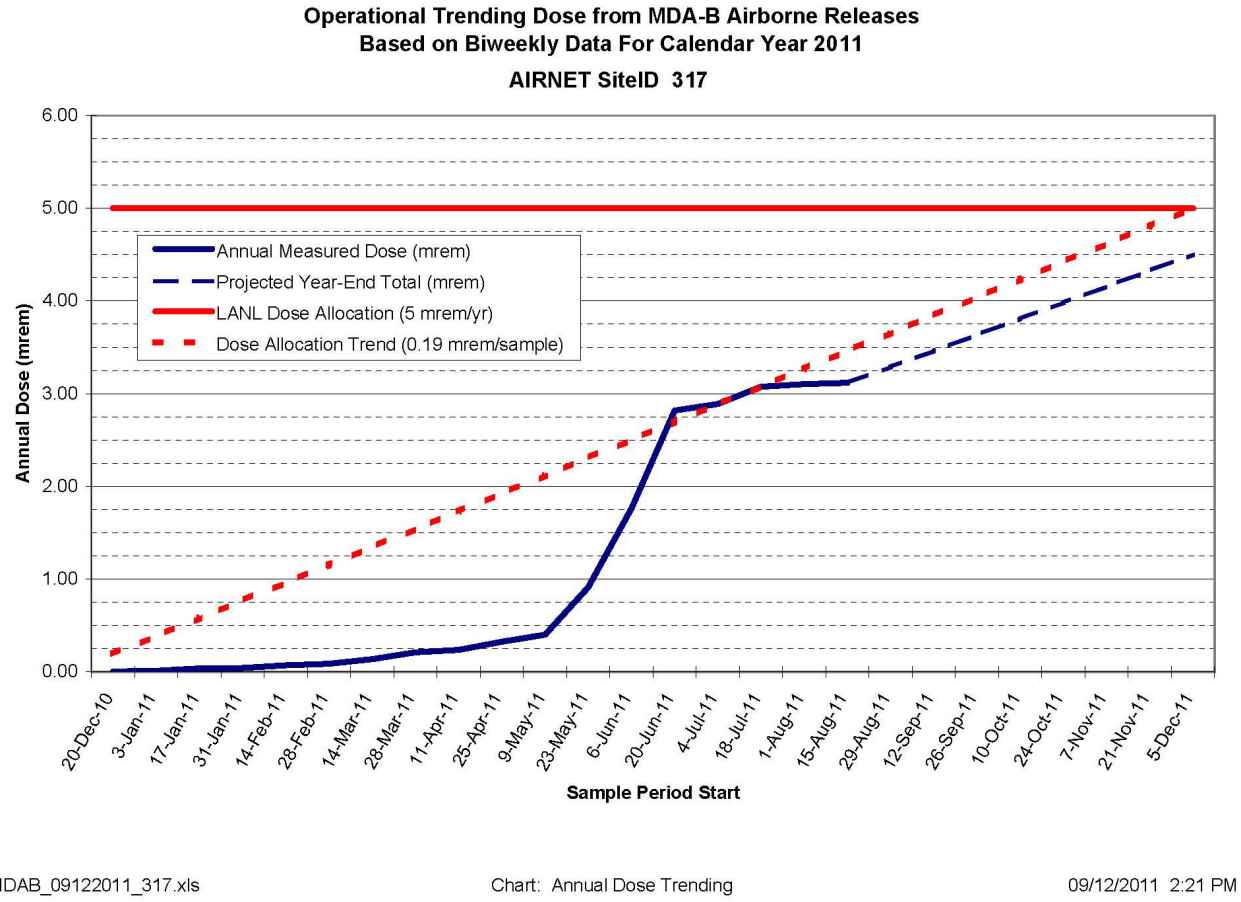


Figure F-10 AIRNET Site ID 317 from 2011

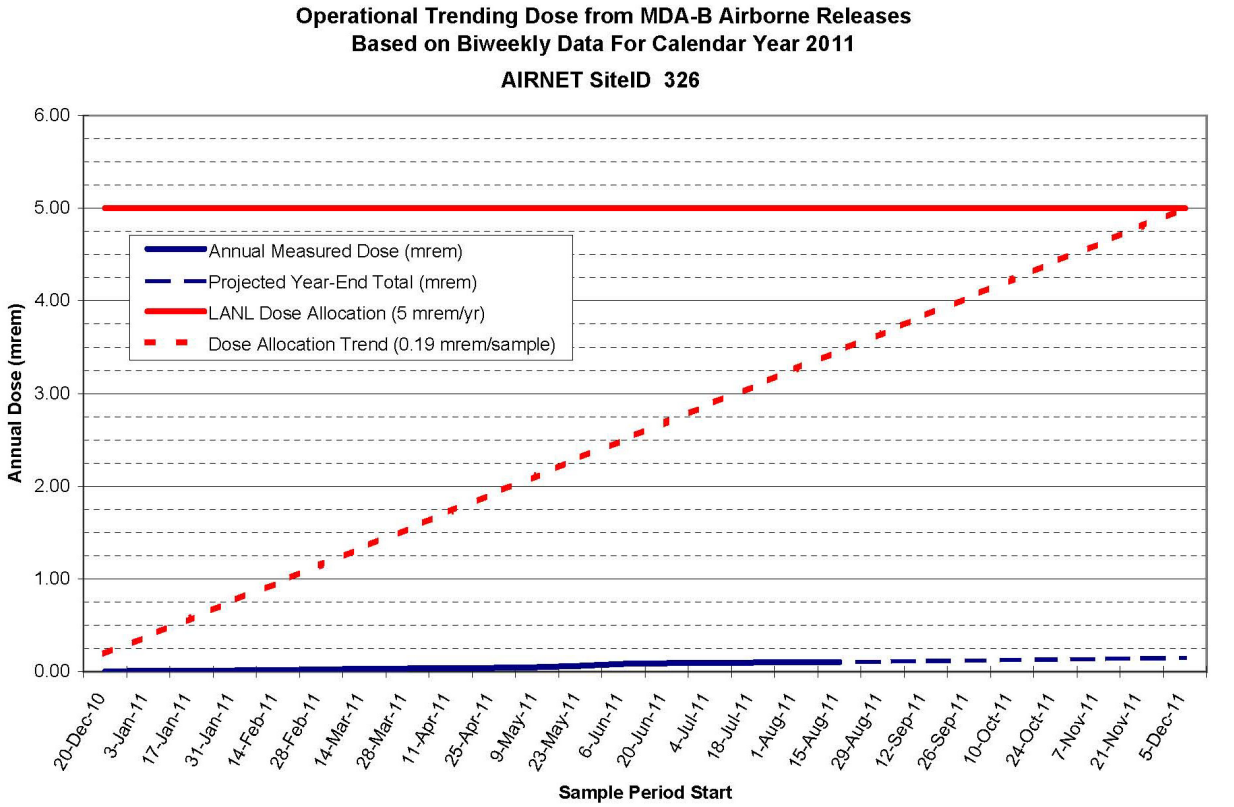


Figure F-11 AIRNET Site ID 326 from 2011

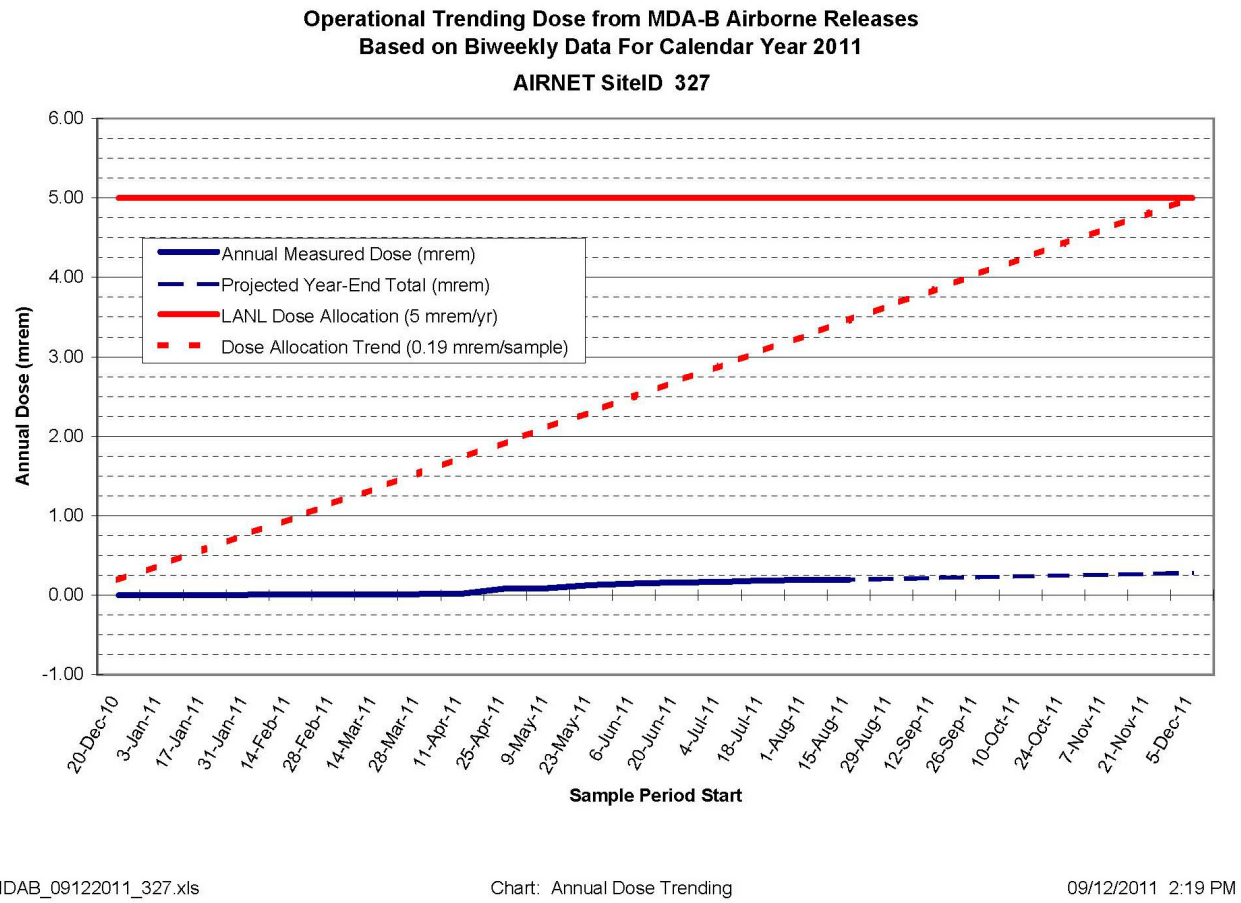


Figure F-12 AIRNET Site ID 327 from 2011

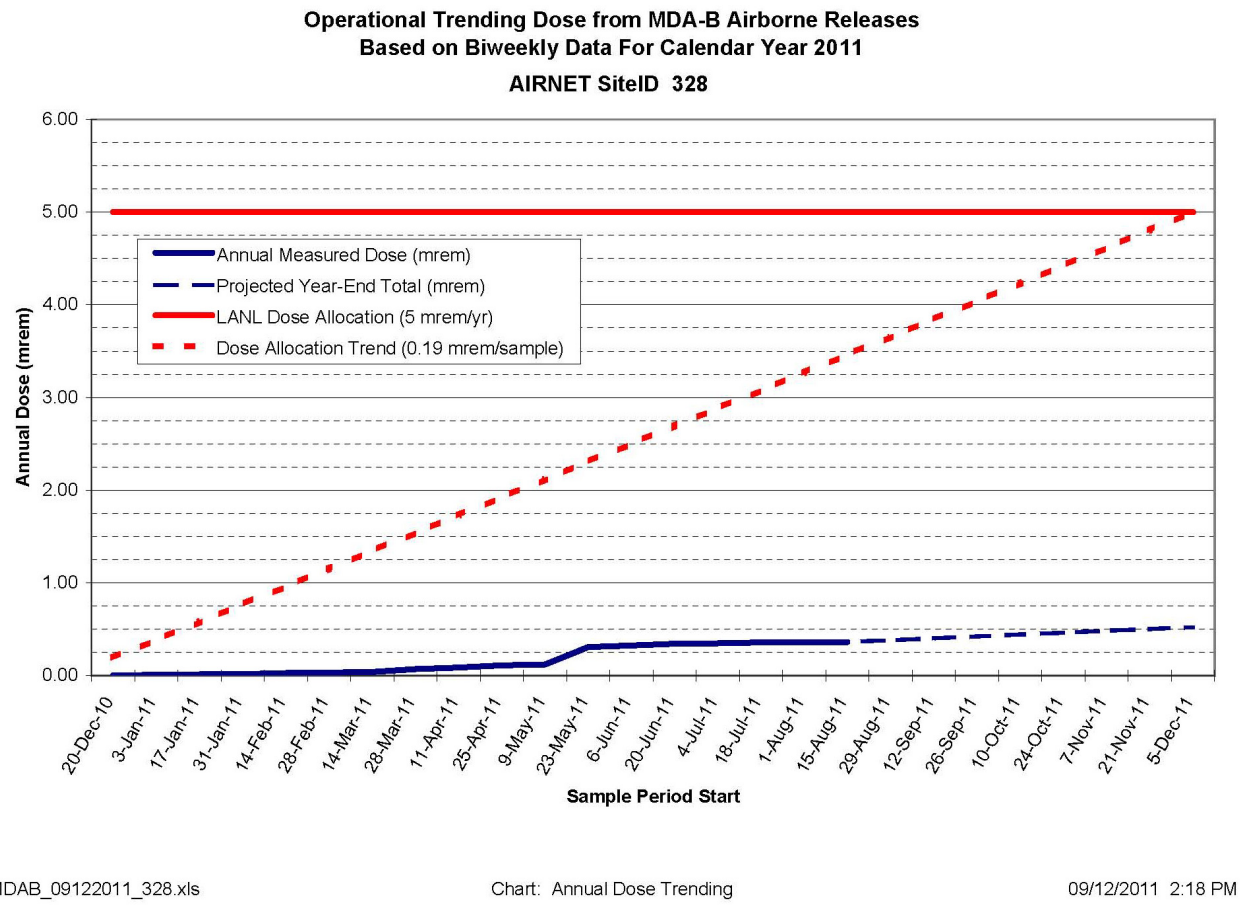


Figure F-13 AIRNET Site ID 328 from 2011

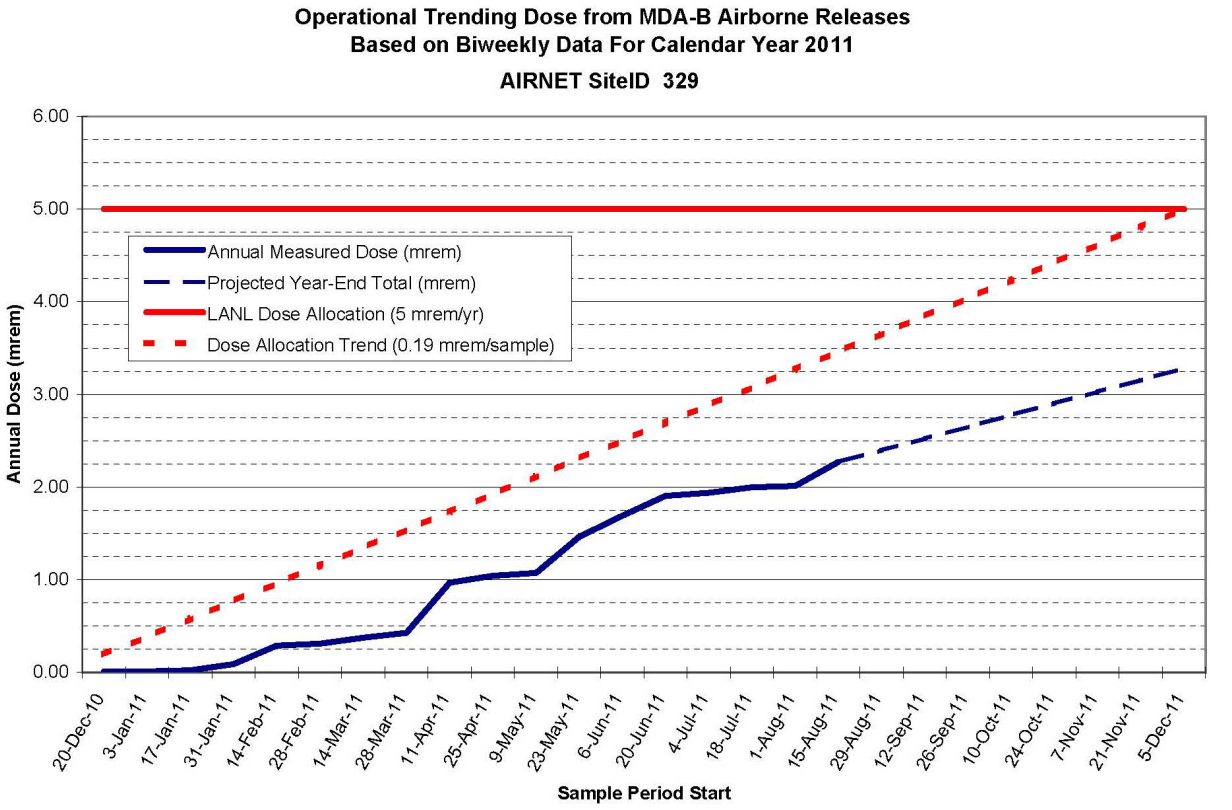


Figure F-14 AIRNET Site ID 329 from 2011

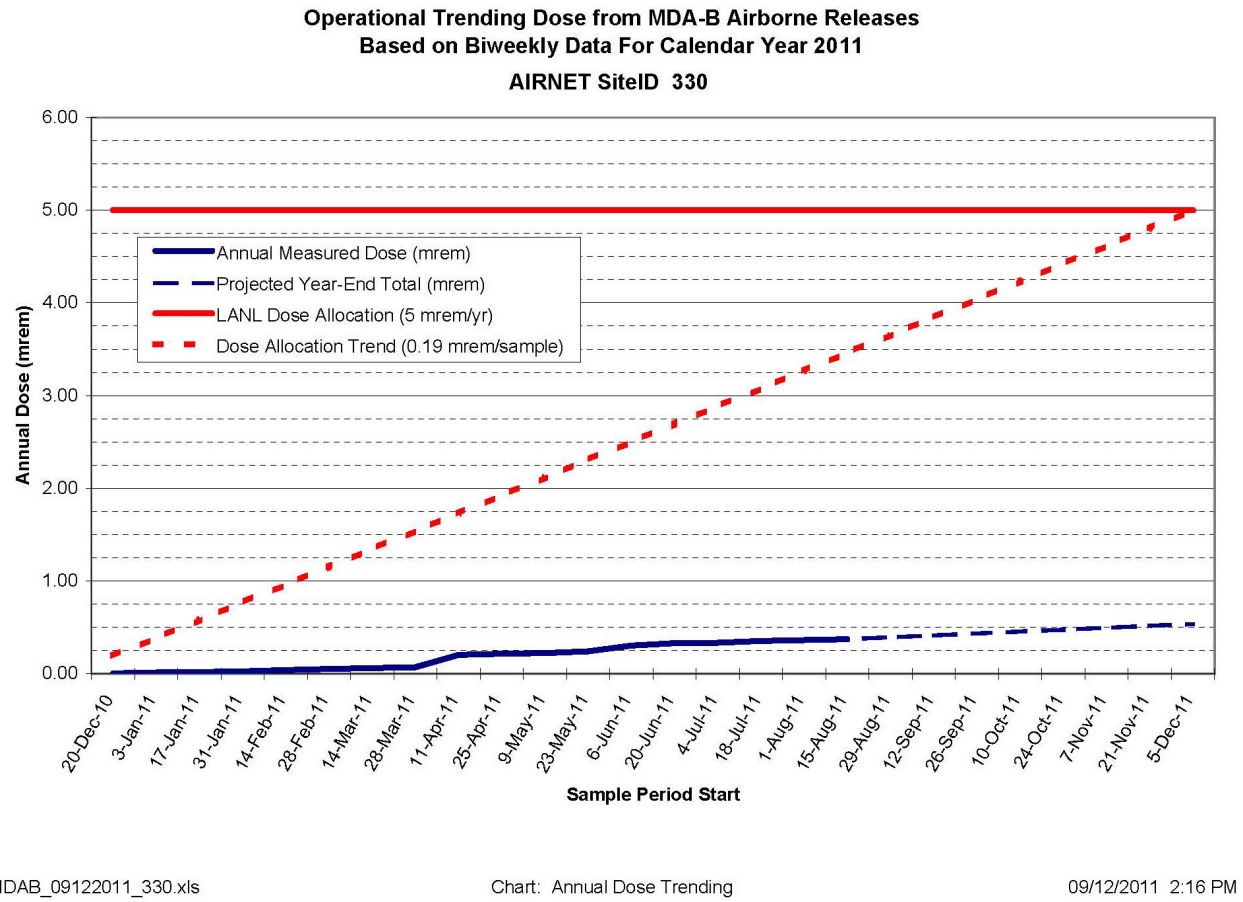


Figure F-15 AIRNET Site ID 330 from 2011

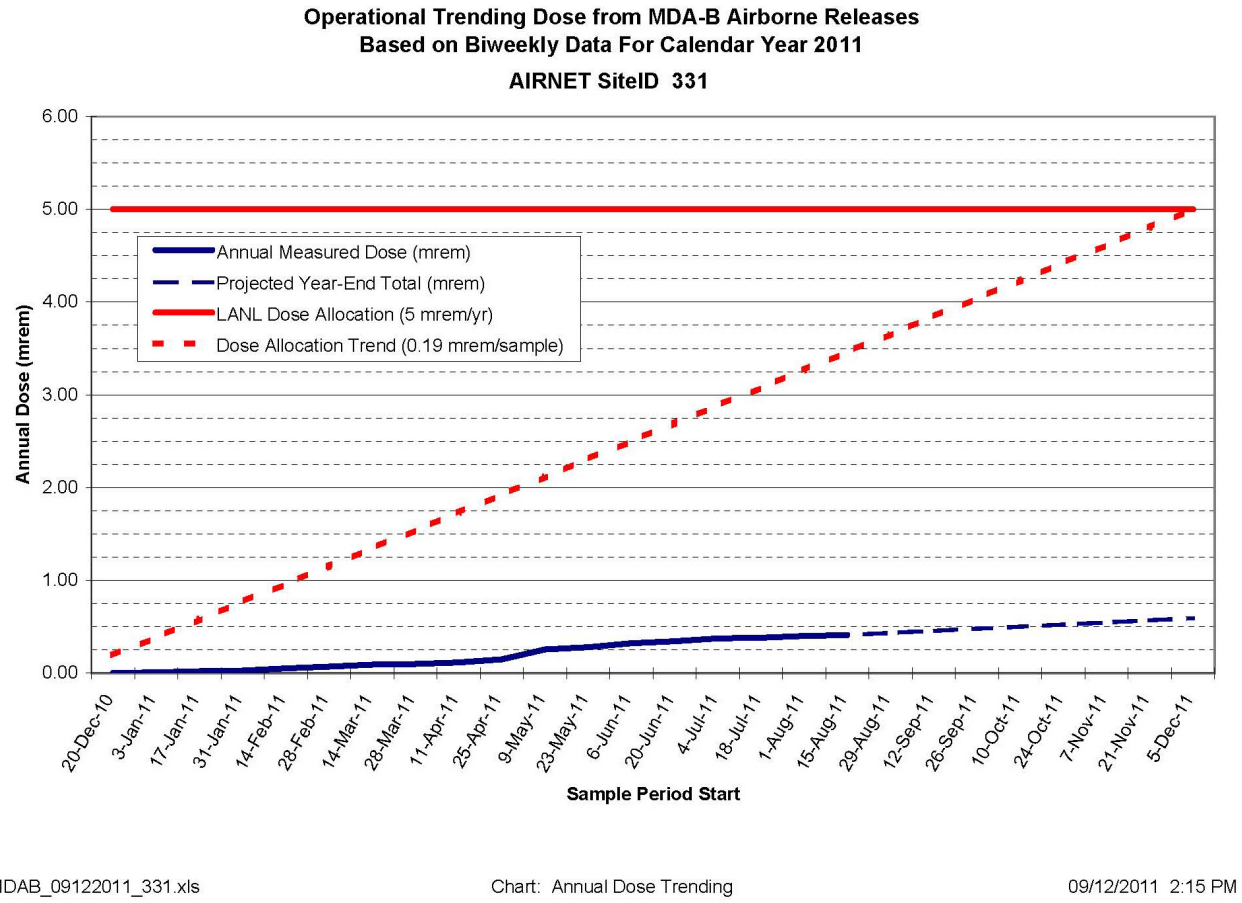


Figure F-16 AIRNET Site ID 331 from 2011

Appendix G

Analytical Data
(on DVDs included with this document)

Appendix H

Radionuclide Sampling Summary and Statistics

An analysis was conducted using confirmation samples collected and data from the Material Disposal Area (MDA) B trenches to determine whether the site has been appropriately sampled and adequately characterized based on the investigation/remediation work plan proposed sampling frequency of every 50 ft within the trenches (LANL 2006, 095499). Samples were collected at the proposed intervals from the walls and floor of the excavation to determine if the cleanup levels were met. This assessment included statistical tools contained in the "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)" (NRC et al. 1997, 063128). The analysis was done for the 0–10 ft depth interval and for all depths. Plutonium-239/240 is the primary radionuclide contaminant and is the limiting radionuclide in terms of the number of samples required, because of the larger sampling variability and the number of samples collected. Tables 1 through 9 summarize the results of the analysis and indicate that the number of samples collected for each radionuclide detected from 0–10 ft and from all depths exceeds the number of samples needed to illustrate that the site is appropriately sampled. Therefore, there is a 95% confidence that the site is adequately characterized at 0–10 ft and all depths.

Table H-1
MARSSIM Analysis of Plutonium-239/240 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	6.5 ± 9.8	25.8 ± 93.4
Number of samples to date	81	145
Est. number of samples needed for desired confidence	26	55
Area (m^2)	3716	13,000

Table H-2
MARSSIM Analysis of Plutonium-238 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	0.3 ± 0.6	0.4 ± 0.8
Number of samples to date	81	145
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-3
MARSSIM Analysis of Americium-241 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	0.2 ± 0.1	0.6 ± 1.1
Number of samples to date	49	107
Est. number of samples needed for desired confidence	15	15
Area (m^2)	3716	13,000

Table H-4
MARSSIM Analysis of Cesium-137 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	0.2 ± 0.7	0.3 ± 1.1
Number of samples to date	47	105
Est. number of samples needed for desired confidence	14	15
Area (m^2)	3716	13,000

Table H-5
MARSSIM Analysis of Strontium-90 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	0.5 ± 0.2	0.5 ±0.2
Number of samples to date	47	95
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-6
MARSSIM Analysis of Tritium Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	2.3 ± 3.9	4.8 ± 36.9
Number of samples to date	47	93
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-7
MARSSIM Analysis of Uranium-234 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	1.2 ±0.8	1.6 ± 1.5
Number of samples to date	49	103
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-8
MARSSIM Analysis of Uranium-235 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	0.09 ± 0.05	0.1 ± 0.08
Number of samples to date	49	103
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-9
MARSSIM Analysis of Uranium-238 Data

Metric	0–10 ft	All depths
Mean ±Std (pCi/g)	1.1 ± 0.6	1.5 ± 1.2
Number of samples to date	49	103
Est. number of samples needed for desired confidence	11	15
Area (m^2)	3716	13,000

Table H-10
ProUCL Input for Plutonium 239-240 UCL Calculation

Plutonium-239/240	D_Plutonium-239/240
0.11	0
0.11	0
0.13	0
0.134	1
0.189	1
0.228	1
0.23	0
0.24	0
0.36	1
0.361	1
0.418	1
0.423	1
0.541	1
0.591	1
0.597	1
0.653	1
0.653	1
0.686	1
0.754	1

Table H-10 (continued)

Plutonium-239/240	D_Plutonium-239/240
0.798	1
0.802	1
0.844	1
0.867	1
0.93	1
1.18	1
1.22	1
1.4	1
1.5	1
1.51	1
1.76	1
2.01	1
2.04	1
2.09	1
2.33	1
2.37	1
2.52	1
2.74	1
2.89	1
2.96	1
3.74	1
4.47	1
4.53	1
4.99	1
5.38	1
5.6	1
7.81	1
7.89	1
8.09	1
8.79	1
9.39	1
9.9	1
11	1
15	1
17.3	1
18.3	1
19.1	1
19.9	1

Table H-10 (continued)

Plutonium-239/240	D_Plutonium-239/240
20.7	1
21	1
27.5	1
31.7	1
31.8	1
2.22	1
2.24	1
11.2	1
0.218	1
0.439	1
40.2	1
16.3	1
0.234	1
0.542	1
4.52	1
0.0629	0
0.115	0
0.0633	0
0.404	1
0.0413	0
19.3	1
0.109	0
2.41	1
5.15	1

	General UCL Statistics for Data Sets with Non-Detects		
User Selected Options			
From File	Sheet1.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Plutonium-239/240			
General Statistics			
Number of Valid Data	81	Number of Detected Data	71
Number of Distinct Detected Data	70	Number of Non-Detect Data	10
		Percent Non-Detects	12.35%
Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.134	Minimum Detected	-2.01
Maximum Detected	40.2	Maximum Detected	3.694
Mean of Detected	6.487	Mean of Detected	0.91
SD of Detected	8.867	SD of Detected	1.493
Minimum Non-Detect	0.0413	Minimum Non-Detect	-3.187
Maximum Non-Detect	0.24	Maximum Non-Detect	-1.427
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	15
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	66
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	18.52%
UCL Statistics			
Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Lilliefors Test Statistic	0.246	Lilliefors Test Statistic	0.0837
5% Lilliefors Critical Value	0.105	5% Lilliefors Critical Value	0.105
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.694	Mean	0.435
SD	8.563	SD	1.899
95% DL/2 (t) UCL	7.277	95% H-Stat (DL/2) UCL	18.63
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	4.52	Mean in Log Scale	0.509
SD	9.829	SD in Log Scale	1.764
95% MLE (t) UCL	6.337	Mean in Original Scale	5.699
95% MLE (Tiku) UCL	6.302	SD in Original Scale	8.56
		95% t UCL	7.281
		95% Percentile Bootstrap UCL	7.162
		95% BCA Bootstrap UCL	7.674
		95% H UCL	14.45
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.621	**Data appear Lognormal at 5% Significance Level**	
Theta Star	10.45		
nu star	88.12		

Figure 1 ProUCL Output for Plutonium 239-240 UCL Calculation

A-D Test Statistic	1.665	**Nonparametric Statistics**	
5% A-D Critical Value	0.804	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.804	Mean	5.704
5% K-S Critical Value	0.111	SD	8.504
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.952
		95% KM (t) UCL	7.287
Assuming Gamma Distribution		95% KM (z) UCL	7.269
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	7.28
Minimum	0.000001	95% KM (bootstrap t) UCL	7.625
Maximum	40.2	95% KM (BCA) UCL	7.44
Mean	5.686	95% KM (Percentile Bootstrap) UCL	7.306
Median	2.01	95% KM (Chebyshev) UCL	9.851
SD	8.568	97.5% KM (Chebyshev) UCL	11.65
k star	0.264	99% KM (Chebyshev) UCL	15.17
Theta star	21.52		
Nu star	42.8	**Potential UCLs to Use**	
AppChi2	28.8	95% KM (Chebyshev) UCL	9.851
95% Gamma Approximate UCL	8.451		
95% Adjusted Gamma UCL	8.512		
Note: DL/2 is not a recommended method.			
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL			
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
For additional insight, the user may want to consult a statistician.			

Figure 1 (continued)

REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), October 2006. "Investigation/Remediation Work Plan for Material Disposal Area B, Solid Waste Management Unit 21-015, at Technical Area 21, Revision 1," Los Alamos National Laboratory document LA-UR-06-6918, Los Alamos, New Mexico. (LANL 2006, 095499)

NRC, EPA, DOE, and DOD (Nuclear Regulatory Commission, U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Department of Defense), December 1997. "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," Final, NUREG 1575, EPA 402-R-97-016. (NRC et al. 1997, 063128)