Response to the "Notice of Disapproval for the Investigation Work Plan for Upper Sandia Canyon Aggregate Area, Los Alamos National Laboratory EPA ID No: NM0890010515, HWB-LANL-08-010," Dated June 25, 2008

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 (DOE) policy.

GENERAL COMMENTS

NMED Comment

1. *At each site undergoing investigation, 20% of all samples must be sent for off-site laboratory analysis of polychlorinated biphenols (PCBs). The selected samples must be biased toward areas where field screening indicates the greatest presence of contamination or areas with the highest potential for contamination (e.g., closest to the contamination source).*

LANL Response

1. The proposed sampling has been revised to include polychlorinated biphenyl (PCB) analyses for at least 20% of the samples collected at each site undergoing investigation where PCB sampling was not already proposed. The proposed sampling table in the work plan has been revised to include the additional analyses.

NMED Comment

2. *All figures must include pertinent features and structures, such as underground utilities, structure numbers, contour lines, canyon names, and existing well and borehole locations. All figures illustrating proposed sampling locations must be revised so that all pertinent site features are shown.*

LANL Response

2. Figures illustrating proposed sampling locations have been revised to include pertinent site features and structures, including underground utilities, structure numbers, contour lines, canyon names, and existing well and borehole locations.

NMED Comment

3. *The Permittees referenced the drainages associated with solid waste management units (SWMUs) or areas of concern (AOCs), but did not identify these drainages on associated figures. The Permittees*

are required to sample the drainage(s) associated with the site. Samples must be obtained within the drainage(s) from the top of the slope to the toe of the colluvium. The Permittees must pre-determine sampling locations in drainages and justify the selections. Locations must be selected based on geomorphic relationships and sedimentary packages following canyon investigation procedures. Sampling must target areas such as fine-grained sediment in outfall channels or other areas of sediment accumulation. The Permittees must revise the Plan to include proposed sampling in the drainages associated with SWMUs/AOCs.

LANL Response

3. Drainages and canyon reach sediment sampling locations have been included in the figures that show proposed sampling locations. Additional sampling locations have been added to the drainages to ensure samples are collected from the top of the slope to the toe of the colluvium. The corresponding sections in the work plan were also modified, and Table 4.0-1 includes the additional sampling locations, depths, and analytical suites. Text has also been added to section 5.3 to clarify that drainage sampling locations are determined on the basis of geomorphic relationships and the presence of appropriate sediment packages. Any changes to sediment sampling locations based on field observations at the time of sampling will be documented in the Upper Sandia Canyon Aggregate Area investigation report as deviations from the investigation work plan.

NMED Comment

4. The Permittees make repeated statements throughout the Plan that samples have been or will be collected from the drainages downgradient of sites as part of Sandia Canyon and Canada del Buey work plan investigations. The Permittees must indicate these proposed and existing sampling locations on the relevant figures for NMED to evaluate whether additional data is needed to determine the nature and extent of contamination.

LANL Response

4. The objectives of the aggregate area investigations are different from those of canyons investigations. The aggregate area investigations are conducted to characterize individual sources of potential releases (e.g., solid waste management units [SWMUs] and areas of concern [AOCs]), while the canyons investigations are conducted to characterize the resulting cumulative impacts from releases from these multiple sources. Thus, the canyons investigations use a sampling strategy based on reaches, which is different than the strategy used for characterizing the extent of contamination from individual sources. For this reason, it is necessary only to determine the extent of releases from individual sources to the toe of the slope. Once the toe of the slope is reached, the contamination in the canyon sediments may result from multiple sources. The nature and extent of contamination in the canyon bottom will be characterized using the reach-based sampling strategy employed by the canyons investigations.

   The work plan figures have been revised to include proposed and existing canyon reach sediment sampling locations, where available. The text in the corresponding sections of the work plan has also been revised to include statements indicating that data from samples collected in the canyon reaches as part of the canyon investigations of Sandia Canyon and Cañada del Buey will be used to supplement the data from samples proposed under the Upper Sandia Canyon Aggregate Area work plan. The canyon sediment data will be assessed in the Upper Sandia Canyon Aggregate Area investigation report to confirm the nature and extent of contamination have been determined for the sites in the aggregate area. The canyons sampling locations and data are presented in specific

canyons investigation work plans previously submitted to NMED in accordance with the Consent Order. Additional canyons sediment data from Sandia Canyon samples will be presented in the report due to NMED in December 2008.

NMED Comment

5. *The Permittees have not depicted locations of drainlines that carried effluent from the buildings to the outfall and the drainages that carried effluent from the outfall to the canyons. For example, in Figure 4.1-13, the location of former NPDES-permitted outfall (SWMU 03-045(h)) is indicated, but the figure does not illustrate the orientation of drainlines that carried effluent from the cooling tower (structure 03-0187) to the outfall or the drainages that discharged effluent to the canyon from the outfall. The Permittees must revise the figures to depict the location of the outfall pipes from the influent source to the discharge point.*

LANL Response

5. The figures showing outfalls that discharged to drainages and canyons have been revised to include drainline locations and orientation from the influent source to the discharge point.

NMED Comment

6. *The Permittees have not depicted boundaries for some SWMUs on the figures. The sites are denoted by a small triangle on the figure, but the 'Site Description' describes much larger areas as SWMUs. For example, Figure 4.1-56 depicts SWMU 03-054(c) as a small triangle, but Section 4.1.38 describes structures 03-0156 and 03-0163 and an outfall as part of SWMU 03-054(c). Without the SWMU boundary depicted on the figure it is difficult to determine if proposed sampling locations are adequate to define the nature and extent of contamination. Figures must be revised to depict the boundaries of the entire SWMUs/AOCs.*

LANL Response

6. The small triangles in the figures denote outfall discharge points associated with certain AOCs or SWMUs. Drainlines from the influent source to the outfall discharge points have been added to figures to assist in determining if the proposed sampling locations are adequate to define the nature and extent of contamination. Figures 4.1-56 and 4.1-57 have been updated to include the areas occupied by former structures 03-0156 and 03-0163 as part of the SWMU 03-054(c) boundary.

SPECIFIC COMMENTS

NMED Comment

1. Section 4.1.3, AOC 03-003(d), Transformer Pad-PCB Only Site, page 12:

The Permittees propose to collect six samples from three locations near the pad to determine if PCBs have migrated from the concrete pad. The Permittees must collect samples from two additional locations at two depths (0-1 ft and 1-2 ft) under the concrete pad to determine if there was any vertical migration of PCBs underneath the pad. In addition, the Permittees must ensure that the concrete chip samples are collected from the old concrete pad on which PCB-containing transformers were stored and not from the concrete that was added in 1993 to extend the pad.

LANL Response

1. Section 4.1.3 has been revised to indicate that soil samples will be collected from two depth intervals at two additional locations under the concrete pad (Figure 4.1-12) and to note that the chip samples will be collected from the old pad. Samples will be collected from the 0- to 1-ft interval and from the 1- to 2-ft interval below ground surface (bgs) and analyzed for PCBs. The proposed samples are presented in Table 4.0-1.

NMED Comment

2. Section 4.1.4, AOC 03-003(f), Transformer Area-PCB Only Site, page 13*:*

The Permittees propose to collect nine swipe samples from the basement that formerly housed PCB-containing transformers. However, since a concrete pad was poured over the old concrete in 1992, the Permittees must address any potential PCB contamination beneath the new concrete pad at the time of demolition of the building.

LANL Response

2. Text in section 4.1.4 of the work plan has been revised to indicate that because a concrete pad was poured over the old concrete in 1992 and the site is located within an active nuclear facility, any potential PCB contamination beneath the new concrete pad will be addressed after building 03-0066 is demolished.

NMED Comment

3. Section 4.1.7.1, SWMU 03-009(a), Surface Disposal (Soil Fill), page 16:

The Permittees state that samples will be collected from the drainage downgradient of this site as part of the Sandia Canyon and Cañada del Buey investigations (1999 Work Plan) and refer to Section 6.3 for further information. However, Section 6.3 only reports that sediment samples were collected from 132 locations in the Upper Sandia Canyon Aggregate Area (USCAA) and submitted for full-suite analyses but does not provide any information on the sampling locations or detected chemicals of potential concern (COPCs) and their respective concentrations. The Permittees must provide a figure of the drainage downgradient of the site depicting sampling locations and detected concentrations of the COPCs for NMED to evaluate if any additional samples are required to define the nature and extent of contamination. The Permittees propose to collect additional samples during Phase 2 sediment investigations within USCAA downgradient of the site. These proposed sampling locations must also be depicted on the revised figure and must include locations from the drainage downgradient of the site to define the nature and extent of contamination.

LANL Response

3. The text in section 4.1.7.1 has been revised to reference the canyon sediment sampling locations and to clarify that these data will be assessed in the Upper Sandia Canyon Aggregate Area investigation report to confirm the nature and extent of contamination have been determined for this site.

   Figure 4.1-5 has been revised to show the two sampling locations associated with SWMU 03-045(g), downgradient of SWMU 03-009(a), and to show the canyon reach (S-1 North) and canyon reach sediment sampling locations.

See also response to General Comment 4.

NMED Comment

4. Section 4.1.7.2, SWMU 03-028, Surface Impoundment, page 16:

According to Figure 4.1-2, sampling location 03-22528 is associated with SWMU 03-028, but the Table 4.1-1 reports it as associated with AOC 03-043(b). According to Figure 4.1-2, sampling locations 03-22523 and 03-22524 (see Table 4.1-1) are not located in the former holding pond as stated in the text; they are located outside the SWMU boundary. Resolve these discrepancies and revise the Plan accordingly. The Permittees have not provided information on how the pond discharged to the outfall 03-045(g). If the pond discharged through a drainline that could have leaked, then the drainline must be located and the soil beneath the drainline must also be investigated.

LANL Response

4. The sampling location associations in Table 4.1-1 are correct. Figures 4.1-1 to 4.1-5 were modified to show the correct locations for SWMUs 03-028 and 03-043(b).

   SWMU 03-028 is an inactive 12-ft ×15-ft × 6-ft-deep concrete holding pond that was located next to the northeast corner of the former asphalt batch plant (former structure 03-0073). The batch plant mixed aggregate (gravel) with asphalt emulsion to make asphalt. The mineral dust and particulates from the gravel were captured by water in the batch plant air-scrubber system and discharged to the holding pond where the sediment in the scrubber water settled to the bottom of the concrete pond. No oil or tar components came into contact with the water in the air-scrubber system. Water from the holding pond was recycled to the scrubber system. The scrubber water was not directly discharged to the SWMU 03-045(g) outfall. The holding pond had an overflow pipe, which discharged onto the ground surface. The surface drainage then flowed to a culvert inlet pipe that was connected to the SWMU 03-045(g) outfall. A sampling location has been added above the inlet pipe as part of the investigation of SWMU 03-045(g) (Figure 4.1-5).

   Sediment from the gravel used in the asphalt batch plant was periodically removed from the bottom of the pond and disposed of in the former landfill area located southeast of the plant [SWMU 03-009(a)]. The operating group, LANL Roads and Grounds, removed all sediment and water from the pond in early August 2003 during decommissioning of the asphalt batch plant. The empty pond was photographed and surveyed on August 19, 2003, and the pond was filled with clean soil and gravel on August 20, 2003, to allow a crane to be placed on the site to dismantle the batch plant (former structure 03-0073). Characterization samples were collected from two boreholes (sampling locations 03-22523 and 03-22524) that were drilled next to the south and west (downgradient) sides of the holding pond to a depth of 20 ft bgs.

   Figure 4.1-5 and the text in section 4.1.7.2 of the work plan have been revised accordingly.

NMED Comment

5. Section 4.1.7.3, SWMU 03-029, Landfill, page 17:

See General Comment # 4. The Permittees must provide a figure that depicts the drainages downgradient of the site and shows previous and proposed sampling locations and detected concentrations of the COPCs. This will help NMED to evaluate if any additional samples are required to define the nature and extent of contamination.

LANL Response

5. Figure 4.1-22 has been revised to show two additional sampling locations between the canyon edge and the canyon bottom downgradient of SWMU 03-029. The text in section 4.1.7.3 has been revised to reference the additional proposed sampling locations and to clarify that the canyon sediment sampling locations and resulting data will be assessed in the Upper Sandia Canyon Aggregate Area investigation report to confirm that nature and extent of contamination have been determined for this site.

   See also response to General Comment 4.

NMED Comment

6. Section 4.1.7.4, SWMU 03-036(a), Aboveground Tanks, page 18:

Table 4.1-1 reports that tuff samples were collected at depths of 8.0-8.5 ft, but text states that samples were collected from 8.5-9.0 ft. Resolve the discrepancy and revise the Plan accordingly.

LANL Response

6. Table 4.1-1 is correct; tuff samples were collect at depths of 8.0–8.5 ft. The text in section 4.1.7.4 has been revised accordingly.

NMED Comment

7. Section 4.1.7.7, AOC 03-043(b), Aboveground Tank, page 20:

According to Figure 4.1-2, sampling location 03-22528 is associated with SWMU 03-028, and sampling location 03-22537 is associated with SWMU 03-009(a). However, Table 4.1-1 reports these two locations as associated with AOC 03-043(b). No samples appear to be collected at AOC 03-043(b) according to Figure 4.1-2. Resolve the discrepancy and revise the associated text and tables. The Permittees must collect samples underneath the former aboveground tank to define the nature and extent of contamination. Stained soil was observed under the tank during excavation of the tank. Although the soil beneath the tank was removed, no confirmatory samples were collected.

LANL Response

7. According to sample collections logs, field notes, and tables presented in the October 2003 “Field Summary Report for the TA-3 and TA-60 Asphalt Batch Plant RCRA Facility Investigation” (Shaw Environmental Inc. 2003, 085517), sampling locations 03-22523 and 03-22524 are associated with SWMU 03-028, sampling location 03-22528 is associated with AOC 03-043(b), and sampling locations 03-22537, 03-22538 and 03-22539 are associated with SWMU 03-009(a). The text in section 4.1.7.7, Figures 4.1-1 to 4.1-5, and Table 4.1-1 have been revised accordingly.

   Five asphalt storage tanks occupied a relatively small area to the northeast of the batch plant (former structure 03-0073). The 1990 SWMU report (LANL 1990, 007511) lists each of the five tanks under the heading of decommissioned product tanks and designates them as AOCs 03-043(b), 03-043(d), 03-043(f), 03-043(g), and 03-043(h). All five tanks were used for storing asphalt emulsion. All the tanks had been emptied and removed by the time the asphalt batch plant was decommissioned in 2002. Because all five tanks have been removed, each AOC is no longer the tank itself but rather is an area of potential soil contamination associated with the former tank.

The two former northernmost tanks, AOCs 03-043(f) and 03-043(g), are addressed in LANL's response to NMED Comment 23 below. The three former southern tanks, AOCs 03-043(b), 03-043(d), and 03-043(h) (structure numbers 03-0077, 03-0076 and 03-0075, respectively), were located next to each other. AOCs 03-043(d), and 03-043(h) are addressed in LANL's response to NMED Comment 8. AOC 03-043(b) is addressed in this response.

AOC 03-043(b), the former asphalt emulsion storage tank (structure 03-0077), was located next to the AOC 03-043(d) asphalt storage tank (structure 03-0076) (see Attachment 1). Because of the close proximity of these two tanks, they would have shared a common area of potential contamination. As discussed in LANL's response to NMED Comment 8, AOC 03-043(d) is same area of potential soil contamination as SWMU 03-036(a). Because AOC 03-043(b), the asphalt emulsion storage tank (structure 03-0077), was located next to the AOC 03-043(d) asphalt storage tank (03-0076), it too would have the same area of potential soil contamination as SWMU 03-036(a).

Although no confirmatory samples were collected when the AOC 03-043(b) asphalt storage tank was removed, samples were taken in 2003, before a parking lot was installed at the location of the former asphalt batch plant. The paved parking lot now covers the former locations of all five asphalt storage tanks. Samples were collected from four locations within the area occupied by the five tanks: locations 03-22525, 03-22526, 03-22527, and 03-22528. Sampling results confirm the nature and extent of contamination have been defined for this site.

NMED Comment

8. Sections 4.1.7.8 and 4.1.7.9, AOCs 03-043(d) and 03-043(h), Aboveground Tanks, page 20:

The Permittees state that AOCs 03-043 (d) and 03-043(e) are duplicates of SWMU 03-036(a). SWMU 03-036(a) is discussed on page 6-30 of the RFI Work Plan for OU 1114 (1993) but does not refer to these sites as duplicates of SWMU 03-036(a). The Permittees must provide the page number where this information is located in the OU 1114 Work Plan, and otherwise provide documentation supporting the assertion that these sites are duplicates.

LANL Response

8. The first sentence of the above comment contains a typographical error. In section 4.1.7.8 of the work plan, LANL does state that AOC 03-043(d) is a duplicate of SWMU 03-036(a). However, in section 4.1.7.9 of the work plan, LANL states that AOC 03-043(h) [and not AOC 03-043(e)] is the duplicate of SWMU 03-036(a).

   The 1990 SWMU report (LANL 1990, 007511) lists SWMU 03-036(a) as an area of potential soil contamination from two aboveground asphalt storage tanks (structures 03-0075 and 03-0076), located at the former asphalt batch plant. The SWMU report also lists these same two tanks under the heading of decommissioned product tanks, designating structure 03-0076 as AOC 03-043(d) and structure 03-0075 as AOC 03-043(h). The tanks were located within close proximity of each other. Both tanks have been cleaned out, removed, and disposed of at the Los Alamos County landfill. Because the tanks have been removed, each AOC is no longer the tank itself but rather is the area of potential soil contamination associated with the former tank. However, SWMU 03-036(a) has already been designated as the area of potential soil contamination from the two tanks. Therefore, AOCs 03-043(d) and 03-043(h) refer to the same area of potential soil contamination as SWMU 03-036(a).

LANL has revised the text in sections 4.1.7.8 and 4.1.7.9 to reflect this information. In addition, copies of the relevant pages of the 1990 SWMU report are included as Attachment 2 to this response.

NMED Comment

9. Section 4.1.13, Consolidated Unit 03-014(a)-99, page 30:

Consolidated Unit 03-014(a)-99, is the former waste water treatment plant (WWTP). The structures associated with former WWTP are still present. The Permittees must collect samples from underneath the structures at the time of demolition of structures associated with the WWTP to address any potential contamination beneath the structures.

LANL Response

9. Although no longer operational, many of the structures associated with the SWMUs and AOCs of Consolidated Unit 03-014(a)-99 are still present (Figure 4.1-44). Samples will be collected beneath existing structures associated with SWMUs 03-014(a,b,c,d,e,g,h,i,p) following demolition. The text in section 4.1.13 has been revised accordingly.

NMED Comment

10. Section 4.1.13.3, AOC 03-014(b2), Outfall, page 33:

See General Comment #4. The Permittees are required to sample the drainage(s) associated with the site from the top of the slope to the toe of the colluvium. Sampling must target areas such as fine-grained sediment in outfall channels or other areas of sediment accumulation. Section 6.3 does not clearly provide information for NMED to determine if the samples that have been collected or will be collected during Phase 2 sediment investigations will be adequate to determine the nature and extent of contamination. The Permittees must provide a figure of the drainage downgradient of the site depicting sampling locations and detected concentrations of the COPCs for NMED to evaluate if any additional samples are required to define the nature and extent of contamination.

LANL Response

10. Figure 4.1-48 has been revised to show the drainage and the proposed canyon reach sediment sampling locations in Sandia Canyon. The text in section 4.1.13.3 has been revised to refer to the proposed canyon reach sediment sampling locations downgradient of the site. The canyons data will be assessed in the Upper Sandia Canyon Aggregate Area investigation report to confirm the nature and extent of contamination have been determined for this site.

    See also response to General Comment 4.

NMED Comment

11. Section 4.1.13.5, AOC 03-014(c2), Outfall, page 35:

The Permittees are required to sample the drainage(s) associated with the site from the top of the slope to the toe of the colluvium. Sampling must target areas such as fine-grained sediment in outfall channels and other areas of sediment accumulation. Section 6.3 does not provide adequate information for NMED to determine if the samples that have been collected or will be collected during

Phase 2 sediment investigations will be adequate to determine the nature and extent of contamination. The Permittees must provide a figure of the drainage downgradient of the site depicting sampling locations and detected concentrations of the COPCs for NMED to evaluate if any additional samples are required to define the nature and extent of contamination.

LANL Response

11. Figure 4.1-48 has been revised to include one additional sampling location east of the northern polygon and to show the drainage and the canyon reach sediment sampling locations in Sandia Canyon, directly downgradient of AOC 03-014(c2). The text in section 4.1.13.5 has been revised to include the additional sampling location and to refer to proposed canyon reach sediment sampling locations downgradient of the site. Data from the canyon reach sediment sampling locations will be assessed in the Upper Sandia Canyon Aggregate Area investigation report to confirm the nature and extent of contamination have been determined for this site.

    See also response to General Comment #4.

NMED Comment

12. Section 4.1.13.9, SWMU 03-014(g), Structure Associated with Former WWTP, page 37:

In Figure 4.1-44, structure 03-0194 is designated as SWMU 03-014(g), not structure 03-0047, as stated in the text. Resolve the discrepancy and revise the figure or text accordingly.

LANL Response

12. Figure 4.1-44 is correct: structure 03-0194 is designated as SWMU 03-014(g). The text in section 4.1.13.9 has been revised accordingly.

NMED Comment

13. Section 4.1.13.12, SWMU 03-014(k), Structure Associated with Former WWTP, page 39:

Sixteen samples from four depths are proposed to be collected from four locations around and downgradient of SWMU 03-014(k), SWMU 03-014(l), SWMU 03-014(m), and SWMU 03-014(n); Table 4.0-1 indicates that samples will be collected from only two depths (i.e., 4-5 and 6-7 ft). Resolve the discrepancy and revise the table accordingly.

LANL Response

13. The work plan text is correct. Table 4.0-1 has been revised to specify that samples will be collected from four depths at four locations around and downgradient of SWMUs 03-014(k), 03-014(l), 03-014(m), and 03-014(n).

NMED Comment

14. Section 4.1.13.17, SWMU 03-014(o), Structure Associated with Former WWTP, page 43:

Tritium and strontium-90 were detected in the samples collected from the sludge-drying beds during previous investigations. The Permittees must include analysis of tritium and strontium-90 for the

sixteen samples that will be collected around the beds to define the vertical and lateral extent of contamination.

LANL Response

14. The text in section 4.1.13.17 and Table 4.0-1 have been revised to specify that the 16 samples to be collected around the SWMU 03-014(o) beds will be analyzed for tritium and strontium-90.

NMED Comment

15. Section 4.1.13.19, SWMU 03-014(u), Structure Associated with Former WWTP, page 44:

The Permittees must investigate the drainlines that carried effluent from the sludge beds to the holding tanks. The Permittees must sample the drainage(s) associated with the site from the top of the slope to the toe of the colluvium. Additional samples must be collected in the drainage to define the lateral extent of the contamination.

LANL Response

15. The text in section 4.1.13.19, Figure 4.1-48, and Table 4.0-1 have been revised to specify two samples will be collected from one location beneath the drainline that carried effluent from the sludge beds to the holding tank and eight samples will be collected from four locations in the drainage northwest of the site. The samples will be collected from two depths (0 to 1 ft and 1 to 2 ft) and analyzed for inorganic chemicals, volatile organic compounds (VOCs), semivolatile organic compounds, total petroleum hydrocarbons–diesel range organics (TPH-DRO), PCBs, cyanide, perchlorate, nitrate, and radionuclides.

    See also response to General Comment 4.

NMED Comment

16. Section 4.1.17, SWMU 03-014(y), Drain Associated with Former WWTP, page 46:

PCB-containing transformers were stored in the basement of building 03-0035 (see Section 4.1.5). Since the floor drain is in the basement of the building and inaccessible at this time, potential contamination beneath the building must be investigated at the time of decommissioning and demolition of the building.

LANL Response

16. The text in section 4.1.17 has been revised to state that potential contamination beneath building 03-0035 will be investigated when the building undergoes decontamination and decommissioning (D&D).

NMED Comment

17. Section 4.1.18.1, SWMU 03-015, Outfall, page 47:

The Permittees must collect samples beneath the former drainlines that carried effluent from building 03-0141 to the outfall. The Permittees must sample the drainage(s) associated with the site from the

top of the slope to the toe of the colluvium. It is not clear from Figure 4.1-12, if the Permittees propose to collect samples along the entire length of the drainage to the toe of the colluvium. The Permittees must revise the Figure to depict the proposed sampling locations (see General Comment # 3).

LANL Response

17. Figure 4.1-12 has been revised to show the drainage below the SWMU 03-015 outfall, one additional sampling location beneath the former drainline, and two additional sampling locations in the drainage northeast of the site. The text in section 4.1.18.1 and Table 4.0-1 have been revised accordingly.

NMED Comment

18. Section 4.1.19, AOC C-03-016, Oil Metal Bin, page 48:

The Permittees must collect samples from depths of 4 ft, 10 ft and 20 ft at historical sampling location 03-22533 instead of at depths of 17-18 and 19-20 ft. All samples must be analyzed for the suite proposed in Table 4.0-1.

LANL Response

18. The text in section 4.1.19 and Table 4.0-1 have been revised to specify that samples will be collected from depth intervals of 4 to 5 ft, 10 to 11 ft, and 19 to 20 ft at historical sampling location 03-22533.

NMED Comment

19. Section 4.1.20, SWMU 03-021, Outfall, page 50:

The Permittees must sample the drainage(s) associated with the site from the top of the slope to the toe of the colluvium. It is not clear from the Figure 4.1-28, if the Permittees propose to collect samples along the entire length of the drainage to the toe of the colluvium. The Permittees must revise the Figure to depict the proposed sampling locations (see General Comment # 3). In addition, under the Proposed Activities, the historical sampling location should be 03-03331, not 03-0331; correct the typographical error.

LANL Response

19. Figure 4.1-28 has been revised to show the drainage below the SWMU 03-021 outfall. The proposed sampling locations were modified to include the drainage to the northeast of the outfall. Samples collected for AOC 03-014(b2) in the same drainage will also be used to determine the nature and extent of contamination for this site (Figure 4.1-48). The text in section 4.1.20 has been revised to correct information on the historical sampling location.

    See also response to General Comment 3.

NMED Comment

20. Section 4.1.24, SWMU 03-038(c), Waste Lines, page 53:

The Figure 4.1-52 depicts SWMU 03-038(c), not Figure 4.1-51; revise the text accordingly. The Permittees have not indicated the location of former drainline that carried rinse solutions to the

industrial waste line on the Figure 4.1-52. The Permittees must revise the figure to depict the location of the drainline from its influent source to the discharge point. In addition to collecting samples from the location where the former drainline exited building 03-0028, the Permittees must collect samples from the location where the former drainline discharged to the industrial waste line.

LANL Response

20. The text in section 4.1.24 has been corrected and now references Figure 4.1-52.

    Figure 4.1-53 has been revised to show the location of the former drainline that carried rinse solutions to the industrial waste line and to show an additional sampling location where the former drainline discharged to the industrial waste line. The text in section 4.1.24 and Table 4.0-1 have been revised to include the new sampling location.

NMED Comment

21. Section 4.1.25, SWMU 03-038(d), Waste Lines, page 53:

The Permittees did not provide any information on the type of waste that was generated in buildings 03-0032 and 03-0034, and discharged to the industrial waste line. The text states that a new line from building 03-0034 was later connected to the RLW facility, but the Permittees have not included radionuclide analyses in the proposed analytical suite. The Permittees must provide information on the nature of the waste that was discharged through the drainlines and ensure that samples are analyzed for all potential COPCs. Samples must also be collected from both locations where the former drainline exited building 03-0034. According to the Figure 4.1-55, the former drainline exited building 03-0034 at two locations; the Permittees have proposed sampling at only one of these locations.

LANL Response

21. Building 03-0032 is the Center for Materials Science, and building 03-0034 is the Cryogenics Building "B." Information about the types of waste generated in the buildings and discharged to the industrial waste lines is not available. Table 4.0-1 has been revised to include additional analyses to characterize AOC 03-038(d).

    Figure 4.1-55 has been revised to include a new sampling location where the former drainline exited the building. The text in section 4.1.25 has been revised to describe the new sampling location.

NMED Comment

22. Section 4.1.26, SWMU 03-043(a), Aboveground Storage Tank, page 54:

The text states that SWMU 03-043(a) was a former underground storage tank, but the Section title states that it was an aboveground storage tank. Resolve the discrepancy and revise the text accordingly.

LANL Response

22. SWMU 03-043(a) is a former aboveground storage tank; the text in section 4.1.26 has been revised accordingly.

NMED Comment

23. Sections 4.1.27 & 4.1.28, SWMUs 03-043(f) &03-043(g), Aboveground Storage Tanks, page 54:

The Permittees must provide documentation to support the assertion that the SWMUs 03-043(f) & 03-043(g) are duplicates of SWMUs 03-036(c) & 03-036(d), respectively.

LANL Response

23. Five asphalt storage tanks occupied a relatively small area northeast of the former batch plant (former structure 03-0073). The 1990 SWMU report (LANL 1990, 007511) lists each of the five tanks under the heading of decommissioned product tanks and designates them as AOCs 03-043(b), 03-043(d), 03-043(f), 03-043(g), and 03-043(h). All five tanks were used for the storage of asphalt emulsion. The three southern storage tanks, 03-0075, 03-0076 and 03-0077 [AOCs 03-043(b), 03-043(d), and 03-043(h)], are addressed in LANL's response to NMED Comments 7 and 8.

    The northern two emulsion storage tanks [AOCs 03-043(f) and 03-043(g)] were located next to each other (Figure 4.1-5). Both these tanks had been emptied and removed by the time the asphalt batch plant was decommissioned in 2002.

    In addition to listing the five asphalt storage tanks as decommissioned product tanks [AOCs 03-043(b), 03-043(d), 03-043(f), 03-043(g), and 03-043(h)], the 1990 SWMU report (LANL 1990, 007511) also lists three areas of potential soil contamination from asphalt storage tanks located at the former asphalt batch plant and designates them as SWMUs 03-036(a), 03-036(c), and 03-036(d). The three southern asphalt storage tanks are associated with the area of potential soil contamination designated by the SWMU report as SWMU 03-036(a) (LANL 1990, 007511) (see LANL responses to NMED Comments 7 and 8). The SWMU report provides no tank structure numbers for the two remaining areas of potential soil contamination [SWMUs 03-036(c) and 03-036(d)]. Although no tank structure numbers are provided, the SWMU report describes each of these areas of potential soil contamination as associated with asphalt batch plant storage tanks (LANL 1990, 007511). Because the asphalt batch plant contained only five tanks and because the three southern tanks are known to be associated with the area of potential soil contamination designated as SWMU 03-036(a), the two remaining areas of soil contamination [SWMUs 03-036(c) and 03-036(d)] can only be associated with the two remaining tanks, that is, the northern tanks [AOCs 03-043(f) and 03-043(g)]. Because the northern tanks have been removed, each of these AOCs is no longer the tank itself but rather is the area of potential soil contamination associated with each former tank. However, the SWMU report has already designated SWMUs 03-036(c) and 03-036(d) as the areas of potential soil contamination from the two tanks (LANL 1990, 007511). Therefore, AOCs 03-043(f) and 03-043(g) are the same areas of soil contamination as SWMUs 03-036(c) and 03-036(d).

    LANL has revised the text of sections 4.1.27 and 4.1.28 to include this information. In addition, a Polaroid photograph of the two northern emulsion storage tanks, a utility schematic of the asphalt batch plant, and a 1993 aerial photograph of the asphalt batch plant are included in Attachment 1. Copies of the relevant pages of the 1990 SWMU report are included in Attachment 2.

NMED Comment

24. Section 4.1.30, SWMU 03-045(e), Outfall, page 55:

The Permittees must collect samples from the location where the drainline exited the oil pump house (Structure 03-0057). The samples must be collected at two depths and analyzed for the same analytical suite as proposed in Table 4.0-1 for SWMU 03-045(e).

LANL Response

24. The drain and associated piping in the oil pump house (structure 03-0057) were plugged in 1989; however, the pump house is kept active in the event the diesel fuel stored in the two adjacent storage tanks is required to power the steam plant (building 03-0022). The close proximity of the active diesel fuel storage tanks and associated fuel lines and other ancillary equipment for the steam plant makes collecting samples not possible at this time. However, LANL will investigate the drainline and area beneath the pump house following D&D.

NMED Comment

25. Section 4.1.32, SWMU 03-045(h), Outfall, page 57:

The Permittees must indicate the orientation of the outfall pipe on Figure 4.1-13 and depict the location of the drainpipe that carried effluent from the outfall pipe. Samples must be collected at the location where the outfall pipe exited the building and from beneath the location of the outfall pipe. NMED cannot make a determination of additional data needs without this information.

LANL Response

25. Figure 4.1-13 has not been revised. However, Figure 4.1-17, which presents the proposed sampling locations, has been revised to show the orientation of the outfall pipe and the location of the drainpipe that carried effluent from the outfall pipe. Figure 4.1-17 also shows location 45h-8 at the outfall pipe, where sampling will be conducted under the revised Upper Mortandad Canyon Aggregate Area investigation work plan (LANL 2008, 100750). Discharge below the outfall will be sampled as part of AOC 03-052(b).

NMED Comment

26. Section 4.1.36, SWMU 03-051(c), Soil Contamination-Vacuum Pump Leak, page 59:

The Permittees did not report the total depth of excavation conducted during previous investigations. The Permittees report that this area was backfilled and samples were collected (0.0-0.5 ft) from the base of excavation, but do not report the depth below ground surface where samples were collected. The Permittees are now proposing to collect samples from the depth of 2-3 ft and 4-5 ft from two locations. It is not clear if the samples will be collected from the potentially affected area. The Permittees must ensure that samples are collected from soil/tuff underneath the clean backfill to define the vertical extent of contamination.

LANL Response

26. During the voluntary corrective action performed at AOC 03-015(c) in August and September 1995, the stained areas of asphalt were removed, and soil was excavated until unstained soil was reached. The stained area adjacent to the east side of building 03-0141 was excavated to a depth of 18 to 24 in. bgs, and the stained area at the northeast corner of the building was excavated to a depth of 12 in. bgs. Soil samples were field screened for radioactivity, polycyclic aromatic hydrocarbon (PAH), TPH, x-ray fluorescence (XRF) inorganic chemicals, and VOCs. The first set of XRF samples showed elevated thallium levels, and cleanup activities resumed to remove an additional 2 to 3 in. of thallium-contaminated soil from both excavation locations (LANL 1996, 053780, pp. 14–16). To ensure investigation samples are collected from soil/tuff beneath the clean backfill placed in the two excavated areas next to building 03-0141, Section 4.1.36 and Table 4.0-1 have been revised to indicate that samples will be collected from depth intervals of 2.5 to 3.5 ft bgs and 4.5 to 5.5 ft bgs.

NMED Comment

27. Section 4.1.37, SWMU 03-052(b), Storm Drainage, page 59:

The Permittees must sample the drainage(s) associated with the site from the top of the slope to the toe of the colluvium (see General Comment # 3). The drainages are not clearly depicted on the Figure 4.1-17. The Permittees must revise the figure to depict the drainages.

LANL Response

27. Figure 4.1-17 has been revised to show the drainage below SWMU 03-052(b) and two additional sampling locations within the stormwater collection area to the northeast across Eniwetok Drive. These samples will be collected at depths of 3 to 4 ft bgs and 5 to 6 ft bgs. Section 4.1.37 and Table 4.0-1 have been revised to include the two new sampling locations.

NMED Comment

28. Section 4.1.38, SWMU 03-054(c), Outfall, page 60:

The SWMU is described as a former cooling tower, pump house and outfall, but is depicted on the Figure 4.1-57 by a small triangle. The boundary for the entire SWMU must be depicted on the figure. Since the locations of samples that were collected in 2004 are not depicted on the figure, it is not clear if any samples were collected at or near the outfall. Samples must be collected at the outfall location to define the nature and extent of contamination. Drainage from the outfall must be clearly indicated on the figure and sampled. The Permittees must collect samples along the entire length of the drainage to the toe of the colluvium (see General Comment # 3).

LANL Response

28. Figures 4.1-56 and 4.1-57 have been revised to include the drainlines leading from SWMU 03-054(c). The areas occupied by former structures 03-0156 and 03-0163 have also been added as part of the SWMU 03-054(c) boundary. Section 4.1.38 has been revised to describe subsequent removal activities and confirmation sampling conducted at the site prior to the construction of the new National Security Sciences Building (NSSB) (building 03-1400).

As part of the D&D of the Sherwood Complex conducted in 2001, the former cooling tower (structure 03-0156), all associated piping and storm drainlines, fill material within the footprint of former building 03-0156, and the existing roadway were removed (LANL 2001, 071214). Seven confirmation soil/fill samples were collected from depths of 2 to 8.5 ft bgs from seven locations at the bottom of the SWMU 03-054(c) excavations. One grab sample was also collected from drainline excavated material and analyzed for metals and hexavalent chromium. Calcium, lead, and zinc were detected above background values (BVs) in one sample; no hexavalent chromium was detected. In 2004, the locations of the former cooling tower and pump house (structures 03-0156 and 03-0163) and the former storm drain to the east were excavated during site-preparation activities for the NSSB (building 03-1400). The pump house foundation and remaining sections of the storm drainline north of the former Administration Building (building 03-0043) and east of the Otowi Building (building 03-0261) were removed. The corrugated metal storm drainlines were inspected and found to be intact and in good condition. No evidence of a release was observed in the soil around and beneath the storm drainline excavation. Four confirmation samples were collected from two locations beneath the former cooling tower footprint (former structure 03-0156), and two confirmation samples were collected from one location beneath the former pump house foundation (former structure 03-0163). The samples were collected at depths of 0.0 to 0.5 ft bgs and 1.5 to 2.0 ft bgs from the bottom of the new excavations and submitted for analysis of inorganic chemicals; no metals were detected above BVs.

No additional samples are proposed for this site because confirmation samples were collected beneath the former cooling tower, pump house, and storm drainline following the 2001 D&D of the structures and the 2004 excavation of the entire site before the NSSB was constructed. Confirmation sampling results show that the nature and extent of the inorganic chemicals of potential concern have been determined. In addition, the ultimate outfall area for the storm drains leading from SWMU 03-054(c) is being investigated as part of the SWMU 03-052(f) characterization activities (see section 4.1.10 of the work plan).

NMED Comment

29. Section 4.1.41, AOC 03-056(h), Container Storage Area, page 63:

The Permittees state that several areas of potential contamination were identified for this AOC, but these areas are not delineated on Figure 4.1-56. The AOC is indicated on the figure by a small triangle. The Permittees assert that the PCB spills at the AOC were remediated in accordance with TSCA requirements. Although oil stains were visible at many of these areas, the Permittees did not investigate the site for inorganic, VOC, and SVOC contamination. The nature and extent of contamination is not defined at the site. Approximately, 10 ft of clean fill was placed over the entire site and a new building has been constructed at the site. NMED acknowledges that the site is inaccessible at this time; therefore it must be investigated at the time of demolition and decommissioning of the new building (structure 03-1400).

LANL Response

29. Because the site is inaccessible at this time, it will be investigated following D&D of the NSSB (structure 03-1400).

NMED Comment

30. Section 4.1.44.2, SWMU 03-059, Storage Area-PCB Site, page 67:

Tritium was detected in samples collected at the site during previous investigations, but is not included in the analytical suite. The Permittees must include tritium analysis in the analytical suite proposed for all samples to be collected at SWMU 03-059.

LANL Response

30. Section 4.1.44.2 and Table 4.0-1 have been revised to include tritium analysis in the analytical suite proposed for all samples to be collected at SWMU 03-059.

NMED Comment

31. Section 4.1.45, AOC C-03-022, Kerosene Tanker Trailer, page 67:

AOC C-03-022 has never been sampled. The Permittees must collect samples from the location of former tanker trailer to confirm that there were no releases from the tanker. The Permittees must propose to collect samples from two depths and for analysis of metals and DRO.

LANL Response

31. Figure 4.1-5 has been revised to show four sampling locations on each side of the former Kerosene Tanker Trailer. Section 4.1.45 and Table 4.0-1 have been revised to specify that a minimum of eight samples will be collected from four sampling locations on each side of the former tanker. Samples will be collected from depths of 1.0 to 2.0 ft and 4. 0 to 5.0 ft bgs and analyzed for inorganic chemicals and TPH-DRO.

NMED Comment

32. Section 4.2.1, SWMU 60-002, Storage Area, page 69:

The Permittees state that six soil samples were collected from five locations in the central area of SWMU 60-002; Figures 4.2-7 and 4.2-8 only depict three sampling locations. Table 4.2-1 also reports data from three sampling locations. The text also states that one sample was analyzed for SVOCs, PCBs and TPH, but Table 4.2-1 reports that one sample was analyzed for VOCs, PCBs, and TPH. Resolve the discrepancies and revise the Plan accordingly.

LANL Response

32. Table 4.2-1 and Figures 4.2-7 and 4.2-8 are correct. The text in Section 4.2.1 has been revised to be consistent with the table and figures.

NMED Comment

33. Section 4.2.2, AOC 60-004(b), Storage Area, page 70:

SWMU 60-004(d) is depicted on Figure 4.2-10, not Figure 4.2-9, as stated in the text. Correct the typographical error.

LANL Response

33. The text in section 4.2.2 has been revised to specify the correct figure.

NMED Comment

34. Section 4.2.4, AOC 60-004(f), Storage Area, page 71:

The Permittees discuss sampling locations associated with Pad 2 and Pad 3, but did not indicate the location of Pad 2 and Pad 3 on Figure 4.2-1. Revise the figure to indicate location of the pads. Mercury was detected above BV in four tuff samples, not three as stated (i.e., from locations 60-01330, 60-01331, 60-01332, and 60-01335). Revise the text accordingly. Tritium was detected in soil, tuff, and sediment samples during RFI activities conducted in 1994. Tritium analysis must be included for all samples collected at AOC 60-004(f).

LANL Response

34. Figures 4.2-1 to 4.2-5 have been revised to show former storage pads 2 and 3.

    The text in section 4.2.4 has been revised to indicate that mercury was detected above BV in four tuff samples and to include tritium in the analytical suite for all samples collected at AOC 60-004(f). Table 4.0-1 has been revised to include tritium in the analytical suite for all samples collected at AOC 60-004(f).

NMED Comment

35. Section 4.2.5, SWMU 60-006(a), Septic System, page 72:

The Permittees propose to analyze samples collected from underneath the septic tank for the full suite, but have eliminated analysis of radionuclides, nitrates and perchlorate for samples from the seepage pit. The seepage pit was associated with the septic tank and previous investigations indicated presence of tritium in the sludge. All samples must be analyzed for the full suite of analyses. Revise the text and Table 4.0-1 to include analysis of radionuclides, nitrate and perchlorate for samples to be collected from the seepage pit.

LANL Response

35. Text in section 4.2.5 and Table 4.0-1 have been revised to include analyses of radionuclides, nitrate, and perchlorate for samples to be collected from the seepage pit at SWMU 60-006(a).

NMED Comment

36. Section 4.2.7, SWMU 60-007(b), Release, page 74:

Tables 4.2-5, 4.2-6, and 4.2-7 present screening level data, not decision level data as stated in the text. Revise the text accordingly. The drainages are not clearly indicated on the figures. The Permittees must revise the figures to indicate the drainages associated with the site. The Permittees must collect samples along the entire length of the drainage to the toe of the colluvium (see General Comment # 3).

LANL Response

36. The text in section 4.2.7 has been revised to indicate Tables 4.2-5, 4.2-6, and 4.2-7 present screening-level data.

    Figure 4.2-19 has been revised to show the entire length of the drainage below SWMU 60-007(b) and canyon reach sediment sampling locations in the canyon below the site. The canyon slope between the mesa top and canyon bottom is inaccessible for sample collection because of the steepness of the slope. However, a sampling location has been moved to the toe of the slope before the drainage enters Sandia Canyon (see Figure 4.2-19).

    See also response to General Comment 3.

NMED Comment

37. Table 1.1-1, SWMUs and AOCs within the Upper Sandia Canyon Aggregate Area, pages 177-189:

The Permittees have cited "EPA 2003, 08729" as a reference for approval of no further action (NFA) for areas of concern (AOCs) 03-003(m), 03-052(d), 03-056(b), and 60-001(a). However, the reference is not included in the Section 8.1 (References). Additionally, an incorrect reference is provided for solid waste management units (SWMUs) 03-024 and 03-045(d). These SWMUs were granted NFA status in 1997, not 1998 as reported. Make the appropriate revisions to the table and include the references in Section 8.1.

LANL Response

37. The correct reference is "EPA 2003, 078142." Table 1.1-1 has been revised to include the correct reference, which has also been added to Section 8.1, References, of the work plan.

    The correct reference is "NMED 1997, 059358." Table 1.1-1 has been revised to include the correct reference citation, which has also been added to Section 8.1, References, of the work plan.

NMED Comment

38. Table 4.1-1, Decision-Level Data from TA-03 Site Samples Collected and Analyses Requested, page 209:

Consolidated Unit 03-009(a)-00: Sampling location 03-22537 is reported for both SWMU 03-009(a) and AOC 03-043(b), but sample collected from the depth of 4.5-5.0 ft is associated with SWMU 03-009(a) and sample collected from depth of 19.5-20.0 ft is associated with AOC 03-043(b). It is not clear why two samples collected from different depths at the same location would be associated with two different sites. According to Figure 4.1-2, this sampling location should be associated with SWMU 03-009(a), and not AOC 03-043(b). Resolve the discrepancies and revise associated tables, figures, and text.

LANL Response

38. Figure 4.1-2 is correct; sampling location 03-22537 is associated only with SWMU 03-009(a). Table 4.1-1 has been revised accordingly.

NMED Comment

39. Table 4.1-3, Summary of Inorganic Chemicals Detected Above BVs for TA-60 Sites page 221:

The caption for the Table 4.1-3 is incorrect. The table presents data for TA-03 sites, not TA-60 sites. Correct the typographical error.

LANL Response

39. The caption for Table 4.1-3 has been corrected.

REFERENCES

LANL (Los Alamos National Laboratory), November 1990. "Solid Waste Management Units Report," Vol. I of IV (TA-0 through TA-9), Los Alamos National Laboratory document LA-UR-90-3400, Los Alamos, New Mexico. (LANL 1990, 007511)

LANL (Los Alamos National Laboratory), February 26, 1996. "Voluntary Corrective Action Completion Report for Potential Release Sites 03-003(p), 03-047(d), 03-051(c), Revision 1," Los Alamos National Laboratory document LA-UR-96-431, Los Alamos, New Mexico. (LANL 1996, 053780)

LANL (Los Alamos National Laboratory), July 16, 2001. "Sampling Notification," Los Alamos National Laboratory letter (ER2001-0584) to J. Young (NMED-HWB) from D. McInroy (ER Project), Los Alamos, New Mexico. (LANL 2001, 071214)

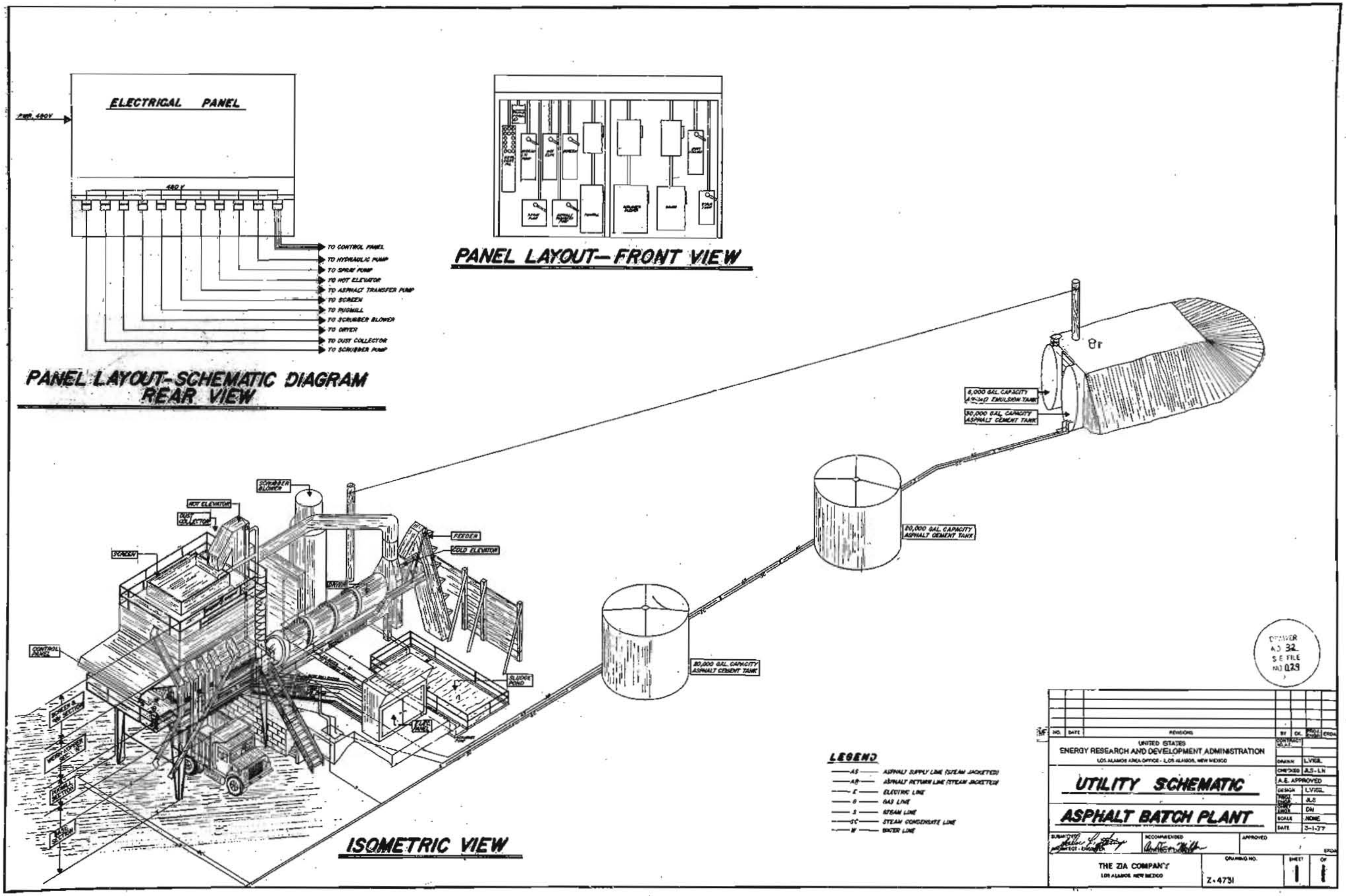
LANL (Los Alamos National Laboratory), February 2008. "Investigation Work Plan for Upper Mortandad Canyon Aggregate Area, Revision 1," Los Alamos National Laboratory document LA-UR-08-1272, Los Alamos, New Mexico. (LANL 2008, 100750)

Shaw Environmental Inc., October 7, 2003. "Field Summary Report, TA-3 and TA-60 Asphalt Batch Plant RCRA Facility Investigation," report prepared for Los Alamos National Laboratory, Los Alamos, New Mexico. (Shaw Environmental, Inc., 2003, 085517)

Attachment 1

Photographs and Schematic Diagram of the Asphalt Batch Plant

LANL 1993, 018925



ELECTRICAL PANEL
PWR. 480V
480 V
TO CONTROL PANEL
TO HYDRAULIC PUMP
TO SPRAY PUMP
TO HOT ELEVATOR
TO ASPHALT TRANSFER PUMP
TO SCREEN
TO PUGMILL
TO SCRUBBER BLOWER
TO DRYER
TO DUST COLLECTOR
TO SCRUBBER PUMP
PANEL LAYOUT-SCHEMATIC DIAGRAM REAR VIEW
PANEL LAYOUT— FRONT VIEW
SCRUBBER BLOWER
HOT ELEVATOR
DUST COLLECTOR
SCREEN
FEEDER
COLD ELEVATOR
DRYER
CONTROL PANEL
SLUDGE POND
6,000 GAL. CAPACITY EMULSION TANK
30,000 GAL. CAPACITY ASPHALT CEMENT TANK
20,000 GAL. CAPACITY ASPHALT CEMENT TANK
20,000 GAL. CAPACITY ASPHALT CEMENT TANK
ISOMETRIC VIEW
LEGEND
—AS— ASPHALT SUPPLY LINE (STEAM JACKETED)
—AR— ASPHALT RETURN LINE (STEAM JACKETED)
—E— ELECTRIC LINE
—G— GAS LINE
—S— STEAM LINE
—SC— STEAM CONDENSATE LINE
—W— WATER LINE
DRAWER AJ 32 S E FILE NO 029
UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
LOS ALAMOS AREA OFFICE - LOS ALAMOS, NEW MEXICO
UTILITY SCHEMATIC
ASPHALT BATCH PLANT
THE ZIA COMPANY
LOS ALAMOS NEW MEXICO
DRAWING NO. Z-4731
SHEET 1 OF 1
DRAWN L.V.GIL
CHECKED A.S.-L.N.
A.E. APPROVED
DESIGN L.V.GIL
SCALE NONE
DATE 3-1-77

52

TA-3-178 Asphalt Oil Storage Tanks (EMPTY) 85100 oil in 1, Emulsion in #2. V=N

12717204213-3

Attachment 2

Excerpts from the 1990 SWMU Report for Specific Comments 8 and 23

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(s) : OPERATIONAL RELEASE
UNIT USE : DISPOSAL
OPERATIONAL STATUS : ACTIVE
PERIOD OF USE : ? - PRESENT
HAZARDOUS RELEASE : KNOWN
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE
HAZARDOUS WASTE

UNIT INFORMATION

Soil contamination is possible from leaks and spills from several aboveground product storage tanks that are present in TA-3. Several of the tanks have been associated with leaks or spills into the surrounding soils. In some cases, secondary containment has been constructed around the tanks to contain leaks, should they occur.

SWMU NO.	TANK TYPE	ASSOCIATED STRUCTURE	SECONDARY CONTAINMENT
3-036(a)	asphalt storage tanks TA-3-75 and -76 (6 ft dia, 20 ft long)	TA-3-73	soil berms
3-036(b)	kerosene storage tanks	south of TA-3-73	soil berms
3-036(c)	2 tanks for cooled asphalt storage	TA-3-70	soil pad; no release controls
3-036(d)	2 insulated tanks for hot asphalt emulsion	TA-3-70	no release controls
3-036(e)	inactive 5,000-gal tank for reclamite storage	TA-3-73	secondary containment is present; type unknown
3-036(f)	500-gal unleaded gasoline tank	TA-3-73	no release controls
3-036(g)	4,000-gal sulfuric acid storage tank	south of TA-3-22	release controls
3-036(h)	2 4,000-gal storage tanks for cooling water inhibitors	east of TA-3-22	release controls
3-036(i)	250-gal emergency diesel fuel tank	east of TA-3-22	concrete secondary containment
3-036(j)	2 150,000-gal emergency diesel fuel tanks	northeast of TA-3-22	soil berms; lines from the two tanks meet at pump house TA-3-57, where a single line continues to the steam plant

WASTE INFORMATION

The products stored in the tanks are asphalt emulsion, asphalt kerosene, reclamite (thick oil used to rejuvenate asphalt), gasoline, sulfuric acid, cooling water inhibitors (562C, an organic copper compound, and 20-20, an organic phosphate compound), and diesel.

RELEASE INFORMATION

Within the bermed area surrounding tanks TA-3-75 and -76, the soil is oily in spots, indicating that the tanks have been overfilled on occasion, resulting in spills. Soil surrounding the asphalt emulsion tanks in the containment area was oily due to overfilling and uncontrolled surface drainage. It is unknown whether kerosene has leaked from the tanks in the containment area. The RFA noted discolored soil and uncontrolled surface drainage around both the cooled asphalt tanks and the insulated tanks. Spills or leaks from other product storage tanks could result in releases of gasoline or 93% sulfuric acid to the soil in the area. In 1987, the reclamite storage tank ruptured, spilling about 1,500 gallons of oil emulsion to the secondary confinement. None was discharged off site. Spills have occurred from the gasoline storage tanks in the past, as evidenced by stains in the area. In addition, during an E.R. Program site survey, stained areas were noticed on the soil near the sulfuric acid tank. Spills and leaks did occur in the past from the 250-gal diesel fuel tank. An asphalt berm was constructed around the tank in 1989 to contain any releases in the future. In 1990, the emergency diesel tank was moved to a concrete secondary containment area. The contaminated soil from spills and leaks and the asphalt berms were removed and, in the summer of 1990, were being landfilled. In 1988, the line running from TA-3-57 to the steam plant was ruptured, releasing about 150 gallons of emergency diesel fuel into the soil. The contaminated soil was removed and landfarmed at TA-54. The line was repaired.

(continued)

NOTES

The catchment basin [formerly 3-036(c)] has been deleted because it was never used.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-036(a)	TA3-3-CA/UST/SST-A/I-PP	3.080 3.081		TA-3-75, -76, -73
3-036(b)	TA3-3-CA/UST/SST-A/I-PP			SOUTH OF TA-3-73
3-036(c)	TA3-3-CA/UST/SST-A/I-PP	3.082 3.083		TA-3-70
3-036(d)	TA3-3-CA/UST/SST-A/I-PP	3.084 3.085		TA-3-70
3-036(e)	**		Tsk 19 : 60	TA-3-73
3-036(f)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 59	TA-3-73
3-036(g)	**		Tsk 19 : 29	SOUTH OF TA-3-22
3-036(h)	**		Tsk 19 : 55	EAST OF TA-3-22
3-036(i)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 56	EAST OF TA-3-22
3-036(j)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 57 148	NORTHEAST OF TA-3-22, TA-3-26, -27, -57

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(s) : TANK
UNIT USE : TREATMENT/STORAGE
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : EST. 1953 - 1989
HAZARDOUS RELEASE : KNOWN
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : MIXED WASTE
HAZARDOUS WASTE

UNIT INFORMATION

Several tanks have been decommissioned at TA-3.

SWMU NO.	STRUCTURE	CAPACITY (GAL.)	DATE REMOVED	ASSOCIATED STRUCTURE
3-043(a)	TA-3-74	20,000	1963	TA-3-73
3-043(b)	TA-3-77	10,000	1980	TA-3-73
3-043(c)	TA-3-718	unknown	1983	TA-3-40
3-043(d)	TA-3-76	20,000	1988	TA-3-73
3-043(e)	TA-3-36-1	10,000	1989	TA-3-36
3-043(f)	TA-3-178	30,000	1989	TA-3-73
3-043(g)	TA-3-335	10,000	1989	TA-3-73
3-043(h)	TA-3-75	20,000	1989	TA-3-73
3-043(i)	TA-3-93	unknown	1966	TA-3-40

Tank TA-3-36-1 was removed in 1989; it was replaced by a 10,000-gallon, double-wall tank.

WASTE INFORMATION

The substances stored in the tanks, prior to decommissioning, are described below.

SWMU NO.	STRUCTURE	SUBSTANCE STORED
3-043(a)	TA-3-74	asphalt emulsion
3-043(b)	TA-3-77	asphalt emulsion
3-043(c)	TA-3-718	mixed, corrosive wastes
3-043(d)	TA-3-76	asphalt emulsion
3-043(e)	TA-3-36-1	unleaded gasoline
3-043(f)	TA-3-178	asphalt emulsion
3-043(g)	TA-3-335	85-100 oil
3-043(h)	TA-3-75	asphalt emulsion
3-043(i)	TA-3-93	oil

RELEASE INFORMATION

Information on past releases and decommissioning is lacking for most of the tanks. During an E.R. Program site survey, stains and discolored soil were observed in the areas that tanks TA-3-75 and -76 had occupied. It is believed that leaks did occur from those two tanks during their years of operation. Testing indicated that tank TA-3-36-1 was leaking at a rate greater than 4.0 gal/hr while it was in commission. It is not known how long the tank leaked.

NOTES

SWMU No. 3-043(e) was formerly SWMU No. 3-035(a).

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-043(a)	**		Tsk 19 : 165	TA-3-74, -73
3-043(b)	**		Tsk 19 : 165	TA-3-77, -73
3-043(c)	**		Tsk 21 : 1226	TA-3-718, -40
3-043(d)	**		Tsk 19 : 166	TA-3-76, -73

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-043(e)	**		Tsk 19 : 181	TA-3-36-1, -36
3-043(f)	**		Tsk 19 : 182	TA-3-178, -73
3-043(g)	**		Tsk 19 : 182	TA-3-335, -73
3-043(h)	**		Tsk 19 : 166	TA-3-75, -73
3-043(i)	TA3-3-CA/UST/SST-A/I-PP		Tsk 21 : 1231	TA-3-93, -40

** No corresponding E. R. Program unit.