

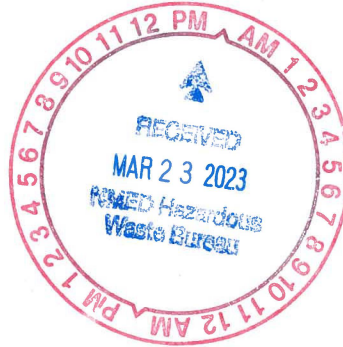


DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544

EMLA-23-BF166-2-1

March 23, 2023

Mr. Dave Cobrain
Acting Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313



Subject: Response to New Mexico Environment Department Draft Comments on the 2022 Annual Periodic Monitoring Report for the Technical Area 16 260 Monitoring Group, Pajarito Canyon and Water Canyon/Canon de Valle Watersheds Dated February 2, 2023

Dear Mr. Cobrain:

Enclosed please find two hard copies with electronic files of the "Response to New Mexico Environment Department Draft Comments on the 2022 Annual Periodic Monitoring Report for the Technical Area 16 260 Monitoring Group, Pajarito Canyon and Water Canyon/Canon de Valle Watersheds Dated February 2, 2023." The responses directly address New Mexico Environment Department (NMED) comments on the report. The 2022 Technical Area 16 (TA-16) 260 Periodic Monitoring Report deviation table will be revised to include the missed HEXMOD results on June 1, 2021 from 16-26644 and R-18. No other changes to the report are required.

If you have any questions, please contact Amanda White at (505) 309-1366 (amanda.white@em-la.doe.gov) or Hai Shen at (505) 709-7600 (hai.shen@em.doe.gov).

Sincerely,

**ARTURO
DURAN**

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

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Enclosure(s):

Two hard copies with electronic files:

Response to New Mexico Environment Department Comments on the 2022 Annual Periodic Monitoring Report for the Technical Area 16 260 Monitoring Group, Pajarito Canyon and Water Canyon/
Canon de Valle Watersheds Dated February 2, 2023 (EM2023-0134)

cc (letter with CD/DVD enclosure[s]):

Laurie King, EPA Region 6, Dallas, TX
Dino Chavarria, Santa Clara Pueblo, NM
Richard Carpenter, City of Santa Fe, NM
Steven Lynne, Los Alamos County, NM (2 copies)
Jack Richardson, Los Alamos County, NM
Steve Yanicak, NMED-DOE-OB
Justin Ball, NMED-GWQB
Cheryl Rodriguez, EM-LA
Hai Shen, EM-LA

cc (letter emailed without enclosure[s]):

Stephen Hoffman, NA-LA
Jennifer Payne, LANL
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John Evans, EM-LA
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PRS website

**Response to New Mexico Environment Department Comments on the
2022 Annual Periodic Monitoring Report for the Technical Area 16 260 Monitoring Group,
Pajarito Canyon and Water Canyon/Canon de Valle Watersheds
Dated February 2, 2023**

INTRODUCTION

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

SPECIFIC COMMENTS

NMED Comment

1. *Results for Low-Level Tritium were not reported in Table C.1 or in Table C.2 for many of the sample locations. Provide data for Low-Level Tritium when it becomes available.*

DOE Response

1. Per the 2021 Interim Facility-Wide Groundwater Monitoring Plan (IFGMP), Revision 1, and 2022 IFGMP, Revision 1, 22 locations were planned for low-level tritium sampling. Of these, 17 locations were sampled: Burning Ground Spring, 16-26644, CdV-9-1(i) screen 1, CdV-16-2(i)r, CdV-16-4ip screen 1, CdV-37-1(i), R-25b, R-26 screen 1, R-47i, R-63i, R-47, CdV-R-15-3 screen 4, CdV-R-37-2 screen 2, R-18, R-68, R-69 screen 1, and R-69 screen 2. The samples were sent to American Radiation Services, Inc., now called Aleut Analytical, LLC. (ARS), in Port Allen, Louisiana for analysis.

Five locations from the 2021 IFGMP, Revision 1, and 2022 IFGMP, Revision 1, were not sampled because of insufficient water for sampling or mechanical issues, and are included in the deviations table: Martin Spring, CdV-16-1(i), R-48, R-26 PZ-2 (prioritized suite), and R-58 (mechanical issues).

ARS is the only laboratory accredited by the DOE Consolidated Audit Program - Accreditation Program for use by the DOE community to perform low-level tritium analyses. The demand for accredited low-level tritium analyses has exceeded the ability of ARS to provide analytical services. Two low-level tritium results, for locations R-69 screen 1 and R-69 screen 2, were uploaded 198 days after sampling, and were available at the time of the 2022 Technical Area 16 (TA-16) 260 Periodic Monitoring Report (PMR) submittal on August 31, 2022. These two results were included in Appendix C.

Additional low-level tritium results for these two locations and the remaining 15 locations (17 regular, and 4 field duplicate low-level tritium results, for a total of 21 results) were uploaded to Intellus between 305—319 days after sampling, and will be included in the 2023 TA-16 260 PMR Appendix C Table 1, which will be submitted to NMED on August 31, 2023. In addition, the results are included on the attached CD.

NMED Comment

2. *Results for PFAS were not reported in Table C.1 or in Table C.2 for many of the sample locations. However, total PFAS was reported for the sample location CDV-16-02659. Revise the text to include PFAS results for the required sample locations or revise the text to include a discussion addressing the non-detects for PFAS.*

DOE Response

2. Sampling for per- and polyfluoroalkyl substances (PFAS) compounds is conducted annually. For the periodic monitoring events (PMEs) included in this PMR, PFAS sampling was conducted during monitoring year (MY) 2022, quarter 2 (Q2). Per the 2022 IFGMP, Revision 1, PFAS sampling was planned at the following 13 locations: Cañon de Valle below Material Disposal Area (MDA) P, Water at Beta, Pajarito below S&N Ancho E Basin Confluence, SWSC Spring, FLC-16-25280, CdV-16-02657r, CdV-16-02659, CdV-16-611923, MSC-16-06293, MSC-16-06294, 16-612309, CdV-R-37-2 screen 2, and R-58.
 - CdV-16-02659 PFAS results were included in Appendix C of the 2022 TA-16 260 PMR.
 - Seven locations were canceled because of insufficient water for sampling and are included in the deviations table: SWSC Spring, FLC-16-2580, CdV-16-02657r, CdV-16-611923, MSC-16-06293, MSC-16-06294, and 16-612309.
 - R-58 was canceled because of mechanical issues, and is in the deviations table.
 - CdV-R-37-2 screen 2 is included in the Appendix E Watch List for Deep Monitoring Wells because water-quality and field-parameter data indicate that the well does not produce representative samples. Sample results for all constituents other than tritium are coded as screening level and not included in this PMR, as indicated under section 2.0 as well as table 2.0-1 of the 2022 TA-16 260 PMR.

Beginning in MY 2021, base-flow locations sampled pursuant to the IFGMP are reported under a base-flow-specific PMR. Criteria for screening base-flow monitoring data are different than those used in the groundwater screening process, and therefore, base-flow locations have been moved into a separate PMR for clearer criteria requirements.

- PFAS data for Pajarito below S&N Ancho E Basin Confluence is available in Appendix C of the 2022 Base Flow PMR, submitted November 30, 2022.
- The base-flow locations Cañon de Valle below MDA P and Water at Beta were canceled because they were dry, and are included in the deviations table in the 2022 Base Flow PMR.

Therefore, no revision to the text to include PFAS results is required.

NMED Comment

3. *Table 6.4-1 of the Interim Facility-Wide Groundwater Monitoring Plan for the 2021 Monitoring Year, October 2020-September 2021, Revision 1 shows that the sample location 16-26644 should be sampled quarterly for high explosives and RDX degradation products using the SW-846:8330 series. However, Table C.1 of the Report states that location 16-26644 had samples collected on 09/23/2021, 03/03/2022, and had two samples collected on 12/14/2021. Revise the text to include high explosives sample results for the missing quarter. If results are not available, revise the text to include this deviation.*

DOE Response

3. Per the 2021 IFGMP, Revision 1 and 2022 IFGMP, Revision 1, quarterly sampling was planned for HEXMOD at 16-26644. This location was successfully sampled on June 1, September 23, and December 14, 2021, and on March 3, 2022.

Because of an extraction error at the lab, the samples from June 1, 2021 at 16-26644 were not analyzed. The samples include a regular sample from CAWA-21-228983, and a field duplicate sample from CAWA-21-228984. This extraction error can be found in the level 4 data validation packages in Appendix F of the 2022 TA-16 260 PMR.

This deviation was inadvertently left out of the report. The 2022 TA-16 260 PMR deviation table will be revised to include the missed HEXMOD result on June 1, 2021 from 16-26644.

NMED Comment

4. *Table 6.4-1 of the Interim Facility-Wide Groundwater Monitoring Plan for the 2021 Monitoring Year, October 2020-September 2021, Revision 1 shows that the sample location R-18 should be sampled quarterly for high explosives and RDX degradation products using the SW-846:8330 series. However, Table C.1 of the Report states that location R-18 had samples collected on 09/17/2021, 12/07/2021, and 03/08/2021. Revise the text to include high explosives sample results for the missing quarter. If results are not available, revise the text to include this deviation.*

DOE Response

4. Per the 2021 IFGMP, Revision 1 and 2022 IFGMP, Revision 1, quarterly sampling was planned for HEXMOD at R-18. This location was successfully sampled on March 8, June 1, September 17, and December 7, 2021.

Because of an extraction error at the lab, the samples from June 1, 2021 at R-18 were not analyzed. The sample includes a regular sample from CAPA-21-229021. This extraction error can be found in the level 4 data validation packages in Appendix F of the 2022 TA-16 260 PMR.

This deviation was inadvertently left out of the report. The 2022 TA-16 260 PMR deviation table will be revised to include the missed HEXMOD result on June 1, 2021 from R-18.

NMED Comment

5. *Table 2.1-1, TA-16 260 Monitoring PME Observations and Deviations, shows that monitoring location R-58 was not sampled due to mechanical problems for all quarters of the monitoring year evaluated in the Report (Monitoring Year (MY) 2021 Quarter 3, MY 2021 Quarter 4, MY 2022 Quarter 1, and MY 2022 Quarter 2). Revise Table 2.1-1 to include specific mechanical problems encountered and the actions taken to resolve the problem.*

DOE Response

5. As indicated in Tables 2.0-1 and 2.1-1, R-58 was canceled because of mechanical issues (the pump was not functional).

R-58 well-maintenance activities occurred from November 9 through December 13, 2022, after the submittal of the 2022 TA-16 260 PMR. After removal of the sampling system and well development, the maintenance activities included replacement of the pump and repositioning the pump at a greater depth to prevent cavitation. This new configuration is now functional, and the ability to sample has been restored. The R-58 well maintenance report (EM-2023-0019), which will include specifics of the well-maintenance activities at R-58, will be available on the electronic public reading room in March 2023.