**Response to the Notice of Disapproval for the
Upper Water Canyon Aggregate Area Investigation Work Plan,
Los Alamos National Laboratory, EPA ID No: NM0890010515, HWB-LANL-10-070,
Dated October 26, 2010**

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.

GENERAL COMMENTS

NMED Comment

1. Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Consolidated Units (CUs) Where 20 Percent of the Soil Samples are Proposed for Polychlorinated Biphenyl (PCB) Analyses:

The Permittees must state the proposed criteria for selecting the sample intervals selected for analyses of PCBs (for example, only surface samples will be selected or only sample intervals found to contain volatile organic compounds (VOCs), semi-VOCs).

LANL Response

1. Text has been added to section 6.8 stating three criteria are used to select sampling locations and depth intervals of samples to be submitted for polychlorinated biphenyl (PCB) analysis. The first criterion is to identify sampling locations at the likely source of PCBs. The second criterion is to separate the locations spatially into areas most likely to define the lateral extent of PCBs if they are present. The third criterion is to include PCB analysis for all depth intervals at each sampling location selected by the first two criteria to define vertical extent where PCBs have been detected.

NMED Comment

2. Typographical Errors; Various Figures:

NMED noted that some SWMUs are identified as "SWUMs" in the lower left-hand corner of the figure legends. Review the legends and correct as necessary.

LANL Response

2. The legends in Figures 5.47-1, 5.47-2, 5.49-1, 5.49-2, and 5.49-3 have been revised to correct the typographical error.

NMED Comment

3. Sites Where Buildings, Magazines or Other Structures Were Destroyed by Intentional Burning:

In accordance with facility practices and policies in effect at the time, several wood-framed structures that were, or may have been, in contact with high explosives (HE) were destroyed by intentional burning. While explosive compounds do not typically contain chlorine, wood and various plastics do. With a chlorine source, dioxins and furans can result from combustion. At any AOC, SWMU, or CU where burning was conducted, soil samples must be collected and analyzed for dioxin/furan congeners. Due to the relative low mobility of these compounds in soil, NMED will accept sampling proposals for individual AOCs, SWMUs and CUs which target the upper sample interval(s) at locations slated for sample collection at multiple depths. In proposing sample locations for these analytes, the Permittees must consider past and current site drainage patterns. Proposed sample locations for these analytes must target areas most likely to have served as drainage pathways. This comment applies to structures in both Technical Area 11 (TA-11) and TA-16 and affects approximately 36 AOCs, SWMUs, or CUs. Note that because former outfall SWMU 16-029(r) served HE process building 16-25 which was destroyed by intentional burning, dioxin/furan congeners must also be included in the analytical suites for that SWMU.

LANL Response

3. These World War II–era buildings were simple wooden structures. There is no reason to suspect these wood-framed structures contained any chlorine source that would, in turn, contribute to the formation of dioxins and furans when the structures were burned. Structures burned as part of the demolition and decontamination efforts are not a potential source of these contaminants. In other Laboratory investigation work plans approved by NMED for aggregate areas where similar structures were destroyed by burning (LANL 2006, 091698; LANL 2007, 102216; LANL 2007, 102622), analysis for dioxins and furans was not required. No revision to the work plan is necessary.

NMED Comment

4. Section 7.1 Groundwater, last two sentences, page 123:

Permittees' Statement: *"There are no alluvial and intermediate wells located in the Upper Water Canyon Aggregate Area. No regional monitoring is located in the vicinity of any site under investigation in this work plan."*

NMED Comment*: New intermediate and regional monitoring wells are required in the Upper Water Canyon Aggregate Area. They will be used to monitor conditions in TA-16. The two wells must be placed approximately 500 feet west of and 200 feet south of building 16-380; however, the final locations must be determined in the field in consultation with NMED. The Permittees must submit a separate monitoring well work plan (MWWP) for the installation of each of the wells. The work plans must be submitted by or before* ***December 30, 2010.*** *The work plans must include a proposed schedule for completion.*

LANL Response

4. Installation of a new intermediate and regional well as requested in NMED's comment is premature. The need for new wells will be assessed using the results from the proposed investigation, as described above. Section 7.1 has been revised to include the information on groundwater-monitoring

wells downgradient of the Upper Water Canyon Aggregate Area. The Laboratory does not intend to submit the drilling work plans discussed in NMED's comment.

The Laboratory's process to identify the need for new regional and intermediate groundwater wells consists of the following general steps.

- Potential sources of groundwater contamination are identified from knowledge of historical operations and previous investigations.
- These sources are investigated to determine the nature and extent of contamination and the conditions present that could cause contaminants to migrate to groundwater.
- The existing network of groundwater monitoring wells is evaluated to determine whether it would be capable of detecting releases from a source identified as having potential to migrate to groundwater.
- If the existing network is not adequate, a network evaluation is used to identify locations for new wells that would result in a high probability of detection.

At present, this process to determine whether new regional and/or intermediate wells are needed has not been implemented in the Upper Water Canyon Aggregate Area.

The Laboratory's historical investigation report for the Upper Water Canyon Aggregate Area (LANL 2010, 110410) did not identify any known or likely sources of groundwater contamination. Specifically, no solid waste management units (SWMUs) or areas of concern (AOCs) were identified within the aggregate area that had significant water volumes, combined with high concentrations of mobile constituents, that would constitute a potential source of contamination for perched-intermediate or regional groundwater. The results of the proposed aggregate area investigation will be used to determine whether the current understanding of potential groundwater contamination is correct and complete. The nature and extent of potential releases from SWMUs and AOCs will be characterized, and these results will be evaluated to identify any previously unknown potential releases to groundwater. SWMUs and AOCs located where appreciable effluent releases have impacted groundwater typically contain some evidence of contamination in sediment and shallow subsurface strata (e.g., Los Alamos, Sandia, and Mortandad Canyons and Cañon de Valle), which would be detected by the proposed investigation.

If the nature and extent investigations identify conditions where potential groundwater contamination may be present, the existing network of monitoring wells will be evaluated to determine whether it would detect such releases. Presently, perched-intermediate and regional groundwater downgradient of the Upper Water Canyon Aggregate Area is being monitored at several wells including R-37i, R-48, and CdV-R-37-2 (shown in Figure 3.2-2 of the investigation work plan). The transport of contaminants from any potential source areas in the aggregate area to these wells will be evaluated to determine the likelihood of detection. If these existing wells are not likely to detect contamination, additional well locations will be identified.

SPECIFIC COMMENTS

NMED Comment

5. Section 5.3.3, Scope of Activities for SWMU 16-003(a), fourth paragraph, page 20:

The Permittees indicate that building 16-410 is an active facility and that characterization of the sump and associated drain line will be delayed until the building is deactivated. No reason is given for why the delay is considered necessary.

Absent possible safety concerns due to the use and possible presence of HE in the sump and drain line, NMED believes the drain line could be characterized during future field work activities at the SWMU. Additional sample locations must be proposed along the east and west legs of the line, where the line exits the sump and at the two apparent pipe joints located where the line direction changes toward the outfall. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the structures.

LANL Response

5. The scope of activities for SWMU 16-003(a) is discussed in section 5.2.3 of the investigation work plan.

   Six sampling locations have been added next to the sump and along the drainline, starting at the sump exit, at approximately 50 ft apart along the drainline, and at the pipe bend. Samples will be collected from three depths (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth) at the four locations inside the security fence and from two depths (at the base of the drainline and 5 ft below the first sampling depth) at the two locations outside the security fence. Section 5.2.3, Figure 5.2-4, and Table 5.2-4 have been revised accordingly.

   Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as “deviations” in the investigation report.

NMED Comment

6. Section 5.5.2.3, Scope of Activities for SWMU 16-030(h), page 25:

This SWMU received hydraulic oil releases. Total petroleum hydrocarbons-diesel-range organics (TPH-DRO) and oil-range organics (TPH-ORO) must be added to the analytical suites for all samples collected at this SWMU.

LANL Response

6. Total petroleum hydrocarbons– (TPH-) diesel range organics (DRO) and TPH–oil range organics (ORO) have been added to the analytical suite for samples collected from SWMU 16-030(h). The text in section 5.5.2.3 and Table 5.5-5 have been revised accordingly. Because the SWMU 16-003(l) sumps also served pressing bays in the same building, 16-430, TPH-DRO and TPH-ORO have been added to the analytical suite for SWMU 16-003(l). The text in section 5.5.1.3 and Table 5.5-2 have also been revised accordingly.

NMED Comment

7. Section 5.6.1.3, Scope of Activities for SWMU 16-006(d), page 26:

The Permittees indicate that building 16-380 is an active facility and that characterization of the sump will be delayed until the building is deactivated. No reason is given for why the delay is considered necessary.

Absent possible safety concerns due to the use and possible presence of HE in the sump, NMED believes the sump could be removed during field activities with post-removal confirmation sampling or otherwise characterized during future field work activities at the SWMU. Additional sample locations must be placed around the sump to a depth equal to the sump base and five feet below the first interval and adjacent to where the discharge line exits the sump at similar sample intervals. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the sump.

LANL Response

7. Section 5.6.1.3 presents the scope of activities for SWMU 16-003(m), which is the sump associated with building 16-380. SWMU 16-006(d) is the septic system associated with this building.

   Section 5.6.1.3 has been revised to add three sampling locations next to the sump and along the drainline: one at the sump exit, one to the east side of the sump, and one immediately above the outfall. Samples will be collected from three depths (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth). A new Table 5.6-1 has been added accordingly, and the proposed sampling locations have been added to Figure 5.6-2. In the absence of data indicating a need, removing the sump and drainline associated with an active building is premature.

   Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as “deviations” in the investigation report.

NMED Comment

8. Section 5.6.2, SWMU 16-006(d)-Septic System, page 26:

The Permittees must propose plugging the five floor drains in building 16-380 to prevent potential releases of HE or provide sound technical and/or safety-related rationales for not plugging the drains.

LANL Response

8. The floor drains are located within an active building and receive only floor washings and sanitary spills, if any. Requiring floor drains to be plugged in an active building is beyond the scope of the investigation work plan. Such activity is a facility function and is at the discretion of the facility management. The sampling results downgradient of the drain field [see proposed sampling for SWMU 16-006(d)] will indicate if any potential contamination is associated with the floor drains.

NMED Comment

9. Section 5.6.2.3, Scope of Activities for SWMU 16-006(d), first paragraph, page 27:

No information is provided concerning the depth of the lines associated with the active drain field. The Permittees must provide justification(s) for limiting sample depths to two to three feet at proposed sample locations 6d-1, 6d-2 and 6d-3 which are located adjacent to the drain field.

LANL Response

9. Samples will be collected at depths of 0–1 ft, 4–5 ft, and 8–9 ft below ground surface [bgs] at locations 6d-1, 6d-2, and 6d-3 because the depths of historical samples ranged from 2–7 ft. The text in section 5.6.2.3 and Table 5.6-4 have been revised accordingly.

NMED Comment

10. Section 5.10.3, Scope of Activities for SWMU 16-005(k), third paragraph, page 31 and Figure 5.10-2, Proposed Sampling Locations for SWMU 16-005(k), page 172:

A structure is located west of the septic tank and proposed sample location 5k-14 as shown on the figure. The structure is not discussed in the text. The Plan indicates the former drain field is now located beneath building 16-969; it appears that the structure may either be the distribution box or a group of distribution lines leading to the former drain field. According to the figure, the structure is approximately 30 feet long. Sample location 5k-14 is positioned to evaluate the joint where the tank outlet turns toward the former drain field area. The Plan does not include evaluation of the structure along its west to east segment as illustrated on the figure.

Revise the Plan text to include information about the structure (if available). Propose locating the structure by trenching, removing the structure (if present) and performing sampling of soils beneath the excavated line. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the structure.

LANL Response

10. The label “drain field” has been added to Figures 5.10-1 and 5.10-2. Information on the drain field is already provided in the text in section 5.10.3: “Sewer lines… flowed to the septic tank, and then discharged to a drain field 20 ft to the west” and “The drain field currently lies beneath building 16-969.”

    The text in italics has been added to section 5.10.3: “The drainlines connecting former buildings 16-1 and 16-7 to manhole 16-784, the drainline connecting manhole 16-784 to septic tank 16-1132, *and the outlet drainline of tank 16-1132* will be located by trenching and will be excavated if they are in place.” An additional sampling location (5k-15) has been added to the west of 5k-14 to characterize the drainline to the west of the joint. The text in section 5.10.3, Figure 5.10-2, and Table 5.10-1 have been revised accordingly.

NMED Comment

11. Section 5.11.3, Scope of Activities for SWMU 16-005(l), last paragraph, page 32:

This SWMU is a former grease trap. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at this SWMU.

LANL Response

11. Building 16-525 operated solely as a women's change house with laundry facilities. Wastewater from showers, sinks, laundry room, floor drains, and roof drains discharged to the SWMU 16-005(l) grease trap. Petroleum hydrocarbons were not associated with building operations. No revision is necessary.

NMED Comment

12. Section 5.17.3, Scope of Activities for AOC 16-016(f), third paragraph, page 39:

Include a brief description of the steps that will be taken by the Permittees in the event asbestos or suspected asbestos-containing materials are encountered during sampling activities at the AOC.

LANL Response

12. The integrated work document (IWD) and the site-specific health and safety plan (SSHASP) for the implementation of this work plan will address the potential for asbestos or asbestos-containing materials to be present at AOC 16-016(f). In the event suspected asbestos-containing materials are encountered during sampling activities at AOC 16-016(f), procedures included in the IWD and SSHASP will be followed. In addition, Laboratory waste management procedures for asbestos will be followed in the event asbestos or asbestos-containing materials are found at the site. No revision is necessary.

NMED Comment

13. Sections 5.19.3, 5.20.3, 5.21.3, 5.22.3, 5.23.3, and 5.24.3, Scope of Activities for SWMU 16-017(j)-99, SWMU 16-017(k)-99, SWMU 16-017(l)-99, SWMU 16-017(m)-99, SWMU 16-017(n)-99, and SWMU 16-017(o)-99, respectively, pages 40 through 43 inclusive:

The SWMUs (all former storage magazines) are described as having earthen berms on three sides and on the top of former wood-framed or reinforced concrete structures. Provide additional construction (or demolition) information concerning the structures. Using the information provided in the Plan, NMED cannot evaluate whether two proposed sample intervals are adequate for the investigation. For example, indicate (if it is known) if the floors of the structures were built at or near current area grades. Indicate (if it is known) what was done with the berm material when the structures were removed. In the event the berm material was graded "in- place" to match existing area topography, the four to five foot sample interval may not be deep enough to evaluate site conditions depending on the depth of berm material used at each SWMU. However, if the berm material was removed from a given SWMU for placement or disposal elsewhere, the proposed interval may be appropriate.

LANL Response

13. The storage magazines were built at grade. The topography at Technical Area 16 (TA-16) is relatively flat, and there is no longer any evidence of the berms that once covered the magazines. The berm material is indistinguishable from the surrounding soil. The Laboratory deems a depth interval of 4–5 ft to be sufficient to reach the native soil/rock and to identify any vertical contamination, if present. Text has been added to section 5.19 for clarification. The following note has been added to Tables 5.19-1, 5.20-1, 5.21-1, 5.22-1, 5.23-1, and 5.24-1: "The sampling depth will be adjusted if fill material is encountered during sampling, and only native soil will be sampled."

    Figure 1 included with this response shows former structure 16-75 [SWMU 16-017(n)-99]. The configurations of the other magazines [SWMUs 16-017(j,k,l,m,o)] were similar.

NMED Comment

14. Scope of Activities for AOC 16-021(b) and AOC C-16-071, last paragraph, page 43:

AOC 16-021(b) is a former decommissioned hydraulic press and the AOC is collocated with AOC C-16-071. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at these AOCs.

LANL Response

14. TPH-DRO and TPH-ORO have been added to the analytical suites for samples collected from AOCs 16-021(b) and C-16-071. The text in section 5.25.3 and Table 5.25-1 have been revised accordingly.

NMED Comment

15. Section 5.25.3 Scope of Activities for AOC 16-021(b) and AOC C-16-071, last paragraph, page 43:

One or both of these AOCs experienced a former hydraulic oil spill. TPH-DRO and TPH-ORO must be added to the analytical suites for all samples collected at these AOCs.

LANL Response

15. TPH-DRO and TPH-ORO have been added to the analytical suites for samples collected from AOCs 16-021(b) and C-16-071. The text in section 5.25.3 and Table 5.25-1 have been revised accordingly.

NMED Comment

16. Section 5.26.3, Scope of Activities for AOC 16-022(a), page 44:

The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's Petroleum Storage Tank Bureau (PSTB). That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Compliance Order on Consent (Consent Order). The Permittees must

comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The AOC previously contained an underground storage tank (UST) used for storage of diesel fuel. The Plan indicates three soil samples were collected from the excavation when the UST was removed in September 1993. Five additional samples were collected the following month. A third round of sampling was conducted in August 1994. No information is provided in the Plan about why additional sampling was conducted in October 1993 or August 1994. The Plan indicates samples were analyzed for TPH using an on-site laboratory and it was somehow determined that the extent of contamination was 12 feet laterally and 20 feet vertically (presumably, relative to area ground surface at that time). Information is not provided concerning whether contaminated soil was removed or left in place. The Plan indicates the results showed elevated concentrations of TPH but no concentration data is provided. The 1994 sampling was conducted at depths of ten, 15, 20 and 25 feet below ground surface (bgs) and an on-site laboratory was used for analyses of TPH. The Plan indicates no TPH concentrations greater that 100 parts per million (ppm) were found and that TPH was not reported present in the deepest sample interval. Finally, the Plan asserts that the site does not pose an immediate threat to human health or the environment even though no decision level data are available to support that conclusion.

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings and sample collection and analyses of appropriate sample intervals to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

LANL Response

16. The statement that the site does not pose an immediate threat to human health and the environment is the conclusion presented by NMED in its June 27, 1994, letter acknowledging no further action is necessary for the underground storage tank (UST) TA-16-205 [AOC 16-022(a)] (NMED 1994, 043565). This letter also presented NMED's conclusion that the horizontal and vertical extent of soil contamination have been defined at this site. These conclusions were based on NMED's evaluation of data presented by the Laboratory and referenced in section 5.2.6.1 of this investigation work plan. NMED's June 27, 1994, letter further states, "Based on this information, the Department requires no additional work at this time, although it reserves the right to do so should petroleum hydrocarbon contamination resulting in a threat to public health or the environment is discovered." The Laboratory is unaware of any additional information that would indicate a threat posed by this site and warrant additional actions. Therefore, the conclusions made by NMED in 1994 remain valid, and no additional investigations are proposed for this site. No revision is necessary.

NMED Comment

17. Section 5.27.3, Scope of Activities for AOC 16-022(b), page 45:

The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's Petroleum Storage Tank Bureau. That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all

applicable regulations at sites where releases of contaminants have or are suspected to have occurred.

The AOC previously contained three USTs used for storage of leaded and unleaded gasoline. Unknown volumes of contaminated soil were removed in 1987, 1990, and 1994. Samples were collected in 1994 and analyzed by an on-site laboratory. According to the Plan, analytical results indicated benzene, toluene, ethyl benzene, and xylenes (BTEX) were present to a depth of at least 65 feet bgs. The BTEX concentrations are not provided in the Plan.

The Plan indicates contaminated soil was remediated but information is not provided concerning the nature of the remediation or the volume of soil that was affected. A UST removal effort was performed in 2003 and soil samples were collected at that time for analyses of VOCs, SVOCs, and TPH-gasoline range organics (TPH-GRO). Although an adjacent UST was used for storage of leaded gasoline, the Plan does not indicate why analyses of lead was not performed. Since the deepest sample interval analyzed in 2003 was four feet bgs, contaminant nature and extent have not been determined at AOC 16-022(b).

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings and sample collection intervals and associated chemical analyses to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

LANL Response

17. The sampling conducted during the 2003 tank removal activities was intended to support closure of the tank being removed at that time (16-1465). This tank is not the tank associated with AOC 16-022(b) (tank 16-0197). The Laboratory agrees that the 2003 sampling did not adequately characterize contamination resulting from potential releases from the two tanks previously removed from this location. Specifically, this sampling did not address the data previously requested by the Underground Storage Tank Bureau (NMED 1999, 073897). Therefore, the Laboratory proposes to collect additional samples at the location of former storage tanks 16-0196 and 16-0197 to obtain decision-level data needed to define the extent of contamination.

    Section 5.27.3 has been revised to state that 20 subsurface samples will be collected from five locations—one within and four around the footprint of the former UST. Samples will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). Figure 5.27-3 and Table 5.27-3 have been added accordingly.

NMED Comment

18. Section 5.28.3, Scope of Activities for AOC 16-024(i), first paragraph, page 46:

Because the magazine was built in 1944 and removed in 1951, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

LANL Response

18. The storage magazines were built at grade. The topography at TA-16 is relatively flat, and there is no longer any evidence of the berm that once covered the magazine. The berm material is indistinguishable from the surrounding soil. This site is currently under an asphalt road and parking lot. The Laboratory deems a depth interval of 4–5 ft to be sufficient to reach the native soil/rock and to

identify any vertical contamination, if present. Text has been added to section 5.28 for clarification. The following note has been added to Table 5.28-1: “The sampling depth will be adjusted if fill material is encountered during sampling, and only native soil will be sampled.”

NMED Comment

19. Section 5.29.3, Scope of Activities for AOC 16-024(j), page 46:

See comment 18.

LANL Response

19. See response to Comment 18. Text has been added to section 5.29 for clarification. The following note has been added to Table 5.29-1: “The sampling depth will be adjusted if fill material is encountered during sampling, and only native soil will be sampled.”

NMED Comment

20. Section 5.39.3, Scope of Activities for SWMU 16-025(w), page 53:

Include discussion about whether analyses of soil samples for nitrocellulose should be proposed and the utility of using nitrate analysis as an indicator of possible nitrocellulose contamination.

LANL Response

20. Nitrocellulose will not be added to the analytical suites for SWMU 16-025(w) because no U.S. Environmental Protection Agency– (EPA-) approved analytical method is available for nitrocellulose. Further, nitrocellulose is not a contaminant as defined in the Compliance Order on Consent (the Consent Order), nor is it included in the list of explosive compounds (Consent Order Table III-1), which constitutes the analytical suite used in investigations at the Laboratory.

    Nitrate may be present in the environment as a result of degradation of nitrocellulose. If present, nitrate would be detected by the analysis proposed for this site. Other sources of nitrate exist, however, and the detection of nitrate is not a definitive indicator of a nitrocellulose release.

    The text in section 5.39.3 has been revised to explain no analytical method is available for nitrocellulose, and analysis for nitrate is not a definitive indicator of nitrocellulose releases.

NMED Comment

21. Section 5.40.1.3, Scope of Activities for SWMU 16-025(y), page 54:

Text in Section 5.40.2 (SWMU 16-029(a2)) indicates building 16-55 was used for HE grinding while the text in Section 5.40.1 (SWMU 16-025(y)) indicates it was used for grinding barium nitrate. Review the text statements and revise the Plan as needed for consistency.

LANL Response

21. The text in section 5.40.2 has been revised to read as follows: "SWMU 16-029(a2) consists of two former sumps and an outfall that served the former barium nitrate–grinding facility (building 16-55) at TA-16." Because barium nitrate is a component of explosives, but not an explosive itself, the text in section 5.40.2 has also been revised from "two former HE sumps" to "two former sumps."

NMED Comment

22. Section 5.43.3.3, Scope of Activities for SWMU 16-017(x)-99, first paragraph, first sentence, page 60:

Permittees' Statement: *"Ten surface and subsurface samples will be collected from five locations—one within the footprint and five around the footprint (Plate 6)."*

NMED Comment: *As described in the statement, there would be six locations total. There are four sampling locations shown on Plate 6 which are located outside of the footprint of the former magazine and one location within the footprint. Revise the text or the figure for consistency.*

LANL Response

22. The text in section 5.43.3.3 has been revised to read "four around the footprint."

NMED Comment

23. Section 5.44.3, Scope of Activities for SWMU 16-026(s), first and second paragraphs, pages 68 and 69:

Include an additional sample location at the 90 degree pipe bend located approximately ten feet northeast of sample location 26s-1. Sampling at location 26s-1 must not be limited to the upper 12 inches of soil. If the drain pipe is found, the additional sample location and location 26s-1 must be sampled immediately below the line and five feet below that sample interval. If the line is not found, these two locations must be sampled from four to five feet and nine to ten feet bgs.

LANL Response

23. An additional sampling location (26s-2) has been added at the 90-degree pipe bend located approximately 10 ft northeast of sampling location 26s-1. The text in section 5.44.3, Figure 5.44-2, and Table 5.44-1 have been revised accordingly.

    Sampling at location 26s-1 is not limited to the upper 12 in. of soil. As stated in section 5.44.3 and presented in Table 5.44-1, two deeper depths were proposed at location 26s-1: immediately below the line and 5 ft below the first depth, or 4–5 ft and 9–10 ft bgs if the line is not in place. No revision is necessary.

NMED Comment

24. Section 5.45.3, Scope of Activities for SWMU 16-026(u), third paragraph, page 70:

Add TPH-GRO to the analyte list for all samples collected at this SWMU.

LANL Response

24. TPH- gasoline range organic (GRO) and TPH-ORO (per Comment 25) have been added to the analytical suite for samples collected at SWMU 16-026(u). The text in section 5.45.3 and Table 5.45-4 have been revised accordingly.

NMED Comment

25. Section 5.45.3, Scope of Activities for SWMU 16-026(u), last paragraph, page 70:

Permittees' Statement: *"Existing sampling locations are within the building footprint where confirmation samples were collected after removal of the building. These existing samples are not applicable to define the nature and extent of contamination of the drainline and outfall of SWMU 16-026(u)."*

NMED Comment: *The building the Permittees' statement refers to is former building 16-195 which was located approximately 95 feet northwest of SWMU 16-026(u).*

NMED agrees with the Permittees' statement that the samples collected from locations within the former building footprint "are not applicable" in the sense that the footprint sample data are insufficient to evaluate the former service station since the deepest sample collected was 18 inches bgs and the base of the separator was reported as being three feet deep. The samples would also not be useful in evaluation of the drain line and outfall.

Additional sample locations must be proposed within the former building footprint. Sampled intervals must be deep enough to suitably characterize potential impacts from the oil/water separator and TPH-GRO, -DRO, and -ORO must be added to the analytical suites for this SWMU.

LANL Response

25. The former oil-water separator has been added to the site map for SWMU 16-026(u) (Figure 5.45-1), the analytical data maps (Figures 5.45-2 and 5.45-3), and the proposed sampling map (Figure 5.45-4). A proposed sampling location (26u-7) has been added at the footprint of the oil-water separator (Figure 5.45-4). This location will be sampled from two depths (4–5 ft and 9–10 ft bgs). The text in section 5.45.3, Figure 5.45-4, and Table 5.45-4 have been revised accordingly.

    TPH-GRO and TPH-ORO have been added to the analytical suite for samples collected from SWMU 16-026(u). The text in section 5.45.3 and Table 5.45-4 have been revised accordingly.

    As a result of revisions to the site features for SWMU 16-026(u), the following related figures have also been revised: Figures 5.1-1 through 5.1-4, 5.27-1, 5.27-2, 5.63-1, and 5.63-2.

NMED Comment

26. Section 5.46.3, Scope of Activities for AOC 16-026(y), last paragraph, page 70:

Permittees' Statement: *"Because building 16-411 is an active facility, characterization of the drainline will be delayed until the building is deactivated."*

NMED Comment: *The Permittees have not provided justification for delay of characterization of the drain line segment located outside of the building. The Permittees must either propose several*

sample locations between the building and outfall or provide sound technical justification(s) for not doing so.

LANL Response

26. Four sampling locations have been added along the drainline, starting at the joint after the pipes exit the building, at approximately 60 ft apart along the drainline. Samples will be collected from three depths (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth) at the three locations inside the security fence and from two depths (at the base of the drainline and 5 ft below the first sampling depth) at the location outside the security fence. Section 5.46.3, Figure 5.46-2, and Table 5.46-1 have been revised accordingly.

    Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as "deviations" in the investigation report.

NMED Comment

27. Section 5.47.3, Scope of Activities for AOC 16-027(c), first paragraph, page 71:

NMED cannot determine what sampling depths are appropriate at this AOC with the limited information provided in the Plan. According to the Plan, several sampling and clean-up efforts were conducted at the site in 1987, 1989, and 1992. These efforts included removal of the transformer, the associated concrete pad, and 691 cubic feet (approximately 25 cubic yards) of soil. The Plan indicates site cleanup was considered complete when soil concentrations were below 25 parts per million (ppm). New Mexico Soil Screening Levels (NMED SSLs) are much lower than 25 ppm for the seven Aroclor congeners and even lower for the 14 PCB congeners in the current NMED SSL listings. In addition, Section VIII.B.1.a of the Consent Order establishes a default PCB soil cleanup level of one ppm.

Provide information on previous soil removal locations and depths and review current proposed sample locations and sample depths relative to where fill was used to replace excavated PCB-affected soil. Native soil must be sampled at this AOC; sampling fill to characterize historical contaminant releases is not acceptable in this instance regardless of its origin.

LANL Response

27. Information on excavation depth has been added to section 5.47.1. The proposed sampling plan has been revised to cover an approximate 30- × 40-ft area that was grid-sampled during cleanup efforts. The starting sampling depth has been modified to 1–2 ft bgs, and text has been added to state fill material will be avoided during sampling. The text in section 5.47.3, Figure 5.47-2, and Table 5.47-1 has been revised accordingly.

    After examining previous cleanup records, the Laboratory reviewed the current location of the existing non-PCB transformer (structure 16-563) against a new aerial photo that shows the current transformer is situated to the south-southwest of the former location of the AOC 16-027(c) transformer. This location agrees with the site description that the new transformer was placed in the southern portion of the fenced area. Figure 5.47-1 has been revised accordingly.

NMED Comment

28. Section 5.48.3, Scope of Activities for AOC 16-027(d), first paragraph, page 72:

Because little is known about the history of this AOC, including how and when the transformer and associated pad were removed, actual sample locations may need to be adjusted in the field to avoid sampling post-removal, imported fill material. See comment 27.

LANL Response

28. The starting sampling depth has been modified to 1–2 ft bgs, and text has been added to section 5.48.3 stating fill material will be avoided during sampling.

    While the site features map for AOC 16-027(c) was being modified, it was discovered that the former fence around AOC 16-027(d) was depicted incorrectly in Figures 5.47-1 and 5.47-2. The site features for AOC 16-027(d) have been modified to show the correct location of the former fence. Upon reviewing this modification, the Laboratory added three additional sampling locations outside the former fence (27d-6, 27d-7, and 27d-8), and location 27c-8, proposed for AOC 27-027(c), will be used to define the nature and extent of contamination to the west of structure 16-569. The text in section 5.48.3, Figures 5.47-1 and 5.47-2, and Table 5.48-1 have been revised accordingly.

NMED Comment

29. Section 5.49.3, Scope of Activities for SWMU 16-028(b), first three paragraphs, page 73:

Add text indicating that sample locations from SWMU 16-026(a) and 16-016(g) will provide additional information down slope of the SWMU 16-028(b) outfall.

LANL Response

29. The following text has been added to section 5.49.3: "The drainage farther downgradient will be characterized by sampling at SWMUs 16-016(g) and 16-026(a)."

NMED Comment

30. Section 5.50.1.3 Scope of Activities for SWMU 16-029(b2), third paragraph, last line, page 74:

Permittees' Statement: *"Additionally, a surface sample (0–1 ft bgs) will be collected at proposed sampling location 29b2-1 to characterize the nature and extent of contamination to the east side of building footprint (AOC C-16-005)."*

NMED Comment*: There may be a typographical error in the statement. As illustrated on Figure 5.50-2, proposed sample location 29b2-1 is positioned on the southwest side of former building 16-53. Sample locations 5-3 and 5-4 (associated with AOC C-16-005) provide coverage on the east side of the former building. Review the statement and figure and revise as needed for consistency.*

LANL Response

30. The text in section 5.50.1.3 has been revised to state "a surface sample (0–1 ft bgs) will be collected at proposed sampling location 29b2-1 to characterize the nature and extent of contamination southwest of the building footprint."

NMED Comment

31. Section 5.51.1, SWMU 16-005(e) – Former Septic System, third sentence, page 75:

Permittees' Statement: *"A 6-in.-diameter VCP drainline exited building 16-37 on the northwest corner and connected to the septic tank inlet (LANL 1994, 039440, pp. 5-387–5-388)."*

NMED Comment*: As illustrated on associated Figures 5.51-1 and 5.51-2 (Site features of Consolidated Unit 16-029(c2)-99 [SWMU 16-005(e), AOC 16-015(c), SWMU 16-025(z), and SWMU 16-029(c2)] and, Proposed sampling locations for Consolidated Unit 16-029(c2)-99 [SWMU 16-005(e), AOC 16-015(c), SWMU 16-025(z), and SWMU 16-029(c2)], respectively), the line exits from the approximate center of the north side of building 16-37 rather than the northwest corner of the building. Edit the text or the figures for consistency. If the figures are edited, this comment would also be applicable to the two figures which follow Figure 5.51-2.*

LANL Response

31. Figure 5.51-1 and subsequent Figures 5.51-2, 5.51-3, and 5.51-4 have been revised to show the drainline exits the northwest corner of the building. The text in section 5.51.1 is correct. The text in section 5.51.1.3 has been revised to state "a surface sample (0–1 ft bgs) will be collected at proposed sampling location 5e-1 to characterize the nature and extent of contamination to the northwest of the building footprint [SWMU 16-025(z)]."

    Because proposed sampling location 5e-1 is now sited at the northwest corner of the building footprint, an additional sampling location (25z-5) has been proposed for SWMU 16-025(z) to define the nature and extent of contamination north of the building footprint. The text in section 5.51.3.3, Figure 5.51-2, and Table 5.51-6 have been revised accordingly.

    As a result of revisions to the site features for SWMU 16-005(e), the following related figures have also been revised: Figures 5.32-1, 5.32-2, 5.40-1, 5.40-2, 5.40-3, 5.50-1, 5.50-2, and 5.50-3.

NMED Comment

32. Section 5.52.1.1, Summary of Previous Investigations for SWMU 16-026(h2) and Section 5.52.1.2, Summary of Data for SWMU 16-026(h2), page 78:

Permittees' Statements: "*No previous investigation has been conducted at this site." and "No decision-level data are available at this site."*

NMED Comment*: Although NMED was unable to locate an associated data summary table(s) for this SWMU, Figure 5.52-2 (Proposed sampling locations for SWMU 16-026(h2)), page 255, shows several previous sample locations. Figure 5.52-3 (Inorganic chemicals detected above [background values] BVs at SWMU 16-026(h2)), page 256, lists metal concentrations for four of those locations and Figure 5.52-4 (Organic chemicals detected at SWMU 16-026(h2)), page 257, lists various*

organics concentrations at six of the locations. Organic compounds listed include some VOCs, SVOCs (primarily polycyclic aromatic hydrocarbons (PAHs)), and explosive compounds.

If the data provided on the figures are decision-level data, provide data summary tables and revise the text for consistency. Consider whether or not the data changes the Permittees' proposed sampling approach, including proposed sample depths and proposed analytical suites. If the data were intended to be presented in the Plan, delete the figures containing the metals and organic compound data.

LANL Response

32. The text in sections 5.52.1.1 and 5.52.1.2 is correct. However, the captions for Figures 5.52-3 and 5.52-4 are incorrect: the historical data are associated with SWMU 16-029(e) and not with SWMU 16-026(h2). Figures 5.52-3 and 5.52-4 have been revised, and the figure captions have been revised to read, "Inorganic chemicals detected above BVs at SWMU 16-029(e)" and "Organic chemicals detected at SWMU 16-029(e)," respectively. No revision to the text or tables is necessary.

NMED Comment

33. Section 5.52.2.3, Scope of Activities for SWMU 16-029(e), first paragraph, page 80:

Permittees' Statement: "*Twelve samples will be collected from five locations at the outfall and in the drainage (Figure 5.52-2)."*

NMED Comment*: NMED is unable to determine if the sample locations are appropriate because none are shown on the figure for SWMU 16-029(e). The referenced figure shows proposed sample locations for SWMU 16-026(h2). Review the text and revise as needed for clarity. Revise the figure to show the sample locations. Note that Figures 5.52-3 and 5.51-4 also pertain to SWMU 16-026(h2).*

LANL Response

33. The proposed sampling locations for SWMU 16-029(e) were inadvertently omitted from Figure 5.52-2. Proposed sampling locations have been added to Figure 5.52-2 for SWMU 16-029(e), and the figure caption has been revised to read, "Proposed sampling locations for Consolidated Unit 16-029(e)-00 [SWMU 16-026(h2) and SWMU 16-029(e)]." No revision to the text or tables is necessary.

NMED Comment

34. Section 5.52.2.3, Scope of Activities for SWMU 16-029(e), last paragraph, page 80:

Permittees' Statement: "*Because building 16-360 is an active facility, characterization of the sump and its associated drainline will be delayed until the building is deactivated."*

NMED Comment*: The Permittees have not provided any justification for delaying investigation of the building 16-360 sump and associated drain line. According to Section 5.52.2 of the Plan (SWMU 16-029(e)—Sump and Outfall), the sump outlet was plugged in the 1990s. While the Plan indicates the building is in active use, past-tense statements in the Plan indicate the sump is no longer in use.*

Absent possible safety concerns due to past use and the possible presence of HE in the sump, NMED believes the sump and drain line could be removed during field activities. Post-removal

confirmation sampling must be conducted or the structures must be otherwise characterized during future field work conducted at the SWMU. Whether removed or not, sample locations must be proposed to evaluate the sump, its inlet and outlet and the drain line. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the sump and associated drain line.

LANL Response

34. Three sampling locations have been added next to the sump and along the drainline—one at the sump exit, one on the southeast side of the sump, and one at approximately 30 ft away from the sump. Samples will be collected from three depths (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth). Section 5.52.2.3, Figure 5.52-2, and Table 5.52-5 have been revised accordingly. In the absence of data indicating a need, removing the sump and drainline associated with an active building is premature.

    Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as "deviations" in the investigation report.

NMED Comment

35. Section 5.53.1.3, Scope of Activities for SWMU 16-021(a), last paragraph, page 82:

Permittees' Statement: *"Because building 16-450 is an active facility, characterization of the drainline will be delayed until the building is deactivated."*

NMED Comment*: The Permittees have not provided any justification for delaying investigation of the drain line which is associated with the materials testing laboratory in building 16-450. Although the Plan does not provide information concerning whether or not the inlet to the line is plugged, NMED assumes it is, since the outfall for the line is no longer operative.*

Absent possible safety concerns due to past use(s) and the possible presence of HE in the line, NMED believes the drain line could be removed during field activities. Post-removal confirmation sampling must be conducted or the line must otherwise be characterized during future field work activities at the SWMU. Whether removed or not, sample locations must be proposed to evaluate the drain line and its inlet and outlet. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain line.

LANL Response

35. Five sampling locations have been added along the drainline, starting as close as possible to the building, at the pipe bend, and at three other locations at approximately 80 ft apart. Samples will be collected from three depths (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth) at the three locations inside the security fence and from two depths (at the base of the drainline and 5 ft below the first sampling depth) at the two locations outside the security fence. Section 5.53.1.3, Figure 5.53-4, and Table 5.53-4 have been revised accordingly. In the absence of data indicating a need, removing the drainline associated with an active building is premature.

Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as "deviations" in the investigation report.

NMED Comment

36. Section 5.53.3.3, Scope of Activities for SWMU 16-029(g), last paragraph, page 83:

Permittees' Statement: "*Because building 16-450 is active, characterization of the sump and its associated drainline will be delayed until the building is deactivated. The outfall and the drainage will be characterized by sampling at SWMU 16-028(e)."*

NMED Comment*: The Permittees have not provided justification for delaying investigation of the removed sump and drain lines associated with the materials testing laboratory in building 16-450. Although the Plan does not provide information concerning whether or not the inlet to the sump is plugged, NMED assumes it is, since the outfall for the line is no longer operative.*

Absent possible safety concerns due to past use and the possible presence of HE in the line, NMED believes the sump and drain lines could be removed during field activities. Post-removal confirmation sampling must be conducted or the lines and sump must otherwise be characterized during future field work conducted at the SWMU. Whether the structures are removed or not, sample locations must be proposed to evaluate the sump and drain lines and their inlet and outlet. Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain line.

LANL Response

36. The drainline will be located and will be removed if it is found. Four sampling locations have been added at the former sump and along the drainline. Samples will be collected from three depths at the former sump (8–9 ft, 11–12 ft, and 14–15 ft bgs) and three depths along the drainline (at the base of the drainline, 5 ft below the first sampling depth, and 10 ft below the first sampling depth). Section 5.53.3.3, Figure 5.53-4, and Table 5.53-9 have been revised accordingly. Because the sump of SWMU 16-029(g) had been removed, Figures 5.53-1 through 5.53-4 have been revised to show the correct footprint of the former structure.

    Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation. Such cases will be documented as "deviations" in the investigation report.

NMED Comment

37. Section 5.54.2.3, Scope of Activities for SWMU 16-025(a2), first paragraph, page 85:

Because the building was built in 1944 and removed in 1960, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

LANL Response

37. The building was built at grade. The topography at TA-16 is relatively flat, and there is no longer any evidence of the berm that once covered the building. The berm material is indistinguishable from the surrounding soil. The Laboratory deems a depth interval of 4–5 ft to be sufficient to reach the native soil/rock and to identify any vertical contamination if present. Text has been added to section 5.54.2 for clarification. The following note has been added to Table 5.54-8: "The sampling depth will be adjusted if fill material is encountered during sampling, and only native soil will be sampled."

NMED Comment

38. Section 5.54.3.3, Scope of Activities for SWMU 16-025(b2), first paragraph, page 86:

Because the building was built in 1944 and removed in 1960, useful construction (or demolition) records may not be available to determine if the proposed sample intervals are adequate for the investigation. Provide available information to support the proposed sample depths.

LANL Response

38. The building was built at grade. The topography at TA-16 is relatively flat, and there is no longer any evidence of the berm that once covered the building. The berm material is indistinguishable from the surrounding soil. The Laboratory deems a depth interval of 4–5 ft to be sufficient to reach the native soil/rock and to identify any vertical contamination if present. Text has been added to section 5.54.3 for clarification. The following note has been added to Table 5.54-12: "The sampling depth will be adjusted if fill material is encountered during sampling, and only native soil will be sampled."

NMED Comment

39. Section 5.57.3, Scope of Activities for SWMU 16-031(a), last paragraph, page 103:

The cooling tower portion of this SWMU was destroyed in the Cerro Grande Fire in 2000. Dioxin/furan analyses must be added to the analytical suites for proposed sample locations 6c-13, 6c-14, and 6c-15. The Permittees may propose to limit those analyses to the upper one or two sample intervals due to the relatively low mobility of the compounds in soil.

LANL Response

39. Proposed sampling locations 6c-13, 6c-14, and 6c-15 bound the outfall of SWMU 16-006(c), while proposed sampling locations 31a-4, 31a-5, and 31a-6 bound the outfall of the cooling tower of SWMU 16-031(a) (Figure 5.12-4). The Laboratory believes that NMED intended to comment on proposed sampling locations 31a-4, 31a-5, and 31a-6 and not on sampling locations 6c-13, 6c-14, and 6c-15.

    The investigation work plan proposes sampling suites intended to characterize possible contamination from past operations at a site (i.e., discharges from the cooling tower). Chlorine-bearing compounds are not likely to be associated with the operation of the cooling tower. In addition, analyzing the potential consequences of an event such as the 2000 Cerro Grande fire is beyond the scope of activities for this work plan and of the Consent Order. No revision to text has been made.

NMED Comment

40. Section 5.58.3, Scope of Activities for SWMU 16-031(e), second paragraph, page 103:

The Permittees have not provided justification for delaying investigation of the drain lines which are associated with the former chlorination building, 16-560. The Plan does not provide information concerning the current use of building 16-560 and whether or not the inlets to the drain lines are plugged.

NMED believes the drain lines could be removed during field activities. Post-removal confirmation sampling must be conducted or the lines must otherwise be characterized during future field work conducted at the SWMU. Whether the lines are removed or not, sample locations must be proposed to evaluate the drain lines and their inlet(s) and outlet(s). Alternatively, the Permittees must provide sound technical and/or safety-related rationales for delaying investigation of the drain lines.

LANL Response

40. The third sentence in section 5.58 incorrectly used the past tense. Instead, it should read "the outfall receives effluent" because the chlorination station is an active facility. A statement has been added to section 5.58.3 indicating "…the drainlines are currently in service." No sampling is proposed along the drainlines because the drainlines are active.

NMED Comment

41. Section 5.59.3, Scope of Activities for AOC 16-033(a), page 104:

Permittees' Statement: "*No activities are proposed for AOC 16-033(a) because the former UST was regulated, removed, and characterized under the guidelines of the NMED UST Bureau. The NMED UST Bureau currently has the administrative authority of the site."*

NMED Comment: *The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's PSTB. That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.*

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings, sample collection intervals, and associated chemical analyses to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.

LANL Response

41. As noted in the work plan, AOC 16-033(a) was closed under regulatory requirements in effect at the time. Per the no further action (NFA) criteria established under Module VIII, closure under an alternate regulatory program could be used as a criterion for recommending NFA. Other similar USTs elsewhere at the Laboratory were recommended for NFA on this basis, and NFA was approved by EPA and/or NMED. AOC 16-033(a) was recommended for NFA in Addendum 2 to the Operable Unit 1082 Resource Conservation and Recovery Act facility investigation work plan (LANL 1995, 057225) using this criterion. However, the Laboratory never received comments on this work plan addendum from NMED. Absent any documentation of the Petroleum Storage Tank Bureau's concurrence with the adequacy of the closure, the Laboratory will conduct additional sampling at AOC 16-033(a) to characterize the nature and extent of potential contamination.

    Section 5.59.3 has been revised to state that 12 subsurface samples will be collected from three locations—one within, one to the northeast, and one to the southeast of the footprint of the former UST. Samples will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). Figure 5.59-2 and Table 5.59-1 have been added accordingly.

NMED Comment

42. Section 5.60.1, Summary of Previous Investigations for AOC 16-033(b), fourth and fifth lines, page 104 and Section 5.60.3, Scope of Activities for AOC 16-033(b), page 105:

Permittees' Statements: "*Samples were collected and analyzed at an on-site laboratory. The analytical results of the samples collected from the locations between building 16-195 and UST 16-1465 showed elevated levels of BTEX at 65 ft bgs (LANL 1995, 057225, pp. 6-40–6-43)." and, "No activities are proposed for AOC 16-033(b) because the former UST was regulated, removed, and characterized under the guidelines of the NMED UST Bureau in compliance with the UST regulations in effect at the time."*

NMED Comment: *The Plan indicates the Permittees are not proposing activities to evaluate the AOC even though no decision-level analytical data are available for the site. The Permittees have not received a Corrective Action Complete determination for this site. The reason given by the Permittees for not evaluating the AOC is that prior site activities were performed in accordance with requirements of NMED's PSTB. That reasoning is not applicable to SWMU, AOC, or CU evaluations required under the Consent Order. The Permittees must comply with the Consent Order and all applicable regulations at sites where releases of contaminants have or are suspected to have occurred.*

The Permittees must revise the Plan and propose a suitable number of appropriately placed soil borings. Sample collection intervals and associated chemical analyses also must be proposed to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes. The proposed sample locations and depth intervals must be selected to define the vertical and horizontal nature and extent of the release at this AOC.

LANL Response

42. AOC 16-033(b) is former storage tank 16-0196. As noted in the response to Specific Comment 17, the Laboratory proposes additional sampling at the location of tank 16-0196 to collect data NMED previously requested. Section 5.60.3 has been revised to state that 16 subsurface samples will be collected from four locations—one within and three around the footprint of the former UST. Samples

will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). A new Table 5.60-1 has been added accordingly, and proposed sampling locations have been added to Figure 5.27-3.

NMED Comment

43. Section 5.65, AOC 16-033(k) – Underground Storage Tank, last sentence, page 107:

Permittees' Statement: "*The tank was discovered during construction activities in 1996 and was given the SWMU number 16-033(k) (LANL 1996, 055066)."*

NMED Comment: *The Plan describes the UST as being designated an AOC rather than as a SWMU. Review the Plan and revise it as needed to clarify whether the site is an AOC or SWMU.*

LANL Response

43. In 1996 , the Laboratory sent to NMED a letter notifying the administrative authority of the discovery of a new SWMU (LANL 1996, 055066). NMED did not add this site to Module VIII of Laboratory's Hazardous Waste Facility Permit. Since 1996, the Laboratory has referred to sites included in Module VIII as SWMUs and those not in Module VIII as AOCs. Thus, this tank is currently identified as AOC 16-033(k). The text has been revised to remove the reference to "SWMU."

NMED Comment

44. Section 5.65.3, Scope of Activities for AOC 16-033(k), page 107:

Permittees' Statement: *"The site will be surveyed to specify the exact location of the tank. The AOC boundary will be updated based on the survey results if the tank is in place. Characterization of the site is proposed to be delayed because this is the central area providing water supply to various locations and in order to avoid utility lines, the number of locations that could be sampled is inadequate to define nature and extent of contamination at the site."*

NMED Comment: *NMED agrees that the number of sample locations that could be sampled will likely be inadequate to determine nature and extent of contamination at the AOC. However, NMED does not agree that delay of all characterization work for the site is appropriate, given the uncertainty concerning when the site could be fully characterized.*

According to the legend in Figure 5.59-1, the utilities most likely to be potentially affected by site characterization activities are communication lines, although the figure does not indicate whether the line(s) are buried or above ground. The Permittees have indicated the UST was discovered during construction activities in 1996. Indicate in the revised Plan whether or not the construction activities involved laying the communication line that appears to cross over the UST as indicated on the figure. The Permittees have also indicated the site will be surveyed to determine the exact location of the AOC. The exact location(s) of site utility lines that may be affected by subsurface activities must also be determined during site activities undertaken to implement the Plan.

Review and revise the Plan to include the expanded site survey work and placement of two to four soil borings near or adjacent to the surveyed UST. Include proposed sample intervals and chemical analytical suites as proposed in the Plan for AOC 16-033(i).

LANL Response

44. The Laboratory believes NMED intended to comment on Figure 5.58-1 [Site features of SWMU 16-031(e) and AOC 16-033(k)] and not on Figure 5.59-1 [Site features of AOC 16-033(a)]. The AOC 16-033(k) UST was discovered during construction activities, and this AOC is surrounded by underground water pipes (Figure 5.58-1). The communication line referred to in the comment is shown to cross over the former AOC 16-033(a) UST in Figure 5.59-1.

    Section 5.65.3 has been revised to state the UST will be removed if it is found in place, and confirmation samples will be collected. After the tank is removed or if the tank is not found, 12 subsurface samples will be collected from three locations—one within and two near the footprint of the former UST (Figure 5.58-2). Samples will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). Table 5.65-1 has added accordingly, and proposed sampling locations have been added to Figure 5.58-2.

NMED Comment

45. Section 5.67.3, Scope of Activities for AOC C-16-020, page 108:

Permittees' Statement: *"No investigation or sampling is proposed for AOC C-16-020 because there is no evidence or history of any release of hazardous constituents at this site."*

NMED Comment: *Although the Plan indicates the former office building (16-22) was moved offsite in 1961, associated Figure 5.67-1 shows a sewer line which enters the building footprint near the northeast building corner and which appears to have serviced the former building during its operation. The sewer line entering the former building appears to be (or has been) connected to lines serving existing buildings located north, south, east and west of this AOC. Provide a discussion in the Plan concerning whether the line entering former building 16-22 may have been affected by past or present activities associated with those existing buildings. If the Permittees' records review indicates the line could have been affected by operations in those existing buildings, the Permittees must propose placement of one or more soil borings to evaluate possible affects in and near the footprint of former building 16-22.*

LANL Response

45. Although the Laboratory's Geographic Information System database shows an overlap of the building and the sewer line, a 3-ft margin of error occurs in the database for both the building and the sewer line. The sewer line that flows from building 16-16 (the former S-Site cafeteria, now offices) passes east of the 16-22 footprint and then flows south. Because the sewer line from building 16-16 conveyed only sanitary wastewater from a cafeteria, releases of hazardous constituents to the footprint of building 16-22 are not likely. The other sewer lines to the east and south of building 16-22 all flow south and away from the building. Building 16-22 is not shown to be connected to any sewer line in the only engineering drawing existing for building 16-22, which was used to generate the site map of this AOC. Therefore, no revision is necessary.

NMED Comment

46. Section 5.69.1, Summary of Previous Investigations for AOC C-16-030, page 109:

NMED Comment: *This section indicates diesel contaminated soil was found in or near former building 16-7 while utilities to the building were being disconnected. Add a discussion to the section*

indicating whether or not soil removal actions were initiated after the discovery. If removal actions were undertaken, provide a description of them.

LANL Response

46. Investigation samples were collected, but no excavation was conducted. The following text has been added to section 5.69.1: “Site characterization, however, did not involve excavation of contaminated soil.”

NMED Comment

47. Section 5.70.3, Scope of Activities for AOC C-16-031, page 110:

Although NMED does not object to the proposed sample locations that will be located within the footprint of former building 16-7 (previously a steam plant / machine shop), NMED noted that no sample locations are proposed north and west of former sample location 16-27021. That sample was reported to contain TPH-DRO at a concentration of 15,000 ppm at a depth of six to six and one-half feet bgs within the former building footprint. A sample location (16-600642) placed approximately five feet (or less) east of 16-27021 contained TPH-DRO at 290 ppm at the same sample depth and a concentration of 330 ppm at 11 to 11.5 feet bgs. This suggests that neither horizontal or vertical extent was defined during the 2003 and 2007 sampling efforts. All sample locations that were affected by TPH-DRO were found in Cooling Unit 3 of the Bandelier Tuff, also known as QBT3. The Permittees must propose additional sample locations north and west of previous sample location 16-27021.

LANL Response

47. Proposed sampling location 31-6 has been moved to the north of location 16-27021, and a new sampling location (31-15) has been added to the west of location 16-27021. The text in section 5.70.3, Figure 5.69-4, and Table 5.70-1 have been revised accordingly.

NMED Comment

48. Section 5.73.3, Scope of Activities for AOC C-16-046, page 112:

Permittees’ Statement: “*No investigation or sampling is proposed for AOC C-16-046 because there is no evidence or history of any release of hazardous constituents at this site.”*

NMED Comment*: Discussion in Plan Section 5.4 (Consolidated Unit 16-003(c)-99) indicates building 16-460 is a decommissioned analytical chemistry laboratory which is also associated with an HE sump (SWMU 16-003(c)) located on the north side of the building. SWMU 16-026(v) is an outfall located approximately 60 feet down slope and southeast of the building. According to Section 5.4.2.2 of the Plan, samples collected from that SWMU in 1995 were reported to contain elevated metals concentrations, explosive compounds, PAHs, other SVOCs, and VOCs. NMED requires additional sampling at AOC C-16-046 in conjunction with the sampling efforts planned for SWMU 16-003(c) and SWMU 16-026(v).*

LANL Response

48. The contaminants present at the outfall of SWMU 16-026(v) are a direct result of discharges from the sump [SWMU 16-003(c)]. AOC C-16-046 is a former steam manhole removed in 1970, which was not connected to or associated with the sump, the drainline, or the outfall. The steam pipes carried distilled steam vapor and cool condensate water to and from the steam plant; this operation did not involve any hazardous constituent. Because the sump/sump outfall and the steam-supply system are not associated and no hazardous constituent is associated with the steam manhole, no sampling has been proposed. No revision is necessary.

NMED Comment

49. Section 5.78.3, Scope of Activities for AOC C-16-073, first and second paragraphs, page 115:

***Permittees' Statement**: "The site will be surveyed to specify the exact location of the tank. The AOC boundary will be updated based on the survey results if the tank is in place." and, "If the tank is not in place, 20 subsurface samples will be collected from five locations—one within and four around the footprint of the former UST (Figure 5.78-2). Samples will be collected from four depths (4–5 ft, 9–10 ft, 14–15 ft, and 24–25 ft bgs). If the tank is in place, samples will be collected only from the four locations around the tank."*

***NMED Comment**: The sewer line that runs through the southern third of the UST (or excavated tank basin) must be included as part of the proposed survey of the AOC boundary. If the UST is in place, the Permittees must revise the statement to indicate it will be removed and that post-removal, confirmation samples will be collected to verify that a release has not occurred at this AOC. All samples must be analyzed for the same analytical suite discussed in the third paragraph of Section 5.78.3 regardless of whether the tank is present or not*

If the tank is no longer present, the usefulness of a sample collected from four to five feet bgs within the basin is questionable, since the excavated basin would have been deeper than five feet and would likely have been backfilled with soil of unknown origin(s).

Alternatively, the Permittees may present sound technical or safety-related justification(s) for not removing the tank. Justification for collection of a soil sample from four to five feet bgs within the tank basin must also be provided whether or not the tank is, or will be, removed.

LANL Response

49. The line shown in Figure 5.78-2 and described in the NMED's comment as running through the southern third of the UST is not a sewer line. Rather, it denotes the edge of a paved road and is not associated with the water line that enters the north side of building 16-200.

    The text in section 5.78.3 has been revised to state the UST will be removed if it is found in place and confirmation samples will be collected. Samples will be collected from four depths (beneath the bottom of the tank, 9–10 ft, 14–15 ft, and 24–25 ft bgs).

NMED Comment

50. Figure 5.27-1, Site features of AOC 16-022(b) and AOC 16-033(b), page 202, Figure 5.45-3, Organic chemicals detected at SWMU 16-026(u), page 238, and Figure 5.63-2, Proposed sampling locations for AOC 16-033(i) and AOC 16-033(j), page 274:

The SWMU is mislabeled on the figures as AOC 16-026(u). Review and edit all figures as needed. Note that NMED did not search all figures for this SWMU.

LANL Response

50. The designation for 16-026(u) in Figures 5.27-1, 5.27-2, 5.45-3, 5.63-1, and 5.63-2 has been corrected from "AOC" to "SWMU."

NMED Comment

51. Table 5.4-4, Organic Chemicals Detected at SWMU 16-026(v), page 318

Add a footnote to the table defining what "TATB" is. Alternatively, add TATB to the Acronyms and Abbreviations list in Plan Appendix A-1.0, pages A-1 and A-2. NMED noted that the Acronyms and Abbreviations list in the Plan is much shorter than the Acronyms and Abbreviations list in the Threemile Canyon Aggregate Area Investigation Report, which describes TATB.

LANL Response

51. A note has been added in the appropriate tables to define TATB, and the acronym has been added to Appendix A. The acronyms and abbreviations used in investigation work plan have been checked to ensure they are included in Appendix A.

REFERENCES

LANL (Los Alamos National Laboratory), July 1995. "RFI Work Plan for Operable Unit 1082, Addendum 2," Los Alamos National Laboratory document LA-UR-95-1038, Los Alamos, New Mexico. (LANL 1995, 057225)

LANL (Los Alamos National Laboratory), October 2, 1996. "Notification of a SWMU at TA-16," Los Alamos National Laboratory letter (EM/ER:96-531) to B. Garcia (NMED-HRMB) from J. Jansen (LANL ER Project Manager) and T. Taylor (DOE-LAAO), Los Alamos, New Mexico. (LANL 1996, 055066)

LANL (Los Alamos National Laboratory), September 2006. "Investigation Work Plan for Cañon de Valle Aggregate Area," Los Alamos National Laboratory document LA-UR-06-4960, Los Alamos, New Mexico. (LANL 2006, 091698)

LANL (Los Alamos National Laboratory), December 2007. "Investigation Work Plan for S-Site Aggregate Area, Revision 1," Los Alamos National Laboratory document LA-UR-07-8366, Los Alamos, New Mexico. (LANL 2007, 102216)

LANL (Los Alamos National Laboratory), December 2007. “Investigation Work Plan for Middle Cañada del Buey Aggregate Area, Revision 1,” Los Alamos National Laboratory document LA-UR-07-8316, Los Alamos, New Mexico. (LANL 2007, 102622)

LANL (Los Alamos National Laboratory), August 2010. “Historical Investigation Report for Upper Water Canyon Aggregate Area,” Los Alamos National Laboratory document LA-UR-10-5226, Los Alamos, New Mexico. (LANL 2010, 110410)

NMED (New Mexico Environment Department), June 27, 1994. “No Further Action Required at TA-16 for UST #TA-16-205,” New Mexico Environment Department letter to J. Vozella (DOE-LAAO) from A. Moreland (NMED-USTB), Santa Fe, New Mexico. (NMED 1994, 043565)

NMED (New Mexico Environment Department), March 8, 1999. “Requested Work at Los Alamos National Lab (LANL) Technical Area (TA) 16-197, Los Alamos, New Mexico,” New Mexico Environment Department letter to A. Puglisi (LANL ESH-19) from L. Goerger (NMED-USTB), Santa Fe, New Mexico. (NMED 1999, 073897)

Figure 1 Former structure 16-75 [SWMU 16-017(n)-99]

Cross-Reference of NMED NOD Comments and Revisions to Upper Water Canyon Aggregate Area Investigation Work Plan

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
General Comments				
1	State the proposed criteria for selecting the sample intervals for analyses of polychlorinated biphenyls (PCBs).	Sites where soil samples were proposed for PCB analyses	Section 6.8	Text has been added to section 6.8 stating three criteria are used to select sampling locations and depth intervals of samples to be submitted for PCB analysis.
2	Review the figure legends and correct typographical errors.	Various figures	Figure 5.47-1 Figure 5.47-2 Figure 5.49-1 Figure 5.49-2 Figure 5.49-3	Typographical errors have been corrected in the appropriate figures.
3	Collect and analyze soil samples for dioxin/furan congeners collected where wood-framed structures that were, or may have been, in contact with high explosives (HE) were destroyed by intentional burning at any solid waste management unit (SWMU), area of concern (AOC), or consolidated unit.	Approximately 36 sections describing sites where buildings, magazines, or other structures were destroyed by intentional burning	No revision	No revision to text has been made. The wood-framed structures did not contain any chlorine source and are not a potential source of dioxins and furans.
4	Submit a separate monitoring well work plan for the installation of new intermediate and regional monitoring wells required in the Upper Water Canyon Aggregate Area to monitor conditions in Technical Area 16 (TA-16). The work plans must be submitted by or before December 30, 2010, and must include a proposed schedule for completion.	Section 7.1	Section 7.1	Section 7.1 of the work plan has been revised to include the information on groundwater-monitoring wells downgradient of the Upper Water Canyon Aggregate Area. The Laboratory does not intend to submit the drilling work plans discussed in NMED's comment.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
Specific Comments				
5	Propose additional sampling locations along the east and west legs of the line, where the line exits the sump and at the two apparent pipe joints located where the line direction changes toward the outfall. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the structures.	Section 5.3.3	Section 5.2.3 Figure 5.2-4 Table 5.2-4 Section 6.1	Six sampling locations have been added next to the sump and along the drainline, starting at the sump exit, at approximately 50 ft apart along the drainline, and at the pipe bend. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.
6	Add total petroleum hydrocarbon (TPH) diesel-range organics (DRO) and TPH-oil-range organics (ORO) to the analytical suites for all samples collected at SWMU 16-030(h).	Section 5.5.2.3	Section 5.5.1.3 Table 5.5-2 Section 5.5.2.3 Table 5.5-5 Table 6.8-1	TPH-DRO and TPH-ORO have been added to the analytical suite for samples collected from SWMU 16-030(h). Because the SWMU 16 003(l) sumps also served pressing bays in the same building, these analytes have been added to the analytical suite for SWMU 16-003(l).
7	Propose additional sampling locations around the sump to a depth equal to the sump base and 5 ft below the first interval and adjacent to where the discharge line exits the sump at similar sample intervals. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the sump.	Section 5.6.1.3	Section 5.6.1.3 Figure 5.6-2 Table 5.6-1 Section 6.1	Section 5.6.1.3 has been revised to add three sampling locations next to the sump and along the drainline. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
8	Propose plugging the five floor drains in building 16-380 to prevent potential releases of HE or provide sound technical and/or safety-related rationale for not plugging the drains.	Section 5.6.2.3	No revision	No revision to text has been made. Requiring floor drains in an active building to be plugged is beyond the scope of the investigation work plan. Such activity is a facility function and is at the discretion of the facility management.
9	Provide justification(s) for limiting sampling depths to 2 to 3 ft at proposed sampling locations 6d-1, 6d-2, and 6d-3, located next to the drain field at SWMU 16-006(d).	Section 5.6.2.3	Section 5.6.2.3 Table 5.6-4	Samples will be collected at depths of 0–1 ft, 4–5 ft, and 8–9 ft below ground surface (bgs) at locations 6d-1, 6d-2, and 6d-3.
10	Revise the work plan to include information about the structure (if available). Propose locating the structure by trenching, removing the structure (if present), and performing sampling of soils beneath the excavated line. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the structure.	Section 5.10.3 Figure 5.10-2	Section 5.10.3 Figure 5.10-1 Figure 5.10-2 Table 5.10-1	The label “drain field” has been added in appropriate figures. The outlet drainline of tank 16-1132 will be located by trenching and will be excavated if found to be in place. An additional sampling location (5k-15) has been added to the west of 5k-14 to characterize the drainline to the west of the joint.
11	Add TPH-DRO and TPH-ORO to the analytical suites for all samples collected at SWMU 16-005(l).	Section 5.11.3	No revision	No revision to text has been made. Petroleum hydrocarbons were not associated with building operations.
12	Include a brief description of the steps that will be taken in the event asbestos or suspected asbestos-containing materials are encountered during sampling.	Section 5.17.3	No revision	No revision to text has been made. The integrated work document and the site-specific health and safety plan for the implementation of this work plan will address the potential for asbestos or asbestos-containing materials to be present at AOC 16-016(f).

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
13	Provide additional construction (or demolition) information concerning the SWMUs (all former storage magazines) described as having earthen berms on three sides and on the top of former wood-framed or reinforced concrete structures so NMED can evaluate whether the two proposed sampling intervals are adequate for the investigation.	Sections 5.19.3, 5.20.3, 5.21.3, 5.22.3, 5.23.3, and 5.24.3	Sections 5.19, 5.19.3, 5.20, 5.20.3, 5.21, 5.21.3, 5.22, 5.22.3, 5.23, 5.23.3, 5.24, and 5.24.3 Table 5.19-1 Table 5.20-1 Table 5.21-1 Table 5.22-1 Table 5.23-1 Table 5.24-1	Text has been added to explain that the storage magazines were built at grade, there is no evidence of the berms at the site, and the berm material is indistinguishable from the surrounding soil. A note has been added to the tables to indicate the sampling depth will be adjusted if fill material is encountered.
14	Add TPH-DRO and TPH-ORO to the analytical suites for all samples collected at the AOCs 16-021(b) and C-16-071.	Section 5.25.3 Table 5.25-1	Section 5.25.3 Table 5.25-1 Table 6.8-1	TPH-DRO and TPH-ORO have been added to the analytical suites.
15	Add TPH-DRO and TPH-ORO to the analytical suites for all samples collected at the AOCs 16-021(b) and C-16-071.	Section 5.25.3 Table 5.25-1	Section 5.25.3 Table 5.25-1 Table 6.8-1	TPH-DRO and TPH-ORO have been added to the analytical suites.
16	Propose a suitable number of appropriately placed soil borings and sample collection and analyses of appropriate sampling intervals to document and evaluate site conditions using decision-level laboratory data that can be used for risk assessment purposes.	Section 5.26.3	No revision	No revision to text has been made made. NMED's June 27, 1994, letter concluded that no further action is necessary for AOC 16-022(a). The Laboratory is unaware of any additional information that would indicate a threat posed by this site and warrant additional actions. Therefore, the conclusions made by NMED in 1994 remain valid, and no additional investigations are proposed for this site.
17	Propose a suitable number of appropriately placed soil borings and sample-collection intervals and associated chemical analyses to document and evaluate site conditions using decision-level laboratory data that can be used for risk-assessment purposes.	Section 5.27.3	Section 5.27.3 Figure 5.27-3 Table 5.27-3	Twenty subsurface samples will be collected from five locations from four depths.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
18	Provide available information to support the proposed sampling depths at AOC 16-024(i).	Section 5.28.3	Sections 5.28 and 5.28.3 Table 5.28-1	See response to Comment 13.
19	See comment 18.	Section 5.29.3	Sections 5.29 and 5.29.3 Table 5.29-1	See response to Comment 13.
20	Include discussion about whether analyses of soil samples for nitrocellulose should be proposed and the utility of using nitrate analysis as an indicator of possible nitrocellulose contamination.	Section 5.39.3	Section 5.39.3	The text in section 5.39.3 has been revised to explain no analytical method is available for nitrocellulose, and analysis for nitrate is not a definitive indicator of nitrocellulose releases.
21	Review the text regarding the sumps and the barium nitrate–grinding facility at SWMU 16-029(a2) and revise the work plan as needed for consistency.	Section 5.40.1, Section 5.40.2	Section 5.40.2	The text has been revised to state “the former barium nitrate–grinding facility (building 16-55)” and “former HE sumps” has been changed to “former sumps.”
22	Revise the text or the figure for consistency in the number of locations from which samples will be collected at SWMU 16-017(x)-99.	Section 5.43.3.3	Section 5.43.3.3	The text has been revised to read “four around the footprint.”
23	Include an additional sampling location at the 90-degree pipe bend located approximately 10 ft northeast of sampling location 26s-1. If the drain pipe is found, the additional sampling location and location 26s-1 must be sampled immediately below the line and 5 ft below that sample interval. If the line is not found, these two locations must be sampled from 4 to 5 ft and 9 to 10 ft bgs.	Section 5.44.3	Section 5.44.3 Figure 5.44-2 Table 5.44-1	An additional sampling location (26s-2) has been added. Sampling at location 26s-1 is not limited to the upper 12 in. of soil, and no revision is necessary.
24	Add TPH–gasoline range organic (GRO) to the analyte list for all samples collected at SWMU 16-026(u).	Section 5.45.3	Section 5.45.3 Table 5.45-4 Table 6.8-1	TPH-GRO and TPH-ORO (per Comment 25) have been added to the analytical suites.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
25	Propose additional sampling locations within the former building footprint. The intervals sampled must be deep enough to characterize the potential impacts from the oil-water separator and TPH-GRO, TPH-DRO. Add TPH-ORO to the analytical suites for SWMU 16-026(u).	Section 5.45.3	Section 5.45.3 Figure 5.45-1 Figure 5.45-2 Figure 5.45-3 Figure 5.45-4 Table 5.45-4 Table 6.8-1 Figure 5.1-1 Figure 5.1-2 Figure 5.1-3 Figure 5.1-4 Figure 5.27-1 Figure 5.27-2 Figure 5.63-1 Figure 5.63-2	The former oil-water separator has been added to the appropriate figures. One sampling location (26u-7) has been added at the footprint of the oil-water separator. TPH-GRO and TPH-ORO have been added to the analytical suites. As a result of revisions to the site features for this site, related figures have also been revised.
26	Propose several sampling locations between the building and outfall at AOC 16-026(y) or provide sound technical justification(s) for not doing so.	Section 5.46.3	Section 5.46.3 Figure 5.46-2 Table 5.46-1 Section 6.1	Four sampling locations have been added along the drainline. Samples will be collected from three depths at the three locations inside the security fence and from two depths at the location outside the security fence. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.
27	Provide information on previous soil removal locations and depths and review the current proposed sampling locations and depths relative to where fill was used to replace excavated PCB-affected soil. Sample native soil at AOC 16-027(c) rather than fill to characterize historical contaminant releases.	Section 5.47.3	Section 5.47.1 Section 5.47.3 Figure 5.47-1 Figure 5.47-2 Table 5.47-1	Additional information has been added on excavation depth, and the work plan has been revised to cover the area sampled during cleanup efforts. The starting sampling depth has been modified to 1–2 ft bgs, and text has been added to indicate fill material will be avoided during sampling.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
28	See Specific Comment 27.	Section 5.48.3	Section 5.48.3 Figure 5.47-1 Figure 5.47-2 Table 5.48-1	The starting sampling depth has been modified to 1–2 ft bgs, and text has been added to indicate fill material will be avoided during sampling.
29	Add text indicating that sampling locations from SWMUs 16-026(a) and 16-016(g) will provide additional information downslope of the SWMU 16-028(b) outfall.	Section 5.49.3	Section 5.49.3	Text has been added to indicate the drainage farther downgradient will be characterized by sampling at SWMUs 16-016(g) and 16-026(a).
30	Review the statement and figure and revise as needed for consistency.	Section 5.50.1.3	Section 5.50.1.3	The text has been corrected to read “southwest.”
31	Edit the text or the figures for consistency.	Section 5.51.1	Figure 5.51-1 Figure 5.51-2 Figure 5.51-3 Figure 5.51-4 Section 5.51.1.3 Section 5.51.3.3 Table 5.51-6 Figure 5.32-1 Figure 5.32-2 Figure 5.40-1 Figure 5.40-2 Figure 5.40-3 Figure 5.50-1 Figure 5.50-2 Figure 5.50-3	Figures 5.51-1 through 5.51-4 have been revised to show that the drainline exits the northwest corner of the building. The text in section 5.51.1.3 has been corrected to “northwest.” Related figures have been revised because of changes to site features for SWMU 16-005(e).
32	If the data provided on the figures are decision-level data, provide data summary tables and revise the text for consistency. If the data were intended to be presented in the work plan, delete the figures containing the metals and organic compound data.	Section 5.52.1.1 Section 5.52.1.2	Figure 5.52-3 Figure 5.52-4	The historical data belong to SWMU 16-029(e) but not to SWMU 16-026(h2). The figure captions have been revised.
33	Review the text and revise as needed for clarity, and revise the figure to show the sampling locations at SWMU 16-029(e).	Section 5.52.2.3	Figure 5.52-2	Sampling locations have been added to Figure 5.52-2 for SWMU 16-029(e), and the caption has been revised.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
34	Propose sampling locations to evaluate the sump, its inlet and outlet, and the drainline. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the sump and associated drainline.	Section 5.52.2.3	Section 5.52.2.3, Figure 5.52-2 Table 5.52-5 Section 6.1	Three sampling locations have been added next to the sump and along the drainline. Samples will be collected from three depths. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.
35	Propose sampling locations to evaluate the drainline and its inlet and outlet. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the drainline.	Section 5.53.1.3	Section 5.53.1.3, Figure 5.53-4 Table 5.53-4 Section 6.1	Five sampling locations have been added along the drainline. Samples will be collected from three depths at the three locations inside the security fence and from two depths at the two locations outside the security fence. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.
36	Propose sampling locations to evaluate the sump and drainlines and their inlet and outlet. Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the drainline.	Section 5.53.3.3	Section 5.53.3.3 Figure 5.53-4 Table 5.53-9 Figure 5.53-1 Figure 5.53-2 Figure 5.53-3 Section 6.1	Four sampling locations have been added at the former sump and along the drainline. Samples will be collected from three depths at the former sump and three depths along the drainline. Text has been added to section 6.1 to clarify that it may not be possible to obtain permission to collect samples or otherwise complete the site investigation.
37	Provide available information to support the proposed sampling depths.	Section 5.54.2.3	Sections 5.54.2 and 5.54.2.3 Table 5.54-8	See response to Comment 13.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
38	Provide available information to support the proposed sampling depths.	Section 5.54.3.3	Sections 5.54.3 and 5.54.3.3 Table 5.54-12	See response to Comment 13.
39	Add dioxin/furan analyses to the analytical suites for proposed sampling locations 6c-13, 6c-14, and 6c-15 at SWMU 16-031(a).	Section 5.57.3	No revision	No revision to text has been made. Chlorine-bearing compounds are not likely to be associated with the operation of the cooling tower.
40	Propose sampling locations to evaluate the drainlines and their inlet(s) and outlet(s) at SWMU 16-031(e). Alternatively, provide sound technical and/or safety-related rationale for delaying investigation of the drainlines.	Section 5.58.3	Section 5.58 Section 5.58.3	The chlorination station is an active facility. The third sentence in site description has been revised to read, "The outfall receives effluent…." Text has been added to section 5.58.3 indicating "the drainlines are currently in service." No sampling is proposed along the drainlines because the drainlines are active.
41	Propose a suitable number of appropriately placed soil borings, sample-collection intervals, and associated chemical analyses to document and evaluate site conditions at AOC 16-033(a) using decision-level laboratory data that can be used for risk-assessment purposes.	Section 5.59.3	Section 5.59.3 Figure 5.59-2 Table 5.59-1	Twelve subsurface samples will be collected from three locations from four depths.
42	Propose a suitable number of appropriately placed soil borings and sampling intervals and associated chemical analyses to document and evaluate site conditions at AOC 16-033(b) using decision-level laboratory data that can be used for risk-assessment purposes. Propose sampling locations and depth intervals to define the vertical and horizontal nature and extent of the release.	Section 5.60.1 Section 5.60.3	Section 5.60.3 Figure 5.27-3 Table 5.60-1	Sixteen subsurface samples will be collected from four locations from four depths.
43	Revise the work plan as needed to clarify whether 16-033(k) is an AOC or a SWMU.	Section 5.65	Section 5.65	The last sentence of the site description in section 5.65 has been revised.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
44	Revise the work plan to include the expanded site survey work and placement of two to four soil borings near or next to the surveyed underground storage tank (UST) at AOC 16-033(k).	Section 5.65.3	Section 5.65.3 Figure 5.58-2 Table 5.65-1	The text has been revised to indicate the UST will be removed if it is found in place, and confirmation samples will be collected. After removal of the tank, or if the tank is not found, 12 subsurface samples will be collected from three locations from four depths.
45	Discuss whether the line entering former building 16-22 may have been affected by past or present activities associated with those existing buildings. If records indicate the line could have been affected by operations in those existing buildings, propose placement of one or more soil borings to evaluate possible effects in and near the footprint of former building 16-22.	Section 5.67.3	No revision	No revision to text has been made. The sewer line that flows from building 16-16 passes east of the 16-22 footprint and then flows south. Because the sewer line from building 16-16 conveyed only sanitary wastewater from a cafeteria, releases of hazardous constituents to the footprint of building 16-22 are not likely.
46	Add a discussion to the section indicating whether or not soil removal actions were initiated after the discovery of diesel-contaminated soil at AOC 16-030. If removal actions were undertaken, provide a description.	Section 5.69.1	Section 5.69.1	Text has been added to indicate site characterization did not involve excavation of the contaminated soil.
47	Propose additional sampling locations north and west of previous sampling location 16-27021 at AOC C-16-031.	Section 5.70.3	Section 5.70.3 Figure 5.69-4 Table 5.70-1	Proposed sampling location 31-6 has been moved to the north of location 16-27021, and a new sampling location (31-15) has been added to the west of location 16-27021.

NMED NOD Comment No.	Summary of NOD Comment	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
48	Conduct additional sampling at AOC C-16-046 in conjunction with the sampling efforts planned for SWMUs 16-003(c) and 16-026(v).	Section 5.73.3	No revision	No revision to text has been made. AOC C-16-046 is a former steam manhole that was not connected to or associated with the sump, the drainline, or the outfall. No hazardous constituent is associated with the steam manhole, and therefore, no sampling has been proposed.
49	Revise the work plan to indicate the sewer line will be removed and confirmation samples will be collected at AOC C-16-073. Alternatively, present sound technical or safety-related justification(s) for not removing the tank and provide a justification for collecting a soil sample from 4 to 5 ft bgs within the tank basin.	Section 5.78.3	Section 5.78.3	The line described in the comment is the edge of a paved road, not a sewer line. The UST will be removed if it is found to be in place, and confirmation samples will be collected.
50	Review and edit all figures as needed to correct the designation for 16-026(u).	Figure 5.27-1 Figure 5.45-3 Figure 5.63-2	Figure 5.27-1 Figure 5.27-2 Figure 5.45-3 Figure 5.63-1 Figure 5.63-2	The designation for 16-026(u) on these figures has been corrected from “AOC” to “SWMU.”
51	Define “TATB” at first use and add it to Appendix A.	Table 5.4-4	Table 5.4-4 Table 5.6-7 Appendix A	TATB has been defined in the appropriate tables and has been added to Appendix A.
n/a*	n/a	Throughout	Throughout	Minor editorial changes were made throughout the document for the sake of correctness and clarity.

*n/a = Not applicable.