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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

August 12, 2015

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

RE: DISAPPROVAL
FINAL PERMITTEE-INITIATED INTERIM MEASURES WORK PLAN
PARCEL 22
FORT WINGATE DEPOT ACTIVITY
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
HWB-FWDA-15-010

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) has reviewed the *Final Permittee-Initiated Interim Measures Work Plan, Parcel 22,* (Plan) dated February 24, 2015 for Fort Wingate Depot Activity (Permittee). NMED hereby issues this Disapproval. The Permittee must address the following comments.

Comments:

1. Permittee Statement – Section 2.2 Remediation Goals, lines 31-36, page 2-2. "NMED has combined its remedial action guidance into a single document titled *Risk Assessment Guidance for Site Investigations and Remediation* (NMED, 2012). 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, 2012).

NMED Comment:
The 2014 NMED Risk Assessment Guidance for site investigations and remediation updates and supersedes the 2012 NMED Risk Assessment Guidance for Site Investigations and Remediation. The guidance includes Sections discussing cumulative risk, ecological risk, dioxins-furan toxicity factors, and total petroleum hydrocarbons among other subjects. The 2014 Risk Assessment Guidance must be used for data assessment and for risk assessments. This comment is applicable to all sections which reference the 2012 NMED Risk Assessment Guidance. Replace all references within the Plan to reflect the use of the 2014 NMED Risk Assessment Guidance.

2. Permittee Statement – Section 3.0 Removal Activities at AOC 30 – Igloo Block D, lines 29-31, page 3-1. "Concentrations of mercury exceeding the NMED SSL of 7.71 mg/kg were also identified in 2010 at three igloos. NMED recently raised the SSL for mercury to 15.6 mg/kg. Therefore, the concentrations previously identified do not constitute an exceedance."

NMED Comment:
The *Risk Assessment Guidance for Site Investigations and Remediation* (NMED 2012 and NMED 2014), Table A-1 lists three forms of mercury; elemental, methyl, and salts. The Permittee compared the mercury concentrations to the soil screening levels (SSLs) for elemental mercury. However, unless there is a known source for mercury (such as an actual elemental mercury spill or mercury used in a process) use the mercury salts NMED SSL for comparison. Revise the text to cite the 23.46 mg/kg NMED SSL value.

3. Permittee Statement – Section 3.0 Removal Activities at AOC 30 – Igloo Block D, lines 40-49, page 3-1 and lines 4-5, page 3-2. "Waste profile sampling of the impacted soil of Igloo Block D will include the collection of one composite sample of the excavated soil from all igloos. The sample will be analyzed for lead and arsenic using EPA Method 6010C and explosives using EPA Method 8330B or the most recently published versions of the methods. Samples will be submitted for analysis for lead and arsenic, hexavalent chromium and iron using TCLP method EPA Method 1311/6010C or the most recently published versions of the methods. Two explosive constituents, 2,4-dinitrotoluene (DNT) and nitrobenzene, will also be analyzed using the TCLP method by EPA Method 1311/8270D or the most recently published version of the methods. The excavated soil will be stored on site in drums or a roll-off bin pending waste characterization and confirmation results."

"It is assumed the soil will be disposed as a nonhazardous solid waste."

NMED Comment:
It appears that the Permittee is proposing to collect one sample to be analyzed for total lead and total arsenic using EPA Method 6010C, and explosives using EPA Method 8330B. In addition, these samples will be analyzed for toxicity characteristics using EPA Method 1311 with the addition of hexavalent chromium and iron. However, it is not clear why the Permittee is proposing to analyze for hexavalent chromium and iron and specifically for toxicity characteristics as hexavalent chromium is not a constituent of concern (EPA Method 6010C is not an appropriate method for the analysis of hexavalent chromium). Also, it is not clear at what

point the waste profile samples will be collected (See Comment 10). Revise the Plan to include detailed information regarding the waste profiling procedures. Revise the statement that the soil will be disposed of as nonhazardous waste and include a statement to reflect that waste profiling will determine the waste classification as previously discussed (e.g., waste profiling will determine the status of the excavated soil).

4. Permittee Statement –Section 3.0 Removal Activities at AOC 30 – Igloo Block D, lines 23-27, page 3-2. "During the same time frame as the soil removal, all 106 steel drain pipes from the 53 igloos from Igloo Block D within Parcel 22 will be cut and removed from the igloos. In preparation for drain pipe removal, plastic sheeting will be placed below each pipe and the piping will be wrapped in tape to prevent any paint coating from being disturbed. The drain pipes at each igloo will be cut at the wall and the remaining drain holes will be sealed with cement-based, non-shrink grout.

NMED Comment:
As a precaution removal of these drains must be conducted prior to soil removal and prior to confirmation sample collection to ensure any cuttings are captured during soil removal. The text must be revised to state the removal of the pipes will be conducted prior to the soil removal. In addition, revise Section 3.0 to indicate the order in which activities will be conducted in the field.

5. NMED Comment: Section 3.0 is written as one whole section without any subsections to describe field activities, risk assessment and other required items. Revise Section 3.0 to include subsections for "waste profiling, confirmation sampling and risk evaluations, excavation, transportation, and disposal etc., similar to the outlines of other Sections within this Plan. In addition, the reference Sections 6.0 through Section 8.0 for sampling and quality control information, and reference project schedule and reporting within Section 3.0.

6. Permittee Statement –Section 3.0 Removal Activities at AOC 30 – Igloo Block D, lines 5-8, page 3-3. "If excavation of all lead results to 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. If the Permittee uses the method to calculate UCLs as described, then the Permittee must revise the Plan to clarify which samples will be combined. Additionally, explain how combining samples will be representative of site conditions and provide a figure showing the proximity of sample locations. Note that analytical data from soil that has been excavated from the site cannot be used to calculate the UCL; confirmatory soil analytical samples must be used. Revise the Plan to either clarify the method or remove it.

7. Permittee Statement – Section 3.0 Removal Activities at AOC 30 – Igloo Block D, lines 9-11, page 3-3."The evaluation of arsenic and explosives will consist of two steps: (1) comparison of the individual COPC results from each sample location to their respective SSLs, and (2) an evaluation of cumulative risk. [...]"

NMED Comment:
If detected concentrations of arsenic are above the site-specific level (5.6 mg/kg) and above the range for background (11.2 mg/kg is the maximum of the range for background), the site will fail risk (the NMED SSL is 4.25 mg/kg). Provide clarification concerning whether the goal is to remediate to levels protective of risk and the environment or to just clean up to a specified depth and provide a discussion of residual risk.

8. NMED Comment: The Plan does not include Sections on Human Risk Exposure Profiles or a Conceptual Site Exposure Model nor does it discuss other risk evaluations required under the *NMED Risk Assessment for Site Investigations and Remediation* (NMED, 2014). Provide a description of receptor populations (i.e, potential current receptors including industrial, commercial, and FWDA workers and potential future receptors). In addition, provide a discussion on how risks to these receptors will be assessed to ensure protection. While, residential standards will likely be protective of industrial or commercial receptors; it is recommended that a discussion of current receptors be included to specifically address workers that will be exposed to subsurface contamination during excavation, sampling, etc. This will underscore that the conceptual site model encompasses both surface and subsurface exposures to contamination. In addition, an initial ecological screening assessment must be conducted for soil up to a depth of 10 feet below ground surface, unless sufficient justification is provided to indicate there are no potential exposure pathways. See Comment 2.

9. Permittee Statement – Section 4.1 Waste Profile Sampling, lines 33-34, page 4-1 and Section 4.3 Confirmation Sampling & Risk Evaluation, page 4-2, lines 29-30. "An initial mobilization will be performed to conduct waste profile sampling for the sediment to be removed from Manholes F-1 and F-2."

NMED Comment:
Point of generation for remediation waste is defined by Resource Conservation and Recovery Act (RCRA) to be when it is actively managed; which would be the time of excavation or removal. Propose to conduct waste profiling after excavation and that is representative of the media and constituents of concern for each area. This comment is applicable to all waste profiling sections within the Plan.

10. Permittee Statement – Section 4.3 Confirmation Sampling & Risk Evaluation, lines 29-32, page 4-2. "Following the removal of Manholes-F-1 and F-2, one discrete confirmation sample will be collected from under the former base of each manhole and analyzed for PCBs using EPA Method 8082a, SVOCs using EPA Method 8270D, PAHs using EPA 8270 SIM, and explosives using EPA Method 8330B or most recently published versions of the methods."

NMED Comment: Revise the Plan to include a discussion of the methodology used in developing the confirmatory sampling approach described above. Identify all techniques (e.g., Visual Sample Plan (VSP)) to be used and describe how it was determined that the number of samples and sampling locations proposed in the Plan is sufficient for the intended use of the confirmatory sampling results.

11. Permittee Statement – Section 4.4 Backfill, Compaction, and Final Grading, lines 29-31, page 4-3. "Following the completion of excavation operations as verified by confirmation sampling, the former manhole locations will be backfilled to grade using imported fill material. The backfill material is anticipated to be obtained from an approved borrow area located on FWDA property."

NMED Comment:
In an effort to minimize the potential of introducing unacceptable fill material, demonstrate that the fill borrow area is appropriate. The fill material must be analyzed for potential contaminants based on the location and history of the source area. Detectable amounts of constituents of concern within the fill material must be evaluated for risk in accordance with the 2014 NMED Risk Assessment Guidance or compared to NMED approved soil background data. 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.

12. Permittee Statement – Section 5.0 Removal Activities at SWMU 27 – Former Building 528 Complex, lines 9-10, 32-33 and 34, page 5-1. And Section 5.2, lines 22-27 and Figure 5-1. "Previous soil investigations were performed to characterize the surface and subsurface impacts from former SWMU 27 operations. [...]" "Removal will still occur at these areas because concentrations of PAH constituents and iron exceeded NMED SSLs." "The USACE has elected to perform removal actions of the exceedance areas at SWMU 27." "Based upon the SVOC/PAH and metals concentrations discovered during previous sampling activities at the former Building 528 Complex, there will be six removal areas (Building 528 Areas A, B, C, D, E, and F) located around the former Building 528. Two removal areas (Building 551 Areas A and B) will be located at former Building 551. Two other removal areas will be located south of former Building 527 (Building 527 Area A) and at the location of former Manhole I-3. Each removal area will be excavated to depths up to 5.5 feet bgs."

NMED Comment:
Figure 5-1, Exceedance Area Map, provides a visual depiction of exceedances from previous investigations; however, this information does not demonstrate that the nature and extent of contamination has been adequately delineated. Explain how contamination was delineated utilizing the previous data and provide figures with sampling locations or propose to collect additional samples to define the nature and extent of contamination at SWMU 27.

Additionally, the Plan assumes the PAH detections are individual hot spots. This may result in overlooking large areas of contaminated soil. Further delineation is warranted for PAH contaminated soils. The Permittee must propose to collect additional samples to define the nature and extent of the PAH contamination prior to excavating these areas.

13. Permittee Statement – Section 5.3 Confirmation Sampling & Risk Evaluation, line 7-13, page 5-3. "Following the removal of impacted soil from the former Building 582 Complex, confirmation sampling will be conducted on the floor and sidewalls of each

excavation. Composite samples will consist of nine sub-samples randomly collected from the excavation area bottoms. One discrete sample will be collected from the sidewalls of each excavation. A total of 10, nine-part composite samples, or one from each removal area, and one duplicate sample will be collected from the excavation areas. Four discrete samples will be collected from the sidewalls of each excavation area for a total of 40 discrete samples and four duplicate samples.

NMED Comment:
The Permittee must collect discrete samples for confirmation soil sampling on the floor of the all of the excavations. Revise the Plan to propose discrete confirmation sampling on the floors of the excavations. In addition, revise the Plan to include a discussion of the methodology used in developing the confirmatory sampling approach. Identify all techniques (e.g., Visual Sample Plan (VSP)) to be used and describe how it was determined that the number of samples and sampling locations proposed in the Plan are sufficient.

14. NMED Comment: Section 5.3 Confirmation Sampling & Risk Evaluation, page 5-3 to 5-5. Clarify the intent of the sample-specific cumulative risk/hazard evaluation. Discuss whether it is for corrective action complete or if it is an interim step to assess if sufficient soil/contamination has been removed. If the sample assessment is an interim step to determine if any "hotspots" remain that will require additional removal, then the proposed process is adequate. However, if the results of the sample-specific assessment are in support of site closure, then the proposed assessment presents several issues that must be addressed:

a. The Plan does not establish that all non-detected results are for chemicals not associated with operations at the associated solid waste management units (SWMUs). If non-detects will be excluded, revise the Plan to state that they will only be excluded if 100% of the data for the entire site are non-detects. Ignoring non-detected results, or culling a censored data set of the non-detect values, may lead to an underestimate of cumulative risk or hazard and a skewed assessment of risk for the site as a whole. Provide information supporting the elimination of non-detected results from the analyses of sample-specific cumulative risk/hazard. The information must demonstrate that non-detected results were obtained only for chemicals not associated with operations at each SWMU. In addition, discuss the impact of eliminating non-detected results from these analyses on the sample-specific cumulative risk/hazard estimates. If adequate supporting information cannot be provided, revise the Plan to indicate that non-detected results will be included in the sample-specific cumulative risk/hazard analyses. The method for incorporating the non-detect results into these analyses must also be presented.

b. Metals that do not exceed their background levels will not be included in the sample-specific analyses of cumulative risk/hazard. If these analyses are intended to guide removals, this approach is adequate; however, for demonstration of site closure and overall site risk, this approach has not been adequately justified. Ignoring incremental risk associated with metal concentrations below background values will underestimate the total risk to exposed receptors and skew the assessment of risk for the site as a whole.

Revise the text to indicate that all detected metal concentrations including non-detect results in censored data sets will be used to estimate the total cumulative risk/hazard represented by the sample. The Plan must also indicate that the risk/hazard associated with background levels will be estimated and discussed for each sample in the uncertainty discussion for the cumulative risk/hazard analysis.

In the revised Plan clarify the intent of the sample-specific cumulative risk/hazard evaluation and provide additional information if it is meant for corrective action complete.

15. NMED Comment: Section 7.0, Project Schedule, page 7-1. The Permittee must update the project schedule to adequately reflect the project's current status.

16. Permittee Statement - Section 8.0 Post-Implementation Reporting, lines 2-4, page 8-1. "All activities conducted as part of this Work Plan will be documented in a final report. The final report will contain at a minimum a detailed schedule of completed activities, summaries of all analytical data, disposal documentation, and surveys."

NMED Comment: Revise the text to state the final report will be written in accordance with RCRA permit Sections VII.G.6 and VII.G.7. In addition, revise the text to state all deviations from the Plan as well as any corrective actions taken as a result of those deviations will be included in the final report.

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 or before **October 30, 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
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