



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

Certified Mail - Return Receipt Requested



April 5, 2023

Colonel Terence G. Taylor
Commander, 27th Special Operations Wing
100 Air Commando Way, Suite 100
Cannon Air Force Base
New Mexico 88103-5214

**RE: DISAPPROVAL
RCRA FACILITY INVESTIGATION AT DP034 - REVISION 1
CANNON AIR FORCE BASE, NEW MEXICO
EPA ID #NM7572124454
HWB-CAFB-20-003**

Dear Colonel Taylor:

The New Mexico Environment Department (NMED) has received the Cannon Air Force Base (Permittee) *RCRA Facility Investigation at DP034 Revision 1* (Report), dated September 26, 2022. NMED has reviewed the Report and hereby issues this Disapproval. The following comments must be addressed.

GENERAL COMMENT

1. Hard Copy Report Appendices H through L

NMED Comment: The hard copy Report does not include complete Appendices H through L; however, NMED noted that all appendices and their content were included in the electronic version of the Report. In lieu of including the complete content of Appendices H through K in the hard copy, the Permittee must include an appendix cover page in the revised Report for each that notes that the full content of the appendices have been provided in the complete electronic version of the Report. As supporting evidence for the risk assessment results discussed in the revised Report, Appendix L, Risk Assessment Outputs, must be included in the revised Report hard copy. Revise the Report accordingly.

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Hazardous Waste Bureau - 2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico 87505-6313
Telephone (505) 476-6000 - www.env.nm.gov

SPECIFIC COMMENTS

2. Section 4.2.1, Geophysical Survey, Pages 4-1 and 4-2

Permittee Statement: "Soil disturbances and anomalies were identified in five areas to total depths ranging between approximately 1.5 and 5 feet below ground surface (bgs), as shown on Figure 4.1 [DP034 Investigation Areas] and summarized in Table 4.1. These areas were also marked on the ground surface with paint as shown in photographs included in Appendix C."

NMED Comment: The following issues must be addressed in the revised Report:

- a. The Report does not include Figure 4.1. Either remove reference to Figure 4.1 or include Figure 4.1 in the revised Report.
- b. Photographs depicting the marked soil disturbance anomalies were not included in Appendix C; rather, they were included in Appendix A, Photos. Ensure that all appendix references are accurate in the revised Report.

3. Section 7.4.3, Cumulative Human Health Risk Screening, Pages 7-3 and 7-4

NMED Comment: The following comments must be addressed:

- a. Use of the EPA Integrated Risk Information System (IRIS) database (www.epa.gov/iris) by the Permittee does not appear to have resulted in the identification of all applicable target organs for the resident and construction worker as documented in Tables 7.3 and 7.4. Revise the evaluation for completeness and note the source(s) of the target organ analysis on the tables. Additionally, revise the section to accurately discuss the target organ analysis results.
- b. The section discussion indicates that, for the resident and construction worker, all target organ hazard indices (HIs) are less than 1; however, Tables 7.3 and 7.4 do not include HIs for each target organ listed on the tables that would demonstrate the Permittee's risk assessment conclusions. Furthermore, NMED's evaluation of the target organ analyses for these receptors indicates that the Permittee's statement is not accurate. For example, evaluation of neurological target organ effects for the construction worker results in an HI=1.31. The Report must be revised to both provide and also discuss the results of the target organ analysis in a complete and accurate manner, as well as to include supporting target organ analysis data tables for each receptor. Revise the Report accordingly.

- c. The section must be revised to include appropriate references to all supporting risk screen evaluation data tables for the site worker, resident, and construction worker. Revise the section accordingly.
- d. The Permittee stated that, "USEPA [United States Environmental Protection Agency] preliminary remediation goals (PRGs) set to target cancer risk of 1E-05 were used as SSLs for radionuclides. The radionuclide PRGs were calculated using the default assumptions for all three receptors (site [outdoor] worker, resident, construction worker) and assuming secular equilibrium. Due to the small area encompassed by the Site [DP034], the radionuclide PRGs do not consider exposure via produce consumption." NMED agrees that based on the size of the mapped impacted area identified during the investigation that receptor exposure for this pathway is likely minimal; however, inclusion of the homegrown produce pathway in the risk assessment would likely increase site receptor risk by an order of magnitude. To address this potential issue, the consumption of home grown produce exposure pathway must be addressed in the uncertainty assessment in the revised Report and reevaluated following completion of corrective action at the site.

4. Section 7.6, Uncertainty, Pages 7-5 and 7-6

Permittee Statement: "As shown in Table 7.5 [Comparison of Limits of Non-Detected Analyses to Human Health Screening Values], the LODs [limits of detection] for all non-detected VOCs [Volatile Organic Compounds], as well as for TPH [total petroleum hydrocarbons]-gasoline, are less than risk-based screening values for all receptors."

NMED Comment: Table 7.5 failed to include metals and radionuclides. The Report must be revised to also include the LOD evaluation for metals and radionuclides. Section 7.6 must be revised to discuss any uncertainty for these chemicals of concern (COCs) due to any LODs exceeding applicable regulatory soil screening levels. Revise the Report accordingly.

5. Section 9.0, Recommendations, Page 9-1

NMED Comment: The following Section 9.0 comments must be addressed:

- a. The exploratory investigation proposed in Section 9.0 will not meet the requirements of the December 2018 *Cannon Air Force Base Hazardous Waste Permit* (Permit), Section 3.1, Corrective Action from Releases. Based on apparent adverse risk and hazard at the site, the likely presence of radioactive debris and soil contaminated by other COCs, and the potential for future inadvertent disturbance of the debris pits, the Report recommendations must be revised to propose submittal of a work plan to conduct corrective action at DP034. Proposed additional investigation and corrective action must include debris and contaminated soil removal with appropriate disposal of all

encountered radioactive debris, contaminated soil, and/or other debris. The work plan to conduct the corrective action must propose confirmation sampling, radiological survey data collection, and risk assessment in accordance with NMED's November 2022 *Risk Assessment Guidance for Site Investigations and Remediation* (RA Guidance) (as updated) and other applicable risk evaluation guidance. The work plan format must meet the minimum requirements outlined in Permit Section 6.2, Investigation Work Plan. The Report must be revised to address this comment.

- b. NMED's April 2022 *Disapproval RCRA Facility Investigation at DP034* (April 2022 Disapproval) Comment 3e required that a radiation dose assessment be included in the risk assessment in addition to the cumulative risk screen evaluation that included radionuclides (evaluated as metals). To address this requirement, the radiation dose assessment must be conducted using Argonne National Laboratory's RESRAD [RESidual RADitation] or a similar modeling platform to demonstrate that the total effective dose equivalent (TEDE) is protective of identified human receptors. In addition, a gamma walkover survey, or other appropriate radiological survey, must be conducted on exposed soil within the horizontal and vertical extent of DP034 to determine a TEDE without an asphalt cover. These TEDE evaluations must be included with the risk assessment supporting the required corrective action at DP034. Revise the section to address this comment accordingly.
- c. To address the issues with LODs exceeding screening levels for SVOCs identified in Section 7.6, confirmation sampling for corrective action verification for these COCs must be proposed in the work plan referenced in Comment 5a above and must include analysis of the samples with EPA Method 8270 with selected ion monitoring (SIM) for evaluation of polycyclic aromatic hydrocarbons and other SVOCs. Revise the Report to address this comment, where necessary.

6. Table 6.6, Radionuclide Detections in Soil, Comparison to Residential Soil Screening Levels

NMED Comment: The Permittee failed to include project residential soil screening levels calculated with the EPA on-line PRG calculator for radionuclides on the table. Revise the table to include the calculated project residential soil screening levels for radionuclides that were included in Appendix L, Risk Assessment Outputs and that were used for the risk screen evaluation. Revise the Report to discuss the screening level evaluation results based on the calculated radionuclide screening levels.

7. Tables 7.2 through 7.4, Human Health Screening Level Risk Assessment Site Worker, Resident, and Construction Worker

NMED Comment: Tables 7.2 through 7.4 failed to include a cancer risk value for each carcinogenic analyte listed on the tables with a respective cancer soil screening level. The

Colonel Taylor

April 5, 2023

Page 5

Permittee must revise the tables to include a cancer risk value for each analyte listed on the tables in accordance with NMED's November 2022 RA Guidance, Section 5.0, Use of the SSL. Ensure that cumulative risk for these COCs is accurately reported in the revised Report.

8. Appendix J - Soil Analytical Results Summary Table DP034

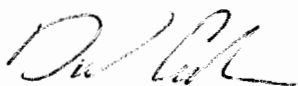
NMED Comment: The following issues were identified during review of the Permittee's response to NMED's April 2022 Disapproval Comments 10a through 10g and must be addressed as follows:

- a. A methyl tert-butyl ether "non-detect" (0.552 U) concentration reported for sample DP034-SB03-1 on Appendix J, Soil Analytical Results Summary, data table resolved the prior data reporting discrepancy; however, this issue was not corrected on Table 6.2, VOCs Detections in Soil, Comparison to Residential Soil Screening Levels, as specified in the Permittee's response to NMED Comment 10a. Revise Table 6.2 for accuracy.
- b. A data discrepancy for the m,p-xylene concentration reported for sample DP034-SB08-1 on the Appendix J data table was not addressed as previously required. Revise the table to accurately report the respective data reported in the laboratory analytical report and to conform with the Permittee's response to NMED Comment 10f.

The Permittee must submit a revised Report that addresses all comments contained in this Disapproval. In addition, the Permittee must include a response letter that cross-references where NMED's numbered comments were addressed. The Permittee must also submit an electronic redline-strikeout version of the revised Report showing all changes made to the Report. The revised Report must be submitted to NMED no later than **August 31, 2023**.

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 690-5760.

Sincerely,



Dave Cobrain
Program Manager
Hazardous Waste Bureau

cc: B. Wear, NMED HWB
G. Acevedo, NMED HWB

Colonel Taylor

April 5, 2023

Page 6

L. King, EPA Region 6 (6LCRRC)

C. Gierke, CAFB

S. Hill, CAFB

J. Burgoon

File: CAFB 2023 and Reading