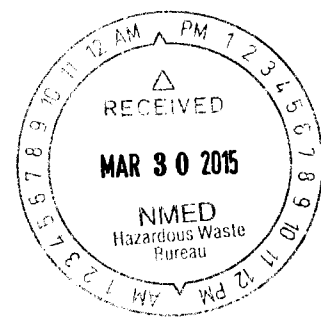


ENTERED



March 26, 2015

Mr. Benjamin Wear
Environmental Scientist
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

RE: Change #1 to the Final Work Plan Munitions and Explosives of Concern Removal and Surface Clearance Kickout Area
Fort Wingate Depot Activity, New Mexico

Dear Mr. Wear:

Pursuant to the New Mexico Environment Department (NMED) comments to the *Final Work Plan Munitions and Explosives of Concern Removal and Surface Clearance Kickout Area*, Ft. Wingate Depot Activity, McKinley County, New Mexico, dated February 6, 2015, which were transmitted to the US Army via email dated 4 March, 2015 the Army has prepared responses to your comments and amended the Final Work Plan as requested.

- Below is a listing of the revisions made to the Work Plan. Section 3.2.5.2 has been rewritten; (replacement page 3-3 included).
- All references to “NMED approval” of the clean-up criteria were deleted from the following pages (replacement pages are included):
 - Page 1-4;
 - Page 1-6;
 - Page 3-1;
 - Page 3-2; and
 - Page 3-14.
- Appendix A, Deleted copy of email communication between NMED and the Army regarding the approval of the cleanup criteria. Added the attached Work Plan Change Log.

Please use the replacement pages included with this submittal to amend the paper copy of the Work Plan currently in your possession. When these pages are replaced, the Final Work Plan Munitions and Explosives of Concern Removal and Surface Clearance Kickout Area, Ft. Wingate Depot Activity, McKinley County, New Mexico will reflect your comments and requested changes.

These replacement pages will be distributed to other stakeholders that received paper copies of this Work Plan. Once the Tribal comment review period ends (April 10, 2015) and barring any changes requested by the Tribes, the Army will provide a printed copy of the Final Work Plan along with CDs in accordance with the approved project distribution list.

If you have questions or if I can provide additional information please feel free to contact me at (817) 609-5014/dennis.j.myers@usace.army.mil or Mr. Mark Patterson, FWDA BEC, (330) 358-7312/mark.c.patterson.civ@mail.mil.

Sincerely,

MYERS.DENNIS
J.1010877330

Digitally signed by
MYERS.DENNIS.J.1010877330
DN: cn=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USA,
cn=MYERS.DENNIS.J.1010877330
Date: 2015.03.26 09:08:16 -0600

DENNIS J MYERS
FWDA Project Manager/OESS
Fort Worth District, USACE

CC

Mr. John Keiling, NMED HWB
Mr. Steve Smith, US Army Corps of Engineers District, Fort Worth
Mr. Dennis Myer, US Army Corps of Engineers District, Albuquerque
FWDA Admin Record
Mr. Larry Rogers, Navajo Nation Wingate Project Coordinator
Governor Val Penteah, POZ
Mr. Clayton Seoutewa (BIA Zuni)
Ms. Rose Duwyenie, (BIA-NR) – Environmental Protection
Mr. Chuck Hendrickson, U.S. EPA, Region 6

**FINAL WORK PLAN, MEC REMOVAL AND SURFACE CLEARANCE, KICKOUT AREA
FORT WINGATE DEPOT ACTIVITY, MCKINLEY COUNTY, NM
NEW MEXICO ENVIRONMENT DEPARTMENT (NMED) COMMENTS/CORRECTIONS
Relayed to JV by CESWF PM**

Comment Number	Page No./ Line No.	Comment	Recommendation	Response
<i>NMED Comments relayed by CESWF via email (dated 3-5-15)</i>				
1	Page 3-3, Section 3.2.5.2	Please replace Section 3.2.5.2 with the following: “The Army has determined (in compliance with RCRA Permit sections IV.B, IV.C and IV.F) the clean-up criteria for the identification and removal of all surface and subsurface WMM will be all MEC and metallic debris measuring 1.5" X 3" or larger to detection depths. This criterion is based on the smallest high explosive round found outside the HWMU & SWMUs to date, the 40MM Bofors projectile. The size dimensions are based on a low ordered projectile where only half of the projectile remains that may contain high explosives. This WP is written to achieve these KOA clean-up criteria.”		Section 3.2.5.2 has been revised as recommended.
2	Global	Delete reference to NMED email regarding clearance criteria throughout the plan	NA	The reference to the NMED email discussing the cleanup criteria and the words “NMED approved” have been deleted from the following pages/line numbers: Page 1-4, line 11 and 12; Page 1-6, line 25; Page 3-1, line 6 and 7; Page 3-2, line 7 and 8; Page 3-14, line 14;
3	Appendix A	Deleted NMED email included in Appendix A	NA	The NMED email included in Appendix A has been deleted.

1.2 Project Purpose and Scope

This WP's purpose is to provide a detailed description of the MEC and MPPEH RA activities that will take place at the KOA MRS. This RA project is being undertaken to locate, identify, and remove MEC and MPPEH (to include MD and range-related debris [RRD]) from designated areas within the KOA and IAW the New Mexico Environmental Department (NMED) issued RCRA Permit No. NM6213820974. Applicable sections of the Permit include: IV.A, IV.B, IV.C, IV.D, IV.F, VIII.B.1, and IX. All activities involving work in areas potentially containing WMM and WMM scrap will be conducted in full compliance with the USACE, the United States Environmental Protection Agency (USEPA), the Department of Defense Explosives Safety Board (DDESB), and other applicable DoD requirements regarding personnel, equipment, and procedures. The cleanup criteria (with respect to size) for the KOA removal will be WMM and WMM scrap 1.5 inches by 3 inches or larger.

The KOA is defined in the NMED RCRA permit as: "Kickout Area means the combined area of land adjacent to the Open Burn (OB)/ Open Detonation (OD) Unit, SWMU 14 (Demolition Landfill and Old Burning Ground), SWMU 15 (Old Demolition Area) and SWMU 33 ("Waste Pile" KPI) to which WMM were released during the operation of the OB/OD Unit and to which solid wastes were released during the operation of SWMU 14 (Demolition Landfill and Old Burning Ground), SWMU 15 (Old Demolition Area) and SWMU 33 ("Waste Pile" KPI). The Kickout Area is described in Permit Attachment 1." The OB/OD Unit according to the permit is the Hazardous Waste Management Unit (HWMU). The AOCs and SWMUs not mentioned in the permit (such as 90, 91, and 92) lie within the KOA boundary and are therefore part of the KOA.

To advance the project schedule, the Army is separating the surface and subsurface clearance activities from activities within the AOCs and SWMUs and is writing two WPs towards the development and approval of the KOA WP. The two WPs are:

- *Kickout Area MEC Removal and Surface Clearance Work Plan*, which includes the details necessary to conduct surface and subsurface clearance of MEC, MD and other metallic debris in the Kickout area only (this WP); and
- *Kickout Area Investigation and MEC Clearance Parcel 3 AOCs and SWMUs Work Plan*. This WP defines and articulates the balance of all MEC/MD investigations and clearances in the AOCs and SWMUs, arroyos and burial pits, and the maintenance of the roads and fences of Parcel 3 (to

1 **1.2.1.4 Section IV.D Kickout Area Clearance Report**

2 Within 180 days of the completion of the KOA investigation, clearance, and removal of WMM and
3 WMM scrap from the KOA, the Army will provide the NMED a report summarizing the results of this
4 work. In addition to presenting NMED the findings and conclusions of the investigation and clearances,
5 this report may contain recommendations for the KOA. Section 2.5 of this WP provides details of the
6 content of this report.

7 **1.2.1.5 Section IV.E Annual Inspection and Removal**

8 This WP does not contain the annual inspection and removal details as these will be provided by the
9 Army at a later date.

10 **1.2.1.6 Section IV.F Transfer Of Lands Within The Kickout Area**

11 It is the Army's intent and mission to eventually return, if possible, all of the property in Parcel 3 (which
12 includes the land within the KOA) to the DOI. To accomplish this the Army has written this WP to fully
13 comply with this section of the Permit. This WP explains that the Army is using the best available
14 technology, applied by trained and qualified personnel using geophysical equipment to conduct this
15 investigation and clearance of 100% of the detected anomalies to the detection depths of the equipment in
16 the KOA (depicted on Map B-3). This investigation and clearance also includes the Navajo Tribal lands
17 to the west and part of the former Parcel 1 boundaries to the south (currently controlled by the Bureau of
18 Indian Affairs) of the FWDA property. The Army will comply with Permit section VII.G.2.B by
19 conducting the investigation, clearance and removal to detection depths of these off-property areas. The
20 Navajo Nation (NN) have provided the Army with access to these properties and that letter is included in
21 Appendix A of this Plan.

22 **1.3 Investigation And Clearance Summary**

23 The following section of this WP explains and provides the specific details of how the Army is using the
24 best available technology, applied by trained and qualified personnel using geophysical equipment to
25 conduct this investigation and clearance of 100% of the anomalies meeting the clearance criteria
26 (measuring 1.5 inches by 3 inches or larger), where these investigations and clearances will occur. MEC
27 and confirmed MPPEH items located at the site will be destroyed through explosive demolition
28 operations. MEC deemed acceptable to move will be moved to the Conditional Exemption (CE) Igloos or
29 the 10-day Corrective Action Management Unit (CAMU) permitted temporary storage area for later
30 destruction at the CAMU IAW this WP. In the event such items are deemed unacceptable to move, they

3.0 FIELD INVESTIGATION PLAN

3.1 Overall Approach to Munitions Response Activities

The overall objective of this WP is to conduct a MEC surface and subsurface clearance of the KOA except for the hogback (inaccessible areas) and the AOCs/SWMUs; however only a MEC surface clearance of the inner fence area inside Parcel 3 will be conducted. The removal includes MEC and all metallic debris measuring 1.5 inches by 3 inches or larger. The removal will not occur in areas too steep to safely work in as shown on Map B-3 in Appendix B. A separate WP will be written and submitted to NMED defining and explaining the investigation and clearance to detection depths, soil characterization, sampling of all the AOCs and SWMUs as explained in Section 1.2.

MEC surface and subsurface clearance of the KOA supports an advanced approach for the grid system based on anomaly densities and terrain features of the KOA. A New Mexico state licensed professional surveyor (escorted by UXO Technicians) will install stakes at specific locations to delineate required exterior boundaries and internal divisions such as AOCs and SWMUs (which are excluded). The licensed professional surveyor will certify all surveying requirements to include all control points, grid corners, and boundaries as required IAW DID WERS-007.01. Teams will use Trimble hand held Global Positioning System (GPS) units (with horizontal accuracy of sub-meter or better) to navigate work areas and install interior grids and subdivisions within the work area using stakes of deterioration-resistant material. Map B-7 shows the anticipated KOA area grid system (200 ft. x 200 ft.). The Army will initially establish these grids , but will reserve the right to adjust grid sizes based on the terrain and field conditions.

Areas containing low-lying vegetation will be searched using hand-held geophysical instruments and will not require vegetation removal. If an area requires limited vegetation removal for safe performance of an activity, access to MEC, demolition of UXO or fire prevention prior to demolition efforts, the Army will coordinate with the NN and the POZ as required to determine vegetation removal extents and limitations. The JV will coordinate with the Tribes (according to the consultation procedures in Permit Section VIII.B.1) for work in designated access areas for archaeological sites and cultural resources. If the area is approved for limited vegetation removal the UXO team will clear the moderate to dense vegetation using the most feasible low impact means. To handle the limited areas of dense vegetation, the teams will be

1 cautious to not disturb the plant root balls. UXO technicians removing the vegetation will wear PPE as
2 required by EM 385-1-1 and described in the APP.

3
4 MEC and MPPEH removal will be conducted using analog geophysical methods and detection
5 instruments (Schonstedt 52cx, Whites (model XLT/DFX) and Vallon (model VMH3CS) all metals
6 detectors including newer technologies such as the 42-inch and 55-inch ML-3s developed by Sub-Surface
7 Instruments [SSI]). Metallic debris measuring 1.5 inches by 3 inches or larger will be removed from the
8 surface by hand digging of subsurface anomalies to detectable depth. Every grid will be surveyed 100%
9 by each type of detector (ferrous and all-metals). The SUXOS and the UXOTIII Team Leader will
10 determine the quantity of each detector to be used for each grid. MEC items not acceptable to move will
11 be BIP. MEC items acceptable to move will be transported to the CE Igloos or the 10-day CAMU
12 permitted temporary storage area until they can be disposed of, when required, using demolition
13 explosives in the CAMU. MD and RRD recovered during clearance activities will be relocated to an MD
14 processing area outside of the immediate work area for inspection and certification IAW USACE EM
15 385-1-97, Change 1. During the inspection process MD and RRD verified as MDAS will be separated
16 and stored in independent secure storage containers.

17
18 The Army will schedule the arrival of the work force in a manner designed to facilitate immediate
19 productivity. All personnel mobilized to the site will meet requirements for Occupational Safety and
20 Health Administration (OSHA) hazardous waste operations training and medical surveillance
21 requirements as specified in the APP/SSHP. Site personnel will also be trained to perform the specific
22 tasks to which they are assigned. At no time will site personnel be tasked with performing an operation or
23 duty for which they do not have appropriate training.

24 3.2 Data Quality Objectives

25 3.2.1 Data Quality Objectives

26 The process used for development of the data quality objectives for the MEC investigation and removal in
27 the KOA to achieve NMED No Further Action (NFA) is described in the sections below.

28 3.2.2 Statement of Problem

29 The surface and subsurface soil of the KOA are contaminated with WMM or WMM scrap. WMM may
30 include; MEC, MD, UXO, (such as primed, fuzed, armed, or otherwise prepared for action, fired,

1 dropped, launched, projected), and may remain unexploded by malfunction, design, or any other cause.
2 WMM scrap may include; munitions packaging, banding, fragmentation, packing or shipping debris, or
3 other facility production scrap that may be on site.

4 3.2.3 Identification of the Problem

5 The KOA does not comply with sections IV.B, IV.C and IV.F of the RCRA Permit. This WP is designed
6 to allow the Army to achieve compliance with sections IV.B, IV.C and IV.F of the RCRA Permit.

7 3.2.4 Identification of Project Goals

8 To comply with the RCRA Permit and to achieve a NFA from NMED, this WP is written with the
9 Army's intent to conduct an investigation and removal of WMM or WMM scrap from the KOA.

10 3.2.5 Identification of Inputs to Achieve the Goals

11 3.2.5.1 Identification of Boundaries

12 As required by section IV.A, the Army has confirmed and delineated KOA the area of FWDA.

13 3.2.5.2 Establishing Clean up Criteria

14 The Army has determined (in compliance with RCRA Permit sections IV.B, IV.C and IV.F) the clean-up
15 criteria for the identification and removal of all surface and subsurface WMM will be all MEC and
16 metallic debris measuring 1.5" x 3" or larger to detection depths. This criterion is based on the smallest
17 high explosive munition found outside the HWMU and SWMUs to date, the 40mm Bofors projectile.
18 The size dimensions are based on a low ordered projectile where only half of the projectile remains that
19 may contain high explosives. This WP is written to achieve these KOA clean-up criteria.

20 3.2.5.3 Identification of Defining Acceptance of the Cleanup Criteria

21 Once the investigation and removal is completed the Army will conduct QC and QA steps, as defined in
22 this WP. When the investigation area(s) are determined to be within the boundaries and meeting the
23 cleanup criteria, the Army will issue a signed DD Form 948, stating the area(s) have met the established
24 cleanup criteria for the investigation and removal.

25 3.2.6 Technical Approach to Achieve the Goal

26 Section 3.6 of this WP provides specific details of the investigation and removal of WMM or WMM
27 scrap. In summary, the KOA will be divided into grids and the grids further sub-divided into
28 investigation/clearance lanes. UXO technicians, using hand-held analog geophysical instruments, will

1 Schonstedt 52cx, Whites (model XLT/DFX) and Vallon (model VMH3CS) all metals detectors including
2 newer technologies such as the 42-inch and 55-inch ML-3(s) developed by SSI. The Army will utilize the
3 all metals detectors to augment the delineation and detection capabilities in areas of high hot rock/iron
4 deposit influence and to confirm non-ferrous debris saturations.

5
6 Arroyos located within the KOA will be cleared to depth of detection in the arroyo bed and in the lower
7 walls where it is deemed safe to traverse. A competent person will be assigned to monitor clearance
8 activities and ensure they remain within the height and safety factors IAW EM 385-1-1. Specific zones,
9 which present a collapse or engulfment hazard, will be circumvented; the zones will be marked with red
10 painted stakes and caution tape around the boundaries, and several GPS points will be collected to
11 accurately represent the area in the GIS database. This information will be provided to all teams and used
12 for the subsequent work in the identified arroyos, AOCs, and SWMUs.

13
14 Surface anomalies meeting the clearance criteria (measuring 1.5 inches by 3 inches or larger) will be
15 identified and removed. Identified subsurface anomalies will be hand dug by UXO technician personnel
16 to determine the identity of the anomaly. To access the anomaly, UXO technicians will hand dig with a
17 shovel following the procedures outlined in EM 385-1-97, Change 1, Explosives Safety and Health
18 Requirements Manual. At no time will UXO technicians dig directly over an anomaly until its depth has
19 been determined by digging to the side of the anomaly. An excavator may be used for deeper digs but will
20 not be used within 12 inches of the anomaly. Once the anomaly has been located, it will be visually
21 inspected, identified and assessed for hazards by two qualified UXO technicians, one of whom will be the
22 UXOTIII Team Leader. If the surface/subsurface contact proves to be non-MEC, it will be removed and
23 the hole will be rechecked with an analog geophysical instrument. Investigations will be done to the
24 clearance depths if additional anomalies are detected in the investigation area. Once the hole has been
25 determined not to contain an anomaly it will be refilled. All investigation areas will be backfilled and
26 hand tamped. If the contact is MEC, it will be marked and handled IAW the procedures described in EM
27 385-1-97, Change 1.

28 **3.7.9.3 Munitions and Explosives of Concern Items Encountered**

29 The MEC identification process will start when the suspected item is located. The UXO technician
30 locating the item will contact the UXO Technician III Team Leader when the MEC is identified and the
31 Team Leader will confirm the identity. Once the item has been identified and marked with a pin flag, the
32 SUXOS and UXOSO will be notified and requested to evaluate whether the MEC item is acceptable to

**Appendix A
 Correspondence – Work Plan Change Log**

1

Change Number	Date	Changes Made	Reason for Change	Actions Taken
1	3/11/15	<ul style="list-style-type: none"> • Amend section 3.2.5.2 as requested by NMED. • Delete text stating “NMED approval” of MEC clean-up criteria in the following pages of the Work Plan (3-3, 1-4, 1-6, 3-1, 3-2, and 3-14). • Delete copy of email communication between NMED and the Army regarding the approval of the cleanup criteria from Appendix A. • Add the attached Work Plan Change Log 	Email from NMED to Army with comments to Final WP	Replacement pages sent to NMED and other Stakeholders to amend the paper copies distributed on February 6, 2015.

2
3
4
5
6