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**ENTERED**



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DEPUTY SECRETARY

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

July 27, 2007

Colonel Scott D. West  
Commander 27<sup>th</sup> Fighter Wing  
100 D.L. Ingram Boulevard  
Cannon Air Force Base, New Mexico  
88103-5214

**RE: NOTICE OF DISAPPROVAL  
FINAL REPORT RCRA FACILITY  
INVESTIGATION FOR 21 SWMUs  
CANNON AIR FORCE BASE, NEW MEXICO, EPA ID NO. NM7572124454  
HWB-CAFB-06-007**

Dear Colonel West:

The New Mexico Environment Department (NMED) reviewed the Department of the Air Force's (the Permittee) *Final Report RCRA Facility Investigation for 21 Solid Waste Management Units (SWMUs) at Cannon Air Force Base* (the Report), dated October 2006. The Permittee must respond to all comments in this letter as directed. NMED has determined that several changes must be made before an approval can be granted to the Permittee for the Report.

The Permittee must submit a revised report no later than January 11, 2008. The Permittee must include a response letter that indicates precisely where revisions have been made that address the comments of this letter, cross-referencing NMED's numbered comments. The Permittee must also include in the response letter a schedule for submittal of additional work plan(s) that addresses the sites that require additional investigations and/or corrective action.

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**COMMENT 1 (SWMU 2)**

Arsenic was detected at concentrations between residential New Mexico Soil Screening Levels (NMSSLs) and industrial NMSSLs and above the site-specific subsurface background value calculated by the Permittee at SWMU 2.

Without performing additional work at this site, the Permittee may seek a “corrective action complete with controls” determination as defined in 20.4.2.7 NMAC. If the Permittee completes additional corrective action and reduces contaminant concentrations to levels below residential NMSSLs, then the Permittee may seek a “corrective action complete without controls” determination as defined in 20.4.2.7 NMAC.

**COMMENT 2 (SWMU 6)**

In Table D-3, the Permittee identifies Building 129-A and Building 129-B as “site analyte units.” These individual sites were not identified in Section 8 (SWMU 6 – POL Tank No. 129).

The Report must be revised to include descriptions of both sites.

**COMMENT 3 (SWMU 6)**

Arsenic was detected at concentrations between residential NMSSLs and industrial NMSSLs and above the site-specific subsurface background value calculated by the Permittee at SWMU 6. Total petroleum hydrocarbons (TPH), specifically diesel, were also detected at concentrations between residential and industrial screening values (Table 2a, New Mexico Environment Department TPH Screening Guidelines, November 2005).

Without performing additional work at this site, the Permittee may seek a “corrective action complete with controls” determination as defined in 20.4.2.7 NMAC. If the Permittee completes additional corrective action and reduces contaminant concentrations below residential NMSSLs, then the Permittee may seek a “corrective action complete without controls” determination as defined in 20.4.2.7 NMAC.

**COMMENT 6 (SWMU 10)**

In Section 9.2.3, the Permittee compares the detected TPH concentrations to NMED’s jet fuel and kerosene screening numbers (Table 2a, New Mexico Environment Department TPH Screening Guidance, November 2005). However, the Permittee states in Section 9.1 that the 2,000 gallon tank stored diesel fuel.

The Permittee must revise the Report to compare detected concentrations of TPH at SWMU 6 to diesel #2/crankcase oil numbers listed in Table 2a of NMED’s TPH Guidance.

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**COMMENT 7 (SWMU 34)**

Lead was detected at concentrations between residential NMSSLs and industrial NMSSLs and above the site-specific surface and subsurface background value for lead calculated by the Permittee at SWMU 34. TPH was also detected at concentrations between residential and industrial screening values (Table 2a, New Mexico Environment Department TPH Screening Guidelines, November 2005).

Without performing additional work at SWMU 34, the Permittee may seek a "corrective action complete with controls" determination as defined in 20.4.2.7 NMAC. If the Permittee completes additional corrective action and reduces contaminant concentrations to levels below residential NMSSLs, then the Permittee may seek a "corrective action complete without controls" determination as defined in 20.4.2.7 NMAC.

**COMMENT 8 (SWMUs 49 & 50)**

Text in Section 11 describes SWMUs 49 and 50 but Table D-6 displays analytical data for SWMUs 48 and 49.

The Permittee must add a narrative description and investigation history for SWMU 48. In addition, the Report must be revised to include analytical data summary tables for SWMU 50.

**COMMENT 9 (SWMUs 49 & 59)**

In Section 11.3 the Permittee references incorrect NMSSLs for barium.

The Permittee must use the most current NMSSLs, which may be found at <http://www.nmenv.state.nm.us/hwb/guidance.html>

**COMMENT 10 (SWMUs 49 & 50)**

The Permittee shows in Table D-6 xylenes concentration at 100,000  $\mu\text{g}/\text{kg}$ , which is above the residential NMSSL for xylenes (82,000  $\mu\text{g}/\text{kg}$ ) but below the industrial NMSSLs.

Without performing additional work at SWMU 48, the Permittee may seek a "corrective action complete with controls" determination as defined in 20.4.2.7 NMAC. If the Permittee completes additional corrective action and reduces contaminant concentrations to levels below residential NMSSLs, then the Permittee may seek a "corrective action complete without controls" determination as defined in 20.4.2.7 NMAC.

**COMMENT 11 (SWMU 78)**

In Section 14.2.4, the Permittee compares the detected TPH concentrations to NMED's (Table 2a, New Mexico Environment Department TPH Screening Guidance, November 2005) jet fuel and kerosene screening numbers. However, the Permittee states in Section 14.1 that waste oils, solvents, and fuels were poured onto the ground to create fires at the fire department training area.

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The Permittee must revise the Report to compare detected concentrations of TPH at SWMU 78 to unknown oil numbers listed in Table 2a of NMED's TPH Guidance.

**COMMENT 12 (SWMU 78)**

Lead was detected at concentrations between residential NMSSLs and industrial NMSSLs and above the site-specific surface and subsurface background value for lead calculated by the Permittee at SWMU 78. The Permittee states in Section 14.2.1.2 of the Report that the maximum TPH concentration at SWMU 78 during the 1986 investigation was 2,800 mg/kg at a depth 10 feet below the ground surface. The Permittee also states in Section 14.2.4 that the maximum TPH concentration at SWMU 78 (12,500 mg/kg) exceeds the residential SSL. However, TPH data is not shown in the data summary tables of Appendix D.

The Permittee must revise the Report to include all historical data in the summary tables in Appendix D.

**COMMENT 13 (SWMU 78)**

The Permittee states in Section 14.2.1.3 "Presumably all the data in the original tables (samples 0781 through 0786) were replaced with data from the additional samples (samples 0787 through 7811)."

The Permittee must revise the Report to clarify this statement.

**COMMENT 14 (SWMU 82)**

Benzo(a)pyrene was detected above residential NMSSLs in soil at SWMU 82. In addition, several other volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) were detected below residential NMSSLs. Even though most of the constituents detected were below the residential NMSSLs, exposure to multiple contaminants may result in a cumulative site risk that is above the anticipated risk management range.

The Permittee must calculate the cumulative affect for noncarcinogens (hazardous Index of less than 1) and carcinogens (risk less than  $10^{-5}$ ) and include the results in the revised report. The results of calculating the cumulative risk may indicate the need for additional work at the site.

**COMENT 15 (SWMU 85)**

Arsenic was detected in nearly every soil sample at SWMU 85; with the highest detected concentration at 110.5 mg/kg. Many of the detections are above the Permittees' site-specific calculated background value for arsenic.

The Permittee must conduct additional investigative and/or corrective action activities to achieve applicable levels at this SWMU.

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**COMMENT 16 (SWMU 85)**

The Permittee must explain what ST-1, ST-2 and ST-3 represent in Table D-12 of Appendix D.

**COMMENT 17 (SWMU 91)**

The investigation activities described for SWMU 91 were actually completed for Site SD-11 SWMUs (SWMUs 86-90). No soil samples were collected around the former aboveground storage tank (AST) No. 5114 and the samples that were collected and analyzed for Site SD-11 are not suitable to characterize SWMU 91.

The Permittee must submit a work plan to conduct investigation activities specifically for SWMU 91.

**COMMENT 18 (SWMU 95)**

Arsenic was detected in most samples collected at SWMU 95; with the highest detected concentration at 152 mg/kg. Many of these detections are also above the Permittees' site-specific calculated background values.

The Permittee must conduct additional investigative and/or corrective action activities to achieve applicable cleanup levels at this SWMU.

**COMMENT 19 (SWMU 96)**

Several organic compounds (alpha chlordane, gamma chlordane, DDE, heptachlor epoxide) were detected at concentrations between residential and industrial NMSSLs in soils at SWMU 96. DDT was detected at concentrations above industrial NMSSLs. Arsenic was also detected at concentrations between the residential and industrial NMSSLs.

The Permittee must conduct additional investigative and/or corrective action activities to achieve applicable cleanup levels at this SWMU.

**COMMENT 20 (SWMU 102)**

Arsenic was detected at concentrations between residential NMSSLs and industrial NMSSLs and above the site-specific surface and subsurface background values calculated by the Permittee at SWMU 102.

Without performing additional work at SWMU 102, the Permittee may seek a "corrective action complete with controls" determination as defined in 20.4.2.7 NMAC. If the Permittee completes additional corrective action and reduces contaminant concentrations to levels below residential NMSSLs, then the Permittee may seek a "corrective action complete without controls" determination as defined in 20.4.2.7 NMAC.

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**COMMENT 21 (SWMU 107)**

TPH was detected in several surface and subsurface soil samples collected at SWMU 107, with concentrations as high as 18,300 mg/kg. Xylenes were also detected at concentrations between the residential and industrial NMSSLs.

The Permittee must conduct additional investigative and/or corrective action activities to achieve applicable cleanup levels at this SWMU.

**COMMENT 22 (general)**

In some of the tables in Appendix D, the reporting limits are not listed. For example, the Permittee reports in Table D-4 that no volatile organic compounds (VOCs) were detected (result shown as the "less than" sign). However, no reporting limits are listed in the table. It is not known if the reporting limits is less than or greater than the applicable standard.

In the future the Permittee must use method detection limits not reporting limits and the detection limits must be provided.

**COMMENT 23 (Appendix D)**

Some of the units presented in the tables in Appendix D appear to be incorrect. Some examples of these potential inconsistencies are listed below.

- In Table D-1 the Permittee uses *ug/kg* for metals (e.g., maximum concentration for arsenic reported at 9.9 *ug/kg*), but in the text of Section 6.2.3 the Permittee uses *mg/kg* (e.g., maximum concentration for arsenic reported at 9.9 *mg/kg*).
- In Table D-3 the Permittee uses *ug/kg* for metals (e.g., maximum concentration for arsenic reported at 5.9 *ug/kg*), but in the text of Section 8.2.4 the Permittee uses *mg/kg* (e.g., maximum concentration for arsenic reported at 5.9 *mg/kg*).
- The units used for total petroleum hydrocarbons (TPH) in Table D-3 and Section 8.2.4 may be incorrect.
- In Tables D-5 and D-11 some of the semi-volatile organic compounds (SVOCs) are reported in *mg/kg* and some are reported in *ug/kg*.
- In Table D-8 the Permittee uses *ug/kg* for metals, but in the text of Section 13.2.4 the Permittee reports metal concentrations in *mg/kg*.

The Permittee must review all analytical summary tables along with the associated text and correct the inconsistencies in the revised report. NMED recommends the Permittee report analytical data in the same units as the standards (New Mexico Soil Screening Levels) for easy comparison.

**COMMENT 24 (Appendix D)**

It is difficult to distinguish different sampling dates presented in data summary tables of Appendix D (Table D-9) and the Report does not contain laboratory data sheets to match sample

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identification numbers with appropriate sample collection dates.

The Permittee must provide clarification on the association between the samples and the laboratory data in the revised report.

**COMMENT 25 (general)**

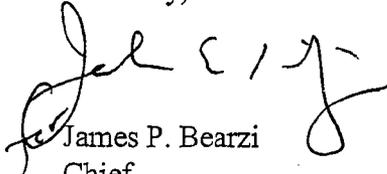
Throughout the Report the Permittee compares maximum detected concentrations in soils to construction worker NMSSLs. If the Permittee wants to achieve "corrective action complete without controls" status for a site (as defined in 20.4.2.7 NMAC) then the Permittee must demonstrate that concentrations of hazardous constituents detected in soils at solid waste management units (SWMUs) and areas of concern (AOCs) are below residential NMSSLs.

The Permittee must submit all laboratory reports on a compact disk for this and all future reports.

The attached table summarizes the status of each unit included in the Report according to NMED current administrative record. The Permittee must submit a work plan to NMED for approval prior to conducting additional corrective action activities at the SWMUs where further action is necessary to achieve applicable cleanup levels. The work plan must include descriptions of work to be performed at the SWMUs that require additional investigations and/or corrective action. If the Permittee intends to petition for a corrective action complete without controls determination for the SWMUs with contaminants detected between residential and industrial NMSSLs, then the Permittee must include descriptions of work to be completed at these sites.

If you have any questions regarding this letter, please contact Cheryl Frischkorn at (505) 476-6058.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
C. Frischkorn, NMED HWB  
Kristi Doll, CAFB  
Ron Lancaster, CAFB  
File: CAFB 2007 and Reading File  
HWB-CAFB-06-007

**ATTACHMENT**  
**CANNON AIR FORCE BASE RFI for 21 SWMUs**

<b>Unit Identification #</b>	<b>Corrective Action Complete without Controls</b>	<b>Corrective Action Complete with Controls</b>	<b>Additional Work Required</b>	<b>Comments</b>
SWMU 2		YES		Arsenic detected between residential and industrial New Mexico Soil Screening Levels (NMSSLs)
SWMU 4	YES			Permittee may petition for No Further Action (NFA) status
SWMU 6		YES		Total petroleum hydrocarbons (TPH) & arsenic detected between residential and industrial NMSSLs
SWMU 10	YES			Permittee may petition for NFA status
SWMU 34		YES		Lead & TPH detected between residential and industrial NMSSLs
SWMU 49		YES		Acetone detected between residential and industrial NMSSLs
SWMU 50	YES			Permittee may petition for NFA status
SWMU 72	YES			SWMU does not exist
SWMU 75	YES			Permittee may petition for NFA status
SWMU 78			YES	Lead & TPH detected above industrial NMSSLs Additional investigation required
SWMU 81	YES			Permittee may petition for NFA status
SWMU 82		YES		Benzo(a)pyrene detected above residential NMSSLs and several other volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) detected below res
SWMU 85			YES	Arsenic detected above industrial NMSSLs Additional investigation required

SWMU 91			YES	Additional investigation required
SWMU 95			YES	TPH detected above industrial NMSSLs Additional investigation required
SWMU 96			YES	Additional investigation required
SWMU 98	YES			Permittee may petition for NFA status
SWMU 102		YES		Arsenic detected between residential and industrial NMSSLs
SWMU 106	YES			Permittee may petition for NFA status
SWMU 107			YES	TPH detected above industrial NMSSLs Additional investigation required
SWMU 125		YES		No constituents detected above residential NMSSLs but SWMU is a landfill