NEW MEXICO ENVIRONMENT DEPARTMENT

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 10, 2013

Mark Patterson
BRAC Coordinator
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8451 State Route 5
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Steve Smith
USACE
CESWF-PER-DD
819 Taylor Street, Room 3B06
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Fort Worth, TX 76102-0300

RE: DISAPPROVAL
RCRA FACILITY INVESTIGATION
PARCEL 22
FORT WINGATE DEPOT ACTIVITY
EPA ID# NM6213820974
FWDA-11-011

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) received the Department of the Army's (the Permittee) *RCRA Facility Investigation, Parcel 22* (Report) submitted pursuant to Section VII.H of the Fort Wingate Hazardous Waste Facility Permit. NMED has conducted a preliminary review of the Report and hereby issues this Disapproval. Further technical review will be conducted once the Permittee addresses the following comments in a revised Report.

General Comments

Comment 1

Group all of the tables and figures together and present them as either attachments or appendices at the end of the Report text. In the electronic files provide the tables and figures separately from the text.

Comment 2

In the introduction to Section 3.4 (Current Investigation (2009-2010)), the Permittee states, "[t]he investigation was conducted in accordance with the approved Work Plan, (TPMC, 2009, Section 10) and Section 2.5 of this report. Actual sampling locations are shown in Figure 3-2 of this report. Minor changes in sampling locations were coordinated with NMED through USACE personnel. Correspondence and approvals regarding more substantial deviations are included in Appendix B." Throughout the Report, the Permittee uses language such as, "[a]s directed by the RFI Work Plan for Parcel 22 (TPMC, 2009), and as shown in Figure 3-2, four soil borings (2212CESSPOOL-SB09 to SB12) were completed…" and "[t]o address NMED HWB Comment 8 in the NOD (Appendix A), ..." Several times throughout the Report, the Permittee states, "[t]o address NMED HWB Comment 22 in the NOD (Appendix A), 30 sub-samples were collected per MI sample." Or "[t]o address NMED HWB Comment 5 in the AM (Appendix A), a total of 50 subsamples were collected from each MI unit using stratified-random sampling design." All approved modifications to the Work Plan are considered part of the Work Plan. NMED assumes, unless otherwise discussed in the Report, that the Permittee followed the approved Work Plan to conduct the field work. NMED required that the Report be a standalone document; however, the Permittee does not need to directly reference the Work Plan in every section and sentence. In the revised Report, discuss the Work Plan requirements and remove repetitive text. Additionally, Section 2.5 does not provide any details regarding sample collection; revise Section 2.5 to include more detail regarding sample collection methods.

Comment 3

The Report includes repetitive information. For example, in Section 3.4.1.1 (Building 536), the Permittee writes, "[a]s shown in Figure 3-2, sixteen samples were collected from eight soil borings (2212BLDG536-SB01 to SB08) around Building 536 by USGS personnel to evaluate the possibility of a release from past operations. Soil samples were collected from the 0 to 1 foot (ft) bgs and 1 to 2 ft bgs from each boring. Sixteen soil samples were collected and analyzed for explosives, nitrocellulose, nitrate, and perchlorate." In the revised Report, remove the repetitive information.

Comment 4

In Section 2.3.6 (Hydrogeologic Conceptual Model), the Permittee states, "[g]enerally, the previous investigations were attempting to characterize impacts to groundwater on a wider basis, primarily those impacts associated with discharges at the TNT Leaching Beds (part of SWMU 1), and also from various locations within the Administration Area. Because the current corrective action approach (i.e., proceeding parcel by parcel, SWMU by SWMU) had not been developed, the conceptual model uses the broader terminology to describe locations to which the model applies. Thus the conceptual model is expressed in terms of geologic and geographic features and characteristics affecting groundwater flow and potential contamination across the areas of current interest. Northern parts of Parcel 22 are included within the broader areas called "TNT Leaching Beds" in this section." From the figures included in the section, it is not clear where the TNT Leaching Beds are located. In the revised Report, label the TNT Leaching Beds in the appropriate figures and ensure that other features are identified and labeled on all figures included in the Report. Additionally, discuss whether or not the field work conducted at Parcel 22 was used to inform the current hydrogeologic conceptual model.

Comment 5
Label the Parcel 22 SWMUs and AOCs on Figures 2-8, 2-9, and 2-10 to give context to the groundwater data presented in the figures. In the revised Report, ensure that all figures include labeled identifying features such as buildings and SWMUs and AOCs and Parcel boundaries.

Comment 6
In Section 2.5 (Current Investigation), page 2-14, lines 8-11, the Permittee states, "[a]lthough the parcel is not planned for residential reuse, as a first attempt to evaluate existing environmental data relative to risk to human health, soil and sediment analytical data were compared to NMED Residential Soil Screening Levels (SSLs) (NMED, 2009b)." Once the land is transferred to Tribal trust the Permittee will have no control over the use of the land and therefore must meet residential SSLs. All analytical data must be compared to residential screening levels or established cleanup standards. No revision is necessary.

Comment 7
In all sections where the Permittee discusses the soil investigations, the Permittee must specify the methods and procedures used to collect soil samples. For example, in Section 4.4.2 (Soil Investigation) for SMWU 27 (Building 528 Complex), the Permittee describes the soil sampling, but does not describe how the samples were collected (e.g., geoprobe, hand auger, hollow stem auger). In the revised Report, include more detailed descriptions of the sampling.

Comment 8
In all sections reporting MI sampling results, the Permittee must describe the size of the MI sampling decision units. In the revised Report, ensure that MI sampling is described in detail and include the dimensions of the decision units. Ensure that the MI sampling areas are accurately represented in figures.

Comment 9
Appendix E (Analytical Lab Reports) was submitted electronically and the file names make it difficult to find specific samples. For example file "J4386-1 Std_Tal_L4_Package_Mini Final Report" contains the laboratory report for samples for SWMU 27, the Building 528 Complex; name the laboratory report describing it as samples from SWMU 27, Building 528 Complex. In the revised Report, label the electronic files in a manner that reflects their contents. Also ensure that the sample identifications used in the laboratory reports are the same as the designations used for sample collection.

Comment 10
The laboratory reports (Appendix E, Analytical Lab Reports) note that for many explosives samples "[t]he soil samples were air dried, ground and sieved per the procedure; however, the samples contained material that would not pass through the 10 mesh sieve. This material was removed and not extracted. The material appeared to be rocks and/or vegetation." And for SVOC samples that, "[t]he prep laboratory noted that several of the samples presented in this report contained noticeable amounts of rocks." The Permittee must ensure that samples collected in the field are representative; however, the Work Plan required soil samples to be collected, not rocks and vegetation. Improper sample collection may result in skewed analytical results and may invalidate investigation results. The Permittee must ensure that soil samples do not include

an excess of rock or other material that could adversely affect the analytical results. Additionally, the lab reports note, for example, that "[t]he method required MS/MSD could not be performed for prep batch 280-10398, due to insufficient sample volume." In the field, ensure that the sample is the appropriate volume for the laboratory analyses. In the revised Report, discuss whether or not sample collection affected the laboratory results.

Comment 11
The Permittee discusses groundwater separately in each SWMU or AOC section; however, a discussion regarding groundwater for Parcel 22 as a whole would provide a more cohesive presentation of groundwater conditions at the site. For example, instead of stating in Section 5.2.5 (Groundwater Characterization) "[n]o groundwater investigations have been completed to date at SWMU 70." The Permittee could discuss, as they do on page 5-4, that "[p]ropellant grains (Photo 5-25 through 5-28) were observed in multiple locations in the SWMU 70 area. As shown in the photos, white, black, and orange propellant grains were observed during the walkover, as well as multiple sizes of grains." The propellant grains are a potential source of perchlorate contamination in groundwater. Discuss whether or not perchlorate from SWMU 70 affects the groundwater. In the revised Report include a more thorough discussion of potential sources of groundwater contamination as well as a more holistic discussion regarding groundwater conditions at Parcel 22.

Comment 12
In the revised Report discuss the groundwater contamination in more detail. Discuss the perchlorate plume and include a figure depicting the (estimated) size of the plume. Include similar information for nitrate in groundwater concentrations.

Comment 13
The Permittee states that several of the SWMUs (12, 70, AOC 75, AOC 88) at Parcel 22 are "recommend[ed for] no further action" while simultaneously recommending "that a work plan be prepared to lay out the proposed approach(es) and method(s) to investigating these anomalies based on the geophysical data obtained under the RFI." Since, the sites where anomalies were found must be further investigated and possibly remediated; therefore, the sites require further action. Revise the Report to accurately state whether or not the sites require further action or not.

Comment 14
In all tables presenting analytical results, sort the tables by soil boring (or sample number) so that all of the analytes from one soil boring (or sample number) are together. In addition, sort by depth, from surface to total depth of boring. Include a visual separation between sample sets (i.e., a line) to aid in reading the tables.

Specific Comments

SWMU 27

Comment 1

Section 4.3.2 (Evaluation of Groundwater Data) refers to Figure 4-1 (Previous Investigations SWMU 27 – Building 528 Complex) to show the groundwater data. However, Figure 4-1 is a busy figure and it is difficult to find the monitoring wells discussed in Section 4.3.2. Figure 4-11 (Well and Boring Locations) seems to be a more appropriate figure. In Figure 4-11, label the buildings and SWMUs or AOCs. In the revised Report, edit the figures and references as necessary.

Comment 2

In Section 4.4.1 Geophysical Investigation the Permittee states, "DGM was performed around SWMU 27 as shown in Figure 4-6. The DGM data will be used to determine if further MR activities are required." However, the Permittee does not point the reader towards the section where the results of the DGM are discussed. In the revised Report, refer to the appropriate report section.

Comment 3

The description of soil sampling for the manholes is confusing. In Section 4.4.2 (Soil Investigation), lines 33 -39, the Permittee states, "[a]s directed by the RFI Work Plan for Parcel 22 (TPMC, 2009), one sediment sample was to be collected from the bottom of sanitary sewer Manhole I-1. This manhole had since been destroyed; as per verbal agreement given on site by USACE the sediment sample was taken at another manhole downgradient, as shown in Figure 4-3. This sample (2227MANHOLEI1-SD01-00D-SO) was analyzed for Explosives, nitrocellulose, VOCs, SVOCs, nitrate, perchlorate, and RCRA total metals." Figure 4-3 shows three manholes, labeled "I-1, I-2, and I-3." It is not clear whether the figure shows the destroyed I-1 manhole, or if the manhole sample was collected from the new I-1 manhole. Since the sample was taken downgradient of the destroyed I-1 manhole it is likely that the upgradient manholes may also contain contaminated soils. The Permittee must address this issue and remove contaminated soil, if necessary. In the future, if a change is made to the name of something in the field, create a new designation of that feature, such as adding a letter or number to the end of manhole I-1 to show that it is not the original I-1. In Section 4.6.2 (Soil Characterization), the Permittee states, "[t]he Army proposes preparing corrective measures work plans in a future RCRA phase for the following actions: The Army proposes removing and properly disposing the sediment from the manhole shown in Figure 4-7 where arsenic and lead exceeded the SSLs and to collapse and fill the manhole." In the revised Report, label the manholes in Figure 4-7. In the revised Report describe the soil sampling more clearly.

Comment 4

Figure 4-11 (Well and Boring Locations) depicts groundwater monitoring wells. In the revised Report, edit the figure to also include previously existing monitoring wells (for example, TMW-05).

Comment 5
Appendix M (SWMU 27 Building 551 Post-Demolition Sampling Report) discusses the demolition of a concrete pad located north of building 551. Arsenic was detected at concentrations above soil screening levels and the Permittee's background level in two of the samples. Buildings that were part of the Building 528 Complex were also demolished; it is not clear whether or not samples were collected beneath building slabs when they were demolished. If there is contamination beneath the former buildings, the Permittee may have to remediate the soils there as well. Propose to collect soil samples from beneath the building slabs or provide justifications as to why this is not necessary.

AOC 30
Comment 1
In Section 6.4.3 (TPL Burn Sites), the Permittee states, "[t]wo MI samples were collected from each suspected burn area. One sample from each of the two suspect propellant burn decision units was collected from the surface (nominally 0 to 3 inch depth interval) and a second sample was taken from a depth of 6 to 12 inches bgs. 15 sample increments were taken from either side of the road for a total of 30 sub-samples for each MI sample. A total of 4 MI samples were collected. These samples were analyzed for explosives, nitrocellulose, nitrate, perchlorate and RCRA metals[.]" The description of the sample collection seems incomplete. In the revised Report, revise the paragraph to include the rest of the description.

Comment 2
In Section 6.6 (Conclusions and Recommendations), the Permittee states, "[t]he Army performed XRF analysis on several drainpipes on FWDA and found them coated with lead-based paint. This is a potential source of lead in the soil. The Army proposes preparing corrective measures work plans in a future RCRA phase for the removal of approximately ¼ cubic yard of soil from under the drain outfalls exceeding the SSLs. The Army may also remove the drainpipes from all igloos in the Parcel 22 portion of D-Block and seal up the holes." Another source of the lead in soil around the igloos may be lead from sources in the interior of the igloos. No revision is necessary.

AOC 69
Comment 1
In Section 7.6.1 (Discussion of Background Levels of Arsenic at FWDA), the Permittee states, "[n]umerous sample locations had arsenic concentrations exceeding the 3.90mg/kg SSL and the background (95th percentile UTL) concentration of 3.69 mg/kg. Most of the exceedances are in the range of 4 - 5 mg/kg with only a few greater than 5 mg/kg. As mentioned in Section 2.5, there is a 5 percent probability that an arsenic concentration in any randomly collected uncontaminated sample will exceed the background 95th percentile UTL. One data point in the background study did have an arsenic value of 11.2 mg/kg. Arsenic has been detected at numerous sites in recent investigations at Parcels 21 and 11 in the 2.5 – 5.0 mg/kg range in areas where no contamination is evident. The Army believes that arsenic values in this range are not indicative of contamination but rather are natural levels for the area." The Permittee may use additional background information or a risk assessment to show that arsenic above the SSL is not a risk to human health and the environment.

AOC 88 Comments

Comment 1

In Section 9.4.2 (Soil Investigation), the Permittee states, "[a]s shown in Figure 9-1 sixteen MI soil sampling areas were established over ¼ acre exposure units at AOC 88B. 16 MI samples were collected and analyzed for explosives." The figure shows eight MI sampling areas at AOC 88B. Revise the figure so that the Report text and the figure correspond. Ensure that Report figures accurately represent the activities performed in the field and the descriptions of the activities in the text.

The Permittee must address all comments contained in this letter and submit a revised Report. The Permittee must include a cover page with the revised document; the cover page must indicate that the submittal is a revision prepared for NMED. The revised document must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. The Permittee must also submit an electronic copy of the revised document with all edits and modifications shown in redline-strikeout format. The revised Report must be submitted to NMED no later than **September 19, 2013**.

If you have any questions regarding this letter, please contact Kristen Van Horn at (505)-476-6046.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
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