ATTACHMENT E

(1 OF 5)

ATTACHMENT E

(1 OF 5)

FINAL

Site Inspection Report Former Victorville Precision Bombing Range No. 1

San Bernardino County, California

U.S. Army Corps of Engineers
Southwest IMA Region

FUDS Project No. J09CA067501
Contract: W912DY-04-D-0005
Task Order: 0009

Prepared For:
U.S. Army Corps of Engineers, Los Angeles District
915 Wilshire Blvd., Suite 15018
Los Angeles, California 90017-3401
and
U.S. Army Corps of Engineers
South Pacific Division Range Support Center

Prepared By:
PARSONS
5390 Triangle Parkway, Suite 100
Norcross, Georgia 30092

March 2008

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

March 11, 2008

Ms. Alexandria Long
United States Army Corps of Engineers
Los Angeles District
911 Wilshire Boulevard, Suite 15018
Los Angeles, California 90017-3401

DRAFT FINAL SITE INSPECTION REPORT FOR FORMER VICTORVILLE PRECISION BOMBING RANGE 1, VICTORVILLE, CALIFORNIA

Dear Ms. Long:

The Department of Toxic Substances Control (DTSC) completed the final Site Inspection Report (SI) review. The final SI Report documents the munitions and explosive of concern (MEC) and munitions constituent (MC) field investigation results, data analysis result and recommendation.

DTSC concurs with the final SI Report recommendation to proceed to the Remedial Investigation and Feasibility Study (RI/FS) phase. However, DTSC does not agree with the SI Report recommendation that no additional sampling during the RI/FS is needed. Do to the fact that an SI does not thoroughly characterize a site and the time frame between the end of the SI and implementation of the RI/FS, soil sampling should be carried forward. Therefore, an ecological screening should be performed that meets the California Department of Fish and Game (CDFG) ecological screening approach recommendations, including "terrestrial wildlife site-specific receptors" screening.

Furthermore, DTSC would like to reiterate that the USEPA Ecological Soil Screening Levels (ESSL) currently used by the Army Corp for ecological screening must be the most recent USEPA Ecological Soil Screening Levels and must have been accepted by the State of California Agencies (CDFG and DTSC) Eco-toxicologist.

If you have any questions or comments regarding this transmittal or other project matters, please do not hesitate to contact me at (714) 484-5428.

Sincerely,

Mr. Daniel Cordero Jr.
Southern California Branch
Office of Military Facilities
Cypress Office

cc: Ms. Edythe Seehafer
Environmental Protection Specialist
Bureau of Land Management
Barstow Field Office
2601 Barstow Rd
Barstow, CA 92311

Mr. Jose May (or replacement)
San Bernardino County Fire Department
620 South E. Street
San Bernardino, CA 92415

bcc: Shelia Lowe
Unit Chief
Southern California Branch
Office of Military Facilities
Cypress Office

Omo Patrick
Southern California Branch
Office of Military Facilities
Cypress Office

Response to DTSC Comment Letter Dated 11 March 2008

Draft Final Site Inspection Report for Former Victorville Precision Bombing Range 1, Victorville, California

Comment 1 noted.

Comment 2 noted.

CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Parsons has completed the Final Site Inspection report for Victorville PBR No. 1, San Bernardino County, California. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project, as defined in the Quality Control Plan. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions was verified. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing Corps policy.

Study/Design Team Leader and Team Members March 14, 2008

March 14, 2008

Independent Technical Review Team Leader

Significant concerns and the explanation of the resolution are as follows:

None

As noted above, all concerns resulting from independent technical review of the project have been considered.

March 14, 2008

Parsons Program Manager(s)

PARSONS
Parsons Infrastructure & Technology Group, Inc.
5390 Triangle Parkway • Suite 100 • Norcross, Georgia 30092 • (770) 446-4900 • Fax: (770) 446-4910 • www.parsons.com

March 14, 2008

U.S. Army Corps of Engineers, Los Angeles District
ATTN: CESPL-PM-M (Ms. Alexandria Long)
915 Wilshire Blvd., Suite 15018
Los Angeles, CA 90017-3401
(213) 452-3997

Subject: Contract W912DY-04-D-0005, Delivery Order 0009
MMRP SI for SW IMA Region –Final SI Report
Victorville Precisions Bombing Range (PBR) No. 1, San Bernardino County, California

Dear Ms. Long:

Parsons has prepared this Final Site Inspection (SI) Report in accordance with the Performance Work Statement (PWS) to include the completed Munitions Response Site Prioritization Protocol (MRSPP). All USACE and stakeholder comments received on the Draft Final SI Report have been addressed. One copy has been provided for your records. Six additional copies are provided for your distribution to the regulators (DTSC), and other key project stakeholders.

We have forwarded single copies of the document to Jeff Waugh (USACE HQ) and Monique Ostermann (SW Region Program Manager), and EM CX. Electronic copies have also been provided.

If you have any questions or comments, please contact me at (678) 969-2384 or (404) 606-0346 (cell) or the Co-Program Manager (Ms. Laura Kelley) at (678) 969-2437.

Sincerely,

PARSONS

Don Silkebakken, P.E.
MMRP SI Project/Program Manager

cc: HQ Jeff Waugh–1 CD
SPD Monique Ostermann –1 copy/1 CD
EM CX Brad McCowan / Deborah Walker – 1 copy/1 CD
EM CX Heidi Novotny – 1 CD
Laura Kelley (Parsons DPM - Project File 744653.74000)

U.S. Army Corps of Engineers
Southwest IMA Region

FINAL
Site Inspection Report
Former Victorville Precision Bombing Range No. 1
San Bernardino County, California

FUDS Project No. J09CA067501
March 2008

In Support of
FUDS MMRP Site Inspections Project

Prepared by:
PARSONS
5390 Triangle Parkway, Suite 100
Norcross, Georgia 30092

Prepared for:

U.S. Army Corps of Engineers, Los Angeles District
915 Wilshire Blvd., Suite 15018
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&

U.S. Army Corps of Engineers
South Pacific Division Range Support Center

Contract: W912DY-04-D-0005
Task Order: 0009

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LIST OF ACRONYMS

af	Acre Feet
AHA	Activity Hazard Analysis
ARC	Annual Report to Congress
ASR	Archives Search Report
bgs	Below Ground Surface
BLM	Bureau of Land Management
BTAG	Biological Technical Assistance Group
CDF&G	California Department of Fish and Game
CEHNC	Huntsville U.S. Army Engineering and Support Center
CEMVS	U.S. Army Corps of Engineers, St. Louis District
CEMVR	U.S. Army Corps of Engineers, Rock Island District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESPL	U.S. Army Corps of Engineers, Los Angeles District
CFR	Code of Federal Regulations
CHE	Chemical Warfare Material Hazard Evaluation
CNDDB	California Natural Diversity Database
CRREL	Cold Regions Research and Engineering Laboratory
CRWQCB	California Regional Water Quality Control Board
CSEM	Conceptual Site Exposure Model
CSM	Conceptual Site Model
CX	Center of Expertise
CZMP	Coastal Zone Management Program
DC	Design Center
DEP	Defense Environmental Programs
DERP	Defense Environmental Response Program
DoD	Department of Defense
DOI	Department of the Interior
DQO	Data Quality Objective
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EHE	Explosive Hazard Evaluation
EPP	Environmental Protection Plan
ER	Engineering Regulation
ERFPP	Emergency Response and Fire Prevention Plan
FDE	Findings and Determination of Eligibility
FTL	Field Team Leader

LIST OF ACRONYMS (CONTINUED)

FUDS	Formerly Used Defense Site
FUDSMIS	Formerly Used Defense Site Management Information System
GIS	Geographic Information System
GPS	Global Positioning System
GSA	General Services Administration
HHE	Health Hazard Evaluation
HHRA	Human Health Risk Assessment
HRS	Hazard Ranking System
HTW	Hazardous and Toxic Waste
IDW	Investigative Derived Waste
IMA	Southeast and Pacific Installation Management Agency
INPR	Inventory Project Report
lb	Pound
mg/kg	Milligrams per Kilogram
MC	Munitions Constituents
MCL	Maximum Concentration Level
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MM	Military Munitions
MM DC	Military Munitions Design Center
MMR	Military Munitions Response
MMRP	Military Munitions Response Program
MRA	Munitions Response Area
MRDS	Mineral Resources Data System
MRS	Munitions Response Site
MRSPP	Military Response Site Prioritization Protocol
MSL	Mean Sea Level
MWA	Mojave Water Agency
NAD	North American Datum
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDAI	No DoD Action Indicated
NFS	National Forest Service
NGS	National Geochemistry Survey
NGVD	Net Geodetic Vertical Datum
NHA	National Heritage Areas

LIST OF ACRONYMS (CONTINUED)

NHL	National Historic Landmarks
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRIS	National Register Information System
NRHD	National Register of Historic District
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Units
NWI	National Wetlands Inventory
NWRS	National Wildlife Refuge System
OE	Ordnance and Explosives
OHP	Office of Historic Preservation
PAPP	Programmatic Accident Prevention Plan
Parsons	Parsons Corporation
PBR	Precision Bombing Range
PDA	Personal Digital Assistant
PFSP	Programmatic Field Sampling Plan
PM	Project Manager
POP	Period of Performance
PQL	Practical Quantitation Limit
PRG	Preliminary Remediation Goal
PSAP	Programmatic Sampling and Analysis Plan
PWP	Programmatic Work Plan
PWS	Performance Work Statement
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QR	Qualitative Reconnaissance
RA	Removal Action
RAC	Risk Assessment Code
RI/FS	Remedial Investigation / Feasibility Study
ROE	Right-of-Entry
SAP	Sampling & Analysis Plan
SI	Site Inspection
SPD RSC	South Pacific Division Range Support Center
SLERA	Screening Level Ecological Risk Assessment

LIST OF ACRONYMS (CONTINUED)

SLRA	Screening Level Risk Assessment
SSL	Soil Screening Level
SS-WP	Site-Specific Work Plan
SVT	Site Visit Team
SWP	State Water Project
TBD	To Be Determined
TCRA	Time Critical Removal Action
T&E	Threatened and Endangered
TESS	Threatened and Endangered Species System
TPP	Technical Project Planning
USACE	U.S. Army Corps of Engineers
USAESCH	Engineering and Support Center, Huntsville
USC	U.S. Code
USEPA	United States Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance
VAAF	Victorville Army Air Field

GLOSSARY OF TERMS

anomaly	Any item that deviates from the expected subsurface ferrous and non-ferrous material at a site (i.e., pipes, power lines, etc.).
Inhabited structure	Permanent or temporary structure, other than military munitions-related structures, routinely occupied by one or more persons for any portion of a day.
magnetometer	An instrument for measuring the strength of a magnetic field; used to detect buried iron and other metal objects.
military munitions	All ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants; explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives and chemical warfare agents; chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges; and devices and components thereof.
munitions and explosives of concern (MEC)	Military munitions that may pose unique explosives safety risks, including UXO, discarded military munitions, or munitions constituents present in high enough concentrations to pose an explosive or other health hazard.
munitions constituents (MC)	Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.
munitions debris	Remnants of munitions (e.g., penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.

GLOSSARY OF TERMS (CONTINUED)

munitions response	Response actions, including investigation, removal actions, and remedial actions, to address the explosive safety, human health, or environmental risks presented by unexploded ordnance, discarded military munitions, or munitions constituents, or to support a determination that no removal or remedial action is required.
munitions response area (MRA)	Any area on a defense site that is known or suspected to contain UXO, discarded military munitions, or MC. Examples include former ranges and munitions burial areas. A munitions response area is comprised of one or more munitions response sites.
munitions response site (MRS)	A discrete location within an MRA that is known to require a munitions response.
projectile	Object projected by an applied force and continuing in motion by its own inertia. This includes bullets, bombs, shells, grenades, guided missiles, and rockets.
unexploded ordnance (UXO)	Military munitions that have been primed, fuzed, armed, or otherwise prepared for action; that have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material; and that remain unexploded whether by malfunction, design, or any other cause.

EXECUTIVE SUMMARY

ES.1 Victorville Precision Bombing Range (PBR) No. 1 was acquired by the War Department through leases from private landowners in May 1942 and the Department of the Interior (DOI) through Public Land Order (PLO) 125 in May 1943. The site was used for bombing practice by the Victorville Army Air Field (VAAF) and included a range target composed of three concentric, circular rings of field mix oil surfacing laid out at increasing distances from the center target to permit better visibility from the air. A site inspection (SI), documented in this report, was conducted to determine whether the munitions response site (MRS) identified within Victorville PBR No. 1 (refer to Table ES.1) warrant subsequent characterization as part of a remedial investigation/feasibility study (RI/FS) or no Department of Defense (DoD) action indicated (NDAI). The SI was performed to evaluate evidence for the presence of munitions and explosives of concern (MEC) and munitions constituents (MC) within the one MRS associated with Victorville PBR No. 1. To accomplish the objective, qualitative reconnaissance (QR) and MC sampling were performed.

ES.2 The technical project planning (TPP) process identified that, in addition to 4.3 miles of QR, the collection of eight to nine surface soil samples (plus associated quality assurance/quality control samples) would be sufficient to meet the project objectives.

ES.3 The SI evaluation included the conduct of approximately 7 miles of pedestrian QR as well as the collection of ten surface soil samples.

ES.4 All soil samples were analyzed by TestAmerica (formerly Severn Trent Laboratory-Denver) for explosives and metals. No explosives were detected in any of the soil samples. The analytical results for metals were evaluated against ambient samples collected under this SI. Lead was the only non-essential nutrient munitions constituents (MC) metal detected above background concentrations.

ES.5 Ecological receptors are not considered to be a target of migration pathways because Victorville PBR No. 1 is not considered to be an important ecological place; no threatened and endangered (T&E) species are present and it is not managed for ecological purposes.

ES.6 No MEC was observed during the SI field effort at the MRS. Munitions debris (MD) was observed in MRS 01- Practice Bomb Target in the form of M38A2 practice bomb debris and associated spotting charges.

Table ES.1
Summary of Site Inspection Results for Victorville PBR No. 1

MRS	MEC Found	MD Found	MC Contamination	Recommendation
01 – Practice Bomb Target	No	Yes	Yes	RI/FS, no further MC sampling. *Immediate removal action is not required at this time.*

ES.7 Munitions were used at the Victorville PBR No. 1 site presumably from 1943 to 1944. Historical records indicate that military munitions used at Victorville PBR No. 1 were limited to practice bombs (M38A2 series, 100-pound) and spotting charges (M1A1, M3, and M5). ***No MEC was observed during the SI field visit at the MRS, nor has MEC ever been reported. MD was observed at MRS 01 in the form of M38A2 practice bomb debris. The site visits associated with the Inventory Project Report (INPR) and Archive Search Report (ASR) observed MD at MRS 01 as well.***

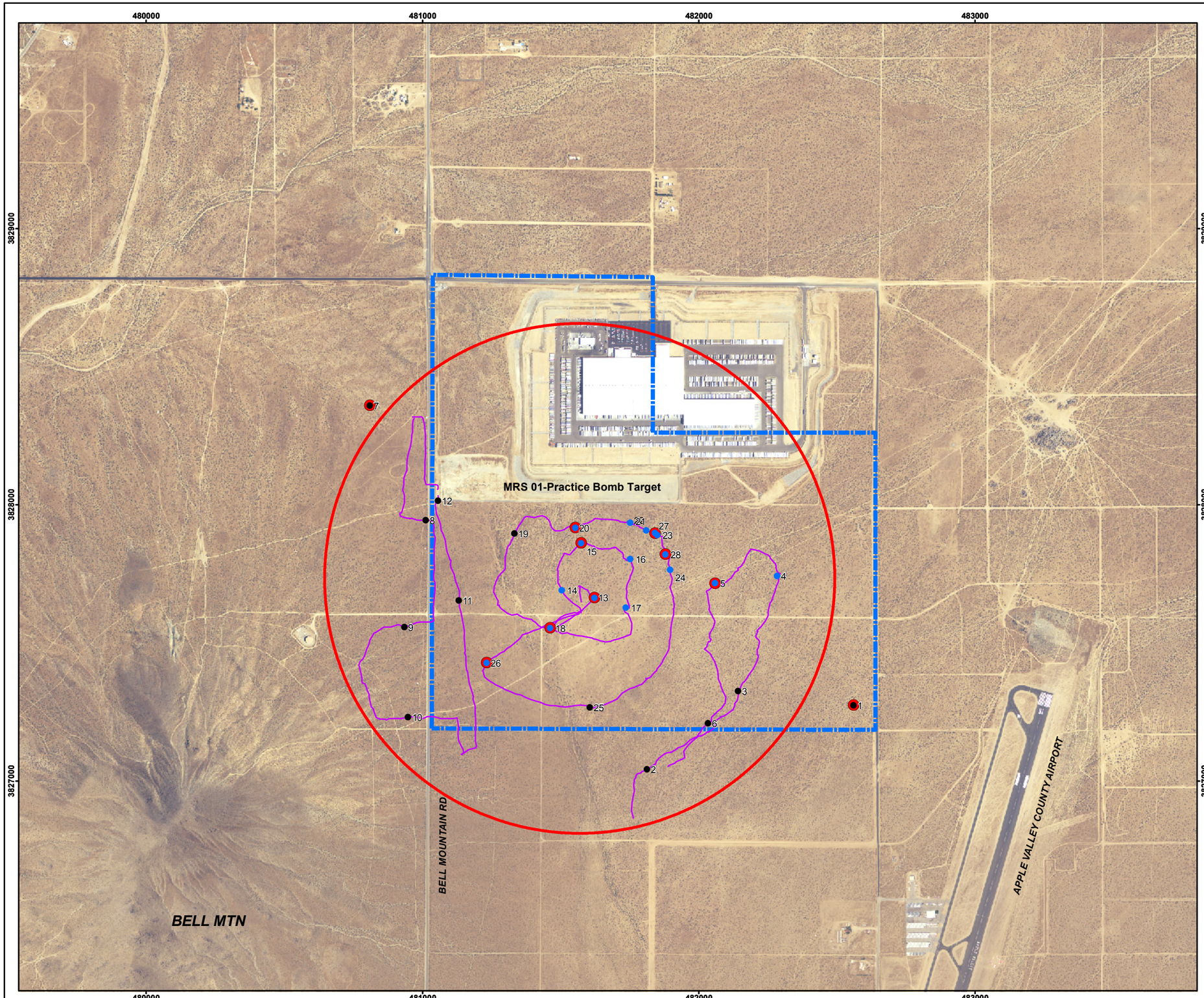
ES.8 It is recommended that MRS 01 proceed to RI/FS due to the presence of MD (indicative of potential presence of MEC). Based on the SI environmental sampling results, there is potential MC contamination present in the soil at MRS 01; however, there is no risk and ***additional sampling during the RI/FS is not warranted***. However, when the TPP Team convenes for review of the RI/FS Technical Approach (when awarded), they may choose to re-evaluate the MC sampling recommendation in light of the amount of time passed since the SI completion or additional information that may become available.

Figure ES.1

General Site Overview
Victorville PBR No.1

FUDS Project No. J09CA067501

San Bernardino County, California



Legend

- Munitions Debris Observation Location
- Other Field Observation Location
- Soil Sample Location
- Range Boundary
- Project Boundary
- Qualitative Reconnaissance Track

N

Image: Orthophoto, 2005
Projection: UTM Zone 11 NAD83, Map Units in Meters

1,000 500 0 1,000 Feet

PARSONS	U.S. ARMY SOUTH PACIFIC DIVISION RANGE SUPPORT CENTER

DESIGNED BY: BT	General Site Overview		
DRAWN BY: BT			
CHECKED BY: BB	SCALE: As Shown	PROJECT NUMBER: 744653.74000	
SUBMITTED BY: DS	DATE: March 2008	PAGE NUMBER: ES-3	
	FILE: X:\GIS\Site_inspections_sw\Maps\victorville_ca\FigES_1_pbr1.mxd		

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

1.1.1 Parsons Corporation (Parsons) received Contract No. W912DY-04-D-0005, Task Order No. 0009, from the United States Army Corps of Engineers (USACE), Engineering and Support Center, Huntsville (USAESCH) to perform a Site Inspection (SI) at the Victorville Precision Bombing Range (PBR) No. 1 Formerly Used Defense Site (FUDS). The site consists of 649 acres located in San Bernardino County, California, that served as a practice bombing range conducted from Victorville Army Air Field (VAAF) using 100-pound (lb) sand-filled M38A2 in the early 1940s. Property acquisitions in support of the mission in the 1940s resulted in a comprehensive FUDS-eligible acreage totaling 649 acres, as depicted in Figure 1.1. Victorville PBR No. 1 consists of one Munitions Response Site (MRS) as identified in Table 1.1. Victorville PBR No. 1 has been assigned FUDS Project No. J09CA067501.

1.1.2 The Department of Defense (DoD) established the Military Munitions Response Program (MMRP) to address DoD sites suspected of containing munitions and explosives of concern (MEC) or munitions constituents (MC). Under the MMRP, the USACE is conducting environmental response activities at FUDS for the Army, the DoD's executive agent for the FUDS program.

1.1.3 Pursuant to the USACE's Engineer Regulation (ER) 200-3-1 (USACE, 2004) and the Management Guidance for the Defense Environmental Restoration Program (DERP) (Office of the Deputy Under Secretary of Defense [Installations and Environment], 2001), USACE is conducting FUDS response activities. All work is performed in accordance with the following:

- The DERP statute (10 U.S. Code [USC] 2701 *et seq.*);
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC §9601 *et seq*);
- Executive Orders 12580 and 13016; and
- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] Part 300).

1.1.4 USACE is conducting remedial SIs, as set forth in the NCP, to evaluate hazardous substance releases or threatened releases from eligible FUDS.

1.1.5 While not all MEC/MC constitute CERCLA hazardous substances, pollutants or contaminants, the DERP statute provides DoD the authority to respond to releases of MEC/MC, and DoD policy states that such responses shall be conducted in accordance with CERCLA and the NCP.

1.1.6 This report summarizes the work performed during the SI and presents an accounting of any MEC and MC contamination identified on the site. The SI was limited exclusively to MEC and MC contamination issues requiring collection of a sufficient and appropriate amount of information, but does not consider other unrelated hazardous and toxic waste (HTW) concerns the site may pose. Per ER 200-3-1, guidance for conducting an SI, Section 4-4.1.2:

> *The SI is not intended as a full-scale study of the nature and extent of contamination or explosive hazards. The objectives of the remedial SI are to: (i) Eliminate from further consideration those releases that pose no significant threat to public health or the environment; (ii) Determine the potential need for removal action; (iii) Collect or develop additional data, appropriate for HRS scoring by [US]EPA; and (iv) Collect data, as appropriate, to characterize the release for effective and rapid initiation of the RI/FS.*

Table 1.1
Victorville PBR No. 1 MRS 01

MRS	MRS Acreage(1)	X-Coordinate(2) (meters)	Y-Coordinate(2) (meters)
01 – Practice Bomb Target	649 acres	481606.00E	3827829.00 N

(1) – Acreage based on review of Annual Report to Congress (ARC), Archives Search Report (ASR) Supplement, and the FUDS Management Information System (FUDSMIS).
(2) – Universal Transverse Mercator (UTM) Zone 12 North American Datum (NAD) 83.

1.2 PROJECT OBJECTIVES

1.2.1 The primary objective of the MMRP SI is to determine whether or not a FUDS project warrants further response action under CERCLA. The SI collects sufficient and appropriate information necessary to make this determination, as well as:

- determines the potential need for a removal action;
- collects or develops additional data, as appropriate, for Hazard Ranking System (HRS) scoring by the U.S. Environmental Protection Agency (USEPA); and
- collects data, as appropriate, to characterize the release for effective and rapid initiation of the RI/FS.

1.2.2 Another objective of the MMRP SI is to collect the additional data necessary to complete the Munitions Response Site Prioritization Protocol (MRSPP).

1.3 PROJECT SCOPE

1.3.1 During the site visit in support of the 1996 Archive Search Report (ASR), the team observed munitions debris (MD) within the MRS. The MD consisted of two pieces of M38A2 series bomb debris. Remnants of the target rings constructed of asphalt were not observed (USACE, Rock Island District [CEMVR], 1996). No MEC has been reported to date at Victorville PBR No. 1. The findings of the ASR are recorded in Section 2.5 of this SI Report.

1.3.2 The primary project planning documents used to perform the SI included the Final Site Specific Work Plan (SS-WP) Addendum to the Programmatic Work Plan for Victorville PBR No. 1 (Parsons, 2007b), the USACE South Pacific Division Range Support Center (SPD RSC) Programmatic Work Plan (PWP) (Parsons, 2005), the Programmatic Sampling and Analysis Plan (PSAP) (USACE, 2005), and the PSAP Addendum (Parsons, 2006). The Performance Work Statement for this project is included in Appendix A.

1.3.3 The USACE, Los Angeles District (CESPL) facilitated a technical project planning (TPP) meeting on 31 January 2007 that included representatives of CESPL, Parsons, the Bureau of Land Management (BLM), California Department of Toxic Substances and Control (DTSC), and San Bernardino County Fire Department. The TPP Team unanimously concurred with the technical approach presented in the Final TPP Memorandum (Parsons, 2007a), including the locations of 8 soil samples, sampling methods, and laboratory analyses for explosives and select metals constituents.

1.3.4 The TPP Team concurred that comparison criteria for soil sample results would be the most conservative from Region 9 and CAL-Modified Industrial Soil Preliminary Remediation Goals (PRGs), and USEPA Ecological soil screening levels (SSLs), supplemented with PSAP Addendum values as needed. The TPP Team agreed that a soil sampling depth of 2 to 4 inches was appropriate for this site due to the sandy nature of the soils and the high risk of erosion.