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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

September 11, 2020

Arturo Duran
Designated Agency Manager
Environmental Management
U.S. Department of Energy
Los Alamos Field Office
P.O. Box 1663 MS M984
Los Alamos, NM 87544

**RE: NOTICE OF DISAPPROVAL
PERIODIC MONITORING REPORT FOR 2019 VAPOR-SAMPLING ACTIVITIES AT MATERIAL
DISPOSAL AREA L, SOLID WASTE MANAGEMENT UNIT 54-006, AT TECHNICAL AREA 54,
MAY 2020
LOS ALAMOS NATIONAL LABORATORY (LANL)
EPA ID #NM0890010515
LANL-20-028**

Dear Mr. Duran:

The New Mexico Environment Department (NMED) has received the United States Department of Energy's (DOE) *Periodic Monitoring Report for 2019 Vapor-Sampling Activities at Material Disposal Area L, Solid Waste Management Unit 54-006, at Technical Area 54* (Report), dated May 2020 and referenced by EM2020-0189. The Report was received by NMED on May 22, 2020 as a fulfillment of fiscal year 2020 Milestone #8 of Appendix B of the 2016 Compliance Order on Consent (CO).

The Cover Letter (EMID-700916) indicates the Report includes the presentation and analysis of subsurface vapor monitoring data for volatile organic chemicals and tritium from two sampling rounds in 2019 and 2020. However, NMED's review of the Report has found deficiencies regarding the presentation of the results of the subsurface vapor monitoring analytical data. The review also identified other issues that require revision or explanation. NMED hereby issues this letter of disapproval with the following comments.

Specific Comments:

1. Section 3.1 Tier Soil-Vapor Screening, Page 6:

DOE Statement: *"Table 3.1-2 presents the results of the Tier I screening for the first round of 2019 soil-vapor data. Twelve VOCs were identified that exceeded the Tier I SL. Table 3.1-3 presents the results of the Tier I screening for the second round of soil-vapor data. Fourteen VOCs were identified that exceed the Tier I SLs."*

NMED Comment: Please correct the text and Table 3.1-2 to include benzene among the volatile organic compounds (VOCs) to be identified as a Tier I Potential for Groundwater Impact during the first 2019 sampling round. It should be noted that benzene was detected during the first round with a maximum pore-gas concentration of 2,202 $\mu\text{g}/\text{m}^3$. This detection exceeds the calculated Tier I Screening Levels (SLs) of 1,140 $\mu\text{g}/\text{m}^3$ provided in Table 3.1-1. It should also be noted that the first round benzene detection exceeds the second round benzene detection (1,400 $\mu\text{g}/\text{m}^3$), which is listed in Table 3.1-3 as a Tier I Potential for Groundwater Impact. Please also consider comment 2.

2. Section 5.2.1 Potential for Groundwater Contamination, Page 8.

DOE Statement: *"Tables 5.1-1 and 5.1-2 show the 13 VOCs that exceed Tier I groundwater screening levels. These VOCs are benzene; carbon tetrachloride; chloroform; 1,1-DCA; 1,2-DCA; 1,1-DCE; 1,2-DCE; 1,4-dioxane; methylene chloride; PCE; 1,1,1-TCA; 1,1,2-TCA; and TCE."*

- a. **NMED Comment:** Thirteen VOCs are mentioned in the text to exceed the Tier I SL but fourteen VOCs are presented in Table 3.1-3 during the second round of soil vapor sampling and testing. Table 3.1-3 shows that isopropanol was detected in addition to the thirteen other VOCs mentioned, during the Second Round of sampling. Resolve the discrepancy.
- b. **NMED Comment:** Revise Table 5.1-2 to include the benzene detection of 1800 $\mu\text{g}/\text{m}^3$ for Location ID 54-27642 at the 175-ft depth (Sample ID MD54-20-191689), it is an exceedance of the SL. Also, correct the groundwater Tier I SL of 1135 $\mu\text{g}/\text{m}^3$ for benzene in Table 5.1-2 to be consistent with the 1140 $\mu\text{g}/\text{m}^3$ value provided in Tables 3.1-1, 3.1-2 and 3.1-3. Similar discrepancies have been noted for several other constituents. Some deviate significantly from the SL provided in Table 3.1-1, such as acetone, bromodichloromethane, isopropylbenzene, and Xylene[1,3-]+Xylene[1,4-]. Please revise the tables in the Report so that each table uses the same groundwater SL for each constituent.
- c. **NMED Comment:** Appendix E of the Consent Order outlines NMED expectations for the presentation of subsurface vapor monitoring analytical data in Periodic Monitoring Reports (PMRs). The Report does not contain figures that graphically present the results of the subsurface vapor monitoring analytical data in map and vertical profile views. Figures similar to Figures 4.3-3 through 4.3-14 of the August 2019 *Interim Measures Final Report for Soil-Vapor Extraction of Volatile Organic Compounds from Material Disposal Area L, Technical Area 54* (IMFR) must be included in the revised Report and subsequent PMRs.

- d. **NMED Comment:** Please revise the Report to include:
- i. Figures of isoconcentration maps that present each contaminant found to exceed Tier I groundwater screening levels for the current monitoring event, if at more than one location.
 - ii. Vertical profiles of each isoconcentration map that depicts each contaminant found to exceed Tier I groundwater screening levels for the current monitoring event.
 - iii. Figures presenting geologic cross-sections based on borehole data. As with the IMFR report figures, the geologic cross-section can be incorporated into the vertical profiles.
 - iv. Figures that show changes, if any, in vapor contaminant concentration with time for each contaminant that exceed screening levels.

3. Section D-1.0 Appendix D Volatile Organic Compound Plume Trend Analysis, Page D-1

DOE Statement: *“Current recommendations from the interim measures report (N3B 2018, 700039) call for an analysis of restarting the SVE pumping units if total VOC concentrations at any port rise above 2000 parts (of VOCs) per million by volume (ppmv).”*

NMED Comment: NMED notes that, based on DOE’s March 2020 draft response to NMED’s draft Comment No. 7b regarding the review of the IMFR, this criteria will be replaced by “more clearly established monitoring data thresholds” that will be documented in a proposed revision of the IMFR, or in a new interim measure plan. Subsequent PMRs will use the new thresholds once they are mutually agreed upon by DOE and NMED.

4. Section D-2.0 Appendix D Volatile Organic Compound Plume Trend Analysis, Page D-1

DOE Statement: *“Note that the increase in total VOCs is not from the primary seven analytes of concern, and the increase above pre-SVE values is not seen in the data for 1,1,1-trichloroethane (TCA) versus depth (Figure D-2.0-13).”*

- a. **NMED Comment:** Provide a discussion in the revised report that explains why there is an observed increase in total VOCs considering the primary seven analytes of concern are not the source (e.g., discuss other VOCs that are contributing to the total VOC concentration) and clarify if the increase pertains to just the one port in boring 54-27642 or to all of the borings being discussed. Include in the discussion how and why the “primary seven analytes of concern” were selected and how they relate to the thirteen VOCs that exceed Tier I SL discussed in Section 5.2.1. In general, Section D-2.0 is hard to follow. Please revise the section to provide clarity, such as discussing one boring and/or analyte at a time. This was done for only Borehole 54-02089 in Section D-2.1.1 but not for the other eastside sentry boreholes.
- b. **NMED Comment:** 1,1,1-trichloroethane (TCA) is the only VOC to be included in the concentration versus depth and time plots for sentry boreholes (Figures D-2.0-1, D-2.0-

6, D-2.0-10, D-2.0-13 and D-3.0-1). See Comment No. 2.d.iv concerning the addition of figures to the revised report. Include all the VOCs that exceed the SLs in these figures and include in the discussion in Section D-2.0.

Should you have any questions regarding this correspondence, please contact Christopher Krambis of my staff at (505) 476-3078.

Sincerely,

Kevin M. Pierard, Chief
Hazardous Waste Bureau

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File: Reading and LANL 2020, TA-54, Comment Letter for Monitoring Year 2019 Annual Periodic Monitoring Report for MDA-L