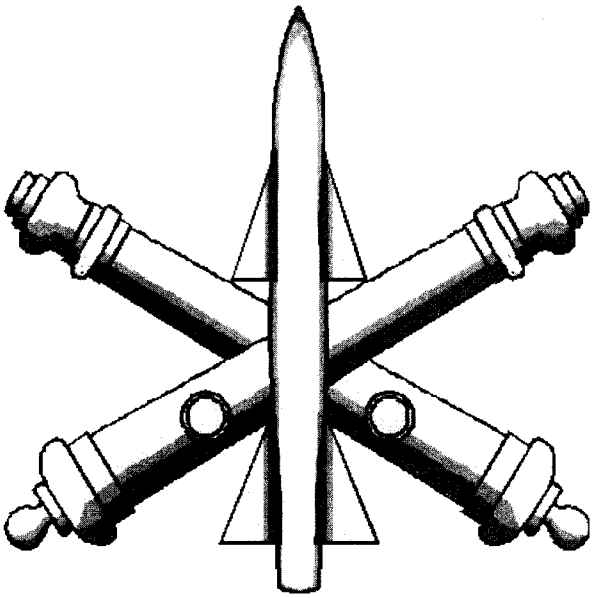
ENTERED

CLOSURE CERTIFICATION REPORT
McGREGOR RANGE OPEN DETONATION (OD) UNIT

FORT BLISS, NEW MEXICO



I have read and understand the information in this report and believe it to be an accurate representation of the conditions at the McGregor Range Open Detonation Unit. This Closure Certification Report is being submitted in accordance with the RCRA Subpart X Permit Closure Plan (Permit No. NM4213720101.01)

Susan Tighe Litherland
New Mexico PE Registration No. 9710
20 September 2006

9-20-06

FB06

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)

CLOSURE CERTIFICATION REPORT
McGREGOR RANGE OPEN DETONATION UNIT
FORT BLISS, NEW MEXICO

LIST OF TABLES

LIST OF FIGURES

SECTION 4
REMEDIAL ACTION AND SITE RESTORATION – DECEMBER 2005

The Closure Plan provides guidelines for remediation and restoration of the OD Unit. It specifies that if residential SSLs are not achieved in some locations, hot spot removal may be implemented to meet the cleanup standards for clean closure. Since elevated arsenic was only reported in a few locations, Fort Bliss decided to implement hot spot removal activities. Furthermore, the Closure Plan states that when remediation of the OD Unit has been completed, the site will be returned to as near natural grade as the available soil stock piles allow and sloped to drain. The following sections detail the remediation and site restoration activities that were performed along with verification sampling that was completed to document hot spot removal.

4.1 OBJECTIVES OF SITE RESTORATION

The objective of the hot spot remediation was to remove the soils associated with sample stations SB03, 028, and 029 that were reported with elevated arsenic. These locations were selected based on the results of sampling (Site Characterization or Confirmatory) that indicated arsenic levels above the general range observed across the OD Unit.

In addition, the Closure Plan requires restoration of the site to natural grade and smoothing of the soil piles (from OD Unit excavation) around the OD Unit. The Fort Bliss Chief Botanist provided instructions for the site restoration work related to reducing erosion and preparing the site to promote natural revegetation.

4.2 HAZARD (HEALTH & SAFETY) SURVEY

An Industrial Hygienist from the U.S. Army William Beaumont Army Medical Center completed a Hazard, or Health and Safety, evaluation of the OD Unit and established the required level of Personal Protective Equipment (PPE) to be used by personnel performing remedial and site restoration activities at the site. The Industrial Hygienist was provided the sampling results from the Site Characterization to perform the evaluation. In summary, the Industrial Hygienist recommended use of dust masks and protective clothing to include gloves and boot covers. A copy of the Industrial Hygienist Health and Safety Evaluation is provided in Appendix F. The protection recommendations were implemented during the site remediation, restoration, and sampling activities.

4.3 SITE REMEDIATION AND RESTORATION

Soil excavation was performed at stations 028, 029 and SB03 (see Figure 4-1) to remove the soils containing elevated arsenic. Station 029 was included in this effort even though the confirmation sampling did not reveal elevated arsenic. Station 025 was identified with elevated arsenic during the Site Characterization sampling, but the elevated arsenic was not confirmed during the subsequent October 2005 sampling. This station is located on the storm water

- Arsenic at sample stations 025, 028, and 029 is above the typical range of observed concentrations and the NMED SSLs. These locations are, however, not close to the area where OD activities occurred, and the presence of arsenic may represent natural conditions since the soils excavated from the OD Unit were placed around the perimeter. Arsenic in the deep soil boring at 10 feet was found at a concentration above the SSL, and natural arsenic variations in the subsurface may account for variations observed at the three locations around the perimeter of the OD Unit. Furthermore, the observed arsenic was not reported in confirmation samples.

- Site remediation and restoration activities were completed to address the arsenic hot spots, and verification samples indicated most of the soils containing elevated arsenic were removed. Only one location from station 029 was reported with arsenic above the general range of concentrations observed at the OD Unit.

- Table 5-1 summarizes the cumulative risk for arsenic. Using the maximum detected concentrations, both the pre- and post-remediation risks are above the New Mexico target level of 1E-05. Applying the 95% UCL, the pre-remediation data is above the target level, but the post-remediation data results in a cumulative risk (9.38E-06) that is within the target risk level. The overall arsenic concentration (current condition after remediation) is below the NMED SSL and thus satisfies the clean closure requirement of the Closure Plan.

- No structures or equipment exist at the OD Unit for decontamination.

- The Closure Plan has been successfully implemented and the general requirements and provisions have been completed.

5.3 PETITION FOR CLOSURE

The available data and information indicates that the OD Unit poses an acceptable risk to human health and the environment by virtue of not exceeding the established SSLs. This is also supported by subsequent risk and hazard calculations (both individual and cumulative) that are below the acceptable guidelines. Thus, the conditions at the OD Unit meet the clean closure requirements of the Closure Plan. Fort Bliss requests that NMED consider closure of this site with no further action required.

SECTION 5
CONCLUSIONS AND CLOSURE PETITION

The following subsection provides concluding information regarding the conditions at the OD Unit after remediation and site restoration activities were completed.

5.1 DATA DEFICIENCIES AND QUALITY

Based on a review of the available information, no data deficiencies have been identified for the characterization of the OD Unit, as well as the confirmation and verification sampling events. The Confirmatory Sampling data were validated and appropriately qualified for use. The data quality objectives for the overall characterization effort associated with the OD Unit have been met. In summary, the data in this report are useful for their intended purpose.

5.2 CONCLUSIONS FROM SITE REMEDIATION/RESTORATION

The results of over ten compliance sampling events, conditions over the 10 year monitoring period reinforced by the results of the Site Characterization sampling, have demonstrated that the conditions at the Open Detonation Unit have remained relatively unchanged during the period of operations. Some conclusions are provided below:

- The occurrence of explosives has generally remained consistent over the time the OD Unit has been operated and monitored. With the exception of the explosives reported in station 001, migration of explosives away from the OD Unit is not apparent, and similarities in occurrence and concentration of explosives are evident over the monitoring period.

- Explosives are generally not reported in near surface or subsurface soil samples (from the deep soil boring) indicating that vertical migration of explosives is not occurring.

- Organic constituents including explosives, dioxins, furans, nitrate, nitrite, and PCBs were not reported in any of the collected samples above the NMED and EPA (where NMED values were not available) Residential Human Health SSLs.

- Metals including arsenic, cadmium, chromium, copper, lead, strontium, and zinc were reported in the collected soil samples. With the exception of arsenic at a number of locations, none of the reported metals exceed the NMED Residential SSLs. Table 5-1, page 5-3, summarizes the cumulative hazard for the noncarcinogenic constituents of concern. Both the individual hazard quotients and the overall hazard index are below the target level of 1.0.

Metals[1]	Table 5-1 Cumulative Risk and Hazard						
	Maximum Concentration (ppm)	**95% UCL Value[2] (ppm)**	**NMED Res SSL (ppm)**	**C/NC**	**Risk (Max)**	**Risk (95% UCL)**	**Individual Hazard Quotients**
Antimony	0.974 JM	---	31.3	NC			0.031118
Arsenic - Pre Response Action	20.3	4.83	3.9	C	5.21E-05	1.24E-05	
Arsenic - Post Response Action	6.37	3.66	3.9	C	1.63E-05	9.38E-06	
Barium	139	---	5450.0	NC			0.025505
Beryllium	0.677	---	156.0	NC			0.004340
Cadmium	6.48	---	74.0	NC			0.087568
Chromium	13.5	---	100000.0	NC			0.000135
Cobalt	48.1	---	1520.0	NC			0.031645
Copper	443	---	3130.0	NC			0.141534
Iron	13,900	---	23500.0	NC			0.591489
Lead	44.3	---	400.0				
Mercury	0.032	---	6.1	NC			0.005237
Potassium	5,920	---	NE				
Selenium	0.638 JM	---	391.0	NC			0.001632
Silver	1.35	---	391.0	NC			0.003453
Strontium	376	---	46900.0	NC			0.008017
Zinc	179	---	23500.0	NC			0.007617
				Total	1.63E-05	**9.38E-06**	**0.939289**

Notes:

[1]Subsurface soil samples from the deep soil boring and background samples excluded from this summary presentation.

[2]UCL value calculated only for those constituents where the maximum detected value exceeds the NMED Residential SSL.

ppm = parts per million

J = Analyte estimated below the sample quantitation limit or estimated above the sample quantitiation limit due to QA/QC issues.

M = Value estimated due to potential matrix affects.

NE = Not Established

C/NC = Carcinogen/Non-Carcinogen

SECTION 6
REFERENCES

NMED (New Mexico Environmental Department). 1995. *"Resource Conservation and Recovery Act Hazardous Waste Facility Operational Permit, EPA ID No. NM4213720101-01."* Santa Fe, NM. 8 June 1995

NMED. 2000. *Technical Background Document for Development of Soil Screening Levels.* February 2004.

USACE (U.S. Army Corps of Engineers) Tulsa District. 2005. *Scope of Work for McGregor Range OD Site Characterization and Closure, Fort Bliss, TX.* Contract No. W912BV-04-D-2005, Task Order No. 16. 22 March 2005.

U.S. EPA, 1989. *"Interim procedures for estimating risks associated with exposure to mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs and CDFs) and 1989 update,"* U.S. EPA, Risk Assessment Forum, Washington, D.C., EPA/625/ 3-89/016.

WESTON (Weston Solutions, Inc.). 1996a. *Final Report of Findings for Part B Permit, Open Detonation Treatment Unit Investigation - Fort Bliss, TX.* March 1996.

WESTON. 1996b. *Open Detonation Treatment Unit Work Plan Addendum.* May 1996.

WESTON. 1996c. *Final Compliance Sampling Results Report - Part B Permit, Open Detonation Treatment Unit, Fort Bliss, TX.* October 1996.

WESTON. 1997a. *Final Compliance Sampling Results Report - Second 1996, Open Detonation (OD) Treatment Unit, Fort Bliss, TX.* February 1997.

WESTON. 1997b. *Final Compliance Sampling Results Report—First CY97 for Part B Permit, Open Detonation (OD) Unit, Fort Bliss, NM.* July 1997.

WESTON. 1997c. *Compliance Sampling Results Report—Second CY97 for Part B Permit, Open Detonation (OD) Unit.* November 1997.

WESTON. 1999. *Final 1998 Compliance Sampling Results Report, Open Detonation Treatment Unit.* August 1999.

WESTON. 2000. *Final 1999 Compliance Sampling Results Report, Open Detonation Treatment Unit.* February 2000.

WESTON. 2001. *Final 2000 Compliance Sampling Results Report, Open Detonation Treatment Unit.* January 2001.

WESTON. 2002. *Final 2001 Compliance Sampling Results Report, Open Detonation Treatment Unit.* March 2002.

WESTON. 2003a. *Final 2002 Compliance Sampling Results Report, Open Detonation Treatment Unit.* March 2003.

WESTON. 2004a. *Final 2003 Compliance Sampling Results Report, Open Detonation Treatment Unit – Fort Bliss, NM.* February 2004.

WESTON. 2005a. *Final 2004 Compliance Sampling Results Report, Open Detonation Treatment Unit – Fort Bliss, NM.* February 2005.

WESTON. 2005b. *Site Characterization Work Plan, McGregor Range Open Detonation (OD) Unit – Fort Bliss, NM.* July 2005.