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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 13, 2009

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

SUBJECT: NOTICE OF DISAPPROVAL: WEST POL YARD (AOC-4), ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT, JULY 2008
HOLLOMAN AIR FORCE BASE, NEW MEXICO
EPA ID#: NM6572124422
HWB-HAFB-08-008

Dear Mr. Scruggs:

The New Mexico Environment Department (NMED) has reviewed the subject Accelerated Corrective Measures (ACM) Completion Report (Report), which was submitted for the performance of the ACM at the West Petroleum, Oil, and Lubricants (POL) Yard (Area of Concern [AOC]-4), Holloman Air Force Base (the Permittee). ACM included additional site investigation and soil excavation activities. NMED has determined that the Report)cannot be approved at this time, as additional work and 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. Sample result tables provided in the Report must explain all abbreviations, quality flags, special formatting, and sample suffixes in the footnotes (e.g., **bold** type used to communicate

specific information, J = ?, B = ?, A = ?). The test methods must be listed and legible and spelling errors must be corrected. Sample dates listed in the tables must coincide with the investigation summaries in the text (e.g., were samples listed as collected in 2002 actually collected in 2003?). The Permittee must revise all tables to satisfy these requirements.

SPECIFIC COMMENTS

2. Section 1.1, page 1-2, 1st paragraph, last two sentences and Section 8.1.3

The last two sentences of Section 1.1 state "[t]he conclusion of the document requests that NMED issue a NFA [no further action] for the West POL Yard Fuel Spill Site (AOC-4) based upon Criterion #5 (Appendix 4-B HAFB Hazardous Waste Facility Permit No. NM6572124422), (NMED, 2004) which states: 'The site was characterized or remediated in accordance with applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use.' This criterion was accomplished by removing additional PCS [petroleum-contaminated soil] present at the site which had exceeded the NMED [Residential?] soil screening levels (SSLs), and performing a sitespecific risk assessment."

According to Section 8.1.3, the risk assessment employed commercial/industrial worker and construction worker screening levels for evaluation criteria, rather than residential screening levels. To apply for an NFA determination, the Permittee must alter the site-specific risk assessment to employ SSLs for residential exposure. These SSLs include the NMED SSLs as listed in the *New Mexico Environment Department Technical Background Document for Development of Soil Screening Levels* (Revision 4.0, June 2006) and the *New Mexico Environment Department TPH Screening Guidelines* (October 2006).

Due to elevated total petroleum hydrocarbon (TPH)–gasoline range organics (GRO) and TPH–diesel range organics (DRO) concentrations measured in soil samples collected from five locations adjacent to the active aboveground storage tank (AST) farm and surrounding containment structure, the initial data comparisons will likely indicate that TPH concentrations exceed the NMED Residential SSLs for TPH. The Permittee must provide explanation of any exceedences, such as the active nature of the facility, both current and future land use expectations, etc..

The Permittee must conduct a site-specific risk assessment, consisting of two discrete areas. The first area must consist solely of the area located directly adjacent to the southern edge of the AST farm and containment structure, sample locations with high TPH concentrations. The second area must consist of the remaining excavated area; these samples will likely have undetected TPH concentrations. Assessing the two separate areas will allow a clear indication of the area that meets the ACM objectives and the area that may require additional effort in the future (e.g., monitoring and/or soil excavation).

3. **Section 1.2, page 1-2, 1st sentence**

The sentence states, "[i]nvestigation activities were conducted in accordance with the *Groundwater Monitoring Work Plan, West POL Yard, Holloman Air Force Base, New Mexico* (Bhate, 2006)." The NMED does not have a record of receiving the *Groundwater Monitoring Work Plan, West POL Yard, Holloman Air Force Base, New Mexico* (Bhate, 2006). In the future, The Permittee must submit work plans for review and approval to the NMED for any future work.

4. **Executive Summary, page vii, 1st paragraph, 1st sentence; Section 2.2, page 2-1, 1st paragraph, last sentence; and Section 2.3.2, 2nd and 3rd sentences**

The Report establishes that the active aboveground storage tanks (ASTs) at the West POL Yard contain jet fuel (JP-8) and that at some point in the past spills of jet fuel (both JP-8 and JP-4) occurred. The following passages provide this basis:

- **Executive Summary, page vii, 1st paragraph, 1st sentence**: "The West Petroleum, Oil, and Lubricants (POL) Yard (Area of Concern [AOC] – 4) is comprised of four 50,000-gallon aboveground storage tanks (ASTs), [*sic*] that were used to store and distribute JP-8 jet fuel."
- **Section 2.2, page 2-1, 1st paragraph, last sentence**: "The facility was used to store and distribute JP-8 jet fuel to tanker trucks (FWENC, 2003b)."
- **Section 2.3.2, page 2-2, 2nd and 3rd sentences**: "During sampling in October [1999], older residual contamination was discovered as dark gray stained soil. Analysis of the stained soil indicated that the petroleum was JP-4 and that the contamination was older than previously reported."

However, although the spill consists of jet fuel, the Report provides inconsistent data evaluations regarding measured TPH concentrations. In several sections, the report does not specify whether the applied NMED TPH SSL reflects the residential value or the SSL of another category (e.g., construction worker). The Permittee must use the NMED Residential TPH SSL for direct exposure concentration for kerosene and jet fuel, which is 940 milligrams per kilogram (mg/kg) due to the type of petroleum product spilled. Moreover, The Permittee must specify NMED Residential TPH SSL in the document text, tables, and figures, where the phrase occurs; this includes, but is not limited to the excerpts in Comment 5.

5. **Section 2.3.3, page 2-2, 2nd paragraph, 2nd sentence; Section 2.3.3.2, page 2-3, 2nd paragraph, 1st sentence; Section 8.1.1, page 8-3, 1st paragraph, 5th sentence; Section 8.1.3.1, page 8-5, 2nd major bullet; Section 8.1.3.1, page 8-5, 3rd major bullet; Section 8.1.3.4, page 8-7, 1st bullet, 3rd sentence; and Figure 8-2, legend, footnotes**

The Report employs a variety of measured TPH concentration scenarios to an NMED TPH SSL. These scenarios consist of: 1) using solely TPH-DRO concentrations; 2) using the combined or summed concentrations of TPH-GRO and TPH-DRO; 3) using the combined

concentrations of TPH-DRO and TPH-oil range organics (ORO); and 4) using the average TPH value derived from all petroleum products within a specific exposure type (e.g., Industrial). The following excerpts detail the varying scenarios:

- **Section 2.3.3, page 2-2, 2nd paragraph, 2nd sentence**: "It was determined through laboratory analysis that approximately 1,200 cubic yards (1,430 tons) of soil contained TPH at concentrations greater than the 940 mg/kg action level and would need to be disposed as New Mexico Special Waste by Rhino Environmental."
- **Section 2.3.3.2, page 2-3, 2nd paragraph, 1st sentence**: "TPH-DRO were detected above the current NMED SSLs (NMED, 2006b) for kerosene and jet fuel (940 mg/kg) in WPOL-EX01, -EX02, -EX03, -EX18, AND –EX19."
- **Section 8.1.1, page 8-3, 1st paragraph, 5th sentence**: "The combined TPH-GRO and DRO concentration (TPH-ORO was not detected) for the samples collected at WPOL-SW20 (4,900 mg/kg), WPOL-SW26 (3,630 mg/kg), WPOL-SW27 (2,500 mg/kg), and WPOL-SW28 (1,280 mg/kg) were each above the NMED TPH screening guideline for kerosene and jet fuel (940 mg/kg) (NMED, 2006b)."
- **Section 8.1.3.1, page 8-5, 2nd major bullet**: "TPH results reported in TPH-GRO (C6-C10) were not considered in the RA [risk assessment] since individual compounds are evaluated. This is consistent with methodology as per the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006b)."
- **Section 8.1.3.1, page 8-5, 3rd major bullet**: "TPH results reported in TPH-DRO (C10-C22) and TPH-ORO (>C22-C36) were added as follows and are shown as TPH (C10-C36):"
- **Section 8.1.3.4, page 8-7, 1st bullet, 3rd sentence**: "Note that the SSL for TPH is an averaged TPH value of all the petroleum products for industrial direct exposure in the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006b)." This results in an average concentration of 2,850 mg/kg.
- **Figure 8-2, legend, footnotes**: Figure 8-2 provides a comparison of TPH analytical results to the NMED TPH Residential soil screening guideline for kerosene and jet fuel (940 mg/kg) by using the sum of TPH-GRO and TPH-DRO.

The Permittee must consistently provide a straight-forward comparison of each resultant TPH analytical dataset (e.g., TPH-DRO or TPH-ORO) to the NMED TPH Residential SSL for kerosene and jet fuel (940 mg/kg). The Permittee must clearly show these comparisons in Tables 8-1 and 8-2(a). The Permittee must emphasize (e.g., show in **bold** font) any measured TPH concentration that exceeds the NMED TPH Residential SSL. This comparison includes the risk assessment methodology of the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006), which allows the exclusion of TPH-GRO (C6-C10) analytical data because an evaluation of the individual compounds already occurs within the risk assessment.

6. **Table 7-1, Table 8-1, and Table 8-2(a)**

To more clearly communicate the analytical results and the progress toward achieving the ACM objectives, The Permittee must revise Table 7-1, Table 8-1, and Table 8-2(a) to include all groundwater evaluation criteria and all soil evaluation criteria. Specifically, the evaluation criteria for groundwater must include the appropriate Residential values as specified by the New Mexico Water Quality Control Commission (NMWQCC), the USEPA Region 6 MCLs, and the *New Mexico Environment Department TPH Screening Guidelines* (October 2006). The evaluation criteria for soils must include the residential values listed in the *New Mexico Environment Department Technical Background Document for Development of Soil Screening Levels* (Revision 4.0, June 2006) the *New Mexico Environment Department TPH Screening Guidelines* (October 2006), and the USEPA Region 6 Screening Action Levels (SALs). These requirements must extend to the analytical results from future samples.

7. **Figures**

None of the figures shows all soil excavation confirmatory sample locations, from 2003 and 2006. Moreover, no figure shows all of the soil sampling results (e.g., TPH results). The Permittee must create new figures or modify existing figures to show all soil excavation soil sample locations (from 2003, 2006, and future) and the soil sampling results on a single figure to clearly demonstrate that the excavation objectives have been met.

8. **Section 1.3, page 1-3, 1st paragraph, 1st bullet**

The text of the bullet point states, "[o]ne up-gradient monitoring well (WPOL-MW01), two down-gradient monitoring wells (WPOL-MW02 and WPOL-MW04), and one monitoring well within the known contaminated area (WPOL-MW03) were installed to define groundwater conditions at the site." The Permittee must specify whether these monitoring wells remain in-place at the site.

9. **Figure 2-3, Table 8-2(a), and Figure 8-1**

Piecing together the data and sample location information contained in Figure 2-3, Table 8-2(a), and Figure 8-1 makes it possible to determine which confirmatory sample locations have resultant TPH concentrations that exceed the NMED TPH Residential SSL. According to the combined information, confirmatory soil sample TPH-DRO concentrations exceed the NMED TPH Residential SSL for kerosene and jet fuel (940 mg/kg) at four sampling locations along the northern exterior edge of the 2003 and 2006 excavation areas. These sample locations include EX18 (23,600 mg/kg), SW26 (2,800 mg/kg), SW27 (1,800 mg/kg), and SW20 (3,900 mg/kg). TPH-GRO confirmatory soil sample concentrations exceed the NMED TPH Residential SSL for kerosene and jet fuel (940 mg/kg) at two sampling locations along the northern exterior edge of the 2003 and 2006 excavation areas. These sample locations include EX18 (7,790 mg/kg) and SW21 (1,000 mg/kg). TPH-ORO was not detected and measured concentrations range from 24 mg/kg to 260 mg/kg. The 2006 locations SW20, SW21, SW26, and SW27 extend along the southern edge of the secondary

containment structure, which is an actively used facility. During a 2006 site visit, the NMED and the Permittee verbally agreed it was unnecessary to extend the excavation beneath the active facility. The 2003 confirmatory sample location EX18 sits on the southwestern corner of the secondary containment structure and no other proximal structures appear adjacent to sample location EX18.

Due to the high measured TPH concentrations (DRO is 23,600 mg/kg and GRO is 7,790 mg/kg), and the paucity of analytical data to the northwest of the excavation areas, The Permittee must collect additional soil samples and obtain analytical data results for the area to the northwest of the excavation area and west of the active AST farm. These data shall be used to provide information regarding the nature and extent of contamination west of the AST farm.

Please submit the required information in the form of a revised Corrective Measures Completion Report that incorporates all the responses to the above NOD in two hard copies indicating added information in highlights, and deleted information in strikeouts, and on two CDs compatible with Microsoft Word. Further, in order to expedite review of the responses, provide a matrix of the comments and Permittee responses.

If you have any questions or if you would like to discuss the comments prior to your response, please contact Dezbah Tso of my staff at (505) 222-9528, or at the above letterhead address.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:dat

cc: J. Kieling, NMED HWB
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