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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

December 6, 2016

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Steve Smith
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**SUBJECT: DISAPPROVAL
FINAL RCRA FACILITY INVESTIGATION PHASE 2 WORK PLAN
PARCEL 11,
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA # NM6213820974
HWB-FWDA-15-018**

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) has reviewed the *Final RCRA Facility Investigation Work Plan Parcel 11* (Work Plan), dated October 29, 2015 from the Fort Wingate Depot Activity (Permittee) and hereby issues this Disapproval. The Permittee must address the following comments.

GENERAL COMMENTS

1. Required Tasks Not Addressed in Work Plan

NMED Comment: The Work Plan is missing a variety of tasks that the Permittee agreed to undertake in previous correspondence. The following table outlines the tasks that are missing.

Location	Task	Permittee Proposed Phase
SWMU 37	Remove soil from floor drain and sump	Future RCRA Phase
SWMU 40	Remove misc. scrap and debris from storage yard west of and around Building 10.	Future RCRA Phase
SWMU 40	Resample 1140DISPOSAL-SB25-01D for PCBs	N/A
SWMU 40	Remove 2000-gallon underground storage tank east of Building 14	Future RCRA Phase
SWMU 40	Investigation Work Plan to identify metallic anomalies found during geophysical investigation at Building 29.	Future RCRA Phase
SWMU 40	Remove residual coal from Structure 57 within Parcel 7	Future RCRA Phase
SWMU 45	Remove underground piping and valve box and complete investigation	Future RCRA Phase – Corrective Measures
AOC 52	Remove coal ash from road bed.	Future RCRA Phase – Corrective Measures
AOC 75	Remove PCB contaminated soils.	Future RCRA Phase – Corrective Measures

While the tasks listed above are not required within this Work Plan, they are required to be completed prior to achievement of Corrective Action Complete status. The Permittee has listed two of these sites incorrectly on page 1-3 of the Work Plan as “The Army recommended no further action.” Either include these tasks in the Work Plan or provide a section in all future work plans and reports that details required future work. This will help ensure that delays are not encountered when the Permittee ultimately applies for Corrective Action Complete status for these sites.

SPECIFIC COMMENTS

2. Sections 3.0, Fenced Storage Yard, p 3-1

Permittee’s Statement: “The RFI Report for Parcel 11 recommended additional characterization activities within SWMU 3 – Fenced Storage Yard (also known as the DRMO Area) for diesel range organics (DRO) and benzo(a)pyrene. However, SSLs for both compounds were revised subsequent to the completion of RFI investigation activities, based on the NMED Risk Assessment Guidance for Site Investigations and Remediation (NMED,

2012b). The SSL for DRO was increased from 520 milligrams per kilogram (mg/kg) to 1,000 mg/kg. The highest level of DRO detected at the site was 951 mg/kg. Therefore, no additional sampling for DRO will be conducted.”

NMED’s Comment: While the SSL for DRO has increased, the concentration of DRO below the surface may exceed the concentration of the surface sample, as well as the revised SSL. Propose to collect one sample from approximately two feet (ft) below ground surface (bgs) from each of the two locations where DRO was detected above the SSL in 2009 (SS177D and SS243D) for DRO analysis in order to demonstrate that concentrations are not increasing with depth and that DRO concentrations do not exceed the current SSL.

3. Table 4-1, AOC 47: Summary of RFI Samples Collected with Levels Exceeding the SSL for DRO, p 4-1

NMED Comment: The Permittee has mixed up the data in the table. For both wells, the concentrations are reversed. Revise the Plan to ensure all presented data is accurate.

4. Figure 4-1, Phase 2 Sample Locations SWMU 6 – Former Building 11 and AOC 47 TPL Spill and Photoflash Powder

NMED Comment: The figure is confusing because there are multiple wells with the same designations. SB-01 through SB-05 are each presented at two different locations. Revise the figure to distinguish the soil borings from one another. In addition, for future soil borings, refrain from naming nearby soil borings or wells with similar designations in order to avoid confusion.

5. Sections 6.0, SWMU 23 – Building 7 and Building 8, p 6-1

Permittee’s Statement: “The RFI Report recommended additional sampling at location SS009D at greater depths to define the vertical extent of DRO and lead results above the SSL. The DRO level detected was 660 mg/kg, which exceeded the previous SSL of 520 mg/kg. However, the revised SSL for DRO is 1,000 mg/kg, above the detected concentration. Therefore, the Army proposes to collect samples at the location of previous sample ID SS009D for lead analysis only from depths of 1.5 to 2.0 ft and 2.5 to 3.0 ft bgs (sample ID 1123YARDSB09).”

NMED’s Comment: While the SSL for DRO has increased, the concentration of DRO below the surface may exceed the concentration of the surface sample, as well as the revised SSL. In addition to the lead analysis, include DRO analysis for the two samples to be collected at this location.

6. Figure 6-1, Phase 2 Sample Locations SWMU 23 Building 7 and Building 8

NMED's Comment: The inset map on this figure does not contain a scale. A scale must be provided for inset maps on this and all other figures with insets for all work plans and reports. Revise the figure accordingly.

7. Section 7.0, SWMU 24 – Building 15, p 7-1

Permittee's Statement: "The RFI Report noted that DRO concentration in a previous soil sample (sample ID SB28-02D) exceeded the SSL. However, the SSL for DRO has subsequently been raised to 1,000 mg/kg. Therefore, the reported DRO concentration of 770 mg/kg does not exceed the SSL and no additional sampling is planned at this location."

NMED's Comment: While the SSL for DRO has increased, the concentration of DRO below the surface may exceed the concentration of the sample collected at two feet (ft) below ground surface (bgs), as well as the revised SSL. Propose to collect an additional sample for DRO analysis at approximately two ft bgs.

8. Section 8.4, Former Building 29, p 8-2

Permittee's Statement: "The vertical and horizontal extent of lead contamination has not been defined. Samples will be collected at the same locations at a depth of 1.5 to 2 ft. The eastern extent is defined by the road. Additional samples will be collected 25 ft to the north, west, and south of SS019D and to the north and south of SS021D from depths of 0.5 to 1.0 ft and 1.5 to 2.0 ft. All samples will be analyzed for lead."

NMED's Statement: Migrating contamination may cross boundaries such as roads; therefore, the horizontal extent of contamination is not defined by the road. Propose to collect samples from a location approximately 25 ft east of SS021D from depths of 0.5 to 1.0 ft and 1.5 to 2.0 ft for lead analysis.

9. Section 8.5, Building 36 (Parcel 6), p 8-3

Permittee's Statement: "RFI sample SS176D, collected beneath the floor drain of Building 36, had concentrations of arsenic, iron, and benzo(a)pyrene above the SSL. Based on the RFI report, horizontal extent of the release is defined by the building slab. A single sample will be collected at the same location from a depth of 1.5 to 2 ft below the floor drain to define the vertical extent. The sample will be analyzed for SVOCs and arsenic."

NMED's Statement: Contamination could migrate beyond the edges of the concrete slab; therefore, the slab cannot define the extent of contamination. Further, based on the figures presented in the Work Plan, the sole sample from this location was collected near the eastern edge of the slab. In addition to the deeper sample at SS176D, the Permittee must collect samples north, south, east, and west of SS176D from both 0 to 0.5 ft and 1.5 to 2 ft bgs. All samples must be analyzed for SVOCs, arsenic, and iron. The Permittee may utilize one of the

proposed borings north of Building 36 for the northern step-out sample location. The other three step-out sample locations must be as close to the edge of the slab as possible.

10. Section 8.6, Coal Tanks (Parcel 7), p 8-3

Permittee's Statement: "The RFI report also lists several samples (SS163D, SS166D, and SS167D) as exceeding the SSL for DRO contamination; however, only one of these samples (SS167D) exceeded the current SSL of 1,000 mg/kg. DRO analysis will be added to the sample collected for SVOCs at this location as described above, as well as the sample collected to the east to define the horizontal extent."

NMED's Statement: While the SSL for DRO has increased, the concentration of DRO below the surface may exceed the concentration of the surface sample, as well as the revised SSL. Confirm that the DRO concentrations at locations SS163D and SS166D do not exceed the SSL by including DRO analysis for the samples proposed to be collected at these locations.

11. Section 9.0, SWMU 45 – Building 6/Gas Station, AOC 46/Structure 65 – Former AST Located near Former, and AOC 51/Structure 64 – Former UST at Former Building 11, p 9-1

Permittee's Statement: "The RFI Report recommended using the results from soil borings drilled in AOC 46, which lies just west of AOC 51, to delineate the extent of influence associated with the UST and piping to the west and northwest. It was concluded that the vertical extent of influence to the west has been defined at about 15 ft in soil boring SB10. The horizontal extent of influence has been defined by soil borings SB08, SB10 and SB11. The RFI concluded that Corrective Measures would be implemented as future phase of work including the investigation to determine the presence of a UST and piping, removal methods, and samples (associated with the UST and piping). As such, no investigation activities were proposed as part of this work plan."

NMED's Statement: SB10 contained two samples that exceeded the SSL for DRO; therefore, SB10 does not define the horizontal extent of contamination. Propose a step-out sample to the east of SB10 in order to define the horizontal extent of contamination. Samples must be collected from 5, 10, 15, and 20 ft bgs and analyzed for DRO.

12. Section 12.1, Conceptual Site Exposure Model, p 12-2

Permittee's Statement: "Vacant property (less than 2 acres) – These are relatively small sites with the potential to support future residential and construction worker use. They may also support future commercial/industrial use, but this use is not quantitatively evaluated because the residential assessment is protective of commercial/industrial exposure."

NMED's Statement: It is assumed that this applies for both conceptual site exposure models 2 and 3. It is agreed that the residential and construction worker scenarios are protective of

an industrial/commercial worker; however, for completeness, please ensure this statement is carried forward into the risk assessment reports once completed.

13. Section 12.1, Conceptual Site Exposure Model, p 12-2

Permittee's Statement: "Property with remaining structures (buildings, paved areas, railroad tracks, etc.) – These sites vary in size and are most likely to support future commercial/industrial and construction worker use. Residential use is not likely because existing structures or other site conditions severely limit or preclude residential use. The remaining structures also preclude or severely limit the potential for cattle grazing."

NMED's Statement: Clarify whether the end use of these properties is to remain under Army control or if the properties are to be transferred to another entity. By not evaluating the residential scenario, as well as the construction worker scenario, the land will require land use restrictions, limiting the future use of the property to industrial use only. If the Army wished to demonstrate clean closure with no restrictions, then it must be assumed that the future owner could demolish the buildings and use the land for other purposes (to include hypothetically residential use and/or grazing).

14. Section 12.1, Conceptual Site Exposure Model, p 12-3

Permittee's Statement: "Where appropriate, AOCs and/or SWMUs may be grouped together to evaluate potential health hazards where future use is likely to encompass an area larger than a single AOC or SWMU, and where similar compound classes are a concern."

NMED's Statement: Grouping will be evaluated and require acceptance on a site-specific basis once all data have been collected and an assessment of contamination can be conducted (which may include spatial evaluation, magnitude of contamination, constituents of potential concern, continuity of areas and use, and hot spots). Grouping of sites may or may not be deemed appropriate. Further, grouping of SWMUs/AOCs may not be done to mitigate hot spot analyses.

15. Section 12.2, Cumulative Risk Evaluation, p 12-3

NMED's Statement: Grouping will be evaluated and require acceptance on a site-specific basis once all data have been collected and an assessment of contamination can be conducted (which may include spatial evaluation, magnitude of contamination, constituents of potential concern, continuity of areas and use, and hot spots). Grouping of sites may or may not be deemed appropriate. Further, grouping of SWMUs/AOCs may not be done to mitigate hot spot analyses.

16. Section 12.2, Cumulative Risk Evaluation, p 12-5

Permittee's Statement: "Soil leaching to groundwater evaluation – At AOCs/SWMUs where there are no sufficient lines of evidence to eliminate this pathway, it will be evaluated using one of two approaches:

- At AOCs/SWMUs where groundwater analytical results are available, groundwater data will be compared to the NMED tapwater screening levels to evaluate the potential threat to groundwater quality.
- At AOCs/SWMUs where no groundwater data are available, site-specific dilution attenuation factor (DAF)-based SSLs will be calculated and used to evaluate the potential threat to groundwater quality. We anticipate calculating SSLs based on a site-specific/site-wide DAF of 529 that has previously been submitted to NMED and is expected to be approved."

NMED's Statement: The soil leaching to groundwater pathway must be evaluated at all sites, regardless of whether groundwater data are present. The purpose of this evaluation is to assess the potential for soil contamination to leach to groundwater. Use of groundwater data is a useful line of evidence to discuss whether site contamination has leached to groundwater, but it does not address on-going issues or future potential for contamination. In addition, the proposed DAF of 529 was not approved by NMED. In lieu of calculating a site-specific DAF, the Permittee may use a DAF of 20.

17. Section 12.2, Cumulative Risk Evaluation, p 12-5

Permittee's Statement: "Note that evaluation of the beef ingestion pathway will use a 95% upper confidence limit (UCL) instead of the maximum concentration because cattle don't typically stand in one location to graze for extended periods."

NMED's Statement: The use of the 95% upper confidence limit (UCL) for the beef ingestion pathway is deemed reasonable. While the first step in the risk screen is to use the maximum detected concentration, the guidance does allow refinement using the 95% UCL. However, the risks calculated using the UCL must still be added to those risks based on the maximum detection for all other complete pathways.

Please also note, for several of the areas, the distribution of contamination may be limited to localized areas within the SWMU/AOC. In these cases, a qualitative assessment may be appropriate. For example, and as noted in Section 12.1 of the work plan, contamination in Igloo Blocks is limited to the doorways, entrance areas and aprons; contamination is not wide-spread across the Block. A spatial assessment of these data (amount of area contaminated versus size of the SWMU) would likely result in the beef pathway being incomplete. A similar qualitative assessment may be warranted for developed areas or other areas where the area of contamination represents a very small portion of the site (less than 2 acres). However, the risk assessments should include these qualitative discussions as applicable for each site in the reports.

18. Section 12.2, Cumulative Risk Evaluation, p 12-6

Permittee's Statement: "Re-calculate the dioxin/furan toxic equivalents (TEQ) using validated results, for sites where this compound class is a concern. The laboratory calculated TEQ is used in the initial assessment so the TEQ does not initially account for the results of data validation. TEQs are calculated using the current 2005 toxic equivalency factors published by the World Health Organization in 2005 (Van den Berg, et.al., 2006). Updated calculations, if performed, will be included as an appendix to the Phase 2 RFI Letter Report. The TEQ calculated using validated results will be used as the alternative to the maximum concentration in the re-evaluation of cumulative risk."

NMED's Statement: First, since the laboratory calculated TEQ does not include data validation, the use of it is not appropriate. Risk assessments should be conducted using 100% validated data. The TEQ must be calculated utilizing the validated congener data for use in the screening assessment. The TEQ must not be used as a refining tool.

19. Section 12.2, Cumulative Risk Evaluation, p 12-6

Permittee's Statement: "Identify the concentrations that contribute significantly to unacceptable health risks. This data review will allow an alternate maximum concentration to be selected from the existing data set to represent a post-removal action concentration in the re-evaluation of cumulative risk."

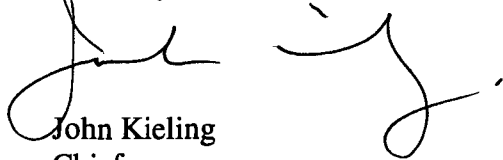
NMED's Statement: Clarify the intent of this paragraph to state that if initial site data indicate corrective actions are warranted and removals are conducted, the risk assessments will be refined using confirmation data.

Messrs. Patterson and Smith
December 6, 2016
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The Permittee must submit a revised Work Plan to address all comments contained in this Disapproval. In addition, the Permittee must include a response letter that details where all comments were addressed. The Permittee must also submit an electronic redline-strikeout version of the revised Work Plan showing where all changes were made to the Work Plan. The revised Work Plan must be submitted on or before **April 28, 2017**.

Should you have any questions, please contact Ben Wear of my staff at (505) 476-6041.

Sincerely,



John Kieling
Chief
Hazardous Waste Bureau

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File: FWDA 2016 and Reading, Parcel 11, FWDA-15-018