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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 2, 2017

Colonel Stewart A. Hammons
Commander, 27th Special Operations Wing
110 E. Alison Avenue, Suite 1098
Cannon Air Force Base
New Mexico 88103

**RE: DISAPPROVAL
RCRA FACILITY INVESTIGATION AT TU504
CANNON AIR FORCE BASE, NEW MEXICO
EPA ID #NM7572124454
HWB-CAFB-16-009**

Dear Colonel Hammons:

The New Mexico Environment Department (NMED) has received the Cannon Air Force Base (Permittee) *RCRA Facility Investigation at TU504* (Report), dated October 10, 2016. NMED has completed review of the Report and hereby issues this Disapproval. The Permittee must address the following comments.

COMMENTS

1. Section 3.1, RCRA Facility Investigation Objective, Pg. 3-1

Permittee's Statement: "The overall objective of the RFI was to evaluate the vapor intrusion and soil-to-groundwater pathways at TU504."

NMED Comment: Report Section 1.2, Purpose and Scope, indicates that the objective of the investigation is to evaluate human health and ecological risk and the soil-to-groundwater exposure pathway. The exposure model outlined in Section 3.4.1, Preliminary Site

Conceptual Exposure Models, and Figure 3.1, Preliminary Site Conceptual Exposure Model Hospital Abandoned UST Site (TU504), identified the primary routes of receptor exposure as ingestion and dermal contact with contaminated surface and subsurface soil, inhalation of airborne soil particulates, and exposure to volatile emissions and vapor intrusion. The soil-to-groundwater exposure pathway was considered to be limited at the site. Revise the Report objective to accurately describe the scope of the investigation and the established site conceptual exposure model.

2. Section 3.4.3, Soil Exposure Intervals, Pg. 3-3

Permittee's Statement: "NMED guidance also assumes the industrial/occupational worker activities occur at or near the surface at not greater than 1 foot bgs [below ground surface]. However, no surface (0 to 1 foot) data was collected for TU504; therefore, the industrial/commercial worker exposure interval for TU504 was defined as 0 to 5 feet bgs."

NMED Comment: Use of data from the 0 to 5 foot bgs soil interval for evaluation of the industrial/occupational exposure scenario introduces uncertainty into the risk analysis and is a data gap. Revise Section 3.4.3 of the Report to address the rationale for not collecting soil samples within the industrial/occupational exposure interval (0 to 1 foot bgs). Discuss the uncertainty introduced into the risk assessment by the lack of surface soil sample information. The data gap must also be addressed in Report Section 5.4.6, Uncertainty, and any other affected Report section.

3. Section 3.5, Ecological Screening-Level Evaluation Methodology, Pg. 3-5

NMED Comment: Section 3.5 concludes that no further action regarding ecological risk is warranted at TU504 due to the absence of ecological habitat, potential receptors, and complete exposure pathways, as indicated by a preliminary ecological evaluation. For completeness, provide the Ecological Exclusion Criteria Checklist completed in the December 2013 *Site Investigation at Eight Sites* for TU504 as an additional Report appendix. Discuss the conclusions of the preliminary ecological risk evaluation in Section 3.5 and provide any additional lines of evidence to support the conclusions of the Report.

4. Section 5.4.3, Evaluation of Petroleum Hydrocarbons, Pg. 5-4

NMED Comment: A discrepancy was noted in the reported sampling frequency documented in Section 5.4.3 and the documented sample detection reconciliation reported in Table E-8, Human Health Quantitative TPH Screening Evaluation Results for TU504. Section 5.4.3 states that Diesel Range Organics (DRO) were detected in six of 22 soil samples and Oil Range Organics (ORO) were detected in ten of 22 soil samples. However, Table E-8 indicates DRO were detected in twelve of 22 samples and ORO were detected in sixteen of 22 samples. Revise the Report to resolve this discrepancy.

5. Section 5.4.5, Refined Quantitative Risk Screen Evaluation for Soil, Pg. 5-6

NMED Comment: A discrepancy was noted for the reported upper confidence level (UCL) concentration values suggested by Pro UCL as presented in Section 5.4.5 and the actual UCL values selected for use in the refined risk screen evaluation calculations in Appendix E of the Report (Tables E-13 through E-16). Additionally, in most cases, a UCL value similar to the Pro UCL suggested 95% UCL appears to have been utilized for the refined human health risk calculations. For transparency, provide information regarding the methodology and rationale utilized for the derivation and/or selection of the UCL values utilized for the risk screen calculations. Revise the Report accordingly.

Also, Appendix E, Attachment 1, Pro UCLs, does not appear to contain the UCL derivation data input and data output reports for DRO. The revised Report must include all UCL calculation data input and output values.

6. Section 5.5, Site Conceptual Exposure Model (SCEM), Pg. 5-9

NMED Comment: Total cumulative risk for evaluation of human health across soil and soil vapor exposure pathways was not calculated in accordance with the requirements of the NMED Risk Assessment Guidance for Site Investigations and Remediation. Include a table in Section 5.5 documenting total cumulative risk across all exposure pathways as presented in the cumulative risk table for soil included in Section 5.4.4, which is titled Hospital Abandoned UST (TU504) Screening-Level Cumulative Risks and Hazard Indices for Vapor Intrusion, and the cumulative risk table included in Section 5.4.5, which is titled Hospital Abandoned UST (TU504) Refined Screening-Level Cumulative Risk and Hazard Indices for Soil.

7. Table E-15, Human Health Quantitative Screening Evaluation Results for TU504 Commercial/Industrial Worker Scenario-95% UCL, Pg. 1-1

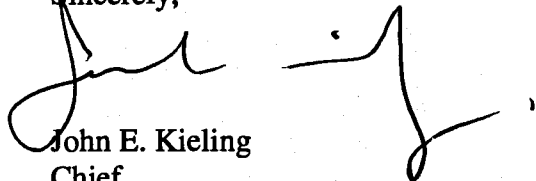
NMED Comment: Revise Table E-15 to include a numerical total for the Estimated Cancer Risk column. The spreadsheet sum calculation appears to be affected by a data point value error entered for benzo(a)anthracene.

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 where all changes have been made to the Report. The revised Report must be submitted on or before **December 29, 2017**.

Colonel Hammons
October 2, 2017
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If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 476-6043.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

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