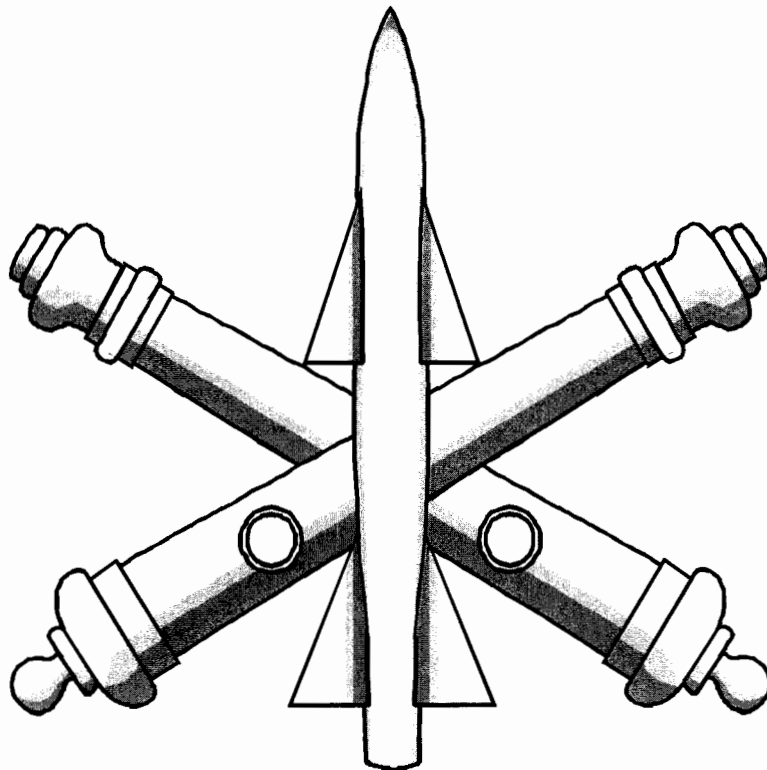


**2005 COMPLIANCE SAMPLING
RESULTS REPORT**

FOR

MCGREGOR RANGE

OPEN DETONATION (OD) UNIT



FORT BLISS

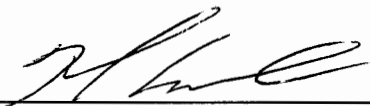
OTERO COUNTY, NEW MEXICO

May 2006

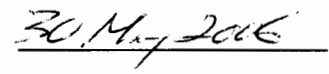


CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.



KEITH LANDRETH, Director
Directorate of Environment
Fort Bliss



(date)

**2005 COMPLIANCE SAMPLING RESULTS REPORT
McGREGOR RANGE OD TREATMENT UNIT
FORT BLISS, NEW MEXICO**

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**2005 COMPLIANCE SAMPLING RESULTS REPORT
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**2005 COMPLIANCE SAMPLING RESULTS REPORT
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LIST OF ACRONYMS

ACRONYM	DEFINITION
COC	Chain-of-custody
DNT	Dinitrotoluene
EOD	Explosives Ordnance Detachment
EPA	U.S. Environmental Protection Agency
ETC	Environmental Testing & Consulting
GPS	Global Positioning System
kg	kilogram
mg/kg	milligrams per kilogram
MS/MSD	matrix spike/matrix spike duplicate
NMED	New Mexico Environment Department
OD	Open Detonation
PCB	polychlorinated biphenyls
pg/g	picograms per gram
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SDG	Sample Delivery Group
SOW	Statement of Work
SQL	Sample Quantitation Limit
SSLs	Soil Screening Levels
TCDD	tetra chlorinated dibenzodioxin
TEF	toxicity equivalency factor
TEQ	toxicity equivalence
TNT	trinitrotoluene

**2005 COMPLIANCE SAMPLING RESULTS REPORT
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FORT BLISS, NEW MEXICO**

LIST OF ACRONYMS (Continued)

ACRONYM	DEFINITION
ug/L	micrograms per liter
USACE	U.S. Army Corps of Engineers
USCS	Unified Soil Classification System
UXO	unexploded ordnance
WESTON	Weston Solutions, Inc.
WSMR	White Sands Missile Range

SECTION 1 INTRODUCTION

In June 1995, a Final Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Operational Permit (Permit) was issued to the U.S. Army Air Defense Artillery Center, Fort Bliss by the New Mexico Environment Department (NMED, 1995). This Permit, EPA ID No. NM4213720101-01, authorized treatment of hazardous waste (munitions) by open detonation at the McGregor Range Open Detonation (OD) Treatment Unit (OD Unit). Weston Solutions, Inc. (WESTON®) was contracted by the U.S. Army Corps of Engineers (USACE) to perform an initial characterization (in 1995) and subsequent compliance sampling at the OD Unit according to the requirements of the aforementioned Permit. The 2005 Compliance Sampling Event was authorized by USACE Contract No. W912BV-04-D-2005, Task Order 16.

This document represents the 2005 Compliance Sampling Results Report for the OD Unit and was prepared in accordance with the specifications provided in the USACE Scope of Work (SOW) dated 22 March 2005 (USACE, 2005). An initial OD Unit Site Characterization was conducted in August 1995, and regular compliance monitoring has occurred to date.

1.1 OBJECTIVE OF COMPLIANCE SAMPLING

Compliance sampling is required by the Permit to evaluate potential changes in site conditions as a result of ongoing and future treatment activities conducted at the OD Unit. The compliance sampling results are compared to those from historical sampling events to determine if significant changes in the presence, magnitude, or location of constituents of potential concern have occurred because of continued treatment activities at the OD Unit.

1.2 SITE BACKGROUND AND DESCRIPTION

The OD Unit is located in the northern portion of the Fort Bliss Military Reservation within the McGregor Firing Range (FAW-10). The location is approximately 7 miles east of the McGregor Range Camp within the impact area for ballistic aerial targets, large-caliber munitions, and guided rockets. Operations at the OD Unit are only conducted when McGregor Range is inactive. A location map for the OD Unit is provided as Figure 1-1.

The McGregor Range OD Unit has been in operation since 1965. The 741st Explosive Ordnance Detachment (EOD) historically conducted explosives demolition (generally small) at the OD Unit approximately 1 to 2 times per quarter or on an as needed emergency basis. The OD Unit was historically operated under RCRA interim status as a hazardous waste thermal treatment facility until the Permit was approved and issued in 1995. The OD Unit was operated and utilized according to the requirements specified in the Operational Permit and subsequent modifications. The quantity of explosives (net explosive weight) allowed for treatment (detonation) according to the Permit (modification dated 9 May 1996) was 2,500 pounds or 1,135

kilograms (kg) per quarter. Military chemical warfare agents and related compounds or materials contaminated with or suspected of being contaminated with these agents or compounds were not destroyed (treated) at the Unit. Similarly, munitions fitted with depleted uranium and similar warfare agents were not treated at the OD Unit.

The OD Unit is a manmade excavation and the dimensions are approximately 500 feet by 200 feet by 30 feet deep. All structures at the OD Unit are earthen, and a site plan of the OD Unit is provided as Figure 1-2. Prior to the first compliance sampling event in 1996, the bottom of the OD Unit was regraded to remove vegetation (required by the Permit) and provide for an emergency exit road for trucks that carry the munitions to the OD Unit. A 6-foot tall chain link fence with lockable gates was constructed around the OD Unit to control access. In June 1996, a storm water diversion and control system was constructed to prevent storm water from entering the OD Unit. This measure was implemented, as required by the Permit, to eliminate entry of storm water and to mitigate standing water in the bottom of the OD Unit.

As required by the Permit, WESTON completed an initial Site Investigation of the OD Unit in September 1995. Surface, near-surface, and subsurface soil samples were collected and submitted for metals, selected inorganic species, and organic compound analyses. Results of the initial Site Investigation revealed the presence of explosives, metals, and nitrate, primarily in surface soils in the western portion and along the western perimeter of the OD Unit. Once the initial investigation of the OD Unit was completed, semiannual compliance sampling was performed during 1996 and 1997 as required by the Permit. The results of the compliance sampling were compared to those of the initial characterization to evaluate whether any changes in conditions had occurred. Based on the results of the compliance sampling events, no substantial change in conditions was ever identified.

A Permit Modification was issued by NMED on 22 July 1998 in response to a petition by Fort Bliss to reevaluate the compliance monitoring requirements. The Permit Modification, the third issued by NMED, was based on results from two years (1996 and 1997) of compliance monitoring. Highlights of the 1998 Permit Modification include reducing the compliance monitoring from semiannual to annual, elimination of the deep soil boring and associated sampling, elimination of several sampling locations (those specifically related to blast pits) in the eastern portion of the OD Unit where OD activities do not regularly occur, and elimination of some sampling parameters (pH, free liquids, ignitability, and polychlorinated biphenyls) from the monitoring program. A stipulation of the Permit Modification was that the full sampling scope, and not the reduced scope, be implemented every five years. The revised compliance monitoring requirements were implemented during the 1999, 2000, 2001, 2002, 2004, and 2005 Compliance Monitoring Events, and the 2003 Compliance Sampling Event utilized the full sampling scope as stipulated by the Permit Modification.

In December 2000, Fort Bliss petitioned for and received a fourth permit modification to allow receipt and demolition of waste military munitions from the nearby White Sands Missile Range (WSMR). No waste military munitions were ever received from WSMR.

Because of limited use throughout the duration of the Permit, Fort Bliss decided not to renew the Operational Permit for the OD Unit. At the request of NMED (3 March 2005 and 10 June 2005), Fort Bliss revised the Permit Closure Plan to provide additional details regarding establishment of background metals concentrations, definition of screening criteria that would be used to evaluate the site conditions, and additional details regarding the hazards survey and other activities. Fort Bliss addressed the issues identified by NMED and submitted a revised Closure Plan to NMED on 22 June 2005. A notification of intent to close was issued to NMED on 28 June 2005, and NMED approved the Class I Permit Modification for the updated Closure Plan on 7 July 2005. NMED also approved Fort Bliss' request to begin the 2005 sampling required by the Permit in July rather than August.

1.3 REPORT FORMAT

The sampling requirements outlined in the approved Closure Plan are identical to those associated with the full sampling scope associated with the compliance monitoring program. The Site Characterization sampling conducted according to the requirements of the Closure Plan was also performed to fulfill the annual compliance sampling requirement of the Permit. Thus, this report is the 2005 Compliance Sampling Results Report, and it is organized as follows:

- Section 2—Compliance Sampling Activities
- Section 3—Summary of Results
- Section 4—Conclusions
- Section 5—References

Appendices to this Compliance Sampling Results Report include the following:

- Appendix A—Chain-of-Custody Forms and Shipping Receipts
- Appendix B—Data Validation Narrative Report
- Appendix C—Analytical Data Summary Tables