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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 12, 2008

Mark Patterson
Ravenna Army Ammunition Plant
Building 1037
8451 State Route 5
Ravenna, OH 44266

Steve Smith
CESWF-PER-DD
819 Taylor Street, Room 3A12
PO Box 17300
Fort Worth, TX 76102-0300

RE: APPROVAL WITH MODIFICATION
RCRA FACILITY INVESTIGATION WORK PLAN PARCEL 21 (FINAL)
FORT WINGATE DEPOT ACTIVITY
EPA ID# NM6213820974
FWDA-06-003

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) received the Department of the Army's (the Permittee) *RCRA Facility Investigation Work Plan for Parcel 21* (Work Plan), dated September 30, 2008 submitted pursuant to Section VII.H.1 of the *Fort Wingate Hazardous Waste Facility Permit* and NMED's *Notice of Deficiency* dated July 8, 2008 (NOD) . Based on the information presented in the Work Plan, NMED hereby approves the Work Plan with the modifications listed in this letter.

COMMENT 1

In the Comment Response provided in Appendix A of the Work Plan, Comment 2, the Permittee states that "[t]he Army firmly believes that the MI sampling approach does in fact provide decision level data for explosives as well as other constituents of concern. Attachment A to this response to NOD comments is a technical paper that provides specific results and findings of current research as well as the applied use of the MI sampling methodology for environmental characterization purposes. The Army believes that this technical paper provides significant

background information supporting the use of MI sampling for generation of decision-level data for explosives and other constituents of concern at FWDA. The text of the revised Work Plan has not been changed with respect to the proposed use of MI sampling at a number of AOCs and SWMUs in Parcel 21. Following NMED review of the technical paper, the Army proposes further discussion regarding the MI approach and its applicability at FWDA."

NMED has reviewed the technical paper provided and as stated in the paper, MI sampling has only been effectively applied to areas where the highest concentrations of energetic material residues have been found (e.g., near firing points, around targets, and areas where unexploded ordnance (UXO) or discarded munitions have been blown in place (BIP)). In the event that constituents unrelated to explosives may be a concern, MI sampling has not been shown to be an appropriate method for detection of these types of constituents. In addition, the proposed MI sample collection depths range from zero to three inch depths and one foot depths. The method recommends sample collection depths of 2.5 to 5 centimeters (one to two inches) [method 8330B, p. A-13].

EPA Region 10 is applying MI sampling at the Portland Harbor Superfund site in Oregon (this is not discussed in the technical paper: see EPA Technology Innovation Program: http://www.clu-in.org/programs/21m2/lit_show.cfm?id=6611). As cited in this paper, "Multi-incremental sampling is an innovative approach to evaluate whether soils at a site can be considered "clean" of constituents of concern (COCs). This approach, which is being disseminated to EPA technical staff throughout the U.S., involves collecting multi-incremental samples composed of 30 or more sub-samples within each designated sampling area, which results in a high sampling density. The multi-incremental sampling approach is considered more representative of areas with no known source of hazardous constituents." As noted, MI sampling may be appropriate in areas where there is no expectation to discover contamination. However, in areas where there have been known releases, MI sampling may not be an appropriate method. Again, the COCs at the Oregon site do not include VOCs.

As a follow up to this comment and to gain a better understanding of how MI sampling has been applied in Region 10, Ms. Kristine Koch of EPA Region 10 was contacted (October 17, 2008). Ms. Koch was the project lead for the Triangle Park site in Oregon. Triangle Park had a long history of use under multiple owners. Characterization work had been conducted in the past, but additional investigation has been requested by a new purchaser of the property. MI sampling was applied. Ms. Koch indicated that where there had been known spills, MI sampling was not the most appropriate approach and that in these areas, discrete sampling was conducted. Ms. Koch further indicated that this was one of their first sites applying MI sampling, and that in the future, they would change the approach to include: smaller decision units within smaller areas, systematic random sampling to avoid clustered data, field quality assurance samples, and a more rigorous work plan.

Based upon the discussion with Ms. Koch, it appears that there may be some areas at Ft. Wingate where MI sampling may be appropriate. However, MI sampling is not an all-encompassing tool to be applied site-wide. Specific areas where there is a high likelihood of contamination due to spills or areas where there is historical data indicating previous spills or migration of

contamination should not be sampled using the MI method. Rather, discrete sampling is more appropriate.

In addition, the method is not appropriate for characterizing aqueous – phase releases or releases affected by aqueous – phase transport mechanisms. NMED considers MI sampling to be acceptable as a screening tool in some situations but is appropriate for compliance only for surface releases with detonations as the contaminant release source and then only for explosive compounds and some metals. This method has only been applied to soils collected in the uppermost soil surfaces and from soils where expected fallout patterns from detonations have occurred.

COMMENT 2

In the NOD, Comment 15, the Permittee was required to include TPH, DRO extended and GRO in the sample analysis. In Section 5.5 of the Work Plan, the Permittee does include DRO, TPH, and GRO as part of the chemical analytical suite. The Permittee must ensure that the DRO analysis includes the extended carbon range.

COMMENT 3

In the Work Plan the Permittee proposes to demolish Buildings 510, 530 and 522 under a separate Work Plan. The Permittee must provide a schedule to NMED, which includes a timeline for the proposed building demolition activities. This schedule must be submitted to NMED 30 days before the proposed demolition activities occur.

COMMENT 4

In Section 7.4.1.4 (Brass Cartridge Casings), the Permittee proposes to address the brass cartridges located southwest of Building 530, under a separate Work plan. The Permittee must submit the Work Plan that addresses the removal of the brass cartridges no later than August 31, 2009.

Noncompliance with the modifications outlined in the approval letter will result in automatic withdrawal of the Work Plan approval and potentially subject the Permittee to an enforcement action. As a reminder, the Permittee shall not respond to the comments provided in an Approval with modifications unless NMED specifically requires a response and/or re-submittal (i.e. revised text and/or pages, additional information) in the approval letter.

If you have any questions regarding this letter, please contact Tammy Diaz-Martinez at (505) 476-6056.

Sincerely,

John E. Kieling
Manager
Permits Management Program

cc: Tammy Diaz-Martinez, NMED HWB
Dave Cobrain, NMED HWB
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File: FWDA 2008 & Reading File
FWDA-06-003