Response to the "Notice of Disapproval for the Investigation Work Plan for Upper Cañada del Buey Aggregate Area, Los Alamos National Laboratory EPA ID No: NM0890010515, HWB-LANL-08-013," Dated August 28, 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

At each site undergoing investigation, 20% of all samples must be sent for off-site laboratory analysis of polychlorinated biphenyls (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 samples collected at each site undergoing investigation where PCB sampling was not already proposed. Table 4.0-1 has been revised to reflect the addition.

NMED Comment

2. *Table 7.0-2, page 141, includes a listing of 27 metals to be analyzed and the listing summary indicates the metals are the Target Analyte List (TAL) metals under US EPA's current Contract Laboratory Program. The current TAL includes 23 metals (found at http://www.epa.gov/superfund/programs/clp/target.htm). The table listing in the Plan includes boron, lithium, silicon, titanium and uranium which are not included in the current TAL and the table does not include mercury which is on the current TAL. If the Permittees wish to retain the metals listed in Table 7.0-2, mercury must be added to the table's list.*

LANL Response

2. The LANL contract analytical laboratory target analyte list (TAL) metals suite is consistent with the U.S. Environmental Protection Agency's (EPA's) current Contract Laboratory Program list of 23 metals. Table 7.0-2 has been revised to incorporate the 23 TAL metals, including mercury, on EPA's Contract Laboratory list.

NMED Comment

3. *All Plan figures should be reviewed to ensure applicable area canyon drainage features are illustrated on the figures, similar to the figures recently provided in the July 2008 Upper Sandia Canyon Aggregate Area Investigation Work Plan, Revision 1. The review may help the Permittees in determining whether sample location coverage for the various Areas of Concern (AOCs) and Solid Waste Management Units (SWMUs) addressed in the Plan overlaps sample coverage provided in other Los Alamos National Laboratory (LANL) aggregate area AOC and SWMU investigations.*

LANL Response

3. The figures have been revised to show the locations of canyon investigation reaches in Cañada del Buey. The reach investigation activities in Cañada del Buey will be conducted in October 2008. The sampling locations and data will be presented in specific canyons investigation reports, to be submitted to NMED in accordance with the Compliance Order on Consent (the Consent Order). Data from the canyons investigation reports will be assessed in the Upper Cañada del Buey Aggregate Area investigation report to confirm the nature and extent of contamination have been determined for these sites.

NMED Comment

4. *Canyon drainage samples must be obtained in the drainages from the top of the slope to the toe of the colluvium. Sampling must target areas such as fine-grained sediments or other areas of sediment accumulation.*

LANL Response

4. Drainage and sediment sampling locations from the top of the slope to the toe of the colluvium have been proposed in the figures showing sampling locations (for sites where drainage and sediment sampling is required). Text has been added to section 7.0, Investigation Methods, 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 as deviations from the work plan.

SPECIFIC COMMENTS

NMED Comment

1. ***Section 5.1.2, Scope of Activities for SWMU 46-002, page 14, first paragraph:***

   Permittees' Statement: *"Table 4.0-1 provides a summary of the proposed sampling strategy, locations, depths, and analytical suites."*

   NMED Comment: *Table 4.0-1 contains a footnote that excludes analyses of isotopic thorium for each of the sampling locations at SWMU 46-002. The RFI Work Plan for OU 1140 (RFI Work Plan), page 5-54, lists thorium as a potential chemical of concern at SWMU 46-002. The Permittees must revise the table to include analyses of isotopic thorium for each sample collected at SWMU 46-002.*

LANL Response

1. The text in section 5.1.2 and Table 4.0-1 have been revised to indicate that each of the 59 samples to be collected at Solid Waste Management Unit (SWMU) 46-002 will be analyzed for isotopic thorium.

NMED Comment

2. ***Section 5.6.2, Scope of Activities for SWMU 46-003(e), page 18, second paragraph:***

   Permittees' Statement: *"Eight samples will be collected from four locations associated with the location of the former distribution box and drain field (Figure 5.6-2)."*

   NMED Comment: *The Permittees must also collect samples adjacent to the area where the drain line exits Building 46-58. All samples must be analyzed for the same analytical suite as proposed in Table 4.0-1 and must be collected from two depths to define the nature and the extent of contamination.*

LANL Response

2. Figure 5.6-2, the text in section 5.6.2, and Table 4.0-1 of the work plan have been revised to indicate that two additional samples will be collected from one location next to the area where the drainline exits building 46-58. The samples will be collected from the 0- to 1-ft interval directly beneath the drainline and from the 5- to 6-ft interval beneath the drainline and analyzed for TAL metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs, nitrate, cyanide, perchlorate, isotopic uranium, isotopic plutonium, americium-241, and gamma spectroscopy.

NMED Comment

3. ***Section 5.7.2, Scope of Activities for SWMU 46-003(f), page 19, second paragraph:***

   Permittees' Statement: *"Eight samples will be collected from four locations associated with the distribution box and drain field to define nature and extent of contamination (Figure 5.4-2)."*

   NMED Comment: *Figure 5.4-2 shows a pipeline structure exiting the northeast corner of the site drain field. The Permittees have proposed a sample location at the north end of the structure. The Plan must be revised to clarify the nature and use of the structure. If the structure is an outfall associated with the drain field, the Permittees must propose additional down slope sampling locations north of the structure to characterize the area between the structure and the common drainage segment of SWSC Canyon.*

LANL Response

3. The drain field, distribution box, and drainpipe outfall associated with the SWMU 46-003(f) septic system have all been removed. The drainpipe outfall formerly located at the northeast corner of the former drain field was installed to improve drain field performance. The text in section 5.7 and Table 4.0-1 have been revised to include one additional sampling location north of the first sampling location below the former drainpipe outfall. Two samples will be collected from the new location at the same depth intervals and analyzed for the same constituents as the samples to be collected from the location directly north of the former drainpipe outfall. Data from samples collected in SWSC Canyon downgradient of the drain field outfall pipe will also be used to evaluate SWMU 46-003(f).

Figure 5.4-2 has been revised to show the additional sampling location and the sampling locations in SWSC Canyon downgradient of SWMU 46-003(f).

NMED Comment

4. ***Section 5.8.2 Scope of Activities for SWMU 46-003(g), pages 19 and 20, first and last paragraphs:***

   Permittees' Statements: *"Two samples will be collected from one location below the tank (Figure 5.8-2)." and, "Four samples will also be collected from two locations beneath the primary and secondary inlet lines (Figure 5.8-2)."*

   NMED Comment: *The Permittees must collect samples from beneath the inlet pipe, the tank inlet and tank outlet at two depths to define the nature and extent of contamination. Additionally, the proposed sample location just north of former structure 46-175 must be moved approximately 20 feet south to the piping bend located a few feet west of the former structure to address potential contamination. In the event underground or overhead utility lines preclude moving the sample location farther south, the Permittees must state the reason(s) for not moving the location in their response to the NOD. All samples must be analyzed for the analytical suites listed in Table 4.0-1 for the SWMU.*

LANL Response

4. The text in section 5.8.2 and Table 4.0-1 of the work plan have been revised to indicate that samples will be collected from two depth intervals at three sampling locations beneath the septic tank and the tank inlet and outlet to define the nature and extent of contamination. Figure 5.8-2 has been revised to show the new sampling locations and the proposed sampling location just north of former structure 46-175, now located approximately 20 ft to the south, next to the piping bend located a few feet west of former structure 46-175. The new samples will be collected from the same depth intervals and analyzed for the same constituents as the samples previously proposed for this SWMU.

NMED Comment

5. ***Section 5.11 SWMU 46-004(b), Former Tank, page 22, first line:***

   Permittees' Statement: *"SWMU 46-004(b) is the location of a former alkali-metal cleaning tank (structure 46-81) (Figure 5.5-1)."*

   NMED Comment: *Section 5.2.2 of the June 1996* RFI Report for Potential Release Sites in TA-46 *(1996 RFI) indicates the former tank historically occupied at least two locations at SWMU 46-004(b). Review of Figure 5.2.2-1 of the 1996 RFI indicates neither of the historical tank locations shown on that figure correspond with the location shown on Figure 5.5-1 of the Plan. The Permittees must explain why the tank location shown in the Plan figure differs from the locations shown on the 1996 RFI figure.*

LANL Response

5. Figure 5.5-1 of the work plan shows the original (operating) location of the SWMU 46-004(b) alkali-metal cleaning tank but does not show the second (staging) location. The location of the tank as shown in Figure 5.5-1 is based on the location shown in engineering drawing C-38763 (Attachment 1). The tank location depicted in the 1996 Resource Conservation and Recovery Act

(RCRA) facility investigation (RFI) report figure showing it to be directly next to building 46-31 is incorrect.

As shown in the 1996 RFI report figure, the tank occupied a second location for a short period of time (LANL 1996, 054929). In 1970–1971, during the construction of the Arc Jet Test addition at building 46-31, the tank was emptied, disconnected from piping, and moved to an existing concrete pad located approximately 15 ft northwest of the original tank location. Engineering drawing C-38763 (dated September 14, 1970) directs that the piping to the tank be capped and provides no direction for installing piping at the tank's new location, indicating that the tank would no longer be used. As is common practice in many technical areas throughout the Laboratory, equipment removed from service is often placed at a convenient outside location until the items can be removed for disposal. The tank was staged at this location until it was removed for disposal in 1973.

The second location of the tank was used only for staging the tank before it was removed off-site. The tank did not operate during the time it occupied this location. Therefore, LANL did not indicate the second location of the tank on Figure 5.5-1, and sampling at this location is not necessary.

NMED Comment

6. Section 5.15.1.2 Scope of Activities for SWMU 46-004(d), page 26:

Permittees' Statements: *"Twelve samples will be collected from three locations, one down the center of and two adjacent to the dry well (Figure 5.6-2)." and, "In the event of auger refusal because of the presence of gravel/cobbles in the bottom of the well, an alternative location/borehole will be drilled downgradient of the well."*

NMED Comment: *The two proposed sample locations located adjacent to the dry well must be moved to a physically accessible transect location down slope of the dry well. See also, comment number 7 below. Samples must be analyzed for the same analytical suite as proposed in Table 4.0-1 and must be collected from two depths to define the nature and the extent of contamination. The Permittees must revise the Plan to provide for consulting NMED in the event auger refusal is encountered in the well bottom borehole.*

LANL Response

6. In response to Specific Comments 6 and 7, Figure 5.6-2 and the text in sections 5.15.1.2 and 5.15.2.3 have been revised to show that three of the proposed sampling locations next to the dry wells have been moved to transect locations downslope of both dry wells. Table 4.0-1 has been revised to indicate that the samples from these new locations will be collected from two depth intervals (0 to 1 ft and 1 to 2 ft) and analyzed for the same analytical suite proposed for the other samples to be collected for SWMUs 46-004(d) and 46-004(e). The text in sections 5.15.1.2 and 5.15.2.3 has been revised to state that NMED will be consulted in the event auger refusal is encountered during sampling activities at the bottom of each dry well. In addition, the description of the dry wells has been revised to indicate that the base of each well is approximately 10 ft below ground surface (bgs).

NMED Comment

7. Section 5.15.2.3 Scope of Activities for SWMU 46-004(e), page 26:

Permittees' Statements: *"Twelve samples will be collected from three locations, one down the center of and two adjacent to the dry well (Figure 5.6-2).", "Samples will be collected from four depths (at the base of the well, and 5 ft, 10 ft, and 15 ft below the well)..." and, "In the event of auger refusal because of the presence of gravel/cobbles in the bottom of the well, an alternative location/borehole will be drilled downgradient of the well."*

NMED Comment: *Samples must also be collected from the area where the drain line exits the building. The proposed sample location north of and adjacent to the drywell must be moved to a physically accessible transect location down slope of the dry well. See also, comment number 6 above. Samples must be analyzed for the same analytical suite as proposed in Table 4.0-1 and must be collected from two depths to define the nature and the extent of contamination. Additionally, the Permittees must revise the Plan to provide for consulting NMED in the event auger refusal is encountered at the well bottom location.*

LANL Response

7. See response to Specific Comment 6 above. Figure 5.6-2 and the text in section 5.15.2.3 have been revised to show the proposed sampling location southeast of the dry well has been moved to a location next to the concrete platform/loading dock attached to the north side of building 46-58. This sampling location is the closest point to the area where the inlet drainline to the SWMU 46-004(e) dry well exits building 46-58. Samples from this location will be collected from depth intervals of 0 to 1 ft and 2 to 3 ft beneath the drainline and analyzed for the same analytical suite proposed in Table 4.0-1.

NMED Comment

8. Section 5.20.3, Scope of Activities for SWMU 46-004(m), page 35, first paragraph:

Permittees' Statement: *"Twenty samples will be collected from 10 locations in the drainage at and below the outfall (Figure 5.12-2)."*

NMED Comment: *Section 5.5.1 of the 1996 RFI indicated "Except for the cooling water line from an air compressor, sinks and floor drains in TA-46-30 are clogged with debris and are unusable, but are not permanently plugged." Subsequent sampling below or adjacent to the drain line, between the outfall and building 46-30 has apparently not been conducted since the RFI field effort. Sample locations proposed for other SWMUs and AOCs addressed in the Plan do not provide coverage for the area between the outfall and Building 46-30. The Permittees must add a sample location between the SWMU 46-004(m) outfall and Building 46-30 to evaluate potential soil contamination below and adjacent to the drain line. The sample location must be positioned to evaluate soil contamination below the drain line as close as possible to where the line exits from Building 46-30. As discussed during NMED's August 7, 2008 site visit, the other sample location proposed for SWMU 46-004(m) must be moved from the mouth of the outfall to approximately six feet east of the outfall. Samples from these locations must be collected at two depths and analyzed for the same constituents proposed for other locations at SWMU 46-004(m).*

LANL Response

8. Figure 5.12-2 and the text in section 5.20.3 have been revised to show a new sampling location along the drainline between the SWMU 46-004(m) outfall and building 46-30 and next to the drainline as close as possible to the point where the line exits building 46-30. In addition, one of the proposed sampling locations at the outfall discharge point was moved approximately 6 ft to the east. Samples for these locations will be collected at two depths and analyzed for the same constituents proposed for the other locations at SWMU 46-004(m).

NMED Comment

9. ***Section 5.22, SWMU 46-004(q), Outfall, page 36, first paragraph:***

   Permittees' Statement: *"SWMU 46-004(q) is an outfall located north of building 46-58 (Figure 5.6-1)."*

   NMED Comment: *Figure 5.21.11-3 of the 1996 RFI shows three outfalls (designated A, B and C) associated with SWMU 46-004(q). As illustrated on that figure, the three outfalls are shown as being approximately 25 feet from each other. The 1996 RFI and the associated RFI Work Plan indicate only one of the three outfalls (Outfall "B") was sampled during the RFI field effort. The figure indicates Outfall "C" was located at the end of a drain line which is shown as originating near the northwest corner of building 46-16. The 1996 RFI narrative indicates Outfall C was a two foot diameter culvert that received parking lot runoff from the northeast quadrant of TA-46. The RFI Work Plan and the 1996 RFI narratives indicate the source of Outfall B was unknown. Neither document discussed the nature and origin(s) of Outfall "A".*

   The proximity of the outfall associated with SWMU 46-004(h) suggests that this outfall may have been one of the three outfalls described above. If there are currently three (or two) outfalls still associated with SWMU 46-004(q), the Permittees must revise the Plan to include discussion of the nature and location of each outfall and propose sampling locations at appropriate depth intervals to characterize potential impacts associated with each outfall. If there is only one outfall currently associated with SWMU 46-004(q), the Permittees must revise the Plan to include discussion concerning the physical and/or administrative disposition of the other two outfalls identified in the 1996 RFI.

LANL Response

9. Only one outfall (Outfall B) is associated with SWMU 46-004(q).

   During field investigations in preparation for writing the 1993 RFI work plan for Operable Unit (OU) 1140, alphanumeric field designators were given to outfalls at Technical Area 46 (TA-46) (LANL 1993, 020952). The field designators were merely used as a method for easily locating the outfalls during field investigations and were not linked to SWMU or area of concern (AOC) designations. Figure 5.21.11-3 of the 1996 RFI report shows three of these outfalls (designated A, B, and C), which are located within close proximity of each other (LANL 1996, 054929). Although the figure shows Outfalls A, B, and C within the boundary of SWMU 46-004(q), the figure is incorrect. Outfalls B and C are in close proximity to, but do not fall within, the SWMU 46-004(q) boundary. Text in the 1993 RFI work plan (p. 5-124) corroborates that Outfall A is SWMU 46-004(h) and goes on to describe the source of Outfall A as the floor drains and possibly the roof drains in building 46-16. The 1993 RFI work plan also provides the description for SWMU 46-004(q), stating that the SWMU is Outfall B

(p. 5-124). Outfall C is described in Table 5-4-4 (p. 5-134) of the 1993 RFI work plan as a corrugated metal pipe that receives storm runoff from the area west of building 46-16 (LANL 1993, 020952).

The work plan addresses the sampling for Outfall A under the proposed sampling for SWMU 46-004(h) (p. 30). The work plan addresses the sampling for Outfall B under the proposed sampling for SWMU 46-004(q) (p. 36). Outfall C is not a SWMU or AOC, nor is it associated with any SWMUs or AOCs; therefore, no sampling is proposed, and no change to the text or figures is required.

NMED Comment

10. Section 5.32.2, Scope of Activities for SWMU 46-005, page 45, second paragraph:

Permittees' Statement: *"Fourteen samples will be collected from seven locations within and next to the surface impoundments (Figure 5.8-2)."*

NMED Comment: *The northern impoundment (structure 46-171) is approximately 500 square feet larger than the southern impoundment (structure 46-170). The Permittees must revise the Plan (and associated figures) to move the proposed sample location from outside of and just east of the southern impoundment (structure 46-170) to a location south of the fence along the north side of the north impoundment (structure 46-171) to evaluate potential overflow from the impoundment. In addition, one of the proposed sample locations from the south impoundment must be moved to a location inside the northern impoundment to provide better sample coverage within the structure.*

LANL Response

10. Figure 5.8-2 of the work plan has been revised to show the proposed sampling location outside of and just east of the southern impoundment (structure 46-170) has been moved to a location south of the fence along the north side of the north impoundment (structure 46-171). In addition, one of the proposed sampling locations from the south impoundment has been moved to a location inside the northern impoundment, and the symbol for the sampling location next to the line connecting the two impoundments has been changed (from a circle to a triangle) to denote that surface and subsurface samples will be collected. In addition, section 5.32.2, Table 4.0-1, and Figure 5.8-2 have been revised to clarify sampling depths associated with the four locations beneath the drainlines.

NMED Comment

11. Section 5.36.3, Scope of Activities for SWMU 46-006(d), page 50, first paragraph:

Permittees' Statement: *"Eight samples will be collected from four locations within the SWMU boundary along the north wall of building 46-31 (Figure 5.5-2.). Samples will be collected from two depths (2 to 3 ft and 4 to 5 ft)...".*

NMED Comment: *The Permittees must propose collection of revised sample depths (0 to 1 and 4 to 5 feet) in each of the four locations along the north building wall.*

LANL Response

11. The text in section 5.36.3 and Table 4.0-1 have been revised to indicate that the samples from the four locations within the SWMU boundary along the north wall of building 46-31 will be collected from depth intervals of 0 to 1 ft and 4 to 5 ft beneath the asphalt within SWMU 46-006(d).

NMED Comment

12. Section 5.46.3, Scope of Activities for SWMU 46-009(a), page 59, first and second paragraphs:

Given the uncertainty concerning the nature of materials that may have been disposed in the landfill area, the Permittees must include analyses of total petroleum hydrocarbons (TPH) for samples collected within the landfill and from sample locations down slope of the landfill area. Alternatively, the Permittees may provide justification for why TPH analyses are not appropriate at this SWMU. Additional sample locations are needed in the SWSC Canyon drainage area shown on the lower right-hand corner of Figure 5.2-2 and east of the SWSC WWTP in the drainage area near the eastern boundary of Technical Area (TA) 46 as shown on Plate 1 of the Plan. See also, comment 13 below.

LANL Response

12. The text in section 5.46.3 and Table 4.0-1 have been revised to indicate that samples collected within the landfill and from sample locations downgradient of the landfill will be analyzed for total petroleum hydrocarbons (TPH). Figure 5.2-2, Table 4.0-1, and text in section 5.46.3 have been revised to include 14 samples collected from seven additional locations in SWSC Canyon (see response to Specific Comment 13).

NMED Comment

13. Section 5.47.2, Scope of Activities for SWMU 46-009(b), page 59, second paragraph:

Permittees' Statement: *"Six samples will be collected from three mesa slope next to and downgradient of the former surface disposal area (Figure 5.1-2)."*

NMED Comment: *In addition to the three mesa slope locations shown on Figure 5.1-2 of the Plan, sample locations must be proposed in the eastward drainage located just south of the southernmost mesa slope location. The Permittees must ensure that samples are collected in the drainage to Cañada del Buey Canyon to define the nature and extent of contamination. See also, comment 12 above.*

LANL Response

13. Figure 5.1-2 and the text in section 5.47.2 have been revised to include 14 samples from seven additional locations in the drainage south and east of SWMU 46-009(b) in SWSC Canyon to define the nature and extent of contamination. Table 4.0-1 has been revised to indicate samples will be collected from two depth intervals at each of the new sampling locations and analyzed for the same constituents proposed for other locations at SWMU 46-009(b).

NMED Comment

14. Sections 5.48.3, Scope of Activities for SWMU 46-010(d), page 60, first and second paragraphs:

Permittees' Statements: *"Four samples will be collected from two locations at the storage area (Figure 5.2-2)." and, "Six samples will be collected from three locations south and downgradient of the storage area (Figure 5.2-2)."*

NMED Comment: *The Permittees must revise the Plan and propose collection of samples from all sample locations and intervals to include analyses of TPH or provide justification for why TPH analyses are not appropriate at this SWMU*

LANL Response

14. The text in section 5.48.3 and Table 4.0-1 have been revised to indicate that the 10 samples to be collected within and downgradient of SWMU 46-010(d) will be analyzed for TPH.

NMED Comment

15. Section 5.49.2, Scope of Activities for AOC C-46-001, page 61, second sentence:

Permittees' Statement: *"Since the location of the spill is not well documented, indirect sampling of AOC C-46-001 is proposed."*

NMED Comment: *Given the uncertainty of where the spill occurred and the drainage patterns of the paved areas around Building 46-75, a multi-depth sample location is needed above the storm drain approximately 25 feet southwest of the southwest corner of the building shown on Figure 5.4-2 of the Plan.*

LANL Response

15. Figure 5.4-2 and the text in section 5.49.23 have been revised to indicate that two samples will be collected from one additional sampling location above the storm drain, approximately 15 ft southwest of the southwest corner of building 46-75. Table 4.0-1 has been revised to indicate that the samples will be collected from two depth intervals (0 to 1 ft and 2 to 3 ft beneath the asphalt) and analyzed only for mercury.

NMED Comment

16. Figure 5.12-2, page 96:

As discussed during the August 2008 site visit, LANL staff agreed that the sample locations within the down slope areas on the north side of Cañada del Buey for various SWMUs and AOCs illustrated on the figure are not positioned in well defined drainages. The proposed locations should be spread over appropriate bench areas below the mesa top to define contaminant extent for affected SWMUs and AOCs.

LANL Response

16. Since there are no defined drainage channels below the outfalls of SWMUs 46-004(c2), 46-004(g), 46-004(m), 46-004(z), 46-004(y), 46-004(x), 46-004(u), 46-004(v), 46-004(h), and 46-004(q) and AOC 46-004(f2), Figures 5.10-1 and 5.12-2 have been modified to show proposed sampling locations in transects across the bench areas below the mesa top where sheet flow could carry potential contaminants to the canyon bottom. The sampling locations associated with individual SWMUs and AOCs shown in these figures have been revised based on the new hillside transect sampling approach agreed upon with NMED during the August 2008 site visit. Sampling locations previously sited in the canyon bottom were relocated to the toe of the slope as part of the hillside transect sampling approach (see also the crosswalk table, the revised work plan text, and Table 4.0-1).

REFERENCES

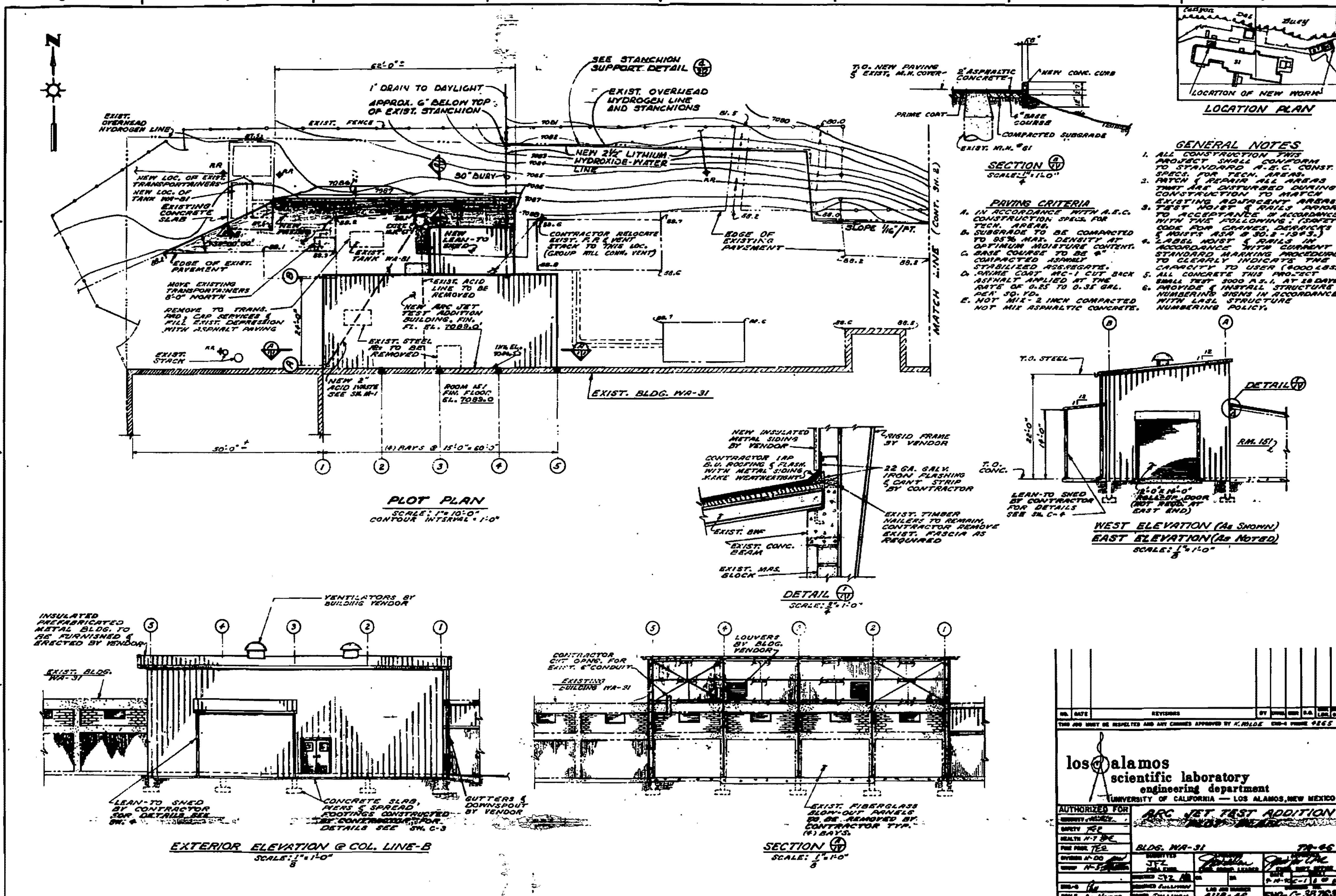
LANL (Los Alamos National Laboratory), August 1993. "RFI Work Plan for Operable Unit 1140," Los Alamos National Laboratory document LA-UR-93-1940, Los Alamos, New Mexico. (LANL 1993, 020952)

LANL (Los Alamos National Laboratory), June 1996. "RFI Report for Potential Release Sites in TA-46, 46-003(h), 46-004(b), 46-004(g), 46-004(h), 46-004(m), 46-004(q), 46-004(s), 46-004(u), 46-004(v), 46-004(x), 46-004(y), 46-004(z), 46-004(a2), 46-004(b2), 46-004(c2), 46-004(d2), 46-004(e2), 46-004(f2), 46-006(a), 46-006(b), 46-006(c), 46-006(d), 46-006(f), 46-006(g), 46-007, 46-008(b), 46-010(d), C-46-002, C-46-003," Los Alamos National Laboratory document LA-UR-96-1957, Los Alamos, New Mexico. (LANL 1996, 054929)

LANL (Los Alamos National Laboratory), June 2008. "Investigation Work Plan for Upper Cañada del Buey Aggregate Area," Los Alamos National Laboratory document LA-UR-08-3864, Los Alamos, New Mexico. (LANL 2008, 101802)

Attachment 1

Engineering Drawing C-38763


LOCATION OF NEW WORK
LOCATION PLAN
SEE STANCHION SUPPORT DETAIL
1" DRAIN TO DAYLIGHT
APPROX. 6" BELOW TOP OF EXIST. STANCHION
EXIST. OVERHEAD HYDROGEN LINE AND STANCHIONS
EXIST. OVERHEAD HYDROGEN LINE
EXIST. FENCE
NEW 2½" LITHIUM HYDROXIDE-WATER LINE
30" BURY
NEW LOC. OF EXIST. TRANSPORTAINERS
NEW LOC. OF TANK WA-81
EXISTING CONCRETE SLAB
EDGE OF EXIST. PAVEMENT
MOVE EXISTING TRANSPORTAINERS 6'-0" NORTH
REMOVE TO TRANS. PAD, CAP SERVICES & FILL EXIST. DEPRESSION WITH ASPHALT PAVING
EXIST. STACK
EXIST. TANK WA-81
NEW LEAN-TO SHED
CONTRACTOR RELOCATE EXIST. P.R. & VENT STACK TO THIS LOC. (GROUP MTL CONN. VENT)
EDGE OF EXISTING PAVEMENT
SLOPE 1/16"/FT.
MATCH LINE (CONT. SH. 2)
EXIST. ACID LINE TO BE REMOVED
NEW ARC JET TEST ADDITION BUILDING, FIN. FL. EL. 7088.0
EXIST. STEEL TO BE REMOVED
NEW 2" ACID WASTE SEE SH. M-1
ROOM 151 FIN. FLOOR EL. 7088.0
EXIST. BLDG. WA-31
(4) BAYS @ 15'-0" = 60'-0"
PLOT PLAN
SCALE: 1" = 10'-0"
CONTOUR INTERVAL = 1'-0"
T.O. NEW PAVING & EXIST. M.H. COVER
2" ASPHALTIC CONCRETE
NEW CONC. CURB
PRIME COAT
4" BASE COURSE
COMPACTED SUBGRADE
EXIST. M.H. #61
SECTION
SCALE: 1/4" = 1'-0"
PAVING CRITERIA
A. IN ACCORDANCE WITH A.E.C. CONSTRUCTION SPECS. FOR TECH. AREAS.
B. SUBGRADE TO BE COMPACTED TO 95% MAX. DENSITY AT OPTIMUM MOISTURE CONTENT.
C. BASE COURSE TO BE 4" COMPACTED ASPHALT STABILIZED AGGREGATE.
D. PRIME COAT MC-1 CUT BACK ASPHALT APPLIED AT THE RATE OF 0.25 TO 0.35 GAL. PER SQ. YD.
E. HOT MIX - 2 INCH COMPACTED HOT MIX ASPHALTIC CONCRETE.
GENERAL NOTES
1. ALL CONSTRUCTION THIS PROJECT SHALL CONFORM TO STANDARD A.E.C. CONST. SPECS. FOR TECH. AREAS.
2. PATCH & REPAIR ALL AREAS THAT ARE DISTURBED DURING CONSTRUCTION TO MATCH EXISTING ADJACENT AREAS.
3. TEST HOIST & RAILS PRIOR TO ACCEPTANCE IN ACCORDANCE WITH THE FOLLOWING: (SAFETY CODE FOR CRANES, DERRICKS & HOISTS ASA B 30.2-1943.)
4. LABEL HOIST & RAILS IN ACCORDANCE WITH CURRENT STANDARD MARKING PROCEDURE TO CLEARLY INDICATE THE CAPACITY TO USER (4000 LBS.)
5. ALL CONCRETE THIS PROJECT SHALL TEST 3000 P.S.I. AT 28 DAYS.
6. PROVIDE & INSTALL STRUCTURE NUMBERING SIGNS IN ACCORDANCE WITH LASL STRUCTURE NUMBERING POLICY.
T.O. STEEL
T.O. CONC.
DETAIL
RM. 151
LEAN-TO SHED BY CONTRACTOR FOR DETAILS SEE SH. C-4
12'-0" x 14'-0" ROLLUP DOOR (NOT REQ'D AT EAST END)
WEST ELEVATION (AS SHOWN)
EAST ELEVATION (AS NOTED)
SCALE: 1/8" = 1'-0"
NEW INSULATED METAL SIDING BY VENDOR
RIGID FRAME BY VENDOR
CONTRACTOR LAP B.U. ROOFING & FLASH. WITH METAL SIDING MAKE WEATHERTIGHT
22 GA. GALV. IRON FLASHING & CANT STRIP BY CONTRACTOR
EXIST. TIMBER NAILERS TO REMAIN, CONTRACTOR REMOVE EXIST. FASCIA AS REQUIRED
EXIST. BUR
EXIST. CONC. BEAM
EXIST. MAS. BLOCK
DETAIL
SCALE: 3/4" = 1'-0"
INSULATED PREFABRICATED METAL BLDG. TO BE FURNISHED & ERECTED BY VENDOR
VENTILATORS BY BUILDING VENDOR
EXIST. BLDG. WA-31
LEAN-TO SHED BY CONTRACTOR FOR DETAILS SEE SH. 4
CONCRETE SLAB, PIERS & SPREAD FOOTINGS CONSTRUCTED BY CONTRACTOR FOR DETAILS SEE SH. C-3
GUTTERS & DOWNSPOUT BY VENDOR
EXTERIOR ELEVATION @ COL. LINE-B
SCALE: 1/8" = 1'-0"
CONTRACTOR CUT OPNG. FOR EXIST. 6" CONDUIT
EXISTING BUILDING WA-31
LOUVERS BY BLDG. VENDOR
EXIST. FIBERGLASS BLOW-OUT PANELS TO BE REMOVED BY CONTRACTOR TYP. (4) BAYS.
SECTION
SCALE: 1/8" = 1'-0"
NO. DATE REVISIONS BY
THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY K. HOLDE ENG-4 PHONE 4265
los alamos scientific laboratory
engineering department
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO
AUTHORIZED FOR
ARC JET TEST ADDITION
BLDG. WA-31
TA-46
JFZ
SCALE AS NOTED
4118-46
ENG-C-38763
PHASE-"A"