Response to the Notice of Disapproval for the Phase II Investigation Work Plan for Threemile Canyon Aggregate Area, Los Alamos National Laboratory, EPA ID No. NM0890010515, HWB-LANL-11-044, Dated September 30, 2011

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. The comments are divided into general and specific categories, as presented in the notice of disapproval. Los Alamos National Laboratory's (LANL's or the Laboratory's) responses follow each NMED comment. This response contains data on radioactive materials, including source, special nuclear, and byproduct material. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to NMED in accordance with U.S. Department of Energy policy.

GENERAL COMMENTS

NMED Comment

1. *The Permittees must describe in detail the methods that will be used to collect the samples for volatile organic compounds (VOCs). Details must be provided for how samples will be collected from the sampling devices, the procedures that will be used to transfer the samples to sampling containers, the types of sample containers to be used, how the sample containers will be filled to eliminate headspace, and the method to be used for storage of the sample containers. Methods to collect samples for different media such as soil, sediment, and tuff, must be described separately. The Permittees must describe every step of sample collection in detail so NMED can determine whether the proposed collection methods will minimize the loss of VOCs during sample collection.*

LANL Response

1. The standard operating procedures (SOPs) referenced in the Phase II investigation work plan to collect soil, sediment, and tuff samples (SOP-06.09, Spade and Scoop Method for the Collection of Soil Samples; SOP-06.10, Hand Auger and Thin-Wall Tube Sampler; and SOP-06.26, Core-Barrel Sampling for Subsurface Earth Materials) are being revised to address potential loss of volatile organic compounds (VOCs) during sampling. After the SOPs have been revised, an addendum to the Phase II work plan will be prepared that provides detailed descriptions of the methods proposed for collection of soil, sediment, and tuff samples for VOC analysis. The work plan addendum will be submitted to NMED for review and approval before the Phase II investigation of Threemile Canyon Aggregate Area is implemented.

SPECIFIC COMMENTS

NMED Comment

1. ***Section 4.1.1.3, Proposed Activities at Consolidated Unit 12-001(a)-99, page 8:***

   a. *Barium was detected at the highest concentration at location 12-610694 (407 mg/kg at 3-0-3.4 ft below ground surface (bgs)). The concentrations of barium increased with depth at this location, indicating an increasing trend. In addition, the lateral extent of barium is not defined to the west of location 12-610694. The Permittees proposed to collect additional samples at locations 12-610694, 1a-1. and 1a-2, but did not include analysis of barium for these samples. Barium analyses must be included in the analytical suite for samples to be collected from these locations, to define the vertical and lateral extent of barium.*

   b. *The Investigation Report for Threemile Canyon Aggregate Area (IR) concluded that the vertical extent of silver was not defined at location 12-610647. The IWP does not discuss whether additional sampling is required to define the vertical extent of silver. However, review of the data indicates that additional sampling is not warranted for silver. Revise the IWP to include discussion on determination of the vertical extent of silver at the site.*

LANL Response

1. a. As explained in section 4.2.1.4 of the investigation report (LANL 2010, 111324.14, p. 15), the vertical extent of barium is defined at location 12-610694 because concentrations are below the maximum soil background concentration for barium (410 mg/kg). Similarly, section 4.1.1.2 of the investigation work plan (LANL 2011, 203667, p. 7) explains that the lateral extent of barium is defined at location 12-610694 because concentrations are less than the maximum soil background concentration. Because barium concentrations at location 12-610694 are not different from background concentrations, no additional sampling for barium is warranted at this location, and no revision to the work plan is necessary.

   b. Section 4.1.1.2 and Table 1.1-1 of the work plan have been revised to indicate the vertical extent of silver is not defined at location 12-610647. Section 4.1.1.2 has also been revised to indicate that additional sampling and analysis for silver is not warranted because the detected concentration of silver (1.11 mg/kg) is essentially the same as the soil background value (BV) of 1.0 mg/kg, which is based on a method detection limit (LANL 1998, 059730, p. 11).

NMED Comment

2. ***Section 4.1.2.3, Proposed Activities at AOC 12-004(a), page 10:***

   a. *The IR concluded that the lateral extent of cobalt was not defined to the north, east, and west at area of concern (AOC) 12-004(a). The IWP proposes samples to be collected only from one location (4a-7) west of existing sampling location 12-610527 for cobalt analysis. No sampling is proposed to the north and east of the existing sampling locations to define the lateral extent of cobalt. Samples must be collected to define the lateral extent to the north and east of the existing sampling locations as recommended in the IR. Revise the IWP accordingly.*

   b. *Section 4.1.2.2 of the IWP and the IR both concluded that the vertical extent of chromium is not defined at location 12-610539. However, additional sampling is not proposed at this location to define the vertical extent of chromium (See Table 4.1-2). The Permittees must either propose to*

collect additional samples for chromium analysis at location 12-610539 to define the vertical extent or provide an explanation for not proposing additional sampling at this location in the revised IWP.

LANL Response

2. a. As Table 4.3-2 of the investigation report (LANL 2010, 111324, pp. 329–330) indicates, the maximum concentration of cobalt detected above BV was detected at location 12-610527. Although no samples for Area of Concern (AOC) 12-004(a) were collected to the north of location 12-610527, cobalt concentrations decreased to the north in samples collected at location 12-610554, which is associated with AOC 12-004(b). Cobalt concentrations also decreased to the east of location 12-610527 in samples collected at location 12-610529 in AOC 12-004(a). The text in section 4.1.2.2 has been revised to clarify that cobalt concentrations decreased to the north and east of location 12-610527. No additional sampling and analysis for cobalt in these directions is necessary.

   b. Location 12-610539 is approximately 5 ft from location 12-610540. The text in section 4.1.2.3 explains that samples collected at location 12-610540 will be used to define the vertical extent of chromium at location 12-610539. No revision to the work plan is necessary.

NMED Comment

3. Section 4.1.4.3, Proposed Activities at AOC C-12-001, page 13:

The IR concluded that the vertical extent of chromium was not defined at locations 12-610624, 12-610625, and 12-610628. The Permittees propose samples to be collected from locations 12-610624 and 12-610625, but not from location 12-610628. Explain why additional samples are not proposed at location 12-610628 to define the vertical extent of chromium.

LANL Response

3. Concentrations of chromium detected at location 12-610628 decreased from 9.7 mg/kg at 0–1 ft below ground surface (bgs) (which is less than the soil BV of 19.3 mg/kg) to 8.05 mg/kg at 2–3 ft bgs. Section 4.1.4.2 of the Phase II work plan has been revised to explain that vertical extent of chromium is defined at location 12-610628 because concentrations decreased with depth. No additional sampling is necessary at this location.

NMED Comment

4. Section 4.1.5.3, Proposed Activities at AOC C-12-002, page 14:

The Permittees propose to collect samples from depths of 5-6 ft and 9-10 ft bgs to define the vertical extent of contamination at locations 12-610631 and 12-610632. Additional samples are also proposed to be collected from four step-out locations (C2-1, C2-2, C2-3, and C2-4) to define the lateral extent of contamination. However, the step-out samples are proposed to be collected from only two depths (i.e., 0-1 ft and 2-3 ft bgs). The Permittees must collect samples from a depth of 5-6 ft bgs at the proposed step-out locations to ensure that the vertical extent of contamination will be defined at these locations.

LANL Response

4. Section 4.1.5.3 and Table 4.1-5 have been revised to specify samples will be collected at depth intervals of 5–6 ft and 9–10 ft bgs at step-out locations to correspond to the depth intervals at locations 12-610631 and 12-610632.

NMED Comment

5. Section 4.2.1.2, Nature and Extent of Contamination, page 16:

The first paragraph incorrectly refers to the AOC C-14-006 as AOC C-12-006. Correct the typographical error.

LANL Response

5. The text in section 4.2.1.2 has been revised to correct the typographical error.

NMED Comment

6. Section 4.3.3.2, Nature and Extent of Contamination, page 21:

a. In addition to the 20 locations cited in the text, the vertical extent of chromium is not defined at location 15-610721 at solid waste management unit (SWMU 15-008(b)). The chromium was not detected above soil background value (BV) in the shallow sample (0-0.5 ft bgs) but was detected above the BV at 26.3 mg/kg in a sample collected from 1-1.9 ft bgs at this location. Revise the IWP to propose sampling to define the vertical extent of chromium at this location.

b. The vertical extent of cobalt is not defined at location 15-610750, not 610750 as stated in the text. Correct the typographical error.

c. In addition to seven locations mentioned in the text, the vertical extent of copper is not defined at location 15-610748 (See IR, page 65). Further, samples were collected from only one depth at location 15-610762; the vertical extent of copper is also not defined at this location (See IR, page 65). Revise the IWP to propose sampling to define the vertical extent of copper at these locations.

d. According to the IR, the vertical extent of lead is not defined at location 15-610742, where samples were collected from only one depth (See IR, page 65). Revise the IWP to propose sampling to define the vertical extent of lead at this location.

e. According to the IR, the vertical extent of uranium is not defined at location 15-610742, where samples were collected from only one depth (See IR, page 66). Revise the IWP to propose sampling to define the vertical extent of uranium at this location.

f. According to the IR, the vertical extent of cesium-137 is not defined at location 15-610742, where only one depth was sampled (See IR, page 67). Revise the IWP to define the vertical extent of cesium-137 at this location.

LANL Response

6. a. At location 15-610721, chromium was detected at concentrations of 7.47 mg/kg at 0–0.5 ft bgs (which is less than the soil BV of 19.3 mg/kg) and 26.3 mg/kg at 1–1.9 ft bgs. The concentration

in the deeper sample is less than the maximum soil background concentration for chromium (36.5 mg/kg). Chromium concentrations at location 15-610721 were less than the BV or maximum background concentration and, therefore, are not different from background. No additional sampling and analysis for chromium is necessary at this location.

b. The text in section 4.3.3.2 has been revised to correct the typographical error.

c. The text in section 4.3.3.2 has been revised to indicate that although the investigation report indicates the vertical extent of copper is not defined at location 15-610748, copper concentrations decreased with depth at this location (from 36,400 mg/kg at 0–1 ft bgs to 622 mg/kg at 3–4 ft bgs), and no additional sampling is necessary.

   The text in section 4.3.3.2 has been revised to indicate the vertical extent of copper is not defined at location 15-610762. The text in section 4.3.3.3 and Table 4.3-3 have been revised to specify analysis of samples from location 15-610762 for copper.

d. Section 6.5.1.4 of the investigation report indicates that only one depth was sampled at location 15-610762, not location 15-610742. The text in section 4.3.3.2 has been revised to indicate vertical extent of lead is not defined at location 15-610762. The text in section 4.3.3.3 and Table 4.3-3 have been revised to specify analysis of samples from location 15-610762 for lead.

e. Section 6.5.1.4 of the investigation report indicates that only one depth was sampled at location 15-610762, not location 15-610742. The text in section 4.3.3.2 has been revised to indicate the vertical extent of uranium is not defined at location 15-610762. As explained in section 2.4 of the work plan, isotopic uranium data will be used to define the vertical extent of total uranium. The text in section 4.3.3.3 has been revised to note where isotopic uranium data will be used to define extent for uranium. Similar revisions were made throughout the work plan for other locations where isotopic uranium data will be used to define extent for uranium. The work plan already specifies that samples from location 15-610762 be analyzed for isotopic uranium.

f. Section 6.5.1.4 of the investigation report indicates that only one depth was sampled at location 15-610762, not location 15-610742. The text in section 4.3.3.2 has been revised to indicate the vertical extent of cesium-137 is not defined at location 15-610762. The text in section 4.3.3.3 and Table 4.3-3 have been revised to specify analysis of samples from location 15-610762 for cesium-137.

NMED Comment

7. Section 4.3.3.3, Proposed Activities at SWMU 15-008(b), page 22:

Section 4.3.3.2 identified 15-610746 as a location where the vertical extent of lead is not defined. However, section 4.3.3.3 and Table 4.3-3 do not propose lead analysis for samples to be collected from this location. Revise the text and Table 4.3-3 to correct this omission. In addition, the text must be revised in this section based on the direction provided in comment # 6.

LANL Response

7. Lead concentration in surface samples collected at locations 15-610746 and 15-610709 exceeded the industrial soil screening level (SSL). The area in and around these locations will be excavated to a depth of 3 ft bgs to remove the elevated lead. Samples collected at locations 15-610746 and 15-610709 will be analyzed for lead to confirm cleanup and to define vertical extent. The text in

section 4.3.3.3 and Table 4.3-3 have been revised to specify analysis of samples from locations 15-610746 and 15-610709 for lead.

NMED Comment

8. Section 4.4.3.2, Nature and Extent of Contamination, page 37:

a. The vertical extent of cadmium is not defined at location 36-610827 (See IR page 115) at SWMU 36-008. The Permittees must revise the IWP to include cadmium in the list of chemicals for which extent of contamination is not defined.

b. In addition to the locations mentioned in the text, the vertical extent of chromium is not defined at locations 36-610822 and 36-610825 (See IR page 115). Revise the IWP to propose sampling to define the vertical extent of chromium at these locations.

c. In addition to the locations mentioned in the text, the vertical extent of copper is not defined at locations 36-610824 and 36-610827 (See IR page 116). Revise the IWP to propose sampling to define the vertical extent of copper at these locations.

d. In addition to the locations mentioned in the text, the vertical extent of total cyanide is not defined at location 36-610824. (See IR page 116). Revise the IWP to propose sampling to define the vertical extent of total cyanide at this location.

e. In addition to the locations mentioned in the text, the vertical extent of mercury is not defined at locations 36-610824 (See IR page 116). Revise the IWP to propose sampling to define the vertical extent of mercury at this location.

f. The vertical extent of silver is not defined at location 36-610825 and 36-610827 (See IR page 117). Revise the IWP to include silver in the list of chemicals for which extent of contamination is not defined.

g. In addition to the location 36-610615 mentioned in the text, the vertical extent of uranium is not defined at location 36-610824 (See IR page 117). Revise the IWP to propose sampling to define the vertical extent of uranium at this location.

h. The vertical extent of Aroclor-1254 and Aroclor-1260 is not defined at location 36-610824 in addition to the locations mentioned in the text (See IR page 118). Revise the IWP accordingly.

i. In addition to the locations mentioned in the text, the vertical extent of 4-isopropyltoluene is not defined at locations 36-610821, 36-610822 and 36-610826 (See IR page 119). Revise the IWP to propose sampling to define the vertical extent of 4-isopropyltoluene at these locations.

j. The vertical extent of plutonium-238 is not defined at locations 36-610822 (See IR page 119 and Approval with Modifications dated December 8, 2010). Revise the IWP to propose sampling to define the vertical extent of plutonium-238 at this location.

k. In addition to the locations mentioned in the text, the vertical extent of tritium is not defined at locations 36-610825 and 16-610826. Revise the IWP to propose sampling to define the vertical extent of tritium at these locations.

l. The vertical extent of uranium-234 is not defined at locations 36-610824 (See IR page 119). Revise the IWP to propose sampling to define the vertical extent of uranium-234 at this location.

LANL Response

8. Comments 8.a through 8.l relate to results for samples collected from locations 36-610821, 36-610822, 36-610824, 36-610825, 36-610826, and 36-610827. As indicated in Table 7.4-1 of the investigation report (LANL 2010, 111324, pp. 334–335), samples collected at locations 36-610821 through 36-610828 are associated with Solid Waste Management Unit (SWMU) C-36-003, rather than SWMU 36-008. SWMU C-36-003 is located within the footprint of SWMU 36-008, and the investigation report included samples from both sites in the nature and extent discussion for SWMU 36-008. The text in section 4.4.3.2 has been revised to explain that results for samples associated with SWMU C-36-003 are not included in the discussion of extent for SWMU 36-008 but are included in the discussion of extent for SWMU C-36-003 (section 4.4.4.2).

   a. Section 4.4.4.2 of the work plan, which summarizes nature and extent of contamination at SWMU C-36-003, indicates the vertical extent of cadmium is not defined at location 36-610827. No revision to the work plan is necessary.

   b. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates samples collected at locations 36-610822 and 36-610825 will be analyzed for chromium. No revision to the work plan is necessary.

   c. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates samples collected at locations 36-610824 and 36-610827 will be analyzed for copper. No revision to the work plan is necessary.

   d. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates that samples collected at location 36-610824 will be analyzed for total cyanide. No revision to the work plan is necessary.

   e. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates samples collected at location 36-610824 will be analyzed for mercury. No revision to the work plan is necessary.

   f. Section 4.4.4.2 of the work plan, which summarizes nature and extent of contamination at SWMU C-36-003, indicates the vertical extent of silver is not defined at locations 36-610825 and 36-610827. No revision to the work plan is necessary.

   g. Section 4.4.4.2 of the work plan, which summarizes nature and extent of contamination at SWMU C-36-003, indicates the vertical extent of uranium at location 36-610824 is defined by isotopic uranium data. No revision to the work plan is necessary.

   h. Section 4.4.4.2 of the work plan, which summarizes nature and extent of contamination at SWMU C-36-003, indicates the vertical extent of Aroclor-1254 and Aroclor-1260 is not defined at location 36-610824. No revision to the work plan is necessary.

   i. Section 7.5.3.4 of the investigation report, which describes the nature and extent of contamination at SWMU C-36-003, indicates the vertical extent of 4-isopropyltoluene is defined (LANL 2010, 111324, p. 124). As Table 7.4-3 of the investigation report (LANL 2010, 111324, p. 349) indicates, 4-isopropyltoluene was detected only in the surface samples at locations 36-610821 and 36-610822, and vertical extent is defined at these locations. As Table 7.4-3 indicates and as discussed in section 4.4.4.2 of the Phase II work plan, concentrations of 4-isopropyltoluene increased with depth at location 36-610826, and vertical extent is not defined at this location. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003,

indicates samples collected at location 36-610826 will be analyzed for 4-isopropyltoluene. No revision of the work plan is necessary.

j. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates samples collected at location 36-610822 will be analyzed for isotopic plutonium. No revision of the work plan is necessary.

k. Section 4.4.4.3 of the work plan, which presents the proposed sampling for SWMU C-36-003, indicates samples collected at locations 36-610825 and 36-610826 will be analyzed for tritium. No revision of the work plan is necessary.

l. Section 7.5.3.4 of the investigation report, which describes the nature and extent of contamination at SWMU C-36-003, indicates uranium-234 activities increase with depth at location 36-610824, and vertical extent is not defined at this location (LANL 2010, 111324, p. 125). Section 4.4.4.2 of the work plan, however, notes that uranium-234 activities (3.43 pCi/g at 0.0–0.5 ft bgs and 3.49 pCi/g at 2.0–3.0 ft bgs) were essentially the same and did not indicate an increase with depth. Therefore, no additional sampling is necessary at location 36-610824, and no revision of the work plan is necessary.

NMED Comment

9. Section 4.4.3.3, Proposed Activities at SWMU 36-008, page 38:

The Permittees propose to collect additional samples to define the vertical extent of polycyclic aromatic hydrocarbons (PAHs) at locations 36-610607 and 36-610615. At these locations samples are proposed to be collected from depths of 5-6 ft and 9-10 ft bgs to define vertical extent. The IWP proposes to collect confirmation samples for PAH analysis from new sampling locations (8-7 and 8-8) after contaminated soil is removed. The Permittees must collect additional samples from 5-6 ft bgs at locations 8-7 and 8-8 to ensure that the vertical extent is defined at these locations. In addition, the Permittees must revise the text and Table 4.4-3 based on the direction provided in comment # 8.

LANL Response

9. Sampling was proposed at locations 8-7 and 8-8 to confirm cleanup of polycyclic aromatic hydrocarbons (PAHs) to below industrial SSLs. The text in section 4.4.3.3 and Table 4.4-3 have been revised to specify collection of samples from depths of 5–6 ft and 9–10 ft bgs at these locations for consistency with the sample depths at other locations being used for confirmation samples.

   See responses to comment 8.

NMED Comment

10. Section 4.4.4.2, Nature and extent of Contamination, page 40:

a. The vertical extent of silver is not defined at locations 36-610824, 36-610825, 36-610826, and 36-610827 (See IR page 123). However, the Permittees only state that the vertical extent of silver is not defined at locations 36-610825 and 36-610827. Revise the text to include locations 36-610824 and 36-610826, where the vertical extent of silver is also not defined.

b. The IR concluded that the vertical extent of cadmium is not defined at location 36-610824. The Permittees contend that the vertical extent of cadmium is defined at this location because the

detected concentrations are below the maximum soil BV of 2.6 mg/kg. However, the detected concentrations indicate that at this location, there is an increasing vertical trend in detected concentrations not only for cadmium, but for copper, cyanide, and mercury. The Permittees must include cadmium in the analytical suite for samples to be collected at this location to define the vertical extent of contamination.

LANL Response

10. a. The text in section 4.4.4.2 has been revised to indicate the investigation report concluded the vertical extent of silver is not defined at locations 36-610824 and 36-610826. Section 4.4.4.3 and Table 4.4-4 have been revised to specify analysis of samples collected at locations 36-610824 and 36-610826 for silver.

    b. Cadmium was detected at location 12-610824 at concentrations of 0.542 mg/kg at 0–0.5 ft bgs and 1.09 mg/kg at 2–3 ft bgs (LANL 2010, 111324, p. 339). Both concentrations are below the maximum soil background concentration for cadmium (2.6 mg/kg). Therefore, the concentrations are not different from background, and no additional sampling for cadmium is necessary at this location. Concentrations of copper, cyanide, and mercury also increased with depth at location 36-610824 and were greater than the maximum soil background concentrations. As noted in section 4.4.4.3, samples from location 36-610824 will be analyzed for copper, total cyanide, and mercury to define vertical extent. No revision of the work plan is necessary.

NMED Comment

11. Section 4.4.4.3, Proposed Activities at SWMU C-36-003, page 41:

The Permittees state that "[E]xcavation of soil at locations 36-610824, 36-610825, 36-610826, and 36-610827and collection of confirmation samples at these locations are described in section 4.4.3.3." However, Section 4.4.3.3, which discusses contamination at SWMU 36-008, indicates that the confirmation samples proposed to be collected after PAH contaminated soil is removed are to be analyzed only for PAHs. The IR (See page 129) indicated that at SWMU C-36-003, excavation will be conducted to remove Aroclor-1254 and silver from the drainages. The general area proposed for excavation is same for both these SWMUs, but the IWP did not address removal of Aroclor-1254 and silver in the drainages. After the soil removal, the confirmation samples must be collected and analyzed for Aroclor-1254 and silver to evaluate the residual contaminant concentrations at the site. Revise the IWP accordingly.

LANL Response

11. The area to be excavated for PAH removal, which is described in section 4.4.3.3 and shown on Plate 33 of the Phase II work plan, encompasses locations 36-610824, 36-610825, 36-610826, and 36-610827 within SWMU C-36-003. These four locations are also where the highest concentrations of silver and Aroclor-1254 were detected at SWMU C-36-003. Detected silver concentrations at these four locations ranged from 32.4 mg/kg to 348 mg/kg, while detected silver concentrations at the other four SWMU C-36-003 locations ranged from 1.03 mg/kg to 6.49 mg/kg. Similarly, Aroclor-1254 concentrations at locations 36-610824, 36-610825, 36-610826, and 36-610827 ranged from 0.0315 mg/kg to 1.03 mg/kg, while there was only one detected concentration (0.00442 mg/kg) at the other four locations. The soil removal described in section 4.4.3.3 of the work plan is intended to also meet the silver and Aroclor-1254 removal objectives described in section 9.2 of the investigation report (LANL 2010, 111324, p. 129). Section 4.4.4.3 and Table 4.4-4 were revised to also specify

analysis of the confirmation and vertical extent samples collected at locations 36-610824, 36-610825, 36-610826, and 36-610827 for silver and polychlorinated biphenyls.

NMED Comment

12. Table 4.4-3, Proposed sample and Analysis at SWMU 36-008, page 116:

Section 4.4.3.3 indicates that samples are to be collected from two depths (3.0-4.0 ft and 7.0-8.0 ft bgs) at several locations after the contaminated soil is removed. However, the Table 4.4-3 indicates that these samples will be collected from only one depth (3-4 ft bgs). Revise the Table accordingly.

LANL Response

12. All sampling locations within the soil excavation area, except locations 36-610579, 36-610608, and 36-610610, are already proposed for sampling at 5–6 ft and 9–10 ft bgs to the define vertical extent for various constituents, and sampling at 7–8 ft bgs is not necessary. Additional samples will be collected at 5–6 ft and 9–10 ft bgs at locations 36-610579, 36-610608, and 36-610610 for consistency with sample depths at other locations. The text in section 4.4.3.3 and Table 4.4-3 have been revised to specify the collection of samples at 5–6 ft and 9–10 ft bgs at these locations.

REFERENCES

LANL (Los Alamos National Laboratory), September 22, 1998. "Inorganic and Radionuclide Background Data for Soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory," Los Alamos National Laboratory document LA-UR-98-4847, Los Alamos, New Mexico. (LANL 1998, 059730)

LANL (Los Alamos National Laboratory), November 2010. "Investigation Report for Threemile Canyon Aggregate Area, Revision 1," Los Alamos National Laboratory document LA-UR-10-7227, Los Alamos, New Mexico. (LANL 2010, 111324.14)

LANL (Los Alamos National Laboratory), June 2011. "Phase II Investigation Work Plan for Threemile Canyon Aggregate Area," Los Alamos National Laboratory document LA-UR-11-3073, Los Alamos, New Mexico. (LANL 2011, 203667)