

**FY2012**

**WHITE SANDS MISSILE RANGE**  
**Army Defense Environmental Restoration Program**  
**Installation Action Plan**

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## Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), White Sands Missile Range (WSMR), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

## Acronyms

AAA	Anti-aircraft Artillery
AAF	Army Airfield
ABGR	Alamogordo Bombing and Gunnery Range
ACSIM	Assistant Chief of Staff for Installation Management
AEDB-R	Army Environmental Database-Restoration
AFB	Air Force Base
AMRAD	Anti-missile Radar
AOC	Area of Concern
AST	Aboveground Storage Tank
AUA	Annual Unit Audit
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
C&D	Construction and Demolition
CAC	Corrective Action Complete
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CLIN	Contract Line Item Number
CMI	Corrective Measure Implementation
CMI(C)	Corrective Measure Implementation (Construction)
CMI(O)	Corrective Measure Implementation (Operation)
CMS	Corrective Measures Study
CO2	Carbon Dioxide
CS	Confirmatory Sample
CSM	Conceptual Site Model
CTT	Closed, Transferred and Transferring
CY	Calendar Year
DD	Decision Document
DERP	Defense Environmental Restoration Program
DF	Deuterium Fluoride
DMM	Discarded Military Munitions
DMN	n-Nitrodimethylamine
DoD	Department of Defense
DSERTS	Defense Site Environmental Restoration Tracking System
EC	Environmental Compliance
EOD	Explosive Ordnance Disposal
ER,A	Environmental Restoration, Army (Formerly DERA)
FFTA	Fire Fighting Training Area
FS	Feasibility Study
ft	feet
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
gal	gallon
GIS	Geographic Information System
GWM	Groundwater Monitoring
GWQB	Groundwater Quality Bureau

## Acronyms

HCF	HELSTF Cleaning Facility
HELSTF	High Energy Laser Systems Test Facility
HF	Hydrogen Fluoride
HRR	Historical Records Review
HSWA	Hazardous and Solid Waste Amendment
HTA	Hazardous Test Area
HWB	Hazardous Waste Bureau
HWSF	Hazardous Waste Storage Facility
IAP	Installation Action Plan
ID	Identification
IMCOM	Installation Management Command
IRA	Interim Remedial Action
IRFNA	Inhibited Red Fuming Nitric Acid
IRM	Interim Remedial Measure
K	thousand
L	liter
lbs	pounds
LC	Launch Complex
LPSA	Liquid Propellant Storage Area
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituent
MCL	Maximum Contaminant Level
MEC	Munitions and Explosives of Concern
MeCL	Methylene Chloride
MEK	Methyl Ethyl Ketone
mi	miles
MMH	Monomethyl Hydrazine
MMRP	Military Munitions Response Program
MPL	Main Post Landfill
MPWWTP	Main Post Wastewater Treatment Plant
MRS	Munitions Response Site
MSW	Municipal Solid Waste
NAPL	Non-aqueous Phase Liquid
NFA	No Further Action
NM	New Mexico
NMED	New Mexico Environment Department
NOD	Notice of Disapproval
NOMTS	Navy Ordnance Missile Test Station
NPL	National Priorities List
NPS	National Park Service
ORC	Oscura Range Center
PA	Preliminary Assessment
PBA	Performance-Based Acquisition
PCCP	Post Closure Care Permit

## Acronyms

POL	Petroleum, Oil and Lubricants
ppm	parts per million
PRS	Pressure Recovery System
PSH	Phase-Separated Hydrocarbons
PSTB	Petroleum Storage Tank Bureau
RA	Remedial Action
RA(O)	Remedial Action - Operations
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
SI	Site Inspection
SLERA	Screening Level ERA
SRC	Stallion Range Center
SSL	Soil Screening Levels
STP	Sewage Treatment Plant
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SVS	Soil Vapor Survey
SWB	Solid Waste Bureau
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TCA	Trichloroethane
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TSA	Technical Support Area
TTF	Temperature Test Facility
UDMH	Unsymmetrical Dimethyl Hydrazine
USACE	US Army Corp of Engineers
USAEC	US Army Environmental Command
USEPA	US Environmental Protection Agency
USGS	US Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VCM	Voluntary Corrective Measures
VOC	Volatile Organic Compound
WQCC	Water Quality Control Commission
WSMR	White Sands Missile Range
WSNM	White Sands National Monument

## Site Alias List

### AEDB-R Site ID to Alias List

<b>AEDB-R #</b>	<b>Alias</b>
CCWS-04	SWMU-162
CCWS-05	SWMU 142
CCWS-08	SWMU 164
CCWS-09	SWMU 198
CCWS-16	SWMU 197
CCWS-77	SWMU 219
CCWS-81	SWMUs 1-7
CCWS-82	SWMU 106--
CCWS-83	SWMU-124
CCWS-84	SWMU-128
CCWS-85	SWMU-129
CCWS-86	SWMU 130--
CCWS-87	SWMU 133--
CCWS-88	SWMU 135--
CCWS-89	SWMU-138
CCWS-90	SWMU 165
CCWS-91	SWMU 216
CCWS-92	SWMU-218
CCWS-93	AOC-A
CCWS-94	AOC B
CCWS-95	AOC D
CCWS-96	AOC E
CCWS-97	AOC G
CCWS-98	AOC Z
CCWS-99	SWMU 8 & 9
PBA@WSMR	
WSMR-003-R-01	AOC AA
WSMR-004-R-01	AOC AB
WSMR-005-R-01	AOC AC
WSMR-006-R-01	AOC AD
WSMR-007-R-01	
WSMR-05	SWM157-159
WSMR-14	SMW114-115
WSMR-27	SWMU 89
WSMR-29	SWMU-79
WSMR-30	SWMU-80
WSMR-31	SWMU-21
WSMR-32	SWMU-22
WSMR-33	SWMU 14-15
WSMR-35	SWMU 107
WSMR-39	SWMU-63
WSMR-40	SWMU-64
WSMR-41	SWMU-108

## Site Alias List

WSMR-42	SWMU-85
WSMR-43	SWMU 31-32
WSMR-49	SWMU 33-34
WSMR-50	SWMU 35-36
WSMR-53	SWMU-145
WSMR-54	SWMU-143
WSMR-55	SWMU-154
WSMR-56	SWMU-137
WSMR-57	SWMU-156
WSMR-58	SWMU-153
WSMR-59	SWMU-62
WSMR-60	SWMU 12,13
WSMR-67	SMU121-123
WSMR-69	AOC-S
WSMR-70	SWM119-120
WSMR-71	SWMU47-49
WSMR-72	SWMU 163
WSMR-73	SMWU-17
WSMR-74	SWMU 10,11
WSMR-75	SMU116-118
WSMR-77	SWMU 125
WSMR-78	SWMU-147
WSMR-79	SWMU-16
WSMR-81	SWMU-86
WSMR-82	SWMU-87
WSMR-83	SWMU-148
WSMR-84	SWMU-140
WSMR-85	SWMU 37
WSMR-86	SWMU-168
WSMR-87	SWMU 150

# Installation Information

## Installation Locale

**Installation Size (Acreage):** 2048000

**City:** White Sands Missile Range

**County:** Dona Ana, Socorro, Lincoln, Otero, and Sierra

**State:** NM

## Other Locale Information

The White Sands Missile Range (WSMR) is located in south central New Mexico (NM) and spans five counties: Dona Ana, Socorro, Lincoln, Otero, and Sierra. The range is located in an area known as the Tularosa Basin. The headquarters area is 20 miles east of Las Cruces, 50 miles southwest of Alamogordo, and 45 miles north of El Paso, Texas. The range boundaries extend almost 100 miles north to south by 40 miles east to west. At almost 3,200 square miles (2,048,000 acres), the range is the largest military installation in the country. In addition to the main installation, there are two extension areas located adjacent to the north and west boundaries, and several joint-use land areas. These areas add over 3.8 million acres to the range. The WSMR is partially bordered on the east by Holloman Air Force Base (AFB) and on the south by Fort Bliss Military Reservation. US Highway 70 crosses WSMR from east to west and serves as the main access to the Main Post area. There are no other populated areas located within the boundaries of the installation.

## Installation Mission

The mission of the WSMR is to provide the Army, the Navy, the Air Force, the Department of Defense (DoD), and other customers with high quality services for experimentation, test, research, assessment, development, and training in support of the nation at war.

## Lead Organization

### Lead Executing Agencies for Installation

WSMR Public Works Directorate - Environmental Compliance (EC)

USAEC

### Regulator Participation

**Federal** US Environmental Protection Agency (USEPA), Region VI, Dallas, TX

**State** New Mexico Environmental Department (NMED), Santa Fe, NM

### National Priorities List (NPL) Status

WHITE SANDS MISSILE RANGE is not on the NPL

### Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

The community has expressed no sufficient, sustained interest in a RAB.

### Installation Program Summaries

#### IRP

**Primary Contaminants of Concern:** Explosives, Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

**Affected Media of Concern:** Groundwater, Soil

#### MMRP

**Primary Contaminants of Concern:** Munitions and explosives of concern (MEC), Munitions constituents (MC),  
Perchlorate

**Affected Media of Concern:** Groundwater, Soil

#### CR

**Primary Contaminants of Concern:** Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles  
(VOC)

**Affected Media of Concern:** Groundwater, Soil

## 5-Year / Periodic Review Summary

### 5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	200810	200909	2009
Planned	201310	201409	2014

### Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
WSMR-14 DD	WSMR-14

**Results** This is a Periodic Review intended for use by WSMR and AEC for postclosure landfill management. The remedy is functioning as intended by the decision document.

**Actions** Repair minor erosion of the landfill soil cover system. Review decision document requirements for post closure care to resolve the discrepancy between estimated (high) and actual (low) annual post-closure costs.

**Plans** Complete recommended actions before September 2010.

### Recommendations and Implementation Plans:

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# Cleanup Program Summary

## Installation Historic Activity

The WSMR is an active installation serving as the US Army's largest rocket and missile development, firing and testing facility. It is a major center for the testing of new missile systems. The WSMR performs applied research, field trials of new missile types, and new applications of existing missile systems. The Range also hosts inter-forces training of troops in a desert environment, using tactical exercises for the North Atlantic Treaty Organization and Allied Forces.

The range was established in 1945 for the development of a missile defense program that started with the testing of captured German V-2 rockets. The range, formerly known as White Sands Proving Ground, was formed from privately held grazing land that was either donated to the government or condemned for the use of the government. The WSMR has been active since its establishment without any decrease in land holdings.

The current configuration of WSMR includes launch sites, impact areas, instrumentation sites, and support facilities required to develop and test missiles and rockets. The WSMR is designated as a National Range focused on the support of missile development and test programs for the Army, Navy, Air Force, National Aeronautics and Space Administration, and other governmental agencies. Thousands of missile firings, airdrops, and static tests have been conducted as part of this mission.

Initiation of the Installation Restoration Program (IRP) began in August 1988 with a Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) of WSMR, performed by A.T. Kearney for the USEPA, Region VI. This report identified 138 solid waste management units (SWMUs) and 26 AOCs.

The RFA is generally considered to be equivalent to the preliminary assessment (PA) required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

In September 1989, the WSMR was issued a RCRA Part B Operating Permit for the operation of a Container Storage Area (WSMR Hazardous Waste Storage Facility). The Hazardous and Solid Waste Amendment (HSWA) module of this permit addresses the investigation and corrective actions regarding releases from WSMR SWMUs (many of which are or are contained within IRP sites referenced in this IAP). The HSWA Corrective Action module of the RCRA Part B permit contains a listing of WSMR SWMU sites requiring investigation or cleanup.

From 1989 to 1996, the USEPA served as the lead regulatory agency with the NMED providing review for all work proposed by WSMR. In January 1996, the USEPA relinquished HSWA regulatory authority to the NMED. The NMED is currently the lead regulatory agency with the USEPA providing oversight and supplementary assistance.

Since 1988, the WSMR has continued to investigate and clean up sites warranting further action. The WSMR has performed numerous voluntary cleanup actions and has conducted groundwater monitoring and soil borings to document the presence or absence of contaminants. The WSMR has developed remedial work plans outlining the best procedures for cleanup at remaining sites, and petitioned the regulatory authority, the NMED, for no further action (NFA) rulings for sites at which WSMR has performed cleanup actions, and at sites determined to have no contamination after completion of investigation(s).

## Installation Program Cleanup Progress

### IRP

**Prior Year Progress:** A second PBA contract was awarded in June 2010. A RCRA Facility Investigation (RFI) report for WSMR-61 remains under review. The NMED issued a notice of disapproval (NOD) to the High Energy Laser Systems Test Facility (HELSTF) Phase III RFI. The LTM was performed at WSMR-14 and remedial action (operation) (RA(O))/LTM was performed at WSMR-54 and WSMR-55.

A petition for a Class III modification to remove SWMUs WSMRs 80, 71, 39, 40, 41, 05, and CCWS-20 from RCRA Part B permit was submitted.

**Future Plan of Action:** The NMED approval of HELSTF Phase III RFI report is anticipated. The NMED approval of RFI report for WSMR-61. The LTM will continue at WSMR-14. RA(O)/LTM will continue at WSMR-54 and WSMR-55.

## Cleanup Program Summary

### MMRP

**Prior Year Progress:** The site inspection (SI) is complete. WSMR-0003-R-01, WSMR-004-R-01 and WSMR-006-R-01 were recommended for NFA. A copy was submitted to the NMED. The NMED has issued two NODs based on RCRA requirements. The WSMR is in the process of moving into the remedial investigation (RI) phase under CERCLA.

**Future Plan of Action:** The RI phase will commence for WSMR-007-R-01 only under CERCLA. Other sites are on WSMRs permit and will commence with an RFI phase per RCRA requirements. Management of the Military Munitions Response Program (MMRP) will transfer to the installation.

### CR

**Prior Year Progress:** Field activities were completed for the RFIs at CCWS-04 and CCWS-77. Supplemental sampling and risk assessment for CCWS-16 were completed. Non-aqueous phase liquid (NAPL) recovery was underway.

**Future Plan of Action:** CCWS-04 and CCWS-77 RFI reports will be submitted for the NMED approval. CCWS-05 will be included in HELSTF Phase III RFI report. The installation will submit corrective action complete (CAC) with controls petitions to the NMED for CCWS-09 and for CCWS-08.

**WHITE SANDS MISSILE RANGE**  
**Army Defense Environmental Restoration Program**  
**Installation Restoration Program**

# IRP Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 74/31

## Installation Site Types with Future and/or Underway Phases

2	Above Ground Storage Tank (WSMR-43, WSMR-50)
1	Contaminated Ground Water (PBA@WSMR)
1	Contaminated Soil Piles (WSMR-32)
2	Disposal Pit/Dry Well (WSMR-73, WSMR-87)
1	Fire/Crash Training Area (WSMR-31)
1	Incinerator (WSMR-77)
11	Landfill (WSMR-05, WSMR-14, WSMR-39, WSMR-40, WSMR-58, WSMR-70, WSMR-71, WSMR-72, WSMR-81, WSMR-82, WSMR-84)
1	Leach Field (WSMR-69)
1	Sewage Effluent Settling Ponds (WSMR-83)
3	Sewage Treatment Plant (WSMR-29, WSMR-30, WSMR-59)
1	Soil Contamination After Tank Removal (WSMR-35)
7	Spill Site Area (WSMR-41, WSMR-54, WSMR-55, WSMR-57, WSMR-60, WSMR-85, WSMR-86)
1	Storage Area (WSMR-33)
4	Surface Impoundment/Lagoon (WSMR-27, WSMR-42, WSMR-49, WSMR-53)
4	Underground Storage Tank (WSMR-67, WSMR-74, WSMR-75, WSMR-78)
1	Washrack (WSMR-79)
1	Waste Lines (WSMR-56)

## Most Widespread Contaminants of Concern

Explosives, Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

## Media of Concern

Groundwater, Soil

## Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
WSMR-34	TTF HDPE-LINED LAGOON (REMOVED)	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1988
WSMR-41	TTF METHYLENE CHLORIDE SPILL AREA/VAP EX	IRA	CAPPING	1988
WSMR-50	SWMUs 35-36 and AOC-V	IRA	REMOVAL	1989
WSMR-15	FORMER HAZARDOUS WASTE LANDFILL	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1990

## IRP Summary

### Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
WSMR-74	FORMER WST OIL TANK/SUMP @ BLDG 1778	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1990
WSMR-77	MCAFFEE & VET CLINIC INCINERATORS	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1991
WSMR-34	TTF HDPE-LINED LAGOON (REMOVED)	FRA	CAPPING	1993
WSMR-67	STALLION ASPHALT TANKS	FRA	REMOVAL	1993
WSMR-75	RHODES CANYON SUBGRADE ASPHALT TANKS (3)	IRA	WASTE REMOVAL - SOILS	1993
WSMR-23	TULA PEAK BURIAL PITS	FRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	1995
WSMR-29	STP DRYING BEDS (MAIN POST)	FRA	REMOVAL	1995
WSMR-30	STP SLUDGE WASTE PILE (MAIN POST)	IRA	REMOVAL	1995
WSMR-41	TTF METHYLENE CHLORIDE SPILL AREA/VAP EX	FRA	SOIL VAPOR EXTRACTION	1995
WSMR-57	FORMER GOLF COURSE PESTICIDE STG SHED	IRA	WASTE REMOVAL - SOILS	1995
WSMR-11	LIQ PROPELLANT EVAP/NEUT PITS (10)	FRA	WASTE REMOVAL - SOILS	1996
WSMR-20	BOMBLET BURIAL SITE	FRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	1996
WSMR-31	MAIN POST FORMER FFTA & PIT	IRA	WASTE REMOVAL - SOILS	1996
WSMR-36	FORMER WASTE/OIL TANK&SUMP EAST BLG 1794	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1996
WSMR-78	SWMUs 147 and 23-26	IRA	WASTE REMOVAL - SLUDGES	1996
WSMR-84	FORMER LC-37 PAINT DUMP	IRA	REMOVAL	1996
WSMR-33	USED BATTERY ACCUM AREAS (MAIN POST)	IRA	REMOVAL	1997
WSMR-54	HELSTF CHROMATE SPILL SITE	IRA	CHEMICAL REDUCTION/OXIDATION	1999
WSMR-14	FORMER RHODES CANYON LANDFILLS	FRA	CAPPING	2004
WSMR-09	NUC EFFECTS REACTOR FACILITY(BLDG 2	FRA	WASTE REMOVAL - SOILS	2006
WSMR-32	MAIN POST FORMER FFTA WASTE PILE	IRA	REMOVAL	2006
WSMR-55	HELSTF SYSTEMIC DIESEL SPILL	IRA	DUAL-PHASE EXTRACTION	2007
WSMR-27	FORMER ACID NEUT UNIT @ HWSF LDING	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	2008
PBA@WSMR	PBA@WSMR	FRA	OTHER	2009
WSMR-27	FORMER ACID NEUT UNIT @ HWSF LDING	IRA	REMOVAL	2012

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## IRP Summary

### Duration of IRP

**Date of IRP Inception:** 197901

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201701/201701

**Date of IRP completion including Long Term Management (LTM):** 204609

# IRP Contamination Assessment

## Contamination Assessment Overview

The WSMR submitted a RCRA Part A permit application after the New Mexico Hazardous Waste Management Regulations were published on May 19, 1980. The permit included the waste management activities at the cleaning facility, located at the HELSTF, 18.5 miles northeast of the main post. Through negotiations with the New Mexico Environmental Improvement Division, Hazardous Waste Section, the final design was approved and incorporated into the RCRA Part A permit on Jan. 30, 1984 (Pache, 1984).

In 1984, the WSMR applied for a RCRA Part B permit, which included operations at HELSTF. As part of the permit application, WSMR was required to conduct an RFA to determine whether there is a potential or an actual release of hazardous waste or hazardous waste constituents anywhere at its facility. Distinct locations of potential contamination are referred to as SWMUs. Less defined areas of potential contamination are referred to as AOCs.

To date, each WSMR environmental restoration site is referred to by its SWMU or AOC identification (ID) and its IRP ID, when applicable. Under current DoD guidance, sites contaminated prior to Oct. 17, 1986 are now eligible for Defense Environmental Restoration Program (DERP) funding under the Compliance Restoration Program, if located at an active DoD installation.

The WSMR submitted the RFA (A.T. Kearney, Inc., 1988) to the USEPA Region VI in 1988 and identified 138 SWMUs and 26 AOCs. Among these sites, 17 SWMUs and three AOCs were located at HELSTF. This point is considered the initiation of the WSMR IRP. The results of this RFA were used by the USEPA to prepare the HSWA corrective action module of the RCRA Part B permit. The USEPA approved and issued the permit to WSMR on Sept. 29, 1989. Stipulations of the permit required WSMR to investigate and clean up 92 SWMU sites and four AOCs.

Before the investigation of SWMUs, the USEPA Region VI directed WSMR to conduct an interim remedial measure (IRM) to address a leaking underground storage tank (UST) at the HELSTF. An IRM work plan was submitted to the USEPA and the NMED in December 1991. Since that time, WSMR has been performing the required cleanup to remove floating diesel product from the groundwater. This is IRP site WSMR-55.

The 92 SWMU sites identified in Appendices I-IV of the permit were assessed for releases to the environment during the implementation of the Phase I RCRA RFI. The Phase I RFI Report (IT Corp., 1992) identified 80 SWMUs that required further investigation. Of the 80 sites, 24 were approved for no further RA planned in September 1993. A modification to the RCRA Part B permit was initiated to include this change in the HSWA corrective action module of the permit. The change was made and approved by the USEPA Region VI in December 1995.

Based on the USEPA and the NMED direction, WSMR initiated a Phase II work plan to further investigate the presence or absence of contaminants at 52 SWMUs identified by the Phase I investigation as containing contaminants that may pose a risk to human health or the environment. The USEPA and the NMED approved the work plan in September 1993.

In December 1994, WSMR completed the Phase II RFI (Sverdrup, 1994) and submitted the report for regulatory review. The WSMR received state and federal USEPA, Region VI comments on the Phase II RFI in 1996. Both the NMED and the USEPA Region VI issued notices of deficiency (Kelley, 1996; Honker, 1996) regarding the report. The NMED emphasized the need to address the SWMUs at HELSTF differently from those at other locations. The WSMR provided their final response to the NOD on Sept. 22, 1997 (Ladd, 1997). Since then, many environmental restoration activities have been initiated and/or completed on a site-by-site basis.

Beginning in January 2000, WSMR submitted a series of NFA petitions to the NMED Hazardous Waste Bureau (HWB) for various SWMUs on the WSMR RCRA permit. The petitions were submitted based on the results of previous investigations and closure reports documenting remedial activities, but were denied by the NMED in March 2002 (Frischkorn, 2002) on the basis that further characterization and ecological risk assessment were required. Many of the related IRP sites were designated as RC during 2000 in the Army's defense site environmental restoration tracking system (DSERTS) database system. During fiscal year (FY)02, the SWMUs were subsequently reopened within WSMR's IRP for further study and included 18 SWMUs dispersed among 14 related IRP sites.

The sites reopened in 2002 are being investigated under two distinct groups - those sites located near the main post and those sites located at HELSTF. A Phase III RFI work plan was developed for those sites located on or near the main post. [The work plan was subsequently approved by the NMED in March 2005.] This effort is commonly referred to as the "Multi-Site Main Post Phase III RFI". This work plan includes 15 SWMUs dispersed among 11 IRP sites.

# IRP Contamination Assessment

## Contamination Assessment Overview

Additionally, and in large part due to the Phase II RFI comments received from the NMED in 1996, WSMR has initiated a Phase III RFI at the HELSTF to investigate environmental contamination at HELSTF using a holistic approach. The work plan was developed and includes IRP sites WSMR-52 through WSMR-55, WSMR-78, WSMR-83 and WSMR-85. [The work plan was subsequently approved by the NMED in January 2006.] IRP sites WSMR-53, WSMR-78 and WSMR-83 were part of those sites reopened during FY02, and have one SWMU related to each. This investigative effort is underway and is commonly referred to as the "HELSTF Phase III RFI".

Finally, various efforts continue on a site-by-site basis at other IRP sites including WSMR-14 and WSMR-61. A multi-site performance-based acquisition (PBA) was awarded in September 2008.

New Mexico does not recognize land use controls (LUCs). Therefore, all existing LUCs at WSMR are internal Army controls. They are documented in the Master Plan, the installation geographic information system (GIS), and site-specific documents.

## Cleanup Exit Strategy

The strategy for reaching RIP/RC for the current 18 IRP WSMR sites that require future activity is as follows. In FY11 final state approval, thus RC, of the RFI report for sites WSMR-30 through WSMR-33, WSMR-36, WSMR-57, WSMR-60, WSMR-73, WSMR-74, WSMR-79 and WSMR-84 (11 sites) will be achieved. Also, corrective measures studies (CMS) are underway using the PBA for sites WSMR-52 through WSMR-55, WSMR-78, and WSMR-83 (HELSTF sites - six sites). In FY11 the corrective measures implementation (construction) [CMI(C)] phase for these sites will begin. WSMR-14 continues to be under LTM.

## IRP Previous Studies

1979	Title	Author	Date
	Installation Assessment of White Sands Missile Range	Report No. 138, US Army Toxic and Hazardous Materials Agency	APR-1979
1984	Part A Revision, USEPA ID NO: NM 2750211235	USEPA	DEC-1984
1987	Final Contamination Assessment Report Temperature Test Facility	Geoscience Consultants Ltd	MAY-1987
1988	Groundwater Contamination Survey No. 38 26 0862 88 Evaluation of Solid Waste Management Unit	U.S. Army Environmental Hygiene Agency,	FEB-1988
	RCRA Facility Assessment PR/VSI Report	A.T. Kearney	AUG-1988
	Simulated Water-Level and Water Quality Changes in the Bolson-Fill Aquifer, Post Headquarters Area	US Geological Survey	DEC-1988
1991	Factors That Effect Performance of In-Situ Soil Venting Operations and Contamination Assessment of Methylene Chloride at the TTF Facility	New Mexico State University	OCT-1991
	Interim Remedial Measures Work Plan for the Systemic Diesel Spill (SWMU 154), High Energy Laser System Test Facility	Lockheed Engineering and Science Co.	DEC-1991
1992	Final RCRA Facility Investigation (RFI) Report, Appendix I Sites (Vol. I & II)	I.T. Corp.	MAR-1992
	Final HELSTF Groundwater Assessment	I.T. Corp.	DEC-1992
	Final RCRA Facility Investigation (RFI) Report, Appendix II IV Sites (Vol. I & II)	I.T. Corp.	DEC-1992
1993	Final Closure Report for the Storage Tank Removal and Remediation at Stallion Range Center	ASI	AUG-1993
	Final Phase II Addendum to the RCRA Facility Investigation (RFI) Work Plans, Appendix I, II, III and IV Sites	Sverdrup	OCT-1993
	Final Interim Report Systemic Diesel Spill (SWMU 154) HELSTF Cleaning Facility (Vols. I&II)	I.T. Corp.	DEC-1993
1994	Systemic Diesel Spill, SWMU 154 [Final] Free Product Recovery	Tetra Tech, Inc.	AUG-1994
	Commissary Landfill Trench Sampling	ASI	OCT-1994
	Groundwater Quality Investigation [Report] for the Monitoring Well Program	Environmental Science and Engineering (ESE)	OCT-1994
	Phase II RCRA Facility Investigation Appendices I, II, III and IV Sites (Revision 1)	Sverdrup	DEC-1994
1995	Soil Vapor Extraction & Treatment Plant for the Temperature Test Facility	AWD Technologies, Inc.	JAN-1995
	Operations and Maintenance Manual; Product Recovery System for the HELSTF Systemic Diesel Spill (SWMU 154)	ASI	MAY-1995

## IRP Previous Studies

Year	Title	Author	Date
1995	Investigation Derived Waste [Disposal] Close out Report	Dow	DEC-1995
1996	RCRA Facility Investigation Report - Temperature Test Facility	Woodward-Clyde Consultants	MAY-1996
	Notice of Deficiencies Phase II RCRA Facility Investigation (RFI) Report for Appendices I, II, III and IV SWMUs	Honker, W.K.	MAY-1996
	Close Out Report, SWMU 61, Tula Peak Unexploded Ordnance Incinerator, SWMUs 92-100, Liquid Propellant Storage Area	Dow	AUG-1996
	Results of Groundwater Sampling and Analyses from Red Rio Munitions Burial Sites [SWMUs 50-54]	MEVATEC Corp.	AUG-1996
	Report of Interim Remedial Action, Removal and Disposal of Dried Sludge, SWMU 79 White Sands Missile Range, New Mexico	Dow	AUG-1996
	Rational National Standards Initiative, White Sands Missile Range, Final Report - Presentation of Screening Levels and Remedial Cost Estimates	Radian International	AUG-1996
	Notice of Deficiency (NOD) for the Phase II RFI Report for Appendix I, II, III and IV Sites, dated December 1994	NMED (Kelly, Ed)	SEP-1996
	Groundwater Quality Investigation [Report] for the Monitoring Well Program	ESE	OCT-1996
1997	Close Out Report, SWMU 8, Waste Oil Tank	Dow	JAN-1997
	Close Out Report, SWMU 21, Former Fire Fighting Training Area	Dow	JAN-1997
	Close Out Report, SWMU 145, Test Cell 4 Lagoon	Dow	JAN-1997
	Close Out Report, SWMU 22, Abandoned Soil Piles Near the FFTA	Dow	JAN-1997
	Close Out Report, SWMU 147, Underground Waste Tank (Sump)	Dow	JAN-1997
	Close Out Report, Underground Waste Tank (Sump)	Dow	JAN-1997
	WSMR Final Response to NMED Comments on the WSMR Phase-II RFI-Revision 1, December 1994	Ladd, T.A.	SEP-1997
	Close Out Report (Draft), SWMUs 14 and 15, Used Battery Accumulation Areas	Radian International	SEP-1997
	Closeout Report, SWMUs 82 & 83, Sewage Treatment Plant Former Drainage Ditches	Radian International	SEP-1997
1998	Groundwater Monitoring Program at Hazardous Test Area, Tula Peak, Stallion Range Center and Oscura Bombing Range	MEVATEC Corp.	MAR-1998
	Historic Property Identification Efforts of Four Solid Waste Management Units	Human Systems Research (HSR)	MAY-1998
	Work Plan of Action, Landfill Debris Removal, Oscura Range Center	Radian International	JUN-1998
	Plan of Action, Landfill Debris Removal, Oscura Range Center	Radian International	DEC-1998
1999	Groundwater Monitoring at the HELSTF, Cleaning	USGS	FEB-1999

## IRP Previous Studies

Year	Title	Author	Date
1999	Facility RCRA Monitoring Well Sampling		
	In situ Gaseous Reduction Pilot Demonstration-Final Report	DOE	FEB-1999
2000	Petition to Perform Class III Modifications to Remove Solid Waste Management Units 10, 11, 16, 17, 19, 20, 80, 132, 140 and 156 from the White Sands Missile Range RCRA Part B Permit	MEVATEC Corp.	JAN-2000
	RCRA Facility Investigation Former Main Post Landfill 1A [WSMR-39 (SWMU 64)]	MEVATEC Corp.	APR-2000
	RCRA Facility Investigation Former Main Post Landfill 2A WSMR-40 (SWMU 64)	MEVATEC Corp.	JUN-2000
2001	RCRA Facility Investigation Former Main Post Landfill No. 3 WSMR-61 (SWMU 65)	MEVATEC Corp.	JUN-2001
	Closure Report Waste Pond #1, Nuclear Effects Reactor Facility	MEVATEC Corp.	SEP-2001
	Petition to Perform Class III Modifications to Remove Solid Waste Management Units 27, 28, 29, 30, 66, 67, 85, 144 and 146 from the White Sands Missile Range RCRA Part B Permit	MEVATEC Corp.	SEP-2001
2002	Results of the April 2002 Semiannual Long Term Groundwater Monitoring Event at the TTF (WSMR-41, SWMU 108; WSMR-34, SWMU 104)	MEVATEC Corp.	JUL-2002
	Report of the Spring 2002 Groundwater Sampling Event at the HELSTF Construction Landfill Site [WSMR-52]	MEVATEC Corp.	OCT-2002
	Report of the Spring 2002 Groundwater Sampling Event at the HELSTF Chromium Spill Site [WSMR-54]	MEVATEC Corp.	OCT-2002
	Report of the Spring 2002 Groundwater Sampling Event at the HELSTF Diesel Spill Site [WSMR-55]	MEVATEC Corp.	OCT-2002
	1st Round Semiannual Groundwater Sampling Event CY02, Rhodes Canyon Landfills, WSMR-14 (SWMUs 114/115)	MEVATEC Corp.	OCT-2002
	Cyanide Contamination at the Former STP Percolation Ditches Groundwater Monitoring Report for September/October and December Sampling Events of Calendar Year 2001 (WSMR-62, SWMU 82 and 83)	MEVATEC Corp.	DEC-2002
2003	Final Long-Term Monitoring Report: October 2002 Event at the TTF MeCl Spill Site (WSMR-41, SWMU 108)	MEVATEC Corp.	FEB-2003
	Final 2002 Annual Report: Temperature Test Facility Disposal Surface Impoundment (WSMR-41, SWMU 108)	MEVATEC Corp.	FEB-2003
	Arsenic Background Evaluation Hazardous Waste Storage Facility Evaporation Tank [WSMR-37, SWMU 90]	MEVATEC Corp.	FEB-2003
	Final Groundwater Monitoring Report, June 2002 Sampling Event at the HELSTF Construction Landfill (WSMR-52; SWMU 38 and 39)	MEVATEC Corp.	FEB-2003
	Final Groundwater Monitoring Report, June 2002 Sampling Event at the HELSTF Chromium Spill Site	MEVATEC Corp.	FEB-2003

## IRP Previous Studies

**2003**

Title	Author	Date
(WSMR-54; SWMU 143)		
Final Groundwater Monitoring Report, June 2002 Sampling Event at the HELSTF Diesel Spill Site (WSMR-55; SWMU 154)	MEVATEC Corp.	FEB-2003
Revised Final Rhodes Canyon Landfill Corrective Measure Implementation Work Plan (WSMR-14; SWMUs 114 and 115)	BAE Systems	MAR-2003
Final Groundwater Monitoring Report First Semi-Annual Event for 2002 Former STP Percolation Ditches (WSMR-62; SWMU 82 and 83)	BAE Systems	MAR-2003
Revised Final Rhodes Canyon Landfill Corrective Measure Implementation Work Plan (WSMR-14; SWMUs 114 and 115)	BAE Systems	JUN-2003
Final Long-Term Monitoring Report April 2003 Sampling Event and Monthly Inspections at the TTF MeCl Spill Site (WSMR-41; SWMU 108)	BAE Systems	JUL-2003
Final Groundwater Monitoring Report January 2003 Sampling Event Rhodes Canyon Landfill WSMR-14; SWMU 114 and 115	BAE Systems	AUG-2003
Final Groundwater Monitoring Report June 2002 Sampling Event Rhodes Canyon Landfill WSMR-14; SWMU 114 and 115	BAE Systems	AUG-2003
Final Groundwater Monitoring Report February 2003 Sampling Event HELSTF Construction Landfill WSMR-52; SWMU 38 and 39	BAE Systems	AUG-2003
Final Groundwater Monitoring Report January 2003 Sampling Event HELSTF Diesel Spill Site WSMR-55; SWMU 154	BAE Systems	AUG-2003
Final Groundwater Monitoring Report January 2003 Sampling Event HELSTF Chromium Spill Site WSMR-54; SWMU 143	BAE Systems	SEP-2003

**2004**

Revised Final Corrective Measures Study Addendum Monitored Natural Attenuation Proposal Former Sewage Treatment Plant Percolation Ditches [WSMR-62] (SWMUs 82 and 83)	BAE Systems	JAN-2004
Final Long-Term Monitoring Report October 2003 Sampling Event and Monthly Inspections TTF MeCl Spill Site (WSMR-41, SWMU 108)	BAE Systems	JAN-2004
Final RCRA Facility Investigation Report Former Oscura Range Center Construction Landfill (WSMR-05; SWMU 159)	BAE Systems	JAN-2004
Final Voluntary Corrective Measures Implementation Report North Oscura Peak Landfill (WSMR-71; SWMUs 47, 48, and 49)	BAE Systems	FEB-2004
Final Groundwater Monitoring Report February-March, June and December 2003 Sampling Events Former STP Percolation Ditches (WSMR-62; SWMU 82 and 83)	BAE Systems	MAY-2004
Final Work Plan Phase III RFI for Multiple Sites SWMU 8-17, 21, 22, 80, 140 & 156 (IRP Sites WSMR# 30-32, 57, 73, 79 and 84)	BAE Systems	JUL-2004
June 2004 Sampling Event at the Former STP Percolation Ditches WSMR-62 (SWMUs 82-83)	BAE Systems	JUL-2004

## IRP Previous Studies

2004

Title	Author	Date
Long-Term Monitoring Report: April 2004 Sampling Event and Monthly Inspections (Dec 2003 & May 2004) TTF Methylene Chloride Spill Site (WSMR-41, SWMU 108)	BAE Systems	JUL-2004
Final HELSTF Groundwater Monitoring Report July 2003 Sampling Event [WSMR-52, WMSR-54 and WSMR-55	BAE Systems	AUG-2004
Work Plan Clean Closure Demonstration at the TTF	BAE Systems	AUG-2004
May 2004 Groundwater Monitoring Sampling Event at the HELSTF Sites: Construction Landfill (WSMR-52, SWMUs 38 & 39), Chromate Spill (WSMR-54, SWMU 143) and Systemic Diesel Spill (WSMR-55, SWMU 154)	BAE Systems	AUG-2004
Final Remedial Action Decision Document Rhodes Canyon Landfill	BAE Systems	AUG-2004
Letter Report - Well T-21 Groundwater Sampling [WSMR-40; SWMU 64	BAE Systems	AUG-2004
Voluntary Corrective Measures Implementation Report Nuclear Effects Reactor Facility Waste Ponds #1 and #2	BAE Systems	SEP-2004
Final Groundwater Monitoring Report Rhodes Canyon Landfill June 2003 and January 2004 Sampling Events	BAE Systems	SEP-2004
Final Corrective Measures Implementation Report Rhodes Canyon Landfill (WSMR-14; SWMUs 114 and 115)	BAE Systems	SEP-2004

2005

Final Revised Work Plan Clean Closure Demonstration at the TTF (WSMR-41; SWMU 108)	White Sands Technical Services L.L.C.	FEB-2005
Final Long-Term Monitoring Report November 2004 Sampling Event and Monthly Inspections (June-December 2004) TTF Methylene Chloride Spill Site (WSMR-41; SWMU 108)	White Sands Technical Services L.L.C.	FEB-2005
Corrective Measures Study Addendum: Former STP Percolation Ditches Work Plan to Install Additional Monitor Wells (WSMR-62; SWMUs 82 and 83)	White Sands Technical Services L.L.C.	FEB-2005
Final Phase III RFI Work Plan for Multiple Sites [SWMU 8-17, 21, 22, 80, 140 & 156 (IRP Sites WSMR# 30-33,36, 57, 60, 73, 74, 79 and 84)]	White Sands Technical Services L.L.C.	FEB-2005
Final TTF Long-Term Monitoring Report for January-May 2005 SWMU 108 [WSMR-41]	White Sands Technical Services L.L.C.	JUN-2005
Analytical Results of First [February/March] 2005 Groundwater Sampling Event for the Former STP Percolation Ditches (WSMR-62)	White Sands Technical Services L.L.C.	JUL-2005
Combine Results of spring 2005 [March-May 2005] HELSTF Groundwater Sampling Event (WSMR-52, 54 and 55)	White Sands Technical Services L.L.C.	JUL-2005
Phase III RFI Work Plan HELSTF Sites (WSMR-52, 54, 55 and 85)	White Sands Technical Services L.L.C.	AUG-2005
Abbreviated Work Plan for the Abandonment of Well T-21 IRP Site WSMR-40, SWMU 64	White Sands Technical Services L.L.C.	OCT-2005
Clean Closure Demonstration Report Methylene Chloride Spill Area Vapor Extraction at the TTF [WSMR-41, SWMU 108]	White Sands Technical Services L.L.C.	OCT-2005

## IRP Previous Studies

2005	Title	Author	Date
	Considerations of Monitored Natural Attenuation [WSMR-62]	White Sands Technical Services L.L.C.	OCT-2005
	2004 Annual Sampling Event HELSTF Groundwater Monitoring Report [WSMR-52, 54 and 55]	White Sands Technical Services L.L.C.	NOV-2005
	Addendum Corrective Measures Implementation Report Rhodes Canyon Landfill [WSMR-14; SWMUs 114 and 115]	White Sands Technical Services L.L.C.	DEC-2005
2006	Final Long-Term Monitoring Report: 2005 Groundwater Monitoring Events & Monthly Inspections at the Methylene Chloride Spill Site (WSMR-41, SWMU 108)	White Sands Technical Services L.L.C.	FEB-2006
	Voluntary Corrective Measures Work Plan Oscura Range Center Landfill C (WSMR-05; SWMU 159)	White Sands Technical Services L.L.C.	FEB-2006
	Final Performance Monitoring Report, October 2004-September 2005, Rhodes Canyon Landfill (WSMR-14; SWMU 114/115)	White Sands Technical Services, LLC	FEB-2006
	Letter Report: Abandonment of Well T-21; IRP Site WSMR-40, SWMU 64	White Sands Technical Services, LLC	FEB-2006
	Logs of Monitoring Wells Associated with Former STP Percolation Ditches, Compiled April 2006	White Sands Technical Services, LLC	APR-2006
	Final 2005 Groundwater Monitoring Program Multiple Sites: SWMUs 38, 39, 41-46, 50-56a, 61, 65, 82-83, 108, 114-115, 143, 154-155 and 197-198 [CC and IRP Sites]	White Sands Technical Services, LLC	APR-2006
	Phase III RFI Report Main Post Multiple Sites SWMUs 8-17, 21, 22 80, 140 and 156 (IRP Sites WSMR-30-33, 36, 57, 60, 73, 74, 79 and 84)	White Sands Technical Services, LLC	MAY-2006
	Consideration of Aquifer Permeability in the Vicinity of the Former STP Percolation Ditches	White Sands Technical Services, LLC	MAY-2006
	Temperature Test Facility Long Term Monitoring Report for January - May 2006 (WSMR-41; SWMU 108)	White Sands Technical Services L.L.C.	JUN-2006
	Phase III RCRA Facility Investigation Work Plan, Former Main Post Landfill No. 3 (Scrap Yard) [WSMR-61; SWMU 65]	White Sands Technical Services L.L.C.	JUN-2006
	Addendum - Clean Closure Demonstration Report, Methylene Chloride Spill Area - Vapor Extraction at the Temperature Test Facility (WSMR-41; SWMU 108)	White Sands Technical Services L.L.C.	JUL-2006
	Revised Final Phase III RFI Work Plan HELSTF Sites [Multiple Sites]	White Sands Technical Services L.L.C.	OCT-2006
	Revised Addendum - Clean Closure Demonstration Report, Methylene Chloride Spill Area Vapor Extraction at the Temperature Test Facility (WSMR-41; SWMU 108)	White Sands Technical Services L.L.C.	DEC-2006
2007	2006 Long Term Monitoring Program Report	White Sands Technical Services L.L.C.	MAR-2007
	Phase III RCRA Facility Investigation Work Plan (Revised Final), Former Main Post Landfill No. 3 (Scrapyard), WSMR-61	White Sands Technical Services L.L.C.	APR-2007
	RCRA Monitoring Plan, Former STP Percolation Ditches, WSMR-62 (SWMU 82)	White Sands Technical Services L.L.C.	APR-2007
	Accelerated Corrective Action Completion Report: Oscura Range Center Landfill C WSMR-05 Landfill A (SWMU 157) and Landfill C (SWMU 159)	White Sands Technical Services L.L.C.	MAY-2007

## IRP Previous Studies

	Title	Author	Date
<b>2007</b>	Letter Report, Analytical Results of First 2007 Groundwater Sampling Event for the Former Sewage Treatment Plant Percolation Ditches, WSMR-62 (SWMU 82)	White Sands Technical Services L.L.C.	MAY-2007
	Closure Report for the Oscura Range Center Landfill "B" (SWMU 158) (LDU-19), a.k.a. WMSR-05	White Sands Technical Services L.L.C.	JUN-2007
<b>2008</b>	Phase III RFI Report HELSTF Sites (Final)	White Sands Technical Services L.L.C.	FEB-2008
	RCRA Monitoring Plan, Former STP Percolation Ditches, WSMR-62 (Revised Final)	White Sands Technical Services L.L.C.	FEB-2008
	RCRA Aquifer Characterization Work Plan, Former STP Percolation Ditches, WSMR-62	White Sands Technical Services L.L.C.	FEB-2008
	RCRA Monitoring Plan, Former STP Percolation Ditches, WSMR-62 (Revised Final)	White Sands Technical Services L.L.C.	MAY-2008
	2007 Long Term Monitoring Program Report (Multiple Sites)	White Sands Technical Services L.L.C.	JUN-2008
<b>2010</b>	2008 Long Term Monitoring Program Report (Multiple Sites)	White Sands Technical Services L.L.C.	MAR-2010

**WHITE SANDS MISSILE RANGE**  
**Installation Restoration Program**  
**Site Descriptions**

**Site ID: PBA@WSMR**  
**Site Name: PBA@WSMR**  
**Alias: None**

## STATUS

**Regulatory Driver:** RCRA  
**RRSE:** LOW

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	200809.....	200901
DES.....	200809.....	200901
CMI(C).....	200809.....	200901
CMI(O).....	200809.....	201512
<b>RIP Date:</b>	200901	
<b>RC Date:</b>	201512	

## SITE DESCRIPTION

This site is used to track PBA funding. A PBA was awarded in September 2008 to achieve RC at WSMR-53, WSMR-78 and WSMR-83, RIP at WSMR-54 and WSMR-55, approval of a CAC petition at WSMR-05, WSMR-39, WSMR-40, WSMR-41, WSMR-42, WSMR-46, WSMR-49, WSMR-50, and WSMR-71, and conduct a remedial action (operations) [RA(O)] at WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83.

As of FY09 all PBA sub-contract contract line item numbers (SubCLINs) for phases other than RA(O) have been exercised. The only unexercised SubCLINs are for RA(O), and that phase is the only underway phase in PBA@WSMR.

The PBA also includes eight years of LTM at WSMR-14. Funding is tracked in AEDB-R site WSMR-14, since the database does not allow RA(O) and LTM phases to be underway simultaneously.

## CLEANUP/EXIT STRATEGY

The PBA was awarded in August 2008.

**Site ID: WSMR-05**

**Site Name: FORMER OSCURA RANGE CENTERLANDFILLS**

**Alias: SWM157-159**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA.....	199708.....	199709
RFI/CMS.....	199710.....	200409
DES.....	200410.....	200603
CMI(C).....	200510.....	201302

**RIP Date:** N/A

**RC Date:** 201302

**SITE DESCRIPTION**

WSMR-05 consists of three separate landfill areas located near the Oscura Range Center (ORC) in the northeastern portion of the Range. Data from the third landfill was used for Relative Risk Site Evaluation (RRSE).

Landfill A (SWMU 157) is located south of the communications building within the ORC cantonment area. Waste including insulated wire, wood, scrap metal, tires, paper, and miscellaneous office materials were deposited into an excavated trench measuring 16 feet (ft) x 6.5 feet x 5 feet. Adjacent former waste disposal sites included a scaffold used for draining petroleum/oil/lubricant (POL) from vehicles, scattered small piles of construction and demolition debris, and several smaller and shallower trenches used to bury insulated wire. In June 1998, all wastes described above were excavated and transported to the Lincoln/Otero Regional Landfill.

Landfill B (SWMU 158) is located 0.5 miles south of ORC. Refuse was dumped on the ground surface at this site until the early 1980s. Waste was similar in volume and type to Landfill A. In June 1998, all wastes were excavated and transported to the Lincoln/Otero Regional Landfill.

Landfill C (SWMU 159) is situated approximately two miles north of ORC. Approximately three acres is bladed with little waste visible on the surface. A geophysical survey defined buried metal approximately eight-10 feet below grade in an area 200 feet by 30 feet. Non-compacted clean soil covers the site. An investigation of Landfill C was conducted during FY02 to determine if buried material from the landfill has contaminated soil beneath the site. Soil contamination was not detected. The WSMR submitted an RFI Report to the NMED in FY04 that recommended the site be excavated. Excavation was completed during 2006. The WSMR will submit a report on the excavation and await the NMED review. Since all buried material was removed, future long term monitoring will not be required. A Class III permit modification (i.e., NFA petition) for SWMUs 157-159 will be submitted to the NMED following approval of remedial activities. The NMED approval was anticipated by May 2008.

SWMU 157 and 159 received an NFA recommendation by the NMED in a Oct. 24, 2007 letter. The NMED approved the closure of SWMU 158 in a letter dated April 15, 2008. A Class III permit modification is being submitted under the current PBA contract. This site was included in the PBA ordered on Sept. 25, 2008 to achieve approval of a CAC petition. A CAC petition was submitted to NMED in March 2010. The NMED requested proof of public notice/public meeting before the will review petitions. A revised CAC Petition was submitted to the NMED in January 2011 and started the 60-day public comment period. There was no comment from the public and the CAC petition is now under review with the NMED following approval from the NMED.

The CAC will be funded under the current RFI/CMS phase.

**CLEANUP/EXIT STRATEGY**

The construction phase was opened to accommodate the requirement for the CAC petition. No further action is anticipated.

**Site ID: WSMR-14**

**Site Name: FORMER RHODES CANYON LANDFILLS**

**Alias: SMW114-115**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** LOW  
 Contaminants of Concern: Explosives, Metals  
 Media of Concern: Groundwater

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	199103.....	200310
CMI(C).....	200310.....	200409
LTM.....	200410.....	204609
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	200409	

**SITE DESCRIPTION**

WSMR-14 consists of two inactive landfills located approximately 0.25 miles northwest of Rhodes Canyon Range Center, 65 miles north of the WSMR Main Post at the intersection of Range Road 6 and Range Road 7.

The start-up date for the oldest landfill (SWMU 115) is unknown, but it was closed in 1976, prior to the implementation of RCRA. Results from a geophysical survey conducted during the Phase I RFI indicate that SWMU 115 is irregularly shaped; the southern section is approximately 400 feet across, while the northern section is approximately 380 feet long and 120 feet wide.

SWMU 114 is the most recently active area, reportedly receiving waste until approximately 1987. SWMU 114 is located east of SWMU 115 and is approximately 360 feet by 480 feet. An eight foot chain link perimeter fence surrounded the landfill until implementation of corrective measures in 2004. The exact dates of landfill operation could not be determined. SWMU 114 was reported by the RFA (A.T. Kearney, 1988) to have received office refuse and construction debris from the Rhodes Canyon Range Center. The RFA reported that SWMU 115 received sanitary waste from Rhodes Canyon and inert missile debris from up-range impact areas. The RFA concluded that there was a low to moderate potential for release to soil and groundwater from SWMU 115, based on the lack of documentation on the types of waste managed. The RFA suggested an RFI be conducted to confirm no hazardous constituents were disposed. NFA was suggested at SWMU 114 because it was considered active at the time the RFA was conducted. The RFI (IT Corp., 1992) concluded that no release is suspected to have occurred from SWMU 115 and recommended that the RFI be discontinued.

Groundwater samples were collected semiannually from 1996 through 2003. Annual sampling commenced in 2004 according to an approved corrective measures implementation (CMI) work plan discussed later. Samples were taken from one upgradient well and three downgradient wells.

The original landfill soil cover was deficient and there were no surface water control measures in place to prevent storm water run-on onto and off the site. On Jan. 15, 2002 a CMILES work plan was submitted to the NMED. The CMILES proposed that a landfill soil cover and storm water control structures be designed and constructed to minimize the potential for groundwater contamination from the site. The NMED approved the CMILES work plan in October 2003. The CMILES work plan was implemented beginning in FY04. Soil cover construction completion occurred in August 2004 along with revegetation efforts, fence construction, signage and drainage controls. The installation of two replacement monitoring wells was completed in 2005. A decision document (DD) was completed (including proper signatures) in August 2004 and signed in October 2004.

In 2005 two additional downgradient wells were installed, and LTM activities were initiated, including annual groundwater monitoring and soil cover/fence maintenance. In a January 2006 NMED letter, the NMED requested closure certification and survey plat in accordance with 40 CFR 264. The WSMR received final closure verification in a July 12, 2006 NMED letter.

The site will maintain LTM status with remedy reviews. The first remedy review was conducted in FY09.

This site is under the PBA through FY15.

**Site ID: WSMR-14**  
**Site Name: FORMER RHODES CANYON LANDFILLS**  
**Alias: SMW114-115**

## **CLEANUP/EXIT STRATEGY**

Groundwater monitoring (GWM) will continue and will be reevaluated periodically as prescribed by the post-closure care guidance.

Contingent upon final RCRA permit renewal, additional requirements may be necessary.

Site ID: WSMR-27

Site Name: FORMER ACID NEUT UNIT @ HWSF LDING

Alias: SWMU 89

### STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Other (Solvents), Polychlorinated Biphenyls (PCB)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	201407
IRA.....	199205.....	201209

RIP Date: N/A

RC Date: 201407

### SITE DESCRIPTION

WSMR-27 was formerly an open-topped, concrete evaporation tank located adjacent to the Hazardous Waste Storage Facility (HWSF), which is located 8 miles east of the Main Post area. Facility personnel estimated the date of construction between 1973 and 1978. Prior to 1981, the tank was used to evaporate liquid chemical wastes generated at the installation's photographic laboratories. When not being used for evaporation, the unit was occasionally used as a storage pad for damaged transformers containing PCBs.

In 1981, PCB transformers were being stored in the tank when a batch of corrosive photographic waste was added to the unit. As a result, PCBs leaked from the transformers and mixed with the corrosive photographic waste. Soil sampling around the unit indicated PCB contamination. The sludge and soils were removed, drummed, and buried in the Hazardous Waste Landfill. The remediation and cleanup was performed in 1981 by WSMR with USEPA Region VI and the NMED oversight. The unit was converted to a loading dock in 1981 by installing a reinforced concrete cap/seal over the structure.

The Phase II RFI recommended that no further investigation is necessary. However, the NMED issued a NOD for additional soil and groundwater investigation.

WSMR-27 is listed in Appendix 8 of the approved WSMR RCRA Part B permit requiring a closure plan submittal.

A PBA was issued in June 2010, which includes unexercised SubCLINs to achieve RIP. The objective is to achieve CAC without Controls (RC) by closing the unit in accordance with the RCRA permit.

In February 2011 an Accelerated Corrective Action (ACA) Work Plan (WP) was submitted to NMED. The NMED responded with a Notice of Disapproval for the Work Plan in August 2011. The ACA WP was revised and submitted to NMED. The WP is currently under review by the NMED.

The CAC will be funded under the current RFI/CMS phase. The WSMR does not anticipate any future controls.

### CLEANUP/EXIT STRATEGY

Removal of the loading dock and soil, followed by confirmation sampling (CS) will be conducted this FY. No further action is anticipated after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-29**  
**Site Name: STP DRYING BEDS (MAIN POST)**  
**Alias: SWMU-79**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** NOT EVALUATED  
 Contaminants of Concern: Metals  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	199208
CMI(C).....	199507.....	199508
LTM.....	201201.....	201301

**RIP Date:** N/A  
**RC Date:** 199608

**SITE DESCRIPTION**

WSMR-29 (SWMU 79), is a series of 11 parallel beds used for the drying of the Sewage Treatment Plant (STP) sludge. The beds are separated by two-foot high concrete walls and have sand bottoms. The unit is bounded on the north by a concrete distribution trough for the entire length of the beds. Each bed is estimated to be 15 to 20 feet wide and 50 feet long. The southern end of each bed is designed with an elevated concrete drive for unloading of the sludge from trucks. Sludge is deposited in the beds approximately once a month, and the dried sludge is cleaned out once a year. Facility representatives estimated that three to four cubic yards of sludge cake is removed from each cell each year. The cake was disposed of at the Sanitary Landfill (SWMU 86). The unit was originally constructed in 1958. The unit was reconstructed after a flood washed the unit out in 1978. The unit receives sludges from the two Primary Clarifiers (SWMUs 68-69). The debris was removed and stored in the nearby Waste Pile (SWMU 80).

An RFA was conducted in 1988 that suggested a high release potential to soil and groundwater based on the probability of heavy metal constituents leaching into the soils. The potential for past release to surface water was high based on flood waters infiltrating the unit in 1978. The potential for ongoing release to surface water was low based on the two-foot high containment walls and the absence of nearby perennial surface water. The RFA also said the potential for release to air is low based on the likely low concentration of volatile waste constituents. The RFA also suggested that there was no potential for subsurface gas generation based on the application of the wastes directly on the ground for evaporation. At the conclusion of the Phase I RCRA Facility Investigation (RFI), USEPA Region 6 approved a Class III Permit Modification dated Dec. 31, 1995 for NFA at the site.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and was included in Table 4-1, requiring correction action.

The objective at WSMR-29 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

The CAC will be funded under the LTM phase.

**CLEANUP/EXIT STRATEGY**

The objective at WSMR-29 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC, WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: WSMR-30**  
**Site Name: STP SLUDGE WASTE PILE (MAIN POST)**  
**Alias: SWMU-80**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** LOW  
 Contaminants of Concern: Metals, Other (Cyanide )  
 Media of Concern: Other (Sludge), Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	200606
IRA.....	199507.....	199508
LTM.....	200607.....	201308
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	200606	

**SITE DESCRIPTION**

WSMR-30 was the site of a waste pile consisting of soil/sludge/rubble that was created following a flash flood in 1978 that destroyed the sludge beds (SWMU 79). Sludge, excavated soils and sludge bed debris (e.g., reinforced concrete) were washed from the original sludge bed location and relocated approximately 100 feet to the southeast of the STP sludge beds active as of 2002. The pile was approximately 50 feet to 75 feet long with heights varying from two feet to six feet.

Between November 1994 and March 1995, sludge from the drying beds and the waste piles two feet below ground surface (bgs) was excavated and containerized. Samples of the sludge were collected, analyzed and found to be within regulatory limits for disposal in the WSMR landfill (Dow, 1996).

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and many other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and the background study was completed. The WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring WSMR response. A WSMR response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the compliance-related cleanup (CC) program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between WSMR and NMED are ongoing. The WSMR is preparing a response to the NMED December 2006 comments; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible or "NFA with controls" in place.

WSMR-30 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit as requiring corrective action. WSMR-30 is included in the WSMR PBA contract for the contractor to achieve approval of the CAC petition for the site

The LTM is currently underway to complete the arsenic background study and the CAC (RC) paperwork for this site.

**CLEANUP/EXIT STRATEGY**

A background study will be performed for the eight RCRA metals, with emphases on arsenic issue in soil throughout multiple sites.

**Site ID: WSMR-30**  
**Site Name: STP SLUDGE WASTE PILE (MAIN POST)**  
**Alias: SWMU-80**

No further action is anticipated. A petition for CAC will be initiated and is expected to be approved by 2013.

**Site ID: WSMR-31**  
**Site Name: MAIN POST FORMER FFTA & PIT**  
**Alias: SWMU-21**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

**Contaminants of Concern:** Other (TPH)

**Media of Concern:** Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199607.....	201407
IRA.....	199607.....	199608

**RIP Date:** N/A

**RC Date:** 201407

**SITE DESCRIPTION**

WSMR-31, the former fire fighting training area located at the southern end of Main Post, was used in the early-1960s and deactivated in 1982. During operation, waste POLs were used to simulate fire emergencies. The unit was excavated to a maximum depth of eight feet in search of oil-contaminated soils. The unit contained two aboveground storage tanks (ASTs) and one partially buried tank. The two ASTs reportedly held waste jet and diesel fuel, while the partially buried tank was used as a holding tank for water.

Based on analytical results of soil samples from the Phase II RFI, the extent of contamination was limited horizontally to the area about the ASTs and vertically to the upper one feet of soil.

The two ASTs and one UST were removed. A 50-foot by 50-foot area was scraped to a depth of one foot bgs. The excavated soil was containerized for characterization sampling. In addition, six samples were collected six inches beneath the excavation floor. Results of the sampling characterized the roll-off containers' content and the excavation floor as nonhazardous except for one roll-off. The remaining containers' contents were used as backfill at the excavation. The closeout report recommended that WSMR apply for closure.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI work plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR prepared a response to the NMED December 2006 comments; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-31 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-31 is included in the WSMR PBA contract with the contractor achieving CAC (RC).

**Site ID: WSMR-31**  
**Site Name: MAIN POST FORMER FFTA & PIT**  
**Alias: SWMU-21**

## **CLEANUP/EXIT STRATEGY**

A background determination will be performed to address an arsenic issue in the soil. No further action is anticipated after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-32**

**Site Name: MAIN POST FORMER FFTA WASTE PILE**

**Alias: SWMU-22**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** LOW  
 Contaminants of Concern: Other (TPH)  
 Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199609.....	201407
IRA.....	199607.....	200512
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201407	

**SITE DESCRIPTION**

WSMR-32 was the abandoned soil piles from the old former fire training area (FFTA). The unit was approximately 25 feet by 50 feet. A 50-foot by 50-foot area was scraped to a depth of one foot bgs. The excavated soil was containerized in six roll-off containers for characterization sampling and six samples were collected six inches beneath the excavation floor. Results of the sampling characterized the roll-off containers and the excavation floor as nonhazardous; however, the TPH level from roll-off container No. 3 was 220 parts per million (ppm) and was disposed at the WSMR landfill. The remaining containers were used as backfill at the excavation. The area was leveled to match the existing terrain and hydro-seeded on April 23, 1996 with an approved seed mixture. The closeout report (Dow, 1997) documents the removal of SWMU 22 debris and the disposal of the nonhazardous material. The report recommended WSMR apply for closure of the site.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including a background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. White Sands Missile Range's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. In 2005 three cubic yards of soil was removed for arsenic detected a 12.2 milligrams per kilogram (mg/kg). Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED December 2006 comments; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-32 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-32 is included in the WSMR PBA contract for the contractor to achieve CAC (RC).

**CLEANUP/EXIT STRATEGY**

A background determination will be performed to address an arsenic issue in the soil. No further action is anticipated after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-33**

**Site Name: USED BATTERY ACCUM AREAS (MAIN POST)**

**Alias: SWMU 14-15**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** LOW  
 Contaminants of Concern: Metals  
 Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199407.....	201407
IRA.....	199701.....	199709

**RIP Date:** N/A  
**RC Date:** 201407

**SITE DESCRIPTION**

WSMR-33 consisted of two used battery accumulation areas located immediately south (SWMU 14) and approximately 50 feet north (SWMU 15) of the battery shop in the Main Post Maintenance Area. This open-air facility paved with asphalt was used for the accumulation and storage of batteries. A sump discharges to the Main Post STP. An asphalt lined drainage ditch is also located east of Building 1776. Batteries are no longer stored here and the dates of former battery operations are unknown.

The Phase I and Phase II RFI reports both stated that there is no threat of a future release from these areas because they are no longer in use. It was recommended that the RFI be discontinued and a Class III permit modification NFA petition be submitted.

All contents of the sump were removed, sampled, and characterized. The concrete apron was demolished and removed. A new concrete apron was constructed following a confirmation soil sample. Surface soil covering the drainage ditch was removed and sampled and characterized as nonhazardous. Asphalt was excavated to a depth of 18 inches, containerized and sampled. Confirmation soil samples were collected from the drainage ditch and characterized as nonhazardous. The drainage ditch area was contoured, compacted and re-paved to match the original drainage ditch.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including a background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 and 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED's December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-33 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-33 is included in the WSMR PBA contract for the contractor to achieve CAC (RC).

**Site ID: WSMR-33**  
**Site Name: USED BATTERY ACCUM AREAS (MAIN POST)**  
**Alias: SWMU 14-15**

## **CLEANUP/EXIT STRATEGY**

A background determination will be performed to address an arsenic issue in the soil. No further action is anticipated after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-35**  
**Site Name: TTF 25,000 GAL EVAP TANK**  
**Alias: SWMU 107**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** NOT EVALUATED  
Contaminants of Concern: Other (MeCl)  
Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199404.....	199410
LTM.....	201003.....	201306

**RIP Date:** N/A  
**RC Date:** 199410

**SITE DESCRIPTION**

WSMR-35 was a 95,000-liter (L) (25,000-gallon) cylindrical closed steel tank located at the Temperature Test Facility (TTF) approximately four km (2.5 miles) east of the Main Post area. It was installed as an interim measure for process water overflow containment until a new stainless steel evaporation tank (SWMU 105) was constructed. It is not clear if the evaporation tank actually did receive any waste but it was taken off line in 1987 when construction of the stainless steel evaporation tank (SWMU 105) was completed. The 95,000-L (25,000-gallon) tank was cleaned and removed in 1990 and the site is now RC in the DSERTS database.

A Class III permit modification petition will be submitted to the NMED to remove this site from the HSWA corrective action module of the RCRA Part B permit.

WSMR-35 is listed in Appendix 8 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-35 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

The LTM is currently underway to complete the CAC (RC) paperwork for this site.

**CLEANUP/EXIT STRATEGY**

No further action is anticipated. A petition for CAC will be initiated and is expected to be approved by 2012.

**Site ID: WSMR-39**  
**Site Name: FORMER MAIN POST LANDFILL 1A**  
**Alias: SWMU-63**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	199602.....	201302

**RIP Date:** N/A

**RC Date:** 201302

**SITE DESCRIPTION**

WSMR-39 (SWMU 63) is the suspected former landfill No. 1, supposedly located in the southeast area of the Main Post. Previous studies indicated that the landfill was located in the immediate area of Building 1678. No historical information was available on the design, construction, and operating procedures used at this unit.

In 1988, an investigation of SWMU 63 under the WSMR RFA concluded that the potential for releases to soil and groundwater was unknown based on the age of the landfill and the lack of information regarding the types of waste received and the past management practices. A 1992 Phase I RFI also found no evidence of contamination.

In 1994, four monitoring wells were installed and sampled around the suspected landfill as part of the Phase II RFI. Analyses indicated no constituents exceeding their respective action levels; however, this report speculated that the actual site of SWMU 63 may have been southeast of Building 1678 and recommended that further studies be performed to identify its actual location.

A review of aerial photographs from 1956 and field inspections indicated that the site was most likely located approximately 330 feet south of Building 1678. To avoid confusion with the previously misidentified site, the new alleged landfill location was referred to as Landfill 1A.

An additional RFI was conducted and consisted of an archeological study, geophysical survey, and soil borings. Boring activities were conducted in 1999 at sites identified as possible trench locations containing buried waste. Through visual classification of soil samples, no buried waste was detected. From this study, it was concluded that no landfill exists and that NFA is required at this site.

In an Aug. 2, 2004 letter, the NMED agreed with WSMR's assertion that Landfill 1A does not exist and recommended that an NFA petition be submitted. A Class III permit modification is being submitted under the current PBA contract.

The CAC petitions were submitted to the NMED in March 2010. The NMED requested proof of public notice/public meeting before the will review petitions. Revised CAC petitions submitted to the NMED in January 2011 and the 60-day public comment period began.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

The NMED issued an Administratively Incomplete Determination of the CAC petition on October 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

**Site ID: WSMR-39**  
**Site Name: FORMER MAIN POST LANDFILL 1A**  
**Alias: SWMU-63**

## **CLEANUP/EXIT STRATEGY**

A revised CAC petition was submitted to the NMED in January 2011. Corrective Action Complete without controls is anticipated.

**Site ID: WSMR-40**  
**Site Name: FORMER MAIN POST LANDFILL 2A**  
**Alias: SWMU-64**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	199405.....	201302
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201302	

**SITE DESCRIPTION**

WSMR-40 is the suspected former Landfill No. 2 (SWMU 64) supposedly located in the southeast area of the Main Post presumably located near Building 1774 and operated from 1948-1965. No historical information was available on the design, construction, and operating procedures used at this unit.

In 1988, SWMU 64 was investigated as part of the WSMR RFA and concluded that the potential for releases to soil and groundwater was unknown. The Phase I RFI found no evidence of a contamination source or release.

Five monitoring wells were installed and sampled as part of the Phase II RFI. Analyses indicated no constituents exceeded their respective action levels; however, this report speculated that the actual site may have been southeast of Building 1747.

A review of aerial photographs and field inspections indicated that the site was possibly located approximately 660 feet to the south of Building 1774. The new alleged landfill location was referred to as Landfill No. 2A.

An additional RFI was conducted. A smaller potential waste disposal area was found northeast of the main landfill area. The archeological study was extended to cover the newly identified area.

A geophysical study and boring activities were conducted in conjunction with WSMR-39. No evidence of refuse was discovered during the soil borings. From this study it was determined that no landfill exists and that NFA is required at this site.

The NMED concurred that the Former Main Post Landfill 2A does not exist, and requires no further investigations. However, the state did request additional investigation of monitoring well T-21 where chromium and lead were detected above WQCC standards. After the CS, a letter report to the NMED stated that neither lead nor chromium were detected and recommended NFA at well T-21.

The NMED concurred with the letter report of July 2003 and concluded that WSMR had completed the required investigation pertaining to Landfill 2A.

A Class III permit modification is being submitted under the current PBA contract.

A CAC petition was submitted to the NMED in March 2010. The NMED requested proof of public notice/public meeting before the will review petitions. Revised CAC petitions were submitted to the NMED in January 2011 and the 60-day public comment period began.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

The NMED issued an Administratively Incomplete Determination of the CAC petition on October 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

**Site ID: WSMR-40**  
**Site Name: FORMER MAIN POST LANDFILL 2A**  
**Alias: SWMU-64**

## **CLEANUP/EXIT STRATEGY**

Revised CAC petitions were submitted to the NMED in January 2011. Corrective Action Complete without controls is anticipated.

**Site ID: WSMR-41**

**Site Name: TTF METHYLENE CHLORIDE SPILL AREA/VAP EX**

**Alias: SWMU-108**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Other (MeCl), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199405.....	199501
DES.....	199501.....	199502
IRA.....	198806.....	198808
CMI(C).....	199503.....	199505
CMI(O).....	199505.....	201302
<b>RIP Date:</b>	199505	
<b>RC Date:</b>	201302	

**SITE DESCRIPTION**

WSMR-41 is the TTF Methylene Chloride (MeCL) spill area. This site is located east of the Main Post area. A soil vapor extraction system (SVE) was installed during the 1990s to remediate the vadose zone. The TTF was designed to simulate extreme weather conditions using MeCl as a refrigerant. A surface evaporation pond was also used, primarily for condensation water.

The TTF's original design included a collection process to collect wastewater and discharge to the evaporation pond via underground pipes. It was discovered that leakage occurred in the coolant system that the ponds contents leaked to the underlying soil.

Studies indicated that contamination migrated to a depth of about 100 feet. A thick clay layer prevents the downward migration to groundwater.

The WSMR installed an impermeable cap beneath the evaporation pond and surrounding area and a SVE system to remove MeCl from the subsurface. A granular activated carbon absorption treatment system was also constructed to treat extracted VOCs. The WSMR completed two confirmatory soil borings to determine MeCl concentrations remaining within the soil. MeCl was not detected.

Since 1993, in accordance with a post closure care permit (PCCP), WSMR performs monthly groundwater measurements and inspection of the impermeable cap, and semiannual groundwater monitoring. No VOCs have been detected in the groundwater samples.

The WSMR submitted a PCCP renewal application in March 2003. However, in September 2004, WSMR submitted a clean closure proposal (work plan) to the NMED. As a result, the states review of the PCCP renewal application was stopped. The RA(O) activities continued until the closure was approved. The work plan was executed in 2005 and a report submitted to the NMED (October 2005). Following a series of comments and responses (last clean closure report addendum dated December 2006), WSMR received the NMED approval for the report in February 2007. The NMED provided closure approval letters (July 6 and 11, 2007) following completion of a closure certification and plat. Well abandonment (34 wells) was completed in late 2007. A Class III permit modification is being submitted under the current PBA contract.

The CAC Petitions were submitted to the NMED in March 2010. The NMED requested proof of public notice/public meeting before the will review petitions. Revised CAC petitions were submitted to the NMED on January 2011 and the 60-day public comment period began.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date when NMED confirmation is received.

**Site ID: WSMR-41**  
**Site Name: TTF METHYLENE CHLORIDE SPILL AREA/VAP EX**  
**Alias: SWMU-108**

The NMED issued an Administratively Incomplete Determination of the CAC petition on October 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days form the date of recieving NMED confirmation.

## **CLEANUP/EXIT STRATEGY**

The operations phase was opened to accommodate the requirement for CAC petition. Corrective Action Complete without controls is anticipated.

**Site ID: WSMR-42**  
**Site Name: STP DISCHARGE SITE @ PLAYA LAKE**  
**Alias: SWMU-85**

**STATUS**

**Regulatory Driver:** CWA  
**RRSE:** LOW  
 Contaminants of Concern: Metals, Other (Cyanides)  
 Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	198805.....	198808
SI.....	198805.....	198808
RI/FS.....	199203.....	201606
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201606	

**SITE DESCRIPTION**

WSMR-42 (SWMU 85), is a dry lake bed which is located approximately three miles east of the STP. Effluent from the STP was discharged to the Playa via the effluent pipeline (SWMU 84) from the north and south clarifiers. The estimated dimension of the Playa are 1000 feet by 1000 feet. Chemical analysis of the effluent is not available, though the facility representatives reported that the effluent is tested routinely for BOD and COD. There are no release controls for this unit. There has not been a history of release was observed or reported for this unit.

A RCRA Facility Assessment was conducted in 1988 that suggested a moderate release potential to soil/groundwater, a low release potential to surface water, low release potential to air, and a low release potential to subsurface gas for WSMR-42. According to the RFA a RCRA Facility Investigation was suggested. It was suggested that past waste management practices may have resulted in the introduction of heavy metal and cyanides into the STP. Low concentrations of these contaminants may be present in the sediments of the unlined discharge area. It was also suggested that sediment sampling may be required to determine whether hazardous contaminants are present in the sediments of the unlined discharge area. This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and was included in Table 4-1, requiring correction action.

**CLEANUP/EXIT STRATEGY**

The objective at WSMR-42 is to achieve Response Complete (RC) by closing the unit in accordance with RCRA permit. To achieve RC, WSMR anticipates conducting a RFI followed by a CAC petition.

**Site ID: WSMR-43**

**Site Name: FORMER CHEM WASTE EVAP TANKS @ HELS**

**Alias: SWMU 31-32**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** NOT EVALUATED  
 Contaminants of Concern: Other (Chromium)  
 Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	201407
LTM.....	201408.....	202409
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201407	

**SITE DESCRIPTION**

WSMR-43 (SWMUs 31-32) consisted of two RCRA-regulated tanks located at the HELSTF. This site was approximately 37 km (23 mi) northwest of Main Post on White Sands Missile Range Road 264. The chemical waste tanks were identical, located side-by-side, above-grade, and were constructed of reinforced concrete. The tanks were lined with a 45-mil hypalon liner open to the atmosphere. Together, both tanks were capable of storing six months of waste.

In 1991, the HELSTF hazardous waste evaporation tanks were determined to be leaking. Approximately 113,500 L (30,000 gal) of waste was removed from the tanks in 1992. The waste was disposed of at a permitted hazardous waste treatment facility. Following the removal, the concrete tank floor and walls were decontaminated, cored, and sampled. Results indicated that the concrete was not hazardous and the two concrete tanks were demolished and disposed of as construction debris. The Phase III RFI Work Plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments, however, WSMR requested the fieldwork commence in September 2006, with the understanding that official work plan approval would follow. The NMED agreed. WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III RFI report was submitted in 2007.

The original Phase III RFI Report was submitted to NMED in February 2008. Per NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED in September 2009. Following submittal of the revised Phase III RFI Report NMED conducted a preliminary review of the document and provided comments to the Revised RFI Report. WSMR submitted a second revision to the Phase III RFI report in August 2010. WSMR is currently awaiting a response from NMED. Following the approval of the Phase III RFI WSMR-43 will be included in the Petition to Perform a Class III Permit Modification to change the status of SWMUs from Corrective Action Required to Corrective Action Complete with Controls.

This SWMU is included in the 2009 Hazardous Waste Permit for WSMR and included in Table 4-1 requiring correction action.

**CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-49**

**Site Name: HELSTF HOLDING TANKS (Fluorspar)**

**Alias: SWMU 33-34**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Other (Calcium Fluoride (CaF<sub>2</sub>) Sodium Hydroxide (NaOH))

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199203.....	201607
LTM.....	201608.....	204609

**RIP Date:** N/A

**RC Date:** 201607

**SITE DESCRIPTION**

WSMR-49 (SWMUs 33-34) consisted of two side-by-side tanks located at the HELSTF area. The tanks were 30 x 60 x 2 x 4 ft and received fluorspar from the Laser System Pressure Recovery System (PRS). During lasing operations, effluents produced by combustion of the fuel and oxidizer must be removed from the laser cavity as they are produced. The PRS then treats the combustion products to remove the hydrogen fluoride (HF) and deuterium fluoride (DF) and discharges the exhaust gas to the atmosphere. The emission control scrubber used a solution of sodium hydroxide to react with the HF and DF to form sodium fluoride. The solution is then treated with lime to form fluorspar. The fluorspar is then pumped to the tanks. The tanks act as drying beds for the fluorspar sludge. The dried fluorspar is periodically removed for off-site disposal. The tanks are below grade level, are made of concrete and have a capacity sufficient to contain the fluorspar produced during a period of one year. Approximately 900 pounds (lbs) was produced per week. The tanks have two sloped entrances suitable for use by a front-end loader for removal of dry solids. The tanks have no secondary containment. The use of these tanks was discontinued in 2009 and fluoride was found above residential soil screening levels (SSLs).

An RFA was conducted in 1988 that suggested a high release potential to soil and a low release potential to groundwater. The RFA stated a moderate release potential to surface water, a low release potential to air, and no release potential to subsurface gas generation for all the SWMUs included in CCWS-83. The RFA suggested that an NFA is warranted. Supplemental sampling and a risk assessment were completed and a revised Phase III RFI was submitted in September 2008. This SWMU was included with as part of the HELSTF Phase III RFI. A HELSTF Phase III RFI began in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes various IRP sites as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, WSMR requested the fieldwork commence in September 2006, with the understanding that official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III report was submitted in 2007.

The original Phase III report was submitted to NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

This site was removed from the RCRA Part B permit by USEPA and removed from IRP since it is an active site. The NMED did not agree with the USEPA's removal and included the in the 2009 permit. The site is under the PBA and CAC with controls for groundwater is anticipated. The CAC will be funded under the current RFI/CMS phase and the LTM will be funded under future LTM costs. The LTM will occur for ten years (FY14 through FY24).

**Site ID: WSMR-49**  
**Site Name: HELSTF HOLDING TANKS (Fluorspar)**  
**Alias: SWMU 33-34**

## **CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-50**  
**Site Name: SWMUs 35-36 and AOC-V**  
**Alias: SWMU 35-36**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** NOT EVALUATED  
 Contaminants of Concern: Other (Ethylene Glycol)  
 Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198809
RFI/CMS.....	198901.....	201607
IRA.....	198902.....	198905
LTM.....	201608.....	204609
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201607	

**SITE DESCRIPTION**

WSMR-50 consisted of SWMUs 35 and 36 (two Ethylene Glycol Tanks) and AOC-V (HELSTF Pressure Recovery System) located in the southeast portion of HELSTF.

These steel tanks were located immediately west of the Former Chemical Waste Evaporation Tanks at HELSTF and were approximately five feet long x four feet tall x four feet wide. The tanks were used as emergency storage containers for ethylene glycol in the event the compressor system at HELSTF failed. An emergency release occurred once, in 1988. The ethylene glycol was disposed through the Holloman Air Force Base Defense Reutilization Marketing Organization (DRMO). There were no other reported releases of ethylene glycol to the tanks.

An RFA was conducted in 1988 that suggested a low release potential to soil and groundwater. The RFA stated a low release potential to surface water, a low release potential to air, and low release potential to subsurface gas generation for all the SWMUs included in CCWS-83. The RFA suggested that an NFA is warranted.

Supplemental sampling and a risk assessment were completed and a revised Phase III RFI was submitted in September 2008. This SWMU was included with as part of the HELSTF Phase III RFI. A HELSTF Phase III RFI began in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes various IRP sites as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested the fieldwork commence in September 2006, with the understanding that the official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III report was submitted in 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED. The tanks were removed in 1989.

This site was included in the 2009 RCRA Part B permit under Table 8-2 requiring corrective action.

**CLEANUP/EXIT STRATEGY**

**Site ID: WSMR-50**  
**Site Name: SWMUs 35-36 and AOC-V**  
**Alias: SWMU 35-36**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-53**  
**Site Name: HELSTF TEST CELL 4 LAGOON**  
**Alias: SWMU-145**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

**Contaminants of Concern:** Other (Flouride, Sodium Hydroxide)

**Media of Concern:** Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199206.....	201607
IRA.....	199606.....	199607
LTM.....	201608.....	204609

**RIP Date:** N/A

**RC Date:** 201607

**SITE DESCRIPTION**

WSMR-53 consisted of the Test Cell 4 Lagoon located in the HELSTF area. The dimensions of the unit were 105 by 60 by 6ft with a single liner and no secondary containment. The laser was never installed; therefore, the lagoon was never used for its original purpose. In 1989, a one-time discharge of 30,000 gallons of sodium fluoride and sodium hydroxide wastewater was released and the liner failed and the wastewater leaked into the ground.

In 1992, a Phase I RFI was conducted and included a composite sediment sample from within the lagoon, a background soil sample, and installation of a GWM well.

In 1994, a Phase II RFI was conducted and included the installation of three monitoring wells. Soil samples were collected during the installation of the wells and analyzed for VOC, SVOC, RCRA metals, and fluoride. VOCs and SVOCs were not detected. Groundwater samples were collected and analyzed for various contaminants. 1,1-Dichloroethene, lead, selenium, and fluoride exceeded their respective maximum contaminant levels (MCL).

Following the Phase II RFI, an RA was conducted to remove the lagoon and excavate possible contaminated soil. The liner and two feet of soil beneath were removed. Nine CSs were collected from a depth of two to three feet beneath the excavation floor. All samples were determined to be nonhazardous, the lagoon subsequently backfilled, and the area graded and paved to minimize precipitation infiltration into the area.

A Class III permit modification NFA petition was submitted to remove this site from the HSWA corrective action module of the RCRA Part B permit. The state disapproved the petition requesting additional investigation, including a background soil investigation and an ecological risk assessment. This investigation is part of the HELSTF Phase III RFI at WSMR-85.

A HELSTF Phase III RFI began in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes IRP sites WSMR-52, WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83, as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, WSMR requested the fieldwork commence in September 2006, with the understanding that official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III report was submitted in 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

**Site ID: WSMR-53**  
**Site Name: HELSTF TEST CELL 4 LAGOON**  
**Alias: SWMU-145**

## **CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-54**  
**Site Name: HELSTF CHROMATE SPILL SITE**  
**Alias: SWMU-143**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** MEDIUM  
 Contaminants of Concern: Metals, Volatiles (VOC)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199103.....	201503
IRA.....	199808.....	199812
LTM.....	201504.....	202409
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201503	

**SITE DESCRIPTION**

WSMR-54 consists of a hexavalent chromium spill located at the HELSTF Equipment Storage Area (SWMU 141), resulting from an accidental spill that occurred in the early-1980s, when unused hexavalent chromium-based corrosion inhibitor was released from leaking storage drums.

In 1992 a Phase I RFI soil borings indicated slightly elevated total chromium concentrations. A groundwater sample showed hexavalent chromium, total chromium, and 1,1-dichloroethylene levels exceeding federal and state MCLs and state groundwater protection standards.

In 1994 the Phase II RFI indicated chromium contamination in nearby monitoring wells and six solvent type organic compounds: benzene, toluene, ethylbenzene, and xylene (BTEX). These compounds were attributed to the neighboring diesel spill (WSMR-55).

Since 1995 semiannual groundwater monitoring which has been ongoing at nine wells, indicates the area remains impacted. Preliminary remedial efforts at this site included partial excavation of the contaminated soil and in situ gaseous reduction. The reduction pilot study involved injecting diluted hydrogen sulfide to immobilize and reduce the hexavalent chromium to its nontoxic trivalent form, resulting in the successful reduction of 70 percent of the hexavalent chromium.

WSMR-54 is one of several sites being addressed under the HELSTF Phase III RFI and conceptual site model (CSM) funded under WSMR-85. The CSM considers HELSTF as a single corrective action unit for the purpose of evaluating and determining appropriate remedial options.

An HELSTF Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes IRP sites WSMR-52 through WSMR-55, WSMR-78 and WSMR-83, as well as CCWS-05 and CC-16 in the Compliance Restoration (CR) program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested the fieldwork commence in September 2006, with the understanding that the official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

**Site ID: WSMR-54**  
**Site Name: HELSTF CHROMATE SPILL SITE**  
**Alias: SWMU-143**

A PBA was issued in September 2008, which includes exercised SubCLINs for reaching RIP at WSMR-54.

Supplemental sampling completed risk assessments and a revised Phase III RFI was submitted to the NMED on Aug. 16, 2010.

## **CLEANUP/EXIT STRATEGY**

RA(O) will be implemented at WSMR-54, based on the results of the revised Phase III RFI. A long term monitoring program will address conditions at this site for 10 years as part of a RA(O) procedures. LTM Groundwater monitoring requirements will be covered under IRP site WSMR-55.

**Site ID: WSMR-55**  
**Site Name: HELSTF SYSTEMIC DIESEL SPILL**  
**Alias: SWMU-154**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** MEDIUM

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199206.....	201503
IRA.....	199408.....	200709
LTM.....	201504.....	203009

**RIP Date:** N/A

**RC Date:** 201503

**SITE DESCRIPTION**

WSMR-55 (SWMU 154) is located in the vicinity of the HELSTF cleaning facility (HCF) (CCWS-05; SWMU 142). The diesel spill was discovered when a drain line failed resulting in the release of spent cleaning solvents. During the investigation, a large volume of diesel fuel in solution with the cleaning solvents was discovered. The diesel fuel came from a UST that provided fuel to the HCF through an underground pipeline. The pipeline failed when portions of it were corroded by the naturally occurring alkaline soil.

The UST was removed in 1988. In 1994 an interim remedial action (IRA) was initiated that included installation of wells designed to recover diesel fuel floating on the perched water-bearing zone. The system was operated for approximately 10 years; however, recent evaluation of the system determined diminishing returns. The system is no longer in operation.

Semiannual groundwater monitoring began in 1998. Eleven wells are monitored and sampled for various constituents. During FY05, sampling efforts were modified to include evaluation of the adjacent and commingled contamination plume related to SWMU 142, which in the past was monitored by the US Geological Survey (USGS) in a separate effort. This decision was part of the overall effort to environmentally investigate and manage the HELSTF area holistically.

WSMR-55 is one of several sites being addressed under the HELSTF Phase III RFI and CMS. The CMS considers HELSTF as a single corrective action unit for the purpose of evaluating and determining appropriate remedial options. The WSMR will continue monitoring the 11 wells semiannually and investigate this site under the HELSTF Phase III RFI being conducted under WSMR-85. In addition, WSMR will use the obtained groundwater monitoring data to evaluate releases from SWMU 142 and identify and implement remedial alternatives following the completion of a CMS (completed by end of FY09).

A HELSTF Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes IRP sites WSMR-52, WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83, as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested that the fieldwork commence in September 2006, with the understanding that the official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III report was submitted in 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

**Site ID: WSMR-55**  
**Site Name: HELSTF SYSTEMIC DIESEL SPILL**  
**Alias: SWMU-154**

A PBA was issued in September 2008, which includes exercised SubCLINs for reaching RIP at WSMR-55.

## **CLEANUP/EXIT STRATEGY**

Based on the results of the revised Phase III RFI, WSMR will implement and continue RA(O) at WSMR-55. All HELSTF LTM requirements will be covered under IRP site WSMR-55, with an assumed duration of nine years (FY22-FY30). The RA(O) will include a long term monitoring program that will address conditions at this site for 10 years.

**Site ID: WSMR-56**  
**Site Name: PAINT SHOP SUMP**  
**Alias: SWMU-137**

## STATUS

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Other (Solvents)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	199206.....	201407
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201407	

## SITE DESCRIPTION

WSMR-56 is a paint shop sump located at the north end of Building 1742 on Main Post. This site has been active since 1968. Wastewater generated from the paint spray booth located inside Building 1742 is discharged to the three feet by three feet concrete sump. The sump receives wastewater generated by the paint spray booth. Separation of sludge, paint, and other debris is accomplished by gravity. The effluent is piped to the STP (SWMUs 66-78 and 85). There is no history of a release from this unit.

At the conclusion of the Phase I RFI, the USEPA Region VI approved a Class III permit modification dated Dec. 31, 1995.

WSMR-56 is listed in Appendix 8 of the approved WSMR RCRA Part B permit requiring corrective action. WSMR-56 is included in the WSMR PBA contract for the contractor to achieve CAC (RC).

## CLEANUP/EXIT STRATEGY

The installation will complete the RFI including the sump abandonment and a petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-57**

**Site Name: FORMER GOLF COURSE PESTICIDE STG SHED**

**Alias: SWMU-156**

**STATUS**

**Regulatory Driver:** RCRA  
**RRSE:** MEDIUM  
 Contaminants of Concern: Other (Fertilizers ), Pesticides  
 Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199204.....	200709
IRA.....	199508.....	199508
LTM.....	201003.....	201301
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	200709	

**SITE DESCRIPTION**

WSMR-57 (SWMU 156), Building T-1348, was located at the Main Post Golf Course. This site consisted of a Butler-Style metal building with a wooden floor. The building was used for more than 30 years to store pesticide, fungicide, and pesticide application equipment. The building was removed and the wooden flooring was stored in a pile on the concrete foundation of the former structure. A plastic cover was placed over the debris pile. The foundation dimensions measured 20 feet by 50 feet. RFI findings indicated the presence of low level VOCs and pesticides in the area.

Prior to remedial activities, 10 soil samples were collected at depths of zero to one feet and one to two feet bgs in five soil borings at the storage shed site. Two composite wood samples were collected from the stored wood debris. All samples were characterized as nonhazardous. The concrete foundation, wood floor, plastic cover, and two feet of soil taken from the building footprint were disposed. Three confirmatory soil samples were collected from the building footprint and analyzed. Constituents detected were below regulatory limits.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI work plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-57 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-57 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

The LTM is currently underway to complete the CAC (RC) paperwork for this site.

**Site ID: WSMR-57**  
**Site Name: FORMER GOLF COURSE PESTICIDE STG SHED**  
**Alias: SWMU-156**

## **CLEANUP/EXIT STRATEGY**

A petition for CAC will be initiated and is expected to be approved by 2013.

**Site ID: WSMR-58**  
**Site Name: FORMER VANDAL BURIAL SITE**  
**Alias: SWMU-153**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Explosives, Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	201506
IRA.....	199507.....	199609

**RIP Date:** N/A

**RC Date:** 201506

**SITE DESCRIPTION**

WSMR-58 (SWMU 153) is located at the Hazardous Test Area (HTA) which is 7 miles north of the Main Post. During the mid-1950s missile and rocket parts were buried in three distinct cells and covered with approximately 2-3 feet. of soil.

In 1991 an RFI was performed to define the limits of the metal missile parts and debris. The project work involved a geophysical investigation to define the location of the metal parts and to establish open areas for installing borings. The geophysical investigation defined three separate, anomalous areas that were interpreted to represent the burial area. No analytes from the soil borings were detected above residential SSLs and no discolorations of soil were observed. The RFI report concluded that no release from WSMR-58 is evident.

In December 1994, a RCRA removal action was performed to remove the metal missile parts, debris, and adjacent soil. The metal parts and debris were cleaned by the WSMR Explosive Ordnance Disposal. Approximately 10,900 cubic yards of soil were removed from the burial area. In the spring and summer of 1995 two monitor wells were installed to provide cross-gradient and downgradient groundwater data at the HTA site. Groundwater samples were also collected and no VOCs, SVOCs, organochlorine pesticides/polychlorinated biphenyls, or TPH was detected.

In 2001, NMED requested additional soil sampling of the previously excavated area as part of the physical closure of the HTA OB/OD (SWMUs 55, 56, 56a) unit. In March 2001 three soil borings were advanced within WSMR-58. Based on the results of the soil sampling, ammonia perchlorate is present in the soil overlying the bedrock. This SWMU is included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2 requiring corrective action (release assessment) by July 1, 2015.

A PBA was issued in June 2010, which includes unexercised SubCLINs to achieve RFI by Dec. 31, 2011.

In January 2011, an RFI Investigation Work Plan was submitted to the NMED for their review. The NMED responded with a Notice of Disapproval in August 2011. WSMR responded with a Revised Work Plan in November 2011. NMED is currently reviewing the Revised RFI work plan.

WSMR anticipates achieving CAC with controls. Controls at the site will consist of groundwater monitoring. The CAC petition will be captured under the Future LTM phase.

**CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. Controls at the site will consist of groundwater monitoring. A CAC petition will be submitted for public review then submitted to the NMED for approval.

**Site ID: WSMR-59**

**Site Name: FORMER SEWAGE TREATMENT PLT(IMHOFF**

**Alias: SWMU-62**

## STATUS

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199206.....	199412
LTM.....	201203.....	201703

**RIP Date:** N/A

**RC Date:** 199707

## SITE DESCRIPTION

WSMR-59 consisted of a former sanitary wastewater treatment plant (IMHOFF Tank) located near the present horse stables (on the eastern portion of Main Post). The start up date is unknown, but may have been concurrent with the initial post construction in the early-1940's. Operations were terminated in 1958 and the area was re graded.

A Phase I RFI (IT Corp., 1992) was performed to determine whether the Imhoff tank was still in place and whether a release had occurred. In March 1991, total magnetic field, ground conductivity, and in-phase component geophysical survey methods were used to tentatively locate the tank. All three methods exhibited highly anomalous values in the eastern portion of the survey area. This anomaly is roughly circular with a radius of approximately 50 feet. Due to the magnitude of anomalous readings on all three data sets, this area is suspected to be the location of the Imhoff Tank. Soil samples were collected in the vicinity of the anomaly and the analytical results did not indicate any release from this site.

The US USEPA Region VI approved a Class III Permit Modification dated Dec. 31, 1995 to remove the site from the HSWA corrective action module of the RCRA Part B Permit.

SWMU-62 is listed under Table 4-1 of the December 2009 RCRA Permit requiring corrective action.

WSMRs objective is to achieve CAC by closing the unit in accordance with the RCRA permit. The CAC will be funded under the LTM phase.

## CLEANUP/EXIT STRATEGY

The objective at WSMR-59 is to achieve Response Complete (RC) by closing the unit in accordance with RCRA permit. To achieve RC WSMR anticipates conducting a RCRA Facility Investigation (RFI) followed by a Corrective Action Complete (CAC) petition.

**Site ID: WSMR-60**

**Site Name: WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778**

**Alias: SWMU 12,13**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Other (Solvents), Petroleum, Oil and Lubricants (POL)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199206.....	200709
LTM.....	201003.....	201308

**RIP Date:** N/A

**RC Date:** 200709

**SITE DESCRIPTION**

WSMR-60 (SWMU 12-13) consists of the vehicle wash ramp and drains, and the sump and oil/water separator situated east of Building 1778 and west of Building 1776 in the Main Post Maintenance Area. The units have been active since the mid-1950s. The vehicle wash ramp (SWMU 12) consists of a concrete pad approximately 40 feet long and 15 feet wide with an open metal work ramp erected above the concrete pad. The pad slopes toward the drain (at the center of the pad) that discharges into a 200-gallon sump and oil/water separator (SWMU 13) at the south end of the drain. The separator/sump is constructed of reinforced concrete and covered by a metal grate. Separation of water, oil and debris is accomplished by gravity. The waste oil and debris from the sump/separator are periodically transferred to the waste oil tank (SWMUs 8 and 9) while rinse water is piped to the STP (SWMUs 66-78).

Both Phase I (1992) and Phase II (1994) RFIs found no significant release of contaminants at this site. The ramp portion of the facility was dismantled in 1997 and removed as scrap.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including background metals study, CS, and ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI work plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-60 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-60 is included in the WSMR PBA contract for the contractor to achieve approval of the CAC petition for the site.

The LTM is currently underway to complete the arsenic background study and the CAC(RC) paperwork for this site.

**Site ID: WSMR-60**

**Site Name: WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778**

**Alias: SWMU 12,13**

## **CLEANUP/EXIT STRATEGY**

A background study will be performed for the eight RCRA metals, with emphases on arsenic issue in soil throughout multiple sites. The installation assumes the site will require no further action. A petition for CAC will be initiated and is expected to be approved by 2013.

**Site ID: WSMR-67**  
**Site Name: STALLION ASPHALT TANKS**  
**Alias: SMU121-123**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Other (TPH)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199305.....	199307
CMI(C).....	199307.....	199307
LTM.....	201003.....	201306

**RIP Date:** N/A

**RC Date:** 199308

**SITE DESCRIPTION**

WSMR-67 consisted of three inactive steel tanks located southwest of the Stallion Gate security checkpoint. The asphalt tanks were not buried, but were placed on the side of a terraced hill with the soil on the north side of the tanks extending approximately halfway up the tank sides. No piping or vent lines were associated with the tanks.

Approximately 5,550-gallon of product (asphalt primer solution) were removed from Tank 3 on April 26, 1993 and transported for recycling to Koch Materials Company located in Albuquerque, NM. Approximately one foot of solidified asphalt-like material that was floating on the primer could not be pumped and was left in the tank, which was disposed in the Stallion Range Center Landfill (ASI, 1993).

Approximately 8,470 gal of product (asphalt emulsion) in Tanks 1 and 2 were removed on June 28, 1993 and transported for recycling to Koch Materials Company. The tanks were transported for recycling to Tom Black's Enterprises in Dona Ana, NM.

The USEPA Region VI approved a Class III permit modification dated Dec. 31, 1995 indicating NFA at SWMUs 121-123. This site was removed from the HSWA corrective action module of the RCRA Part B permit.

WSMR-67 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-67 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

The LTM is currently underway to complete the CAC (RC) paperwork for this site.

**CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action. A petition for CAC will be initiated and is expected to be approved by 2013.

Site ID: WSMR-69

Site Name: SEPTIC TANK/DRAINFIELD @ RHODES CANYON

Alias: AOC-S

### STATUS

Regulatory Driver: RCRA

RRSE: NOT EVALUATED

Contaminants of Concern: Metals, Other (Cyanides), Semi-volatiles (SVOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	199612.....	199705
LTM.....	201203.....	201703

RIP Date: N/A

RC Date: 201202

### SITE DESCRIPTION

WSMR-69 (SWMU 62) was a wastewater treatment plant reportedly located adjacent to the present horse stables. The plant was abandoned in 1958 when the new STP was constructed. The plant was reported to have consisted of an Imhoff Tank. Effluent from the tank may have drained into a nearby ditch. As of 1988 no information was available on the management of sludge from the unit. In 1988 there was no reported visible evidence of the site. The typical Imhoff tank is a two-story tank; sedimentation occurs in the lower story. Solids from the upper tank pass through slots into the lower tank for digestion. Scum accumulates on the surface in the upper tank, and gas produced in the digestion process is vented to the atmosphere. The date of start-up of the tank is unknown. The plant treated sewage wastes from the Post Area. The unit was also likely to receive any chemical wastes from tenant activities and support operations such as various photo and chemical labs. It is expected the wastes managed would have been similar to those handled by the active STP. Therefore such hazardous constituents as metals, cyanides, and solvents would have been in the wastes.

An RFA was conducted in 1988 that suggested a high release potential to soil/groundwater based on the reported discharge of effluent to a nearby drainage ditch. A high release potential to surface water was also reported based on the same discharge. The potential for release to air is unknown based on lack of information on operational procedures. The potential for past generation of gases is unknown based on lack of information on operational procedures. According to the RFA an RFI was suggested. The RFA also suggested subsurface sampling to characterize the nature and extent of contamination.

In 1992, a Phase I RFI was performed to determine whether the Imhoff tank was still in place and whether a significant release had occurred. In March 1991 total magnetic field, ground conductivity, and in-phase component geophysical survey methods were used to tentatively locate the tank. All three methods exhibited highly anomalous values in the eastern portion of the survey area. This anomaly is roughly circular with a radius of approximately 50 feet. Due to magnitude of anomalous readings on all three data sets this area is suspected to be the location of the Imhoff tank.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and was included in Table 4-1, requiring correction action.

WSMRs objective at this site is to achieve CAC by closing the unit in accordance with the RCRA permit. Funding for the CAC will be captured under the LTM phase.

### CLEANUP/EXIT STRATEGY

The objective at WSMR-69 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC, WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: WSMR-70**

**Site Name: FORMER LANDFILL @ STALLION RANGE CENTER**

**Alias: SWM119-120**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199612.....	201512
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201701	

**SITE DESCRIPTION**

WSMR-70 consists of two SWMUs 119 and 120. SWMU 119 is located at the Stallion Range Center approximately 100 miles north of the Main Post in the northeast section of WSMR. The active landfill is about 300 feet. by 380 feet. in size, and is surrounded by an eight-foot chain-link fence. The cells are excavated to a size of approximately 60 feet. wide by 100 feet. long and sloped to depth of about 15 feet. Waste is collected in dumpsters and emptied into the active cell, where it is reportedly covered daily. Just north of the active landfill is the inactive Former Stallion Landfill (SWMU 120) which was closed when the current landfill opened in 1984. The unit receives sanitary waste from the Stallion Range Center. Daily cover is applied as waste is place in the unit. There is no record of a past release from this unit. SWMU 120 was a sanitary landfill used for sanitary waste generated at the Stallion Range Center from 1970 until 1984. The unit was the same size as the currently used Stallion Landfill and was operated in the same manner. The unit is located adjacent to the current landfill (SWMU 119) and it is not fenced. There was no record of a past release from this unit.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas for SWMUs 119-120. According to the RFA No Further Action was suggested for both SWMUs.

In July 1995, three groundwater monitoring wells were installed to provide hydrogeologic information for the Stallion Range Center Landfill area. Groundwater samples were collected in August 1995. Based on the results no VOCs, SVOC, organochlorine pesticides/polychlorinated biphenyles, or TPH were detected above laboratory reporting limits in any of the groundwater samples. Only Barium and chromium were detected.

In October 1995, a background groundwater monitoring plan for the site was prepared. In October 1996 three wells were sampled as part of the range-wide SWMU groundwater monitoring program. One explosive compound, HMX, was detected. Based on the review of the groundwater monitoring program a fourth downgradient monitoring well was installed. In March 2001, WSMR received a small-volume operation exemption for the Stallion Range Center Landfill from the NMED Solid Waste Bureau, which minimized the annual requirements for the facility. Groundwater monitoring and methane monitoring are not required on an annual basis as long as the operating conditions are met.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 4-1, requiring correction action.

A PBA was issued in June 2010, which includes unexercised SubCLINs to achieve RFI by Dec. 31, 2011.

WSMR anticipates achieving Corrective Action Complete with controls. In order to meet the RCRA Corrective Action criteria, WSMR must close the landfill with respect to the Hazardous Waste Permit. Closure will consist of capping the landfill and performing Long-term management that will include continued groundwater monitoring and cap inspection. A CAC petition will be submitted following approval of closure by NMED.

The Corrective Action Complete Petition and RAO/LTM will be captured under future LTM costs. The Remedy-in-place will be captured under the Future IRA phase.

**Site ID: WSMR-70**  
**Site Name: FORMER LANDFILL @ STALLION RANGE CENTER**  
**Alias: SWM119-120**

## **CLEANUP/EXIT STRATEGY**

The installation assumes this site will require no further action after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2015.

**Site ID: WSMR-71**

**Site Name: FORMER NORTH OSCURA PEAK LANDFILL**

**Alias: SWMU47-49**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

**Contaminants of Concern:** Metals, Other (Organics)

**Media of Concern:** Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199105.....	199801
DES.....	199903.....	199908
CMI(C).....	200111.....	201302

**RIP Date:** N/A

**RC Date:** 201302

**SITE DESCRIPTION**

WSMR-71 consists of three landfill cells located in the Oscura Mountains in the northern section of WSMR. A small open trench (SWMU 47) was reportedly used to dispose septic waste but wire and various waste materials were visible. Another open trench (SWMU 48) was above the surrounding grade with little vegetation and disturbed soil. Material visible in the trench included glass and plastic bottles, wiring, wood, and miscellaneous waste. A mound of dirt approximately 10 feet high was situated at the north end of this trench. The third trench (SWMU 49) was covered with soil. Investigations to include drilling and sampling of the trench were completed. Waste identified included wood, wire, plastic, and metal debris.

Although the North Oscura Peak Landfill was identified during the RFA, SWMUs 47-49 were not included in the Phase I and Phase II RFIs. An investigation of the SWMUs was conducted in 1997. Soil borings were taken to characterize the nature and extent of the waste and incorporated into the CMILES work plan, which proposed corrective action at the SWMUs to include excavating the waste materials.

Voluntary corrective measures began, but were suspended after the discovery of unexploded ordnance in the landfill. The ordnance was confirmed inert by EOD. A review of Federal and State regulations and Army policies was completed. The findings of the review were included in a letter report that provided recommendations for completing the project including screening the excavated material for ordnance and other prohibited material prior to transportation to the permitted landfill. Corrective measures were completed in early 2002. All buried debris was removed from the landfill. A voluntary corrective measures (VCM) report was submitted to the state in 2004.

A site DD was completed in September 2006.

A CAC petition was submitted to the NMED in March 2010. The NMED requested proof of public notice/public meeting before they would review the petition. The revised CAC petition was submitted to the NMED in January 2011 and the 60-day public comment period began.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

The NMED issued an Administratively Incomplete Determination of the CAC petition on October 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

**CLEANUP/EXIT STRATEGY**

A revised CAC petition was submitted to the NMED in January 2011. Corrective Action Complete without controls is anticipated.

**Site ID: WSMR-72**

**Site Name: ABAND DISPOSAL TRENCH AT NEW COMMIS**

**Alias: SWMU 163**

## STATUS

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Other (lead)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	199409.....	199410
CS.....	199410.....	199410
RFI/CMS.....	199410.....	199410
CMI(C).....	199410.....	199410
LTM.....	201003.....	201306

**RIP Date:** N/A

**RC Date:** 199410

## SITE DESCRIPTION

WSMR-72 was an abandoned landfill discovered during the construction of the new Main Post Commissary in 1994. The dates of operation are estimated to have been between 1946 and 1952.

WSMR-72 is included in the WSMR PBA contract. The contractor will achieve approval of the CAC petition for the site by June 2011. No future costs are anticipated.

The debris from the landfill was excavated and placed in 82 roll-off bins and sampled. Seven of the bins were determined to contain high levels of lead and were sent to a hazardous waste landfill. The debris from the other 75 bins was disposed in the Main Post Landfill (MPL). In addition, soil samples were collected from the sidewall and base of the excavated trench and split with the NMED personnel. Analytical results indicated no constituents present above Subpart S action limits.

This site was formerly an AOC but the NMED listed it as SWMU 163 in the 1999 Annual Unit Audit.

A Class III permit modification is required to remove this site from the HSWA corrective action module of the RCRA Part B permit.

WSMR-72 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-72 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

LTM is currently underway to complete the CAC (RC) paperwork for this site.

## CLEANUP/EXIT STRATEGY

The installation assumes the site will require no further action. A petition for CAC will be initiated and is expected to be approved by 2012.

**Site ID: WSMR-73**

**Site Name: WASTE UNDERGROUND INJECTION PIPE**

**Alias: SMWU-17**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Other (TPH, Solvents)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199205.....	201407

**RIP Date:** N/A

**RC Date:** 201407

**SITE DESCRIPTION**

WSMR-73 (SWMU 17) was the suspected site of a former underground injection pipe located at the southwest corner of Building 1753, the Heavy Equipment Maintenance Shop. No information was available on the dates of operation, physical parameters, or depth of burial. According to the RFA, this pipe was placed in the ground in a vertical position allowing for liquid wastes (e.g., waste oils and degreasing solvents) to be poured into the open end.

During the Phase I RFI (1992), a soil vapor survey (SVS) was performed which detected only carbon dioxide (CO2) at near background levels. In an attempt to locate the pipe, a metal detector was used. The pipe was suspected to have been located despite some subsurface interference.

During the Phase II RFI (1994), soil sampling and an SVS were conducted at the suspected pipe location as described in the Phase I RFI. The survey and sampling did not reveal evidence of contamination from the former injection pipe and could not confirm that the pipe ever existed. It was determined that further RA was not necessary and that a Class III permit modification should be completed.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and was slated to be completed by FY06. The WSMR submitted a Phase III RFI work plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED.

The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-73 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-73 is included in the WSMR PBA contract for the contractor to achieve CAC (RC).

**Site ID: WSMR-73**  
**Site Name: WASTE UNDERGROUND INJECTION PIPE**  
**Alias: SMWU-17**

## **CLEANUP/EXIT STRATEGY**

A background determination will be performed to address an arsenic issue in soil. The installation assumes the site will require no further action after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-74**

**Site Name: FORMER WST OIL TANK/SUMP @ BLDG 1778**

**Alias: SWMU 10,11**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

Contaminants of Concern: Metals, Other (Solvents),  
Petroleum, Oil and Lubricants (POL)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	199003.....	199003
RFI/CMS.....	199205.....	200709
IRA.....	199003.....	199003
LTM.....	201003.....	201306

**RIP Date:** N/A

**RC Date:** 200709

**SITE DESCRIPTION**

WSMR-74 consists of a vehicle wash pad and drains (SWMU 10), and the sump and oil/water separator (SWMU 11) situated west of Building 1778 in the Main Post Area. The units are thought to have been in operation since the mid-1950s. The concrete wash pad, 30 feet by 30 ft, is encompassed by a two-foot by two-foot drain covered with a metal grate. The drain is constructed of concrete and slopes towards the 500-gallon sump and oil/water separator located at the vehicle wash pad. The separator is constructed of concrete and covered by a metal grate. Separation of water, oil, and debris is accomplished by gravity. The water is discharged to the STP while the oil and debris are periodically transferred to the waste oil storage tank.

The Phase I RFI (1992) included an SVS and the collection of one surface sediment sample from an asphalt-lined drainage ditch into which effluent from SWMUs 10-11 formerly drained via a buried pipe. A shallow background soil sample was also collected. The Phase I RFI concluded that the data do not indicate a release of contaminants.

The Phase II RFI (1994) included an SVS and soil sampling. No evidence of contamination from the wash pad, drains or sump was revealed. A Class III permit modification was recommended.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including a background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED's December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-74 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-74 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

The LTM is currently underway to complete the CAC (RC) paperwork for this site.

**Site ID: WSMR-74**  
**Site Name: FORMER WST OIL TANK/SUMP @ BLDG 1778**  
**Alias: SWMU 10,11**

## **CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action. A petition for CAC will be initiated and is expected to be approved by 2012.

**Site ID: WSMR-75**

**Site Name: RHODES CANYON SUBGRADE ASPHALT TANKS (3)**

**Alias: SMU116-118**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Semi-volatiles (SVOC)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	199005.....	199209
RFI/CMS.....	199205.....	201305
IRA.....	199305.....	199306

**RIP Date:** N/A

**RC Date:** 201305

**SITE DESCRIPTION**

WSMR-75 consisted of three steel tanks located southeast of the Rhodes Canyon Landfill (WSMR-14) on Range Road 6. The dates of operation were not available from facility personnel or from file material; however, the tanks appeared to be approximately 15 to 20 years old indicating the tanks were installed during the 1975-1980 time frame. The tanks were partially below grade with the center tank slightly exposed above the surface. The visible portion of the other tanks appeared to be in good condition. The estimated capacity of the tanks was approximately 2,500 gal each. The tanks and surrounding soil were removed in 1994.

The WSMR will submit a Class III permit modification to remove this site from the HSWA corrective action module of the RCRA Part B permit.

WSMR-75 is listed in Appendix 8 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-75 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

**CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2013.

**Site ID: WSMR-77**

**Site Name: MCAFFEE & VET CLINIC INCINERATORS**

**Alias: SWMU 125**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199102.....	201305
IRA.....	199102.....	199108

**RIP Date:** N/A

**RC Date:** 201305

**SITE DESCRIPTION**

WSMR-77 was a Stamco gas-fired incinerator that was formerly used to destroy clinical wastes generated at the Veterinary Clinic. The exact start-up date is not known; however, the unit was deactivated in 1986. The Vet Clinic was located in Building T-1834 on the WSMR Main Post. The overall size of the unit was approximately three feet by five feet by two feet mounted on a six-inch concrete slab. Waste is now collected by a contractor and disposed off-range.

The RFA found no indication that hazardous wastes were managed and recommended NFA at the site. The incinerator was removed after deactivation in 1986.

WSMR-77 is listed in Appendix 8 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-77 is included in the WSMR PBA contract with the contractor to achieve approval of the CAC petition for the site.

**CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2013.

**Site ID: WSMR-78**  
**Site Name: SWMUs 147 and 23-26**  
**Alias: SWMU-147**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** MEDIUM

Contaminants of Concern: Other (Solvents), Petroleum, Oil and Lubricants (POL)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	199408.....	199410
RFI/CMS.....	199410.....	201407
IRA.....	199608.....	199608
LTM.....	201408.....	204409

**RIP Date:** N/A

**RC Date:** 201407

**SITE DESCRIPTION**

WSMR-78 (SWMU 147) was a decontamination pad and underground holding tank located adjacent to the southeast corner of HELSTF Building 26131. This site began operation in 1982. The unit reportedly consisted of a 3 feet by 5 feet by 6.5 feet deep underground waste tank with an open top that was covered with a grate and a steel cover. Wastewater/debris from the decontamination pad flowed down the drain and into a sump prior to entering the tank. The pad was used occasionally for cleaning large pieces of equipment that could not be cleaned inside Building 26131.

This site includes SWMU 23-Old Hazardous Waste Tank, SWMU 24-Old Hazardous Waste Tank, SWMU 25-Waste Accumulation Area, AWMU 26-Vapor Recovery Unit in the HELSTF area identified in the 2009 RCRA permit as requiring additional investigation. These SWMUs include spill and accumulation areas.

The Phase II RFI (Sverdrup, 1994) determined that there was no decontamination pad underground waste tank, for which this SWMU 147 was created. Historical drawings documented that the underground tank was actually an aboveground tank and the only remaining unit was the sump. Results of the RFI determined that no release of contaminants had occurred at this site.

The decontamination pad waste underground tank was not identified in either of the two RFAs reported in 1988. As a consequence, this site was not part of the initial HSWA operating permit issued Sept. 29, 1989. In January 1996, confirmatory soil samples were collected from beneath the sump. Analysis revealed the soil beneath the tank to be nonhazardous. The sump was subsequently filled with concrete for closure in place. Drummed liquids and sludge waste were disposed off-site (Dow, 1997).

On Jan. 24, 2000, a Class III permit modification NFA petition was submitted.

The state disapproved the petition in March 2002 and requested an additional investigation including an ecological risk assessment.

A HELSTF Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes IRP sites WSMR-52, WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83, as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested the fieldwork commence in September 2006, with the understanding that official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI

**Site ID: WSMR-78**  
**Site Name: SWMUs 147 and 23-26**  
**Alias: SWMU-147**

report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

The site is under the PBA and CAC with controls for groundwater is anticipated. The groundwater contamination does not originate from this site.

The CAC with controls will be funded under the current RFI/CMS phase and controls will be funded under the future LTM phase. Groundwater monitoring will occur for 10 years (FY14 through FY24).

## **CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

Site ID: WSMR-79

Site Name: HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736

Alias: SWMU-16

**STATUS**

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Other (TPH, Solvents)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	199206.....	199212
RFI/CMS.....	199206.....	201407

RIP Date: N/A

RC Date: 201407

**SITE DESCRIPTION**

WSMR-79 is a heavy equipment wash pad (SWMU 16) located in the southern section of the Main Post, west of Building 1736. The unit has been active since the 1960s. The heavy-equipment vehicle maintenance shop is located west of this site. The wash pad area is a 50-foot by 40-foot concrete pad that slopes towards the center where a grate-covered drain is located. A curb rims the south end of the concrete pad. This pad is entirely edged by gravel. The drain discharges into an asphalt-lined drainage ditch located immediately to the south of the unit and runs east for approximately 545 feet.

The facility was identified in the 1988 RFA and included in the Phase I (1992) and Phase II (1994) RFIs. Soil and sediment sampling detected metals below applicable screening action levels. An elevated total petroleum hydrocarbons (TPH) concentration (above the New Mexico standard of 1,000 ppm) was attributed to the asphalt lining the drainage ditch. An SVS did not detect target VOCs. In comments to the Phase II RFI, the NMED recommended removing the site from the HSWA corrective action permit.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002. The state requested additional investigation including background metals study, confirmation sampling, and ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI Work Plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED's December 2006 comments received; furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-79 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-79 is included in the WSMR PBA contract for the contractor to achieve CAC (RC).

**CLEANUP/EXIT STRATEGY**

A background determination will be performed to address arsenic issue in the soil. The installation assumes the site will require no

**Site ID: WSMR-79**  
**Site Name: HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736**  
**Alias: SWMU-16**

further action after completion of the RFI. A petition for CAC will be initiated and is expected to be approved by 2014.

**Site ID: WSMR-81**  
**Site Name: MAIN POST SANITARY LANDFILL**  
**Alias: SWMU-86**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199306.....	201607
LTM.....	201608.....	204608

**RIP Date:** N/A

**RC Date:** 201607

**SITE DESCRIPTION**

WSMR-81 addresses SWMU 86 and 87 which are the inactive portions of the Main Post Landfill (MPL). The MPL was registered with the NMED in April 1982 and at that time contained three disposal pits containing residential refuse or municipal solid waste (MSW), dead animals, and construction and demolition (C&D) debris. The landfill has been in operation since 1983. The MPL covers an area of approximately 82.9 acres, although only approximately 38.6 acres have actually been utilized to dispose of waste material. The MPL ceased receiving MSW in 1996, and now only accepts C&D waste. Based on these dates MPL qualifies as a category 3 landfill as defined by 20.9.2.7.L(1) NMAC. All waste cells at MPL are unlined and a leachate collection system was not installed. The immediate area around MPL is undeveloped, with the exception of the scrap yard (metal recycling facility) to the south. The Main Post STP is located 0.7 mile west by southwest and the Main Post Headquarters, including residential area, is located approximately three miles west-by-northwest of MPL.

Groundwater monitoring activities began in 1996 with installation of four monitor wells and five quarters of sampling to establish background concentrations. Following development of background, groundwater monitoring has been conducted since 2000. Depth to groundwater in the area of MPL is approximately 180 to 200 ft bgs. Monitoring for methane, previously conducted on a quarterly basis with negative results, has been suspended.

The WSMR has developed a closure and post-closure care plan to meet the NMED Solid Waste Bureau (SWB) requirements for closure of SMWUs 86 and 87. This plan describes closure actions for the older C&D, MSW and Asbestos Landfill areas. Although the solid waste requirements are being met, requirements by the HWB for closing a SWMU must also be met. WSMR-81 and 82 are listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action.

WSMR-82 is included with WSMR-81 due to the sites being the same landfill.

This site was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 4-1 requiring corrective action.

A PBA was issued in June 2010 to complete a RFI.

WSMR anticipates petitioning for Corrective Action Complete with Controls (CAC). Controls at the site will include continued groundwater monitoring covered under CCWS-62. A CAC will be go up for public review then submitted to NMED for approval.

Future costs for this site will be captured under the LTM phase.

**CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action after the completion of the RFI. WSMR anticipates achieving CAC with controls.

**Site ID: WSMR-82**

**Site Name: MAIN POST CONSTRUCTION LANDFILL**

**Alias: SWMU-87**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198805.....	198808
RFI/CMS.....	199602.....	201506
LTM.....	201507.....	204508

**RIP Date:** N/A

**RC Date:** 201506

**SITE DESCRIPTION**

This is an active site regulated by the NMED Solid Waste Bureau, therefore, the site was removed from the IRP (Mar 2002 IAP, Table 3-1).

This landfill is a distinct area of the MPL. The unit is approximately 300 feet. long and 20-30 feet. high. A new inactive disposal cell is present in the southwest corner of the landfill. WSMR filed an application for registration of the unit with the NMED in March 1982. A Certificate of Registration was issued by NMED in April 1982. The expected life of the unit is 50 years. This unit received construction debris from various locations on Main Post. There is no record of release from the unit. An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas. According to the RFA NFA is suggested.

In 1993 15 soil borings were drilled around the perimeter of the MPL. Information from the soil boring logs indicated that the geology in the vicinity of the MPL is characterized as interbedded sand and silty sand with caliche. Silty and sandy clays were noted at deeper depths. No indication of soil moisture or groundwater was noted.

In 1995, a study Titled Demonstration for Groundwater Monitoring Suspension Request, Main Post Landfill, White Sands Missile Range was prepared. The results of the study demonstrated that no potential exists for groundwater to be contaminated by constituents discharged from the MPL. The findings demonstrate that no migration of hazardous constituents can occur from the MPL to the uppermost aquifer during the post-closure care period of 30 years.

Groundwater monitoring began in 1996 with the installation of four monitoring wells and five quarters of sampling to establish background concentrations. Following development of the background data set, periodic groundwater monitoring has been conducted since 2000. Depth to groundwater in the area of the MPL is approximately 180-200 feet. bgs. Monitoring for methane, previously conducted on a quarterly basis with no detection of methane had been suspended.

In 1997 WSMR conducted a delineation study to provide additional hydrologic information regarding the possible source area and extend of cyanide contamination first identified during the MPL groundwater monitoring event. To supplement the existing groundwater data six additional monitoring wells were installed both upgradient and downgradient of the MPL. This study eliminated the MPL as the source for cyanide contamination in the area. The data to date indicate no other hazardous contaminants of concern are present in the groundwater.

WSMR continued to submit annual groundwater monitoring report to the NMED Hazardous Waste Bureau through 2007. Based on correspondence if VOCs are not detected, the Permittee may discontinue sampling for VOCs during subsequent groundwater sampling events.

In December 2008 WSMR submitted a Closure and Post-Closure Care Plan for the Municipal and Asbestos Areas of the Main Post Landfill to the NMED SWB. The NMED SWB responded in November 2009 with its approval of the MPL with conditions. In October 2010 WSMR issued a contract for the closure of the landfill areas in accordance with the Closure Plan. The landfill cover was completed in 2011.

**Site ID: WSMR-82**

**Site Name: MAIN POST CONSTRUCTION LANDFILL**

**Alias: SWMU-87**

This SWMU is included in the 2009 Hazardous Waste Permit for WSMR and included in Table 4-1 requiring corrective action.

A PBA was issued in June 2010, which includes unexercised SubCLINs to achieve RFI by Dec. 31, 2011.

This site will be included with the WSMR-81 RFI report since it is the same landfill.

WSMR anticipates petitioning for CAC. Controls at the site will include continued groundwater monitoring covered under CCWS-62.

Future costs for this site will be captured under the LTM phase for WSMR-81

## **CLEANUP/EXIT STRATEGY**

The installation assumes the site will require no further action after the completion of the RFI. WSMR anticipates achieving CAC with controls.

**Site ID: WSMR-83**

**Site Name: FORMER MAR WASTE STABILIZATION POND**

**Alias: SWMU-148**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** LOW

**Contaminants of Concern:** Metals

**Media of Concern:** Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198905.....	199410
RFI/CMS.....	199205.....	201407
LTM.....	201608.....	204609

**RIP Date:** N/A

**RC Date:** 201407

**SITE DESCRIPTION**

WSMR-83 was the Multi-Function Array Radar Waste Stabilization Pond (SWMU 148) that was used to treat sanitary waste in the 1960s. The site was an unlined surface impoundment with dimensions of approximately 110 feet by 130 feet by 7 feet. SWMU 148 was backfilled and paved in the early-1980s, and is located at the south end of the current HELSTF Equipment Storage Area (SWMU141).

No evidence of release was detected from this site during the Phase I (IT Corp., 1992) or Phase II (Sverdrup, 1994) RFI. The Phase II recommended a Class III permit modification.

The USEPA, Region VI, approved a Class III permit modification dated Dec. 31, 1995 for NFA at SWMU 141. A Class III permit modification NFA petition was submitted on Jan. 24, 2000 to the NMED. The state disapproved the petition in March 2002 and requested additional investigation including an ecological risk assessment. This investigation is part of the HELSTF Phase III RFI under WSMR-85. Any future LTM requirements will be programmed under WSMR-55.

A HELSTF Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes IRP sites WSMR-52, WSMR-53, WSMR-54, WSMR-55, WSMR-78 and WSMR-83, as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested the fieldwork commence in September 2006, with the understanding that official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it that same month.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED. The site is under the PBA and CAC with controls for groundwater is anticipated. The groundwater contamination does not originate from this site.

The CAC will be funded under the current RFI/CMS and all future LTM will be funded under the LTM phase. Groundwater monitoring will occur for 10 years (FY14 through FY24).

**CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. Long-term management will include continued groundwater monitoring. A CAC

**Site ID: WSMR-83**  
**Site Name: FORMER MAR WASTE STABILIZATION POND**  
**Alias: SWMU-148**

petition will be submitted and followed by public review.

**Site ID: WSMR-84**  
**Site Name: FORMER LC-37 PAINT DUMP**  
**Alias: SWMU-140**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** MEDIUM

Contaminants of Concern: Metals, Other (Organics, Solvents)

Media of Concern: Soil

Phases	Start	End
RFA.....	198805.....	198808
CS.....	198907.....	199210
RFI/CMS.....	199205.....	200709
IRA.....	199505.....	199602
LTM.....	201003.....	201308

**RIP Date:** N/A

**RC Date:** 200709

**SITE DESCRIPTION**

WSMR-84 (SWMU 140) was a paint dump area located approximately 12 miles east of the Main Post. This site consisted of a 10 ft by 30 feet by 8 feet open trench, containing paint and solvent cans, construction debris, 55-gallon drums, and wire. A berm exists on the north side of the trench to divert run-on water. The site is currently closed and the dates of usage are unknown.

SWMU 140 was not included in the initial RFA; however, the site was investigated under the Phase I RFI and Phase II RFI. Based on results of the RFI sampling, no release of constituents hazardous to human health or the environment occurred.

Unidentifiable drums and debris were sampled and analyzed prior to removal. Upon characterization of debris, construction materials were recovered for recycling, wood material was disposed in the WSMR landfill, metal was taken to the WSMR salvage yard, and paint and solvents were shipped to an authorized incinerator. Following debris removal from the trench, six soil samples were collected from the trench floor for hazard characterization. All samples collected at the site were characterized as nonhazardous.

A Class III permit modification petition for NFA was submitted on Jan. 24, 2000 for this and several other sites. A public meeting was held on Feb. 23, 2000 to solicit public comment concerning the Class III permit modification as part of the final RCRA Expanded Public Participation Rule (40 CFR 270.2). The public did not provide comments on this site.

The state disapproved the petition in March 2002 and requested additional investigation including background metals study, CS, and an ecological risk assessment. This investigation recommenced in FY03 and is slated to be completed by FY06. The WSMR submitted a Phase III RFI work plan (BAE, 2004c) dated June 2004. The work plan covered WSMR-30 plus 10 additional IRP sites which were also disapproved in the March 2002 letter. The sites were all funded under WSMR-30 beginning in FY05. This work is referred to as the Main Post Phase III RFI since all sites are within the Main Post cantonment area.

The NMED submitted a notice of deficiency (dated Nov. 15, 2004) including a total of 10 comments requiring a WSMR response. The WSMR's response addressed these comments and the work plan was executed in FY05. The final RFI report was submitted and reviewed by the NMED. The NMED submitted a notice of deficiency (dated Dec. 8, 2006) with six comments. Additionally, the NMED expressed reservations with conclusions of a soil background study conducted under the CC program. This study was used in supporting conclusions and recommendations included in the Phase III RFI final report. Discussions between the WSMR and the NMED are ongoing. The WSMR is preparing a response to the NMED's December 2006 comments received. Furthermore, in a Jan. 24, 2007 letter, the NMED stated that several sites covered under the Phase III RFI could be eligible for "NFA with controls" in place.

WSMR-84 is listed in Appendix 4 of the December 2009 WSMR RCRA Part B permit requiring corrective action. WSMR-84 is included in the WSMR PBA contract with the contractor to achieve CAC for the site.

The LTM is currently underway to complete the arsenic background study and the CAC (RC) paperwork for this site.

**Site ID: WSMR-84**  
**Site Name: FORMER LC-37 PAINT DUMP**  
**Alias: SWMU-140**

## **CLEANUP/EXIT STRATEGY**

A background study will be performed for the eight RCRA metals, with emphases on arsenic issue in soil throughout multiple sites. The installation assumes the site will require no further action. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-85**  
**Site Name: Waste Oil Accumulation**  
**Alias: SWMU 37**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	199103.....	201607
LTM.....	201608.....	204609

**RIP Date:** N/A

**RC Date:** 201607

**SITE DESCRIPTION**

This site is SWMU 37-Waste Oil Accumulation and is located in the HELSTF. It was identified in the 2009 RCRA permit as requiring additional investigation. The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI Report the NMED conducted a preliminary review of the document and provided comments to the Revised RFI Report. The WSMR submitted a second revision to the Phase III RFI report in August 2010 and is currently awaiting a response from the NMED.

The site is under the PBA and CAC with controls for groundwater is anticipated. Groundwater contamination does not originate from this site. The CAC with controls is funded under the current RFI/CMS phase and the groundwater monitoring will be funded under the LTM phase for 10 years (FY14 through FY24).

**CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. Long-term Management will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

**Site ID: WSMR-86**  
**Site Name: Lance Missile Impact Site**  
**Alias: SWMU-168**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Other (Propellant)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	200003.....	200003
RFI/CMS.....	200203.....	201302
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201302	

**SITE DESCRIPTION**

WSMR-86 (SWMU 168) is located within the White Sands National Monument (WSNM) near Lake Lucero on property managed by the National Park Service (NPS). On Dec. 14, 1999, a Lance Missile Launched from WSMR impacted within WSNM. Propellant used in the Lance Missile included Unsymmetrical Dimethyl Hydrazine (UDMH) and Inhibited Red Fuming Nitric Acid (IRFNA). The missile penetrated the ground surface and exposed the water table at approximately three feet below ground surface. The impact created a crater approximately 18 feet in diameter and 5 feet deep. The NMED has designated the Lance impact site as SWMU 168.

An initial assessment of the impact was conducted on Dec. 16, 1999 by explosive ordnance disposal (EOD) team members to provide a quick visual and chemical assessment of the impact site for baseline conditions. Soil and water samples were collected. The analysis indicated a small amount of contamination from the impact. The initial site visit concluded that the missile must be below the surface of the water table possibly with the propellant tanks intact.

On Jan. 26, 2000, six soil and three water samples were collected and four additional soil samples from the edge of the crater at the four compass points. Two background soil samples were collected as well as one water background samples. Two water samples from the crater were also collected. The IRFNA was detected in soil samples from the background and edge of the crater. It was also detected in background water samples and the crater samples. Another follow-on sampling event was completed on Feb. 28, 2000. No contaminants were detected in any soil samples and only N-Nitrodimethylamine (DMN) was detected in water. On March 16, 2000 a follow-on assessment recovery team inspected the site. Calculations of the physics of the missile flight it was concluded that the missile could not be intact and it could be no deeper than 23 feet. This indicated that most of the missile debris is not deep and contamination release happened at the surface. A RFI was conducted in November 2002 concluded that because of the remoteness of the site potential adverse effects are lessened. It was also concluded that the site does not pose health risks to humans.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 4-1, requiring corrective action; however, the NMED did not receive a report requesting closure and included the site on the 2009 permit requiring corrective action.

This site was included on the CAC petition submitted to the NMED in March 2010. The petition is currently under review by NMED for closure. A public meeting was conducted in February 2011.

The NMED issued an Administratively Incomplete Determination of the CAC petition on Oct. 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

The NMED issued an Administratively Incomplete Determination of the CAC petition on October 11, 2011. WSMR requested clarification and confirmation of the proposed changes and will submit a revised petition within 60 days from the date of receiving NMED confirmation.

**CLEANUP/EXIT STRATEGY**

**Site ID: WSMR-86**  
**Site Name: Lance Missile Impact Site**  
**Alias: SWMU-168**

A revised CAC petition was submitted to the NMED in January 2011. Corrective Action Complete without controls is anticipated.

**Site ID: WSMR-87**  
**Site Name: Multifunction Array Radar Dump Site**  
**Alias: SWMU 150**

**STATUS**

**Regulatory Driver:** RCRA

**RRSE:** NOT EVALUATED

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	200203.....	201607
LTM.....	201608.....	204609
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201607	

**SITE DESCRIPTION**

WSMR-87 (SWMU 150) is located at the HELSTF located about 16 miles on US Highway 70 east of the Main Post. The site was located in an open field at HELSTF. The site consisted of an open trench measuring about 225 feet by 35 feet by 8 feet. The unit is inactive and had been utilized in the 1960s. The trench was partially filled with what was thought to be building debris and old paint materials.

In January 1997 a Close out Report was prepared for the NMED. It stated that previous soil samples from borings in the trench were found to contain metals. Sample results indicated the levels of barium, lead, mercury, and silver all exceeded TC levels, but not to the extent that production of leachate or significant migration would be expected. The remedial strategy for the site was to generically identify and remove the contents of the open trench, to determine through sampling is the soil below the debris was contaminated and if so excavate the contaminated soil. On Feb. 7, 1996 eight CSs were collected from below the excavation. All samples tested as nonhazardous. The materials from the trench were then transported to the WSMR industrial landfill on April 9, 1996. On April 18, 1996 the SWMU 150 area was graded to blend with the existing terrain and hydroseeded. Based on the results of the report it was warranted that WSMR apply for closure of this site.

A petition for removal from the RCRA permit was submitted in 1996 but rejected in 2002 due to the lack of an RFI. A RFI was initiated in 2002. Supplemental sampling and a risk assessment were completed and a revised Phase III RFI was submitted in September 2008. This SWMU was included with as part of the HELSTF Phase III RFI. A HELSTF Phase III RFI began in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, further data collection (groundwater sampling) and an ecological risk assessment. The work includes various IRP sites as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The NMED submitted comments on the work plan in July 2006. The WSMR responded in August 2006 with the commitment that the work plan would be revised in response to the NMED comments; however, the WSMR requested the fieldwork commence in September 2006, with the understanding that the official work plan approval would follow. The NMED agreed. The WSMR submitted the revised work plan in January 2007 and the NMED approved it in January 2007. The final Phase III report was submitted in 2007.

The original Phase III report was submitted to the NMED in February 2008. Per the NMED's Notice of Deficiency, a revised Phase III RFI report was prepared and submitted to the NMED during September 2009. Following submittal of the revised Phase III RFI report the NMED conducted a preliminary review of the document and provided comments to the revised RFI report. The WSMR submitted a second revision to the Phase III RFI report in August 2010. The WSMR is currently awaiting a response from the NMED.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring corrective action. This site was included on the petition to perform Class III modifications to remove SWMUs from the WSMR RCRA Part-B permit.

This document has gone through public review and a public meeting and is now under review with the NMED.

The CAC is being funded under the current RFI/CMS phase. Controls will be funded under the LTM phase. The LTM phase for 30

**Site ID: WSMR-87**  
**Site Name: Multifunction Array Radar Dump Site**  
**Alias: SWMU 150**

years (FY16 through FY46).

## **CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving CAC with controls. LTM will include continued groundwater monitoring. A CAC petition will be submitted and followed by public review.

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
WSMR-01	YONDER IMPACT AREA	199707	Erroneous DSERTS Entry
WSMR-02	RED RIO MUNITION DISPOSAL AREA(PITS	199707	Active RCRA Subpart X Unit with RCRA Closure; moved to CCWS-06.
WSMR-03	OSCURA MUNITION DISPOSAL AREA	199707	RCRA Subpart X unit with RCRA Closure
WSMR-04	OSCURA RANGE IMPACT AREA	199707	Active Impact Area/Range
WSMR-08	PISTOL/RIFLE RANGE	199707	Active Firing Range
WSMR-09	NUC EFFECTS REACTOR FACILITY(BLDG 2	200609	NFA Letter Dated Nov. 29, 2006
WSMR-11	LIQ PROPELLANT EVAP/NEUT PITS (10)	199608	
WSMR-12	OB/OD DISPOSAL PITS HAZ TEST AREA	199707	RCRA Subpart X Permit; Moved to CCWS-11
WSMR-13	TRINITY SITE	199707	National Historic Landmark Monitored by White Sands Radiation Protection
WSMR-15	FORMER HAZARDOUS WASTE LANDFILL	199009	Landfill underwent RCRA Closure with USEPA
WSMR-17	SEWAGE TREATMENT PLANT MAIN POST	199707	Active Sewage Treatment Plant
WSMR-18	FLOWER AREA BURIAL SITE	199707	Erroneous DSERTS Entry
WSMR-19	BURIAL SITE NORTH OF ARMY BLOCKHOU	199707	Erroneous DSERTS Entry
WSMR-20	BOMBLET BURIAL SITE	199707	Inactive UXO Site Covered Under CCWS-65
WSMR-23	TULA PEAK BURIAL PITS	199707	Inactive UXO Site Covered Under CCWS-65
WSMR-24	TULA PEAK BURIAL SITE INCINERATOR	199608	USEPA Region VI approved a Class III Permit Modification dated Dec. 31, 1995. Covered Under CCWS-65
WSMR-34	TTF HDPE-LINED LAGOON (REMOVED)	199707	USEPA Region VI approved a Class III Permit Modification dated Dec. 31, 1995
WSMR-36	FORMER WASTE/OIL TANK&SUMP EAST BLG 1794	200709	The NMED letter dated Jan. 24, 2007
WSMR-37	HWSF EVAP TANK	199512	RCRA Closure the NMED approved NFA June 13, 2003
WSMR-44	HELSTF STP LAGOONS (PONDS 1-4)	199707	Active Units with NMGWQB Discharge Permit
WSMR-45	HELSTF STP DRY POND	199707	Active Discharge Pond
WSMR-46	HELSTF SEPTIC SYSTEMS (3)	199707	Active Units Regulated by the New Mexico Environment Department's Construction Industries Division Class III Modification by USEPA in 1995
WSMR-47	HELSTF LSTC WASTEWATER DISCHARGE	199707	Active Unit Regulated under NMGWQB
WSMR-48	HELSTF CLEANING FACILITY SUMP	199707	RCRA Closure
WSMR-52	FORMER HELSTF LANDFILL	200606	Erroneous entry, not eligible for ER,A funding. Now covered in CC Program.
WSMR-61	FORMER MAIN POST LANDFILL #3 (SCRAP	200709	Erroneous entry, not eligible for ER,A funding. Now covered in CC Program.
WSMR-62	FORMER STP PERCOLATION DITCHES (2)	200712	Mevatec (2000) identified monitored natural attenuation as suited for remediation of cyanide in groundwater. WTS (2005) responded to the NMED objections on MNA.
WSMR-66	STALLION RANGE CENTER FORMER FFTA	199707	Erroneous DSERTS Entry/Not Included in the Hazardous and Solid Waste

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			Amendment Permit
WSMR-68	SEWAGE LAGOONS @ STALLION RANGE CENTER	199707	Active Site Regulated by the NMGWQB
WSMR-76	SEWAGE LAGOON AT ORO GRANDE RANGE C	199707	Active Site Regulated by the New Mexico Groundwater Quality Bureau
WSMR-80	STEAM WASHPAD,DRAIN,OIL/H2O SEP @ 1	199707	Active Site Ineligible for Inclusion in the IRP

## IRP Schedule

Date of IRP Inception: 197901

### Past Phase Completion Milestones

#### 1979

RFA (WSMR-08 - PISTOL/RIFLE RANGE, WSMR-15 - FORMER HAZARDOUS WASTE LANDFILL, WSMR-18 - FLOWER AREA BURIAL SITE, WSMR-19 - BURIAL SITE NORTH OF ARMY BLOCKHOUS)  
SI (WSMR-01 - YONDER IMPACT AREA, WSMR-13 - TRINITY SITE, WSMR-66 - STALLION RANGE CENTER FORMER FFTA)  
CS (WSMR-08 - PISTOL/RIFLE RANGE, WSMR-18 - FLOWER AREA BURIAL SITE, WSMR-19 - BURIAL SITE NORTH OF ARMY BLOCKHOUS)  
PA (WSMR-01 - YONDER IMPACT AREA, WSMR-13 - TRINITY SITE, WSMR-66 - STALLION RANGE CENTER FORMER FFTA)

#### 1988

RFA (PBA@WSMR - PBA@WSMR, WSMR-11 - LIQ PROPELLANT EVAP/NEUT PITS (10), WSMR-14 - FORMER RHODES CANYON LANDFILLS, WSMR-27 - FORMER ACID NEUT UNIT @ HWSF LDING , WSMR-29 - STP DRYING BEDS (MAIN POST), WSMR-30 - STP SLUDGE WASTE PILE (MAIN POST), WSMR-31 - MAIN POST FORMER FFTA & PIT, WSMR-32 - MAIN POST FORMER FFTA WASTE PILE, WSMR-33 - USED BATTERY ACCUM AREAS (MAIN POST), WSMR-34 - TTF HDPE-LINED LAGOON (REMOVED), WSMR-35 - TTF 25,000 GAL EVAP TANK, WSMR-36 - FORMER WASTE/OIL TANK&SUMP EAST BLG 1794, WSMR-37 - HWSF EVAP TANK, WSMR-39 - FORMER MAIN POST LANDFILL 1A, WSMR-40 - FORMER MAIN POST LANDFILL 2A, WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX, WSMR-43 - FORMER CHEM WASTE EVAP TANKS @ HELS, WSMR-48 - HELSTF CLEANING FACILITY SUMP, WSMR-49 - HELSTF HOLDING TANKS (Fluorspar), WSMR-50 - SWMUs 35-36 and AOC-V, WSMR-52 - FORMER HELSTF LANDFILL , WSMR-53 - HELSTF TEST CELL 4 LAGOON, WSMR-54 - HELSTF CHROMATE SPILL SITE, WSMR-55 - HELSTF SYSTEMIC DIESEL SPILL, WSMR-56 - PAINT SHOP SUMP, WSMR-57 - FORMER GOLF COURSE PESTICIDE STG SHED, WSMR-58 - FORMER VANDAL BURIAL SITE, WSMR-59 - FORMER SEWAGE TREATMENT PLT(IMHOFF , WSMR-60 - WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778, WSMR-61 - FORMER MAIN POST LANDFILL #3 (SCRAP, WSMR-62 - FORMER STP PERCOLATION DITCHES (2), WSMR-67 - STALLION ASPHALT TANKS, WSMR-69 - SEPTIC TANK/DRAINFIELD @ RHODES CANYON, WSMR-70 - FORMER LANDFILL @ STALLION RANGE CENTER, WSMR-71 - FORMER NORTH OSCURA PEAK LANDFILL, WSMR-73 - WASTE UNDERGROUND INJECTION PIPE, WSMR-74 - FORMER WST OIL TANK/SUMP @ BLDG 1778, WSMR-75 - RHODES CANYON SUBGRADE ASPHALT TANKS (3), WSMR-77 - MCAFFEE & VET CLINIC INCINERATORS, WSMR-78 - SWMUs 147 and 23-26, WSMR-79 - HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736, WSMR-81 - MAIN POST SANITARY LANDFILL, WSMR-82 - MAIN POST CONSTRUCTION LANDFILL, WSMR-83 - FORMER MAR WASTE STABILIZATION POND, WSMR-84 - FORMER LC-37 PAINT DUMP, WSMR-85 - Waste Oil Accumulation, WSMR-87 - Multifunction Array Radar Dump Site)  
CS (WSMR-27 - FORMER ACID NEUT UNIT @ HWSF LDING , WSMR-29 - STP DRYING BEDS (MAIN POST), WSMR-30 - STP SLUDGE WASTE PILE (MAIN POST), WSMR-31 - MAIN POST FORMER FFTA & PIT, WSMR-32 - MAIN POST FORMER FFTA WASTE PILE, WSMR-33 - USED BATTERY ACCUM AREAS (MAIN POST), WSMR-34 - TTF HDPE-LINED LAGOON (REMOVED), WSMR-35 - TTF 25,000 GAL EVAP TANK, WSMR-36 - FORMER WASTE/OIL TANK&SUMP EAST BLG 1794, WSMR-37 - HWSF EVAP TANK, WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX, WSMR-43 - FORMER CHEM WASTE EVAP TANKS @ HELS, WSMR-49 - HELSTF HOLDING TANKS (Fluorspar), WSMR-50 - SWMUs 35-36 and AOC-V, WSMR-52 - FORMER HELSTF LANDFILL , WSMR-53 - HELSTF TEST CELL 4 LAGOON, WSMR-54 - HELSTF CHROMATE SPILL SITE, WSMR-55 - HELSTF SYSTEMIC DIESEL SPILL, WSMR-57 - FORMER GOLF COURSE PESTICIDE STG SHED, WSMR-58 - FORMER VANDAL BURIAL SITE, WSMR-59 - FORMER SEWAGE TREATMENT PLT(IMHOFF , WSMR-60 - WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778, WSMR-61 - FORMER MAIN POST LANDFILL #3 (SCRAP, WSMR-62 - FORMER STP PERCOLATION DITCHES (2), WSMR-67 - STALLION ASPHALT TANKS, WSMR-70 - FORMER LANDFILL @ STALLION RANGE CENTER, WSMR-71 - FORMER NORTH OSCURA PEAK LANDFILL, WSMR-73 - WASTE UNDERGROUND INJECTION PIPE, WSMR-77 - MCAFFEE & VET CLINIC INCINERATORS, WSMR-81 - MAIN POST SANITARY LANDFILL, WSMR-82 - MAIN POST CONSTRUCTION LANDFILL)  
SI (WSMR-17 - SEWAGE TREATMENT PLANT MAIN POST, WSMR-24 - TULA PEAK BURIAL SITE INCINERATOR, WSMR-42 - STP DISCHARGE SITE @ PLAYA LAKE, WSMR-44 - HELSTF STP LAGOONS (PONDS 1-4), WSMR-45 - HELSTF STP DRY POND, WSMR-46 - HELSTF SEPTIC SYSTEMS (3), WSMR-47 - HELSTF LSTC WASTEWATER DISCHARGE, WSMR-68 - SEWAGE LAGOONS @ STALLION RANGE

## IRP Schedule

	CENTER)
PA	(WSMR-02 - RED RIO MUNITION DISPOSAL AREA(PITS, WSMR-03 - OSCURA MUNITION DISPOSAL AREA, WSMR-04 - OSCURA RANGE IMPACT AREA, WSMR-12 - OB/OD DISPOSAL PITS HAZ TEST AREA, WSMR-17 - SEWAGE TREATMENT PLANT MAIN POST, WSMR-20 - BOMBLET BURIAL SITE, WSMR-23 - TULA PEAK BURIAL PITS, WSMR-24 - TULA PEAK BURIAL SITE INCINERATOR, WSMR-42 - STP DISCHARGE SITE @ PLAYA LAKE, WSMR-44 - HELSTF STP LAGOONS (PONDS 1-4), WSMR-45 - HELSTF STP DRY POND, WSMR-46 - HELSTF SEPTIC SYSTEMS (3), WSMR-47 - HELSTF LSTC WASTEWATER DISCHARGE, WSMR-68 - SEWAGE LAGOONS @ STALLION RANGE CENTER, WSMR-76 - SEWAGE LAGOON AT ORO GRANDE RANGE C, WSMR-80 - STEAM WASHPAD,DRAIN,OIL/H2O SEP @ 1)
RFI/CMS	(WSMR-34 - TTF HDPE-LINED LAGOON (REMOVED))
IRA	(WSMR-34 - TTF HDPE-LINED LAGOON (REMOVED), WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX)
<b>1989</b>	
IRA	(WSMR-50 - SWMUs 35-36 and AOC-V)
<b>1990</b>	
IRA	(WSMR-74 - FORMER WST OIL TANK/SUMP @ BLDG 1778)
CMI(C)	(WSMR-15 - FORMER HAZARDOUS WASTE LANDFILL)
CS	(WSMR-74 - FORMER WST OIL TANK/SUMP @ BLDG 1778)
<b>1991</b>	
IRA	(WSMR-77 - MCAFFEE & VET CLINIC INCINERATORS)
<b>1992</b>	
RFI/CMS	(WSMR-29 - STP DRYING BEDS (MAIN POST), WSMR-37 - HWSF EVAP TANK)
CS	(WSMR-75 - RHODES CANYON SUBGRADE ASPHALT TANKS (3))
RI/FS	(WSMR-68 - SEWAGE LAGOONS @ STALLION RANGE CENTER)
SI	(WSMR-76 - SEWAGE LAGOON AT ORO GRANDE RANGE C)
<b>1993</b>	
IRA	(WSMR-75 - RHODES CANYON SUBGRADE ASPHALT TANKS (3))
CMI(C)	(WSMR-34 - TTF HDPE-LINED LAGOON (REMOVED), WSMR-67 - STALLION ASPHALT TANKS)
CS	(WSMR-79 - HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736, WSMR-84 - FORMER LC-37 PAINT DUMP)
RI/FS	(WSMR-76 - SEWAGE LAGOON AT ORO GRANDE RANGE C)
SI	(WSMR-80 - STEAM WASHPAD,DRAIN,OIL/H2O SEP @ 1)
RFI/CMS	(WSMR-67 - STALLION ASPHALT TANKS)
<b>1994</b>	
RI/FS	(WSMR-24 - TULA PEAK BURIAL SITE INCINERATOR)
CS	(WSMR-11 - LIQ PROPELLANT EVAP/NEUT PITS (10))
SI	(WSMR-23 - TULA PEAK BURIAL PITS)
<b>1995</b>	
RA(C)	(WSMR-23 - TULA PEAK BURIAL PITS)
RI/FS	(WSMR-17 - SEWAGE TREATMENT PLANT MAIN POST, WSMR-20 - BOMBLET BURIAL SITE, WSMR-23 - TULA PEAK BURIAL PITS, WSMR-45 - HELSTF STP DRY POND, WSMR-80 - STEAM WASHPAD,DRAIN,OIL/H2O SEP @ 1)
CMI(C)	(WSMR-29 - STP DRYING BEDS (MAIN POST), WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX, WSMR-72 - ABAND DISPOSAL TRENCH AT NEW COMMIS)
SI	(WSMR-12 - OB/OD DISPOSAL PITS HAZ TEST AREA)
RFI/CMS	(WSMR-11 - LIQ PROPELLANT EVAP/NEUT PITS (10), WSMR-35 - TTF 25,000 GAL EVAP TANK, WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX, WSMR-59 - FORMER SEWAGE TREATMENT

## IRP Schedule

	PLT(IMHOFF , WSMR-72 - ABAND DISPOSAL TRENCH AT NEW COMMIS)
IRA	(WSMR-30 - STP SLUDGE WASTE PILE (MAIN POST), WSMR-57 - FORMER GOLF COURSE PESTICIDE STG SHED)
DES	(WSMR-11 - LIQ PROPELLANT EVAP/NEUT PITS (10), WSMR-41 - TTF METHYLENE CHLORIDE SPILL AREA/VAP EX)
CS	(WSMR-72 - ABAND DISPOSAL TRENCH AT NEW COMMIS, WSMR-78 - SWMUs 147 and 23-26, WSMR-83 - FORMER MAR WASTE STABILIZATION POND)
RFA	(WSMR-72 - ABAND DISPOSAL TRENCH AT NEW COMMIS)
<b>1996</b>	
IRA	(WSMR-31 - MAIN POST FORMER FFTA & PIT, WSMR-36 - FORMER WASTE/OIL TANK&SUMP EAST BLG 1794, WSMR-53 - HELSTF TEST CELL 4 LAGOON, WSMR-58 - FORMER VANDAL BURIAL SITE, WSMR-78 - SWMUs 147 and 23-26, WSMR-84 - FORMER LC-37 PAINT DUMP)
RA(C)	(WSMR-20 - BOMBLET BURIAL SITE)
RI/FS	(WSMR-12 - OB/OD DISPOSAL PITS HAZ TEST AREA)
CMI(C)	(WSMR-11 - LIQ PROPELLANT EVAP/NEUT PITS (10))
<b>1997</b>	
RI/FS	(WSMR-44 - HELSTF STP LAGOONS (PONDS 1-4), WSMR-46 - HELSTF SEPTIC SYSTEMS (3), WSMR-47 - HELSTF LSTC WASTEWATER DISCHARGE)
RFA	(WSMR-05 - FORMER OSCURA RANGE CENTERLANDFILLS, WSMR-09 - NUC EFFECTS REACTOR FACILITY(BLDG 2)
RFI/CMS	(WSMR-48 - HELSTF CLEANING FACILITY SUMP, WSMR-69 - SEPTIC TANK/DRAINFIELD @ RHODES CANYON)
IRA	(WSMR-33 - USED BATTERY ACCUM AREAS (MAIN POST))
<b>1998</b>	
RFI/CMS	(WSMR-09 - NUC EFFECTS REACTOR FACILITY(BLDG 2, WSMR-71 - FORMER NORTH OSCURA PEAK LANDFILL)
<b>1999</b>	
IRA	(WSMR-54 - HELSTF CHROMATE SPILL SITE)
DES	(WSMR-09 - NUC EFFECTS REACTOR FACILITY(BLDG 2, WSMR-71 - FORMER NORTH OSCURA PEAK LANDFILL)
<b>2000</b>	
RFA	(WSMR-86 - Lance Missile Impact Site)
<b>2004</b>	
CMI(C)	(WSMR-14 - FORMER RHODES CANYON LANDFILLS)
RFI/CMS	(WSMR-05 - FORMER OSCURA RANGE CENTERLANDFILLS, WSMR-14 - FORMER RHODES CANYON LANDFILLS)
<b>2006</b>	
DES	(WSMR-05 - FORMER OSCURA RANGE CENTERLANDFILLS)
RFI/CMS	(WSMR-30 - STP SLUDGE WASTE PILE (MAIN POST), WSMR-52 - FORMER HELSTF LANDFILL )
IRA	(WSMR-32 - MAIN POST FORMER FFTA WASTE PILE)
CMI(C)	(WSMR-09 - NUC EFFECTS REACTOR FACILITY(BLDG 2)
<b>2007</b>	
IRA	(WSMR-55 - HELSTF SYSTEMIC DIESEL SPILL)
RFI/CMS	(WSMR-36 - FORMER WASTE/OIL TANK&SUMP EAST BLG 1794, WSMR-57 - FORMER GOLF COURSE PESTICIDE STG SHED, WSMR-60 - WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778, WSMR-61 - FORMER MAIN POST LANDFILL #3 (SCRAP, WSMR-74 - FORMER WST OIL TANK/SUMP @ BLDG 1778, WSMR-84 - FORMER LC-37 PAINT DUMP)

# IRP Schedule

## 2009

RFI/CMS (PBA@WSMR - PBA@WSMR)  
CMI(C) (PBA@WSMR - PBA@WSMR)  
DES (PBA@WSMR - PBA@WSMR)

### Projected Phase Completion Milestones

See attached schedule

### Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
WSMR-32	MAIN POST FORMER FFTA WASTE PILE	WSMR-32 DD	20130930

**Final RA(C) Completion Date:** 201302

**Schedule for Next Five-Year Review:** 2014

**Estimated Completion Date of IRP at Installation (including LTM phase):** 204609

## WHITE SANDS MISSILE RANGE IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
PBA@WSMR	PBA@WSMR	CMI(O)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-05	FORMER OSCURA RANGE CENTERLANDFILLS	CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-14	FORMER RHODES CANYON LANDFILLS	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-27	FORMER ACID NEUT UNIT @ HWSF LDING	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-29	STP DRYING BEDS (MAIN POST)	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-30	STP SLUDGE WASTE PILE (MAIN POST)	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-31	MAIN POST FORMER FFTA & PIT	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-32	MAIN POST FORMER FFTA WASTE PILE	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-33	USED BATTERY ACCUM AREAS (MAIN POST)	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-35	TTF 25,000 GAL EVAP TANK	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-39	FORMER MAIN POST LANDFILL 1A	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-40	FORMER MAIN POST LANDFILL 2A	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-41	TTF METHYLENE CHLORIDE SPILL AREA/VAP EX	CMI(O)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-42	STP DISCHARGE SITE @ PLAYA LAKE	RI/FS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-43	FORMER CHEM WASTE EVAP TANKS @ HELS	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-49	HELSTF HOLDING TANKS (Fluorspar)	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-50	SWMUs 35-36 and AOC-V	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-53	HELSTF TEST CELL 4 LAGOON	RFI/CMS						
		LTM						

## WHITE SANDS MISSILE RANGE IRP Schedule

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-54	HELSTF CHROMATE SPILL SITE	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-55	HELSTF SYSTEMIC DIESEL SPILL	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-56	PAINT SHOP SUMP	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-57	FORMER GOLF COURSE PESTICIDE STG SHED	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-58	FORMER VANDAL BURIAL SITE	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-59	FORMER SEWAGE TREATMENT PLT(IMHOFF	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-60	WASH RAMP & DRAIN/SUMP EAST OF BLDG 1778	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-67	STALLION ASPHALT TANKS	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-69	SEPTIC TANK/DRAINFIELD @ RHODES CANYON	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-70	FORMER LANDFILL @ STALLION RANGE CENTER	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-71	FORMER NORTH OSCURA PEAK LANDFILL	CM(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-72	ABAND DISPOSAL TRENCH AT NEW COMMIS	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-73	WASTE UNDERGROUND INJECTION PIPE	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-74	FORMER WST OIL TANK/SUMP @ BLDG 1778	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-75	RHODES CANYON SUBGRADE ASPHALT TANKS (3)	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-77	MCAFFEE & VET CLINIC INCINERATORS	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-78	SWMUs 147 and 23-26	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-79	HEAVY EQPT WASHPAD & DRAIN @ BLDG 1736	RFI/CMS						

## WHITE SANDS MISSILE RANGE IRP Schedule

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-81	MAIN POST SANITARY LANDFILL	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-82	MAIN POST CONSTRUCTION LANDFILL	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-83	FORMER MAR WASTE STABILIZATION POND	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-84	FORMER LC-37 PAINT DUMP	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-85	Waste Oil Accumulation	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-86	Lance Missile Impact Site	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-87	Multifunction Array Radar Dump Site	RFI/CMS						
		LTM						

**WHITE SANDS MISSILE RANGE**  
**Army Defense Environmental Restoration Program**  
**Military Munitions Response Program**

# MMRP Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 7/2

## Installation Site Types with Future and/or Underway Phases

- 4 Firing Range  
(WSMR-003-R-01, WSMR-004-R-01, WSMR-005-R-01, WSMR-006-R-01)
- 1 Unexploded Munitions/Ordnance  
(WSMR-007-R-01)

## Most Widespread Contaminants of Concern

Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

## Media of Concern

Groundwater, Soil

## Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
N/A				

## Duration of MMRP

**Date of MMRP Inception** 200205

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201409/201409

**Date of MMRP completion including Long Term Management (LTM):** 201309

# MMRP Contamination Assessment

## Contamination Assessment Overview

The MMRP was established in 2001 to manage the environmental, health and safety issues presented by unexploded ordnance (UXO), discarded military munitions (DMM), and MC. The MMRP is an element of the DERP, under which the Secretary of Defense carries out environmental restoration resulting from historical activities. The DERP, through the IRP, had historically focused on cleaning up sites contaminated with hazardous components, including explosives, but generally has not addressed either UXO or challenges presented by sites containing DMM and MC.

The DoD established the MMRP to reflect the statutory program goals established for the DERP, to enhance understanding of the nature of munitions response sites (MRSs), and to manage response activities more effectively. On Dec. 29, 2008, the Office of the Deputy Under Secretary of Defense for Installations and Environment, ODUSD(I&E), issued an interim policy for DERP eligibility that rescinded the 2002 eligibility cutoff date for the MMRP. Areas that operated after FY02 are now eligible for DERP funding.

The Army has completed a comprehensive inventory of its nonoperational training ranges and defense sites with UXO, DMM or MC contamination that will provide critical environmental data and help determine the eligibility of training sites for the MMRP. Information pertaining to WSMR is contained in the Final Closed, Transferred or Transferring (CTT) Inventory Report dated November 2002. In this report, six WSMR sites are identified and described: four sites within and two sites outside the current WSMR boundaries. The final CTT inventory report serves as WSMR's MMRP PA pursuant to an April 29, 2004 Assistant Chief of Staff for Installation Management (ACSIM) memorandum.

The final historical records review (HRR) was completed in September 2007. Two of the six sites initially identified in the CTT inventory report were determined to be eligible for the Formerly Used Defense Sites (FUDS) program, and therefore are ineligible for the MMRP.

## Cleanup Exit Strategy

Of the six MMRP sites at WSMR, only two sites (WSMR-001-R-01 and WSMR-002-R-01) are expected to require institutional controls; however, they are expected to be moved to the FUDS program. The remaining four sites are expected to require waste removal (soil/debris); these potential waste removals are not expected to occur until FY16 or later.

## MMRP Previous Studies

	<b>Title</b>	<b>Author</b>	<b>Date</b>
<b>2004</b>	Final CTT Inventory Report	TechLaw, Inc.	APR-2004
<b>2007</b>	Final Historical Records Review, White Sands Missile Range, New Mexico, Military Munitions Response Program	U.S. Army Corps of Engineers, Sacramento District	SEP-2007
<b>2010</b>	Site Inspection Report	URS Group, Inc.	SEP-2010

**WHITE SANDS MISSILE RANGE**  
**Military Munitions Response Program**  
**Site Descriptions**

**Site ID: WSMR-003-R-01**

**Site Name: Stallion Range Center Cantonment Ar**

**Alias: AOC AA**

## STATUS

**Regulatory Driver:** CERCLA

**MRSPP Score:** No known or suspected hazard

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200205.....	200305
SI.....	200606.....	201006
RI/FS.....	201101.....	201309

**RIP Date:** N/A

**RC Date:** 201409

## SITE DESCRIPTION

The Stallion Range Center (SRC) Cantonment Area MRS was identified as the Alamogordo Bombing Range MRS in the CTT inventory report but has been renamed since the MRS encompasses the WSMR Stallion Range Center. This MRS is located within the boundary of the historical Alamogordo Bombing and Gunnery Range (ABGR). The ABGR was created on Jan. 20, 1942 by Executive Order 9029. The bombing and gunnery range was assigned to the Alamogordo Army Airfield (AAF) (now Holloman AFB) and was used for bombing and air-to-air gunnery training of B-17, B-24, and B-29 aircraft crews. This range is located approximately 115 miles north of the main post. The range was used between 1942 and 1945 by practicing pilots. There are no known UXO responses in this area.

According to the September 2007 final HRR, MEC and MC are suspected at this site.

An SI was conducted in August 2008 to determine the presence or absence of MEC and MC. The SI did not determine the full extent of contamination at a site or conduct a risk assessment. No MEC has been reported and none were observed during the SI. No samples exceeded the established screening criteria for metals and no explosives were detected; however, due to the presence of military debris on the ground surface, further investigation of MEC is recommended for the SRC MRS. The WSMR intends to move towards the RFI phase of the MMRP response process. Because the site is listed in WSMR's RCRA Part B permit, further investigations will follow the WSMR RCRA Permit requirements. WSMR is working with the USACE to complete the RFI phase at SRC. Because evidence of solid rocket propellant is limited to the northeastern portion of the MRS, the southern and western areas are recommended for NFA for both MEC and MC.

A Performance Work Statement was issued in 2011 which includes SubCLINs for achieving a RCRA Facility Investigation at this site.

## CLEANUP/EXIT STRATEGY

The SI recommendation for the Stallion Range Cantonment Area is NFA. Because the site is listed in WSMR's RCRA Part B permit, further investigations will follow the WSMR RCRA permit requirements.

## Site ID: WSMR-004-R-01

## Site Name: Main Post Wastewater Treatment Plan

## Alias: AOC AB

### STATUS

Regulatory Driver: CERCLA

MRSPP Score: No known or suspected hazard

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200205.....	200305
SI.....	200606.....	201006
RI/FS.....	201101.....	201309

RIP Date: N/A

RC Date: 201409

### SITE DESCRIPTION

The CTT inventory report identified the Sewage Lagoon MRS as 166 acres. During the HRR process, WSMR renamed this MRS the Main Post Wastewater Treatment Plant (MPWWTP). The boundary coincided with the operational munitions storage area southeast of the main post area. This MRS lies within the northern boundary of the previously discussed three-inch anti-aircraft artillery (AAA) range that was located at Camp Beasley and used from approximately 1940 to 1942. A review of the available records (1999 to 2006) from the EOD unit assigned to WSMR did not identify any response actions associated with munitions from the Camp Beasley AAA range activities.

During the HRR, WSMR revised the operational range boundary through the established Army process to include the operational munitions storage area into the operational range. Therefore, this area is ineligible for the MMRP since it is now part of the operational range. In conjunction with including this area in the operational range, 11 acres surrounding the STP southeast of the main post area were removed from the operational range, making this area eligible for the MMRP due to potential impacts by the same historical ranges that impacted the Sewage Lagoon MRS. In conjunction with the operational range changes, this MRS was renamed the MPWWTP MRS.

Potential MEC in the MPWWTP MRS include three-inch AAA rounds from the Camp Beasley AAA range. Potential MC includes tetryl, black powder, trinitrotoluene (TNT), flashless nonhygroscopic powder, mercury fulminate, antimony sulfide, and potassium chlorate.

The MPWWTP MRS is adjacent to the IRP site designated as SWMU 80. This site was a waste pile consisting of soil, sludge, and rubble that was created following a flash flood in 1978 that destroyed the sludge beds (SWMU 79) from the installation STP. Sludge, excavated soils, and sludge bed debris (e.g., reinforced concrete) were washed from the original sludge bed location and relocated approximately 100 feet to the southeast of the STP sludge beds active as of 2002. The pile was approximately 50 to 75 feet long with heights varying from two to six feet.

A Phase III RFI collected soil samples at SWMU 80, including one boring within the MPWWTP MRS boundary. Analysis was conducted for the RCRA metals. None of the RCRA metals considered to be MC (i.e., lead and cadmium) were detected above their respective NMED SSLs. The RFI report recommended NFA for SWMU 80. This recommendation is pending the NMED approval.

According to the September 2007 final HRR, MEC and MC are suspected at this site.

An SI was conducted in August 2008 to determine the presence or absence of MEC and MC. The SI did not determine the full extent of contamination at a site or conduct a risk assessment. No MEC or munitions debris have been reported and none were observed during the SI. No samples exceeded the established screening criteria for metals and no explosives were detected.

The RI phase is recommended at the MPWWTP MRS. WSMR intends to move towards the RI phase of the MMRP response process. Because the site is listed in WSMR's RCRA Part B permit, further investigations will follow the WSMR permit requirements. WSMR is working with the USACE to complete the RFI phase at the Main Post Wastewater Treatment Plant.

**Site ID: WSMR-004-R-01**  
**Site Name: Main Post Wastewater Treatment Plan**  
**Alias: AOC AB**

A Performance Work Statement was issued in 2011 which includes SubCLINs for achieving a RCRA Facility Investigation (RFI) at this site.

**CLEANUP/EXIT STRATEGY**

The SI recommendation for the MPWWTP is NFA. Because the site is listed in WSMR's RCRA Part B permit, further investigations will follow the WSMR RCRA permit requirements.

**Site ID: WSMR-005-R-01**  
**Site Name: CONDRON FIELD**  
**Alias: AOC AC**

**STATUS**

**Regulatory Driver:** CERCLA  
**MRSPP Score:** No known or suspected hazard  
**Contaminants of Concern:** Munitions and explosives of concern (MEC), Munitions constituents (MC)  
**Media of Concern:** Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
PA.....	200205.....	200305
SI.....	200606.....	201006
RI/FS.....	201101.....	201309
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201409	

**SITE DESCRIPTION**

WSMR-005-R-01 (AOC AC), Condron Field is a closed range, still owned by the US Army, comprising 480 acres in the extreme southern portion of the installation where an airfield now exists. This area was used as an artillery impact area for 3-in. rockets from Fort Bliss, Camp Beasley between approximately 1942 and 1944 and as a mobile combat range utilizing small arms in 1944. The area is now used as an airfield for drones that serve as missile targets. There have been no known UXO responses in this area.

During the Historical Records Review (HRR) process, the WSMR operational range boundary was revised in September 2007. The Condron Field site was identified in the CTT Range/Site Inventory Report but is now located within the operational range footprint, making it ineligible for the MMRP.

The site is listed in Table 4-1 of the WSMR 2009 Hazardous Waste Permit requiring corrective action. This site was given a unit description of Condron Field (AOC AC) within the permit. Because the site is listed in WSMR's permit, WSMR intends to conduct further investigations per the RCRA process.

**CLEANUP/EXIT STRATEGY**

A remedial investigation phase is recommended at the Condron Field MRS. WSMR intends to move towards an RFI Phase per the RCRA process. Further investigations will follow the WSMR RCRA Permit requirements.

**Site ID: WSMR-006-R-01**  
**Site Name: MAIN CANTONMENT AREA**  
**Alias: AOC AD**

**STATUS**

**Regulatory Driver:** CERCLA

**MRSPP Score:** No known or suspected hazard

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200205.....	200305
SI.....	200606.....	201006
RI/FS.....	201101.....	201309

**RIP Date:** N/A

**RC Date:** 201409

**SITE DESCRIPTION**

The WSMR Main Cantonment Area MRS lies within the boundary of the three-inch AAA range that was located at Camp Beasley and used from approximately 1940 to 1942. The Main Cantonment Area MRS is located in the far northwestern area of the historical AAA range boundary.

The WSMR headquarters, as well as numerous administrative buildings, maintenance facilities, recreation facilities, residential areas, and a school, are located within the Main Cantonment Area MRS. A review of the available records (1999 to 2006) from the EOD unit assigned to WSMR did not identify any response actions associated with munitions from the Camp Beasley AAA range activities. During the HRR process, WSMR implemented changes to the operational range boundary as documented in the Sept. 6, 2007 IMWE-WSMPW memorandum. These changes increased the size of the Main Cantonment Area MRS from 1,528 acres, as reported in the CTT inventory report, to 1,687 acres.

Potential MEC in the Main Cantonment Area MRS include three-inch AAA rounds from the Camp Beasley AAA range. Potential MC includes tetryl, black powder, TNT, flashless nonhygroscopic powder, mercury fulminate, antimony sulfide, and potassium chlorate.

There are no known UXO responses in this area.

According to the September 2007 final HRR, MEC and MC are suspected at this site.

An SI was conducted in August 2008 to determine the presence or absence of MEC and MC. The SI did not determine the full extent of contamination at a site or conduct a risk assessment. No MEC or munitions debris have been reported and none were observed during the SI. No samples exceeded the established screening criteria for metals and no explosives were detected.

The WSMR intends to move towards the RI phase of the MMRP response process. Because the site is listed in WSMR's RCRA Part B permit, further investigations will be required and will be conducted pursuant to the RCRA permit requirements. WSMR is working with the USACE to complete the RFI phase for WSMR-006-R-01

A Performance Work Statement was issued in 2011 which includes SubCLINs for achieving a RFI at this site.

**CLEANUP/EXIT STRATEGY**

The SI recommendation for the Main Cantonment Area is NFA. Because the site is listed in WSMR's RCRA Part B permit, further investigations will follow the WSMR RCRA permit requirements.

**Site ID: WSMR-007-R-01**  
**Site Name: RAMAH RANCH**  
**Alias: None**

**STATUS**

**Regulatory Driver:** CERCLA

**MRSPP Score:** 06

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200205.....	200305
SI.....	200606.....	200909
RI/FS.....	200910.....	201309

**RIP Date:** N/A

**RC Date:** 201409

**SITE DESCRIPTION**

The Ramah Ranch MRS (formerly identified as the Bartlett Ranch MRS) is a transferred MRS comprised of 5,150 acres, located on private property approximately 300 miles northwest of the main post area of WSMR. Rocket propellant of an unknown origin was recovered from this site in 2006. The site is not an established area used for rocket testing and the propellant release is considered an isolated incident.

According to the September 2007 final HRR, MEC and MC are suspected at this site.

An SI was conducted in August 2008 to determine the presence or absence of MEC and MC. The SI did not determine the full extent of contamination at a site or conduct a risk assessment. MEC has been previously reported but no MEC or munitions debris was observed during the SI. No samples exceeded the established screening criteria for metals or perchlorate. The SI recommendation for MEC is to further investigate via RI. NFA was indicated for MC based on the SI results. However, MC may require further evaluation during the RI.

The WSMR intends to move towards the RI phase of the MMRP response process. Because evidence of solid rocket propellant is limited to the northeastern portion of the MRS, the southern and western areas are recommended for NFA for both MEC and MC. WSMR is working with the USACE to complete the Remedial Investigation and Interim Removal Action phases at the Ramah Ranch Site.

The NMED called for Ramah Ranch to be added to the RCRA permit. The WSMR responded to the NMED that there would be no permit modification and the Ramah Ranch site will be continued and regulated under CERCLA.

**CLEANUP/EXIT STRATEGY**

The SI recommendation for MEC is to further investigate via RI. NFA was indicated for MC based on the SI results; however, MC may require further evaluation during the RI.

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
WSMR-001-R-01	ATHENA BOOSTER DROP ZONE 1	200705	WSMR FUDS [Confirmation of Removal of Athena BDZs]
WSMR-002-R-01	ATHENA BOOSTER DROP ZONE 2	200705	WSMR FUDS [Confirmation of Removal of Athena BDZs]

# MMRP Schedule

**Date of MMRP Inception** 200205

## **Past Phase Completion Milestones**

### **2003**

PA (WSMR-001-R-01 - ATHENA BOOSTER DROP ZONE 1, WSMR-002-R-01 - ATHENA BOOSTER DROP ZONE 2, WSMR-003-R-01 - Stallion Range Center Cantonment Ar, WSMR-004-R-01 - Main Post Wastewater Treatment Plan, WSMR-005-R-01 - CONDRON FIELD, WSMR-006-R-01 - MAIN CANTONMENT AREA, WSMR-007-R-01 - RAMAH RANCH)

### **2009**

SI (WSMR-007-R-01 - RAMAH RANCH)

### **2010**

SI (WSMR-003-R-01 - Stallion Range Center Cantonment Ar, WSMR-004-R-01 - Main Post Wastewater Treatment Plan, WSMR-005-R-01 - CONDRON FIELD, WSMR-006-R-01 - MAIN CANTONMENT AREA)

## **Projected Phase Completion Milestones**

**See attached schedule**

## **Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates**

To Be Determined

## **Final RA(C) Completion Date:**

**Schedule for Next Five-Year Review:** 2014

**Estimated Completion Date of MMRP at Installation (including LTM phase):** 201309

## WHITE SANDS MISSILE RANGE MMRP Schedule

  = phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-003-R-01	Stallion Range Center Cantonment Ar	RI/FS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-004-R-01	Main Post Wastewater Treatment Plan	RI/FS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-005-R-01	CONDRON FIELD	RI/FS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-006-R-01	MAIN CANTONMENT AREA	RI/FS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
WSMR-007-R-01	RAMAH RANCH	RI/FS						

**WHITE SANDS MISSILE RANGE**  
**Army Defense Environmental Restoration Program**  
**Compliance Restoration**

## CR Summary

**Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count:** 25/0

**Installation Site Types with Future and/or Underway Phases**

- 1 Contaminated Soil Piles  
(CCWS-90)
- 1 Fire/Crash Training Area  
(CCWS-04)
- 8 Spill Site Area  
(CCWS-05, CCWS-09, CCWS-16, CCWS-77, CCWS-81, CCWS-82, CCWS-93, CCWS-97)
- 10 Storage Area  
(CCWS-83, CCWS-84, CCWS-85, CCWS-86, CCWS-87, CCWS-88, CCWS-89, CCWS-94, CCWS-95, CCWS-96)
- 4 Underground Storage Tank  
(CCWS-08, CCWS-91, CCWS-92, CCWS-98)
- 1 Washrack  
(CCWS-99)

**Most Widespread Contaminants of Concern**

Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

**Media of Concern**

Groundwater, Soil

**Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))**

Site ID	Site Name	Action	Remedy	FY
CCWS-08	AMRAAD UST SITE	IRA	REMOVAL	2004
CCWS-16	HELSTF TSA Gasoline Spill Site	IRA	SOIL VAPOR EXTRACTION	2004
CCWS-16	HELSTF TSA Gasoline Spill Site	FRA	SOIL VAPOR EXTRACTION	2009

**Duration of CR**

**Date of CR Inception:** 198805

**Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):** 201507/201507

**Date of CR completion including Long Term Management (LTM):** 204609

# CR Contamination Assessment

## Contamination Assessment Overview

Environmental restoration activities include the IRP and MMRP. On Dec. 29, 2008, the ODUSD(I&E) issued an interim policy for DERP eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's CC program eligible for the DERP. Sites that are now eligible for the Munitions Response (MR) program have been migrated from AEDB-CC and given the naming convention of other MR sites. The newly eligible non-MR type sites are considered to be Installation Restoration (IR) sites; however, the newly eligible sites are being coded as Compliance Restoration (CR) in AEDB-R to distinguish them from the original IR sites and IR metrics.

The WSMR submitted a RCRA Part A permit application after the New Mexico Hazardous Waste Management Regulations were published on May 19, 1980. The permit included the waste management activities at the cleaning facility, located at the HELSTF, located 18.5 miles northeast of the main post. Through negotiations with the New Mexico Environmental Improvement Division, Hazardous Waste Section, the final design was approved and incorporated into the RCRA Part A permit on Jan. 30, 1984 (Pache, 1984).

The WSMR applied for a RCRA Part B permit in 1984, which included operations at HELSTF. As part of the permit application, WSMR was required to conduct an RFA to determine whether there is a potential or an actual release of hazardous waste or hazardous waste constituents anywhere at its facility. Distinct locations of potential contamination are referred to as SWMUs. Less defined areas of potential contamination are referred to as AOCs.

To date, each WSMR environmental restoration site is referred to by its SWMU or AOC ID and its IRP ID, when applicable. Under current DoD guidance, sites contaminated prior to Oct. 17, 1986 are now eligible for DERP funding under the CR Program, if located at an active DoD installation.

The WSMR submitted the RFA (A.T. Kearney, Inc., 1988) to the USEPA Region VI in 1988 and identified 138 SWMUs and 26 AOCs. Among these sites, 17 SWMUs and three AOCs were located at HELSTF. This point is considered the initiation of the WSMR IRP. The results of this RFA were used by the USEPA to prepare the HSWA corrective action module of the RCRA Part B permit. The USEPA approved and issued the permit to WSMR on Sept. 29, 1989. Stipulations of the permit required WSMR to investigate and clean up 92 SWMU sites and four AOCs.

Before the investigation of SWMUs, the USEPA Region VI directed WSMR to conduct an IRM to address a leaking UST at the HELSTF. An IRM work plan was submitted to the USEPA and the NMED in December 1991. Since that time, WSMR has been performing the required cleanup to remove floating diesel product from the groundwater. This is IRP site WSMR-55.

The 92 SWMU sites identified in Appendices I-IV of the permit were assessed for releases to the environment during the implementation of the Phase I RCRA RFI. The Phase I RFI report (IT Corp., 1992) identified 80 SWMUs that required further investigation. Of the 80 sites, 24 were approved for no further RA planned in September 1993. A modification to the RCRA Part B permit was initiated to include this change in the HSWA corrective action module of the permit. The change was made and approved by the USEPA Region VI in December 1995.

Based on direction of the USEPA and the NMED direction, WSMR initiated a Phase II work plan to further investigate the presence or absence of contaminants at 52 SWMUs identified by the Phase I investigation as containing contaminants that may pose a risk to human health or the environment. The USEPA and the NMED approved the work plan in September 1993. In December 1994, WSMR completed the Phase II RFI (Sverdrup, 1994) and submitted the report for regulatory review. The WSMR received state and federal USEPA, Region VI comments on the Phase II RFI in 1996. Both the NMED and USEPA Region VI issued notices of deficiency (Kelley, 1996; Honker, 1996) regarding the report. The NMED emphasized the need to address the SWMUs at HELSTF differently from those at other locations. The WSMR provided their final response to the NOD on Sept. 22, 1997 (Ladd, 1997). Since then, many environmental restoration activities have been initiated and/or completed on a site-by-site basis.

Beginning in January 2000, WSMR submitted a series of NFA petitions to the NMED HWB for various SWMUs on the WSMR RCRA permit. The petitions were submitted based on the results of previous investigations and closure reports documenting remedial activities, but were denied by the NMED in March 2002 (Frischkorn, 2002) on the basis that further characterization and ecological risk assessment were required. During 2000 many of the related IRP sites were designated as RC during 2000 in the Army's DSERTS database system. During FY02, the SWMUs were subsequently reopened within WSMR's IRP for further study and included 18 SWMUs dispersed among 14 related IRP sites.

The sites reopened in 2002 are being investigated under two distinct groups - those sites located near the main post and those

## CR Contamination Assessment

### Contamination Assessment Overview

sites located at HELSTF. A Phase III RFI work plan was developed for those sites located on or near the main post. [The work plan was subsequently approved by the NMED in March 2005] This effort is commonly referred to as the "Multi-Site Main Post Phase III RFI." This work plan includes 15 SWMUs dispersed among 11 IRP sites.

Additionally, and in large part due to the Phase II RFI comments received from the NMED in 1996, WSMR has initiated a Phase III RFI at the HELSTF to investigate environmental contamination at HELSTF using a holistic approach. The work plan was developed and includes IRP sites WSMR-52 through WSMR-55, WSMR-78, WSMR-83 and WSMR-85. [The work plan was subsequently approved by the NMED in January 2006.] The IRP sites WSMR-53, WSMR-78 and WSMR-83 were part of those sites reopened during FY02, and have one SWMU related to each. This investigative effort is underway and is commonly referred to as the "HELSTF Phase III RFI."

Various efforts continue on a site-by-site basis at other IRP sites including WSMR-14 and WSMR-61. A multi-site PBA was awarded in September 2008.

New Mexico does not recognize LUCs. Therefore, all existing LUCs at WSMR are internal Army controls. They are documented in the Master Plan, the installation GIS, and site-specific documents.

In December 2009 WSMR renewed the RCRA Part B permit with the NMED. The new permit includes sites that have not been formally closed and require corrective action.

### Cleanup Exit Strategy

The RFI will be completed and a CAC petition for NFA will be submitted.

## CR Previous Studies

**Title**

**Author**

**Date**

There are no Previous Studies

# **WHITE SANDS MISSILE RANGE**

## **Compliance Restoration**

### **Site Descriptions**

**Site ID: CCWS-04**

**Site Name: STALLION RANGE CENTER FORMER FFTA**

**Alias: SWMU-162**

## STATUS

**Regulatory Driver:** RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199701.....	199704
CS.....	199701.....	199704
RFI/CMS.....	200810.....	201404
LTM.....	201405.....	201505

**RIP Date:** N/A

**RC Date:** 201404

## SITE DESCRIPTION

CCWS-04 (SWMU 162), is the FFTA. The exact dates of use of the area are unknown but activities took place before the late-1980s. The FFTA consisted of an area approximately 200 feet. by 50 feet. adjacent to a dirt road where firefighter training occurred. Fire fighter training activities included setting small controlled fires so that the fire fighters could practice putting them out. Typically, a flammable liquid is used to start the fires and depending on the facility, may include diesel and/or gasoline. No structures were present at the FFTA and no further details regarding the training activities were available.

According to the FY 2008 Compliance-Related Cleanup Installation Action Plan (USAEC, 2008) the site was cleaned up in the late-1980s. An area of soil approximately 50 feet. by 100 feet. by four feet. deep was excavated, aerated in the sun, and used as clean fill for the Stallion Range Center Landfill. No record of a written report documenting this cleanup has been discovered, and no records are available indicating that previous investigations have occurred at this site. Five monitoring wells are present nearby, in the vicinity of the SRC sewage lagoons and desalinization pond. These wells are sampled regularly as part of the Groundwater and Effluent Sampling Wastewater Discharge Program associated with the SRC. Data from these wells was included in the RFI Work Plan for the SRC FFTA.

This SWMU is included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, Requiring Corrective Action work plan submittal by Nov. 1, 2011.

In September 2008 a PBA was awarded, which included a SubCLIN to achieve completion of an RFI within 2 years of notice to proceed.

An RFI Work Plan for the FFTA was submitted to the NMED in September 2009. WSMR elected to proceed with implementation of the work plan prior to receiving the NMEDs comments on the work plan. Notification that fieldwork was to begin was provided to NMED in December 2009. The NMED provided comments to the work plan in an NOD letter dated January 2010. Information provided in the original RFI Report submitted August 2010 addressed those comments. Based upon comments received from NMED regarding the original RFI additional investigation was performed near a boring where Diesel Range Organics and arsenic were reported above the NMED SSLs and where potential debris was identified by the ground penetrating radar used for utility clearance. In March 2011 limited excavation occurred within an area that was approximately eight feet. by 16 feet. and depths ranging from two to 10 feet. bgs. A small amount of debris was encountered and removed along with stained soil. Approximately 60 cubic yards of soil and debris were removed. Confirmation samples were collected from the floor of the excavation and from all four side walls. The excavation was backfilled with clean soil and graded to match the surrounding area. A Revised Revision RFI was submitted to NMED is awaiting approval.

WSMR anticipates submitting a CAC petition by closing the unit in accordance with the RCRA Permit following approval of the RFI. Funds for the CAC will be captured under the LTM phase.

## CLEANUP/EXIT STRATEGY

**Site ID: CCWS-04**  
**Site Name: STALLION RANGE CENTER FORMER FFTA**  
**Alias: SWMU-162**

WSMR anticipates submitting a CAC petition by closing the unit in accordance with the RCRA permit following approval of the RFI.

**Site ID: CCWS-05**

**Site Name: HELSTF CLEANING FACILITY SUMP**

**Alias: SWMU 142**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198905.....	198906
CS.....	199502.....	199512
RFI/CMS.....	199206.....	201503
LTM.....	201604.....	204609

**RIP Date:** N/A

**RC Date:** 201503

**SITE DESCRIPTION**

CCWS-05 (SWMU 142) is the cleaning facility sump, located at the HCF, Building 26131. Specifically, the unit is located in the Pre-Clean Room of the cleaning facility, and is currently inactive. The Pre-Clean Room is used for general cleaning of parts and materials including degreasing, rust-stripping, and intermediate cleanings with caustics and acids. Solvents that were used include methyl ethyl ketone (MEK), acetone, Freon 113, trichloroethylene (TCE), and trichloroethane (TCA). Rinsate solutions and by-products (used solvents) accumulated in the sump via a floor trench in the Pre-Clean Room.

CCWS-05 was not identified as a SWMU in the RFA reported in 1988. As a consequence, this site was not part of the initial HSWA operating permit issued Sept. 29, 1989. On May 26, 1989, WSMR notified the USEPA that a leak in the sump, at the cleaning facility, had been discovered. Instead, more than 600 gal of waste per month were emptied directly from the vats into 55-gal drums. A partial soil removal was completed in 1989. In June 1992, the Phase I RFI fieldwork was conducted at the cleaning facility. The report concluded that a significant release has occurred at SWMU 142; however, the extent of the release is not well-defined, and waste constituents in soil and groundwater identifiable as SWMU 142-related are commingled with wastes, which are more likely associated with SWMU 154. In October 1992, the NMED concurred with WSMR request to coordinate activities related to the RCRA closure of the cleaning facility tank system with the RFI process, at the cleaning facility and systemic diesel spill (IRP site WSMR-55; SWMU 154), and the interim response measure at SWMU 154. The sampling activities implemented under the Groundwater Satellite Accumulation Point have consistently shown a variety of solvents and breakdown products including 1,1,1-TCA, 1,1-DCA, 1,1-DCE, acetone, benzene, chloroform, methyl chloride, TCE, and xylene. Periodically Freon-113, MEK, carbon disulfide, and methyl tertiary B-butyl ether have been detected. In general, these concentrations have declined over time. Other contaminants have also been regularly detected. These include ammonia, chloride, cyanide, fluoride, nitrate, orthophosphate, sulfate, and six of the eight RCRA metals. Mercury and silver were not detected the one time that the groundwater samples were analyzed for them. An assessment of historical data for the groundwater monitoring was conducted in FY01 and submitted to NMED to petition for reduced monitoring requirements in out-years. The NMED returned the action as unsupported in FY02.

A HELSTF Phase III RFI commenced in FY03 to address all HELSTF sites under one comprehensive study. The Phase III RFI includes a comprehensive data review, groundwater sampling and an ecological risk assessment. The work includes various IRP sites as well as various sites currently under the CC program.

The Phase III work plan was submitted to the NMED in September 2005. The first version of the report was submitted in February 2008. After correspondence between the WSMR and the NMED a current report consists of a second revision to the Phase III RFI report and a summary of the responses to the NMED comments. It is currently under review by the NMED.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-1, requiring a closure plan submittal. In September 2008 a PBA was awarded, which included a SubCLIN to achieve RC within two years of notice to proceed. The WSMR anticipates submitting a CAC with controls petition to the NMED. Controls will include LUCs and LTM. The CAC will be funded under the current RFI/CMS phase and the LUCs under the LTM phase. Future LTM will be funded under WSMR-55.

**Site ID: CCWS-05**  
**Site Name: HELSTF CLEANING FACILITY SUMP**  
**Alias: SWMU 142**

## **CLEANUP/EXIT STRATEGY**

WSMR anticipates submitting a CAC with controls petition by closing the unit in accordance with the RCRA Permit following approval of the Phase III RFI. Controls at the site will consist of LTM and LUC.

**Site ID: CCWS-08**  
**Site Name: AMRAAD UST SITE**  
**Alias: SWMU 164**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Petroleum, Oil and Lubricants (POL)  
Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	199801.....	199809
RFI/CMS.....	200809.....	201302
IRA.....	200001.....	200409
LTM.....	201603.....	204609

**RIP Date:** N/A  
**RC Date:** 201302

**SITE DESCRIPTION**

A 3,000-gallon UST was discovered near Building 25900, at the Anti-Missile Radar Facility (AMRAD) in 1997. As-built facility drawings indicated that the tank was used for storage of waste oil, generated at the site, presumably from operation of a large radar dish near the tank location. Due to existing infrastructure at the site, removal of the tank and surrounding contaminated soil was not feasible. The WSMR completed a site investigation, and initiated in-place closure activities, including removal of the contents and triple rinsing of the tank. The UST was originally scheduled for in-place closure during the second quarter of FY98. Several initial hand auger investigations, performed at the site during 1998 (see Section 3.0), indicated soil contamination of unknown size, adjacent to and potentially beneath the UST. The WSMR, subsequently, notified the NMED UST Bureau of the release. Inspection of the site, by the NMED UST Bureau field inspector, revealed that the UST was not regulated by the New Mexico UST Regulations (20 New Mexico Administrative Code, Chapter 5, Part 1), and, therefore, fell under purview of the NMED GWQB. The WSMR completed all subsequent site assessment activities (as described in Section 4.0) under NMED GWQB guidance.

Following completion of the field investigation in April 2000, the NMED HWB listed the site in the WSMR AUA (June 2000) as SWMU Number 164.

In Oct 2005, WSMR submitted the September 2004 Voluntary Corrective Action Report for the AMRAD UST Site (SWMU 164). The state approved the report on Sept. 12, 2006, with conditions as outlined in the letter.

SWMU 164 40 CFR Part 280 and state section 801 UST Regulations set operating standards for permanent removal of existing tank systems. This tank is regulated as a SWMU. The required release assessment was completed in FY02, and a RCRA RFI workplan was submitted to the State for approval. In FY04, the UST was filled with concrete and closed in place. Fieldwork was completed in FY04. On Sept. 12, 2006, the NMED approved the fieldwork and stated "the NMED will not require corrective action for SWMU 164 at this time due to the underground anchor located beneath the tank; however, this SWMU will remain on WSMR's permit until the site is remediated to current regulatory standards." This site is listed under Table 8-2 requiring corrective action.

The site is under the PBA and the RFI was complete by September 2010. Based on current and historic Site knowledge, WSMR believes that the RFI and Corrective Action requirements have been met for the site and is requesting concurrence from the NMED to update the status of SWMU 164 to CAC with controls.

This site was included on the petition to perform Class III modifications to remove SWMUs from the WSMR RCRA Part-B permit. This document has gone through public review and a public meeting and is now under review with the NMED.

The CAC with controls petition will be funded under the current RFI/CMS phase. Funds for the controls will be funded under the LTM phase. Controls include LUCs such as signage.

**CLEANUP/EXIT STRATEGY**

**Site ID: CCWS-08**  
**Site Name: AMRAAD UST SITE**  
**Alias: SWMU 164**

The objective at CCWS-08 is to petition for a CAC with controls by closing the unit in accordance with the RCRA permit. The CAC w/controls report will be funded under the current RFI/CMS phase. The controls will be funded under the LTM Phase. Controls at the site will consist of LUC such as signage.

**Site ID: CCWS-09**  
**Site Name: LC-38 Diesel Fuel Spill Site**  
**Alias: SWMU 198**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	200201.....	200212
RFI/CMS.....	200301.....	201302
LTM.....	201603.....	204609

**RIP Date:** N/A

**RC Date:** 201302

**SITE DESCRIPTION**

CCWS-09, the LC-38 complex, is located 13 miles east of WSMR main post, just north of Nike Avenue. The Defense Fuels Agency has stored a strategic reserve of diesel fuel in a 150,000-gallon AST. Corroded piping, connected to the AST, resulted in the loss of approximately 31,000 gals of fuel to soil beneath the site. Piping emerged from the north side of the AST and elbowed towards the west berm. Most of the pipeline was concealed underground; at the west berm, the piping angled up and reemerged at the loading terminal. Fuel is no longer stored in the AST, and the tank and associated piping were removed in FY05.

This site has been designated as SWMU 198 by the NMED.

CCWS-09 (SWMU 198), LC-38 Diesel Fuel Spill Site, consists of a 150,000-gallon AST (removed during FY05) and surrounding contaminated area. Upon discovery of a fuel release during CY00, the NMED Groundwater Quality Bureau (GWQB) was notified in accordance with section 1203 of the Water Quality Control Commission (WQCC) Regulations. In February 2001, a PA was conducted. In February 2002, an RFI work plan was prepared and submitted to NMED. The work plan mistakenly gave the tank size as 120,000 gal. The investigation was conducted in November 2003 to supplement data collected in 2001. A total of 10 soil borings were completed, and samples were analyzed for TPH, VOCs, and SVOCs. Four groundwater monitoring wells were installed at the site in November 2003. Depth to area water table was approximately 235 feet bgs. Soil samples indicated the diesel contamination extended to approximately 75 feet bgs. The contaminated plume is supported by a laterally continuous clay layer, with a thickness of approximately 20 feet. During soil boring, no perched water-bearing zones were encountered.

Following the execution of the work plan, the SWMU assessment report and dated September 2004 was issued. In this report, WSMR recommended monitoring the site (four monitoring wells) for the presence of free-product annually, for 10 years; however, in October 2006, the NMED indicated that this would not be acceptable, and additional actions would be required.

Analytical results from groundwater samples collected in January 2004 indicate contamination has not reached the area water table. No product was detected within the monitoring wells in March 2006.

This was included on the 2009 RCRA Part-B permit and listed under Table 8-2 requiring corrective action.

The site is under the PBA and the RFI was complete by September 2010. The PBA includes SubCLINs for continuing the required groundwater monitoring program, reaching RIP by September 2011, and conducting RA(O)/LTM through FY15. It was determined through an RFI that RIP does not appear to be the appropriate next step. Based on current and historic site knowledge, WSMR believes that the RFI and corrective action requirements have been met for the site and is requesting concurrence from NMED to update the status of SWMU 198 to CAC with Controls.

This site was included on the petition to perform Class III modifications to remove SWMUs from the WSMR RCRA Part-B permit. This document has gone through public review and a public meeting and is now under review with the NMED.

Funding for the CAC with controls petition will occur under the current RFI/CMS phase. Controls at the site consist of LUCs and LTM. Funds for the groundwater monitoring and LUC will occur under the LTM phase.

**Site ID: CCWS-09**  
**Site Name: LC-38 Diesel Fuel Spill Site**  
**Alias: SWMU 198**

## **CLEANUP/EXIT STRATEGY**

To achieve the objective at CCWS-09, WSMR proposed to institute the following controls for the site under the CAC report. WSMR plans to continue to perform annual groundwater monitoring. The groundwater monitoring will involve checking for the presence of fuel using an interface probe and will be continued until such time that the data demonstrates stable or declining concentrations and the NMED approves a cessation of the groundwater monitoring program. WSMR will also implement institutional controls to prevent future exposure of the affected soils to site workers via inhalation of vapors. LUC will be implemented to prevent construction of future building over the affected area. Out year costs assume monitored natural attenuation. This effort is part of the PBA.

**Site ID: CCWS-16**  
**Site Name: HELSTF TSA Gasoline Spill Site**  
**Alias: SWMU 197**

**STATUS**

**Regulatory Driver:** RCRA  
 Contaminants of Concern: Petroleum, Oil and Lubricants (POL)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	200001.....	200003
RFI/CMS.....	200005.....	200006
DES.....	200710.....	200803
IRA.....	200010.....	200409
CMI(C).....	200809.....	200909
LTM.....	200910.....	204609
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	200909	

**SITE DESCRIPTION**

The HELSTF is located on WSMR, approximately 18.5 miles northeast of the Main Post and approximately 2.2 miles north of US Highway 70. HELSTF became operational in September 1985. The primary mission of the facility has been to support the testing and evaluation of high-energy laser systems, subsystems, components, and materials. The Technical Support Area (TSA) for HELSTF was constructed in 1987. It is adjacent to Highway 70, approximately two miles from the main HELSTF area, and contains support facilities separate from the more hazardous HELSTF test facilities. The TSA area is located far enough away from the HELSTF main cantonment area to warrant not being part of the HELSTF Phase III RFI, currently being funded under IRP site WSMR-85.

CCWS-16 (SWMU 197), the HELSTF TSA Gasoline Spill Site, consists of a 3000-gallon AST that released approximately 1490 gal of unleaded gasoline. The release was discovered on March 16, 2000. The magnitude of the loss was estimated on the basis of an inventory review. The fueling station was shut down in March 2000.

The TSA site was investigated during May and June 2000, at which time three monitoring wells were installed. During the investigation, two water-bearing zones were encountered. The first zone, located approximately 34 feet bgs, is perched in nature and laterally discontinuous. The second water-bearing zone encountered is the regional groundwater table, which was determined to be approximately 90 feet bgs. The regional aquifer is in unconsolidated silty sands and moderately sorted sand layers. Contamination had reached approximately 30 feet bgs, with maximum concentrations encountered near a depth of 17 feet. As an interim response, an SVE system was installed in October 2000 to remove fuel contamination from the subsurface, and operated for four months as an interim response measure. According to estimates, the SVE was effective at removing significant (estimated at perhaps as much as 1,800 gal) quantities of fuel.

A follow-up investigation was performed in August 2004. The additional groundwater and soil sampling analytical results obtained were used to determine the effectiveness of the IRA on the existing subsurface conditions. The investigation determined that the SVE IRA was effective in removing the contamination from the more porous upper sediments from zero to 25 feet. The human health and ecological exposure pathways, relevant to the remaining contamination, are all incomplete, leading to the conclusion of "no current or future human health or ecological risk" (BAE Systems, August 2004). Four groundwater monitoring wells exist at the site.

This site is under the PBA to achieve RC. Supplemental sampling from six newly installed wells and updated risk assessments were completed in 2009. Based on the findings of the supplemental work remediation technologies proposed in the approved CMILES Work Plan (biosparging or air sparging coupled with SVE) are not appropriate or warranted and the site is eligible for CAC with controls. The WSMR will be requesting NMED concurrence that the site is eligible for CAC with controls. The proposed controls include LTM, a passive product recovery program and institutional controls.

A supplemental report is currently under review by the NMED. The site is currently undergoing monitoring.

WSMR anticipates that a Corrective Action Complete with Controls Petition is the final action required following the RCRA Permit.

**Site ID: CCWS-16**  
**Site Name: HELSTF TSA Gasoline Spill Site**  
**Alias: SWMU 197**

Controls at the site will consist of LUC and groundwater monitoring. The CAC petition will be funded under the current RFI/CMS phase. All LUC will be covered under the LTM Phase.

## **CLEANUP/EXIT STRATEGY**

The objective at CCWS 16 is to achieve Response Complete by September 2010, and continue groundwater monitoring through 2012. In 2010 supplemental sampling and risk assessment was completed and WSMR determined that a CAC w/controls is the proper closure remedy. To achieve the objective at the site, WSMR proposed to institute the following controls for the site under the CAC report following approval by NMED of the Status Report dated March 2011. WSMR plans to continue to perform annual groundwater monitoring. The groundwater monitoring will continue until such time that data demonstrates stable or declining dissolved concentrations and the NMED approves a cessation of the monitoring. WSMR will also implement a passive product recovery program that will include the placement of absorbent socks into the vadose zone well that contain product. The socks will be replaced on an as-needed basis, at least annually. During each replacement the thickness of the product on the sock will be noted and an estimate will be made of the volume of fluids recovered. WSMR will also implement institutional controls to prevent future exposure of the affected soils to site workers via inhalation of vapors. LUC will be implemented to prevent construction of future buildings over the affected area. Out year costs assume monitored natural attenuation. This effort is part of the PBA.

**Site ID: CCWS-77**  
**Site Name: Main Post POL Storage Site**  
**Alias: SWMU 219**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	200512.....	200512
CS.....	200512.....	200512
RFI/CMS.....	200609.....	201505
LTM.....	201506.....	201606

**RIP Date:** N/A

**RC Date:** 201505

**SITE DESCRIPTION**

CCWS-77 (SWMU 219) is located at the Main Post POL Storage facility, at building 1719, POL Station. The station provides a storage area and fueling point for Main Post official vehicles. On Dec. 7, 2005, a release of approximately 1,370 gallons occurred while transferring fuel between a 25,000 gal and 6,000 gal above ground storage tanks. The smaller capacity tank was overfilled. The fuel was captured by the concrete secondary containment; however, cracks in the containment allowed the majority of fuel to escape, and be released to the subsurface below. The release was reported to the Petroleum Storage Tank Bureau (PSTB) and HWB in December 2005; however, both reports were verbal by phone. No SWMU number had been assigned to this site.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, requiring correction action with a work plan submittal date of May 15, 2010.

In September 2008 a PBA was awarded, which includes SubCLINs achieving completion of an RFI within two years of notice to proceed.

RFI activities were performed at the site in January and April 2010. The RFI recommended that no further investigations are required. The submittal of the RFI report had been delayed due to NMED questions about the size and boundary of the SWMU. The RFI report was submitted to the NMED in October 2010 for review and recommended no further investigation. WSMR is currently responding to NMED's notice of disapproval and continues to contest the SWMU area extending beyond the spill site.

WSMR anticipates achieving CAC with controls, in order to meet the RCRA Corrective Action criteria. A CAC petition will be submitted following approval of closure by NMED. Controls at the site will include signage. The RFI will be funded under the current RFI phase. The CAC will be captured under the future LTM Phase.

**CLEANUP/EXIT STRATEGY**

WSMR anticipates achieving Corrective Action complete with controls, in order to meet RCRA Corrective Action criteria. A CAC petition will be submitted following approval of closure by NMED. Controls at the site will include signage.

**Site ID: CCWS-81**  
**Site Name: Bldg 1621 drains & containers**  
**Alias: SWMUs 1-7**

**STATUS**

**Regulatory Driver:** RCRA  
 Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-81 (SWMUs 1-7), is a collection of seven SWMUs that were located in the Visual Information Building No. 1621. The drains (SWMU 1) were covered by an approximately one by one foot metal grate in a concrete floor. The grates were located near the photoprocessors and the bleach/fixer collection containers (SWMUs 2-6). The size and material of construction of the underfloor drains are unknown. Building No. 1621 was built in 1958. The drains system had received prehardener, neutralizer, developer, bleach, fixer and stabilizer waste residues which contained low concentrations of chromium, metallic cyanides and silver.

Since 1985 photo chemical substitutions have been made eliminating the use of metallic cyanides. The five bleach and fixer collection containers received liquid waste fixer and bleach from both black/white and color photoprocessing equipment. Approximately 30 gallons per month of waste is generated. The waste is directed into the containers via clear, small flexible tubes which connect the photoprocessing equipment to the containers. When the containers are filled they are removed and replaced by new containers. In the past the containers were filled and tapped then placed into three legged metal stands, and stored until removed by the DRMO for off-site treatment and disposal. In the future all bleach and fixer waste liquids will be managed at the photoprocessing area for silver recovery. The containers will then be emptied into a Silver Recovery Unit in the same building. The treated liquid will then be sent to the Hazardous Waste Storage Facility for further treatment in the Evaporation Tank. The silver recovery unit tailing tank (SWMU 7), removes silver from the waste generated by electroplating out onto an internal drum. The silver is then from the drum into a plastic container (tailing tank). The recovered silver is then shipped off-site and collected in the tailing tank. The SWMUs were active from 1958-1990.

A RCRA Facility Assessment was conducted in 1988 that suggested a low release potential to soil and groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-81. According to the RFA, NFA is suggested. No additional work has been completed since the RFA.

These SWMUs are not included in the 1989 permit, indicating that the RFA conclusion was accepted by the USEPA and the NMED. These SWMUs also were not included in previous AUAs or Fee Letters.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 8-2, requiring correction action with a submittal date of December 1, 2014.

The objective at CCWS-81 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates submitting an RFI followed by a CAC Petition.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 81 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

Site ID: CCWS-82

Site Name: TTF SWMUs 106, 109-113, AOC H-L

Alias: SWMU 106--

**STATUS**

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507

RIP Date: N/A

RC Date: 201507

**SITE DESCRIPTION**

CCWS-82 (SWMUs 106, 109-113, AOC H-L), are located at the TTF. SWMU 106 is a six-inch cast iron pipe which drains wastewater and condensate from TTF to the evaporation tank. The pipeline is approximately 300 feet long. The pipeline does not connect directly to the tank. The pipe was installed in 1987 and still in use. Wastewater/condensate collected in the drains and sumps inside the TTF process area and from the test chambers discharges to the evaporation tank via this pipe. SWMU 109 is the Drum Storage Area at TTF. During the closure and remediation of the former evaporation pond, contaminated water and liner material were placed in 55-gallon drums for disposal. The drums were temporarily stored near the TTF building and were eventually transferred to the HWSF. Less than one drum of waste per month is reportedly generated at TTF. The MeCl Catchment System (SWMU 110) consists of a series of 2.5-gallon safety cans which collect drips from pump seals. The MeCl collected in the cans is recycled into the refrigerant system. Each pump has its own collection can. The cans sit on a concrete floor inside the TTF building. The MeCl Separation System (SWMUs 111-112). This unit was installed as an interim measure after the former evaporation pond was removed and prior to installation of the new evaporation tank. This unit consists of two tanks which were formerly used to prevent possible MeCl spills from reaching the wastewater storage tank. The first tank in the separation system is an in-ground 1000-gallon rectangular steel tank equipped with a baffle. Water containing MeCl was conveyed to the second tank, a horizontally mounted cylindrical 500-gallon in-ground steel tank. The 500-gallon tank could be pressurized to push out the contaminated wastewater to drums for subsequent disposal. The Salt Water Evaporation Tanks (SWMU 113) are two galvanized steel open topped tanks in which salt fog condensate from the TTF test chambers drains. Water evaporates from the tanks leaving crystallized sodium chloride in the tank. MeCl Expansion Tanks (AOCs H-L) are five expansion tanks. They contain MeCl that is used as a secondary refrigerant to control temperature in the test chambers. In 1984, leaky gaskets in the expansion tanks and other equipment resulted in a release of MeCl.

A RCRA Facility Assessment was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-82. The RFA suggests NFA for SWMU 106, 110, 111-112, 113, and AOCs H-L. The RFA also suggested an RFI for SWMU 109 in order to define the extent of the contamination.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 8-2, requiring correction action. SWMUs 107-113 are required to have a work plan submitted by May 1, 2013 and AOCs H-L are required to have a work plan submitted by July 1, 2015.

The objective at CCWS-82 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates submitting an RFI followed by a CAC petition. The RFI and CAC will be captured under the RFI/CMS phase.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 82 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-83**  
**Site Name: Waste Oil Storage Tank at SRC**  
**Alias: SWMU-124**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

**SITE DESCRIPTION**

CCWS-83 (SWMU 124) is located north of building 34250 at the SRC. This unit was a portable 500-gallon closed steel tank sitting on concrete pavement. The tank was used for storage of waste oil generated at SRC. The tank was transported to the WSMR for emptying as needed. The concrete pad around the tank was stained with oil at the time of the RFA in 1988. The tank was in operation until 1990. The SRC is currently using 55-gallon drums for storage and disposal of oil.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-83. The RFA suggested that an RFI may be warranted.

The WSMR (2000) requested removal from the 1999 AUA based on removal of and proper disposal of tank contents and that the tank had not been used since the early-1990's. The NMED (2000a) stated that there is no record of an RFI (as recommended by the RFA) or other corrective action that would warrant removal from the HSWA module.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, requiring correction action with a work plan submittal date of Aug. 1, 2014.

The objective at CCWS-83 is to achieve RC by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates submitting an RFI followed by a CAC petition.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 83 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-84**  
**Site Name: Silver Recovery System Tailing Tank**  
**Alias: SWMU-128**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Metals  
Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-84 (SWMU 128) is located in the basement of building 1512. The tailings tank is the final tank in the commercialized silver recovery system. The tank is a fiberglass tank with a capacity of about 40 gal. Photographic fixer solution is re-circulated through the silver recovery system where excess silver is recovered from the solution by an electrolytic process. Flow into and out of the unit is via manually controlled pumps. Overflow from the fixer bath accumulates in the interface tanks then is pumped into the recovery tank where the silver is recovered. Metallic silver deposits onto cylinders in the recovery tank. Effluent from the recovery tank is then pumped to the tailing tank for removal of residual silver. The concentration of silver is reduced to less than 5ppm before discharging the effluent to the sewer system. As of 1988 the silver recovery system was about 10 years old. It operated from the 1970's-1990's.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-84. The RFA suggested that NFA is warranted.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, requiring correction action with a work plan submittal date of Aug. 1, 2014.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 84 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-85**  
**Site Name: Cyanide Treatment Unit**  
**Alias: SWMU-129**

**STATUS**

**Regulatory Driver:** RCRA  
**Contaminants of Concern:** Other (Cyanide)  
**Media of Concern:** Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-85 (SWMU 129) is located in building 1512. Prior to 1985 this unit was used to oxidize spent photographic bleacher solutions which contained ferrous cyanide. In 1985, ferrous cyanide was replaced by sodium persulfate in the bleaching process. The unit is a closed system constructed of stainless steel. The unit used an ozone treatment process to oxidize ferrous cyanide to ferrous cyanate prior to discharging the effluent to the STP. The ozone unit is currently used to oxidize hydroquinone and sodium thiocyanate prior to discharging the effluent to the STP. Prior to installation of the cyanide treatment unit, wastes containing spent ferrous cyanide were stored in 1,000 gal plastic storage tank. Periodically the spent ferrous cyanide solution was transferred to the evaporation pit. Because ferrous cyanide is no longer used, the tank was relocated in 1985 to building 1524 where it is used as a secondary spill containment tank for an acetic acid storage area. It operated from the 1970's-1990's.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-85. The RFA suggested that NFA is warranted.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, requiring correction action with a work plan submittal date of August 1, 2014.

The objective at CCWS-85 is to achieve Response Complete (RC) by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting a RCRA Facility Investigation (RFI) followed by a Corrective Action Complete (CAC) petition.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 85 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-86**  
**Site Name: SWMU 130-131, developer/acetic tanks**  
**Alias: SWMU 130--**

**STATUS**

**Regulatory Driver:** RCRA  
**Contaminants of Concern:** Other (Cyanide, Acetic Acid)  
**Media of Concern:** Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-86 (SWMUs 130-131) is located outside of building 1524 where it is used as a back-up secondary containment tank for the acetic acid storage area. The unit is a cylindrical plastic tank with a capacity of 1,000-gallon. The acetic acid is stored in drums on pallets inside a diked concrete pad. A drain within the diked containment pad slopes to a drain line which connects to the spill containment tank. Facility personnel stated that the tank is presently used on an emergency basis only and may never have received waste. Prior to 1985, this tank was located outside building 1512 where it was used to store spent ferrous cyanide solution from photographic processing. Periodically, the ferrous cyanide solution was removed from this tank and transferred to the evaporation tank. The tank was mounted on a diked concrete pad outside the building.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-86. The RFA suggested that NFA is warranted.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 8-2, requiring correction action with a work plan submittal date of Aug. 1, 2014.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 86 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-87**

**Site Name: SWMUs 133-134 Accumulation Area**

**Alias: SWMU 133--**

**STATUS**

**Regulatory Driver:** RCRA  
 Contaminants of Concern: Petroleum, Oil and Lubricants (POL)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-87 (SWMU 133-134) is located at two separate areas on the Main Post. The Navy Ordnance Missile Test Station (NOMTS) Machine Shop Accumulation Area (SWMU 133) is located in the southern portion of the Machine Shop. The accumulation area stores 55-gallon drums containing paint wastes, hydraulic fluids, and an unknown waste generated at NASA. The only release control was the concrete floor. There is a perimeter drain in the floor of the building but the drain is at least 29 feet from the drums. The NOMTS Outdoor Accumulation Area (SWMU 134) is located on the east side of building N197, the Machine Shop Oil Shed. The accumulation area is an above ground, open topped concrete box. This accumulation area manages drummed waste. The concrete container serves as the release control for this unit.

An RFA was conducted in 1988 that suggested a low release potential to soil and groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-87. The RFA suggested that NFA is warranted.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 8-2, requiring correction action with a work plan submittal date of Aug. 1, 2014.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 87 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-88**  
**Site Name: SWMUs 135-136, paint shop**  
**Alias: SWMU 135--**

**STATUS**

**Regulatory Driver:** RCRA  
 Contaminants of Concern: Other (Solvents)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-88 (SWMU 135-136) is located at two separate locations around building 1742. The Paint Shop Accumulation Area (SWMU 135) is located outside of building 1742. Drums of paint waste and waste solvent are stored on wooden pallets. The Accumulation area is gravel covered and fenced. The dates of operation could not be confirmed. The Paint Shop Spray booth (SWMU 136) is a Binks spray booth. It is located inside building 1742. The unit is a water-cascade type spray booth used for airless and conventional spray painting. During spray painting operations a water-cascade curtain is activated to entrap overspray from paint operations. The effluent from the water-cascade flows via a sump. Wastewater from the spray booth contains particulates from paint overspray. Volatiles from paint solvents are vented through an exhaust duct to the atmosphere. The primary solvent utilized in the Paint Shop is PD-680, which contains no toxic or ignitable constituents. A high velocity exhaust fan is activated when the spray booth is in use. The water cascade entraps particulate overspray from paint operations.

An RFA was conducted in 1988 that suggested a moderate release potential to soil/groundwater, low release potential surface water, a moderate release potential to air, and a low subsurface gas generation release potential at SWMU 135. During the visual inspection the gravel around the waste drums at SWMU 135 was stained with minor paint spills and drips. The RFA suggested that there were low release potentials to soil/groundwater and surface water at SWMU 136. The RFA suggested a moderate release potential to air based on the venting of exhaust fumes and suggested no potential for release from subsurface gas.

The WSMR (2000) requested removal from the 1999 AUA based on the inability for minor spills to migrate to the subsurface. The NMED (2000) denied based on the RFA suggesting an RFI. The NMED (2000) stated that there was no record of RFI or other corrective action that would warrant removal from the HSWA module of the RCRA permit. The NMED (2000) requested RFI or corrective action documentation.

Building 1742 is no longer used as the Paint Shop. C. Martin Company Inc. currently occupies Building 1742 as Base Operations Support.

These SWMUs were included in the 2009 Hazardous Waste Permit for WSMR and were included in Table 8-2, requiring correction action. SWMU 135 and 136 require a work plan submittal by Dec. 1, 2014 and July 1, 2015 respectively.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 88 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-89**  
**Site Name: Accumulation area at RATSCAT**  
**Alias: SWMU-138**

**STATUS**

**Regulatory Driver:** RCRA  
**Contaminants of Concern:** Other (Paints, Solvents)  
**Media of Concern:** Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-89 (SWMU 138) is located approximately 35 miles north of the Main Post area and 23 miles west of Alamogordo, NM. The accumulation area consists of metal drums containing waste hydraulic fluid, waste oil and paint waste. The area is in the open and is underlain by a curbed, concrete pad. As of 1988 less than 350 gallons of petroleum waste and five gallons of paint waste are generated per year. The release controls consist of grounded metal drums, a curbed concrete pad, and warning signs.

An RFA was conducted in 1988 that suggested a low release potential to soil/groundwater, surface water, air, and subsurface gas generation for all the SWMUs included in CCWS-89.

This SWMU was included in the 2009 Hazardous Waste Permit for WSMR and included in Table 8-2, requiring correction action with a work plan to be submitted by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 89 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-90**  
**Site Name: LC-34 Contaminated Soils**  
**Alias: SWMU 165**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC),  
Volatiles (VOC)

Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198805
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

**SITE DESCRIPTION**

This site is LC-34 Contaminated Soils at Building 23104 and 23106 and is listed as SWMU 138 on the 2009 RCRA permit requiring corrective action.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 90 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-91**  
**Site Name: UST at Timing Station, Bldg 20710**  
**Alias: SWMU 216**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	199503.....	199507
CS.....	199507.....	199909
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

**SITE DESCRIPTION**

This site is a former 600 Gallon UST at Timing Station, Building 20710, LC-32 that is listed as SWMU 216 in Table 4-1 of the 2009 RCRA permit as requiring corrective action.

The tank was discovered in 1995 was removed in April 1995. Two holes were noted in the bottom of the tank and a minor amount of diesel fuel leaked from these holes as the tank was physically removed. An investigation was completed in 1999 which determined a soil removal would be completed (Mevatec, 1999a). A soil removal action has not been completed. The NMED (2006L) from the PSTB stated that soil removal was not required and the site could be NFA status. The NMED (2007f) facsimile from PSTB reiterated NFA status and stated the NMED had not received an NFA request from WSMR.

WSMR plans a Class III permit modification petition for CAC without controls.

WSMR anticipates all future funding to take place under the RFI/CMS phases.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 91 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-92**  
**Site Name: LC 38 Bldg 23626**  
**Alias: SWMU-218**

## STATUS

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

## SITE DESCRIPTION

This site is a 1764 gallon UST at the Launch Complex (LC) 38 Bldg 23626. The tank was utilized to supply gasoline for vehicles via a multiple key dispenser located adjacent to the UST. The tank was steel and uncoated. The tank was removed on Feb. 3, 1993. It was determined that contamination has impacted the soils beneath the tank soon after the tank had been removed. The Phase II recommended that a minimum site assessment work plan be prepared as part of the Phase III.

In April 1993 a contamination delineation report was completed. The purpose of the investigation was to assess soil quality, to determine if separated-phase product is present in the subsurface at the site, to delineate the magnitude and extent of potential petroleum hydrocarbon contamination identified, and to determine the potential impact of existing site conditions on the surrounding environment. According to the report the groundwater was not impacted. No Phase Separated Hydrocarbon (PSH) was observed in the soil borings completed. Soil sample analytical data indicates that subsurface soils from 10-11ft, 15-16.5ft, 30-31.5ft and 40-41.5ft in boring B-1 exhibited BTEX values above the NMED guidelines. Boring B-1 was at the center of the former location of the tank.

This site is listed as SWMU 218 in Table 8-2 of the 2009 RCRA permit requiring a work plan submittal by March 1, 2015.

The WSMR anticipates to show the site as NFA or CAC without controls. Future costs will be funded under the RFI/CMS phase.

## CLEANUP/EXIT STRATEGY

The objective at CCWS 92 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-93**  
**Site Name: sink and drain system at Bldg 1621**  
**Alias: AOC-A**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Metals, Other (Cyanide)  
Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-93 (AOC A) is a bank of three sinks located in the photoprocessing area in the east side of building 1621. The sinks are used for the approximately weekly scrubbing of the photo processing racks contained in each of the photoprocessing machines. The racks are in direct contact with photo chemicals such as fixers and bleaches which contain silver. Photo chemicals containing cyanides were substituted for by 1985. It was operated from 1958 to the mid-1990's.

An RFA was conducted in 1988 which suggested NFA is warranted.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring a work plan submittal by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 93 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-94**  
**Site Name: Battery Accum. Area at N Oscura**  
**Alias: AOC B**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Metals  
Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-94 (AOC B) is an accumulation area where approximately 10 vehicle lead/acid batteries were accumulated next to a tracking station at the North Oscura Range. As of 1988 the batteries had been there for one year. The batteries were placed on soil, were in the open and exposed to the weather elements. No evidence of leakage or spills was observed as of 1988.

An RFA was conducted in 1988 which suggested NFA is warranted.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring submittal of a work plan by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 94 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-95**  
**Site Name: Drum Storage Area at STP**  
**Alias: AOC D**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

**SITE DESCRIPTION**

CCWS-95 (AOC D) is a concrete pad used for the storage of lube oil and solvent. Drums are stored horizontally on a wooden frame and additional drums stored on a concrete pad. The pad has no secondary containment. A drip collection tub is also present and sat beneath the solvent drum to collect spills.

An RFA was conducted in 1988 and suggested NFA is warranted. The RFA suggested that improvements to the secondary containment may be warranted.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring submittal of a work plan by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 95 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-96**  
**Site Name: Pesticide Storage Area**  
**Alias: AOC E**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Pesticides  
Media of Concern: Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-96 (AOC E) is located at Building 1708 on the Main Post. It is used to store and mix pesticides. Storage is in commercially approved containers including one and five gallon cans, 30 and 55-gallon drums for liquids and 3 to 50-lbs plastic lined bags for dry materials. The storage and mixing area is a concrete slab which was modified in 1981 to provide a 4-in deep concrete retaining basin to contain possible spills. The storage facility is within a controlled fenced area and securely locked.

An RFA was conducted in 1988 and suggested NFA is warranted.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring submittal of a work plan by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 97 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-97**  
**Site Name: Brine (MeCL) Storage Tank**  
**Alias: AOC G**

**STATUS**

**Regulatory Driver:** RCRA

Contaminants of Concern: Other (Methylene Chloride (MeCl))

Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507

**RIP Date:** N/A

**RC Date:** 201507

**SITE DESCRIPTION**

CCWS-97 (AOC G) is located at the TTF. The methylene chloride storage tanks at TTF are pressurized, underground, stainless steel tanks insulated with urethane foam. The two tanks have a combined capacity of 46,000 gallons. The methylene chloride called brine at TTF is stored cold and under pressure to minimize losses from volatilization. The tanks are inspected on a routine basis.

An RFA was conducted in 1988 which suggested that NFA is warranted.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring submittal of work plan by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 97 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-98**  
**Site Name: Abandoned UST**  
**Alias: AOC Z**

**STATUS**

**Regulatory Driver:** RCRA  
Contaminants of Concern: Petroleum, Oil and Lubricants (POL)  
Media of Concern: Groundwater, Soil

<b>Phases</b>	<b>Start</b>	<b>End</b>
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-98 (AOC Z) is located at the southern end of the Main Post near the intersection of Headquarters and Raritan Ave (now Martin Luther King Dr). The tank was situated just off the dirt road approximately 200 ft south of Raritan Ave. the unit was constructed of steel and a portion of the tank is exposed above grade. The dimensions are approximately 10 x 4 ft. A vent protrudes about three-quarters out of the ground on one end of the tank. The dates of operation and the contents are unknown. The tank reportedly contained gasoline; it has been removed.

An RFA was conducted in 1988 and suggested that further investigation be warranted to determine the constituents of the tank.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 8-2, requiring submittal of a work plan by July 1, 2015.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 98 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

**Site ID: CCWS-99**  
**Site Name: Waste Oil Tank and Sump, Bldg 1794**  
**Alias: SWMU 8 & 9**

**STATUS**

**Regulatory Driver:** RCRA  
 Contaminants of Concern: Petroleum, Oil and Lubricants (POL)  
 Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198805.....	198808
RFI/CMS.....	201103.....	201507
<b>RIP Date:</b>	N/A	
<b>RC Date:</b>	201507	

**SITE DESCRIPTION**

CCWS-99 (SWMUs 8-9) consists of two separate SWMUs located at the Maintenance Area on the Main Post. The waste oil tank and sump are located approximately 300 feet east of building 1794. The sump is located within a paved, bermed area that is also used for product drum storage. The waste oil tank is an underground steel tank with a 5,000 gallon capacity. Waste oil enters the tank via the waste oil sump. The sump is open at the top and partially covered by a metal grate to prevent debris from clogging the drain. The waste oil tank and sump started operation in the 1950s. The tank and the sumps received waste oil and other fluids routinely drained from vehicles. The tank received waste oil generated at the Heavy Equipment Area and the Vehicle Maintenance Shop as well as from collection points at remote locations such as Oscura Range Center and SRC.

An RFA was conducted in 1988 that suggested a moderate release potential to the soil and a minimal release potential to groundwater. The RFA suggested a low release potential to surface water, air, and subsurface gas. The RFA suggested NFA is warranted.

This site was included in 1989 RCRA permit (NMED, 1989) as Appendix II.

A Phase I RFI was conducted in 1992 that included CCWS-99. The RFI concluded that more work needed to be done to the site in order to properly close out the site. Consequently a Phase II RFI was conducted in 1994 that included CCWS-99. The Phase II report recommended that a CMS was needed to evaluate the removal and disposal of soil. The RFI also concluded that an evaluation of the current operation and spill prevention procedures would also be appropriate since the potential for an additional release exists.

The USEPA (1995a) NOD requested CS to verify closure. The NMED (1996) NOD requested Phase III RFI. Dow (1997a) confirmed that the tank had been removed and no release had occurred. Mevatec (2000a) requested Class III permit modification. The NMED (2002) denied it. A final RFI report was requested. The WTS (2006a) Phase III RFI determined NFA. The NMED (2006e) NOD noted nothing specific for SWMU 8.

This SWMU is included in the 2009 hazardous waste permit for WSMR and included in Table 4-1, requiring corrective action.

**CLEANUP/EXIT STRATEGY**

The objective at CCWS 99 is to achieve response complete by closing the unit in accordance with the RCRA permit. To achieve RC WSMR anticipates conducting an RFI followed by a CAC petition.

## Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
There are no NFA sites			

**Date of CR Inception:** 198805

## Past Phase Completion Milestones

### 1988

RFA (CCWS-81 - Bldg 1621 drains & containers , CCWS-82 - TTF SWMUs 106, 109-113, AOC H-L, CCWS-83 - Waste Oil Storage Tank at SRC, CCWS-84 - Silver Recovery System Tailing Tank, CCWS-85 - Cyanide Treatment Unit, CCWS-86 - SWMU 130-131, developer/ acetic tanks, CCWS-87 - SWMUs 133-134 Accumulation Area, CCWS-88 - SWMUs 135-136, paint shop , CCWS-89 - Accumulation area at RATSCAT, CCWS-90 - LC-34 Contaminated Soils, CCWS-92 - LC 38 Bldg 23626, CCWS-93 - sink and drain system at Bldg 1621, CCWS-94 - Battery Accum. Area at N Oscura, CCWS-95 - Drum Storage Area at STP, CCWS-96 - Pesticide Storage Area, CCWS-97 - Brine (MeCL) Storage Tank, CCWS-98 - Abandoned UST, CCWS-99 - Waste Oil Tank and Sump, Bldg 1794)

### 1989

RFA (CCWS-05 - HELSTF CLEANING FACILITY SUMP)

### 1995

RFA (CCWS-91 - UST at Timing Station, Bldg 20710)

### 1996

CS (CCWS-05 - HELSTF CLEANING FACILITY SUMP)

### 1997

RFA (CCWS-04 - STALLION RANGE CENTER FORMER FFTA)

CS (CCWS-04 - STALLION RANGE CENTER FORMER FFTA)

### 1998

RFA (CCWS-08 - AMRAAD UST SITE)

### 1999

CS (CCWS-91 - UST at Timing Station, Bldg 20710)

### 2000

RFA (CCWS-16 - HELSTF TSA Gasoline Spill Site)

RFI/CMS (CCWS-16 - HELSTF TSA Gasoline Spill Site)

### 2003

RFA (CCWS-09 - LC-38 Diesel Fuel Spill Site)

### 2004

IRA (CCWS-08 - AMRAAD UST SITE, CCWS-16 - HELSTF TSA Gasoline Spill Site)

### 2006

CS (CCWS-77 - Main Post POL Storage Site)

RFA (CCWS-77 - Main Post POL Storage Site)

### 2008

DES (CCWS-16 - HELSTF TSA Gasoline Spill Site)

### 2009

CMI(C) (CCWS-16 - HELSTF TSA Gasoline Spill Site)

## Projected Phase Completion Milestones

See attached schedule

## Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

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## CR Schedule

**Final RA(C) Completion Date:** 200909

**Schedule for Next Five-Year Review:** 2014

**Estimated Completion Date of CR at Installation (including LTM phase):** 204609

## WHITE SANDS MISSILE RANGE CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-04	STALLION RANGE CENTER FORMER FFTA	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-05	HELSTF CLEANING FACILITY SUMP	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-08	AMRAAD UST SITE	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-09	LC-38 Diesel Fuel Spill Site	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-16	HELSTF TSA Gasoline Spill Site	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-77	Main Post POL Storage Site	RFI/CMS						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-81	Bldg 1621 drains & containers	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-82	TTF SWMUs 106, 109-113, AOC H-L	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-83	Waste Oil Storage Tank at SRC	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-84	Silver Recovery System Tailing Tank	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-85	Cyanide Treatment Unit	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-86	SWMU 130-131, developer/ acetic tanks	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-87	SWMUs 133-134 Accumulation Area	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-88	SWMUs 135-136, paint shop	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-89	Accumulation area at RATSCAT	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-90	LC-34 Contaminated Soils	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-91	UST at Timing Station, Bldg 20710	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-92	LC 38 Bldg 23626	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-93	sink and drain system at Bldg 1621	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-94	Battery Accum. Area at N Oscura	RFI/CMS						

## WHITE SANDS MISSILE RANGE CR Schedule

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-95	Drum Storage Area at STP	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-96	Pesticide Storage Area	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-97	Brine (MeCL) Storage Tank	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-98	Abandoned UST	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CCWS-99	Waste Oil Tank and Sump, Bldg 1794	RFI/CMS						

## Community Involvement

**Technical Review Committee (TRC):** None

**Community Involvement Plan (Date Published):** 200905

**Restoration Advisory Board (RAB):** No

**Reason Not Established:** The community has expressed no sufficient, sustained interest in a RAB.

**Community Interest Solicited on:** 199802

### Efforts Taken to Determine Interest

#### Status of Community Involvement

The WSMR is located on land contained within the borders of five New Mexico counties: Dona Ana (population 135,000); Sierra (population 9,900); Socorro (population 14,800); Lincoln (population 12,200); and Otero (population 51,900). In 1998, a public relations program was initiated by WSMR for the surrounding communities and will continue through completion of the IRP. The WSMR solicited for public interest in establishing a RAB. After efforts were completed, the installation commander determined that there was not enough public interest to establish a RAB.

#### Determining Interest In Establishing A RAB

In early spring 1998 WSMR solicited interest in establishing a RAB to enhance public involvement in the ongoing environmental restoration process. On Feb. 13, 1998 advertisements were placed in the local WSMR paper, the Missile Ranger. Solicitations were also sent to those individuals and entities on the facility mailing list. Eighteen responses were received out of 129 solicitations.

On April 15, 1998, a second mailing took place to those 18 persons and entities that responded to the February 1998 mailing. A total of eight responses were received from the second mailing. Only four of these responses requested the establishment of an actual RAB, or volunteered to serve on the RAB, should one be established, as board members.

#### Follow-up Procedures

The WSMR provides the public with opportunities for environmental restoration involvement by providing the following:

- Periodic newsletters discussing current restoration activities and providing plans and soliciting input for activities planned during the future year,
- Invitations to tour environmental restoration sites,
- Open access to the restoration library located in Building 163 on the Main Post, and
- Annual publication of the IAP

Interest in the Technical Assistance for Public Participation Program: N/A

### Results

#### Follow-up Procedures

Community involvement interest was solicited in January 2011.

### Additional Community Involvement Information

There was no interest by the public in forming a RAB.

#### Administrative Record is located at

Jonathan Wheeler (575-678-0810)  
White Sands Missile Range  
Building 163, Environmental Division.  
White Sands Missile Range, NM 88002

#### Information Repository is located at

Jonathan Wheeler (575-678-0810)  
White Sands Missile Range

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## Community Involvement

Building 163, Environmental Division.  
White Sands Missile Range, NM 88002

**Current Technical Assistance for Public Participation (TAPP):**N/A

**TAPP Title:** N/A

**Potential TAPP:** N/A

