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Name:	U1100920
Title:	Approval With Modifications – Phase II Investigation Work Plan North Ancho Canyon Aggregate Area, Revision 1
Date on Document:	5/13/2011
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Action Item Description:	
Action Due Date:	9/30/2012
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May 13, 2011

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RE: APPROVAL WITH MODIFICATIONS
PHASE II INVESTIGATION WORK PLAN
NORTH ANCHO CANYON AGGREGATE AREA, REVISION 1
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-10-104

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) revised *Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area* (Work Plan), dated March 2011 and referenced by LA-UR-11-1817/EP2011-0115. NMED has reviewed the Work Plan and, pursuant to Section III.M.2 of the March 1, 2005 Order on Consent (Consent Order), hereby issues this Approval with the following modifications.

Multi Incremental Sampling

1. **Comment/Responses 1, 2, 3, 4:**

NMED Comment: NMED did not approve the MI sampling approach, nor was the sampling method properly conducted. NMED does not agree with the responses provided to Comments 1 through 4; however, the responses do not affect the work proposed in the Work Plan. NMED has approved the use of EPA Method 8330B, Appendix A, in the appropriate circumstances, but has not approved any variations to the Method. The Permittees must obtain approval from NMED prior to conducting any MI sampling.

2. **Comment/Response 8 and (Section 2.4.3 Proposed Activities at SWMU 39-006(a)):**

NMED requested that the Work Plan discuss the depths of the former chemical seepage pit, former septic tank, or former sand filter. The Permittees responded to the comment stating "[t]he depths of the former chemical seepage pit, former septic tank, and former sand filter were presented in section 3.2.3.1 of the approved investigation report (LANL 2010, 108500.11; NMED 2010, 108675). As described in the approved investigation report, the former seepage pit, septic tank, and sand filter were removed by excavation and samples were collected at and below the bottom of the excavations. Therefore, these samples were collected and all Phase II samples will be collected from below the base of the units. No revisions are necessary."

Although the depths of the units were presented in section 3.2.3.1 of the approved investigation report, this information should have also been included in the Phase II Work Plan as background information. The depths of former structures are pertinent to the current investigation. The personnel conducting the investigation must have access to all relevant information in the current Work Plan to reduce the possibility of errors and oversights during field activities. Future work plans, regardless of the phase, must include the depths of the structures and excavation(s). No revision is necessary since the information was included in the response to comments.

3. **Comment/Response 14, Item d and (Section 2.9.1.1 (Waste Characterization Sampling):**

NMED requested an explanation of the sample collection method(s). The Permittees response to Item d stated "[w]aste samples were composited for a given volume of waste within the stockpile (i.e., 100 yd^3). A backhoe was used to reach the desired depth within the pile, and a hand auger was used to collect a representative sample directly from the waste stockpile, which was placed in a stainless steel bowl and homogenized before being containerized." The text in Section 2.9.1.1 indicates these samples (homogenized) were analyzed for volatile organic compounds (VOCs). Samples to be analyzed for VOCs must be collected as discrete samples and cannot be composited. In this case, resampling is not possible since the waste has already been transported offsite for disposal.

4. Comment/Response 16 and Section 2.9.1.2 (Capacitor Stating Areas):

The Permittees state "[a] decision unit was not established at the north corner of the north staging area because of the presence of a tree at this location. Visual inspection determined that this location had not been impacted by the release."

Visual inspection cannot be used to determine if a location has been effected by a release (i.e., except in rare cases, PCBs cannot be identified visually). The Permittees must collect one discrete surface sample (below any vegetative debris) and one discrete sample at a depth of 1.0-1.5 feet from within the decision unit occupying the tree. The sample must be analyzed for PCBs.

5. Comment/Response 16:

NMED required the Permittees to identify the document or correspondence that described the soil sampling methods and procedures used to characterize contamination. The Permittees responded to the comment by stating "[t]he soil removal and sampling performed at the capacitor staging areas was performed as part of a self-implementing soil cleanup regulated by EPA under the Toxic Substances Control Act (TSCA) regulations [40 Code of Federal Regulations (CFR) 761.61(a)]. This cleanup was initiated after discovery of a release of PCB contaminated oil. This release was reported to EPA Region 6 and the National Response Center on June 29, 2009 (report number 910135). Because this sampling was conducted in response to a release of PCBs as part of a TSCA cleanup, it was not included in the NMED-approved investigation work plan or investigation report for North Ancho Canyon Aggregate Area and is being presented in the Phase II work plan revision in order to provide an historical context for the additional cleanup and sampling needed to complete site activities within the areas of contamination."

The Permittees are still subject to cleanup under the Consent Order because the electrical capacitors were removed from a (SWMU 39-001(a)), which resulted in a release to the environment. RCRA still applies to this cleanup and is not limited to Toxic Substances Control Act (TSCA). The regulations under 40 CFR 761.61 (ii) state "[t]he self-implementing cleanup provisions shall not be binding upon cleanups conducted under other authorities, including but not limited to, actions conducted under section 104 or section 106 of CERCLA, or section 3004(u) and (v) or section 3008(h) of RCRA." PCBs are included in the definition of contaminant in Section III.B of the Consent Order; therefore, PCB cleanup activities are subject to the corrective action requirements of the Consent Order. No revisions are necessary since additional work is being conducted at the capacitor staging areas identified in the revised Work Plan.

6. Comment/Response 17, Item e:

NMED requested an explanation for the method used to determine the sidewall sample locations. The Permittees response stated "[t]he sidewall samples were located to confirm the lateral extent of contamination to the north and south at the northern capacitor staging area and to the north, east, and south at the southern capacitor staging area. Extent to the west of both capacitor

staging areas is defined by the waste stockpile area sampling. Extent to the east of the northern capacitor staging areas is defined by PCB concentrations less than 1 mg/kg in the eastern row of decision units."

The lateral extent of contamination will be evaluated based on the results of additional contaminated soil removal to be presented in the Phase II Investigation Report.

7. Comment/Response 17, Item g:

Permittees' justification for MI sampling was requested. The Permittees responded to the comment stating "[b]ecause the spill was from small drips over a relatively small area, discrete grab samples had a high probability of underestimating the true mean concentration within each 5 ft × 5 ft decision unit. Under the correct circumstances and when properly conducted, MI sampling produces a more accurate and lower-cost estimate of the mean contaminant concentration than does discrete sampling."

NMED may agree with the above statement under the correct circumstances; however, the Permittees did not perform MI sampling in accordance with the established methods or under the correct circumstances. As conducted, the Permittees are more likely to produce less representative data due to dilution and are unable to pinpoint hot spots. See Comment 8.

8. Comment/Response 18 Item f:

NMED requested an explanation of how it was determined that hot spots did not exist within the decision units. The Permittees response to the comment states "[t]he MI sampling performed at the capacitor staging areas involved collecting 49 sample aliquots within each 25 ft^2 decision unit (i.e., one sample increment per 0.5 ft^2). Although the MI sampling was performed for the purpose of characterizing the mean concentration of the decision unit, the number of sample increments is high enough to detect "hot spots." Because the sample result was less than 1 mg/kg PCBs, the Laboratory concluded that no "hot spots" were present (i.e., no single aliquot could have contained more than 49 mg/kg PCBs)."

It is not clear if the Permittees ever characterized or determined the mean concentrations of the decision unit(s) because the calculations were not included in the Work Plan. Further, to account for potential dilution, 49 aliquots were collected with a default value not to exceed 1 mg/kg; therefore, no detected MI sample concentration should have exceeded approximately 0.02 mg/kg (50 x 0.02 = 1 mg/kg) within each decision unit or the possibility exists that any individual subsample contained PCBs at a concentration greater than 1 mg/kg. Although some reported concentrations in the capacitor staging areas exceeded 0.02 mg/kg, the Permittees will be collecting additional discrete samples. If any values exceed 1 mg/kg, additional soil removal will be necessary. All sampling and additional soil removal activities must be clearly documented in the Phase II Investigation Report.

9. Comment/Response 27:

The Permittees response to the comment states "[t]he Laboratory is not required to obtain NMED approval before backfilling any area. The bottom of any excavated areas will be surveyed and marked before backfilling in the event additional removal and/or sampling are required. No revision to the work plan is necessary."

If it is determined that additional excavation is necessary, the Permittees must be prepared to remove the backfill to access the areas where additional contaminated soil removal is necessary.

10. Comment/Response 33:

The Permittees' response to the comment states "[d]ioxins and furans are not associated with historical activities at Technical Area 39 (TA-39), because no burning has taken place at TA-39 and no waste related to burning was disposed of at TA-39. Therefore, dioxins and furans are not included in the proposed waste characterization analytical suite for purge water."

TA-39 is a firing site and contains a landfill. This area has been associated with detonations that could result in the burning of materials. Further, it is not clear that burned materials were never placed in the landfill. If water is purged from the wells, the Permittees must analyze the water for dioxins and furans.

11. Section 2.9.1.2 (Capacitor Staging Areas):

The last paragraph in Section 2.9.1.2 indicates that an MI sample was collected from one decision unit in the north capacitor staging area and from two decision units in the south capacitor staging area from depths of 4 to 4.17 feet. Table 2.9-9 (PCBs Detected at the Capacitor Staging Areas at SWMU 39-001(a)) does not show that any samples were collected from 4-4.17 feet in the Northern Capacitor Staging area. In Figure 2.9-8 and Table 2.9-14 (Summary of Proposed Sampling at Waste Stockpile and Capacitor Staging Areas), sample location identification AN-608009 appears to be the sample collected from 4-4.17. The Permittees must ensure that all proposed confirmation samples from the capacitor staging areas are collected from native media, below the backfill and from the correct locations. These discrepancies must be corrected in the Phase II Investigation Report.

12. Section 2.9.1.2 (Capacitor Staging Areas):

The Permittees state in the last paragraph in Section 2.9.1.2 that "[b]ecause the results from the third round of confirmation samples showed PCB concentrations of less than 1 mg/kg at all locations, the excavated areas were then backfilled with clean soil. The samples collected and analyses requested from the capacitor staging areas are summarized in Table 2.9-8. Results of detected PCBs in confirmatory samples are presented in Table 2.9-9."

Confirmation samples collected by MI sampling cannot be used for compliance to verify cleanup, as indicated in NMED's March 4, 2011 Notice of Disapproval. NMED does not view

these samples as confirmation samples that can be used to verify completion of cleanup. No revision is necessary since the Permittees have proposed additional sampling at the capacitor staging areas below the depths where the previous subsamples were collected.

13. Section 2.9.1.2 Capacitor Stating Areas), Section 2.9.2.2 (Capacitor Staging Areas), and Item 18 item f:

In Section 2.9.2.2, the Permittees propose additional sampling at the capacitor staging areas, but do not identify the grid dimensions. Within the capacitor staging areas one sample must be collected for every 25 square feet from the base of the excavation.

14. Figure 2.9.1 (MI sample locations at the waste stockpile area at SWMU 39-001(a)):

The figure shows the location of the former waste stockpile and SWMU 39-001(a). It is not clear why PCBs were detected east of the former waste stockpile and SWMU 39-001(a) because no excavation or stockpiling activities are shown to have occurred there. Explain why sampling was necessary for PCBs east of the former waste stockpile and SWMU in the Phase II Investigation Report.

Modifications presented in this letter must be executed as part of implementation of the Work Plan. The Phase II Investigation Report for North Ancho Canyon Aggregate Area is due no later than **September 30, 2012.**

Please contact Hope Petrie of my staff at (505) 476-6045 if you have any questions.

Sincerely,

John E. Kieling
Acting Chief
Hazardous Waste Bureau

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File: 2011 LANL, Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area (March 2011)

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