



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

CINDY PADILLA
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 5, 2007

Mark Patterson
BRAC Environmental Director
Department of the Army
Fort Wingate Depot Activity
PO Box 268
Fort Wingate, NM 87316

**RE: NOTICE OF DISAPPROVAL
PARCEL 21 RCRA FACILITY INVESTIGATION
WORK PLAN AND RELEASE ASSESSMENT
REPORT FOR PARCEL 21, FEBRUARY 22, 2007
FORT WINGATE DEPOT ACTIVITY,
MCKINLEY COUNTY, NEW MEXICO
EPA ID# NM6213820974
FWDA-06-003 & FWDA-07-003**

Dear Mr. Patterson:

The New Mexico Environment Department (NMED) has completed its review of the Department of the Army's (the Permittee) *RCRA Facility Investigation Work Plan for Parcel 21*, (Work Plan) and the *Release Assessment Report for Parcel 21*, (Report) both dated February 22, 2007, submitted pursuant to Section VII.H of the Fort Wingate Hazardous Waste Facility Permit. NMED has determined that the Work Plan and the Report are technically deficient and therefore is hereby issuing this Notice of Disapproval (NOD).

GENERAL COMMENTS FOR THE PARCEL 21 WORK PLAN AND THE RELEASE ASSESSMENT REPORT

Comment 1

NMED herein provides its recommended general work plan outline (also see Attachment 1 for general guidance on section details). NMED acknowledges that the Permittee incorporated some of these sections in the current Work Plan. However, the Permittee must revise the Work Plan to ensure that each of these sections is clearly addressed. For sections identified below that are in the current version of the Work Plan, the text may need to be expanded, revised, or reorganized based on the comments in this letter and the guidance provided in Attachment 1.

- I. Title Page
- II. Executive Summary or Abstract
- III. Table of Contents
- IV. Introduction
- V. Background
- VI. Site Conditions
- VII. Surface Conditions
- VIII. Subsurface Conditions
- IX. Scope of Activities
- X. Investigation Methods
- XI. Monitoring And Sampling Program
- XII. Schedule
- XIII. Tables
- XIV. Figures
- XV. Appendices

NMED requires that future work plan submittals include, at a minimum, all sections identified in the outline above. Although the sections are required, they may be re-named to more accurately describe the specific work plan items.

COMMENT 2

The Work Plan must be reorganized to merge all text, Solid Waste Management Unit (SWMU) - related tables, figures, photographs and engineering drawings into one section for each SWMU (e.g., Section 1 "SWMU 1"). The text can remain as is; however, following the text, sections, labeled: 1) "Tables" inserted with data tables; 2) "Figures" with site figures; 3) "photographs" with the associated photographs; and 4) "Engineering Drawings" with any relevant engineering drawings to follow. The individual sections for each SWMU should follow an identical format. This guidance applies to all future Work Plan submittals.

COMMENT 3

In each SWMU-related section (Section 3-7) the Permittee requests that NMED review several documents which describe in detail the previous investigations performed at each SWMU. NMED does not conduct reviews of historical documents in the process of reviewing Work Plans. The Permittee must therefore, include summary information from each of the reports referenced in each section that describe the results of investigations performed at each SWMU or AOC (e.g., number of samples collected, sample type, sampling depths, sampling constituents, the analytes detected above applicable standards, corrective measures activities (if applicable), and conclusions). The Permittee must submit relevant portions of specific references (specific pages with title is sufficient; entire reports should not be included in the document) used for compiling the "Historical Sections" included in the Work Plan and Report for each SWMU and AOC. These reference documents must be included in the historical information summary required by Permit Section VIII.A.1.a. Within the Work Plan and Report, the references must include page numbers and document titles to indicate the specific source of the historical information. A historical information summary document must be submitted under separate cover with the revised Work Plan and also with each upcoming Work Plan and Report for each Parcel.

COMMENT 4

The information provided in Appendix A appears to be a duplicate of the information provided in Appendix B. The Permittee must revise the Work Plan to remove the redundancy while still including all relevant information concerning previous investigation activities (e.g., combine the text from Appendix B with Appendix A). The Permittee may include the summary details as an Appendix, but must also include the pertinent information in each individual SWMU/AOC section of the Work Plan (e.g., Sections 3 thru 7). This change must be incorporated into all future Work Plan submittals and their associated Release Assessment Reports.

COMMENT 5

The Permittee must address cultural resource requirements and describe how cultural resources will be preserved in all areas where ground-disturbing activities will occur. This must be presented in each individual SWMU/AOC section as part of the proposed investigation activities, where applicable. Proposed investigation activities must be approved in advanced by NMED. The Permittee must also consult with the Navajo Nation and the Pueblo of Zuni regarding this Work Plan and proposed investigation activities, pursuant to Section VIII.H.I of the Permit. This is applicable to all future work plan submittals.

COMMENT 6

The Permittee states that iron has been detected at elevated concentrations and that these concentrations are related to naturally occurring iron concentrations in soils. The Permittee must conduct an appropriate background study before comparisons can be made to background

concentrations of naturally occurring inorganic constituents. Background studies conducted at the Facility must be approved by NMED.

COMMENT 7

Separate tables containing Volatile Organic Compounds (VOC) and Semi Volatile Organic Compounds (SVOC) must be presented for all SWMUs. Constituents detected above cleanup levels must be highlighted. All future work plans and reports must be formatted in this manner.

SPECIFIC COMMENTS

RFI WORK PLAN

COMMENT 8

The Permittee states that a few wells sampled within Parcel 21 were dry resulting in incomplete groundwater characterization for specific SWMU-related sites. NMED suggests that the Permittee conduct a facility-wide geophysical survey, focusing primarily on the northern parcels at the Facility, to identify potential saturated zones.

COMMENT 9

Table 3-1 and all other data summary tables must include the following information:

- Analyte name
- Sampling date
- Units of measurement (e.g., mg/kg, µg/L)
- Results, including units (exceedances must be bolded or highlighted)
- Sample type (e.g., soil, rock, sludge, groundwater, surface water, sediment)
- Analytical methods
- Method detection limits
- Data qualifiers
- Chemical Abstract System (CAS) numbers
- Cleanup or screening levels
- Analytical data tables that include only detected analytes and data quality exceptions that may mask detections
- Definitions of all footnotes used (e.g., NS, J, D, ND)

The contract laboratory report, including the chain-of-custody records, must be included in the Work Plan as an Appendix (preferably in electronic format as a pdf file).

COMMENT 10

The figures that provide sample locations are difficult to interpret and compare to the associated data tables. The Permittee must separate each figure based on sampling types (e.g.,

soil, groundwater, and surface water), sampling dates, and constituents detected. For example, one figure must be provided for each sampling event (e.g., 2003 sampling event), for the target constituent (e.g., arsenic). The figure must include the analytical results (detects only) for each location sampled. The constituents that exceed cleanup screening levels must be distinguished from other detections. A legend, scale, title (including sampling date), and a north arrow must always be included in each figure. The Permittee must revise the Work Plan to incorporate these changes.

COMMENT 11

Figure 3-1 is cluttered, and does not clearly depict sampling locations and the exceedances associated with each location. Refer to Comment 10 for figure details.

COMMENT 12

In Section 8.3.1 (Sample ID), the Permittee provides an example of proposed soil sample nomenclature. The Permittee did not include a date in the proposed system. Because the Permittee will likely cite these data in future documents, the Permittee must always incorporate sample dates in the sample ID nomenclature.

COMMENT 13

As part of the Work Plan, the Permittee includes Section 9 [Quality Assurance/Quality Control (QA/QC) Procedures and Requirements]. The Permittee must remove this section from the Work Plan. Standardized QA/QC protocols are not required nor does NMED approve QA/QC Standard Operation Procedures as part of the work plan review process. However, proposed project-specific QA/QC procedures are required by NMED and must be included in the revised Work Plan.

COMMENT 14

The Permittee failed to address the presence of "old magazines" and "temporary storage sites". The Permittee must investigate each former magazine located within Parcel 21 and provide a summary of this investigation. The summary should include the use of the magazines, previous sampling activities (if any have been completed), investigation procedures, constituents detected, debris found and any other pertinent information related to these ordinances.

COMMENT 15

The Permittee proposes to perform multi-incremental (MI) sampling at various SWMUs and AOCs. NMED views multi-incremental sampling for the applications proposed in this Work Plan as a screening tool only. If contamination is identified in soils using MI procedures, the Permittee may be required to conduct additional sampling at selected sites.

COMMENT 16

The Permittee addresses Investigation-Derived Waste (IDW) in Section 8.7 (Investigation – Derived Waste Characterization and Disposal). The Permittee states “[t]wo types of IDW will be generated during sampling of environmental media.” The Permittee also addresses IDW in Appendix G and lists six types of IDW in Section 1.0 of the Work Plan. The Permittee must correct this inconsistency in the revised Work Plan by revising Section 8.7, Section 1, and Appendix G to address only the IDW resulting from Parcel 21 investigation activities.

COMMENT 17

Based on NMED’s June 20, 2007 field visit and the documented historical use of some buildings, it appears that some of these buildings are not usable and possibly dangerous. Therefore, NMED recommends that, for this particular parcel, all structures (including Building 515) and its associated contents be demolished and debris removed prior to the initial site investigation. The Permittee must characterize all waste generated from building demolition and provide documentation of waste disposal to NMED. Demolition of structures must be addressed in the revised Work Plan.

COMMENT 18

In Section 3.4 (Proposed Investigations), page 3-2, the Permittee requests that NMED review several documents which describe, in detail, the investigations performed to date at Solid Waste Management Unit (SWMU 1). Refer to Comment 3 for direction on the presentation of historical data.

COMMENT 19

As stated in Section 3.3 (Evaluation of Data from Previous Investigations), page 3-2 “several explosives were detected at concentrations exceeding cleanup levels in the settling tank excavations and under the metal trough to the Post-1962 Leaching Beds. Arsenic was detected at a concentration exceeding the cleanup level in one location near the settling tanks.” It is not clear whether any remediation was conducted during tank removal activities. The Permittee must provide a brief summary of any previous cleanup activities that occurred at this site in this section. If this information can be found in a specific Historical Information Report (HIR) submitted to NMED, the Permittee must reference the specific HIR, this reference must include the page number(s). If previous cleanup activities were not conducted, the Permittee must state this in Section 3.3 of the revised Work Plan.

COMMENT 20

Section 3.4 (Proposed Investigations), page 3-2, presents references to previous investigations rather than a proposal for new investigations. The Permittee must modify the Work Plan to reflect this correction. Also on page 3-3, the Permittee states that “[m]ultiple soil, sediment, surface water, and groundwater samples were collected as part of these investigations. Soil

sample results indicate locations where cleanup levels have been exceeded.” The Permittee does not summarize these “soil sample results”. The Permittee must include a summary of the sample locations, depths of sample collection, and any conclusions drawn. If any previous cleanup activities were conducted at the site, the Permittee must also include the results of the remedial action.

COMMENT 21

Section 3 does not provide information concerning the vertical and horizontal extent of contamination for areas north, northwest, and northeast of SWMU 1. The Work Plan must therefore, include proposed investigation activities to characterize subsurface conditions and to determine the rate and extent of contamination migration in soil and groundwater at locations downgradient (north, northeast, and northwest) of SWMU 1 (TNT Leaching Beds). NMED recommends that the Permittee conduct a geophysical survey in the northern portion of the facility to locate permeable zones that may serve as pathways for contaminant migration. If the vertical and horizontal extent of contamination has been identified but not reported, the Permittee must include in the revised Work Plan a summary describing the activity completed and present any conclusions. (See Comment 3)

COMMENT 22

The Permittee must provide a photograph with a magnified and clearer view of the TNT Leaching Beds and the associated piping, trenches, and troughs that appear to lead from the Building 503 to the pre- and post-1962 TNT Leaching Beds than that shown in Photo 3-1. A separate photo (or photos) must also be provided in the revised Work Plan that clearly shows the settling tank excavations (if present) and the metal trough that leads to the post-1962 Leaching Beds.

COMMENT 23

In Section 3.1 (Location, Description, and Operational History), page 3-1, the Permittee states that “[w]hen operations were completed in 1967, the bottom soil from the leaching beds was removed and burned in the OB/OD Area.” The Permittee did not provide information on the volume of soil removed and has not defined the extent of contamination at the TNT leaching beds. The Permittee must revise the Work Plan to propose investigation of the leaching beds. The Permittee must summarize the previous activities in this section and include all sampling data (see Comment 9) in the revised Work Plan. If previous activities can be located in a specific HIR, the Permittee must include the title of the HIR and provide specific page numbers.

COMMENT 24

Table 3-2 is not discussed within the text in Section 3 (SWMU 1- Former TNT Washout Facility), thus making it difficult to locate information for well specifications at the site. The

Permittee must discuss the information presented in Table 3-2 in the text of the revised Work Plan.

COMMENT 25

Figures 2-6 thru 2-11 identify several groundwater monitoring wells that are not listed in Table 3-2. The Permittee must provide well completion diagrams and boring logs for each of these wells. The well information must include the same details listed in Table 3-2. If this information is not available, the Permittee must explain this in the revised Work Plan.

COMMENT 26

In Section 3, (Proposed Investigations), page 3-3, the Permittee states that “[a]dditional groundwater sampling will be performed as described in the *Interim Facility Wide Groundwater Monitoring Plan*.” The Permittee must provide a description of the proposed work to be completed at Parcel 21. Details should include, but are not limited to, wells proposed for sampling, proposed chemical analyses, frequency of sampling, and sampling methods and techniques. The information must be consistent with the referenced document.

COMMENT 27

Infrastructure schematics for Building 503 and its related structures are not included in the Work Plan. It is unclear whether the building contained any utilities, drainage lines, gas lines, sumps or similar infrastructure that may have been removed during demolition. Therefore, the Permittee must submit engineering drawings that show the construction details of Building 503 including any utilities or other structures associated with the building. A separate figure must also be included in the revised Work Plan that shows Building 503 and its associated leaching beds- specifically drainage pipes or troughs that connect the leaching beds to Building 503.

COMMENT 28

In Appendix A, page 2 of the Work Plan Summary Form for SWMU 1, the Permittee states that “[b]uilding demolition and activities and sample results were summarized in a document entitled *Remedial Action Summary Report, Remediation and Demolition of Building 503*”. The Permittee must include a summary of this information and conclusions in Section 3 (SWMU 1 section) of the revised Work Plan. (See Comment 3)

COMMENT 29

On page 4-2, the Permittee requests that NMED review historical documents which describe in detail the investigations performed at SWMU 2. The Permittee must summarize the information found in the referenced reports and present it in this section of the Work Plan. The Work Plan must be revised to include this information. (See Comment 3)

COMMENT 30

In Table 2-1, SWMU 2, the Permittee states that “[the] RI found elevated ground water concentrations of metals (barium, chromium, selenium, and zinc) and fluoride.” However, Section 4 does not mention groundwater sampling at SWMU 2. In Appendix B, page 2 of the Work Plan Summary Form for SWMU 2, the Permittee states that groundwater characterization in wells FW07 and FW08 not completed due lack of water. The wells were said to have been dry during various sampling events that took place between 1981 and 2001. It is unclear if and when groundwater samples were actually collected and analyzed during this time as shown by the data in Table 2-1. The Permittee must clarify these discrepancies and revise the Work Plan accordingly.

COMMENT 31

In Table 2-2, SWMU 2, (Condensate Pit), the Permittee states that “[o]ne soil sample will be collected at the surface of the condensation pit and at 1.0 ft below ground surface (bgs)”. It appears from photos 4-3 and 4-4 that the pit was covered with wooden planks, which may have allowed entry of contamination into the pit. The Permittee must provide a more detailed description of the pit and the operations associated with it. In addition, the Permittee must revise the Work Plan to include descriptions of sampling of materials beneath the gravel located at the bottom of the pit. Samples must be collected at depths of one and five feet. (See Comment 17)

COMMENT 32

The Permittee does not state whether the seven pickling tanks, blasting cabinet, dust collector, the two paint booths, and the two drying ovens have or have not been removed from the Building 515. The Permittee must provide photographs of each of these items if they are still present in the building. If the items have been removed, the Permittee must describe this in Section 4 of the revised Work Plan.

COMMENT 33

In Appendix B, the Work Plan Summary Form for SWMU 2, the Permittee states “[t]he condition of the floor trough was evaluated; the surface of the trough was in relatively good condition so it is possible that its use was infrequent or for spills/overflow/cleanup only.” The floor trough appears to be unlined. If any spills or contamination drained into the trough, there is the potential for a contaminant release to soil or groundwater. Although the trough “appears to be in good condition”, the Permittee must nevertheless determine the extent of any contamination associated with the trough. This characterization may require that multiple soil samples be collected beneath the floor trough within the building and outside of the building where the trough drains. The Permittee must include proposed investigation and sampling locations in Section 4 of the revised Work Plan. (See Comment 17)

COMMENT 34

In Appendix A, Section A.3.3 (Soil Characterization) the Permittee states that “[i]n 1981, one sample (FW06) was collected from within the Acid Holding Pond at a depth interval of 0 to 2 ft bgs.” This information and the details related to this investigation should be included in Section 4 of the Work Plan. The details must include sampling analytical and investigation methods. Any sampling results must be included in the revised Work Plan as described in Comment 3.

COMMENT 35

In Section 4.1 (Location, Description, and Operation History), the Permittee states “[t]here is a 4-inch diameter metal pipe present in the southeast corner of the holding pond; it is believed that this pipe is the outlet for the floor trough noted above.” The Permittee also states that a metal drain trough is located at the northeast corner of the holding pond. It is unknown if these items are still present or if they have been removed. Based on Figure 4-2 (Proposed Sample Locations SWMU-2), the Permittee does not propose to collect soil samples from beneath the drain pipe. The Permittee must collect samples from this area as well as beneath the metal trough that leads from the concrete pad to the holding pond, and from areas around the concrete pad (as shown in Figure 4-2). Proposed investigations related to the metal trough and piping leading from the building to the holding pond must be included in Section 4.4 (Proposed Investigations) of the revised Work Plan. Section 4.4 (Proposed Investigations) must also include sampling and analyses for all contaminants handled at the site during operations (including degradation products) along with any indicator or trace constituents associated with the operations conducted at the building. The Permittee must also submit an additional figure depicting proposed soil sampling locations beneath the drain pipe and metal trough. (See Comment 17)

COMMENT 36

Based on Photograph 4-1 there appears to be two double doors on the side of Building 515. This may be the loading area for Building 515. The Permittee must propose to collect soil samples from this area beneath the asphalt in order to assess potential contamination resulting from loading and unloading operations. (See Comment 17)

COMMENT 37

The Permittee has not provided adequate justification that investigation is complete at SWMU 2. The Permittee must collect soil samples at and in the vicinity of SWMU 2. Proposed sampling locations and depths and sampling and analytical methods must be included in Section 4.4 (Proposed Investigations) of the revised Work Plan.

COMMENT 38

In Section 5.1 (Location, Description, and Operational History), page 5-1, the Permittee states that two unlined firing training pits are located northeast and southeast of the railcar respectively. Figure 5-1 identifies the possible extent of each pit; however, based on June 20, 2007 field visit, NMED did not identify any surficial expression that would suggest the presence of a pit in the southeast area of the Fire Training Ground. The Permittee must revise the Work Plan to include proposed activities to verify the location of the southeast pit. The Permittee must also provide photographs of each pit and a revised Figure 5-1 verifying the location of the southeast pit.

COMMENT 39

On page 5-2, the Permittee requests that NMED review historical documents which describe the details of the investigations performed for SWMU 7. The Permittee must summarize the information found in the referenced reports and present it in the revised Section 5 of the report. (See Comment 1 and 3)

COMMENT 40

The Permittee provides a figure (Figure 5-1) that shows previous sample locations for SWMU 7. However, neither Section 5.2 (Previous Investigations) nor Section 5.3 (Evaluation of Data from Previous Investigations) reference the figure provided in the text. Because sample locations are provided on Figure 5-1, a reference to the Figure must be included in the text of Section 5. The Permittee must revise the Work Plan to include this change.

COMMENT 41

In Table 2-1, SWMU 7, the Permittee states “[the] RA found one location with Semi-Volatile Organic Compounds (SVOCs), a few very low Volatile Organic Compounds (VOC) levels (<1 ppm) which are probably lab contaminants.” The Permittee must either support these assertions and present data from QA/QC samples (field blank and trip blank) to support possible lab contamination or not make these assumptions.

COMMENT 42

In Section 5.3 (Evaluation of Data from Previous Investigations), page 5-1, the Permittee states that iron and nitrite exceed cleanup levels in ground water samples collected from Well TMW21. The Permittee suggests that these constituents are not related to releases from SWMU 7; rather are ties likely related to releases from SWMU 1. TMW21 is located in the vicinity of SWMU 7; it therefore, cannot be assumed that the constituents present in the groundwater are from SWMU 1. The Permittee must verify the source of contamination or provide supporting evidence that these constituents are in fact related to releases at SWMU 1. The report must be revised to either provide documentation demonstrating that SWMU 1 is the

source of iron and nitrite contamination or propose work to investigate for the source of the contamination.

COMMENT 43

As stated in Section 5.0, page 5-1 (SWMU 7 Fire Training Ground), “[t]he pits had as much as 55 gallons of fuel, solvents, or oil discharged into them as the fuel source for the fire training.” The Permittee must report the time period that the Fire Training Ground was in use, and the frequency of use. If this information is unknown the Permittee must state this in Section 5. If the Permittee cannot determine specifics regarding the use of the pit, the Permittee must still determine the extent of contamination released from SWMU 7.

COMMENT 44

As shown in Photograph 5-3 and as witnessed by NMED staff during the June 20, 2007 field visit, the rail car that was used as a smoke house is still present. The Permittee must state whether this rail car is to remain in place or be removed. This information must be included in Section 5 of the revised Work Plan.

COMMENT 45

On page 6-2 (Previous Investigations), the Permittee requests that NMED review historical documents which provide information from the previous investigations performed at SWMU 19. The Permittee must summarize the information found in the referenced reports and include the information in the revised Work Plan. (See Comment 3)

COMMENT 46

In Section 6.3 (Evaluation of Data from Previous Investigations), page 6-1, the Permittee states that “[a]s described in Section 2.3.3, environmental data from previous investigations were reevaluated with respect to cleanup levels described in Permit Attachment 7.” The Permittee does not specify if the “reevaluated environmental data” were soil or groundwater samples. The Permittee must also include sampling techniques and methods used during these previous sampling investigations. The Permittee must include this information in Section 6 of the revised Work Plan.

COMMENT 47

Figure 6-2 does not clearly show the proposed sample locations for SWMU 19. The legend must include all symbols and designs and the associated symbol descriptions shown on Figure 6-2. The Permittee must resubmit an updated figure that clearly shows the proposed sampling locations for this site and an updated legend.

COMMENT 48

In Section 6.3 (Evaluation of Data from Previous Investigations), page 6-1, the Permittee states that “[a]nalytical results for pre- and post-demolition samples are not currently in the FWDA electronic database; copies of analytical results included in the referenced document were compared manually to cleanup levels (copies of analytical results are included in Appendix D).” The Permittee must provide summary tables (see Comment 9) of these data in Section 6 of the revised Work Plan.

COMMENT 49

In Section 6.4 (Proposed Investigations), page 6-2, the Permittee requests that NMED review historical documents for details from the previous investigations performed at SWMU 19. The Permittee must summarize the information found in the referenced reports and present the information in this Section 6 of the revised Work Plan. (See Comment 3)

COMMENT 50

In Section 6.4 (Proposed Investigations) the Permittee proposes to collect samples from two MI soil sampling areas. The Permittee must refer to Comment 15 regarding the use of MI sampling.

COMMENT 51

On page 7-2, the Permittee requests that NMED review historical documents which describe in detail the investigations performed for SWMU 72. The Permittee must summarize the information found in the referenced reports and present it in Section 7 of the revised Work Plan. (Please see Comment 3)

COMMENT 52

In the SWMU 72 Work Plan Summary Section (Appendix A), the Permittee provides soil characterization information. This information must be summarized in Section 7 of the revised Work Plan.

COMMENT 53

In the SWMU 72 Work Plan Summary Section (Appendix B) the Permittee discusses soil characterization at various locations and refers to Figure 7-1; however, it is difficult to distinguish between samples collected during the different sampling events and the sample locations associated with each of these sampling events. The Permittee must revise the figure to distinguish between the various sampling events and associated sample collection locations (e.g., the 1992 sampling events with related sampling locations should have its own unique symbol). The updated figure must be included in the revised Work Plan. (See Comment 10)

COMMENT 54

In Section 7.1 (Location, Description, and Operational History), page 7-2, the Permittee states that “[t]wo Above Ground Storage Tanks (ASTs) were used to store diesel/heating oil used to heat the Deactivation Furnace at Building 530 (SWMU 72). These ASTs were removed sometime in the early 1990s; the former AST location and the road serving them were included as an AOC in earlier, draft versions of the Permit. The AST location and access road were not included in the final Permit.” If the ASTs are sited in the area represented in Figure 7-1, the Permittee must state this in the revised Work Plan and include the former ASTs in the Figure. Otherwise, the Permittee must provide an additional figure showing the locations of the former ASTs.

COMMENT 55

In Section 7.1 (Location, Description, and Operational History), page 7-2 the Permittee states “[t]hese ASTs were removed sometime in the early 1990s; the former AST location and the road serving them were included as an AOC in earlier, draft versions of the Permit.” It is unclear if any sampling activity occurred following the removal of the tanks and removal of cinders from the road. The Permittee must either include the sampling data, or state that samples were not collected, in the revised Work Plan.

COMMENT 56

In Appendix B, the Work Plan Summary Form for SWMU 72, the Permittee states “if lead was present in the munitions being processed, it was recovered as a separate side stream.” The Permittee must provide more specific information regarding this “side stream recovery system” for lead. This information must be included in the SWMU 72 related section of the revised Work Plan rather than in an appendix.

COMMENT 57

In Appendix B, the Work Plan Summary Form for SWMU 72, the Permittee states “[a]s shown in FWDA Drawing A-5-51 (appendix D), there was a pit under the northeast end of the kiln to allow the discharge conveyor to fit under the kiln discharge”. The Permittee states that “[t]his pit had a floor drain at the bottom to drain rain water and snow melt via a 4-inch clay pipe to the ground surface southeast of the building.” It is unclear if samples were collected from the bottom of the pit or floor drain during previous sampling investigations. If samples were collected during previous investigations, the results of this investigation, including sampling data, must be summarized in the revised Work Plan. If samples were not collected during previous investigations, the Permittee must propose further investigation at SWMU 72. This information must be included in the Proposed Investigations subsection located in the SWMU 72 related section of the revised Work Plan.

COMMENT 58

In Appendix B, the Work Plan Summary Form for SWMU 72, the Permittee states that “[t]wo additional pits noted in historical documents are present in the concrete pad on the southeast side of the building.” The historical documents refer to these as “acid pits.” The Permittee also states “[a]s summarized in the document entitled *Final Remedial Investigation/Feasibility Study Report & RCRA Corrective Action Program Document*, the gravel fill in one of the “acid pits” was excavated in October 1993. Field notes indicated that the bottom of the pit was approximately 8 ft below grade, and the bottom was concrete.” It is unclear whether the pits were sampled after the removal of the gravel and ancillary equipment or after the cessation of activities. If soil and/or groundwater samples were collected during previous investigations, the Permittee must state this in the revised Work Plan and summarize the sampling methods and results. If soil or groundwater samples were not collected from the acid pits during previous investigations, the Permittee must propose further investigation. This information must be included in the SWMU 72-related section of the revised Work Plan.

COMMENT 59

In Appendix B, the Work Plan Summary Form for SWMU-72, the Permittee includes an Evaluation of Data from the Previous Investigations section, which explains that sampling activities were conducted at various locations within SWMU 72. The Permittee must incorporate this information in the SWMU 72 related section of the revised Work Plan. The Permittee must also include a summary of all previous sampling activities conducted at the site, including the procedures used to collect any samples and analytical results in the SWMU 72-related section of the revised Work Plan. (See Comment 3)

COMMENT 60

In Appendix B, the Work Plan Summary Form for SWMU 72, the Permittee states that the pole-mounted transformers, formerly located southeast of Building 530, may have contained PCBs. The Permittee also states that “[t]he former location of two pole-mounted electrical transformers shown in historical drawings on the north side of Building 530 was observed during the site reconnaissance; there was no visual evidence of releases.” The pole-mounted transformers were in place before 1980, before they were replaced by the pad mounted transformers. The pole mounted transformers may have contained PCBs. The Permittee must therefore, sample the soil beneath the transformers to test for the presence of PCBs. The details of proposed sample collection activities must be included in the SWMU 72 related section of the revised Work Plan.

COMMENT 61

In Appendix A, Section A.6.9 (Groundwater Characterization), the Permittee states that “no groundwater characterization has been performed at SWMU 72 to date.” The Permittee must conduct groundwater characterization in the vicinity of SWMU 72. The report must be revised to include all proposed activities for groundwater characterization at SWMU 72.

RELEASE ASSESSMENT REPORT

COMMENT 62

The Permittee includes Site Reconnaissance Findings subsections in Sections 4-13 of the Report. It is unclear when these site reconnaissance activities occurred. The Permittee must provide dates for each of the site reconnaissance events and summarize the observations in the revised Work Plan for sites where further investigation is necessary.

COMMENT 63

In Section 3.2 (Site Reconnaissance and Confirmatory Sampling), page 3-2 of the Report, the Permittee states that surface soil samples were collected at Areas of Concern (AOCs) 62, 63, 64, and 68 and that the sampling plan is included in Appendix D. The Permittee also states that these samples were collected from the 0 to 6 inch depth interval using disposable equipment. However, the Permittee does not describe nor include the sampling details for these sampling activities in the Release Assessment Report. The Permittee must revise this section of the Report to include the sampling details (e.g., sample locations, sample collection, methods, chemical analyses) for the previous investigations.

COMMENT 64

In accordance with Sections VII.F.2 and VII.H.1.a of the Permit, the Permittee must revise the Work Plan to incorporate all AOCs proposed for further investigation. Each AOC section must include all relevant information, such as historical summaries, previous investigation results, appropriate tables, and figures, and all proposed sampling and investigation activities. (See Comment 1)

COMMENT 65

In Section 4.2 (Waste Management Information), page 4-1 of the Report, the Permittee states that “[t]here is no information suggesting hazardous wastes were handled at this AOC. As described above, various operations were performed on military munitions and their components within this building, and the munitions and/or components were removed from the building for further processing or storage.” The Permittee also states that “[t]hese items may have contained hazardous constituents including high explosives (HE) and propellants.” Propellants, HE, and the other constituents associated with these materials pose a risk to human health and the environment. The Permittee must therefore, include activities to characterize the extent of potential contamination in both soil and groundwater at AOC 60 in the Parcel 21 Work Plan. (See Comment 64)

Sampling activities for AOC 60 must include proposed sample collection within Building 522 (e.g., within the Booster Breakdown Room), various locations outside of the building (including areas near all access doors), at the former location of the rail spur, and in the vicinity of the loading dock located on the east end of the building. Soil samples must be collected to

depths of at least one foot bgs. The Permittee must include all proposed activities for investigation of AOC 60 in the revised Work Plan.

The Permittee must also include all related figures, data tables, engineering drawings, and photographs relevant to this AOC in the revised Work Plan.

COMMENT 66

In Section 4.3.2 (Site Reconnaissance Findings), page 4-2 the Permittee states that “[f]loors within Building 522 consist of a thin asphalt coating over concrete, most likely anti-spark precaution.” The Permittee must propose to collect samples from beneath the asphalt and concrete, concentrating on areas with cracks, deterioration, and/or signs of staining. Proposed sampling activities must be included in the revised Work Plan. (See Comments 15 and 64)

COMMENT 67

In Section 4.3.2 (Site Reconnaissance Findings), page 4-2 the Permittee states that “[t]here is an enclosed loading dock on the east end of the building. No staining of the dock or ground surfaces was observed.” Even though staining was not observed, the Permittee must nevertheless confirm that releases did not occur in the vicinity of the loading dock. The Permittee must collect soil samples from various locations at the loading dock. Proposed investigation of the loading dock must be included in the revised Work Plan. (See Comments 15 and 64)

COMMENT 68

In Section 4.4 (Release Assessment Conclusion), page 4-3, the Permittee proposes that AOC 60 be designated “Corrective Action Complete Without Controls”. In accordance with 20.4.2.7 NMAC, AOC 60 cannot be designated as Corrective Action Complete Without Controls because an investigation is required to determine if a release has occurred.

COMMENT 69

In Section 5.1 (Location, Description, and Operational History), page 5-1, the Permittee states that AOC 62 (Building 508) was used to store containers of propellant. Propellant-related constituents may pose a risk to human health and the environment. Further investigation is therefore required at AOC 62. The Permittee must include proposed investigation activities for AOC 62 in the revised Work. (See Comment 64)

COMMENT 70

In Section 5.4 of the Report, the Permittee states that “[b]ased on the known operations conducted at Building 508 [AOC 62] and the findings of the site reconnaissance and confirmation sampling, it is concluded that a release of a hazardous waste or hazardous constituents occurred at Building 508.” The Permittee also refers to Building 508 in Section 8

of the Work Plan. The Permittee must provide a proposed investigation section that is specific to AOC 62 to be included in the revised Parcel 21 Work Plan (See Comments 17 and 64). Refer to Comment 15 for further details concerning collection of MI samples.

COMMENT 71

Section 6.4 (Release Assessment Conclusion), page 6-3, discusses the Permittee's proposal to conduct further site investigation at AOC 63. In Section 7.4 (Release Assessment Conclusion), page 7-3, the Permittee proposes to use the same sampling approach at AOC 64 because the activities and constituents detected at both AOC 63 and 64 are related. The Work Plan fails to provide specific details for investigations at each site. The Permittee must propose investigation activities specific to both AOC 63 and 64 in the revised Work Plan. (Refer to comments 15, 17, and 64).

COMMENT 72

In Section 8.0 (AOCs 65, 66, and 67-Buildings 511, 512, and 513, Service Magazines), pages 8-1 thru 8-2, the Permittee states that munitions components or assemblies were stored in these buildings and that these items may have contained hazardous constituents including black powder, HE, and propellants. The Permittee also states that confirmation samples were not collected because there were no known releases of hazardous waste to the environment.

These buildings were in use for a number of years; the exact date operations ceased is unknown. Moreover, the Permittee never conducted soil or groundwater investigations at this location. The Permittee must therefore collect soil samples from within the building and the surrounding area to verify that releases have not occurred. The Permittee must include proposed investigations of these AOCs in the revised Work Plan. (Refer to comments 15, 17 and 64 for further details).

COMMENT 73

In Section 9.4 of the Report, the Permittee states that "[b]ased on the known operations conducted at Building 514 and the findings of the site reconnaissance and confirmation sampling, it is concluded that a release of a hazardous waste or hazardous constituents occurred at Building 514." The Permittee also refers to Section 8 (Investigation Methods) of the companion Work Plan. The Permittee must include proposed investigation of AOC 68 as part of the Work Plan. The Permittee must provide sampling details specific to AOC 68 in the revised Work Plan. (See Comments 15, 17, and 64)

COMMENT 74

Table 1 provides data collected for AOCs 62, 63, 64, and 68. Based on the Sample Identification Numbers it is unclear which samples were collected from each AOC. The Permittee must provide the data for each AOC in separate tables. The title of each table must

include the AOC identification designation. The text must be revised in the Report to reflect the data table changes.

COMMENT 75

Sampling details are not provided for AOCs 62, 63, 64 and 68. A summary of detected constituents for each of these AOCs is provided in Table 1; sampling depths are not specified. The Permittee must revise the tables to include the depths where each sample was collected at each sampling location. The Permittee must provide sampling details for each of these AOCs and if the AOCs are required to be included in the revised Work Plan. The Permittee must also summarize the sampling details in the revised Work Plan. (See Comments 9, 15, 17, and 64)

COMMENT 76

In Section 10.3.1 (Historical Records/Document Review) the Permittee states that “[n]one of the historical documents reviewed suggested that releases of hazardous wastes or hazardous constituents occurred from operations at either location. No document identified either location as a potential SWMU or AOC.” The Permittee fails to cite the referenced document(s) that support their conclusions for AOCs 71A or 71B, and fails to provide data that supports the request for “no further correction action” status at AOCs 71A and 71B. The Permittee must confirm that hazardous constituents are not present at AOC 71A or 71B through soil sampling and laboratory analyses. The Permittee must include investigation of this AOC in the revised Work Plan. (See Comments 15, 17, and 64)

COMMENT 77

Based on information presented in Section 10.0, it appears that there are no historic records that confirm that a release to the environment has or has not occurred from activities at either AOC 71A or 71B. The Permittee must propose to collect soil samples from locations surrounding the concrete pad at 71A. The samples must be analyzed for target analyte list (TAL) metals and nitrates. The Permittee must also collect four MI samples from within 71B. The MI samples must also be analyzed for TAL metals and nitrates. These AOCs must be included in the revised Work Plan. (See Comments 15, 17, and 64)

COMMENT 78

In Section 11.4 of the Report, the Permittee states that “historical documents indicated that AOC 86 was an open storage location, used for temporary storage of military munitions. It is possible that some of the munitions stored were damaged bombs filled with Napalm-B.” The Permittee proposes to collect MI surface soil samples across AOC 86. The Permittee also refers to the Parcel 21 Work Plan. However, the referenced section in the Parcel 21 Work Plan is not specific to AOC 86, nor does the report specify where, in the Work Plan, proposed sample investigation details can be found. The Permittee must provide specific investigation details specific to AOC 86 in the Work Plan. (See Comments 15, 17 and 64)

COMMENT 79

In Section 13.0 (AOC 75 – Two Former Electrical Transformer Locations in Parcel 21), the Permittee states that confirmation samples were collected from both the concrete pad located north of building 501 and from the soil beneath the “nest” of transformers near building 515. The Permittee must collect at least two surface soil samples from beneath the concrete pad at approximately 0-6 inches bgs and analyze them for PCBs. If PCBs are detected, the Permittee may be required to collect additional samples at the site. AOC 75 is separate from SWMU 19. The Permittee must therefore include proposed investigation activities for AOC 75 in the revised Work Plan. The Permittee must propose sampling specific to AOC 75 (both transformer locations) in the Parcel 21 Work Plan. (See Comments 15, 17, and 64)

COMMENT 80

In Section 13.3.1 (Historical Document Records/Document Review) the Permittee states that a total of six transformers were located at AOC 75. The Permittee states that “[o]ne wipe sample was collected from the concrete pad north of Building 501 in May 1993; PCB 1260 was detected at a concentration of 0.22 $\mu\text{g}/\text{cm}^2$. One surface soil sample was collected under the former transformer nest at Building 515 in May 1993; PCB 1260 was detected at a concentration of 0.07 mg/kg.” It is unclear precisely where samples were collected. The depths of soil sample collection is also unknown. The Permittee fails to provide sample collection data and sampling results for this AOC. The Permittee must propose sample collection, as well as present the analytical data from the previous sampling event, in the revised Work Plan.

COMMENT 81

The Permittee has failed to address all structures and anomalies identified in various aerial photographs included in the Parcel 21 Work Plan and/or the Release Assessment for Parcel 21. Structure 526 has not been addressed. As stated in Section VIII.A.1.a of the Permit, the Permittee must identify each historic aerial photographic feature or anomaly in each parcel and make a comparison of each feature or anomaly through time. The Permittee has failed to include the results of these photo analyses in the Work Plan and/or the Report. The Permittee must revise the Work Plan to address this deficiency.

COMMENT 82

Based on the review of the 1935 aerial photograph, approximately 10 additional magazines or temporary storage locations are visible within the Parcel 21 boundary. The Permittee does not discuss all of these features in either the Work Plan or the Report. The Permittee must locate these features and propose to collect soil samples to confirm that there has not been a release of contaminants to the environment at these locations. Sample collection must be conducted in the vicinity of the former location of the entry way of the building and adjacent to the concrete pad, if one was present. The Permittee must include proposed specific investigation of these features in the revised Work Plan. (See Comments 15, 17 and 64)

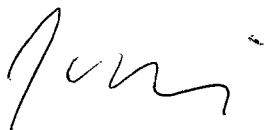
Mark Patterson
September 5, 2007
Page 21

The Permittee must address all comments contained in this NOD and submit a revised Work Plan. NMED will then reevaluate the Work Plan and the Report once the requested information is provided. NMED is requiring revisions to the Report under separate cover.

The revised Work Plan must include a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. All general requirements must be incorporated in all future reports and work plans. The revised Work Plan must be submitted to NMED no later than November 16, 2007.

If you have any questions please call Tammy Diaz of my staff at 505-476-6056.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
C. Frischkorn, NMED HWB
T. Diaz, NMED HWB
S. Smith, USACE-SWF
L. King, U.S EPA Region 6 (6PD-N)
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
Bill Merhege, BLM

FWDA 2007 and Reading File
FWDA-06-003 & FWDA-07-003

Attachment 1 General Work Plan Outline

Title Page

The title page shall include the type of document; Facility name; Parcel designation; SWMU or AOC name, site, and any other unit name; and the submittal date. A signature block providing spaces for the name and title of the responsible Army representative shall be provided on the title page in accordance with 20.4.1.900 NMAC incorporating 40 CFR 270.11(d)(1).

Executive Summary (Abstract)

The executive summary or abstract shall provide a brief summary of the purpose and scope of the investigation to be conducted at the subject site. The Facility, SWMU or AOC name, site name, any other unit name, location, and Parcel designation shall be included in the executive summary.

Table of Contents

The table of contents shall list all text sections, tables, figures, and appendices or attachments included in the work plan. The corresponding page numbers for the titles of each section of the work plan shall be included in the table of contents.

Introduction

The introduction shall include the Facility name, Parcel designation, and unit location. General information concerning current site usage and status shall be included in this section. A brief description of the purpose of the investigation and the type of site investigation to be conducted shall be provided in this section.

Background

The background section shall describe relevant background information. This section shall briefly summarize historical site uses by the U.S. Government and any other entity, including the locations of current and former site structures and features. A labeled figure shall be included in the document showing the locations of current and former site structures and features. The locations of pertinent subsurface features such as pipelines, underground tanks, utility lines, and other subsurface structures shall be included in the background summary and labeled on the figure, unless none exist.

This section shall identify potential receptors, including groundwater, and include a brief summary of the type and characteristics of all waste and all contaminants managed or released at the site, the known and possible sources of contamination, the history of releases or discharges of contamination, and the known extent of contamination. This section shall include brief summaries of results of previous investigations, if conducted, including references to pertinent figures, data summary tables, and text in previous reports. At a minimum, detections of contaminants encountered during previous investigations shall be presented in tabular format,

with an accompanying figure showing sample locations. References to previous reports shall include page, table, and figure numbers for referenced information. Summary data tables and site plans showing relevant investigation locations shall be included in the Tables and Figures sections of the document, respectively.

Surface Conditions

A section on surface conditions shall provide a brief detailed description of current site topography, features and structures including a description of topographic drainages, man-made drainages, vegetation, erosional features, and basins. It shall also include a detailed description of current site usage and any current operations at the site. In addition, descriptions of features located in surrounding sites that may have an impact on the subject site regarding sediment transport, surface water runoff, or contaminant fate and transport shall be included in this section.

Subsurface Conditions

A section on subsurface conditions shall provide a brief, detailed description of the site conditions observed during previous subsurface investigations, including relevant soil horizons, stratigraphy, presence and location of groundwater, and other relevant information. A site plan showing the locations of all borings and excavations advanced during previous investigations shall be included in the Figures section of the work plan. A brief description of the anticipated stratigraphic units that may be encountered during the investigation may be included in this subsection if no previous investigations have been conducted at the site.

Scope of Activities

A section on the scope of activities shall briefly describe all anticipated activities to be performed during the investigation, including collection of background information, developing the health and safety requirements that may affect or limit the completion of tasks, drilling activities including well construction installation information, techniques used for the development of test pits or other excavations, field data collecting processes including survey points, chemical analytical testing techniques and techniques for aquifer testing, developing remediation system pilot tests, and the procedures for the IDW storage and disposal development.

Investigation Methods

A section on investigation methods shall provide a description of all anticipated locations and methods for conducting the activities to be performed during the investigation. This section shall include research methods, health and safety practices that may affect the completion of tasks, drilling methods, test pit or other excavation methods, sampling intervals and methods, well construction methods, field data collection methods, geophysical and land survey methods, field screening methods, chemical analytical testing, materials testing, aquifer testing, pilot tests, and other proposed investigation and testing methods. This information may also be summarized in table format, if appropriate.

Monitoring and Sampling Program

A section on monitoring and sampling shall provide a description of the groundwater, ambient air, subsurface vapor, remediation system, engineering controls, and other monitoring and sampling programs currently being implemented at the site.

Schedule

A section shall set forth the anticipated schedule for completion of field investigation, pilot testing, and monitoring and sampling activities. In addition, this section shall set forth a schedule for submittal of reports and data to NMED including a schedule for submitting all status reports and preliminary data.

Tables

Data presented in the tables shall include information on dates of data collection, analytical methods, detection limits, and significant data quality exceptions. The analytical data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. The following summary tables, if applicable, must be included in the investigation work plans, if previous investigations have been conducted at the site.

1. Summaries of regulatory criteria, background, and applicable cleanup levels (may be included in the analytical data tables instead of as separate tables).
2. Summaries of historical field survey location data.
3. Summaries of historical field screening and field parameter measurements of soil, rock, sediments, groundwater, surface water, and air quality data.
4. Summaries of historical soil, rock, or sediment laboratory analytical data shall include the analytical methods, detection limits, and significant data quality exceptions that could influence interpretation of the data.
5. Summaries of historical groundwater elevation and depth to groundwater data. The table shall include the monitoring well depths, the screened intervals in each well, and the dates and times measurements were taken.
6. Summaries of historical groundwater laboratory analytical data. The analytical data tables shall include the analytical methods, detection limits, and significant data quality exceptions that could influence interpretation of the data.
7. Summary of historical surface water laboratory analytical data. The analytical data tables shall include the analytical methods, detection limits, and significant data quality exceptions that could influence interpretation of the data.
8. Summary of historical air sample screening and chemical analytical data. The data tables shall include the screening instruments used, laboratory analytical methods, detection limits, and significant data quality exceptions that could influence interpretation of the data.

9. Summary of historical pilot or other test data, if applicable, including units of measurement and types of instruments used to obtain measurements.

Figures

All figures must include an accurate bar scale and a north arrow. An explanation shall be included on each figure for all abbreviations, symbols, acronyms, and qualifiers. All maps shall contain a date of preparation. The following figures shall be included with each investigation work plan for each site, including presentation of data where previous investigations have been conducted.

1. A vicinity map showing topography and the general location of the site relative to surrounding features and properties.
2. A site plan that presents pertinent site features and structures, underground utilities, well locations, and remediation system locations and details. Off-site well locations and other relevant features shall be included on the site plan, if appropriate. Additional site plans may be required to present the locations of relevant off-site well locations, structures, and features.
3. Figures showing historical and proposed soil boring or excavation locations and sampling locations.
4. Figures presenting historical soil sample field screening and laboratory analytical data if applicable.
5. Figures presenting the locations of all existing and proposed borings and vapor monitoring well locations.
6. Figures showing all existing and proposed wells and piezometers, presenting historical groundwater elevation data, and indicating groundwater flow directions.
7. Figures presenting historical groundwater laboratory analytical data, if applicable. The chemical analytical data corresponding to each sampling location can be presented in tabular form on the figure or as an isoconcentration map.
8. Figures presenting historical and proposed surface water sample locations and field measurement data, if applicable.
9. Figures presenting historical surface water laboratory analytical data, if applicable.
10. Figures showing historical and proposed air or vapor sampling locations and presenting historical air quality data, if applicable.
11. Figures presenting historical pilot and other testing locations and data, where applicable, including site plans and graphic data presentation.
12. Figures presenting geologic cross-sections, based on outcrop and borehole data acquired during previous investigations, if applicable.

Appendices

A description of IDW management shall be included as an appendix to the investigation work plan. The results of historical investigations required in this Permit shall be submitted with the investigation work plan as a separate document. Additional appendices may be necessary to present additional data or documentation not listed above.