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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 26, 2015

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
PERMITTEE-INITIATED INTERIM MEASURES WORK PLAN
PARCEL 21
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
HWB-FWDA-15-006**

Dear Messrs. Patterson and Smith:

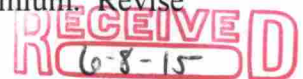
The New Mexico Environment Department (NMED) received the *Permittee-Initiated Interim Measures Work Plan, Parcel 21* (Plan), dated February 17, 2015 submitted by Fort Wingate Depot Activity (Permittee). NMED has reviewed the Plan and hereby issues this disapproval. The Permittee must address the following comments.

COMMENTS:

- 1. Permittee Statement – Section 2.1 Contaminants of Potential Concern, bullet, page 2-1 line 32.** “Metals (arsenic, lead, hexavalent chromium, and iron) – 6010C.”

NMED Comment:

Hexavalent chromium cannot be analyzed by EPA Method 6010C. Table 3-1- Phase 2 Investigation Results lists EPA Method 7196A for the analysis of hexavalent chromium. Revise



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the Plan to reference EPA Method 7196A or an equivalent method in place of EPA Method 6010C for the analysis of hexavalent chromium.

2. Permittee Statement – Section 2.2 Remediation Goals, page 2-2, lines 28-33. “NMED has combined its remedial action guidance into a single document titled *Risk Assessment Guidance for Site Investigations and Remediation* (NMED, 2012b). Accordingly, the remediation goals listed in **Table 2-1** are primarily based on NMED’s SSLs for Residential Soil as listed in Table A-1 of the *Risk Assessment Guidance* dated February 2012 (updated June 2012). The target cumulative health risk and hazard levels listed in Table 2-2 are taken from the NMED’s risk guidance (NMED, 2012b).”

NMED Comment:

The 2014 NMED Risk Assessment Guidance replaces and supersedes the 2012 NMED Risk Assessment Guidance for Site Investigations and Remediation. The 2014 Risk Assessment Guidance must be used for data acquired after 2014 and for subsequent risk assessments. Replace all references within the Plan to reflect the updated 2014 NMED Risk Assessment Guidance.

3. Permittee Statement – Section 3.0 SWMU 2 – Former Building 515 and Acid Holding Pond, page 3-1, lines 3-5. “The acid holding pond is located adjacent to the western side of Building 515 and is approximately 20 feet long by 20 feet wide.”

NMED Comment:

Provide the depth of the pond as well.

4. Permittee Statement – Section 3.1 Previous Investigations, page 3-1. Plan must address and include additional information regarding previous investigations.

NMED Comment:

The historical subsurface soil investigations conducted at SWMU 2 were not included in this section of the Plan. This information may be used to help determine the vertical extent of contamination at the acid holding pond. Eight subsurface soil boring samples were collected in 1997. One of the eight soil borings (APB06), listed on **Figure 3-1** was drilled within the Acid Holding Pond at SWMU 2 to a total depth of 20 feet-below ground surface (ft-bgs). However, continuous sampling was not performed at soil boring APB06 and data was not collected from depths of six to seventeen ft-bgs. Therefore, further investigation to define the vertical extent of contamination must be conducted. Revise the Plan to include a narrative regarding the eight subsurface soil boring samples collected in 1997 and propose to advance four soil borings; one at the lowest point of drainage, and the others at low-lying areas of the acid holding pond. The borings must be drilled to 20 feet (ft) below the deepest detected contamination based on field screening, laboratory analyses, and/or previous investigations at the site; or 20 ft below the base

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of disposal units if contamination is not detected. Samples must be collected at a minimum of five-foot intervals for laboratory analysis for volatile organic compounds (VOCs) by EPA method 8260B, semi-volatile organic compounds (SVOCs) by EPA method 8270C, and metals by EPA method 6020A.

Additionally, historical information regarding the two groundwater monitoring wells FW08 and FW07 drilled specifically to evaluate groundwater impacts resulting from SWMU 2 are not mentioned within the Plan. These wells were never sampled as they were dry during the sampling activities. Therefore, groundwater in the vicinity of SWMU 2 has not been evaluated. Propose to sample these existing wells, if groundwater is encountered during with the next sampling event of the facility wide groundwater program, for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. If wells FW07 and FW08 remain dry then the Permittee must propose to drill at least two more monitoring wells in order to investigate groundwater impacts at SWMU 2. The work may be proposed within the facility wide groundwater program. However a statement must be added to this Plan regarding the future investigation of groundwater in the vicinity of SWMU.

Furthermore, information regarding the removal of the drainage pipes must be included. If they have not been removed, then provisions for removal must be incorporated into this Plan.

The SWMU 2 boundary for the Acid Holding Pond as shown on Figures 3-1 through 3-3 do not appear to reflect the actual boundaries of the pond. The Permittee must modify the SWMU boundaries. This may be conducted as part of the Permit Renewal. This comment is applicable to all SWMUs or AOCs addressed in this Plan where the current boundaries are not accurately depicted on the Plan figures.

5. Permittee Statement – Section 3.1 Previous Investigations, page 3-2, line 15-16. “In order to address NMED Comment 5 to the 2011 RFI, additional sampling was conducted within the acid holding pond and analyzed for trivalent and hexavalent chromium.”

NMED Response:

Table 3-1 – RCRA Facility Investigation Phase 2 Sample Result Detections – September 2014 lists total chromium and hexavalent chromium not trivalent chromium. The soil screening level (SSL) for total chromium was not listed in 2012 and should not be compared to the trivalent SSL of 117,000 mg/kg. Revise Table 3-1 to reflect the speciation of chromium and compare the data to the 2014 SSLs which for total chromium is 96.6 mg/kg; the trivalent chromium SSL is 117,321.4 mg/kg and the hexavalent chromium SSL is 3.05 mg/kg.

6. Permittee Statement – Section 3.5.1 Waste Profile Sampling, page 3-4, lines 8-12. “The WP composite sample will be collected as a composite with individual surface grab

samples from 0 to 0.5 foot depth over the entire area to be excavated. WP sample identification (ID) numbers are discussed in Section 9.3 and are listed on **Table 3-2**. Samples will be submitted for analysis for arsenic, lead, hexavalent chromium and iron using TCLP method by USEPA Method 1311/6010C or most recently published version of the method.”

NMED Comment:

Waste is not generated until the soil has been excavated; therefore, waste characterization samples must be collected once material is removed from the SWMU. In addition, several samples collected at depths of 0.5-1.0 foot exceed the 2014 SSL for total chromium (96.6mg/kg). Sampling only to a 0.5 foot depth would not be representative of the waste generated and may result in mischaracterization. Revise the Plan to include detailed information regarding the waste profiling procedure. Waste Profile sampling must be conducted post excavation and must be representative of the constituents of concern for each area. This comment is applicable to all waste profiling sections within the Plan.

In addition, Section 3.5.1 and Table 3.2 do not provide adequate information regarding the number of composite samples nor does it provide sample locations. Revise the text and table to include the proposed number of samples.

Also, hexavalent chromium cannot be analyzed by EPA Method 6010C as listed in Table 3.2. Revise the Plan to propose the appropriate analytical method. (See Comment 1).

7. Permittee Statement – Confirmation Sampling and Risk Evaluation, page 3-5, lines 14-18. “Composite samples will consist of nine sub-samples randomly collected from each excavation area bottom. One nine-part composite sample will be collected from each area of excavation area for a total of three composite samples and one duplicate sample.”

NMED Comment:

Composite confirmation soil samples may result in the contaminant concentrations that are not representative of concentrations remaining in the soil. If concentrations are low, compositing may dilute the concentrations of a contaminant to below its threshold detection limit. Additionally, if contamination is indicated in a composited sample, the location of the contamination remains unknown. Therefore, the Permittee must collect discrete samples for confirmation soil sampling. Revise the Plan to propose discrete confirmation sampling at the base of the excavations. Include the number of samples to be collected and revise Figure 3-4 to include additional sample locations. In addition, specific information must be included regarding the proposed chemical analyses for each confirmation sample. This comment is applicable to all confirmation sampling sections within the Plan.

8. Permittee Statement - Confirmation Sampling and Risk Evaluation, page 3-5, lines 34-36. “If excavation of all lead results below the SSL of 400 mg/kg is not feasible, confirmation sample results can be combined to calculate an upper confidence limit (UCL) on the mean for comparison to the SSL, with NMED approval.”

NMED Comment:

The Permittee's proposed method to calculate UCLs is not clear. Provide clarification regarding "combining sample results" when only one discrete confirmation sample is proposed to be collected at each drain pipe. Collecting one sample per "area" does not provide enough data to calculate a UCL. See the updated *2014 Risk Assessment Guidance for Site Investigations and Remediation* regarding the required number of samples to calculate a UCL. However, if the "area" is comprised of two pipes located at the same igloo, then a UCL can theoretically be calculated. However, the Permittee must explain how combining samples is representative of the site conditions and provide a figure showing the proximity of samples proposed be combined. Note that analytical data from soil that has been removed cannot be used to calculate the UCL; representative soil samples must be collected. Revise the Plan to either clarify or remove this approach. This comment is applicable to all confirmation sampling sections regarding the proposed UCL.

9. Permittee Statement – Section 3.5.5 Backfill, Compaction, and Final Grading, page 3-7, lines 7-9 and 14-16. "The backfill material is anticipated to be obtained from an approved borrow area located along the P6/7 arroyo on FWDA property."

"Fill material will be placed in the excavation and compacted using wheeled rolling from on-site equipment. No density testing is required. The final grade at SWMU 2 will be sloped to promote proper storm water drainage and to prevent ponding if minor settling occurs."

NMED Comment:

The Permittee must demonstrate that the fill borrow area is clean. The fill material must be analyzed for contaminants and must be evaluated for risk or compared to NMED residential SSLs. Revise the Plan to propose to analyze the borrow material before use or provide a reference to previously submitted borrow pit analytical data. This comment is applicable to all backfill, compaction and final grading sections within the Plan.

In addition, fill material from the proposed arroyo will most likely have a high hydraulic conductivity and precipitation may infiltrate SWMU 2. Any residual contamination at depths greater than 2 feet below ground surface (ft-bgs) can possibly reach groundwater. As stated in Comment 3 the depth of the pond is currently unknown and vertical delineation has not been conducted at the acid holding pond. It is possible that contamination remains at greater depths than the proposed soil removal. Therefore, the fill material must be protective of groundwater. The backfill material must prevent infiltration, facilitate native vegetation growth and be designed to reduce differential settlement, and promote storm-water drainage off site.

The Permittee must submit a revised Plan to address 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

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or before **September 15, 2015**.

If you have any questions regarding this letter, please contact Vicky Baca at (505) 476-6059.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: Dave Cobrain, NMED, HWB
Neelam Dhawan, NMED, HWB
Kristen Vanhorn, NMED, HWB
Chuck Hendrickson, EPA-6PD-N
Tony Perry, Navajo Nation
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Christy Esler, Sundance Consulting, Inc.

File: FWDA 2015 and Reading
FWDA-15-006