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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

June 8, 2016

Mark Patterson
FWDA, BRAC Coordinator
P.O. Box 93
Ravenna, OH 44266

Steve Smith
USACE FWDA Program Manager
CESWF-PEC-EF
819 Taylor Street, Room 3A12
Fort Worth, TX 76102

**RE: DISAPPROVAL
PARCEL 3 GROUNDWATER RCRA FACILITY
INVESTIGATION WORK PLAN
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
HWB-FWDA-16-002**

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) has reviewed the *Parcel 3 Groundwater RCRA Facility Investigation Work Plan* (Plan), dated April 4, 2016 and received April 7, 2016 for Fort Wingate Depot Activity (FWDA or Permittee) and hereby issues this Disapproval. The Permittee must address the following comments.

General Comments:

1. Proposed Number of Wells

NMED's Comment: The Plan contains discrepancies regarding the total number of wells that the Permittee proposes to drill. The source of the discrepancies appears to be with the number of background monitoring wells proposed, specifically background monitoring well

07 (BGMW07). In section ES.3 – Proposed Investigations, page ES-1 the Permittee proposes to install 16 detection monitoring wells and three background wells for a total of 19 wells. Table ES-1: Proposed Ground Water Monitoring Well Locations and Rational, page ES-4, lists 16 proposed wells. Table ES-2: Sampling Locations and Methods-Groundwater, page ES-5, lists 17 proposed wells, with four rather than three background monitoring wells indicated. Figure 1-3, FWDA Parcel 3 Proposed Groundwater Monitoring Well Locations depicts 16 proposed well locations. Figure 4-8 FWDA Parcel 3 Proposed Groundwater Monitoring Well Locations depicts 20 proposed well locations. These discrepancies occur throughout the Plan in multiple sections, tables, and figures. Revise the Plan to ensure consistency between all text, tables, and figures.

2. Proposed Well Locations

NMED's Comment: Figure 1-3, FWDA Parcel 3 Proposed Groundwater Monitoring Well Locations and Figure 4-8 FWDA Parcel 3 Proposed Groundwater Monitoring Well Locations contain multiple discrepancies. The number of proposed wells depicted is not consistent between the two figures. The location of depicted wells is not consistent between the two figures. For example, CMW32 is located inside of the bounds of AOC 91 in Figure 4-8 but is placed to the southwest of AOC 91 in Figure 1-3. Revise the figures for consistency.

3. Proposed Background Well Locations

NMED's Comment: The Permittee did not provide justification for the locations of the background monitoring wells. Considering the complex geology and multiple flow paths at the site, background well locations must be selected to ensure that samples collected from those wells are representative of the groundwater in the contaminated areas. Revise the Plan to provide justification for the locations of the background monitoring wells.

4. Appendices

NMED's Comment: Appendix C, Summary Report of Historical Information Parcel 3, is a document that was previously submitted to NMED. There is no need to include entire documents within a work plan that are already in the Administrative Record. Remove the document from the Appendix and refer to it instead.

In addition, Appendix G, Comment Response Table, which contains the Army's internal document review comment table, is not a document that NMED reviews, and as such, is not a document that NMED can approve. Remove the Comment Response Table.

Specific Comments:

5. Section 2.2.6.2, Stratigraphy, page 2-5, lines 24-26:

Permittee's Statement: "In the areas west of the Hogback, it is believed the Sonsela is exposed at the surface and also possibly at the lower portion of the Painted Desert Member."

NMED's Comment: The point of the Permittees' statement is unclear. Figure 2-3 FWDA Parcel 3 Geologic Map indicates that the Sonsela Member of the Petrified Forest Formation is not present west of the Hogback. Revise the statement for clarity or remove it from the Plan.

6. Section 3.3.5, Develop the Analytic Approach, page 3-3, lines 12-14:

Permittee's Statement: "If analytical results indicate contaminant levels above the screening criteria, drilling will continue to the next water-bearing unit and samples will be collected in that unit for the same analytical suite."

NMED's Comment: The Permittees' statement regarding the process for extending the groundwater investigation depth when analytical results from a water bearing unit indicate contaminant levels above screening levels appears to conflict with statements elsewhere in the Plan. Sections 3.3.2, 3.3.7, and 3.4.1 indicate that if a water bearing unit contains contaminants, a separate well bore adjacent to the first will be advanced to the next water bearing zone. Revise the Plan to address this discrepancy.

7. Section 3.3.5, Develop the Analytic Approach, page 3-3, line 16:

Permittee's Statement: "Figure 3-1 presents a rationale flow chart for analyzing and installing groundwater monitoring wells."

NMED's Comment: Figure 3-1 is not included in the Plan, nor is it listed in the table of contents. Revise the Plan to include Figure 3-1.

8. Section 3.3.6, Specify Performance or Acceptance Criteria, page 3-4, line 3:

NMED's Comment: The hierarchy for the six tiers of groundwater screening levels is outdated. While this hierarchy is listed in the current FWDA RCRA Permit, the Permit was issued in 2005 and subsequently, NMED updated its *Risk Assessment Guidance for Site Investigations and Remediation* (RA Guidance) to include Tap Water standards (last update was July 2015). NMED Tap Water Standards are the first tier of the updated hierarchy.

Table A-1: NMED Soil Screening Levels - July 2015 of the RA Guidance lists a tap water standard for perchlorate of 13.8 µg/L. Use NMED's tap water standard of 13.8 µg/L as the groundwater screening level for perchlorate instead of the 6 µg/L that is stated in the Permit. Revise the Plan accordingly.

9. Section 3.4.1, Groundwater, Soil, and Core Sampling, page 3-5, lines 26-28:

Permittee's Statement: "If waters encountered are not impacted, but the location is strategic for additional data collection or monitoring, then a monitoring well will be completed..."

NMED's Comment: The Permittee proposes to abandon many borings/wells if contaminants are not detected. Convert all borings to monitoring wells in order to provide as much information as possible on the complicated subsurface stratigraphy and flow paths. Contamination continues to migrate at the facility; therefore, a boring/well that is not contaminated at a specific point in time does not guarantee that it will not be contaminated at some point in the future. These "clean" wells would provide valuable information over time for the facility, and the cost of installing a new well at some point in the future would far outweigh the cost of installation of a monitoring well in already completed borings. Revise the Plan as necessary.

10. Section 3.4.1, Groundwater, Soil, and Core Sampling, page 3-7, lines 1-5:

Permittee's Statement: "Samples submitted for laboratory analyses will be selected based on: 1) the results of the field screening analyses; 2) the position of the sample relative to groundwater, or site structures; 3) the sample location relative to former or altered site features or structures; 4) suspected migration pathways and the stratigraphy encountered in the boring; and 5) the specific objectives for site characterization at the Study Area."

NMED's Comment: This statement indicates that soil samples will be collected for laboratory analysis. Elsewhere in the document, the Permittee states that soil samples will not be collected for laboratory analysis. For example, in section ES.3 – Proposed Investigations, page ES-2, lines 16-19, the Permittee states that soil samples will only be collected for geotechnical testing. In addition, the Permittee provides no description for the method of collection of soil samples for laboratory analysis. Include brief, but thorough, descriptions of all sampling methods in the text. Revise the Plan as necessary.

11. Section 3.4.2, Well Installation, page 3-8, lines 9-16:

Permittee's Statement: "The surface completion for each well will consist of an eight-inch-diameter by six-foot long protective steel casing, which will be installed three feet above the concrete pad and three feet into the ground. The concrete pad will be four-feet long by four-feet wide by four-inches thick. Field personnel will install four-inch diameter by three-foot tall steel bollards around the well on the outside of the concrete pad. An approximate well casing stick-up height of three feet is required to accommodate a potential dedicated pump system. The well will be equipped with a security lock and will be tagged with corrosion-resistant identification. The well casing will be coated with protective orange paint as required by the FWDA."

NMED's Comment: The nomenclature used in this paragraph is confusing. The Permittee refers to the well casing, which suggests the inner pipe of the well that provides access to

groundwater through a screened section of pipe or possibly a separate pipe that can be driven to maintain the integrity of the boring. The well casing mentioned above is actually the well monument. Use the term "well monument" vs. "well casing" to describe the above-ground protective cover for the well casing in order to avoid confusion. Revise the Plan to correct this issue.

12. Section 3.4.2, Well Installation, page 3-8, lines 17-18:

Permittee's Statement: "Groundwater monitoring wells will be developed no sooner than 24 hours after completion of the well installation."

NMED's Comment: While the Permittee places a limit on how soon the well can be developed, there is no mention of a "no later than" date. Revise the Plan to include a "no later than" time limit for development of the monitoring wells.

13. Section 3.4.6, Decontamination Procedures, page 3-11, lines 4-7 and Section 3.6 Investigation Derived Waste, page 3-13, lines 16-19:

Permittee's Statements: "Field personnel will perform decontamination on the plastic sheeting of the temporary decontamination pad. Field personnel will containerize accumulated wash and rinse water and combine with produced waters related to drilling for appropriate characterization and disposal."

and

"Small volumes of decontamination fluids are anticipated. Decontamination fluids will be contained within the temporary decontamination pad areas during active sampling and decontamination activities at a site. Accumulated wash and rinse water will be left within the decontamination pad and allowed to evaporate."

NMED's Comment: The Permittees' two statements appear to conflict with one another with regard to the disposal method of accumulated wash and rinse water. The first statement indicates that wash and rinse water will be containerized while the second statement indicates that the wash and rinse water will be allowed to evaporate. Revise the statements for consistency.

14. Section 3.5.2, Sample Identification, page 3-12, lines 5 and 10:

NMED's Comment: The description of the sample nomenclature system does not match the example sample name provided on line 10. The sample depth descriptor in line 5 indicates that there is no dash between sample depths in the sample name. The example sample name provided in line 10 contains a dash between sample depths. Revise the plan to resolve this discrepancy.

15. Section 3.7, Groundwater Background Analysis, page 3-13, lines 35-39:

Permittee's Statement: "The groundwater analytical results for dissolved and total target analyte list metals, nitrate and nitrite, perchlorate, and VOCs will be included in the background evaluation. This evaluation will focus on data from 20 results in a one-year period. The 20 sample results used in the evaluation will be derived from three background locations and one existing well, CMW02, sampled at a frequency of four times per year for a period of one year."

NMED's Comment: The Permittee proposes to evaluate 20 sample results collected during four sampling events over a one-year period (includes a duplicate for each event) from three background wells and one existing well; however, the total number of background monitoring wells is in question (see Comment 1). Revise the statement, if necessary, to state the number of samples that will be collected based on the number of proposed background monitoring wells. In addition, include explosive compounds in the analytical suite.

16. Section 4.2.1.4, Groundwater Impacts Related to AOC 89, page 4-2, lines 32-36:

Permittee Statement: "No EPA MCLs or NMWQCC standards are promulgated for explosives, but four explosive compounds exceeded the EPA RSL for tap water standards: 1,3 Dinitrobenzene at a concentration of 12 µg/L in April 2011, 2,4-dinitrotoluene at a concentration of 0.4 µg/L, hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) at a concentration of 250 µg/L in April 2012, and 2-nitrotoluene at a concentration of 0.72 µg/L in October 2012. (Table 4-5)."

NMED's Comment: NMED acknowledges that no EPA MCLs or NMWQCC standards are promulgated for explosives; however, the 2015 NMED RA Guidance lists tap water standards for several explosive compounds including 2,4-dinitrotoluene, hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), 2,4,6-trinitrotoluene, and 2-nitrotoluene. Use the NMED tap water standards for explosives as screening levels when available. If no NMED tap water standard for a particular explosive compound is provided then the Permittee must use the appropriate EPA RSL tap water standard.

Submit a revised Plan addressing all comments contained in this Disapproval. In addition, the Permittee must include a response letter that details where each comment was addressed, cross-referencing NMED's numbered comments. The Permittee must also submit an electronic redline-strikeout version of the revised Plan. The revised Plan must be submitted on or before **August 12, 2016**.

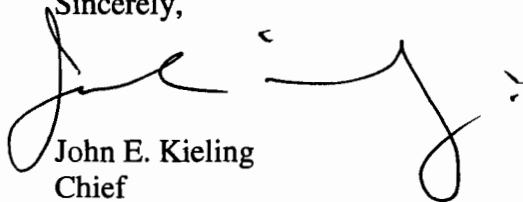
Messrs. Patterson and Smith

June 8, 2016

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

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kieling". The signature is fluid and cursive, with a large initial "J" and a long horizontal stroke.

John E. Kieling

Chief

Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
B. Wear, NMED, HWB
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File: FWDA 2016 and Reading, Parcel 3 GW, FWDA-16-002