



ENTERED

DEPARTMENT OF THE AIR FORCE  
27TH SPECIAL OPERATIONS CIVIL ENGINEER SQUADRON (AFSOC)  
CANNON AIR FORCE BASE NEW MEXICO

Mr. Ronald A. Lancaster  
Chief, Environmental Flight  
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Cannon AFB NM 88103-5003



APR 04 2008

Ms. Cheryl Frischkorn  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Dr E Building 1  
PO Box 26110  
Santa Fe NM 87505

Dear Ms. Frischkorn

Per your request, Cannon Air Force Base is forwarding one hardbound copy and one electronic copy of the *Final Work Plan Addendum, RCRA Facility Investigation for SWMUs 34, 78, 85, 91, 95, and 107, dated February 2008*, for your review and approval.

The Work Plan Addendum describes, as requested by your department, the field sampling requirements to complete additional sampling and the investigative activities to be employed in order to identify the presence or absence of chemical contamination.

If you have any questions, please contact Mr. Jerry Pelfrey at (575) 784-6391.

Sincerely

RONALD A. LANCASTER

Attachment:

*Final Work Plan Addendum, RCRA Facility Investigation for SWMUs 34, 78, 85, 91, 95, and 107, dated February 2008.*

cc:

NMED (D. Cobrain) w/o atch  
EPA Region 6 (Bob Sturdivant) w/o atch

CD  
is missing

*Air Commandos*

**FINAL**

## **WORK PLAN ADDENDUM**

- ◆ **FIELD SAMPLING PLAN**
- ◆ **QUALITY ASSURANCE PROJECT PLAN**
- ◆ **SITE AND SAFETY HEALTH PLAN**

### **RCRA FACILITY INVESTIGATION FOR SWMUs 34, 78, 85, 91, 95, AND 107**

### **CANNON AIR FORCE BASE NEW MEXICO**

**February 2008**



*Prepared for:*



*Under contract to:*



**U.S. Army Corps of Engineers  
Omaha District**

# **URS**

12120 Shamrock Plaza, Suite 300  
Omaha, Nebraska 68154



March 4, 2008

U.S. Army Corps of Engineers  
Mr. Hector Santiago  
106 South 15th Street  
Omaha, Nebraska 68102-1618

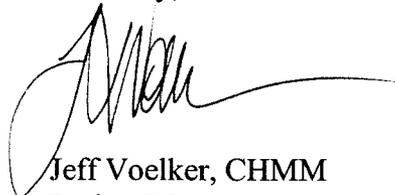
Subject: Final RCRA Facility Investigation Work Plan Addendum for SWMUs 34, 78,  
85, 91, 95, and 107  
Cannon Air Force Base, New Mexico  
W9128F-04-D-0001, Delivery Order 0028

Dear Hector:

Enclosed are three hardcopies and three electronic copies on CD-ROM of the Final RCRA Facility Investigation (RFI) Work Plan Addendum for Solid Waste Management Units (SWMUs) 34, 78, 85, 91, 95, and 107 at Cannon AFB, New Mexico. These six SWMUs have been identified for additional fieldwork based on comments from the New Mexico Environmental Department (NMED).

Please call me at 952-2558 if you have any questions.

Sincerely,



Jeff Voelker, CHMM  
Project Manager

Enclosures

cc: Jerry Pelfrey, Cannon AFB (five hardcopies and five CDs, including copies for distribution to NMED)

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URS Group, Inc.  
12120 Shamrock Plaza, Suite 300  
Omaha, NE 68154  
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- Appendix A Quality Assurance Project Plan Addendum
- Appendix B Site Safety and Health Plan Addendum
- Appendix C Standard Operating Procedures Addendum
- Appendix D Updated NMED Soil Screening Levels
- Appendix E June 2005 Document Search Records – See original WP (URS 2005)
- Appendix F June 2005 Inspection Photographic Log Addendum for SWMUs 34, 78, 85, 91, 95, and 107

## Acronym List

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ACC	Air Combat Command
AFB	Air Force Base
AGE	Aerospace Ground Equipment
APPL	Agriculture and Priority Pollutants Laboratory, Inc.
AST	Aboveground Storage Tank
bgs	Below Ground Surface
BRA	Baseline Risk Assessment
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CLP	Contract Laboratory Program
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
COC	Chemical of Concern
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DQO	Data Quality Objective
DRO	Diesel Range Organics
ERP	Environmental Restoration Program
EP	Extraction Procedure
eV	Electron Volt
FID	Flame Ionization Detector
FIPS	Federal Information Processing Standard
FSP	Field Sampling Plan
GC	Gas Chromatograph
gpm	Gallons per Minute
GRO	Gasoline Range Organics
HSP	Health and Safety Plan
ICP-A	Intercoupled Plasma-Atomic Absorption
IDW	Investigation-Derived Waste
IRP	Installation Restoration Program
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NAD83	North American Datum of 1983
NFA	No Further Action
NELAP	National Environmental Laboratory Accreditation Program

## Acronym List

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NMED	New Mexico Environmental Department
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
QA	Quality Assurance
QC	Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RL	Reporting Limit
SSHP	Site Safety and Health Plan
SOP	Standard Operating Procedure
SOW	Scope of Work
SRM	Standard Reference Method
SSL	Soil Screening Level
SVOC	Semivolatile Organic Compound
SWMU	Solid Waste Management Unit
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
URS	URS Group, Inc.
USACE	United States Army Corp of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
W-C	Woodward-Clyde Consultants, Inc.
WP	Work Plan
XRF	X-Ray Fluorescence

## AUTHORITY

The U.S. Army Corps of Engineers (USACE) Omaha District has contracted URS Group, Inc. (URS) under Contract Number W9128F-04-0001, Task Order 28, to complete Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) sampling at specific sites at Cannon Air Force Base (AFB) near Clovis, New Mexico. This RFI Work Plan (WP) Addendum is being completed to address comments provided by the New Mexico Environmental Department (NMED 2007).

## 1.1 PURPOSE AND SCOPE

This WP Addendum describes the field sampling requirements to complete additional sampling at six solid waste management units (SWMUs) at Cannon AFB, New Mexico. These SWMUs include:

- SWMU 34 – Aerospace Ground Equipment (AGE) Drainage Ditch
- SWMU 78 – Fire Department Training Area No. 1
- SWMU 85 – Stormwater Collection Point
- SWMU 91 – Recovered Fuel Tank No. 5114
- SWMU 95 – Northeast Stormwater Drainage Area
- SWMU 107 – Fire Department Training Area No. 3

The locations of the six SWMUs addressed in this WP are shown on **Figure 1-1**.

This WP Addendum also describes the investigative activities that will be used to provide the information necessary to determine the presence or absence of chemical contamination, which may pose an unacceptable risk to human health or the environment at the six SWMUs.

This WP Addendum is based on and meets the data requirements established in the Scope of Work (SOW) provided by USACE, Omaha District. It includes preparing planning documents, completing a field investigation (surface and subsurface soil sampling) by following the standard operating procedures (SOPs) presented in **Appendix C** of the RFI WP (URS 2005) and this RFI WP Addendum, analyzing field samples for chemicals, evaluating the chemical data as described in the quality assurance project plan (QAPP) presented in **Appendix A** of the RFI WP (URS 2005), and this RFI WP Addendum, comparing the analytical results to current NMED soil screening levels (SSLs) that are presented in **Appendix D**, completing further risk evaluations, as necessary, and preparing the RFI report.

## 1.2 PROJECT BACKGROUND

All of the SWMUs addressed in this WP Addendum were previously proposed for no further action (NFA) status (URS 2000). This project addresses concerns identified by the NMED during their review of the NFA proposals (NMED 2004). The SWMUs included in this RFI WP

Addendum have been investigated previously. Additional field investigations are planned for the six SWMUs because NMED had stated that these SWMUs require additional characterization. The initial work for these sites involved review and reappraisal of existing information using current soil screening criteria. The RFI report (URS 2006) presented previous analytical results for these SWMUs, compared the results to updated NMED soil screening levels, and recommended SWMUs for NFA.

Six SWMUs require additional characterization to qualify for NFA status. These SWMUs will be investigated as part of an additional RFI based on comments from NMED. The scope of the field investigation includes the collection of near-surface and subsurface soil samples. Following soil sample collection and laboratory analytical testing, the data will be evaluated. The RFI report will present the analytical results, will compare these results to current NMED SSLs, will include further human health and ecological risk evaluations, as necessary, and will recommend each SWMU for either NFA status or completion of a corrective measures study (CMS).

The general background information on Cannon AFB, including an installation description, and a summary of regional geology and groundwater, are presented in **Sections 1.2.1** through **1.2.2.2** of the RFI WP (URS 2005).

### 1.2.1 Previous Environmental Investigations at the Six RFI Addendum SWMUs

As shown in **Table 1-1**, all sites addressed by this RFI WP Addendum have been the subject of previous environmental sampling, with the exception of SWMU 91. SWMU 91 is located within Site SD-11 and although sampling has been completed for many SWMUs within SD-11 sampling has not been completed for SWMU 91. These sites will be sampled to further investigate potential soil contamination and to gather enough data to obtain NFA.

## 1.3 PROJECT ORGANIZATION

The project organization for the RFI at Cannon AFB, including responsibilities of key personnel, the organization structure and responsibilities of the project team listed below are further described in **Section 2** of the QAPP presented in **Appendix A** of the RFI WP (URS 2005). Additions and revisions to the QAPP for this RFI WP Addendum are presented in **Appendix A** and are summarized below.

The only position that was not previously listed in the QAPP is the URS Senior Geologist. The URS Senior Geologist reports to the URS Project Manager. The URS Senior Geologist has responsibility for reviewing all boring logs for completeness and correctness, and for ensuring that the geology of the borings is properly identified.

Updated names and telephone numbers of the URS project management staff are listed below.

<b>Role</b>	<b>Name</b>	<b>Telephone Number</b>
Program Manager	Jeff Williamson	402-952-2550
Project Manager	Jeff Voelker	402-952-2558
QA Officer	Craig Johnson	402-952-2524
Health and Safety Coordinator	Jeff Hopkins	402-952-2531
Field Manager	Tony Sedlacek	402-952-2532
URS Senior Geologist	Mike Sonderman	402-952-2537

## 1.4 PROJECT SCHEDULE

A project schedule is shown on **Figure 1-2**. The project schedule assumes regulatory reviews will be completed within 30 calendar days of draft submittals.

## 1.5 RFI WORK PLAN ADDENDUM ORGANIZATION

The RFI WP Addendum is organized as follows:

- **Section 1** presents the introduction, including the authority, purpose and scope, project organization, schedule and WP organization as they apply to the six SWMUs.
- **Section 2** presents the general project Data Quality Objectives (DQOs).
- **Section 3** summarizes general procedures for field activities, including soil sampling, surveying, sample handling and identification, and site surveying.
- **Section 4** presents the SWMUs that require additional sampling and characterization based on comments received from NMED. The field sampling planned for each of these SWMUs is also presented.
- **Section 5** contains a bibliography of references.

The appendices contain the following information:

- **Appendix A** – Quality Assurance Project Plan (QAPP) Addendum
- **Appendix B** – SSHP Addendum
- **Appendix C** – Standard Operating Procedures (SOPs) Addendum
- **Appendix D** – NMED SSLs Update
- **Appendix E** – June 2005 Document Search Records for SWMUs 34, 78, 81, 85, 91, and 107 (No revisions or modifications, see original RFI WP)

# SECTION ONE

## Introduction

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- **Appendix F** – June 2005 Inspection Photographic Log for SWMUs 34, 78, 81, 85, 91, and 107 (applicable to the six SWMUs addressed by this RFI WP Addendum)

**TABLE 1-1**  
**SUMMARY OF PREVIOUS INVESTIGATIONS COMPLETED AT THE SWMUs THAT REQUIRE ADDITIONAL SAMPLING**  
**(SWMUs 34, 78, 85, 91, 95, AND 107)**  
**RFI WORK PLAN ADDENDUM**  
**CANNON AFB, NEW MEXICO**

SWMU No.	Name	IRP No.	Investigation (Author & Date)					
			IRP Phase II Stage I (Radian 1986)	Final IRP RI (Walk Haydel 1990)	RI of 18 SWMUs (W-C 1992)	Phase III RFI (W-C 1997)	CMS (W-C 1999)	Other Sampling (USGS)
SWMU 34	AGE Drainage Ditch	SD-15	X		X			
SWMU 78	Fire Department Training Area No. 1	FT-06	X		X			
SWMU 85	Stormwater Collection Point	SD-12	X	X				
SWMU 91	Recovered Fuel Tank No. 5114	-	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
SWMU 95	Northeast Stormwater Drainage Area	SD-20	X	X	X			
SWMU 107	Fire Training Area No. 3	FT-08	X		X			

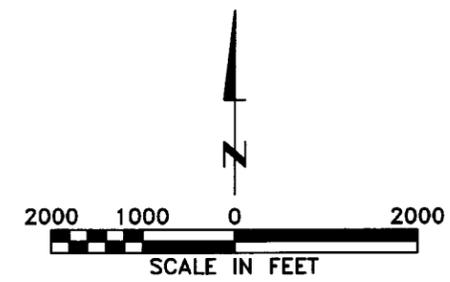
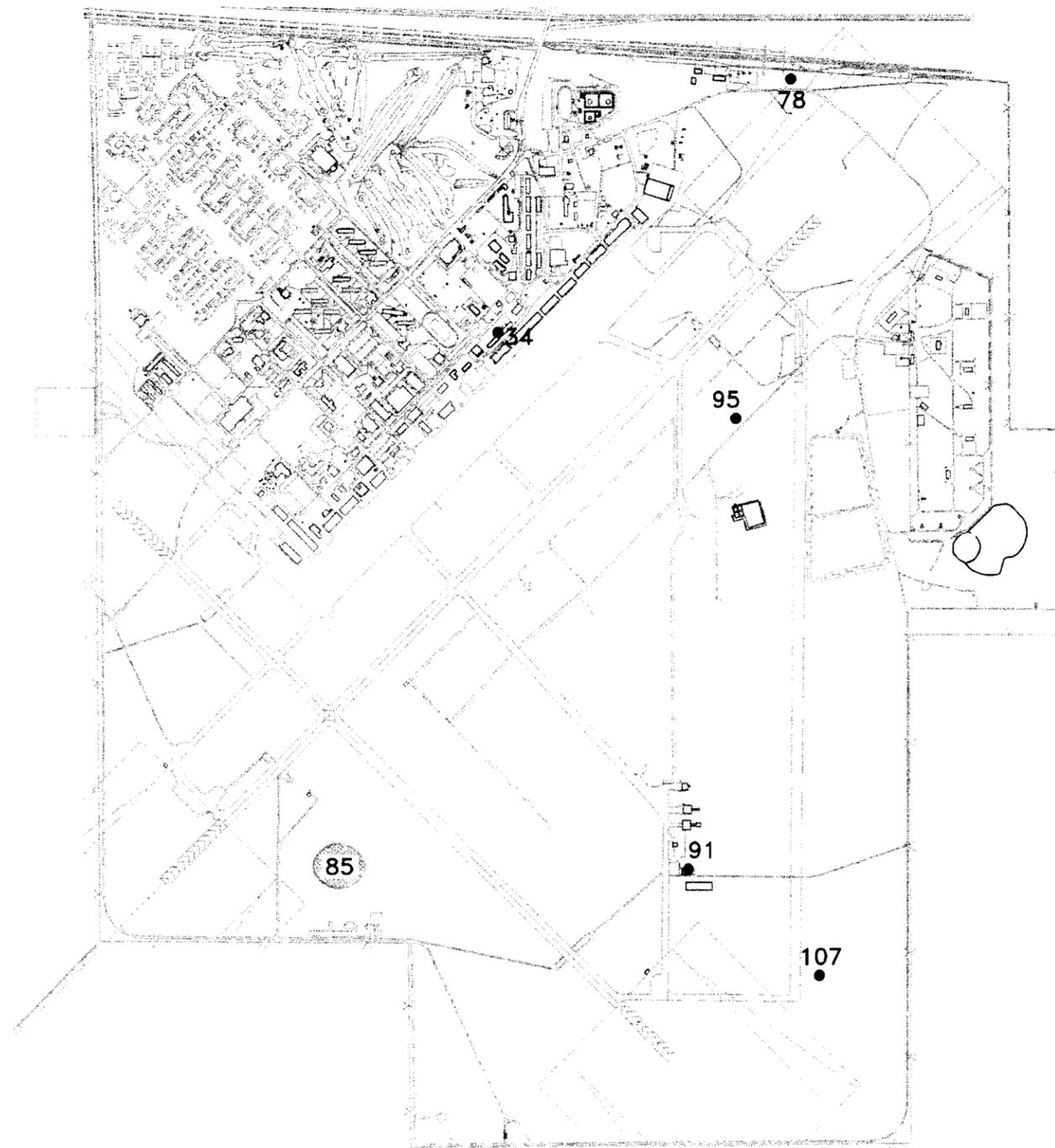
Note:

<sup>1</sup> Denotes an investigation of SD-11, which encompass SWMU 91

**LEGEND:**

3      SOLID WASTE MANAGEMENT UNIT  
●      (SWMU) LOCATION AND NUMBER

SWMU No.	NAME
34	SD-15, AGE DRAINAGE DITCH
78	FT-06, FIRE DEPARTMENT TRAINING AREA No. 1
85	SD-12, STORMWATER COLLECTION POINT
91	RECOVERED FUEL TANK No. 5114
95	SD-20, NE STORMWATER DRAINAGE AREA
107	FT-08, FIRE DEPARTMENT TRAINING AREA No. 3



LOCATION MAP, SWMUs FOR ADDITIONAL RFI EVALUATION CANNON AIR FORCE BASE, NEW MEXICO			
DRN. BY: DPG	DATE: 12/10/07	PROJECT NO. 16169930	FIG. NO. 1-1
CHK'D. BY: .	DATE: .		