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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 31, 2009

Mr. David Scruggs, Chief
Environmental Restoration Program
49 CES/CEVR
550 Tabosa Ave.
Holloman AFB, NM 88330-8458

**SUBJECT: NOTICE OF DISAPPROVAL: RCRA FACILITY INVESTIGATION
WORK PLAN, SWMU 8, JANUARY 2009
HOLLOMAN AIR FORCE BASE, NM6572124422
HAFB-09-001**

Dear Mr. Scruggs:

The New Mexico Environment Department (NMED) has reviewed the RCRA Facility Investigation Work Plan for Solid Waste Management Unit (SWMU) 8, which was submitted for the performance of additional site characterization at this site by Holloman Air Force Base (the Permittee). The Work Plan cannot be approved at this time, as revisions are necessary. The Permittee is required to address the following deficiencies before the NMED can make a final determination regarding approval.

GENERAL COMMENTS

1. The Permittee must submit a new figure(s) showing the locations of all existing and former soil borings and monitoring wells and the results and dates of analyses that were/are above relevant and applicable soil and groundwater action levels. This figure, or a separate figure if appropriate, must also show the current direction of groundwater flow. Section 2.7 of the Work Plan stated that September 2008 groundwater elevations indicated groundwater flow direction to the northwest. In

July 2006, the groundwater flow was found to be to the west-southwest. NMED cannot approve the location of the proposed monitoring wells without knowing the current and anticipated direction of groundwater flow.

2. The Permittee must revise Figures 1-1, 1-2, 1-3, 6-1, 6-2, 6-3 and 6-4 to show which datum projection was used (e.g., New Mexico State Plane Coordinate System, Central Zone, 1983 [ft]).
3. The Permittee must revise the Work Plan to include evaluation of inorganic constituents detected in soil above the reporting limit against the soon-to-be established base-wide background concentrations. Pursuant to the recently revised NMED Soil Screening Guidance (August, 2009), the maximum detected concentration for each contaminant that is detected above the reporting limit must be used. In the event that the maximum detected concentration exceeds the background reference datum, a statistical comparison of the data populations may be conducted.

The Permittee must also provide a detailed description of the procedures to be followed for any risk assessments (human health and ecological) to be performed. This includes a detailed site conceptual model, how constituents of concern will be selected, how exposure point concentrations will be determined, and exposure methodologies. In addition, an ecological scoping survey following NMED guidance must be conducted and provided to support the ecological risk assessment.

In past investigations, concentrations detected in soil were compared to the 2006 NMED soil screening levels (SSLs). Please note that NMED has revised the SSLs and for all future evaluations, the 2009 SSLs must be applied. In the event that a constituent is not included in the NMED SSL tables, data from the Environmental Protection Agency (EPA) Region 6 Regional Screening Level (RSLs) tables may be applied.

4. The Permittee must provide a table showing all analyte holding times.

SPECIFIC COMMENTS

5. **Page 6-4, Section 6.2.1.1, 1st Sentence and Page 10-3, Section 10, References**

As described in Comment #3 above, the NMED SSLs were revised effective in August 2009. The Permittee must revise this sentence and the reference to reflect that the revised SSLs will be used as action levels for the proposed activities.

6. **Page 6-4, Section 6.2.1.2**

This section indicates that data from indoor air and soil vapor sampling will be compared to residential allowable indoor inhalation levels included in the New

Mexico *Underground Storage Tank Bureau Guidelines for Corrective Action* (NMED, 2000). There are several concerns with the use of screening data in this guidance. One of the primary concerns is that the toxicological data used to derive the screening data are out of date for several of the constituents. Another concern is that the equations do not incorporate the EPA recommended methodologies for the inhalation pathway as outlined in the *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)* (January 2009, OSWER 9285.7-82). Under previous guidance, inhalation reference doses and slope factors were combined with specific inhalation rates and body weight to determine screening data. Under current guidance, reference concentrations and inhalation unit risk factors are applied and body weight and inhalation rates are no longer required. In order to be consistent with current guidance, including New Mexico Guidance for RCRA corrective action, data collected from indoor air should either be compared to RSL data for residential air or calculated following UST guidance using updated methodologies and toxicological data. As an example, the screening level for naphthalene (which has been detected at the site) from the UST guidance (Table 4-17) is $62.5 \mu\text{g}/\text{m}^3$ air. Due mostly to updates in toxicological data, the RSL datum for naphthalene is now $7.2\text{E}-02 \mu\text{g}/\text{m}^3$ air (adjusted to a $1\text{E}-05$ risk is $7.2\text{E}-01 \mu\text{g}/\text{m}^3$). The Permittee must revise this section accordingly.

Data from soil vapor sampling shall be evaluated using EPA's Johnson and Ettinger model. Note that the model shall only be used to assess concentrations. As the model has not been revised to incorporate current toxicological data, the risk determinations shall not be used from the model. The resulting concentrations from the model shall be used with current toxicological data to determine overall risk/hazard. The Permittee must revise this section accordingly.

7. **Page 6-12, Section 6.3.4, 1st Paragraph, 2nd Sentence**

This sentence states that a peristaltic pump will be used to collect groundwater samples. NMED notes that volatile organic compounds (VOCs) are part of the suite of analytes of interest. The Permittee is advised that the use of a peristaltic pump to collect VOC samples is not permitted as degassing of the VOCs could occur. An alternate method of sampling groundwater (e.g., bailing or low flow submersible pump) for VOCs must be proposed in the response to this Notice of Disapproval (NOD). In addition, the Permittee must provide assurance that a minimum of 3-5 well volumes will be purged from each well prior to sampling.

8. **Page 6-16, Section 6.3.6, 1st Paragraph, 4th Full Sentence, Page 6-18, Section 6.3.6, 1st Paragraph, 2nd Full Sentence, and Page 6-19, Section 6.3.7, 2nd Paragraph, 4th Sentence**

These sentences indicate that the subject forms are located in Appendix C of the

Work Plan. These forms are actually located in Appendix E. These sentences must be revised to reflect this change.

9. **Page 6-18, Section 6.3.7**

This section indicates that the purpose of the indoor air sampling is to determine ambient levels of contaminants in air that are not related to releases from SWMU 8. There is some confusion regarding the potential presence of contaminants under or near the buildings. Section 5.2 states that a goal of the Work Plan is to close data gaps with regard to soil and groundwater contamination below Buildings 231 and 232. If there is a potential that contaminated soil and/or groundwater is present underneath or near the foundations of either Building 231 or 232, the indoor air sampling would most likely include detections of constituents related to SWMU 8. The Permittee must clarify how a determination can be made that the results of the indoor air sampling are not influenced by contamination associated with SWMU 8.

Another concern with the indoor air sampling is that only one sample in each building is proposed. It is unclear how any determination can be made based on a single data point, especially taking into account the multitude of uncertainties and influencing parameters on indoor air samples. The Permittee must clarify how the results from the one sample will be evaluated and compared to other data.

10. **Page 6-19, Section 6.3.7, 2nd Paragraph, 2nd Sentence**

Regarding completion of the Air Quality Questionnaire and Building Inventory Form, this sentence states that "Questions on this form will be asked to the senior or most qualified employee present within the building at the time sampling is to occur." The Permittee must revise this sentence to state that the most qualified employee will be questioned, even if that person has to be summoned.

11. **Appendix A, Basewide QAPP Addendum, Table 4-4**

This Table indicates that the soil-vapor reporting limits (RLs) for the following constituents are higher than the residential risk-based screening level (RBSL), as shown below:

CONSTITUENT	RL ($\mu\text{g}/\text{m}^3$)	RBSL ($\mu\text{g}/\text{m}^3$)
Benzene	5	2.66
1,2-Dibromoethane	5	0.146
1,2-Dichloroethane	5	1.23

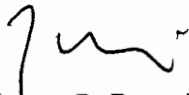
The Permittee must provide evidence that changes will be made to ensure that these RLs will be lower than the RBSLs.

Mr. David Scruggs
August 31, 2009
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Submit the required information in the form of a revised Work Plan that incorporates all the responses to this NOD, indicating added information in highlights, and deleted information in strikeouts, and on CDs compatible with Microsoft Word. Further, in order to expedite review of the responses, provide a matrix of the comments and HAFB responses. The response must be provided by October 30, 2009.

If you have any questions regarding this NOD or if you would like to discuss the comments prior to your response, please contact David Strasser of my staff at (505) 222-9526, or at the above address.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
W. Moats, NMED HWB
C. Amindyas, NMED HWB
D. Strasser, NMED HWB
L. King, EPA, Region 6 (6PD-F)
File: HAFB 2009 and Reading
HWB-HAFB-09-001