



BILL RICHARDSON  
Governor

DIANE DENISH  
Lieutenant Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

*Hazardous Waste Bureau*

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

www.nmenv.state.nm.us



RON CURRY  
Secretary

JON GOLDSTEIN  
Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 5, 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: NOTICE OF DEFICIENCY  
CLOSURE PLAN PHASE I WORK PLAN OB/OD  
FORT WINGATE DEPOT ACTIVITY, NEW MEXICO  
EPA ID# NM6213820974  
FWDA-06-004**

Dear Mr. Patterson:

The New Mexico Environment Department (NMED) received FWDA's *Closure Plan Phase I Work Plan OB/OD Unit HWMU and Parcel 3 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)*, dated June 27, 2008 (Work Plan). The Work Plan was submitted pursuant to Section III of the Fort Wingate Hazardous Waste Facility Permit. NMED has reviewed the Work Plan and hereby issues this Notice of Disapproval (NOD). The Permittee must address the following:

**GENERAL COMMENTS**

**COMMENT 1**

In all AOC and SWMU related sections, the Permittee provides a "Location, Description and Operation History" section. However, the Permittee fails to provide the actual locations,

description, and operational history of each SWMU and AOC. Instead the Permittee refers to the Summary Report of Historical Information (SRHI) for Parcel 3. In the SRHI, the Permittee does include a descriptive operational history in more detail than what is presented in the Work Plan. The Work Plan only includes a brief summary of what is necessary for this section. In addition, the Permittee refers to the SRHI for operational history but this information also must be summarized in the Work Plan. The Permittee must revise the Work Plan to include sufficient details related to location, details, and operational history for each SWMU and AOC (e.g., include what is presented in the SRHI) to provide the rationale for the proposed work.

### **COMMENT 2**

In all AOC- and SWMU- related sections, the Permittee provides a “Previous Investigations” section; however, in this section the Permittee refers to the SRHI for more details. A Work Plan must briefly summarize the results of previous investigations in order to determine whether further investigation is necessary at each site. The Permittee must revise each SWMU- and AOC- related section to provide a summary of previous investigations in the revised Work Plan.

### **COMMENT 3**

NMED understands the objective of the Closure Plan for Parcel 3; however, the order of investigation submittals and proposed work limits the Permittee’s ability to define the extent of potential contamination in a cost-effective manner. The Permittee should consider characterizing the site by identifying and delineating the extent of buried waste and burning grounds by completing the proposed geophysical surveys prior to conducting actual excavations and the proposed soil and groundwater sampling activities.

### **SPECIFIC COMMENTS**

#### **COMMENT 4**

In Section 4.3.1 (Geophysical Surveys), page 4-2, lines 17-24, the Permittee states that “[a]s described in Section 4.4.1, digital geophysical mapping (DGM) of portions of the open burn open detonation (OB/OD) unit will be included in the next phase of investigations to support closure activities for the Hazardous Waste Management Unit (HWMU). DGM within the HWMU will focus on attempting to confirm/delineate the extent of previously investigated areas and determine if other areas require further investigation. If the DGM identifies additional subsurface disposal areas or if DGM data are inconclusive, additional investigations may be necessary as part of a future investigative phase.” The Permittee is required to remove all waste material from burial sites. Therefore upon receipt of the geophysical survey results, the Permittee may be required to further characterize the site. No revisions to the Work Plan are necessary.

#### **COMMENT 5**

In Section 4.4.2 (Waste Characterization), page 4-6, lines 22-25, the Permittee states that “FWDA believes that data collected will demonstrate that many of the waste materials are simply solid wastes which are not RCRA regulated and which do not pose a threat to human health or the environment, and therefore can be closed with those materials remaining in place.”

Based on the New Mexico Hazardous Waste Act, NMSA 1978 §§ 74-4-3, a “[h]azardous waste” means any solid waste or combination of solid wastes which because of their quantity, concentration or physical, chemical or infectious characteristics may: cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.”

Given that the army has buried waste for many years and there are no records identifying the exact types of waste buried, it is unknown if the waste is hazardous or contains hazardous constituents. In order to ensure that the buried waste does not contain hazardous constituents, the Permittee is required to identify and remove all the waste, and determine whether hazardous constituents have been released into the environment. The waste must also be profiled for proper disposal. The Permittee must revise the Work Plan accordingly.

#### **COMMENT 6**

In Section 4.4.2 (Waste Characterization), page 4-7, lines 2-6, the Permittee states that “[a]fter previous investigation trench and waste limit locations have been re-established, new investigation excavations will be completed by offsetting 5 feet to either side of the previous trench location. Excavations will be completed by excavating several smaller areas near the ends and center of the previously observed vertical extent of waste as shown in Figure 4-5.” As shown in Figure 4-5, the “previously surveyed investigation trench to be re-established” does not appear to be offset by five feet from the “surveyed investigation trench”. In addition, Figure 4-5 does not provide an understanding of how the excavations will be completed as stated above. The Permittee must revise Figure 4-5 to provide more descriptive details for the proposed investigation excavations. The Permittee must also revise this section of the Work Plan to clearly explain how the new excavations will be completed and how the contents of the trenches will be characterized. These changes must be included in the revised Work Plan.

#### **COMMENT 7**

In Section 5.4.3 (Soil Investigation), page 5-7 & 5-8, lines 39-2, the Permittee states that “[a]s described in Section 5.4.2, because FWDA hopes to collect sufficient supplemental waste samples to demonstrate that many of the waste materials are simply solid wastes which are not RCRA regulated and which do not pose a threat to human health or the environment, and therefore corrective action can be completed with those materials remaining in place, additional soil characterization sampling will be required in and around all areas proposed to remain in place.” As part of the corrective action process, the Permittee must remove all waste materials as

well as ensure that the underlying soils do not contain any hazardous constituents. See Comment 5 for further details.

#### **COMMENT 8**

In Section 5.4.2 (Waste Characterization), page 5-7, lines 18-34, the Permittee describes how waste samples will be collected from the investigation trenches. This entire section is not clear and the provided Figures 5-5 and 12-1 do not clearly show what is being described in this section. The Permittee must revise the entire section to clearly explain how waste samples will be collected and analyzed. In addition, the Permittee must provide a Figure(s) that clearly shows how the proposed trenches are to be excavated and how and where the proposed waste samples are to be collected. The Permittee must also refer to Comment 6 for waste removal and soil sampling details. The Permittee must revise the Work Plan accordingly.

#### **COMMENT 9**

In Section 5.4.3.2 (Surface Soil within the Parcel 3 SWMUs), 5-8, lines 15-33, the Permittee discusses multi-incremental (MI) sampling within and around the Parcel 3 SWMUs and references Figure 5-6 which depicts the locations of the proposed MI sampling decision units. The solid waste management units (SWMU's) in Parcel 3 consist of old burning grounds, landfills, demolition areas, and debris or residue piles, which potentially may leach hazardous waste into the underlying soils and groundwater. The Permittee must demonstrate that the underlying soil and groundwater have not been impacted by these SWMUs; therefore, the Permittee must add the MI sampling units to include the drainages in Parcel 3. MI soil samples must be collected from the proposed depths as stated in the Work Plan.

In addition to the MI samples collected, the Permittee may also be required to collect additional discrete soil samples from within the arroyo. The additional sampling will be based on the results from the first phase of investigation. The Permittee must revise the Work Plan to include the proposed sampling activities as well as a revised Figure 5-6.

#### **COMMENT 10**

In Section 6.3 (Scope of Activities), page 6-3, the Permittee states that “[g]roundwater characterization in the Parcel 3 area will be completed in strategic phases. During this phase of investigations, additional wells will be installed to further characterize groundwater and determine groundwater gradients around the HWMU.” The Permittee must explain in further detail, the strategic phases proposed to be completed prior to well installation. These details must be included in the revised Work Plan.

The Permittee may proceed with the proposed monitoring well installation; however, additional monitoring well installation may be required following the characterization of buried waste and the completion of the geophysical surveys. The Permittee should consider postponing groundwater characterization and monitoring well installation until the first phase of investigation has been completed.

#### **COMMENT 11**

In Section 7.4 (Scope of Activities (SWMU 74- Proposed Burning Ground)), page 7-2, lines, 16-20, the Permittee states that “[a]s previously discussed, geophysical investigations (in the form of DGM) are planned within and around the SWMU 74. DGM will be completed if the results of the aerial survey do not detect the presence of suspected waste or are otherwise inconclusive. The objective of these investigations is to attempt to demonstrate that areas of subsurface wastes do not exist within SWMU 74.” SWMU 74 is listed as a proposed burning ground; in the event that it was used for this purpose, a geophysical survey will likely not detect remnants of burn residue or subsurface ground disturbance. In addition, based on the aerial photo analysis, the area appeared to be disturbed. The Permittee must therefore support the proposed geophysical survey with appropriate methods (e.g., ground penetrating radar) capable of detecting ground disturbance up to 10 foot depths. The Permittee must revise the Work Plan to include this approach.

#### **COMMENT 12**

In Section 8.1.1 (Location, Description, and Operational History (AOC 89)), page 8-1, the Permittee states that “AOC 89 is identified in the Permit as Features 30 and 34 on the 1973 Aerial Photo API-5. AOC 89 is discussed in detail in the companion SRHI and is shown in Figure 8-1.” The Permittee does include a more detailed description of AOC 89 in the SRHI; however, it would be useful to include Section 8.0 of the SRHI (Location, Description, and Operational History) in the Work Plan (See Comment 2). The Permittee must incorporate the entire Section 8.0 (AOC 89) in the revised Work Plan.

#### **COMMENT 13**

In Section 8.3, page 8-1, the Permittee states that “[a]s shown in Table 8-1, explosives were detected in soil samples from all three locations, at both sampling depths. Detected concentrations of TNT in both samples at KSA01 and KSA03 exceeded the Permit cleanup level.” Based on Figure 8-1, it is unclear where these “three locations” are located. The Permittee must revise the Work Plan to include a revised Figure that clearly identifies the sample locations.

#### **COMMENT 14**

Figure 8-1 of the Work Plan includes AOC 89 and Features 30 and 34. However based on the Figure the following are unclear:

- Which feature is 30 and which feature is 34
- Where the four temporary storage areas are located (as stated in Section 8.1 of the SRHI)
- Where soil samples (KSA01 – KSA03) were collected from (as stated in Section 8.3 of the Work Plan and in Section 8.2.2 of the SRHI)
- The location of the shallow trenches along two sides of feature 34 (as stated in Section 8.1 of the SRHI)

The Permittee must revise the Work Plan to include a figure that shows the items listed above. In addition, the Permittee must provide approximate dimensions of these sites. Once the Work Plan is revised to include this information, NMED will evaluate the need for additional samples.

#### **COMMENT 15**

In Section 8.4 (Scope of Activities), page 8-1, the Permittee states “[t]herefore, no activities are proposed for AOC 89 as part of this Work Plan. The debris from the four other areas that are part of the AOC 89, not including the Corrective Action Management Unit (CAMU) site, will be removed during the surface clearance project. A single MI confirmation sample will be collected from each of the four sites during a future investigation after the debris has been removed.”

Although the Permittee proposes to collect one MI sample from each of these four sites, based on past activities at the site and because these four sites are not part of the CAMU and contain debris as well as TNT above the Permit cleanup levels, the Permittee will likely be required to collect discrete soil samples. The potential for soil sample collection will be based on the locations and dimensions of the sites as well as on the results from the surface clearance. (See Comment 14)

#### **COMMENT 16**

In Section 8.1 (Location, Description, and Operational History) of the SRHI, page 8-1, the Permittee states that “[f]eature 30 includes four temporary storage areas used for staging military munitions prior to treatment in the OB/OD Area. The southernmost revetment along the existing gravel road (part of feature 30) contains a small pile of soil and metal debris created during UXO survey efforts in 1992/1993.” The Permittee must provide a figure in the revised Work Plan or revise Figure 8-1 to include the four temporary storage areas (labeled as such) and the location of the soil and metal debris.

In addition, it is unclear if feature 30 is one of the locations where previous soil samples were collected. If samples have not previously been collected, and based on the activities at this specific location, the Permittee must propose to collect soil samples once the exact location and the dimensions are provided. These details must also be included in the revised Work Plan.

#### **COMMENT 17**

In Section 9.1.1 (Location, Description, and Operational History (AOC 90)), page 9-1, the Permittee states that “AOC 90 includes two previously uninvestigated areas near, and potentially across, the western property boundary. AOC 90 is discussed in detail in the companion SRHI for Parcel 3.” The Permittee does include a more detailed description of AOC 90 in the SRHI; however, the Permittee must include the entire Section 9.0 of the SRHI (AOC 90) in the revised Work Plan.

**COMMENT 18**

In Section 9.2.2 (Historical Document Review) of the SRHI, the Permittee states that “[W]hile the ASR did identify this feature (36) on the 1973 aerial photo, this feature was not among the 19 numbered sites and two additional locations identified as specific Areas of Concern in need of further investigation.” The Permittee must understand that in order to achieve closure at Parcel 3, all sites and features identified during previous investigations must be evaluated. Although this feature was not among the sites listed for further investigation, it has been identified and is an AOC. Therefore, the Permittee must characterize the site to verify that contamination or waste is not present following the planned aerial geophysics or wide area assessment (WAA).

In addition, if constituents of concern are found in the pond located within the boundary of Parcel 3, the Permittee may be required to further investigate the pond located outside of the western fence boundary since it is downstream of the pond located within the Parcel 3 boundary. The Permittee must revise the Work Plan accordingly to include proposed characterization activities for feature 36.

**COMMENT 19**

In Section 10.2.2 (Historical Document Review) of the SRHI, the Permittee states that “[W]hile the ASR did identify these features on the 1973 and 1978 aerial photos, these features (41 & 27) were not among the 19 numbered sites and two additional locations identified as specific Areas of Concern in need of further investigation.” In order for the Permittee to achieve closure at Parcel 3, all sites and features identified during previous investigations must be evaluated. Although these features were not among the sites listed for further investigation, they have been identified and are now listed as an AOC. Therefore, the Permittee must characterize the site to verify that waste or contamination is not present following the planned aerial geophysics or WAA.

**COMMENT 20**

In Section 11.2.2 (Historical Document Review) of the SRHI, the Permittee states that “[W]hile the ASR did identify these features on the 1973 and 1978 aerial photos, these features were not among the 19 numbered sites and two additional locations identified as specific Areas of Concern in need of further investigation.” See Comments 19 & 20 for further details.

**COMMENT 21**

In Section 11.1.1 (Location, Description, and Operational History) of the SRHI, page 11-1, the Permittee states that “[a]s described in the ASR, Feature 31 is described as bare areas on a hillside with a loop road around area, two trenches, three small pits, and three pit scars. As described in the ASR, Feature 21 is described as bare, rough ground on side of hill with loop road and two pits.” In Section 11.4.1 (Geophysical Investigation) of the Work Plan, the Permittee states that “DGM will be completed if the results of the aerial survey do not detect the presence of suspected waste or are otherwise inconclusive. The objective of these investigations

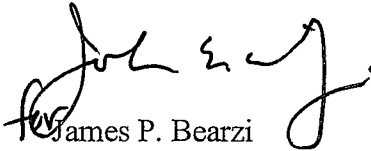
is to attempt to locate potential areas of subsurface wastes and/or former OD craters that may exist within AOC 92.”

Given that AOC 92 contains OD craters, pits and trenches, the Permittee must ensure that residual waste and contamination from previous detonation activities is not present. The Permittee must therefore support the proposed geophysical survey with the appropriate methods (e.g., ground penetrating radar) capable of detecting ground disturbance up to 10 foot depths. The Permittee must revise the Work Plan to include this approach.

The Permittee must address all comments contained in this letter and submit a revised Work Plan no later than August 31, 2009. The cover page must indicate that the submittal is a revision and was prepared for NMED. The revised Work Plan must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED’s numbered comments. The Permittee must also submit an electronic copy of the Revised Work Plan with all edits and modifications shown in redline-strikeout format.

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

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc:

Dave Cobrain NMED HWB  
Tammy Diaz-Martinez, NMED HWB  
Laurie King, U.S EPA Region 6 (6PD-N)  
Charles Hendrickson, U.S. EPA Region 6  
Sharlene Begay-Platero, Navajo Nation  
Eugenia Quintana, Navajo Nation  
Edward Wemytewa, Pueblo of Zuni  
Steve Beran, Pueblo of Zuni  
Clayton Seoutewa, BIA  
Rose Duwyenie, BIA  
Judith Wilson, BIA  
Edline Stevens, BIA  
Ben Burshia, BIA

File: FWDA 2009 and Reading File  
FWDA-06-004