ERID-204629

Los Alamos
NATIONAL LABORATORY
EST 1943

IRM-RMMSO

Official Correspondence Form

Name:	U1101273
Title:	Notice of Disapproval Investigation Report Lower Sandia Canyon Aggregate Area LANL EPA ID NM0890010515 HWB-LANL-11-019
Date Received:	7/18/2011
Addressee Name:	M. Graham, ADEP
Originator:	J. Kieling, NMED
Action Item Description:	Permittees must address all comments and submit a revised IR by August 26, 2011
Action Due Date:	8/26/2011
Responsible for Action:	Search Graham, Michael J
Responsible Office:	ADEP
Distribution:	Michael J. Graham Isaac E. RichardsonIII C. A. Beard David J. McInroy Phoebe K. Suina William Z. Alexander Tina M. Sandoval Paul Henry Charles F. McMillan Richard A. Marquez Deborah K. Woitte James C. Cantwell Anthony R. Grieggs Victoria A. George Scotty Jones



NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

DAVE MARTIN
Cabinet Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

EP2011-5341

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 15, 2011

George J. Rael, Assistant Manager
Environmental Projects Office
Department of Energy/National
Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, MS A316
Los Alamos, NM 87544

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Security, LLC
P.O. Box 1663, MS M991
Los Alamos, NM 87545

RE: NOTICE OF DISAPPROVAL
INVESTIGATION REPORT
LOWER SANDIA CANYON AGGREGATE AREA
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-11-019

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, LLC (LANS) (collectively, the Permittees) *Investigation Report for Lower Sandia Canyon Aggregate Area*, (IR) dated March 2011 and referenced by EP2011-0054. NMED hereby issues this Notice of Disapproval with the following comments.

1. **Section 3.2.4, Surface and Shallow Subsurface Soil Investigations, page 9:**
Permittees Statement: Table 3.2-1 shows the proposed sampling locations as listed in the approved investigation work plan, with the corresponding actual location identifiers as sampled.

NMED Comment:
The sampling locations reported under the column heading "Location ID" in the Table 3.2-1 correspond to sampling locations identified in figures and tables in the investigation report, but not those proposed in the investigation work plan. The Permittees must revise the Table 3.2-1 to add a column that includes corresponding locations proposed in the IWP. The crosswalk of proposed and actual sampling locations will facilitate review of the document.

2. **Section 6.3.3.4, Site Contamination, Soil and Rock Sampling, page 28:**
Four fill and eight tuff samples were collected from four locations at Area of Concern (AOC) 20-003(c) at depths down to 11 ft below ground surface (bgs). The approved IWP stated that soil samples would be collected from intervals of 0 to 1.0 ft bgs and 0 to 1 ft above the soil/tuff interface and tuff samples will be collected 2 to 3 ft below the soil/tuff interface at each location to ensure that native material is sampled (page 26). Table 6.3-9 indicates that fill samples were collected at all four locations only from 0 to 1 ft bgs. Proposed soil samples from 0-1 ft above the soil/tuff interface were not collected. Instead tuff samples from two depths were collected at each location. Provide an explanation for deviating from the approved IWP.

3. **Section 6.4.1.4, Site Contamination, Soil and Rock Sampling, page 32:**
Thirty tuff samples were collected from ten locations at Solid Waste Management Unit (SWMU) 20-001(c) at depths ranging from 5-15 ft bgs. The approved IWP proposed that if tuff is encountered before the proposed sampling intervals, soil samples would be collected above the soil/tuff interface and tuff samples would be collected from 2 to 3 ft below the soil/tuff interface (page 19). However, no soil samples were collected from above the soil/tuff interface, Table 6.4-1 indicates that only tuff samples were collected at the site. Provide an explanation for deviating from the approved work plan.

4. **Section 6.8.1.4, Site Contamination, Soil and Rock Sampling, page 54:**
The text states that 12 samples were collected from six locations at SWMU 20-005 from depths ranging between 0-10 ft bgs. The approved IWP proposed four samples would be collected from two sampling locations beneath the drainline (from the former location of building 20-01 to the septic tank) from depths of 0-1 ft and 3-4 ft bgs beneath the bottom of the inlet drainline, if this depth could be determined. If the depth could not be determined, the samples were to be collected at depths of 3-4 ft and 6-7 ft bgs. The drainline was assumed to be at 3 ft bgs. Table 6.8-1 indicates that four fill samples were collected from two locations beneath the drainline (i.e., 20-612618 and 20-612619) from depths of 0-1 and 3-4 ft bgs. The text does not clarify if fill samples collected from the 0-1 ft depth were from under the drainline or from the ground surface. If samples were collected from the 0-1 ft interval, then the samples were likely collected from clean fill and not from potentially contaminated media. The Permittees must clarify if the approved IWP was followed and whether the samples were collected from appropriate depths.

5. **Section 7.2.4.4, Nature and Extent of Soil and Rock Contamination, Organic Chemicals, page 60:**
SWMU 53-001(a) was used as a drum storage area for building 53-2. This area was also formerly used as a satellite accumulation area. Total Petroleum Hydrocarbons (TPH) were detected in three soil samples collected during investigations conducted in 1995. TPH analyses were not proposed in the approved IWP. The Permittees state that because there are potential sources for TPH contamination other than the wastes stored at SWMU 53-001(a), the approved work plan did not propose analysis of samples for TPH. The text further states that the 2010 analytical suites that included metals, polychlorinated biphenyls (PCBs), semi volatile organic compounds (SVOCs), and volatile organic compounds (VOCs) were deemed to be better indicators of contaminant releases from SWMU 53-001(a). NMED does not agree with these statements, although the approved work plan did not propose TPH analysis, no discussion on exclusion of TPH analysis from the analytical suite were included in the IWP. Regardless, the results of analysis for organic chemicals for samples collected during the 2010 investigations and the detected concentrations of TPH in 1995 indicate further investigations of TPH contamination are not necessary at this site. No response Required.

6. **Section 7.3.4.3, Soil and Rock Sample Analytical Results, page 63:**
The discussions of inorganic chemicals and organic chemicals both state that because the extent of contamination is not defined for the site, inorganic/organic contaminants of potential concern (COPCs) have not been defined. Yet, COPCs were identified for the site and risk determinations made. Resolve the discrepancy and revise the text accordingly.

7. **Section 7.3.4.4, Nature and Extent of Soil and Rock Contamination, Organic Chemicals, page 64:**
NMED does not agree with the Permittees' statements regarding TPH evaluation at SWMU 53-001(b) (*See* Comment #5). However, the detected concentrations of TPH do not warrant additional investigations. No response required.

8. **Section 7.4.4, Site Contamination, Soil and Rock Sampling, page 66:**
During 2010 investigations, ten samples were collected from four locations at SWMU 53-005 in accordance with the approved IWP. Table 7.4-1 indicates that two samples were collected from depths intervals of 0-1 and 4-5 ft at sampling location 53-612486. The IWP proposed that samples would be collected from 0-1 ft and 3-4 ft beneath the waste line. It is not clear if these sampling depth intervals indicate depths beneath the waste line or from the ground surface. The Permittees must clarify the locations of these samples in relation to the waste line.

9. **Section 7.7.4, Site Contamination, Soil and Rock Sampling, page 74:**
The text states that sampling at the location of underground tanks will be delayed until building 53-1 is reactivated and the tank removed. Sampling is delayed at SWMU 53-006(f) until building 53-1 is deactivated, rather than reactivated. Correct the

typographical error and revise the text accordingly.

10. **Section 7.9.4.4, Nature and Extent of Soil and Rock Contamination, pages 81-84:**
The text references the *Investigation and Remediation Report for Consolidated SWMU 53-002(a)-99, Inactive Wastewater Impoundments, and AOC 53-008, Storage Area at Technical Area 53* (January 2004) to indicate that the nature and extent of contamination in the main drainage downstream from the site has been defined by the sampling performed during cleanup of the adjacent surface impoundments. However, a notice of disapproval for the report was issued on June 2, 2005. The revised report was submitted in September 2005, and approved on July 25, 2006. The Permittees must reference the 2005 revised report rather than the 2004 version.

    The recommendations section of the revised report states that because of the current industrial nature of AOC 53-008, which is expected to remain industrial in the foreseeable future (under institutional control of the Laboratory), no additional corrective action or characterization is warranted at the site. The estimated total radionuclide dose for the drainage was at 6.6 mrem/yr, which is equivalent to a total risk of 3×10^{-5}. Because the risk level exceeds the 1×10^{-5}, the site does not qualify for corrective action complete status.

11. **Section 7.12.4, Site Contamination, Soil and Rock Sampling, page 93:**
As proposed in the IWP, twelve samples were collected from six locations during 2010 investigations at AOC 53-012(e). Two of the twelve samples were proposed to be collected at the turn (elbow) in the drainline at depth intervals of 0-1 and 2-3 ft below the bottom of the line. Figure 7.12-2 indicates that the sampling location 53-612539 is approximately 25 ft southwest of the elbow in the drainline and samples were collected from 0-3 ft. The text did not discuss why the proposed sampling location was moved and the samples were not collected from potentially contaminated location. Provide an explanation for deviating from the approved IWP.

12. **Section 7.12.4.4, Nature and Extent of Soil and Rock Contamination, Organic Chemicals, pages 96-97:**
During the 1995 investigations, three surface soil samples collected at AOC 53-012(e) were analyzed for TPH. The detected concentrations of TPH ranged from 1150 to 2090 mg/kg and were above the NMED TPH screening guidelines for unknown oil (i.e., 200 mg/kg). The approved IWP did not include TPH in the analytical suite and the extent of TPH contamination was not evaluated at the site. The Permittees state that the 2010 analytical suites that included metals, radionuclides, PCBs, SVOCs, and VOCs were better indicator of releases from the site. The Permittees further state that because there are potential sources for TPH contamination other than the wastes stored at AOC 53-012(e), the approved work plan did not propose analysis of samples for TPH. As stated earlier, NMED does not agree with the statement (*See* Comment # 5). The Permittees must propose to collect and analyze samples for diesel range organics (DRO-extended) to determine the extent of contamination during the Phase II Investigations.

13. Section 7.13.4.1, Soil and Rock Sampling, page 98:
The text indicates that X-ray Fluorescence (XRF) survey conducted at AOC 53-013 during 2010 investigations identified eight locations with elevated concentrations of lead. However, Appendix C, where the results of the XRF survey are summarized, indicates that lead was detected at concentrations greater than the industrial soil screening levels in surface soil samples collected from 14 locations. The Permittees must resolve the discrepancy.

It is not clear if the shaded areas in figures provided in Attachment C-2 are supposed to indicate areas where soil was removed during the investigations. Additionally, clarify the significance of sampling locations denoted by grey and black circles. Revise the figures to provide legends.

14. Section 7.13.4.3, Soil and Rock Sample Analytical Results, page 99:
The text indicates that arsenic is not identified as a chemical of potential concern (COPC) at AOC 53-013 because it was detected above the Qbt 3 background value in one sample and the detected concentration was below the maximum Qbt 3 background concentration. However, the results of the quantile test indicated that concentrations of arsenic at AOC 53-013 are different from background. Arsenic must be retained as a COPC. The Permittees must revise the risk screening to include arsenic.

15. Section 7.13.4.4, Nature and Extent of Soil and Rock Contamination, page 100:
Permittees' Statement:
Antimony was not detected above BV [background value] but had DLs [detection limits] (0.526 mg/kg to 1.1 mg/kg) above the tuff BV (0.5 mg/kg) in 31 samples. Because antimony was not detected above the BV, the lateral and vertical extent of antimony are defined.

NMED Comment:
Because the detection levels were above background, it is possible that antimony is present at levels above background but below the detection levels. As such, the comparison of site data to background does not necessarily indicate that nature and extent are defined. However, it is agreed that there does not appear to be significant contamination from antimony and additional sampling is not warranted. No response to this comment is required.

16. Section 7.15.4, Delayed Investigation Rationale, page 103:
The text states that SWMU 53-015 is listed in Module VIII of the Laboratory Hazardous Waste Facility Permit for tracking purposes only and is not subject to current corrective action requirements. NMED concurs that investigations at SWMU 53-015 may be delayed until the system ceases to operate, however, the Permittees must correct the reference to Module VIII of the Permit. The Final Hazard Waste Facility Permit, became effective on December 30, 2010 does not contain a Module VIII. Revise the text in this

section and Section 7.15.1 to provide correct reference.

17. **Section 9.1.1, Conclusions, Former TA-20, page 106:**
Aroclor-1254 and Aroclor-1260 were detected at low concentrations in multiple samples at SWMUs 20-002(c), 20-002(d), and 20-005. The Permittees state that there is no indication that PCBs were used at these sites and PCBs should not be considered COPCs for these sites. The Permittees further state that the detected concentrations likely reflect widespread contamination from multiple sources upgradient of these sites. NMED does not agree with these statements, PCBs were detected at these sites and must be retained as COPCs for risk evaluations. NMED concurs that additional sampling to define the lateral extent of PCBs at these sites is not warranted because PCB contamination in the drainages of Sandia Canyon is addressed as part of separate canyons investigations.

18. **Section B-5.3, Subsurface Tuff Sampling Methods, page B-4:**
Permittees' Statement:
Samples retrieved from the subsurface were field screened for radioactivity and visually inspected. Samples were placed in a stainless-steel bowl, and the material was crushed, if necessary, with a decontaminated rock hammer and stainless-steel spoon to allow material to fit into the sample containers.

Samples for volatile organic compound (VOC) analysis were collected immediately to minimize the loss of subsurface VOCs during the sample-collection process. After collection of VOC samples, a stainless-steel scoop and bowl were used to transfer samples for the remaining analytical suites to sterile sample collection jars or bags for transport to the SMO. The sample collection tools were decontaminated immediately before each sample was collected (see section B-5.7) in accordance with an approved subcontractor procedure technically equivalent to SOP-5061, Field Decontamination of Equipment.

NMED Comment:
Placing the samples in a stainless steel bowl and crushing the material prior to containerizing samples for analysis necessarily results in the loss of VOCs. Collection of samples for VOCs analysis in such a manner is not appropriate and does not yield valid and defensible data. From the description of the sample collection method it is apparent that VOC data presented in the Report is not valid and should not have been used for site characterization. To collect samples for VOC analysis, the Permittees must use appropriate methods such as a split barrel sampler with brass sleeves or other coring devise as described in section IX.B.2.b.ii of the Consent Order. The Permittees must describe in detail the methods used for collection of samples for analysis so NMED can determine if the VOC data provided in the IR is acceptable.

The Permittees must address all comments and submit a revised IR by **August 26, 2011**. As part of the response letter that accompanies the revised IR, the Permittees must include a table that details where all revisions have been made to the IR and that cross-references NMED's numbered comments. All submittals (including maps and tables) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order. In addition, the Permittees must submit a redline-strikeout version that includes all changes and edits to the IR (electronic copy) with the response to this NOD.

Please contact Neelam Dhawan of my staff at (505) 476-6042 should you have any questions.

Sincerely,

John E. Kieling
Acting Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
S. Yanicak, NMED DOE OB, MS J993
T. Skibitski, NMED DOE OB
L. King, EPA 6PD-N
P. Maggiore, DOE-LASO, MS A316
C. Rodriguez, DOE-LASO, MS A316
K. Rich, EP-CAP, MS M992

File: LANL, Lower Sandia Canyon Aggregate Area IR, 2011.
LANL 11-019

CERTIFIED MAIL™

7010 1670 0000 8697 4697

016H26523547

$05.790

07/15/2011

Mailed From 87505

US POSTAGE

Hasler

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
1301 Siler Park Drive East-Building 1
Santa Fe, New Mexico 87505

2011 JUL 18 PM 2:09:48

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Security, LLC
P.O. Box 1663, MS ~~M991~~ M-A150
Los Alamos, NM ~~87545~~

87544$0600 B900

NAME Darlene Montoya
Z# 086365
DATE 7-18-11

07-18-11P12:35 RCVD