



December 20, 2023

Arturo Duran  
Designated Agency Manager  
U.S. Department of Energy, Environmental Management  
Los Alamos Field Office  
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**RE: REVIEW**  
**2023 ANNUAL PERIODIC MONITORING REPORT FOR THE CHROMIUM INVESTIGATION MONITORING GROUP, MORTANDAD CANYON AND SANDIA CANYON WATERSHEDS LOS ALAMOS NATIONAL LABORATORY**  
**EPA ID#NM0890010515**  
**LANL-23-038**

Dear Mr. Duran:

The New Mexico Environment Department (NMED) has received the United States Department of Energy's (DOE) *2023 Annual Periodic Monitoring Report for the Chromium Investigation Monitoring Group, Mortandad Canyon and Sandia Canyon Watersheds* (Report), dated May 2023 and referenced by EM2023-0159. The Report was received by NMED on May 31, 2023.

NMED reviewed the Report and has the following comment:

- Results for volatile organic compounds (VOCs) were only reported for one sampling event at location MCOI-6, which required semiannual sampling frequency. According to Table 2.1-1, *Chromium Investigation Monitoring Group Periodic Monitoring Event Observations and Deviations*, MCOI-6 had sampling events occur without deviations in Quarter 4 of MY 2022 (collected July 20, 2022) and in Quarter 1 of MY2023 (collected November 7, 2022). Provide the data for VOCs for location MCOI-6 for the required semiannual sampling frequency.
- Results for Low-Level Tritium were not reported in Table C.1 or in Table C.2 for locations SCI-1, R-1, R-13, R-15, R-33 S1, R-33 S2, and SIMR-2. Additionally, only one sampling event was reported for the following locations requiring semiannual sampling frequency: R-11, R-35a, R-35b, R-36, R-43 S1, R-43 S2, and R-67. Finally, results were not included for two quarters (Quarter 4 and Quarter 1) of the quarterly sampling requirements for the following locations: CrPZ-1, CrPZ-2a, CrPZ-3, CrPZ-4, CrPZ-5, R-44 S1, R-44 S2, R-45 S1, R-45 S2, R-50 S1, R-50 S2, R-61 S1, R-62, R-70 S1 and R-70 S2. Please provide data for Low-Level Tritium when it is available.

- Results for Naphthalene Sulfonate Tracer, utilizing analytical method SW-846:8330 MOD, were not reported in Table C.1 or Table C.2 for the sampling event collected in April 2022 at location R-50 S2. Please provide the required monthly analytical results for Naphthalene Sulfonate Tracer for the sampling event in April 2022 for location R-50 S2.
- Results for Deuterated Water Tracer, utilizing analytical method Generic: Deuterium Ratio, were not reported in Table C.1 or Table C. for the sampling events in October 2022, November 2022, and December 2022 at the following locations: R-35a, R-35b, R-45 S1 and R-45 S2. Additionally, results for Deuterated Water Tracer were not reported in Table C.1 or Table C.2 for the sampling events collected in November 2022 and December 2022 for the sampling location R-11. Provide the required monthly analytical results for Deuterated Water Tracer for the sampling events in October 2022, November 2022, and December 2022 for the listed locations.
- Section 4.4, *Groundwater Elevations*, states “Using the methods of Heath (<https://pubs.usgs.gov/wsp/2220/report.pdf>), a gradient vector is calculated for each set of triplets. This method assumes that the water table surface is planar, that flow is mostly horizontal, and that there is no pumping or injection. Since these assumptions are not always appropriate, some interpretation is necessary to produce a realistic potentiometric surface.” However, Figure 4.4-1 shows the elevation of the regional groundwater surface and flow directions from January 11, 2022, when pumping and injection were occurring. Revise the text to discuss the interpretation used to produce a realistic potentiometric surface using the cited method, which assumes no pumping or injection is occurring.

NMED notes that this is a periodic monitoring report, and this review does not constitute approval of the reference documents and content of the Report.

Should you have any questions regarding this correspondence, please contact Caitlin Martinez at (505) 690-4742.

Sincerely,

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