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JON GOLDSTEIN  
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 22, 2009

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 DIRECTION  
RELEASE ASSESSMENT REPORT FOR  
PARCEL 4A, IGLOO BLOCK C  
FORT WINGATE DEPOT ACTIVITY  
EPA ID# NM6213820974  
FW-08-005**

Dear Messrs. Patterson and Smith:

The New Mexico Environment Department (NMED) received the Department of the Army's (the Permittee) *Release Assessment Report for Parcel 4A Igloo Block C, Final* (the Report), dated March 27, 2009. The submittal is a requirement of Section VII.F of the *Fort Wingate Depot Activity RCRA Permit (RCRA Permit)*. NMED hereby approves this Report with the following direction.

The Permittee proposes that their next submittal to NMED will be an Interim Corrective Measures Work Plan (Section 5.1, Army's Recommendations); however, igloo Block C is designated an Area of Concern (AOC 29) and NMED requires further characterization at the site, therefore the Permittee must submit a RCRA Facility Investigation Work Plan (RFI Work Plan) rather than the Interim Measures Work Plan as proposed in the Report.

**COMMENT 1**

The Permittee collected composite samples from the drain of 35 igloos and tested the samples for explosives and lead. The lead detections ranged from 3.4 mg/kg to 1,290 mg/kg with three of the

detections over the NMED soil screening limit (SSL) of 400 mg/kg. While only three of the samples were over the SSLs, NMED requires additional discrete sampling be conducted at all locations where lead was detected at concentrations between 200 and 400 mg/kg. For example, the composite sample collected from beneath the drain outlets at location C-1103 contained a lead concentration of 329 mg/kg; therefore, the Permittee must collect discrete samples from each drain to determine the source of the elevated lead concentration. The Permittee must propose the additional sampling for RCRA metals at these locations in the RFI Work Plan.

### **COMMENT 2**

In Section 4.5.3, Multi-Incremental Soil Sample Results at Revetments, the Permittee states, "MI samples were collected at all 33 revetments; six duplicate samples were collected. Detections of lead ranged from 2.8 mg/kg to 11.3 mg/kg with one sample reported at 221 mg/kg. No detections of lead exceeded the NMED SSL of 400 mg/kg. No explosives constituents were detected in the MI samples collected at the revetments."

Sample location Y-C1111 has the concentration of 221 mg/kg lead. Since this is a MI sample, it is very like that at least one sample in the decision unit exceeded the cleanup level. The Permittee must propose to divide the decision unit into smaller decision units and collect thirty MI samples in each new decision unit in order to determine if there is a hot spot. The Permittee must propose these sampling activities in the RFI Work Plan.

### **COMMENT 3**

In Section 5.1, "Army's Recommendations," the Permittee states, "[t]he Army recommends that soil be removed at the drain outfalls of igloos C-1105, C-1109 and C-1128 where concentrations of lead exceed NMED cleanup standards. A response action would likely be combined with igloos from other igloo blocks. Confirmation testing of lead in soil after soil removal may be accomplished using a field-portable X-Ray Fluorescence (XRF) instrument. Use of XRF instrumentation would allow decision making in the field regarding the need for additional soil removal. If XRF instrumentation is used, twenty percent of the XRF samples would be confirmed by laboratory analyses ... The Army proposes as its next submittal on Parcel 4A, a simplified design of the anticipated corrective action (soil removal). The design document would be a brief description of the soil removal activities and a sampling and analysis plan of the soil characterization and confirmation sampling. In summary, the Army will propose removing a few inches of soil from each igloo drain outfall, estimated to be approximately ¼ to ½ cubic yard, where the lead concentration exceeds the NMED residential SSL of 400 mg/kg."

- a. If XRF instrumentation is used for confirmation sampling, the Permittee must propose in the RFI Work Plan that 20% of the samples sent to the lab for confirmation analysis will include analysis for high-explosives (HE) and RCRA metals.
- b. The Permittee proposes to remove soil from the drain outfalls at C-1105, C-1109 and C-1128 as part of corrective measures. If results from the additional sampling required by NMED (*see* Comment 1) reveal levels of metals contamination above

residential soil screening levels (SSLs) at the igloo locations referred to in Comment 1, the Permittee must also propose to remove those soils in the RFI Work Plan.

#### **COMMENT 4**

In Section 6.0, Release Assessment (AOC 75 Electrical Transformers), the Permittee states, "AOC 75 is listed in the Permit as 'Electrical Transformers.' In Table VII.2 of the Permit, there is a statement that transformers could possibly be located in Parcel 4. FWDA Drawing C-1-10 dated May 1968 is a General Electric Map showing electrical utilities to Igloo Block C. This map and information found in previous reports regarding potential transformers in Parcel 4 are included in Appendices B and C."

AOC 75 includes transformers located throughout the facility and Buildings 5 and 15 are addressed in the Parcel 11 Work Plan. Drawing C-1-10 in Appendix B is not legible and it is not clear if transformers were present on Parcel 4 in 1968. If a more recent electric utility map is available, the Permittee must provide it to NMED. The Permittee must provide NMED with a location map of the approximate location of where the transformers were stored and used in Parcel 4A. The map may be included in the RFI Work Plan.

#### **COMMENT 5**

In the Comment Response Table for Tribal Draft, in a comment regarding Section 5.1 of the Report, the Pueblo of Zuni suggests "the interiors of three igloos be cleaned with pressure wash gear and that the resulting contaminated water be disposed of properly." The Permittees response to this statement was that they agreed that potential releases inside the igloos will have to be addressed and will consider this request during the development of the RFI Work Plan. NMED concurs that the interior of the igloos must be addressed in the Investigation Work Plan. Based on the results from other studies and discussion with all stakeholders, the Permittee will be required to collect samples in the interior of the igloos.

#### **COMMENT 6**

In Section 4.5.3, Multi-Incremental Soil Sample Results at Revetments, the Permittee states that lead was detected at locations outside of the drainage outfall at three igloos in Igloo Block C. In addition as stated in the Comment Response Table the Pueblo of Zuni states that "the interiors of three igloos be cleaned with pressure wash gear and that the resulting contaminated water be disposed of properly." Given that the source of the contamination is unknown and prior to proceeding with corrective action efforts, the Permittee must locate the source of the soil contamination. Therefore, the Permittee must collect seven swipe samples from the floor of each of the igloos throughout the facility. Three swipe samples must be collected from the front, middle, and back of the floor and the remaining two swipe samples must be collected from discretionary locations along the floor. In addition, the Permittee must collect one swipe sample

from each of the indoor drainage troughs, specifically from an area less than three feet of the drain outlet.

All swipe samples must be analyzed for arsenic, barium, lead, and mercury using X-ray fluorescence (XRF) (if the Permittee prefers). In addition, two of the seven swipe samples collected (one from the floor and one from the drainage trough) must be sent to the laboratory for verification purposes. Laboratory analysis must include RCRA 8 metals, explosives. The Permittee must revise the Work Plan to include the proposed sampling activities as well as include a figure with the proposed sample locations. This applies to all future and applicable Work Plans.

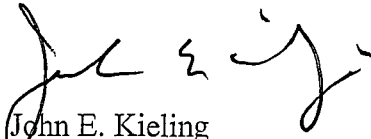
#### **COMMENT 7**

Figure 2 (C-Block Igloo and Revetment Sampling) must be supplemented by figures showing the locations of composite sampling and the MI sampling at igloos and revetments. The Permittees must provide detailed figures showing the sampling locations in the RFI Work Plan.

Messrs. Patterson and Smith  
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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  
Hazardous Waste Bureau

cc:

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