



July 26, 2021

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**  
**PHASE II INVESTIGATION WORK PLAN FOR CHAQUEHUI CANYON AGGREGATE AREA**  
**EPA ID #NM0890010515**  
**HWB-LANL-21-021**

Dear Arturo Duran:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) *Phase II Investigation Work Plan for Chaquehui Canyon Aggregate Area* (IWP) dated and received on March 31, 2021 and referenced by EM2021-0038.

NMED reviewed the IWP and provided draft comments on June 3, 2021. DOE submitted the responses to NMED's comments via email on July 13, 2021 (Attachment 1). Comments and responses were further discussed on July 15, 2021, during the Aggregate Area Project and Status teleconference between DOE and NMED. DOE's Response to Specific Comments #'s 2 and 3 states that the comments will be addressed during the Phase III Investigations, NMED concurs with DOE's response.

The IWP was submitted to fulfill a proposed Fiscal Year 2021 Milestone of the Appendix B of the 2016 Compliance Order on Consent. NMED hereby issues approval of the Phase II Investigation Work Plan for Chaquehui Canyon Aggregate Area.

If you have any questions, please contact Mitchell Schatz at 505-690-5910.

Sincerely,

**Ricardo Maestas** Digitally signed by Ricardo Maestas  
Date: 2021.07.26 09:55:55 -06'00'

Ricardo Maestas  
Acting Chief  
Hazardous Waste Bureau

Attachment:

1) DOE Responses and NMED Draft Comments

cc:

N. Dhawan, NMED HWB

M. Schatz, NMED HWB

K. Rich, N3B

C. Rodriguez, EM-LA

E. Day, EM-LA

B. Bowlby, N3B

P. Maestas, N3B

W. Alexander, N3B\_

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

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

File: 2021 LANL, Approval, Phase II IWP for Chaquehui Canyon AA  
LANL-21-021

**Attachment 1**  
**DOE Responses to NMED Draft Comments**

**Response to NMED Draft Comments for Phase II Investigation Work Plan for  
Chaquehui Canyon Aggregate Area (March 2021), HWB-LANL-21-021,  
Dated June 3, 2021**

**INTRODUCTION**

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) responses follow each NMED comment.

**GENERAL COMMENTS**

**NMED Comment**

1. *NMED has not received DOE responses to NMED's draft comments sent on May 3, 2021 for Chaquehui Canyon Aggregate Area Investigation Report (IR). DOE must also address NMED comments on the IR while implementing the Phase 2 Investigation Work Plan for Chaquehui Canyon Aggregate Area.*

**DOE Response**

1. Comment noted. The "Investigation Report for Chaquehui Canyon Aggregate Area" (IR) was submitted to NMED in September 2020 (N3B 2020, 701046). NMED sent draft comments for the IR on May 3, 2021 (Schatz 2021, 701410). Responses to NMED's draft comments were submitted to NMED on June 17, 2021 (Rich 2021, 701500), and briefly discussed during the June 17, 2021, meeting with NMED, EM-LA, and the Newport News Nuclear BWXT-Los Alamos, LLC (N3B) Aggregate Area program team. The responses are currently with NMED for consideration and approval. Based on the submitted responses to the IR, no changes to the "Phase II Investigation Work Plan for Chaquehui Canyon Aggregate Area" are necessary.

**SPECIFIC COMMENTS**

**NMED Comment**

2. ***Section 4.6.3, Nature and Extent of contamination and Risk***

*Concentrations of PAHs, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were approximately 2.0 to 2.7 times higher than residential SSL values at SWMU 33-004(a), sample location 33-60602. It was stated in the Investigation Report that the lateral and vertical extent was not defined at this location but is not included for any proposed activity in the Phase II WP. This location must be remediated to remove elevated concentrations of PAHs.*

## DOE Response

2. Section 6.12.4.4 of the IR states that concentrations of benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene decrease with depth at location 33-60602. The lateral extent does increase at this location at the southern end of the drainlines because no additional downgradient samples were collected. Additional lateral extent sampling will be conducted to the south of the drainlines and along the eastern side of the drain field during the Phase III investigation.

## NMED Comment

### 3. **Section 4.10.4, Proposed Activities at SWMU 33-008(c)**

*As stated in the WP, corrective action will be performed at SWMU 33-008(c) to address potential unacceptable human health and ecological risk by removing soil with elevated chromium, copper, lead, mercury, zinc, and PAH at locations 33-01671, 33-01672, 33-01673, 33-01674, 33-01680, 33-016781, 33-01682, 33-01684, and 33-01685. Several of the sites that are listed for soil removal also have elevated concentrations of manganese (above Construction Worker SSL values), manganese must be included in the analytical suites for confirmatory samples collected at locations 33-01674, 33-01680, 33-01681, 33-01684, and 33-01685. The IR states that the extent of manganese is vertically defined at these locations, however, manganese concentrations at these locations are above Construction Worker SSL values and must be addressed.*

## DOE Response

3. Manganese will be added to the list of analytes for the proposed additional Phase III field investigations.

## NMED Comment

### 4. **Section 5.7, Proposed Activities at SWMUs 33-001(a,b,c,d,e)**

*As described in this Work Plan, the nature and extent has not been defined for 33-001(a-e) for the four disposal pits and one underground chamber. The proposed activities at these SWMUs will be used to define the extent of potential contamination from the disposal pits, underground chamber and shaft boundaries and the depth of the covered material inside and outside the MDA E fence. NMED notes that waste disposed in the MDA E has not been investigated. These proposed activities will not define the nature and extent of the contamination within the disposal pits and underground chamber.*

## DOE Response

4. DOE agrees that the proposed Phase II investigation activities will not define the nature and extent of potential subsurface contamination adjacent to and below the disposal pits and underground chamber inside the Material Disposal Area (MDA) E fence. To address this issue, the text in sections 4.1.4, 4.2.4, 4.3.4, 4.4.4, and 4.5.4 will be revised as follows:

“A radiological walkover and geophysical surveys will be conducted within the MDA E fence and on the mesa top outside the fence to define the nature and extent of potential contamination associated with the disposal pits and underground chamber. The radiological survey will identify any possible radiological contamination from the period when the pits were open. The geophysical surveys will be used to define disposal pit boundaries and the depth of cover material inside the MDA E fence.

Surface and shallow subsurface samples will be collected from the depth intervals of 0.0–0.5 ft and 1.0–1.5 ft bgs on the mesa top inside and outside the MDA E fence on a 50-ft grid (1a-1 to 1a-54). Surface and shallow subsurface samples will also be collected in areas identified by the radiological walkover survey with elevated readings above 2 times background. Samples will be analyzed for TAL metals, cyanide, nitrate, perchlorate, pH, explosive compounds, isotopic uranium, isotopic plutonium, tritium, and gamma-emitting radionuclides. Subsurface sampling locations, depths, and analyses within the MDA E fence and adjacent to the disposal pits and underground chamber will be determined after the results from the geophysical surveys have been evaluated.”

## REFERENCES

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), September 2020. “Investigation Report for Chaquehui Canyon Aggregate Area,” Newport News Nuclear BWXT-Los Alamos, LLC, document EM2020-0305, Los Alamos, New Mexico. (N3B 2020, 701046)

Rich, K., June 17, 2021. RE: NMED Draft Comments for IR for Chaquehui Canyon AA. E-mail message to M. Schatz (NMED) from K. Rich (N3B), Los Alamos, New Mexico. (Rich 2021, 701500)

Schatz, M., May 3, 2021. NMED Draft Comments for IR for Chaquehui Canyon AA. E-mail message to A. Duran (EM-LA) from M. Schatz (NMED), Santa Fe, New Mexico. (Schatz 2021, 701410)