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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
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MAR 2008
NMED Hazardous Waste Bureau

REPLY TO ATTENTION OF:

March 13, 2008

IMWE-BLS-PWE

Ms. Cheryl Frischkorn
Environmental Specialist/Scientist/Geologist
New Mexico Environmental Department-HWB
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Revised Work Plan Phase 4 RCRA Facility Investigation
Inactive McGregor Range Open Detonation Site (SWMU No. 20/FTBL-015)
Fort Bliss, New Mexico

Dear Ms. Frischkorn:

Please find enclosed one (1) hard copy of the Work Plan Phase 4 RCRA Facility Investigation for the Inactive McGregor Range Open Detonation Site (SWMU No. 20/FTBL-015), Fort Bliss, New Mexico.

This submission is in response to NMED's letter dated September 28, 2007, requiring Fort Bliss to submit a Revised Work Plan Phase 4 RCRA Facility Investigation.

If you have any questions concerning the enclosed Work Plan Phase 4 RCRA Facility Investigation, please do not hesitate to call Ron Baca at 915-568-7979 or Kelly Blough at 915-568-0794.

Sincerely,

Sylvia A. Waggoner

Sylvia A. Waggoner
Chief, Multimedia Compliance Branch
Environmental Division
Directorate of Public Works

Enclosure

WORK PLAN
PHASE 4 RCRA FACILITY INVESTIGATION

INACTIVE McGREGOR RANGE OPEN DETONATION SITE
(SWMU No. 20, FTBL-015)

FORT BLISS, NEW MEXICO

Prepared for

UNITED STATES ARMY CORPS OF ENGINEERS

Contract No. W912BV-04-D-2005
Task Order No. 0019

U.S. ARMY CORPS OF ENGINEERS TULSA DISTRICT
Contracting Officer's Representative

Prepared by

WESTON SOLUTIONS, INC.
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Austin, Texas 78746

March 2008

W.O. No. 03886.525.019

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Attachment 2: December 2002 Voluntary Corrective Action Report, Inactive McGregor Open Range Detonation Site (SWMU No. 20).

Attachment 3: Geophysical Investigation Report.

Attachment 4: November 2004 NOD regarding the December 2002 Voluntary Corrective Action Report, Inactive McGregor Open Range Detonation Site (SWMU No. 20).

Attachment 5: September 2006 Work Plan Addendum, Inactive McGregor Open Range Detonation Site (SWMU No. 20).

Attachment 6: December 2006 NOD regarding the September 2006 Work Plan Addendum, Inactive McGregor Open Range Detonation Site (SWMU No. 20).

Attachment 7: Sampling and Analysis Plan, McGregor Range and Dona Ana Range SWMU Sites. Fort Bliss. January 2008.

1. BACKGROUND

1.1 PURPOSE

Weston Solutions, Inc. (WESTON®) has been contracted by the United States Army Corps of Engineers (USACE) under Contract No. W912BV-04-D-2005, Task Order No. 0019 to perform Resource Conservation and Recovery Act (RCRA) investigations at the Fort Bliss Inactive McGregor Range Open Detonation (IMROD) site, Solid Waste Management Unit (SWMU) No. 20, also identified as FTBL 15. The work is being performed for Fort Bliss and the U.S. Army Corps of Engineers Tulsa District, who is serving as the Contracting Officer's Representative.

The purpose of this revision of the Phase 4 Investigation Work Plan is to describe the technical approach for investigations to be performed to supplement the RCRA Facility Investigation (RFI) for the IMROD site. Additionally, the tasks described herein are intended to address New Mexico Environment Department (NMED) comments on previous phases of investigation in order to close the RCRA SWMU. This Investigation Work Plan has been updated based on Fort Bliss responses to the most recent NMED comments, which were provided in a Notice of Deficiency (NOD) dated December 2006. A table with responses to NMED comments is provided as Attachment 1.

1.2 SITE HISTORY

The United States Army Air Defense Center and Fort Bliss are located on approximately 1.2 million acres of land in far west Texas and south central New Mexico. Fort Bliss encompasses portions of three counties (Dona Ana and Otero counties in New Mexico and El Paso County in Texas). A General Location Map is provided as Figure 1-1. Fort Bliss is presently an active training facility under the U.S. Army Training and Doctrine Command (TRADOC) with the primary mission of air defense. However, under the 2005 Base Realignment and Closure Act, Fort Bliss will become a Forces Command (FORCSCOM) war fighting base with the departure of the Air Defense Artillery School and the arrival of the 1st Armored Division Reinforced. This change will take place over the next 6 years, assuring future U.S. Army control and use of the McGregor Range training properties in New Mexico. As part of its operations, Fort Bliss has operated and

will continue to, operate various training camps located throughout the reservation to fulfill the training support requirements of the Army.

The McGregor Range Camp consists of logistical support and staging structures, housing, and equipment maintenance facilities and other support areas and includes nine SWMUs. As shown in Figure 1-2, the inactive open detonation (OD) site (SWMU No. 20) is located approximately 0.5 miles north of the McGregor Range Camp.

The Inactive McGregor OD Site, which occupies approximately 10 acres of desert terrain, was formerly used as an open detonation site and was believed to have been utilized from 1955 to 1965 for the detonation of rocket motors and fuselages, specifically Nike and Ajax missiles. The historical activities that occurred at the Inactive OD Site are not well understood. It is known that some detonation activities and maneuver training have occurred at the site based on the presence of debris including nose cones, electronic boards, metal and plastic pieces, and expended small arms practice rounds scattered at the ground surface. Whether the site was used as a treatment unit for the bulk disposition of expired munitions and unexploded ordnance (UXO) is not known.

1.3 SUMMARY OF EXISTING DATA

Three phases of RFI investigations were performed at the IMROD site from 1996 to 2002. The RFI field investigations to date have included a geophysical survey and collection of 36 soil samples from surface soil and soil borings. The data obtained from the soil sampling were compared to NMED and EPA soil screening levels (SSLs) as part of a human health risk assessment, and also were used to perform a screening level ecological risk assessment, as described in the following sections. Laboratory analytical results obtained from surface soil samples collected during each phase of the SWMU No. 20 RFI investigation are summarized in the *December 2002 Voluntary Corrective Action Report (VCAR).* The VCAR report summarizes the results of the first 3 phases of RFI investigations at the site, including the geophysical surveys and soil sampling, and is provided as Attachment 2. The Geophysical Investigation Report is provided as Attachment 3.

1.3.1 Phase 1 RFI Summary

The IMROD site originally was identified during a preliminary review/site inspection performed in 1989 and was found to consist of a larger and a smaller pit area and a linear trench area. A Phase 1 RFI was performed in 1996. The Phase 1 RFI included geophysical investigations, soil borings with subsurface soil sampling, and surface soil sampling, as follows:

- The geophysical survey (terrain conductivity) was performed as part of the Phase 1 RFI and targeted the perceived detonation pit areas. Based on the geophysical data obtained at the smaller pit area, no changes in conductivity values were observed other than anomalies that could be correlated with surface debris. Interpretation of the geophysical data from the larger pit area identified anomalous conductivity and in-phase responses that could not be correlated with surface debris.

- Two soil borings were advanced as part of the Phase 1 RFI. One soil boring was advanced in the larger pit area where a geophysical anomaly was reported, and the other soil boring was advanced at the low point of the smaller pit area. Both soil borings were advanced to 10 ft bgs, and two soil samples were collected from each boring. Samples were collected for explosives screening using a field test kit prior to the advancement of each boring.

- Ten surface soil samples were collected as part of the Phase 1 RFI. Each soil sample was collected from a location coinciding with a geophysical anomaly or mound.

- Each of the soil samples collected was analyzed for the following:

    - metals using SW846 Method 6010B/7471A.
    - nitrate/nitrite using EPA Method 353.2.
    - polychlorinated biphenyls (PCBs) using SW846 Method 8082A.
    - explosives using SW846 Method 8330.
    - polychlorinated dibenzodioxins/furans using SW846 Method 8280.
    - TPH using SW846 Method 9071.
    - pH using SW846 Method 9045C.

Field explosives screening indicated the presence of explosives at one location. The sample was not forwarded to the laboratory and the result was not confirmed. Explosives were not reported at or above laboratory sample quantitation limits (SQLs) in any of the soil samples submitted to the laboratory for explosives (8330) analysis. Laboratory analytical results obtained from the Phase 1 RFI soil sampling investigations indicated the presence of several metals (arsenic, barium, cadmium, chromium, lead, and silver), PCBs, TPH, dioxins, and nitrate/nitrite above laboratory

SQLs, but below NMED SSLs for direct contact for both residential and industrial exposure scenarios.

1.3.2 Phase 2 RFI Summary

A Phase 2 RFI was performed in 1997. Six surface soil samples were collected during the Phase 2 RFI. The objective of the Phase 2 RFI was to confirm and/or delineate the presence of explosives and PCBs tentatively identified during the Phase 1 RFI. Three samples were collected in the vicinity of the sample location where explosives were reported in a field screening sample, and three samples were collected in the vicinity of the sample location where PCBs were reported. The samples were collected in an approximately 3-ft radius from the original Phase 1 RFI sampling locations and analyzed using the same laboratory methods listed above for explosives and PCBs analyses.

Explosives were not reported above laboratory SQLs in the samples collected, and the presence of explosive compounds in soil was not confirmed. PCBs were reported above laboratory SQLs in one sample collected from a small mound area. The reported concentration (1.04 mg/kg) of one PCB congener (Aroclor 1260) slightly exceeded the U.S. Environmental Protection Agency Toxic Substance Control Act (TSCA) remediation goal (40 CFR 761.61a) of 1.0 for high occupancy (>7.6 hours per week access) properties, but below the 25.0 mg/kg level for low occupancy sites. While the reported PCB concentrations were below NMED SSLs for direct contact for both residential and industrial exposure scenarios, the extent of PCBs still was not delineated by the Phase 2 RFI activities.

1.3.3 Phase 3 RFI Summary

A Phase 3 RFI was performed in 2002. Ten surface soil samples were collected during the Phase 3 RFI to address data gaps from the previous investigations. Three samples were collected to further evaluate the previously reported presence of PCBs, three samples were collected to evaluate a trench area that previously had not been sampled, and 7 samples were collected away from the pit areas to characterize previously unsampled areas where kickout (i.e., materials ejected away from the pit area during detonation events) may have been present. Each of the samples collected was

analyzed for metals, nitrate/nitrite, PCBs, and explosives using the laboratory analytical methods previously listed.

The results obtained from the Phase 3 RFI soil sampling investigation were similar to those reported during the Phase 1 RFI. Low concentrations of metals, nitrate/nitrite, and PCBs were reported above laboratory SQLs, but below NMED SSLs for direct contact for both residential and industrial exposure scenarios. Explosives were not reported above laboratory SQLs in any of the samples collected.

A brief human health risk assessment and a screening level ecological risk assessment (SLERA) also were performed as part of the Phase 3 RFI, as described in the December 2002 VCAR. Human health risk was conservatively evaluated against SSLs representative of a high occupancy residential exposure scenario even though current and future land use at the site is clearly industrial (military) and low occupancy in nature. Since no constituents of potential concern have been reported above NMED residential scenario SSLs, no significant human-health risks were identified. Similarly, the SLERA did not identify unacceptable levels of risk to ecological receptors associated with the IMROD site conditions.

1.4 CURRENT STATUS

This Investigation Work Plan describes the technical approach for the fourth phase of RFI investigations at the Inactive McGregor OD site (SWMU No. 20) to date. A brief chronology of the events leading to the most recent NMED comments and this revision Phase 4 Investigation Work Plan follows:

- Three phases of RFI activities were performed from 1996 to 2002 as previously described.
- Fort Bliss submitted a Voluntary Corrective Action Report (VCAR) as a Phase 3 supplemental RFI report in December 2002. The VCAR summarized the results from each phase of RFI sampling efforts at the IMROD site and included a SLERA based on the data obtained up to that point. The VCAR is provided as Attachment 2.
- In a November 2004 NOD, NMED provided comments on the December 2002 VCAR. The NOD requested additional soil sampling and geophysical investigations to address

specific potential data gaps in the RCRA Facility Investigation and debris removal at the site. The November 2004 NOD is provided as Attachment 4.

- The status of the Fort Bliss IMROD site was discussed by Army, NMED, and WESTON representatives during the 11 January 2005 Installation Action Planning (IAP) Meeting at Fort Bliss. Fort Bliss indicated that previous sampling results did not indicate the presence of affected soil above NMED soil screening levels, nor risks to ecological receptors, but agreed to consider the NMED request to clean up scrap metal and conduct additional investigations to address potential data gaps.

- Fort Bliss submitted an Investigation Work Plan Addendum in September 2006 after programming funding to perform debris removal, additional geophysics, and additional soil sampling at the IMROD site to address NMED comments. The September 2006 Work Plan is provided as Attachment 5.

- NMED provided comments to the Work Plan in a December 2006 NOD, requesting revisions to address additional subsurface soil sampling and additional site-wide geophysical investigations. The December 2006 NOD is provided as Attachment 6.

Fort Bliss and NMED met in June 2007 to discuss the IMROD site and the process for moving the site toward closure. Fort Bliss responses (Attachment 1) to the December 2006 NOD are based on the discussions during the June 2007 meeting and are reflected in the work items described in this Investigation Work Plan.