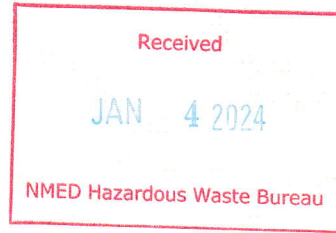




DEPARTMENT OF ENERGY
 Environmental Management Los Alamos Field Office (EM-LA)
 Los Alamos, New Mexico 87544

EMLA-24-BF099-2-1



January 4, 2024

Mr. Rick Shean
 Designated Agency Manager
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6313

Subject: Submittal of the Response to NMED Review, Plugging and Abandonment Summary Report for Alluvial Wells and Groundwater Observation Well in Ancho Canyon for FY 2023

Dear Mr. Shean:

Enclosed please find two hard copies with electronic files of the "Response to NMED Review, Plugging and Abandonment Summary Report for Alluvial Wells and Groundwater Observation Well in Ancho Canyon for FY 2023 Los Alamos National Laboratory, EPA ID #NM0890010515, LANL-23-062, Dated November 20, 2023."

If you have any questions, please contact Brenda Bowlby at (360) 930-4353 (brenda.bowlby@em-la.doe.gov) or Susan Wacaster at (505) 709-8704 (susan.wacaster@em.doe.gov).

Sincerely,

Digitally signed by Brian G. Harcek
 Date: 2024.01.03 12:15:39 -0700'

Arturo Q. Duran For
 Compliance and Permitting Manager
 U.S. Department of Energy
 Environmental Management
 Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files:
 Response to NMED Review, Plugging and Abandonment Summary Report for Alluvial Wells and Groundwater Observation Well in Ancho Canyon for FY 2023 Los Alamos National Laboratory, EPA ID #NM0890010515, LANL-23-062, Dated November 20, 2023 (EM2023-0847)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX
Raymond Martinez, San Ildefonso Pueblo, NM
Dino Chavarria, Santa Clara Pueblo, NM
Steve Yanicak, NMED-DOE-OB
Neelam Dhawan, NMED-HWB
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Public Reading Room (EPRR)
PRS website

**Response to NMED Review, Plugging and Abandonment Summary Report
for Alluvial Wells and Groundwater Observation Wells in Ancho Canyon for FY 2023
Los Alamos National Laboratory (LANL)
EPA ID #NM0890010515, LANL-23-062
Dated November 20, 2023**

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 responses follow each NMED comment.

SPECIFIC COMMENTS

NMED Comment

1. Section 3.1, Water Level and Total Depth Measurements, pg. 2.

***DOE Statement:** "At wells ASC-0, ASC-2, ASC-4, ASC-12, ASC-13, ASC-15, ASC-16, ASC-17, and ASC-18, water was present and required bailing. The total volume of water collected was 11.5 gal."*

***NMED Comment:** Provide clarification regarding volumes of water removed from each of the listed wells. Provide analytical results of the waste characterization samples and describe how bailed water will be disposed of.*

DOE Response

1. Pursuant to New Mexico Office of the State Engineer (NMOSE) direction received during the resolution of the North Ancho Plugging and Abandonment Plan comments, only wells with greater than 36 in. of standing water were bailed to test for recovery. The five wells bailed were ASC-2, ASC-4, ASC-13, ASC-15, and ASC-18. The following volumes were bailed from each of the wells: ASC-2 (2 gal.); ASC-4 (0.5 gal.); ASC-13 (0.5 gal.); ASC-15 (7.5 gal.); and ASC-18 (0.4 gal.) for a total volume of 10.9 gal. Wells were bailed dry to test for recovery. None of the wells recovered. The text in section 3.1 was updated to correct the list of wells bailed and the total volume bailed.

The bailed water from all five wells was combined into a single container for characterization and disposal. The water was analyzed for nitrate/nitrite, perchlorate, pH, target analyte list metals, radium, tritium, strontium-90, americium-241, isotopic uranium, polychlorinated biphenyls, volatile organic compounds, semivolatile organic compounds, explosives, and cyanide. Based on the analytical results, the water was characterized as non-regulated waste (liquid). The waste was shipped to Clean Harbors Deer Park Colorado Facility on August 15, 2023, for disposal.

The analytical results will be included in the revised report.

NMED Comment

2. Section 3.1, Water Level and Total Depth Measurements, pg. 2.

***DOE Statement:** "The total depth of each well was measured and listed in Table 2.0-1. The total depth of ASC-2 could not be measured."*

NMED Comment: Provide clarification regarding why total depth could not be measured and provide evidence that the P&A tremie pipe injected plugging material to the bottom of borehole ASC-2.

DOE Response

2. As documented in the Phase 2 Investigation Work Plan, Table 2.7-1 (LANL 2011, 201561), the constructed total depth of ASC-2 was 83 ft. On April 26, 2023, immediately prior to commencing abandonment activities at ASC-2, the total depth was measured as 81 linear ft below top of casing, which is reasonably close to the constructed depth. Table 2.0-1 will be revised to include the measured depth. The actual grout volume used exceeded the calculated volume, which indicates that the entire casing from total depth was filled with grout.

NMED Comment

3. **Section 4.1, Wells and Boreholes at Solid Waste Management Unit 39-001(a), pg. 3.**

DOE Statement: "During the 2009 investigation and remediation of SWMU 39-001(a), the PVC casing of borehole ASC-3 was cut (LANL 2010, 108592) and a bentonite plug was placed over the protruding 2-in PVC."

NMED Comment: Provide clarification regarding whether the plugging method used for borehole ASC-3 is supported by the New Mexico Office of the State Engineer (NMOSE) regulations. If NMOSE regulations do not support the plugging operation used for ASC-3, DOE must appropriately plug & abandon borehole ASC-3 to NMOSE standards.

DOE Response

3. The surface component of ASC-3 was abandoned in accordance with the NMOSE approved Well Plugging Plan of Operation dated August 11, 2022 (N3B 2022, 702491). The top of the casing was excavated, and a cement plug and monument were emplaced as specified in the plugging plan.

REFERENCES

LANL (Los Alamos National Laboratory), February 2010. "Information Concerning the Angled Boreholes Associated with Past Environmental Investigations at Technical Area 39," Los Alamos National Laboratory document LA-UR-10-0579, Los Alamos, New Mexico. (LANL 2010, 108592)

LANL (Los Alamos National Laboratory), March 2011. "Phase II Investigation Work Plan for North Ancho Canyon Aggregate Area Revision 1," Los Alamos National Laboratory document LA-UR-11-1817, Los Alamos, New Mexico. (LANL 2011, 201561)

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), December 21, 2022. "Revised Well Plugging Plan of Operations Forms for the Plugging and Abandonment of Monitoring Wells and Angled Geophysical Boreholes at Technical Area 39 North Ancho Canyon Aggregate Area," to R. Martinez (NMOSE) from T. Thomson (N3B) and A. Duran (EM-LA), Los Alamos, New Mexico. (N3B 2022, 702491)