



**CERTIFIED-MAIL**

January 5, 2024

Arturo Duran  
Designated Agency Manager  
U.S. Department of Energy, Environmental Management  
Los Alamos Field Office  
1200 Trinity Drive, Suite 400  
Los Alamos, NM 87544

**RE: APPROVAL**  
**INVESTIGATION REPORT FOR SOLID WASTE MANAGEMENT UNIT 16-017(J)-99 IN**  
**UPPER WATER CANYON AGGREGATE AREA, REVISION 1**  
**LOS ALAMOS NATIONAL LABORATORY**  
**EPA ID#NM0890010515**  
**HWB-LANL-23-005**

Dear Arturo Duran:

The New Mexico Environment Department (NMED) has received the United States Department of Energy's (DOE) (the Permittee) *Investigation Report for Solid Waste Management Unit 16-017(j)-99 in Upper Water Canyon Aggregate Area, Revision 1* (IR) dated, and received on November 27, 2023, and referenced by EM2023-0644.

On February 16, 2023, NMED received the initial Investigation Report for Solid Waste Management Unit 16-017(j)-99 in Upper Water Canyon Aggregate Area (IR) and referenced by EM2023-0033. NMED reviewed the IR and provided draft comments to DOE on June 28, 2023, requiring additional lines of evidence for Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene. On August 21, 2023, DOE submitted the responses to NMED's draft comments via email. DOE comment responses were reviewed and accepted by NMED and the comment resolution was communicated to DOE via email on August 31, 2023. On November 27, 2023, NMED received Revision 1 of the IR, with the redline of revisions included in the submittal. NMED reviewed the revised IR and acknowledges that the comments and responses have been adequately addressed in the revised IR.

NMED hereby issues approval of the Investigation Report for Solid Waste Management Unit 16-017(j) in the Upper Water Canyon Aggregate Area, Revision 1.

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If you have any questions regarding this letter, please contact Mitchell Schatz at (505) 690-5910.

Sincerely,

**Rick Shean**

Digitally signed by Rick  
Shean

Date: 2024.01.05

11:16:07 -07'00'

Rick Shean

Designated Agency Manager, Hazardous Waste Bureau  
Director, Resource Protection Division, NMED

Attachment:

- 1) NMED Review of DOE Responses to Draft Comments

cc:

N. Dhawan, NMED HWB

C. Martinez, NMED HWB

M. Schatz, NMED HWB

L. King, US EPA Region 6

C. Rodriguez, DOE-EM-LA

B. Bowlby, N3B

C. Maupin, N3B

K. Ellers, N3B

W. Alexander, N3B

[emla.docs@em.doe.gov](mailto:emla.docs@em.doe.gov)

[n3brecords@em-la.doe.gov](mailto:n3brecords@em-la.doe.gov)

[RegDocs@EM-LA.DOE.GOV](mailto:RegDocs@EM-LA.DOE.GOV)

File: 2023 LANL, Approval, Investigation Report for SWMU 16-017(j) in Upper Water Canyon  
AA, Revision 1  
LANL-23-005

**NMED Review**  
**Response To New Mexico Environment Department Draft Comments For**  
**Investigation Report For Solid Waste Management Unit 16-017(J)-99 In Upper**  
**Water Canyon Aggregate Area (February 2023)**  
**HWB-LANL-23-005**

**Specific Comments**

**1. Section 5.2, Extent of Contamination, pg. 17.**

**DOE Statement:** “If the COPC concentrations are sufficiently below the SSL/SAL (e.g., the residential and/or industrial SSL/SAL is 10 times [an order of magnitude]) or more than all concentrations), the COPC does not pose a potential unacceptable risk and no further sampling for extent is warranted.”

**NMED Comment:** As discussed in the 2017 Technical Meeting, in cases where chemical of potential concern (COPC) concentrations increases with depth or laterally, comparison to the maximum detected concentration to the SSL for the current and future land use scenario to define the extent of contamination may be acceptable. DOE discussed that if the Soil Screening Level (SSL) is an order of magnitude or greater than the maximum detected concentration the determination of no further sampling being warranted is made even if concentrations are increasing vertically or laterally. DOE’s belief was that the approach they are using to eliminate unnecessary additional sampling is protective of human health and the environment and that from a risk perspective, is an appropriate approach. NMED agreed that in most cases the method is appropriate, as long as sufficient additional information and lines of evidence are provided in the discussion. Further, it was agreed that if the site concentration is significantly lower than the SSLs (e.g., orders of magnitude), it was agreed that this comparison was sufficient as a single line of evidence. However, in some cases, additional evaluation of the COPC is required. DOE concurred that in some cases additional evaluation of the COPC is justified and that additional sampling may be warranted even if the maximum detected concentration is an order of magnitude below the SSL. NMED stated that they agree that additional sampling may not be warranted in cases where the following criteria are met: there is no history of contaminant release due to site activities, contaminant concentrations do not increase significantly with depth or laterally and appear to be isolated cases (do not indicate a trend), there is no downstream component of contaminant migration, and concentrations are an order of magnitude or more below the SSL. Clarify the text accordingly.

**DOE Response:** The process of using soil screening levels (SSLs) and screening action levels (SALs) to determine whether additional sampling is warranted if extent is not defined is the same process used with the supplemental investigation reports and has been approved by NMED. If the maximum detected chemical of potential concern (COPC) concentration is greater than 10% of the residential SSL/SAL, then additional lines of evidence may be used to determine whether additional sampling is warranted, including comparison with industrial SSLs/SALs, evaluation of the magnitude of the difference between the residential SAL and background value, the magnitude of the increase with depth or laterally, spatial concentration

trends not indicative of a release, risk posed by the COPC, and comparison between the maximum concentration where extent is not defined and SSLs/SALs. The nature and extent section of the report will be reviewed to verify that sufficient lines of evidence have been provided where maximum detected concentrations are greater than 10% of the residential SSL, and additional lines of evidence will be provided if needed.

**NMED Response:**

The response is acceptable, NMED may have additional comments when the revised document is submitted.

2. **Section 6.2.4.4, Nature and Extent of Contamination, pg. 20.**

**DOE Statement:** “Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were each detected in two samples with maximum concentrations of 0.168 mg/kg, 0.215 mg/kg, and 0.305 mg/kg, respectively. Concentrations increased with depth at location 16-61447 and increased laterally to the east. The residential SSLs were approximately 9.1 times, 5.2 times, and 5 times the maximum concentration, respectively. The industrial SSLs were approximately 192 times, 110 times, and 106 times the maximum concentration, respectively. Further sampling for extent of benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene is not warranted.”

**NMED Comment:** While the concentrations are at least a magnitude less than the Industrial SSL concentrations for the mentioned organics, they are not at least a magnitude less than the Residential SSLs. Sample location 16-61447 is the location downgradient to the east and the highest concentration of benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene are at the deepest location (9-10 ft bgs). To address the increase in concentrations at location 16-61447, both vertically and laterally, the text must be revised to include additional justification that no additional sampling is needed to define the extent of contamination furthest down gradient of SWMU 16-017(j) (see Comment 1).

**DOE Response:**

Nature and Extent of Contamination (p. 20) will be reviewed to verify whether sufficient lines of evidence have been provided where concentrations increase with depth and laterally and the maximum detected concentrations are greater than 10% of the residential SSL, as is the case with benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene.

The text in section 6.2.4.4 will be revised to include additional lines of evidence as follows:

*The vertical and lateral distribution of PAH concentrations does not appear consistent with a release from a high-explosives storage magazine, and the absence of detections of high explosives at the site suggests another source of PAHs.*

**NMED Response:**

The response is acceptable, NMED may have additional comments when the revised document is submitted.