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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

September 17, 2013

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**RE: APPROVAL WITH MODIFICATIONS  
RCRA FINAL FACILITY INVESTIGATION REPORT  
PARCEL 11  
FORT WINGATE DEPOT ACTIVITY, NEW MEXICO  
EPA ID# NM6213820974  
FWDA-11-010**

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) received the Department of the Army's (the Permittee) *Final RCRA Facility Investigation Report (RFI); Parcel 11* (Report), dated March 29, 2013. NMED has reviewed the Report and hereby issues this Approval with the following modifications.

**General Comments:**

**Comment 1.**

Section X.1.2 and X.2.2 discusses the surface conditions and topography of the area and each section references Figure 2-3. This Figure provides very little information regarding the topography but does identify the direction of the storm sewer drainage. Other Sections of the RFI (e.g., Section 3.1.2, 4.1.2) also reference this Figure. In order to better depict the topography related to storm water runoff at each Area of Concern (AOC), provide the following: Descriptions of site specific surface topography or a figure containing elevation contour lines at intervals that allow for the identification of surface features at each AOC including the direction of storm water flow.

**Comment 2.**

In an effort to maintain consistency with NMEDs Soil Screen Levels (SSLs), consistent significant figures should be utilized in the data evaluation. For example, in Section 3.5, Evaluation of Data from Current Investigation (2009-2010), Table 3-8, Sample ID 1103DRMO-SS074D-SO has a arsenic result of 3.9 mg/kg; thus, no exceedance (SSL = 3.90 ug/kg); while, Sample ID 1103DRMO-SS080D-SO has a reported result at 4 mg/kg; thus, exceeded the NMED SSL. It is not apparent whether the detected value was 4 mg/kg or the value was rounded to 4 mg/kg. This comment applies to RFI Sections 2 through 16. Future reports must include data evaluation with significant figures appropriate for comparison to the corresponding SSL.

**Comment 3.**

Section X.2.4 contains information regarding prior ground water characterization, for example, in Section 3.2.4, Prior Groundwater Characterization, page 3-3, line 18, the Permittee states “[n]o groundwater characterization has been performed at SWMU 3 to date.” Although no prior ground water investigations have been conducted at that particular SWMU, a facility-wide ground water monitoring program has been implemented. As such, NMED recommends providing a reference or general discussion of the facility wide ground water investigation in this section or delete the section entirely.

**Comment 4.**

This RFI provides numerous references. In future reports provide references to specific documents including section, page, and table and figure numbers as applicable.

**Comment 5.**

The Table below lists examples where tables, figures and photographs were referenced incorrectly.

Section	Referenced	Correct	Comment
3.5, Evaluation of Data from Current Investigations, pg 3-4, line 35.	Tables 3-4 through 3-11.	Tables 3-3 through 3-10.	Error propagates in the text wherever a table is referenced. Correct this discrepancy.
4.2.2, Site Reconnaissance, pg 4-2, lines 33-34.	Photographs 4-1 through 4-10.	Photographs 4-1 through 4-14.	Two photos were labeled 4-10 was given twice. Correct the numerical sequence and explain or delete the remaining photographs.
6.2.2, Site Reconnaissance, pg 6-3, lines 3-4.	Photographs 6-1 through 6-10.	Missing photos 6-1 and 6-2.	Insert photos 6-1 and 6-2.
7.2.2, Site Reconnaissance, pg 7-3, lines 3-4.	Photographs 7-1 through 7-11.	Photographs 7-1 through 7-15.	Explain or delete remaining the photographs.
9.2.2, Site Reconnaissance, pg 9-2, lines 25-27.	Photographs 9-1 through 9-10.	Photographs 9-1 through 9-17.	Explain or delete remaining the photographs.
10.2.2, SWMU 40, Structures and Buildings within Parcel 6, pg 10-7, lines 21.	Photos 10-14 through 10-24.	Photos 10-14 through 10-30.	Explain or delete remaining the photographs.
10, photographs are not referenced in the Section but are included in the "tab" for photos.	Photographs 10-37 through 10-46.		Explain or delete remaining the photographs.
11.2.2, Site Reconnaissance, pg 11-4, line 24-25.	Photographs 11-1 through 11-12.	Photographs 11-1 through 11-20.	Explain or delete remaining the photographs.
14.2.2, Site Reconnaissance, pg 14-2, line 17.	Photographs 14-1 through 14-13.	Photographs 14-1 through 14-14.	Explain or delete remaining the photographs.
15.2.2, Site Reconnaissance, pg 15-2, line 5.	Photographs 15-1 through 15-7.	Photographs 15-1 through 15-8.	Explain or delete remaining the photographs.
16.2.2.7, Building 22 Transformers, pg 16-5, line 7.	Photographs 16-15 and 16-16.		Could not locate these photographs. Correct the discrepancy.
16.4, Current Investigation (2009-2010), pg 16-6, line 37 and 16.5, Evaluation of Data	Table 16-1 Summary of Deviations.		Table 16-1 is a summary of results of detected PCBs. Correct the discrepancy.

Section	Referenced	Correct	Comment
from Current Investigations (2009-2010), line 34.			

**Comment 6.**

In Volume 3, Appendix B the Permittee attaches emails that reference additional attachments and are not included in the RFI. An example of this is page B-9 an email correspondence from Steve Smith dated March 16, 2010.

**Comment 7.**

The data from 1998 does not appear to have method detection limits (MDLs) or contract required detection limits (CRDLs). NMED generally considers data collected prior to issuance of the Permit to be useful for screening purposes only.

**Comment 8.**

In Section 6.3 Evaluation of Data from Previous Investigations, page 6-5, line 25-28, the Permittee states, “[a]s shown in Table 6-1, several additional VOCs were detected in soil samples. These samples are qualified with “UJ,” indicating these values were not detected and RLs associated with UJ flags were estimated RLs.” Confirm whether or not these samples were affected by failed quality control data (i.e., exceeding the acceptable criteria). This comment is directed at all flagged samples. NMED recognizes that the Quality Control Report is for the current investigation; however, information regarding the Quality Control from previous investigations should be provided or the acceptability of the data should be discussed in the text.

**Section 2.0. Background**

**Comment 9.**

Table 2-1, Field Investigation Summary, page(s) 1-14, or 2-14 through 2-27, lists the following erroneous references:

Area of Concern		Referenced	Correct Reference
SWMU 5	Ground Water	Figure 4-3	Figure 4-2
SWMU 40	Bldg(s) 12 and 13 North Side	Figure 10-4	Figure 10-5
SWMU 40	Bldg 14 North, East, West, South Sides	Figure 10-3	Figure 10-6
SWMU 40	Bldg 29 Footprint and Northern Perimeter	Figure 10-3	Figure 10-5
SWMU 40	Bldg 29 Railroad Track and Southern Perimeter	Figure 10-3	Figure 10-5

Area of Concern		Referenced	Correct Reference
SWMU 40	Former Open Storage Areas Shown in Historical Aerial Photographs	Figure 10-3	Figure 10-7
SWMU 40	Building T-33	Figure 10-3	Figure 10-7
SWMU 40	Former Bldg T-50	Figure 10-3	Figure 10-7
SWMU 40	Bldg 36	Figure 10-3	Figure 10-7
SWMU 40	Structure 57	Figure 10-3	Figure 10-8
SWMU 40	Structures 58, 59, and 60	Figure 10-5	Figure 10-8
SWMU 45, AOC 46, and AOC 51	AOC 46 Former AST	Figure 11-2 (ok, if AOC 46 or AST was labeled)	Figure 11-3 (Specific to AST)
SWMU 50	Former UST	Figure 12-2	Insert Figure 12-2
AOC 49	Loading Docks	Figure 14-2	Figure 14-1
AOC 52	Sampling at Structure 79	Figure 15-2	Figure 15-1
AOC 75	Transformer Vaults Vault A	Figure 16-2 (ok if labeled Vault A)	Figure 16-3 (Specific to Vault A)
AOC 75	Transformer Vaults Vault B	Figure 16-2 (ok, if labeled Vault B)	Figure 16-4 (Specific to Vault B)
AOC 75	Transformer Vaults Vault C	Figure 16-2 (ok, if labeled Vault C)	Figure 16-5 (Specific to Vault C)

### Section 3.0. SWMU 3 - Fenced Storage Yard

#### Comment 10.

In section 3.6.2, SWMU 3 Conclusions and Recommendations, page 3-7, lines 11-16, the Permittee states, “[s]amples SS-014D and SS-031D had benzo(a)pyrene concentrations of 1,300 and 1,400 $\mu\text{g}/\text{kg}$  respectively, which exceed the SSL of 621 $\mu\text{g}/\text{kg}$ .” Since, additional investigations will be conducted the Permittee must use the most current SSLs, the benzo(a)pyrene SSL is now 148  $\mu\text{g}/\text{kg}$ .

Samples obtained from the following sampling locations contained concentrations of benzo(a)pyrene that exceeded the current SSL of 148 $\mu\text{g}/\text{kg}$ :

- 1103-DRMO-SS001D 180  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS002D 150  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS003D 160  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS004D 270  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS015D 190  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS027D 320  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS039D 480  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS042D 200  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS094D 160  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS096D 230  $\mu\text{g}/\text{kg}$
- 1103-DRMO-SS239D 340  $\mu\text{g}/\text{kg}$

**Comment 11.**

In Section 3.6.2, SWMU 3 Conclusions and Recommendations, page 3-7, lines 24-25, the Permittee states, “[s]amples SS-177D and SS-234D had DRO concentrations of 910 and 550 mg/kg respectively, which exceed the cleanup level of 520 mg/kg.” The 2012 Residential Screening Guideline is 1000 mg/kg; therefore, these sampling points no longer exceed the screening level.

**Section 4.0. SWMU 5. Building 5, Regimental Garage**

**Comment 12.**

In Section 4.2.3 Prior Soil Characterization, page 4-3, line 33-34, the Permittee states, “[d]etected parameters from prior investigations are summarized in Table 4-1 (VOCs), 4-2 (SVOCs) and 4-3 (inorganics) (from TPMC, 2009).” Table 4-3 contains organic constituents. Correct the table accordingly.

**Comment 13.**

The error cited in Comment 12, applies to Section 4.2.4, page 4-4, lines 24-25, and page 4-5, line 38, the Permittee refers to Table 4-3 containing pesticides, metals, and PCB detections. In future documents provide the correct cross references.

**Comment 14.**

In Section 4.4.2, Groundwater Characterization, page 4-8, the Permittee refers to a ground water monitoring well installed approximately 50 feet northwest and down-gradient of Building 5, as shown in Figure 4-2. To eliminate confusion reference the ground water monitoring well by its identifier. For example, the Permittee can revise this sentence to state “A ground water monitoring well (i.e., TMW-35) has been installed...., See fig. 4-2.”

In addition, reference a document that identifies TMW-35 as being down gradient from Building 5. Citing the potentiometric surface map in the referenced document would be sufficient.

**Comment 15.**

In Section 4.4.2, Groundwater Characterization, page 4-8, line(s) 16-19 the Permittee states, “[t]he monitoring well was drilled using auger-drilling techniques to a depth of 55 feet using methods as described in Section 17 of the approved Work Plan (TPMC, 2009), and completed in the first water-bearing zone encountered.” It appears that the Permittee utilized two different technologies for the installation of monitoring well TMW35. The NMED notes that direct push for the pilot borehole and auger-drilling techniques for the well installation. There were discrepancies in the geologic boring/well log (log) located in Appendix K. The TMW35 well log and well development record provide conflicting information regarding the diameter of the borehole and the drilling techniques utilized. For example, the log provides information regarding the installation of TMW35, the method of drilling was flight auger with a hole diameter of five (5) inches and a casing diameter of two and half (2.5) inches. The well development record states the diameter of the well to be 2.323 inches and the borehole diameter to be 10.75 inches. Provide the details of the actual installation of TMW35 rather than referring the well installation proposed in the work plan.

**Comment 16.**

In Section 4.4.2, Groundwater Characterization, page 4-8, line 30-32, the Permittee states, “[o]ne sample from the well borings was analyzed for particle size distribution and geotechnical properties (porosity, void ratio, and specific gravity) to characterize the physical properties of the subsurface material.” Provide the geotechnical analysis data in an attachment to the RFI.

Additionally, the Work Plan (TPMC, 2009) states, “[s]amples for geotechnical analysis will be collected from the screened interval during well installation. These samples will be collected and submitted for laboratory analysis that includes: particle size sieve and hydrometer analysis; dry bulk density and porosity.” Provide a description of the actual methods and procedures used during implementation of the work plan and an explanation for any deviations from the proposed work.

**Section 5.0. SWMU 6 – Building 11, Former Locomotive Shop and AOC 47 – TPL Spill of Photoflash Powder West of Building 1.**

**Comment 17.**

In Section 5.1, Background, page 5-1, the Permittee refers the NMED to Figure 5-1. When reviewing Figure 5-1, Building 11 is not clearly identified. Label the figure appropriately.

**Comment 18.**

In Section 5.4.2, Groundwater Characterization, page 5-15, line 17-22, the Permittee states “[c]ontinuous soil cores were received from a pilot borehole drilled from the land surface to the water table at the monitoring well location, using direct-push technology. Lithologic descriptions (Appendix K) were based on these cores, and 1 foot sample from a depth equivalent to the middle of the monitoring well screened interval was collected for testing of geotechnical properties, to assist in determining water-bearing zone encountered.” The TPMC Work Plan (2009) states, “[s]amples for geotechnical analysis will be collected from the screened interval during well installation. These samples will be collected and submitted for laboratory analysis that includes: particle size sieve and hydrometer analysis; dry bulk density and porosity.” Provide a description of the actual methods and procedures conducted during implementation of the work plan an explanation for any deviations from the proposed work.

**Comment 19.**

In Section 5.4.2, Groundwater Characterization, page 5-15, line 22-25, the Permittee states, “[t]he well was drilled using air-rotary drilling techniques to a depth of 60 feet, using methods as described in Section 17 of the approved Work Plan (TPMC, 2009) and Section 2.4 of this RFI, and completed in the first water-bearing zone encountered.” However, Volume 3, Appendix K, page K-6, the Geologic Boring/Well Log for TMW34 notes that a flight auger was the drilling method used. Explain the discrepancy.

As referenced on line 24, the NMED could not locate information regarding the well installation in Section 2.4 of this RFI. Provide the information.

**Comment 20.**

In Section 5.4.2 Groundwater Characterization, page 5-15, line 36-38, the Permittee states, “[o]ne sample from the direct-push cores was analyzed for particle size distribution and geotechnical properties (porosity, void ratio, and specific gravity) to characterize the physical properties of the subsurface material.” Identify the “one sample” and provide the results of the geotechnical analyses.

Work Plan (TPMC, 2009) Section 17 on page 17-5, line 25-28, states, “[s]amples for geotechnical analysis will be collected from the screened interval during well installation. These samples will be collected and submitted for laboratory analysis that includes: particle size sieve and hydrometer analysis; dry bulk density and porosity.” Provide a description of the actual methods and procedures used during implementation of the work plan an explanation for any deviations from the proposed work.

**Comment 21.**

As referenced in section 5.4.2 Groundwater Characterization, Volume 3, Appendix F, page 5-9 was reviewed. In general the entire Laboratory Quality Control Evaluation provided information regarding the quality control of the sample analysis but failed to provide specific references. This makes it makes it difficult to identify those samples called out in this report. For example: Volatile Organic Compounds (EPA Test Method 8260B) section, the Permittee states, “[o]ne sample was analyzed out of hold time.” In the future the NMED would like more specificity (e.g., Sample SB07-SB22 was analyzed out of hold time and flagged with (UJ) and (J)).

**Section 7.0. SWMU 23-Building 8 and Building 7, Paint Shop or Carpenter Shop and Paint Storage Warehouse**

**Comment 22.**

In Section 7.2.1, Historical Records Review, page 7-2. Information regarding the operations conducted at Buildings 7 and 8 is lacking. A discussion regarding other AOCs operation relative to Building 7 and process of elimination was stated for Building 7. Nothing was provided with respect to their operational history and Building 8 was left out of this discussion completely. Provide a summary of the historical information on Building 7 and 8 or specific references to this information in other documents.

**Comment 23.**

In Section 7.6, Conclusions and Recommendation, page 7-8, line 3-8 the Permittee states, “[a] previous soil sample collected in 2000 (B9-06) had a benzo(a)pyrene concentration of 629 ug/kg, which exceeds the SSL of 621 ug/kg by 8 ug/kg. Other SVOCs detected at this site were well below the SSL for that constituent. Since the concentration in B9-06 was only 8 parts per billion above the SSL and the sample was taken 10 years ago, the Army concludes that no additional action is needed at this location.” NMED requires confirmatory sampling for this area considering that benzo(a)pyrene was found to exceed the SSL at other sample locations.

Note: The current residential SSL for benzo(a)pyrene is 148 ug/kg.



## **Section 8.0. SWMU 24-Building 15, Garage and Storage Building**

### **Comment 24.**

Table 8-3 contains organic compounds in addition to the detected inorganics. Provide information for the analytical method LH17 used to analyze chlordane 2-2-Bis(p-chlorophenyl)-1,1,1-trichloroethane, and Aldrin.

### **Comment 25.**

In Section 8.4, Current Investigation (2009-2010), page 8-4, lines 1-2, the Permittee states, “[m]inor changes in sampling locations were coordinated with NMED through USACE personnel. Provide a summary of the changes.

## **Section 9.0. SWMU 37-Building 9, Machine Shop and Signal Shop**

### **Comment 26.**

In Section 9.5, Evaluation of Data from Current Investigations (2009-2010), page 9-6, lines 8-20, and in Section 9.6 Conclusions and Recommendations page 9-7, lines 19-26 the Permittee discusses SVOC sampling and the rejected analysis due to failed quality control; however, in Section 9.6 the Permittee states that because there was no detectable quantities in near-by samples it does not impact the conclusion. If multiple samples fail quality control then the Permittee should propose to resample. Failed quality control can lead to results being biased high or biased low.

## **Section 10.0. SWMU 40-Southern Administration Area**

### **Comment 27.**

In Section 10.1.1 Location, Description, and Operational History, page 10-1, lines 15-16, the Permittee states, “[a]s shown in Figure 10-1, there are four SWMU 40 locations within Parcel 6”. The NMED found five SWMU 40 locations within Parcel 6. Resolve the discrepancy.

### **Comment 28.**

Section 10.4 Current Investigation (2009-2010), discusses relevant changes to the sampling locations and more substantial deviations. Provide a summary of these deviations and include them within the associated sections.

## **Section 11 - SWMU 45- Building 6, Gas Station, AOC 46 – AST located near Building 11, and AOC 51 – Structure 64, Former Underground Storage Tank at Building 11**

### **Comment 29.**

In Section 11.4.2, Ground Water Characterization, page 11-10 and 11-11, line(s) 42 and 1-3, the Permittee states, “[l]ithologic descriptions were based on these cores, and a 1 foot sample from a depth equivalent to the middle of the monitoring well screened interval was collected for testing of geotechnical properties, to assist in determining water-bearing zone properties.” NMED would like clarification as to why the soil sampling took place separately

from the actual drilling of the monitoring well as specified in the TPMC 2009 Work Plan. The geotechnical information related to these soil samples should also be referenced in the text (e.g., Table 11-15).

**Comment 30.**

In Section 11.4.2, Ground Water Characterization, page 11-11, line 27-29 the Permittee states, “[t]arget compound lists, Appendix C of the Work Plan (TPMC, 2009), are provided in Appendix I or this report and quality assurance (QA) samples were collected as described in Appendix J.” Appendix J in Volume 3 is a Sample Summary Matrix, adopted from Table 18.1 of Parcel 11 RFI Work Plan. The QA information that is provided is only with respect to sample containers and preservation according to the matrix and analytical method as well as the appropriate hold time. Correct the reference.

**Section 12- SWMU 50 – Structure 35, Former Underground Storage Tank #7**

**Comment 31.**

Soil sampling or vadose zone sampling should take place within the excavation footprint of UST #7. Provide a figure depicting the ground water flow direction in Parcel 11.

**Section 14 – AOC 49 – Structure 38 (End Loading Dock) and Structure 39 (Side Loading Dock)**

**Comment 32.**

Figures 14-1 and 14-2 appear to disagree on the identification of Structure 38. Figure 14-1 identifies the structure with the railcar bumper as B038 and Figure 14-2 identifies it as B036. Correct the discrepancy.

**Comment 33.**

In Section 14.2.2, Site Reconnaissance, page 14-2, line the Permittee refers to Appendix B for the memorandum of investigation of access ports and crawl spaces, which appears to be for both Structure 38 and 39. However, the memorandum in Appendix B appears to only reference Structure 39. Provide the information for Structure 38.

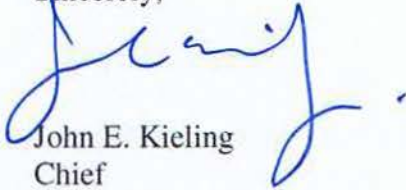
**Comment 34.**

Benzo(a)pyrene has a soil screen limit of 148 ug/kg and sample 1149DOCK-SB01-05D-SO has a result of 310 ug/kg exceeding the SSL. Propose confirmatory sampling to confirm the presence or absence of benzo(a)pyrene at this particular location.

Messrs. Patterson and Smith  
September 17, 2013  
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If you have questions regarding this approval with modifications please contact Vicky Baca of my staff at 505-476-6059.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: Dave Cobrain, NMED HWB  
N. Dhawan, NMED HWB  
Christy Esler, USACE  
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