MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

May 31, 2023

Arturo Duran
Designated Agency Manager
Department of Energy-EM
1200 Trinity Drive, Suite 400
Los Alamos, New Mexico 87544

Re: Review
Annual Progress Report on Chromium Plume Control Interim Measure Performance, July 2021 through March 2022
Los Alamos National Laboratory
EPA ID#NM0890010515
HWB-LANL-22-045

Dear Arturo Duran,

The New Mexico Environment Department (NMED) has received the United States Department of Energy's (DOE) *Annual Progress Report on Chromium Plume Control Interim Measure Performance, July 2021 to March 2022* (Annual Progress Report) dated and received on June 30, 2022 and referenced by EM2022-0355.

NMED has reviewed this Annual Progress Report and provides the following comments. NMED requires that a written response to the comments below be provided within 45 days of receipt of this letter.

1. **3.3 Water-Table Map, pg. 3.**

   **DOE Statement:** "Where multiple screens are present, only the upper screen data are used."

   **NMED Comment:** DOE must provide water table screen data points for the screen 2 intervals and must provide water-table mapping for the screen 2 deeper heads. NMED understands that, initially, the data points available to construct the water-table mapping for the lower screen depths will be minimal. However, providing this lower plume representation is crucial to include in each Annual Progress Report in future. The water-table mapping will continue to improve as additional wells are drilled and more data points can be incorporated.

2. **3.2 Monitoring Results, pg. 3.**

   **DOE Statement**: "Figures 3.2-24 through 3.2-25 provide tracer chemistry results for a few wells related to recent tracer tests."

**NMED Comment:** Figure 3.2-24, *Time-series plots of tracer detections for R-50 screen 1,* show the following tracer tests: 1, 5-NDS (5kg/15 k-gals) injected at CrIN-4 on 5/17-18/2017; and 2,6-NDS (5kg/15k-gals) injected at CrIN-4 on 9/17/2018. Additionally, Figure 3.2-25, *Time-series plots of tracer detections for R-44 screen 1,* show one tracer test of 1,3,6-NTS (50kg/15 k-gals) injected at CrIN-3 on 9/12/18. However, Table 3.1-1, *Performance Monitoring Locations and Analyte Suites, Including Tracers that Have Been or Will Be Deployed in Monitoring Wells, Piezometers, and Injection Wells in the Project Area,* demonstrates that Naphthalene Sulfonate tracer, Sodium Bromide tracer, Sodium Perrhenate tracer, and Deuterated Water tracer are deployed in monitoring wells either monthly or quarterly. DOE must present a discussion summarizing the tracer activities conducted during the Annual Progress Report monitoring period. The Annual Progress Report must include the results of the calculations of the tracer travel time, a discussion of any associated aquifer parameters found using results of tracer tests, and a discussion of the observed responses to the tracer tests. The tracer test discussions have been included in previous documents, including the *Semiannual Progress Reports on Chromium Plume Control Interim Measure Performance, January through June 2021*. An updated discussion of the tracer tests conducted during the monitoring period for this Annual Progress Report must be provided in a written response.

The *Semiannual Progress Report on Chromium Plume Control Interim Measure Performance, January through June 2021* specifically mentioned that the sulfonate tracers deployed into CrIN-1 and CrIN-2 have neither been detected in CrEX-5 nor R-45 screen 1 and screen 2. In a written response, DOE must update the results of these sulfonate tracer deployments and include a discussion to address the potential reasons for the observed responses.

3. **Figure 3.3-2 *Water table for June 15, 2021*, pg. 38.**

In a written response, DOE must provide a modified Figure 3.3-2 that only uses the chromium monitoring wells. It appears that the contour lines provided on the Figure are being skewed by monitoring wells that are not associated with the chromium plume. Specifically, the region north of R-43 and R-11 show skewed contour lines that are not representative of the data gathered from the chromium monitoring wells. Since there are currently no monitoring wells located in that region, the contour lines should end at the boundary for the approximate position of 50 ppb extent of chromium and should not be extrapolated for the areas where monitoring well information is not available.

If you have any questions regarding this letter, please contact Caitlin Martinez at (505) 690-4742. Please provide a response to NMED Comments within 45-days of receiving this review letter.

Sincerely,

Rick Shean

Digitally signed by Rick Shean
Date: 2023.05.31 09:33:05 -06'00'

Rick Shean
Designated Agency Manager
Director
Resource Protection Division

cc:

N. Dhawan, NMED HWB
M. Petersen, NMED HWB
C. Martinez, NMED HWB
J. Herman, NMED GWQB
S. Yanicak, NMED DOE-OB
L. King, US EPA Region 6
C. Rodriguez, EM-LA
R. Martinez, Pueblo de San Ildefonso
D. Chavarria, Santa Clara Pueblo
K. Ellers, N3B
C. Maupin, N3B
W. Alexander, N3B
emla.docs@em.doe.gov
RegDocs@EM-LA.DOE.GOV

File: 2023 LANL, Review Annual Progress Report on Chromium Plume Control Interim Measure Performance, July 2021 through March 2022
LANL-22-045