



Infrastructure, environment, facilities

Mr. Anthony Nelson (2 copies each)  
FORSCOM BRAC (UNITEC)  
30 CES/CEV  
1515 Iceland Avenue, Room 181C  
Vandenberg AFB, California 93437-5319

Subject:

Action Memorandum for the Time Critical Removal Action (TCRA) under CERCLA for the "Washrack" and "Farm Fuel" Sites and Action Memorandum for the Non-Time Critical Removal Action under CERCLA for the "Wood Dump" Site Former United States Disciplinary Barracks, Lompoc, California.

Dear Mr. Nelson:

Enclosed are the Action Memorandum for the TCRA Under CERCLA for the "Washrack" and "Farm Fuel" Sites and the Action Memorandum for the Non-Time Critical Removal Action Under CERCLA for the "Wood Dump" Site for the Former United States Army Disciplinary Barracks in Lompoc, California.

These have been prepared and circulated upon your request. They were prepared, as received, with the Atlanta Field Office signatures in place.

Please contact the undersigned if you have any questions.

Sincerely,

ARCADIS G&M, Inc.

Hoa T. Voscott, PE  
Senior Project Engineer

Copies:

Mr. Mike Drumheller (2 copies each)  
Headquarters, Department of the Army  
Assistant Chief of Staff for Installation Management  
Base Realignment and Closure Division (DAIM-BD)  
600 Army Pentagon  
Washington, DC 20310-0600

ARCADIS G&M, Inc.  
1050 Marina Way South  
Richmond  
California 94804  
Tel 510 233 3200  
Fax 510 233 3204  
www.arcadis-us.com

ENVIRONMENT

Date:  
30 June 2006

Contact:  
Hoa Voscott

Phone:  
510.233.3200

Email:  
hvoscott@arcadis-us.com

Our ref:  
RC000593.0020.00009

Imagine the result



**UNITED STATES DISCIPLINARY BARRACKS (USDB),  
LOMPOC, CALIFORNIA**

**“ACTION MEMORANDUM”  
FOR THE  
TIME CRITICAL REMOVAL ACTION (TCRA)  
UNDER CERCLA FOR THE  
“WASHRACK” AND “FARM FUEL” SITES**

**HQDA BRAC ATLANTA FIELD OFFICE (AFO)  
U.S. ARMY Base Realignment and Closure  
ATTN: DAIM-BD-A  
1347 Thorne Avenue, SW Bldg 243  
Fort McPherson, GA 30330-1062**

## **Acronyms and Abbreviations**

### **1.0 Purpose and Regulatory Compliance**

#### **1.1 Purpose**

#### **1.2 Regulatory Compliance**

### **2.0 Site Conditions and Background**

#### **2.1 Site Background**

#### **2.2 Physical Location**

#### **2.3 Site Characteristics**

#### **2.4 Previous Investigations and Actions**

##### **2.4.1 Washrack Site**

##### **2.4.2 Farm Fuel Site**

#### **2.5 Summary of Site Conditions**

##### **2.5.1 Washrack Site**

##### **2.5.2 Farm Fuel Site**

#### **2.6 Selected Removal Action**

#### **2.7 Maps and Other Graphic Representations**

### **3.0 Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory**

#### **Authorities**

### **4.0 Determination of Endangerment**

### **5.0 Time Critical Removal Action and Estimated Costs**

#### **5.1 Time Critical Removal Action**

##### **5.1.1 Action Description**

- 5.1.2 Future Action
- 5.1.3 Contribution to Remedial Performance
- 5.1.4 Description of Alternative Technologies
- 5.1.5 Applicable or Relevant and Appropriate Requirements
- 5.1.6 Project Schedule

## **5.2 Estimated Costs**

## **6.0 Expected Change in Situation Should Action be Delayed or Not Taken**

## **7.0 Public Involvement**

## **8.0 Outstanding Policy Issues**

## **9.0 Recommendations and Signature**

## **10.0 References**

## **11.0 Response to Comments**

### **Table**

- 1 ARARs for Groundwater Remediation

### **Figures**

- 1 Complex Location Map
- 2 Federal Corrections Complex
- 3 Washrack Site Map
- 4 Farm Fuel Site Map
- 5 Washrack Site – Summary of Groundwater PCE and TCE Concentrations
- 6 Detected Organic and Inorganic Compounds Exceeding MCLs in Groundwater -- A Wells, Fourth Quarter 2005 Groundwater Monitoring Report, Washrack Site
- 7 Detected Organic and Inorganic Compounds Exceeding MCLs in Groundwater -- B Wells, Fourth Quarter 2005 Groundwater Monitoring Report, Washrack Site
- 8 Farm Fuel Site - Previous Soil Boring and Soil Gas Sample Locations
- 9 Detected Organic and Inorganic Compounds Exceeding MCLs in Groundwater, Fourth Quarter 2005 Groundwater Monitoring Report, Fuel Farm Site

- 10 Groundwater Elevation Contour Map-A Wells, Fourth Quarter 2005 Groundwater Monitoring Report, Washrack Site
- 11 Groundwater Elevation Contour Map -B Wells, Fourth Quarter 2005 Groundwater Monitoring Report, Washrack Site
- 12 Groundwater Elevation Contour Map, Fourth Quarter 2005 Groundwater Monitoring Report, Farm Fuel Site

**Appendix**

- A Correspondence Regarding Time Critical Removal Action and Response to Comments on Draft Action Memorandum and Final Draft Action Memorandum for the Washrack and Farm Fuel Sites

## ACRONYMS AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
BCT	BRAC Cleanup Team
BTEX	benzene, toluene, ethylbenzene, and total xylenes
BOP	Bureau of Prisons
BRAC	Base Realignment and Closure
bgs	below ground surface
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COCs	constituents of concern
1,2-DCA	1,2-dichloroethane
1,2-DCE	1,2-dichloroethene
ERD	enhanced reductive dechlorination
FCC	Federal Correctional Complex
FCI	Federal Correctional Institution
FPC	Federal Prison Camp
ICC	Intensive Confinement Center
MCL	maximum contaminant level
MDL	method detection limit
mg/kg	milligram/kilogram
MTBE	methyl-tert-butyl-ether
µg/kg	microgram/kilogram
µg/L	microgram/Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priority List
PAHs	polynuclear aromatic hydrocarbons
PCE	tetrachloroethene
PRG	Preliminary Remediation Goal
RWQCB	Central Coast Regional Water Quality Control Board
SBCEHS	Santa Barbara County Environmental Health Services
TBC	To-Be-Considered
TCE	trichloroethene
TCRA	time critical removal action
TPH	total petroleum hydrocarbons
USACE	United States Army Corps of Engineers

USC	United States Code
USDB	United States Disciplinary Barracks
USEPA	United States Environmental Protection Agency
USP	United States Penitentiary
USTs	underground storage tanks
VOCs	volatile organic compounds



## **1.0 PURPOSE AND REGULATORY COMPLIANCE**

### **1.1 Purpose**

The purpose of this Action Memorandum is to document, for the Administrative Record, the United States Army's decision to undertake time critical removal actions (TCRAs) to address the groundwater contamination at the Washrack and Farm Fuel sites at the former United States Disciplinary Barracks (USDB) in Lompoc, California (Figure 1). Due to the close proximity of the sites to the Lompoc federal prisons, the TCRAs are necessary to minimize the length of time remediation personnel need to be at the sites and thus minimize security risks associated with performing the groundwater remediation. This removal action implements enhanced reductive dechlorination (ERD) systems at the Washrack and the Farm Fuel sites. The purpose of the ERD systems is to reduce the concentrations of the chlorinated solvent in groundwater at the site source areas. ERD is an in-situ bioremediation technology that can reduce the time it takes to remediate the groundwater. In addition, the in-situ technology addresses Bureau of Prison's (BOP's) security concerns by minimizing activities and equipment in the vicinity of prison facilities.

### **1.2 Regulatory Compliance**

Although the former USDB at Lompoc is not on the National Priority List (NPL), the Department of Defense utilizes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process for the environmental cleanup at the USDB and has the authority to undertake CERCLA response actions, including this TCRA, under Executive Order 12580. The Base Realignment and Closure (BRAC) Cleanup Team (BCT) consists of various agencies: United States Army is the lead agency conducting the environmental cleanup at the Former USDB; the California Central Coast Regional Water Quality Control Board (RWQCB) is the lead regulatory agency; Santa Barbara County Environmental Health Services (SBCEHS) also has regulatory oversight authority on the various cleanup activities at both the Washrack and Farm Fuel sites; United States Environmental Protection Agency (USEPA) is the technical and regulatory advisory agency to the BCT; BOP is the current land owner of the Washrack and Farm Fuel sites; several consultants are also on the BCT to provide technical support of the cleanup. This removal action, to the extent possible, meets the substantive applicable and/or relevant and appropriate requirements (ARARs) identified in Section 5.1.5 of this Action Memorandum.

## **2.0 SITE CONDITIONS AND BACKGROUND**

### **2.1 Site Background**

The War Department purchased the USDB property in 1941 for the establishment of Fort Cooke, a tank-training base. In 1946, the USDB was built as a military detention center. In July 1959, approximately 2,409 acres were permitted to the BOP and renamed the Federal Correctional Institution (FCI). In July 1981, the FCI officially became a United States Penitentiary (USP), a high-security prison. The former USDB presently contains the USP, the Federal Prison Camp (FPC; a minimum-security prison), FCI (a low-security prison), the Sewage Treatment Plant, the Farm area, UNICOR Federal Prison Industries, the Dairy, and the Intensive Confinement Center (ICC), and has recently been renamed the Federal Corrections Complex (FCC [Figure 2]).

The USDB, a United States government property, has been selected for closure by the BRAC 95 Commission. The FCC has been identified as BRAC property, subject to transfer or lease. In August 2002,

the USDB was transferred to the Department of Justice for use by the BOP. To achieve regulatory closure or No Further Action classification, each site must undergo restoration activities to make the USDB suitable for transfer.

The United States Army is conducting the investigation and cleanup at the FCC under BRAC guidelines. Several installation-wide surveys and assessments have been conducted to identify contaminants and contaminant sources at the FCC. Additionally, several interim remedial actions have been conducted to remove sources of contamination. The results of these investigations defined five discrete sites requiring further evaluation. They include the Wood Dump site, Underground Storage Tanks (USTs) site, Surface Scarring site, Washrack site, and Farm Fuel site. The subjects of this Action Memorandum are the Washrack and Farm Fuel sites.

## 2.2 Physical Location

The FCC is located within the City of Lompoc limits, approximately 1.5 miles northwest of the downtown portion of the City (Figure 1). Within the FCC, the Washrack site is directly to the north of the USP and to the west of the Transportation Building (Figure 3). The Washrack is a concrete pad, surrounded by mostly paved areas, which are busy with vehicular and pedestrian traffic. The areas surrounding the Washrack, collectively known as the Washrack Site, are briefly described below (Figures 2 and 3):

- Areas to the north consist of a paved access road and warehouse.
- Areas to the east consist of a grassy lot and the Transportation Building.
- Areas to the south consist of a paved lot with eight storage sheds, the former Greaserack site (now included as part of the Washrack site), and the USP.
- Areas to the west are paved and contain equipment and vehicles.

Approximately 2,800 feet southeast of the Washrack site is the Farm Fuel site, which is approximately 500 feet south of the FCI and to the east of the FPC. The surrounding areas are briefly described below (Figures 2 and 4):

- Areas to the north consist of a paved access road and the medium-security prison.
- Areas to the east consist of a grassy lot, Santa Lucia Canyon Road, and the Dairy.
- Areas to the south consist of a corn field and the Santa Ynez River.
- Areas to the west consist of the cornfield, the FPC, and the Santa Ynez River.

## 2.3 Site Characteristics

The Washrack consists of the concrete pad, approximately 35 feet by 27 feet by 4 inches thick. A high-pressure steam-cleaning unit used for vehicle cleaning was located in a small shed in one corner of the pad. The concrete pad was pitched so that water drained to a 2 feet by 4 feet catch basin in the middle of the pad. Water drained from the catch basin through underground piping to sanitary sewer line, which then drained

into the FCC's wastewater treatment plant. The Washrack site, as described above, is mostly paved and extends over the area where groundwater has been impacted by past activities at the Washrack.

The Greaserack site, which is part of the Washrack site, is located south of the Washrack concrete pad (Figure 3). It was also used for cleaning and servicing of USDB, and later BOP, vehicles. The Greaserack site has been investigated as part of the Washrack site investigations. It currently consists of a concrete block approximately 13 feet by 13 feet by 4 feet high. Two 200-gallon propane tanks are attached to the concrete structure, which is secured by a cyclone fence. For discussion purposes, the Greaserack site is considered as part of the Washrack site, unless otherwise noted.

The Farm Fuel site continues to be used for the storage and repair of farm vehicles and equipment. It consists mainly of a gravel driveway (former UST area) located between the farm repair shop and farm equipment storage building (Figure 4).

## 2.4 Previous Investigations and Actions

### 2.4.1 Washrack Site

From the 1940s to the 1990s, the Washrack site, which includes the Greaserack site, was used for cleaning USDB and BOP vehicles (Figure 3). At the Washrack site, the wash water waste stream resulting from the cleaning of vehicles is suspected to have contained fuels and other petroleum related hydrocarbons and volatile organic compounds (VOCs), which have impacted the soil and groundwater. These releases were first identified in the June 1997 Environmental Baseline Survey, which required subsurface investigations at the Washrack site prior to transfer of the FCC to the BOP (Woodward-Clyde Consultants, 1997).

Since the 1997 Environmental Baseline Survey, several soil and groundwater investigations have been performed to delineate the extent of VOC impacts and they are summarized below:

- In August 1999, soil samples from nine soil borings were collected (Figure 5); four at the Greaserack site (GR-SB-01 through GR-SB-04) and five at the Washrack site (WR-SB-01 through WR-SB-05). The soil borings were drilled to depths ranging from 3 to 10 feet below ground surface (bgs) and were analyzed for metals, VOCs, polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH) as gasoline, diesel, and motor oil.

Four VOCs, an unidentified petroleum hydrocarbon, and six metals were detected at the Greaserack site. Benzene, 1,3-dichlorobenzene, Freon 11 and toluene were detected at the Greaserack site at low concentrations (2.9 micrograms per kilogram [ $\mu\text{g}/\text{kg}$ ] or less). At the Washrack site, benzene, chlorobenzene, tetrachloroethene (PCE), and toluene were detected at low concentrations (2.3  $\mu\text{g}/\text{kg}$  or less). Arsenic (up to 7.0 milligram [ $\text{mg}/\text{kg}$ ]) was the only metal detected in soil at concentrations above the 2000 USEPA Region IX Preliminary Remediation Goal (PRG) of 0.39  $\text{mg}/\text{kg}$  for residential use. The detected arsenic concentrations were, however, within the range of background arsenic concentrations calculated for the neighboring Vandenberg Air Force Base (Jacobs Engineering Group, 1994).

Unidentified petroleum hydrocarbons (in the diesel/motor oil and gasoline range) ranging from 33 to 1,400  $\text{mg}/\text{kg}$  were detected in the shallow soil samples (0 to 9 feet bgs) collected at both the Greaserack

and Washrack sites (Weiss Associates, 2001). The identified VOCs and detected petroleum hydrocarbons in soil were consistent with the site usage. A human health risk assessment concluded that the soil at the Washrack and Greaserack sites did not require further action (Weiss Associates, 2001).

- In November 1999, two temporary wells (LP-WR-TW1 and LP-WR-TW2, Figure 5) were installed to evaluate source and extent of groundwater contamination at the Greaserack and Washrack sites. Groundwater samples were collected from the two temporary wells and were analyzed for metals, VOCs, PAHs, and TPH as gasoline, diesel, and motor oil.

The grab groundwater sample collected directly north of and adjacent to the Washrack site (LP-WR-TW1 at 84 feet bgs) contained PCE at 940 microgram/Liter ( $\mu\text{g/L}$ ), trichloroethene (TCE) at 52  $\mu\text{g/L}$ , 1,2-dichloroethene (1,2-DCE) at 54  $\mu\text{g/L}$ , and an unidentified hydrocarbon (gasoline range) at an estimated concentration of 71  $\mu\text{g/L}$ . The PCE, TCE, and 1,2-DCE concentrations exceeded their State of California drinking water maximum contaminant levels (MCLs) of 5  $\mu\text{g/L}$  (PCE and TCE) to 6  $\mu\text{g/L}$  (1,2-DCE). Groundwater sample from LP-WR-TW2 (south of the Greaserack site) contained metals, but did not contain any VOCs or other hydrocarbons (Weiss Associates, 2001).

- In May 2000, four additional temporary wells were installed to 90 feet bgs (LP-WR-TW3 through LP-WR-TW6, Figure 5). Groundwater grab samples were collected from the temporary wells and analyzed for VOCs.

PCE, TCE, 1,2-DCE and acetone were detected in the groundwater samples from LP-WR-TW3, -TW4 and -TW6. No VOCs were detected above laboratory detection limits in the groundwater sample from LP-WR-TW5. The highest PCE (131  $\mu\text{g/L}$ ) and TCE (8  $\mu\text{g/L}$ ) concentrations were detected from LP-WR-TW4 (Weiss Associates, 2001).

- In May 2000, soil vapor samples were collected from eight borings drilled to depths between 40 and 50 feet bgs (locations WR-SB-06 through WR-SB-13, Figure 5). The purpose of the soil vapor investigation was to evaluate the potential source of the VOCs detected in the groundwater. The borings were located in the area north of the Washrack, including locations near a sanitary sewer line connected to the catch basin, and north of the warehouse. Soil vapor samples in each boring were collected at 20 and 42 feet bgs, above and below a low-permeability zone previously identified in LP-WR-TW1 between 23 to 38 feet bgs. Soil vapor samples were analyzed for VOCs.

Low concentrations of PCE (11  $\mu\text{g/L}$ ) were detected at 42 feet bgs in WR-SB-06, located approximately 30 feet north of the Washrack concrete pad. The results of the soil vapor investigation did not indicate the presence of an ongoing surface or near-surface PCE source north of the Washrack concrete pad. However, because low permeability sediments extended deeper than anticipated (>40 feet bgs in certain areas), the results of the deeper soil vapor sampling were inconclusive with regards to the direction and extent of groundwater contamination (Weiss Associates, 2001).

- In July 2000, three groundwater monitoring wells (WR-MW-01, -02, and -03, Figures 3 and 5) were installed at the Washrack site. Wells WR-MW-01, -02 and -03 were installed north, south and west-southwest of the Washrack, respectively (Weiss Associates, 2001).

- In December 2000, HydroPunch grab groundwater samples were collected at depths of 110, 120, 130, 140, and 150 feet bgs from four borings (WR-SB-14 through WR-SB-17) drilled in the vicinity of the Washrack concrete pad and analyzed for VOCs. The purpose of the hydropunch investigation was to delineate the horizontal and vertical extent of groundwater contamination and to help evaluate future locations of additional monitoring wells.

Borings WR-SB-15 and WR-SB-14 detected concentrations of PCE above MCL (Figure 5). VOCs at or above the analytical method detection limit (MDL) were not detected at the other hydropunch locations. The results of the hydropunch investigation indicate that the groundwater beyond the immediate area of the

Washrack footprint is impacted but the source and limits have not been defined (Weiss Associates, 2001).

- In September and October 2002, ARCADIS conducted an additional site investigation to further delineate groundwater impacts downgradient of the Washrack. The site investigation included the installation of six shallow A zone monitoring wells (WR-MW-4A, WR-MW-05A, WR-MW-06A, WR-MW-07A, WR-MW-08A, and WR-MW-09A) and four deep B zone monitoring wells (WR-MW-4B, WR-MW-05B, WR-MW-06B, and WR-MW-08A, Figure 3). In addition, ARCADIS installed four injection wells (WR-IW-01 through WR-IW-04) as part of the ERD system (ARCADIS, 2004).
- In July 2004, ARCADIS performed additional plume delineation and ERD system expansion using temporary borings. In addition, two shallow A-zone monitoring wells (WR-MW-10A and WR-MW-11A) were installed at the site. The results of the plume delineation program and discussions on the ERD expansion program are detailed in the Technical Memorandum, dated March 31, 2005 (ARCADIS, 2005a).
- In September 2005, ARCADIS expanded the ERD system at the Washrack site by installing 12 additional injection wells (WR-IW-5 through WR-IW-16) to enhance the delivery of the carbohydrate solution to the impacted groundwater at the site. Large volume injections (approximately 1,000 gallons) were also started in September 2005 to further enhance the delivery of the solution. As part of the expansion, a new monitoring well (WR-MW-12A) was installed to monitor the performance of the ERD program. The expansion of the ERD program is discussed in Technical Memorandum, dated November 1, 2005 (ARCADIS, 2005b).
- On September 12, 2005, one monitoring well (WR-MW-04B) was abandoned in accordance with the *Proposed Well Abandonment at the Former United States Disciplinary Barracks*, dated July 19, 2005 (ARCADIS, 2005c). Details of the well abandonment activities are discussed in the *Documentation of Well Abandonment and Well Construction* letter dated October 31, 2005 (ARCADIS, 2005d).
- The monitoring wells were sampled as part of the Fourth Quarter 2005 groundwater monitoring event. Results of the monitoring were presented in the *Quarterly Groundwater Monitoring Report – Fourth Quarter 2005*, dated January 30, 2006 (ARCADIS, 2006). The organic and inorganic compounds exceeding MCLs during the Fourth Quarter 2005 event for the shallow A and deep B zone wells are presented in Figures 6 and 7, respectively.

Concentrations above MCLs are detected in wells located to the north (WR-MW-09A), south (WR-MW-08A), and west (WR-MW-10A) of the concrete pad (Figure 6), and as such, the data suggest that the VOC plume originated from the Washrack concrete pad.

#### 2.4.2 Farm Fuel Site

The Farm Fuel site contained USTs, which were used to store petroleum hydrocarbons (Figure 4). In March 1990, B&T Construction of Arroyo Grande, California, removed three adjacent USTs at the site. One of the USTs was a single-walled 800-gallon capacity stainless steel UST that had been used to store unleaded gasoline. The remaining two USTs were single-walled 800-gallon capacity carbon steel USTs that were used to store regular gasoline and waste oil. The exact age of the USTs is unknown, but prison employees estimate that they were installed in the 1950s. On removal, the stainless steel UST had no apparent perforations; however, both carbon steel USTs did have visible holes. Soil contamination was apparent in the bottom of the excavation; analysis of soil samples yielded TPH concentrations up to 18,000 mg/kg [United States Army Corps of Engineers (USACE), 2001].

Staal, Gardner, and Dunne, Inc. conducted a preliminary site assessment in 1991. During this investigation, five soil borings were drilled and three monitoring wells were installed to evaluate the vertical and lateral extent of soil contamination and to assess whether groundwater had been impacted by the release of petroleum hydrocarbons from the USTs. Soil samples from two of the soil borings contained TPH, benzene, toluene, and 1,2-dichloroethane (1,2-DCA) concentrations above SBCEHS criteria. Concentrations of TPH were as high as 873 mg/kg. Groundwater samples from the three wells were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX); priority pollutants, and total lead. The only organic constituent in groundwater exceeding MCLs was 1,2-DCA at 2 µg/L. It was recommended that additional investigations be performed to further define the lateral extent of soil and groundwater contamination (Staal, Gardner & Dunne, 1991).

Several investigations have been performed to delineate the extent of VOC impacts in the groundwater and they are summarized below:

- In July 1992, the USACE Sacramento District performed a site assessment. Five soil borings and two monitoring wells were installed to further characterize the extent of soil and groundwater contamination at the Farm Fuel site. Soil samples were tested for TPH, BTEX, VOCs, and total lead.

Concentrations of TPH, benzene, toluene, xylenes, and 1,2-DCA exceeded the residential soil PRGs in some of the soil samples, but groundwater sample results were below detection limits for the target analytes (USACE, 2001).

- In May 1994, approximately 3,900 cubic yards of contaminated soil were removed from the Farm Fuel site. Confirmation samples indicated that the contaminated soil was removed. Soil was excavated to a depth of approximately 25 feet and the excavation was backfilled with clean soil. Pre-existing monitoring wells, which required removal during the excavation process were replaced by three new wells (USACE, 2001).
- In May 1994, monitoring wells FF-MW-03R, FF-MW-05R, and FF-MW-06 were installed and have been sampled a total of 16 times between May 1996 and June 2003 (Figure 4). Well FF-MW-03R is

located in the approximate center of the former UST source area (i.e., the excavation area, USACE, 2001).

- In 1998, monitoring wells FF-MW-07, FF-MW-08, and FF-MW-09 were installed and have been sampled 15 times between April 1998 and June 2003. Monitoring well FF-MW-07 is upgradient (i.e., north) of the former UST source area and wells FF-MW-08 and FF-MW-09 are crossgradient (to the west and east, respectively) of the former UST source area (USACE, 2001).
- In October 1998, a passive soil gas survey using Gore-Sorber™ technology was conducted to provide information on the extent of 1,2-DCA contamination in groundwater and to focus on the area downgradient of FF-MW-6 (Figure 8).

The passive soil gas survey did not detect 1,2-DCA, however it did detect low concentrations of PCE at three soil gas locations. Previously, PCE had not been detected in either soil or groundwater samples (USACE, 2001).

- In August and September 1999, an investigation was performed to further assess the presence of VOCs, specifically 1,2-DCA in soil and groundwater. Soil and groundwater samples were collected using direct push technology and temporary well points (locations shown in Figure 8). Natural attenuation parameter data were also collected to assess the degree to which natural attenuation is occurring at the Farm Fuel site.

PCE was detected in soil at low concentrations (2 to 3 mg/kg). Although the PCE detection was above residential soil PRG (1.5 mg/kg), it was below the industrial soil PRG (3.4 mg/kg). The receptors included in the residential soil PRG calculations are an age-adjusted resident for cancer risks (i.e., a person residing at the same place from birth to 30 years of age) and a child resident (i.e., 0 to 6 years old) for non-cancer hazards. For the industrial soil PRG calculations, the receptor is an adult, working at the same place for 25 years, 250 days per year, 8 hours per day. Based on the current and planned land use at the Farm Fuel site, the industrial soil PRG is more appropriate for comparison purposes.

Methyl-tert-butyl-ether (MTBE) was detected in soil at one location at 47 mg/kg. 1,2-DCA was detected in groundwater in wells FF-MW-3R and FF-MW-6. 1,2-DCA was not detected in groundwater at 40 to 60 feet downgradient from FF-MW-6. TPH and benzene were detected at low concentrations in groundwater (0.5 µg/L benzene and 100 µg/L TPH as gasoline, USACE, 2001).

- In June 2000, wells FF-MW-10 and FF-MW-11 were installed. Well FF-MW-10 is downgradient of FF-MW-03R and FF-MW-06.
- In December 2000, two temporary hydropunch borings (FFA-SB-01 and FFA-SB-02) were placed downgradient from monitoring wells FF-MW-06 and FF-MW-11, respectively (not shown on Figure 8). One groundwater sample collected at a depth of 73 feet bgs from hydropunch boring FFA-SB-01 detected 1,2-DCA at a concentration of 2 µg/L. All other samples from the two hydropunch borings, including those samples collected above and below the 73-foot bgs sample, did not detect 1,2-DCA concentrations above the MCLs.

- In September and October 2002, ARCADIS conducted an additional site investigation to further delineate groundwater contamination downgradient of the former UST area. The site investigation included installation of one shallow monitoring well (FF-MW-12) and one deep monitoring well (FF-MW-13) (Figure 4). In addition, ARCADIS installed two injection wells (FF-IW-01 and FF-IW-02) as part of the ERD system (ARCADIS, 2004).
- On September 12, 2005, three monitoring wells (FF-MW-07, FF-MW-08, and FF-MW-09) were abandoned in accordance with the *Proposed Well Abandonment at the Former United States Disciplinary Barracks*, dated July 19, 2005 (ARCADIS, 2005c). Details of the well abandonment activities are discussed in the *Documentation of Well Abandonment and Well Construction* letter dated October 31, 2005 (ARCADIS, 2005d).
- Starting in September 2005, large volume injections (approximately 1,000 gallons) were performed to further enhance the delivery of the solution.
- The monitoring wells were sampled as part of the Fourth Quarter 2005 groundwater monitoring event. Results of the monitoring were presented in the *Quarterly Groundwater Monitoring Report – Fourth Quarter 2005*, dated January 30, 2006 (ARCADIS, 2006). The organic and inorganic compounds exceeding MCLs during the Fourth Quarter 2005 event are presented in Figure 9.

Based on the previous and recent groundwater data, the Farm Fuel site is impacted with 1,2-DCA above its MCL for drinking water. The data suggests that the 1,2-DCA plume originated from the former USTs. Concentrations above the MCL were detected in wells FF-MW-06 and FF-MW-10. The 1,2-DCA plume is presented in Figure 9.

## 2.5 Summary of Site Conditions

### 2.5.1 Washrack Site

Results of the previous and recent site investigations at the Washrack site showed that the subsurface lithology consists primarily of sand from the ground surface to approximately 15 to 20 feet bgs. Silts and clays are predominantly present below this sand interval to approximately 45 to 50 feet bgs. This silt and clay interval also contained some interbedded lenses of fine-grained sand that are less than four feet in thickness. Fine to medium-grained sand is encountered below approximately 45 to 50 feet bgs (the base of the silts and clays). The sand is comprised of coarse-grained sand and some gravel with increasing depth and is encountered to a depth of approximately 110 to 130 feet bgs where finer grained materials (silts, clayey sand, and/or clays) are encountered to a depth of approximately 140 feet bgs. Groundwater is first encountered at approximately 78 to 79 feet bgs (A shallow zone) and saturated sands are encountered to the depth of the deep wells at 140 feet bgs (B deep zone).

Two groundwater elevation contour maps at the Washrack site are presented in Figures 10 and 11. The Washrack site is monitored at two separate depths, the A zone represents the 69.5 to 87.5 ft bgs and the B zone is 129.5 to 140.5 ft. bgs. In the A zone, groundwater flow is generally to the west-northwest with an approximate gradient of 0.002 to 0.003 ft/ft. This groundwater flow direction is in approximate agreement with the flow direction observed during previous monitoring events conducted at this site. In the B zone, groundwater flow is south with an approximate gradient of 0.02 ft/ft as measured in the past events.



Groundwater in the A wells was encountered at elevations ranging from 43.51 (well WR-MW-02) to 42.91 (well WR-MW-04A) feet above msl. For the B wells, groundwater was encountered at elevations ranging from 42.27 (northernmost well WR-MW-06A) to 39.85 (southwestern most well WR-MW-01B) feet above msl (ARCADIS, 2006).

Previous investigations at the Washrack site have detected VOCs, identified and unidentified TPH, and metals in groundwater. Results of the groundwater sampling were compared with regulatory comparison criteria such as the tap water PRGs and MCLs. Although certain constituents were detected above their respective PRGs (e.g., 1,1-dichloroethene, bromodichloromethane, chloroform, dibromochloromethane, MTBE, cadmium, chromium, and selenium) during the past sampling events, the primary constituents of concern (COCs) are PCE, TCE, and cis-1,2-DCE because they are detected above their MCLs of 5 µg/L (PCE and TCE) to 6 µg/L (cis-1,2-DCE). Cis-1,2-DCE is from the degradation of PCE and TCE. Following further degradation, the concentration of cis-1,2-DCE will also be reduced.

During the Fourth Quarter 2005 groundwater monitoring event, concentrations of PCE (exceeding drinking water MCLs) were highest in well WR-MW-12A which has not been impacted from the ERD system. PCE concentrations also exceeded its MCL in wells WR-MW-02, WR-MW-05A, WR-MW-09A, and WR-MW-10A. PCE concentrations have decreased steadily in well WR-MW-01, WR-MW-05A, and WR-MW-09A since the start of the ERD system in December July 2002. Cis-1,2-DCE (a degradation product of TCE, following degradation of PCE) was detected above its MCL in these wells to the reductive dechlorination process (Figure 6). No PCE, TCE, and cis-1,2-DCE concentrations were detected in the deeper B wells (Figure 7).

### 2.5.2 Farm Fuel Site

Results of the previous and recent site investigations at the Farm Fuel site showed that the subsurface lithology consists of interbedded sand, silt, and clay. Groundwater is first encountered at approximately 20 to 24 feet bgs.

A groundwater elevation contour map for the Farm Fuel site is presented in Figure 12. Groundwater at the Farm Fuel site generally flows south, with a gradient that ranges from 0.02 to 0.008 feet per foot (ft/ft). This groundwater flow direction is in agreement with previous flow directions. As indicated on Figure 12, groundwater at the Farm Fuel site was encountered at elevations ranging from 42.48 (northernmost well FF-MW-3R) to 40.81 (southernmost well FF-MW-11) feet above msl. Well FF-MW-13 is screened deeper than the other wells and therefore was not used for contouring purposes (ARCADIS, 2006).

During the Fourth Quarter 2005 groundwater monitoring event, concentrations of 1,2-DCA (exceeding drinking water MCL of 0.5 µg/L) continue to be highest in FF-MW-06 (16 µg/L), located adjacent to and downgradient of the former UST excavation (Figure 9). However, 1,2-DCA concentrations have decreased steadily in this well since it was first sampled in April 1998 (310 µg/L). During this monitoring event, 1,2-DCA was also detected in well FF-MW-10 (1.5 µg/L), located approximately 30 feet downgradient of well FF-MW-06. 1,2-DCA was not detected in deeper well FF-MW-13 or in any of the surrounding wells (Figure 9).

## 2.6 Selected Removal Action

This Action Memorandum addresses the PCE and TCE concentrations detected in groundwater at the Washrack site and the 1,2-DCA concentrations detected in groundwater at the Farm Fuel site. Petroleum fuels and other hydrocarbons have not been detected in groundwater at concentrations above federal or state cleanup levels.

The United States Army began implementing the TCRAs at the Washrack and Farm Fuel sites on December 9, 2002 following regulatory approval and additional comments to the ERD Work Plan, dated November 15, 2002 (ARCADIS, 2002), amended with Technical Memorandum, dated March 17, 2003 (ARCADIS, 2003). The purpose of the current actions is to accelerate remediation of the COCs, thereby reducing the amount of time spent at the Washrack and Farm Fuel sites and minimizing endangerment to the BOP personnel, regulators, and contractors. At the Washrack site, the primary COCs are PCE, TCE, and cis-1,2-DCE because they are detected above their primary regulatory cleanup levels, MCLs at 5 µg/L (PCE and TCE) and 6 µg/L (cis-1,2-DCE). At the Farm Fuel site, the primary COC is 1,2-DCA because it is detected above its MCL of 0.5 µg/L. Further discussion of the TCRAs is presented in the Action Description Section 5.1.1.

## 2.7 Maps and Other Graphic Representations

Figure 1 presents the Facility location map. Figure 2 presents the FCC map with the Washrack and Farm Fuel site locations. Figure 3 presents the Washrack site map. Figure 4 present the Farm Fuel site map. Figure 5 presents the Washrack site's summary of groundwater PCE and TCE concentrations. Figures 6 and 7 present the Washrack site's Fourth Quarter 2005 groundwater results. Figure 8 present the Farm Fuel site's previous soil boring and soil gas sample locations. Figure 9 presents the Farm Fuel site's Fourth Quarter 2005 groundwater results. Figures 10 and 11 present the Washrack site's Fourth Quarter 2005 groundwater elevation contour maps.

Figure 12 presents the Farm Fuel site's Fourth Quarter 2005 groundwater elevation contour maps.

### **3.0 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

In accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the following threats must be considered in evaluating the appropriateness of a TCRA (40 Code of Federal Regulations (CFR) 300.415[b][2][iv]):

- Actual or potential exposure to hazardous substances, pollutants, or contaminants of nearby populations, animals, and food chains.
- Other situations or factors that may pose threats to human health or the environment.

The Washrack site is immediately adjacent to the USP, while the Farm Fuel site is south of the FCI and contains high inmate traffic. As such, all work conducted at the sites must be performed under the observation of prison security personnel to ensure that there is no contact between regulators/contractors and inmates, and that no material of any type is left where inmates may pick it up. Such intense observation takes prison personnel away from their normal duties resulting in the increased potential for a breach of perimeter security at the Washrack site. At the Farm Fuel site, there is an even greater potential for possible contact and breach of security because the inmates are not secured by a perimeter fence. In addition, regulators/contractors are in close proximity to inmates at the Washrack and Farm Fuel sites and are thus at some risks themselves.

#### **4.0 DETERMINATION OF ENDANGERMENT**

There are security risks associated with working near the high and medium security prisons. On September 6, 2002, the BOP formally requested that actions be taken to accelerate the work effort at the Washrack and Farm Fuel sites due to the security risks associated with performing remediation activities adjacent to the USP and FCI, respectively. On September 17, 2002, the Army presented information to the USEPA that discussed the security risks associated with prolonged remediation activities at the Sites due to the adjacent USP and FCI and the potential contacts with inmates. On September 18, 2002, the USEPA, after consultation with the RWQCB, concurred with the Army's request to implement the TCRA process at the Washrack and Farm Fuel sites. The removal actions will accelerate the pace of remediation activities and will reduce the amount of time spent at the Sites, therefore minimizing actual or threatened endangerment to the BOP personnel, regulators, and contractors. Copies of the correspondences leading to approval of the removal action are included in Appendix A.

## 5.0 TIME CRITICAL REMOVAL ACTION AND ESTIMATED COSTS

### 5.1 Time Critical Removal Action

#### 5.1.1 Action Description

The TCRA's consist of implementing ERD programs at the Washrack and Farm Fuel sites at an accelerated pace to enhance the biodegradation of the VOCs in groundwater and to minimize the security risks associated with prolonged remediation activities. Specifically, the ERD programs consist of periodic injections of a food-grade carbohydrate solution at the Washrack and Farm Fuel sites to create an appropriate subsurface environment capable of reducing PCE, TCE, and 1,2-DCA in groundwater to progressively less chlorinated intermediates until they are degraded to non-toxic byproducts (e.g., ethene, ethane, chloride, carbon dioxide, and water). The typical ERD degradation sequences are presented below:

Washrack site: PCE → TCE → cis-1,2-DCE → vinyl chloride → ethene and ethane → chloride, carbon dioxide, and water.

Farm Fuel site: 1,2-DCA → chloroethane → ethane and ethene → chloride, carbon dioxide, and water.

Detailed discussion regarding the ERD program was presented in the approved ERD Workplan, dated November 15, 2003 (ARCADIS, November 2002), amended with Technical Memorandum, dated March 17, 2003 (ARCADIS, 2003). Additional expansions to the ERD programs are discussed two Technical Memoranda dated March 31 and November 1, 2005 (ARCADIS, 2005a and 2005a, respectively).

As part of the ERD program, ARCADIS has performed the following activities:

- Installation of four ERD injection wells (WR-IW-01 through WR-IW-04) for the Washrack site TCRA and two injections wells (FF-IW-01 and FF-IW-02) for the Farm Fuel site TRCA.
- Installation of three additional ERD performance monitoring wells (WR-MW-05A, WR-MW-07A, and WR-MW-09A) for the Washrack site TCRA and one additional ERD performance well (FF-MW-12) for the Farm Fuel site TCRA.
- Injection of a food-grade carbohydrate solution on a monthly basis for the first five months (December 2002 through April 2003) and then every two to three months afterwards to accelerate the remediation process.
- Performed an ERD expansion using temporary borings to deliver the food-grade carbohydrate solution to impacted areas at the Washrack site.
- Expanded the ERD system at the Washrack site by installing 12 additional injection wells (WR-IW-05 through WR-IW-16) to enhance the delivery of the carbohydrate solution to the impacted groundwater at the site. As part of the expansion, a new monitoring well (WR-MW-12A) was installed to monitor the performance of the ERD program.

- Increased the volume injections (to approximately 1,000 gallons) at the Washrack and Farm Fuel sites to further enhance the delivery of the solution.
- Performance ERD monitoring in conjunction with the quarterly groundwater monitoring to document the progress of biodegradation. Groundwater samples from injection and monitoring wells are analyzed for VOCs and their final by-products and tracked in summary tables.
- The remedial objectives for the ERD program are to reduce concentrations of the constituents in the source areas.

In addition to accelerating the remediation of the COCs in groundwater, the TCRAs will also accelerate the overall CERCLA process, particularly with respect to the document preparation and review process.

#### 5.1.2 Future Action

Additional injection events will be performed to remediate the COCs at the impacted areas. Following completion of the TCRAs, a Removal Action Completion Report will be submitted to the regulatory agencies for review. The report will summarize the ERD performance data and support conclusions on the success of the actions and whether additional remedial actions are warranted.

#### 5.1.3 Contribution to Remedial Performance

The TCRAs will contribute to the overall remedial goals for the Washrack site and will allow the remediation to be performed on an accelerated pace to minimize security risks associated with prolonged remediation activities. The TCRAs fulfill the technology selection criteria of effectiveness, implementability, and cost. The removal actions:

- Will provide short-term effectiveness as the ERD program targets the hot spot area first, thereby reducing the majority of the contaminant mass.
- Will provide long-term effectiveness, as any remaining mass will naturally attenuate.
- Will accelerate the remediation period and reduce security risks associated with a prolonged remediation program.
- Will remediate the VOCs in-situ and minimize exposure of VOCs at the surface.
- Will protect potential human and ecological receptors, should groundwater be used for a beneficial use in the future.
- Will complement the long-term remediation at the Sites.
- Is estimated at a total cost of \$1,000,000, and will require no additional operation and maintenance.

#### 5.1.4 Description of Alternative Technologies

This section presents the alternatives considered for use in this Action Memorandum. Three sets of criteria were used to evaluate these alternatives: effectiveness, implementability, and costs. These criteria are consistent with USEPA guidance for evaluating remedial alternatives.

##### No-Action Alternative

The no-action alternative would allow for spread of contaminants by migration. Cleanup of the constituents to above MCLs is required by the RWQCB. Although this alternative is easy to implement and its costs are low, it is not effective in reducing the contaminants to their respective MCLs.

##### Groundwater Extraction and Treatment

The groundwater extraction and treatment alternative has been implemented at many sites to remediate groundwater impacted with VOCs. Although it can provide capture of the contaminant plume and minimize migration, its effectiveness in reducing contaminant concentrations to near or below MCLs is greatly affected by the hydrogeology and the amount of the constituents absorbed to the soil matrix. Installation of extraction and treatment system components at the Washrack and Farm Fuel sites would increase the security risks associated with equipment and materials being exposed to inmate abuse. In addition, operation of the treatment system would require numerous site visits and comprehensive monitoring and reporting. Finally, the remediation timeframe for this alternative is likely to be 10 to 15 years, which would not be appropriate as a TRCA.

##### ERD Program

As discussed in Section 5.1.1, the ERD program alternative can accelerate the pace of remediation of the constituents to near or below MCLs, and minimizes security risks associated with prolonged remediation activities. This alternative is relatively easy to implement and is more cost effective than the groundwater extraction and treatment alternative.

#### 5.1.5 Applicable or Relevant and Appropriate Requirements

The National Contingency Plan Section 300.430 (e)(9)(iii)(B) requires that the selected remedy attains the Federal and State ARARs or that a waiver of an ARAR is obtained. This removal action will meet the following ARAR's to the extent practicable.

##### Chemical-Specific ARARs

Chemical-specific ARARs are used to indicate an acceptable level of discharge and to determine treatment and disposal requirements for a particular remedial activity and including the following:

- National Primary Drinking Water Regulations and the California Safe Drinking Water Act: These are Federal and State regulations listing the MCLs for specific chemicals in drinking water, and

- California Porter-Cologne Water Quality Control Act regulations for the maintenance and well-being of ground water.

A complete list of the federal and state chemical-specific ARARs for groundwater remediation are provided in Table 1. The primary MCLs for the constituents of concern at the sites are summarized below:

- PCE - 5 µg/L,
- TCE - 5 µg/L,
- Cis-1,2-DCE - 6 µg/L,
- Vinyl Chloride – 0.5 µg/L, and
- 1,2-DCA – 0.5 µg/L.

The remediation goal of the TCRA for the two sites is to reduce the concentrations of the COCs at the source areas.

#### Location-Specific ARARs

No location-specific ARARs were identified.

#### Action-Specific ARARs

No action-specific ARARs were identified. Neither federal nor state regulations exist which pertain to the injection of food-grade substances.

#### To-Be-Determined

The to-be-considered (TBC) criteria are comprised of non-promulgated advisories or guidance issued by federal or state governments that are not legally binding. The TBC criteria for groundwater include the following:

- A Staff Report “A Compilation of Water Quality Goals” provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan. The values may be ARAR’s previously listed, or performance standards, depending on the source.
- USEPA Region IX Preliminary Remediation Goals are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements of soil, water, and air quality.

#### 5.1.6 Project Schedule

The removal actions at the Washrack and Farm Fuel sites began on December 9, 2002 following regulatory approval and additional comments to the ERD Workplan, dated November 15, 2002 (ARCADIS, 2002),



amended with Technical Memorandum, dated March 17, 2003 (ARCADIS, 2003). The removal actions will be completed when the ARARs have been met, expected by September 2007.

## 5.2 Estimated Costs

The estimated cost for the TCRA's at the Washrack and Farm Fuel sites is \$1,000,000. The estimated costs include direct and indirect capital costs and they are summarized below:

### Estimated Costs – ERD Program

#### Direct Capital Costs

Injection and Monitoring Well Installation	\$225,000
ERD Injections and Monitoring (with Analytical Costs)	\$600,000
Well Abandonment and Waste Disposal	\$ 50,000

Direct Capital Costs Total \$875,000

Indirect Capital Costs Total (includes workplan, data management and evaluation, ERD start-up report, status reports, BCT meetings, project planning, etc.)

\$125,000

Total Direct and Indirect Capital Costs \$1,000,000

## **6.0 EXPECTED CHANGE IN SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

If the removal actions were not taken, then the degradation of groundwater at the Washrack and Farm Fuel sites would persist for many years and would not be acceptable to the RWQCB.

If the removal actions are delayed, then prolonged activities will increase security risks at the Washrack and Farm Fuel sites by providing further distractions to the prison personnel, thereby increasing the potential for breach of security and endangerment to the BOP personnel, regulators, and contractors.

## **7.0 PUBLIC INVOLVEMENT**

This Action Memorandum is available for public inspection at the following location:

Lompoc Library  
501 E. North Avenue  
Lompoc, CA 93436

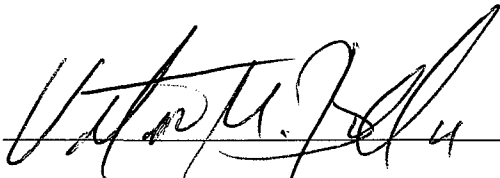
## 8.0 OUTSTANDING POLICY ISSUES

No outstanding policy issues exist for the removal actions.

**9.0 RECOMMENDATIONS AND SIGNATURE**

This Action Memorandum was prepared in accordance with current USEPA guidance documents for TCRA. The removal actions are recommended because they fulfill the three criteria of effectiveness, implementability, and cost. The removal actions will contribute to the overall remedial goals for the Washrack and Farm Fuel sites and allow them to be performed on an accelerated pace to minimize security risks associated with prolonged remediation activities.

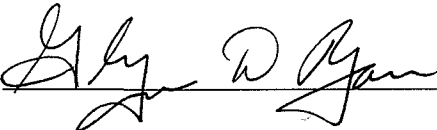
This decision document represents the selected removal actions for the Washrack and Farm Fuel sites located at the former USDB in Lompoc, California. The document was developed in accordance with CERCLA as amended by the Superfund Amendments and Reauthorization Act. This decision is based on the Administrative Record for the Washrack and Farm Fuel sites.



Victor M. Bonilla, Environmental Engineer  
Base Realignment and Closure Division  
Atlanta Field Office

3 MAY 06

Date



Glynn D. Ryan, Chief  
Base Realignment and Closure Division  
Atlanta Field Office

3 MAY 06

Date

## 10.0 REFERENCES

- ARCADIS. 2002. *Workplan for Reductive Dechlorination: Washrack and Farm Fuel Sites, Branch U.S. Disciplinary Barracks, Lompoc, California.* November 15.
- ARCADIS, 2003. *Technical Memorandum for the Final Workplan for Enhanced Reductive Dechlorination: Washrack and Farm Fuel Sites.* March 17.
- ARCADIS, 2004. *Final Enhanced Reductive Dechlorination Start-Up Report for the Washrack and Farm Fuel Site, Former U.S. Disciplinary Barracks, Lompoc, California.* April 30.
- ARCADIS. 2005a. *Technical Memorandum, Plume Delineation and Enhanced Reductive Dechlorination Expansion Program, Washrack Site, Former U.S. Disciplinary Barracks, Lompoc, California.* March 31.
- ARCADIS. 2005b. *Technical Memorandum, Expansion of the ERD Remediation System at the Washrack site at the Former United States Disciplinary Barracks, Lompoc, California.* November 1.
- ARCADIS, 2005c. *Proposed Well Abandonment at the Former United States Disciplinary Barracks.* dated July 19.
- ARCADIS, 2005d. *Documentation of Well Abandonment and Well Construction.* dated October 31.
- ARCADIS. 2006. *Quarterly Groundwater Monitoring Report – Fourth Quarter 2005, Former U.S. Disciplinary Barracks, Lompoc, California.* January 30.
- Jacobs Engineering. 1994. *Baseline Background Sampling Report Volumes I and 2.* Investigation Restoration Program, Vandenberg Air Force Base, California.
- Staal, Gardner, and Dunne, Inc. 1991. *Preliminary Site Assessment, Farm Fuel Area, United States Prison, Lompoc, California.* June.
- United States Army Corps of Engineers (USACE). 2001. *Underground Storage Tank Site, Corrective Action Report, Farm Fuel Area, U.S. Penitentiary, Former U.S. Disciplinary Barracks, Lompoc, California.* Prepared by Environmental Engineering Branch, Sacramento. January.
- Weiss Associates (Weiss). 2001. *Final Site Investigation Report, Former Wood Dump/Landfill for USACE Engineering and Environmental Investigative Services Contract NO. DACW045-96-D-0001, T.O., Former Branch U.S. Disciplinary Barracks, Lompoc, California.* May 17.
- Woodward-Clyde Consultants. 1997. *Environmental Baseline Survey, Branch U.S. Disciplinary Barracks, Lompoc, California.* June 11.

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

No	Reference	Comment	Response to Comment
<b>GENERAL COMMENTS</b>			
1	<b>Title/Signature Page</b>	The report did not include a title page or the required signatures. Regional Board staff has previously requested all documents be reviewed and signed by appropriate personnel prior to submittal for our review. Without these signatures we have no confirmation that the document has been approved by the required registered professional, or has undergone the quality control/quality assurance review as specified in the Facility-wide Quality Assurance Project Plan.	ARCADIS has provided title and signature pages for the Final Draft Action Memorandum. It was not provided earlier because the Action Memorandum examples provided by the USEPA did not have one and it is ARCADIS's understanding that the Final Action Memorandum will be presented as a US Army document and will be signed by the representatives of the US Army.
2	<b>Executive Summary, Acronyms, Section Numbering, and Pagination</b>	In order to make this document more accessible to the public, please include an Executive Summary. Also, please minimize the use of acronyms. For example, staff recommends that the sites be referred to as "Farm Fuel Site" and "Washrack Site" rather than "FF Site" and "WR Site". The acronym BCT, as used in the Base Realignment and Closure (BRAC) program, stands for BRAC Cleanup Team. Please revise the text and list of acronyms accordingly. Finally, the numbering system used for headings is difficult to follow. Please revise the numbering style so that it is consistent with other project documents (e.g., Section I.1.2).	The Action Memorandum examples did not include an Executive Summary. However, ARCADIS has provided one.  ARCADIS has corrected the list of acronyms and will utilize the full names of the sites. In addition, the formatting for this Action Memorandum now conforms to previous project documents.
3	<b>Applicable or Relevant and Appropriate Requirements</b>	The applicable or relevant and appropriate requirements (ARARs) described in Section I and Section V. A. 4 are incomplete and internally inconsistent. The text does not fully incorporate the Regional Board's ARARs, which were transmitted as an attachment to a March 7, 2002 letter. The text does not describe the status of the compilation of Federal ARARs. Please revise the text to resolve these inconsistencies and omissions. Also, see Specific Comment 2.	Section 5.1.4 was completed and revised to incorporate the Regional Board's ARARs transmitted 3/7/2002. The text was revised to describe the status of the compilation of Federal ARARs.

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

No	Reference	Comment	Response to Comment
4	Site Conditions and Background	<p>Section II is not consistent with the results reported in the Quarterly Groundwater Monitoring Report for the Fourth Quarter 2002. For example, the Quarterly Monitoring Reports shows that comparison criteria for 1,1-dichloroethene, chloroform, dibromochloromethane, methyl tertiary-butyl ether, cadmium, chromium, and selenium were exceeded at the Washrack Site. The Draft TCRA does not discuss these constituents. If these constituents are not included as constituents of concern at this site, provide the rationale for this determination and why tetrachloroethene (PCE) and trichloroethene (TCE) are the primary constituents of concern. Also, ensure that any data inconsistency discussed in the Regional Board letter, dated May 16, 2003, that is relevant to this discussion is corrected in the revised TCRA.</p>	<p>This Section has been revised to include the information from the most recent Final Quarterly Monitoring Report (Second Quarter 2003), dated November 14, 2003. See Section 2.5.</p>
		<b>SPECIFIC COMMENTS</b>	
1	Section I., Purpose	<p>USEPA recommends revising and combining the first and the last paragraphs in this section. The second paragraph is not relevant to the discussion of the removal action. We suggest the following text be used to replace the draft version of this section.</p> <p>"The purpose of this Action Memo...thus minimize security risks associated with performing the groundwater remediation (<i>the first two sentences of the first paragraph</i>). This removal action implements enhanced reductive dechlorination systems at the Wash Rack Site and the Farm Fuel Site. The purpose of the enhanced reductive dechlorination systems is to remediate chlorinated solvent plumes in groundwater beneath the sites. Enhanced reductive dechlorination is an in-situ bioremediation technology that can reduce the time it takes to remediate the groundwater, possibly to less than three years. In addition, the in-situ technology addresses Bureau of Prison's security concerns by minimizing activities and equipment in the vicinity of prison facilities.</p>	<p>ARCADIS has incorporated the requested changes in the Section I.1 Purpose.</p>



## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

2	<p><b>Section I. Purpose, Second Paragraph</b></p>	<p>It is not necessary to reference specific ARARS in this section, therefore, delete the references to Title 42 United States Code, California Health and Safety Code, and the National Contingency Plan. If these regulations are relevant to the removal action, they should be identified as ARARS in the section that specifically addresses that topic. The reference to Executive Order 12580 should be retained in this section. The second paragraph of this section should be titled "Regulatory Compliance" and should read:</p> <p>Although the Former United States Disciplinary Barracks at Lompoc (the Facility) is not on the National Priority List, the Department of Defense utilizes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process for the environmental cleanup at the Facility and has the authority to undertake CERCLA response actions, including this time critical removal action, under Executive Order 12580. The Base Realignment and Closure (BRAC) Cleanup Team consists of various agencies: United States Army is the lead agency conducting the environmental cleanup at the Facility; the California Central Coast Regional Water Quality Control Board is the lead regulatory agency; Santa Barbara County Environmental Health Services also has regulatory oversight authority on the various cleanup activities at both the Wash Rack Site and Farm Fuel Site; United States Environmental Protection Agency is the technical and regulatory advisory agency to the BRAC Cleanup Team; United States Bureau of Prison is the current land owner of the Wash Rack Site and Farm Fuel Site; several consultants are also on the BRAC Cleanup Team to provide technical support of the cleanup. This removal action, to the extent possible, meets the substantive applicable and/or relevant and appropriate requirements identified in Section V. 4. of the report.</p>	<p>ARCADIS has incorporated the requested changes in the Section 1.2 Regulatory Compliance.</p>
---	--	---	---

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

3	<b>Section II. 1., Site Conditions and Background</b>	<p>USEPA recommends organizing the sections in the following order:</p> <ul style="list-style-type: none"> <li>• <i>Site Background</i> (“Site Description” of Draft TCRA);</li> <li>• <i>Physical Location</i>;</li> <li>• <i>Site Characteristics</i>;</li> <li>• <i>Maps and Figures</i>;</li> <li>• <i>Previous Investigations and Actions</i> (“Other Actions to Date” of Draft TCRA);</li> <li>• <i>Removal Action Evaluation</i> (combination of “Removal Site Evaluation” and “Release” of Draft TCRA);</li> <li>• <i>Selected Removal Action</i> (“Current Actions” of Draft TCRA).</li> </ul> <p>The section, “National Priority List Status” can be deleted since it will be included in the new section, “Regulatory Compliance” (see Specific Comment 2). The text of the section “Roles of State and Local Authorities,” can be moved to the new section, “Regulatory Compliance.” USEPA believes this reorganization of the TCRA will make it clearer and more accessible.</p>	<p>ARCADIS has reorganized the sections as recommended; however, the “Release” section of the DRAFT TCRA fits better in the new “Previous Investigation and Actions” section as it provides information on the initial site findings that lead to subsequent investigations. In addition, the section “Roles of State and Local Authorities” has been deleted as the information has already been presented in the new Section “Regulatory Compliance.” The new Sections are as follows:</p> <ul style="list-style-type: none"> <li>▪ 2.1 Site Background</li> <li>▪ 2.2 Physical Location</li> <li>▪ 2.3 Site Characteristics</li> <li>▪ 2.4 Previous Investigations and Actions</li> <li>▪ 2.5 Summary of Site Conditions</li> <li>▪ 2.6 Selected Removal Action</li> <li>▪ 2.7 Maps and Other Graphic Representations</li> </ul>
4	<b>Section II. A., Site Description</b>	<p>Since the U.S. Army is conducting the cleanup at the facility, please state the history of the U.S. Army's involvement at the facility. There is no mention of the U.S. Army in this section of the Draft TCRA. Also, please indicate when the environmental cleanup began at the Facility and that five sites have been identified for investigation and, if necessary, remediation. Please discuss how this removal action fits into the overall cleanup process.</p>	<p>ARCADIS has provided additional information regarding the U.S. Army role in Section 2.1.</p>

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

5	<b>Section II. A. 1., Removal Site Evaluation, Washrack Site, Second Paragraph</b>	<ul style="list-style-type: none"> <li>• The first sentence could be shortened if it was revised to read" Based upon groundwater elevation data collected between July 2000 through August 2002..."</li> <li>• A brief introduction to the general hydrogeology of the two sites would be helpful before referring to the A and B groundwater zones. Also, groundwater flow directions should be described in general terms, such as "west to northwest", rather than degrees from north.</li> <li>• Delete the reference to California Department of Health Services since the maximum contaminant levels (MCLs) for PCE and TCE are also the Federal MCLs.</li> </ul>	ARCADIS has incorporated some of the requested changes to Section 2.5 Summary of Site Conditions.
6	<b>Section II. A. 1., Removal Site Evaluation, Washrack Site</b>	This section states that the highest concentrations of PCE and TCE have been detected in the monitoring well adjacent to the wash pad, WR-MW-01. The text should also acknowledge that equivalent concentrations of these compounds have been detected in a downgradient well, WR-MW-5A.	ARCADIS has revised the text to discuss well WR-MW-05A in the Section 2.5 Summary of Site Conditions.
7	<b>Section II. A. 1., Removal Site Evaluation, Fourth and Fifth Paragraphs</b>	Please clearly state that TCE and PCE are the constituents of concerns at the Wash Rack Site and cite the appropriate groundwater cleanup standards (e.g., MCLs). This information should be reiterated under "Selection Removal Action" ("Current Actions" in the Draft TCRA). If the Army includes total petroleum hydrocarbons-diesel as a constituent of concern at the site, then a groundwater cleanup standard for this constituent should also be included.	ARCADIS has the revised Section 2.5 Summary of Site Conditions and Section 2.6 Selected Removal Action to clearly state that PCE, TCE, and cis-1,2-DCE are the constituents of concerns because they are detected above their primary regulatory cleanup levels, MCLs at 5 and 6 micrograms/liter.  Total petroleum hydrocarbons-diesel is not considered a primary constituent of concern at the site and therefore, no cleanup standard is proposed for this constituent.

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

8	<b>Section II. B. 1., Previous Actions, Washrack Site</b>	The discussion on the Wash Rack is well written and the conclusion regarding human health risk assessment and remedial actions for the soil is clearly stated. However, the organization of this section is somewhat confusing. The introductory sentence of the first bulleted paragraph refers to soil and groundwater investigations, but the discussion following that bullet only addresses soil investigations. Also, some paragraphs are bulleted and some are not and the distinction between the two types of paragraphs is unclear. If the activities described in the last bullet are part of the removal action, that discussion should be moved to "Selected Removal Action" ("Current Actions" of the Draft TCRA). The last paragraph of this section should be moved to "Previous Investigation and Actions" ("Other Actions to Date" of the Draft TCRA). Please add a subsection to this section, entitled "Conclusions" that summarizes relevant conclusions based on the previous investigations.	ARCADIS has the revised Section 2.4.2 Previous Investigations and Actions to address the comments. Section 2.5 Summary of Site Conditions was added to summarize relevant conclusions based on the previous investigations.
9	<b>Section II. B. 1., Previous Actions Washrack Site</b>	Please clearly reference the documents that report the activities described in this section. The only reference included for historical activities for the Washrack Site is the Site Investigation for the <i>Wood Dump Site</i> .	Section 10 Reference has been revised.

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

No	Reference	Comment	Response to Comment
10	Section II. B. 1., Previous Actions, Farm Fuel Site	Please compare the concentration of PCE in soil with the USEPA Region 9 preliminary remediation goal of 1.5 milligrams/kilograms in the first paragraph on Page 11/19. Also, discuss whether further evaluation of PCE in soil is warranted. Finally, please add a subsection, titled "Conclusions", which summarizes relevant conclusions based on the previous investigations.	Additional clarification is incorporated in Section 2.4.2 Farm Fuel site: "PCE was detected in soil at low concentrations (2 to 3 mg/kg). Although the PCE detection was above residential soil PRG (1.5 mg/kg), it was below the industrial soil PRG (3.4 mg/kg). The receptors included in the residential soil PRG calculations are an age-adjusted resident for cancer risks (i.e., a person residing at the same place from birth to 30 years of age) and a child resident (i.e., 0 to 6 years old) for non-cancer hazards. For the industrial soil PRG calculations, the receptor is an adult, working at the same place for 25 years, 250 days per year, 8 hours per day. Based on the current and planned land use at the Farm Fuel site, the industrial soil PRG is more appropriate for comparison purposes."
11	Section V., Time Critical Removal Action and Estimated Cost	Please clearly state the objectives of the enhanced reductive dechlorination systems and refer the reader to the approved work plan for a detailed discussion of the program. Also, add bullets to the elements of the removal action under Section V. A. 1., "Action Description" and include the following elements: <ul style="list-style-type: none"> <li>• Installation of a number of (specify) shallow and deep zone monitoring wells.</li> <li>• Installation of a number of (specify) injection wells.</li> <li>• Periodic injection of food-grade carbohydrate solution.</li> <li>• Establishment of groundwater monitoring program.</li> <li>• Remedial Objectives (cleanup goals).</li> </ul>	Additional information was incorporated in Section 5.1.1 Action Description.
12	Additional Section	Include an additional section in the report entitled "Future Actions." This section should state that at the completion of the removal action, a Removal Action Completion Report will be submitted to the agencies for review. The report will summarize the monitoring data and support conclusions on the success of actions and whether long-term remedial actions are warranted.	New Section 5.1.2 Future Action is provided.

## Response to Comments Sheets

**Organization: Regional Water Quality Control Board and US Environmental Protection Agency**

**Date: 21 July 2003**

**Document Title: Draft Action Memorandum for the Washrack and Farm Fuel Sites – Time Critical Removal Action, dated March 24, 2003**

No	Reference	Comment	Response to Comment
13	Figures 4, 5, 9, and 9	Please revise the groundwater contours as described in Specific Comment 11, of the May 16, 2003, Regional Board letter regarding the Draft Quarterly Groundwater Monitoring Report, Fourth Quarter 2003.	Approved contours from the Final Quarterly Groundwater Monitoring Report, Second Quarter 2003, dated November 14, 2003 are provided.

## Response to Comments Sheets

**Name: Anthony S. Nelson**  
**Organization: Army BEC**  
**Date: 17 August 2004**

**Document Title: Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004**

No	Reference	Comment	Response to Comment
		GENERAL COMMENTS	
1.		The Document does not contain response to Army comments provided on the initial draft. Copies of earlier comments will be resent to the writers attention. Please insure that all reviewers comments are include in the response to comments sections on all subsequent drafts and/or final issuances	Completed.
2.		Action Memorandum and other Decision Documents should contain appropriate Army letterhead, signature blocks and transmittal letters	Completed.
3.		Additional ERD fieldwork has now been completed. I would recommend some form of acknowledgement without creating additional reviews that would further delay issuance of this document.	Acknowledgement provided in the Executive Summary and Sections 2.4.1 and 5.1.1.
		SPECIFIC COMMENTTS	
1.	Executive Summary	Acknowledge the additional ERD expansion work is being completed and will be reported once all data is received and reviewed	New paragraph in the Executive Summary with reference added in Section 10:  "In addition, the US Army performed activities to expand the ERD program and to further delineate the plume at the Washrack site in July 2004. Discussions related to the ERD expansion and plume delineation is summarized in this Action Memorandum and discussed in detail in the Technical Memorandum (ARCADIS, 2005)".
2.	Pg.2, Sec.2.1	Under the second paragraph, correct the statements to indicate that property has already been transferred. The transfer was completed last August and is not contingent upon receipt of an NFA	Text revised to state:  "In August 2002, the USDB was transferred to the Department of Justice for use by the BOP".

## Response to Comments Sheets

**Name: Anthony S. Nelson**

**Organization: Army BEC**

**Date: 17 August 2004**

**Document Title: Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004**

3.	Pg.2, Sec.2.2	Note that the Washrack also contains the area formerly know as the Grease rack (see page 3)	Text current reads:  "Areas to the south consist of a paved lot with eight storage sheds, the former Greaserack site (now included as part of the Washrack site), and the USP".
4.	Pg.9, Sec.2.4.2.	In the second paragraph you have added a section on risk assessment but don't comment further on it in the text. Would there be value in providing a bit more discussion on this topic?	For clarification of residential versus industrial soil preliminary remediation goals.
5.	Pg.9, Sec.2.4.2	Last word in the third bullet is MDL. Is this the correct usage or did you intend to state MCL?	MDL is correct.
6.	Pg.10, Sec.2.4.2	The second paragraph indicates that figure 9 shows the 1,2-DCA plume.... It does not show the plume, just the excavation footprint and COC concentrations	Figure 9 now contains the plume.
7.	Pg.10, Sec.2.5.1	The text indicates that the subsurface lithology consist primarily of sand. If I recall the borings it is a fine-grained sand	Changed to fine-grained sand.
8.	Pg.11, Sec.2.5.1	When referring to PRG's please indicate whether this is soil or tap water PRG's, when appropriate	Changes in the text to distinguish between residential soil PRGs, industrial soil PRGs, and tap water PRGs.
9.	Pg.14, Sec.4.0	You mention that previous actions have demonstrated that current conditions present an immediate and sever threat to human health and environment. You go on to mention that the constituents in groundwater may present an imminent endangerment. My understanding of this TCRA is the designation is due to the sever security hazards as they represent threats to prisoners, guards and consultants, as described in the next paragraph. Please review and revise this section as appropriate	Deleted all reference related to constituents in groundwater that may pose a threat to public health and the environment.
10.	Pg.15, Sec.5.1.5	Much of this section is not divide to reflect Washrack and Farm fuel differences. Does the section apply equally to both? What about 1,2-DCE at the Washrack?	This section distinguishes between the two sites. Cis-1,2-DCE is shown the degradation pathway from PCE to TCE to cis-1,2-DCE to vinyl chloride.
11.	Figure 1	This still identifies the Site Boundary, when is should read Facility or Complex Boundary	Figure 1 has been changed.
12.	Figure 9	Does not show a plume	Figure 9 shows the plume.
13.	Table 1	How detailed does the ARARS table need to be with respect to	There are no comments from the County.



## Response to Comments Sheets

**Name: Anthony S. Nelson**

**Organization: Army BEC**

**Date: 17 August 2004**

**Document Title: Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004**

		an Action Memorandum? For instance would any County specific requirements be appropriate on this table?	
--	--	---	--

## Responses to Comments Sheet

**Name:** Lida Tan

**Organization:** United States Environmental Protection Agency

**Date:** 4 April 2005

**Document Title:** Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004

No	Reference	Comment	Response to Comment
		GENERAL COMMENTS	
1.		The revised document is well written and has incorporated all the comments provided on the draft report.	
2.		This Action Memo is the decision document governing the groundwater remediation at the Wash Rack and Farm Fuel Sites, and given the recent discussions on the ERD program, is the Army willing to commit to remediate the groundwater to the respective MCLs for the COCs? If so, please emphasis these remediation goals in the Executive Summary (as stated in Section 5.1.5). If the Army chose to implement the ERD as a "source removal" action, then please state so too. In another words, does the Army want to "lock in" its remedial option in the Action Memo or does it want to explore other options?	Per discussions during the July 12, 2005 BCT meeting, the ERD was initiated as a source removal action to reduce concentrations of the constituents. References to remediation of the COCs in groundwater to their respective MCLs were removed.
3.		Please be careful with the following statements in Section 4.0 "Results of the previous actions at the Washrack and Farm Fuel sites have demonstrated that current conditions at the sites may present immediate and severe treats to the public health, welfare, and the environment. Actual or threatened migration of the constituents (PCE, TCE and 1,2-DCA) in groundwater at the sites, if not addressed by implementing the TCRA's selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment. The constituents present an imminent or substantial endangerment through spread of contaminants by migration and exposure to potential receptors". I understand that we used these statements to support the time critical removal action. With the possible change of where the groundwater remediation may end up, you may want to soften the statements to give yourself a way out.	Deleted all reference related to constituents in groundwater that may present immediate and severe treats to the public health, welfare, and the environment.

## Responses to Comments Sheet

**Name: Susan Knauf**

**Organization: The Louis Berger Group, Inc. (on behalf of BOP)**

**Date: 14 July 2004**

**Document Title: Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004**

No	Reference	Comment	Response to Comment
		SPECIFIC COMMENTS	
1.	Exec Summary	3 <sup>rd</sup> paragraph trichloroethen should be trichloroethene 1,1 -dichloroethene (1,2-DCA) should read 1,2-dichloroethane	Revisions completed.
2.	Section 2.1, 2 <sup>nd</sup> para, 3 <sup>rd</sup> sentence	The transfer to the BOP has actually taken place, it was signed by the Army on August 5, 2002 and by the BOP August 13, 2002.	Text revised to state:  "In August 2002, the USDB was transferred to the Department of Justice for use by the BOP".
3.	Section 2.4	First bullet, suggest adding a notation here and on Figure 5 that the results for the soil borings were reported as ug/mg.	Figure 5 clearly distinguishes between the units for the soil samples (ug/kg) and groundwater samples (ug/L). Revisions completed.
4.	Page 5, 1 <sup>st</sup> bullet, 2 <sup>nd</sup> paragraph	Suggest adding "an estimated concentration of 71 ug/L" to the descriptor for the unidentified hydrocarbon since the value is estimated.  3 <sup>rd</sup> bullet same page – suggest adding a notation that the figure contains only the locations for these soil vapor samples, no concentration values.	Revisions completed.
5.	Page 6, 2 <sup>nd</sup> bullet, 2 <sup>nd</sup> paragraph	Value for WR-SB-16, the Figure cites 0.5J, the text no J. Also there are other values , the PCE at 25J in 14 and the values of 6 to 19 ug/kg from the 140 to 110 feet in SB-15.  3 <sup>rd</sup> bullet, cannot locate well WR-MW-08B on the figures only 08A	Concentrations are presented in Figure 5 and are not discussed in the text.  Changed to well WR-MW-08A

## Responses to Comments Sheet

**Name:** Susan Knauf

**Organization:** The Louis Berger Group, Inc. (on behalf of BOP)

**Date:** 14 July 2004

**Document Title:** Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004

6.	page 7 , 2 <sup>nd</sup> para	Suggest rewording last sentence to : “ Concentrations above MCLs are detected in wells located to the north..... and west.....of the concrete pad (Figure 6), and as such, the data suggest that the VOC plume originated from the Washrack concrete pads.”	Text changed to:  “Concentrations above MCLs are detected in wells located to the north (WR-MW-09A), south (WR-MW-2), and west (WR-MW-10A) of the concrete pad (Figure 6), and as such, the data suggest that the VOC plume originated from the Washrack concrete pad”.
----	----------------------------------	---	---

## Responses to Comments Sheet

Name: Mr. Michael Kelly

Organization: Cleanup Division, U.S. Army Environmental Center (SFIM-AEC-CD)

Date: 27 January 2005

Document Title: Final Draft Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, July 9, 2004

No	Reference	Comment	Response to Comment
		SPECIFIC COMMENTS	
1.		The U.S. Army Center for Health Promotion and Preventive Medicine reviewed the subject document on behalf of the Office of The Surgeon General pursuant to Army Regulation 200-1 (Environmental Protection and Enhancement). Thank you for the opportunity to review this action memorandum. Our only comment is that the word "threat" is misspelled as "treat" on page 14.	Revision complete.
2.		The scientist reviewing this document and our point if contact is Mr. Larry Tannenbaum, Environmental Health Risk Assessment Program, at DSN 584-5210 or commercial (4100 436-5210.	

## Responses to Comments Sheet

**Name:** Mr. Michael Kelly

**Organization:** Cleanup Division, U.S. Army Environmental Center (SFIM-AEC-CD)

**Date:** 26 October 2005

**Document Title:** Final Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, August 22, 2005

No	Reference	Comment	Response to Comment
SPECIFIC COMMENTS			
1.	General Comment	The basis for using removal authority under 40 CFR 300.415 is not supported in the document. If the Army used their removal authority to accelerate the process, a non-time critical removal action would have been more appropriate. Document does not make the case that there is a risk that needs to be addressed immediately. Note that CERCLA should not be used to address security (safety) problems.	As presented in Section 4:  On September 6, 2002, the BOP formally requested that actions be taken to accelerate the work effort at the Washrack and Farm Fuel sites due to the security risks associated with performing remediation activities adjacent to the USP and FCI, respectively. On September 17, 2002, the Army presented information to the USEPA that discussed the security risks associated with prolonged remediation activities at the Sites due to the adjacent USP and FCI and the potential contacts with inmates. On September 18, 2002, the USEPA, after consultation with the RWQCB, concurred with the Army's request to implement the TCRA process at the Washrack and Farm Fuel sites. The removal actions will accelerate the pace of remediation activities and will reduce the amount of time spent at the Sites, therefore minimizing actual or threatened endangerment to the BOP personnel, regulators, and contractors.
2.	Section 2.5.1 (4th paragraph)	Last sentence of paragraph notes that PCE, TCE, and cis-1,2-DCE are COCs driving the need to take an action. Suggest noting that cis-1,2-DCE is a daughter product of PCE/TCE degradation, so its presence in groundwater is likely related to degradation of PCE/TCE.	Additional text was added to note that cis-1,2-DCE is from the degradation of PCE and TCE. Following further degradation, the concentration of cis-1,2-DCE will also be reduced.
3.	Section 2.5.2 (3rd paragraph)	Please check to see if MCL for 1,2 DCA is 5 µg/L rather than the 0.5 µg/L concentration indicated in first sentence.	The California MCL for 1,2-DCA is 0.5 µg/L which is lower than the Federal MCL for 1,2-DCA of 5 µg/L.

## Responses to Comments Sheet

**Name:** Mr. Michael Kelly

**Organization:** Cleanup Division, U.S. Army Environmental Center (SFIM-AEC-CD)

**Date:** 26 October 2005

**Document Title:** Final Action Memorandum for the Washrack and Farm Fuel Sites- Time Critical Removal Action, Former U.S. Disciplinary Barracks, Lompoc, CA, August 22, 2005

4.	Section 3.0	There are no actual exposures to receptors and the potential future threat does not warrant conducting a response action using removal authority. The Army would have been better served using remedial authority and the fact that sites are adjacent to the USP would be considered using the 9 NCP criteria (e.g., community acceptance).	See Response to General Comment.
5.	Section 4.0 (1st sentence)	Change "treats" to "threats".	Discussion regarding "threats" was removed in Revision 2, dated 22 August 2005. The sentence has been changed to discuss security risks associated with working near the high and medium security prisons.
6.	Section 4.0 (last sentence of 1st paragraph)	The data presented in the action memorandum does not support the claim for contaminant migration or exposure. Data suggests that degradation of COCs is occurring.	Discussions regarding "spread of contaminants by migration and exposure to potential receptors" was removed in Revision 2, dated 22 August 2005.

**Table 1**  
**ARARs for Groundwater Remediation**

#	Source	Standard, Requirement, Criterion, or Limitation	Description	Comments
			<b>APPLICABLE</b>	
1	Porter-Cologne (CWC §§ 13000 et seq.)	CWC §13243	RWQCB may specify conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.	Applies to groundwater remedial action.
2	Porter-Cologne (CWC §§ 13240-13243)	Basin Plan. Includes the SWRCB's Water Quality Control Plan for Ocean Waters of CA	Establishes water quality objectives, including narrative and numerical standards that protect the beneficial uses and water quality objectives of surface and ground waters. Describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and provide comprehensive water quality planning.	The Basin Plan includes beneficial uses of affected water bodies and water quality objectives to protect those uses. Any activity, including the discharge of contaminated soils or waters or in-situ treatment or containment of contaminated soils or waters, must not result in actual water quality exceeding water quality objectives.
3	Porter-Cologne (CWC §§ 13240-13243)	"Wastewater Reuse Policy", Management Principle III.C – Discharge to Surface Waters, Basin Plan	Requires applicants for waste discharge requirements and discharge permits to evaluate land disposal as an alternative to discharge to surface waters. All discharges to the aquatic environment shall be considered temporary unless it is demonstrated that no undesirable change will occur in the natural receiving water quality.	Applies to groundwater extracted by groundwater treatment system.
4	Porter-Cologne (CWC §§ 13000, 13140, 13263, 13304)	SWRCB Resolution No. 68-16 ("Anti-degradation Policy")	Requires that high quality surface and ground waters be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the State, does not unreasonably affect present and anticipated beneficial uses, and does not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with maximum benefit to the people of the State.	Applies to discharges of waste to waters, including discharges to soil that may affect surface or ground waters. In-situ cleanup levels for contaminated ground waters must be set at background level, unless allowing continued degradation is consistent with the maximum benefit of the people of the state.
5	Porter-Cologne (CWC §§ 13000, 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	SWRCB Resolution No. 92-49 (As amended April 21, 1994)	Establishes requirements for investigation and cleanup and abatement of discharges and requires the application of Title 23 §2550.4 to cleanups. Dischargers must clean up and abate the effects of discharges in a manner that promotes the attainment of either background water quality, or the best water quality that is reasonable if background water quality cannot be restored. Dischargers may also be required to provide alternative water supplies as necessary.	Applies to groundwater remedial actions.



**Table 1  
ARARs for Groundwater Remediation**

#	Source	Standard, Requirement, Criterion, or Limitation	Description	Comments
6	Porter-Cologne (CWC §§ 13000, 13140, 13240)	SWRCB Resolution No. 88-63 ("Sources of Drinking Water Policy"), Basin Plan	Specifies that, with certain exceptions, all ground and surface waters must have the beneficial use of municipal or domestic water supply.	Applies in determining beneficial uses for waters that may be affected by discharges of waste.
7	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 Div 2 Subdiv 1 (§§20080 et seq.); Title 23 Div 3 Ch 15 (§§2510 et seq.)	Establishes waste and siting classification systems and minimum waste management standards for discharges of waste to land for treatment, storage, and disposal. Engineered alternatives that are consistent with titles 27 and 23 performance goals may be considered. Establishes corrective action requirements for responding to discharges to land, including spills and leaks and other unauthorized discharges.	The Application of specific sections of Title 27/ Title 23 is discussed below. Provisions of Title 23 apply to hazardous waste and provisions of Title 27 apply to designated and non-hazardous solid waste.
8	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20090(d); Title 23 §2511(d)	Action taken by public agencies to clean up unauthorized releases are exempt from titles 27 and 23 except that wastes removed from immediate place of release and discharged to land must be managed in accordance with classification (Title 27 §20200, Title 23 §Section 2520) and siting requirements of titles 27 or 23. Wastes contained or left in place must comply with titles 27 or 23 to the extent feasible.	Applies to remediation and monitoring of sites.
9	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20400; Title 23 §2550.4	Concentration limits must be established for groundwater, surface water, and the unsaturated zone. They must be based on background, equal to background, or for corrective actions, may be greater than background, not to exceed the lower of the applicable water quality objective or the concentration technologically or economically achievable. Specific factors must be considered in setting cleanup standards above background levels.	Applies in setting ground water cleanup levels for all discharges of waste to land.
10	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20410; Title 23 §2550.6	Requires monitoring for compliance with remedial action objectives for 3 years from the date of achieving cleanup standards.	Applies to groundwater remedial actions.

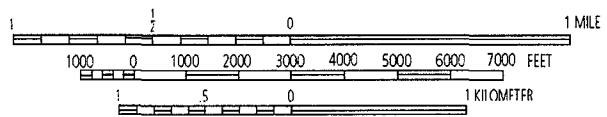
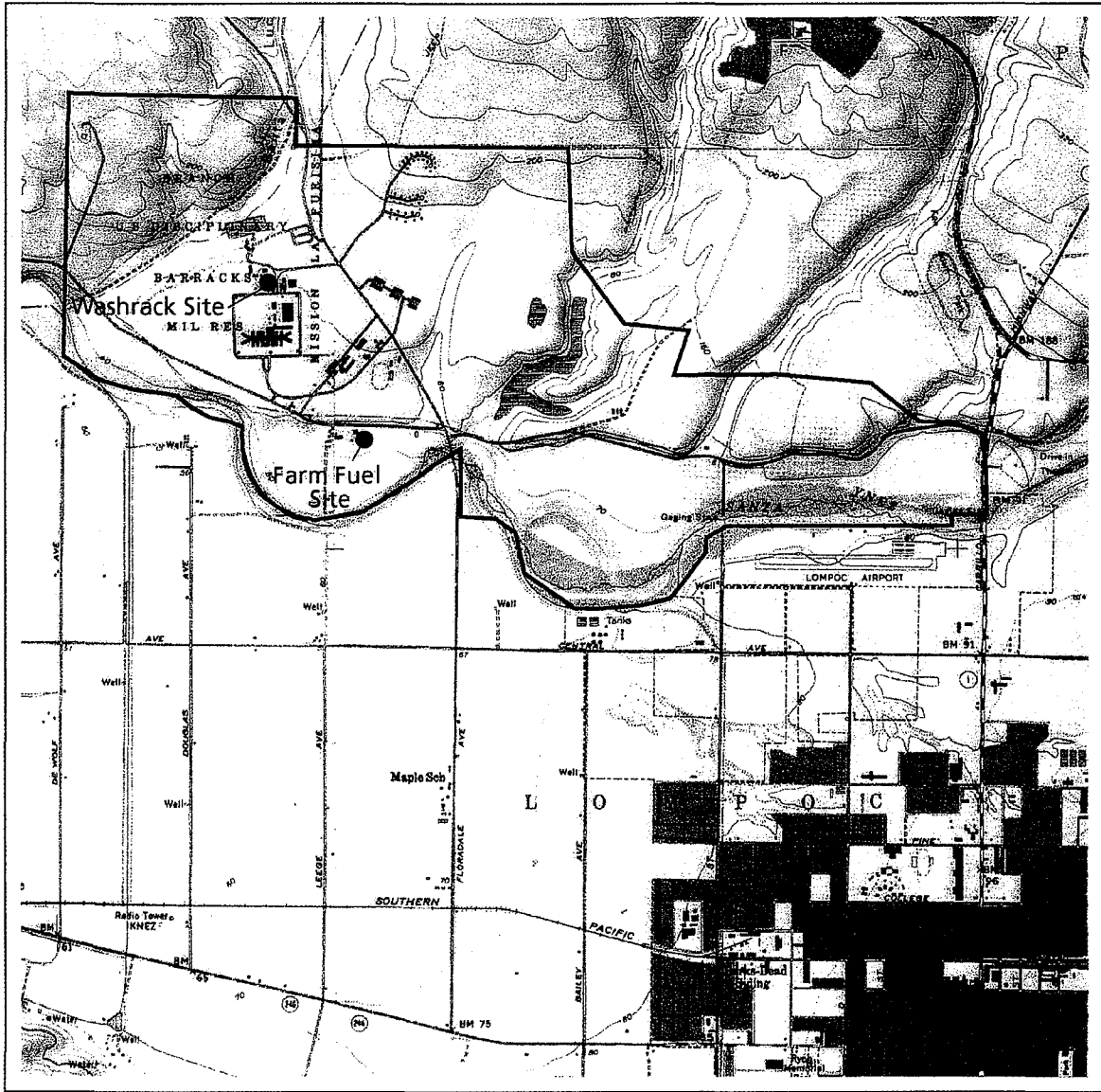
**Table 1**  
**ARARs for Groundwater Remediation**

#	Source	Standard, Requirement, Criterion, or Limitation	Description	Comments
11	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20415; Title 23 §2550.7	Requires general soil, surface water, and ground water monitoring.	Applies to all areas at which waste has been discharged to land.
12	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20425; Title 23 §2550.9	Requires an assessment of the nature and extent of the release, including a determination of the spatial distribution and concentration of each constituent.	Applies to areas at which monitoring results show statistically significant evidence of a release.
13	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §20430; Title 23 §2550.10	Requires implementation of corrective action measures that ensure that cleanup levels are achieved throughout the zone affected by the release by removing the waste constituents or treating them in place. Source control may be required. Also requires monitoring to determine the effectiveness of the corrective actions.	Applies to groundwater remedial actions.
14	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §21090	Requires a final cover constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	Applies to wastes contained or left in place at the end of remedial actions that could affect water quality. Includes closure of landfills and other discharges to land.
15	Porter-Cologne (CWC §13307)	CWC § 13304; Civil Code §1471	If the RWQCB or SWRCB find that a property is not suitable for unrestricted use, the agency cannot issue site closure or no further action, unless an appropriate deed restriction is in place.	
16	Safe Drinking Water Act (CH&SC §§ 4010 et seq.)	CCR: Title 22 §§64400 et seq.	Requirements for public water systems including primary secondary MCLs.	The act is legally applicable for an aquifer and associated distribution and pre-treatment system that is currently defined as "public water system"
<b>RELEVANT &amp; APPROPRIATE</b>				
17	Safe Drinking Water Act, National Primary Drinking Water Regulations	40 CFR Part 141	The National Primary Drinking Water Regulations (NPDWR) establishes Maximum Contaminant Levels (MCLs) and Maximum Contaminant Levels Goals (MCLGs) for several common organic and inorganic contaminants.	Applies to groundwater remedial action.

**Table 1  
ARARs for Groundwater Remediation**

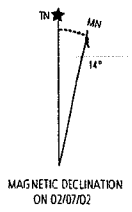
#	Source	Standard, Requirement, Criterion, or Limitation	Description	Comments
18	Porter-Cologne (CWC §§ 13140-13147, 13172, 13260, 13263, 13267, 13304)	CCR: Title 27 §21090	Requires a final cover constructed in accordance with specific prescriptive standards, to be maintained as long as wastes pose a threat to water quality.	Relevant and appropriate for "closed, abandoned, or inactive" landfills and other areas where wastes have been discharged to land and water quality is threatened.
19	Safe Drinking Water Act (CH&SC §§ 4010 et seq.)	CCR: Title 22 §§64400 et seq.	Requirements for public water systems. Includes primary and secondary MCLs.	This Act is relevant and appropriate for a potential "Public water system."
<b>TO BE CONSIDERED</b>				
20	Safe Drinking Water Act, National Secondary Drinking Water Regulations	40 CFR Part 143	The National Secondary Drinking Water Regulations establish Secondary Maximum Contaminant Levels (SMCLs), which are nonenforceable standards for drinking-water contaminants that affect the aesthetic qualities relating to public acceptance of drinking water	To be considered in selecting numerical values for cleanup levels and discharge limits.
21	United States Environmental Protection Agency (US EPA) Region IX Primary Remediation Goals (PRGs)	US EPA Region IX PRG Table	Intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements of soil, water, and air quality.	
22	Staff Report, RWQCB, Central Valley Region	"A Compilation of Water Quality Goals"	Provides guidance on selecting numerical values to implement narrative water quality objectives contained in the Basin Plan.	To be considered in selecting numerical values for cleanup levels and discharge limits. Values may be ARAR's, or performance standards, depending on source.

Notes: RWQCB = Regional Water Quality Control Board; ARARs: = applicable or relevant and appropriate requirements; Porter-Cologne = Porter-Cologne Water Quality Control Act; CWC = California Water Code; MCLs = maximum contaminant levels; MCLGs = maximum contaminant level goals; Basin Plan = Regional Water Quality Control Plan, Central Coast Region; SWRCB = State Water Resources Control Board CCR = California Code of Regulations; CFR = Code of Federal Regulations; CH&SC = California Health and Safety Code.



CONTOUR INTERVAL 40 FEET

— Approximate Complex Boundary  
 ● Approximate Site Location



Reference: U.S.G.S. 7.5-minute Quadrangle Surf, California, 1974 and Lompoc, California, 1978.

Revision 2  
 7-20-05

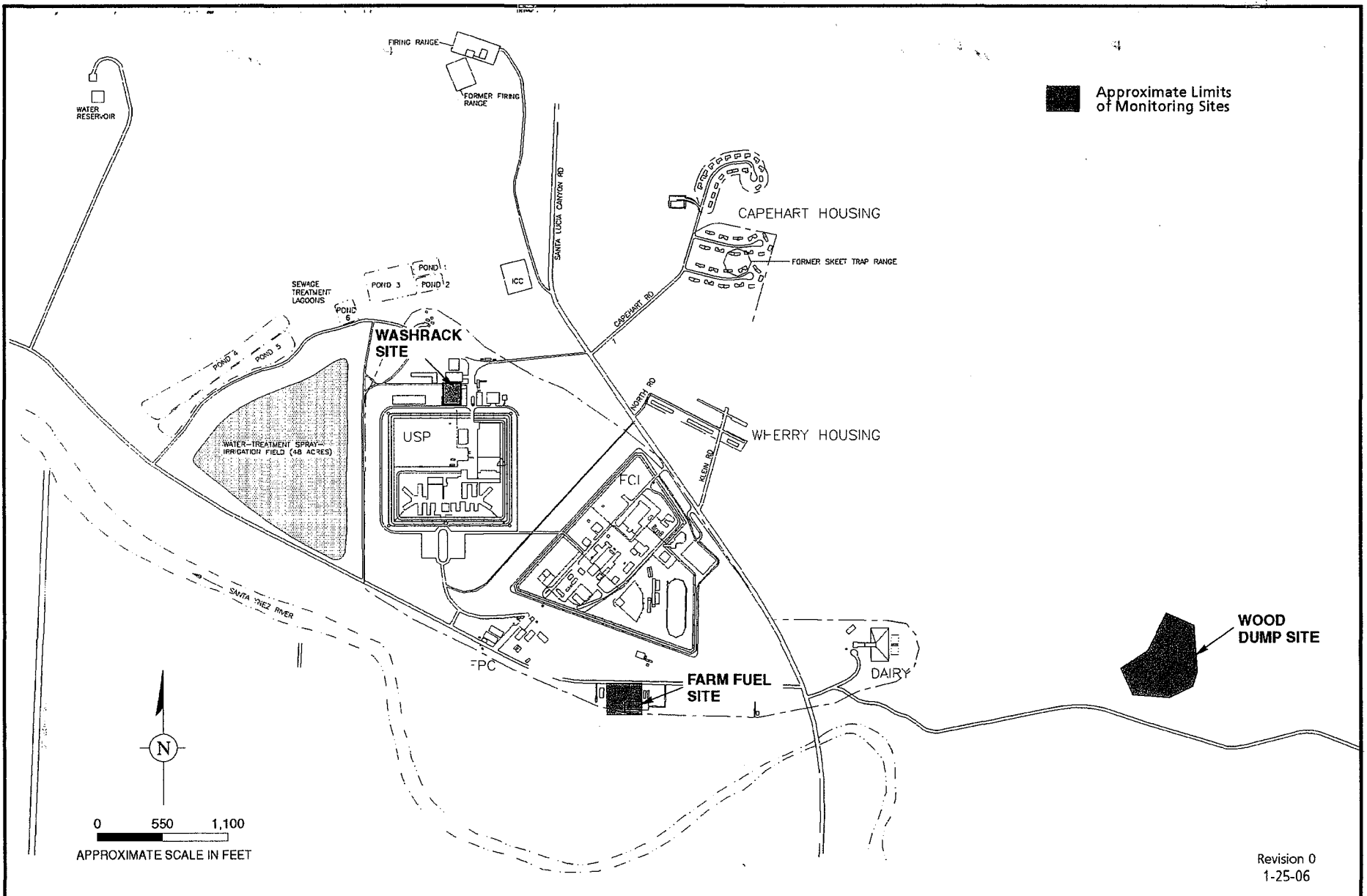


**COMPLEX LOCATION MAP**  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC000593.0010

FIGURE

**1**



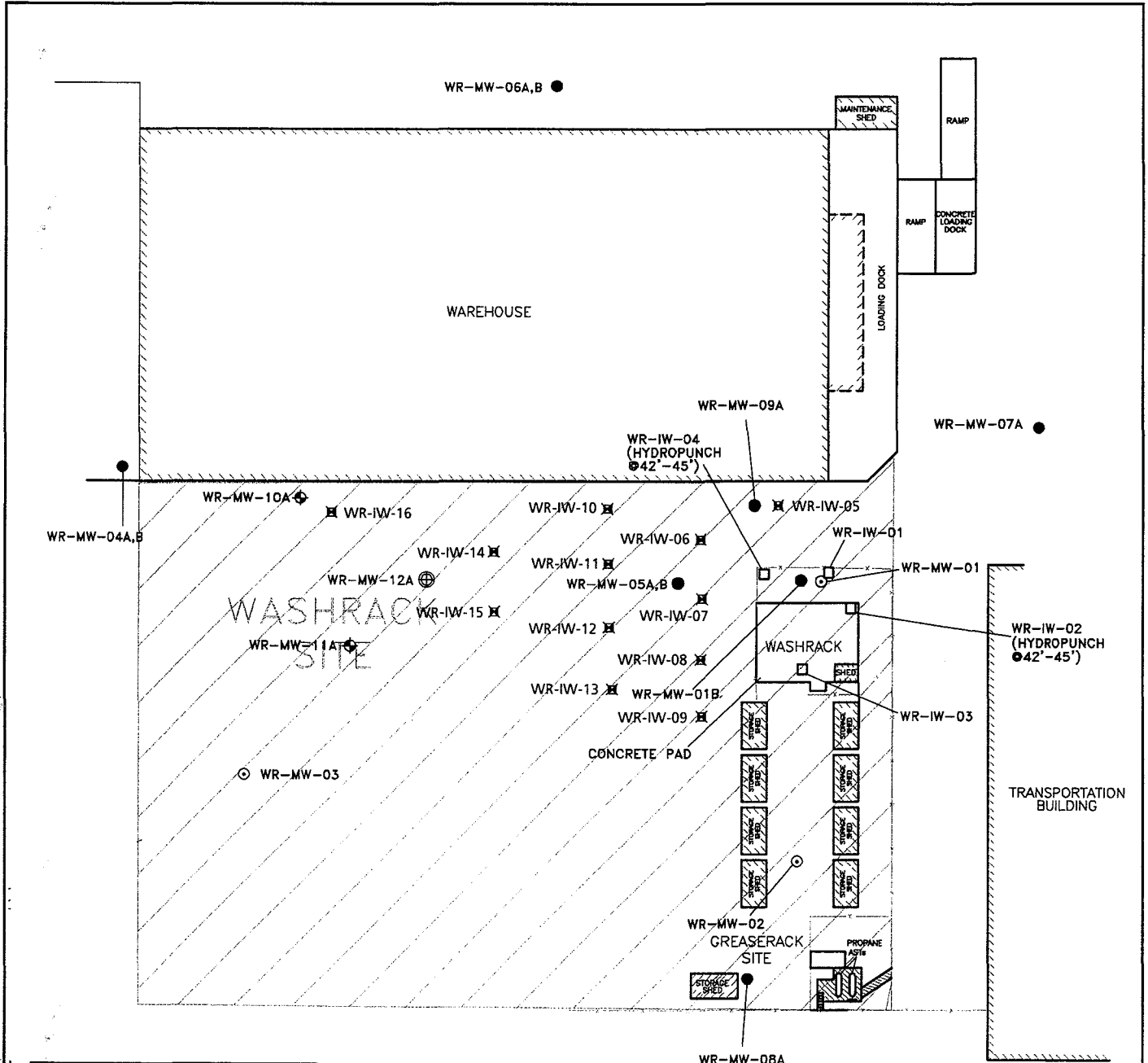
Revision 0  
1-25-06



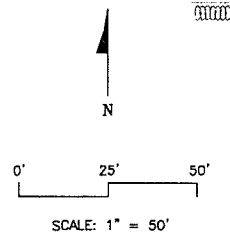
**LOCATIONS OF SITES**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC000593.0020  
**FIGURE**

**2**



LEGEND	
---	FENCE
⊙	MONITORING WELL
●	MONITORING WELL, INSTALLED SEPTEMBER 2002
◆	MONITORING WELL, INSTALLED JULY 2004
⊕	MONITORING WELL, INSTALLED SEPTEMBER 2005
□	INJECTION WELL, INSTALLED SEPTEMBER 2002
⊗	INJECTION WELL, INSTALLED SEPTEMBER 2005



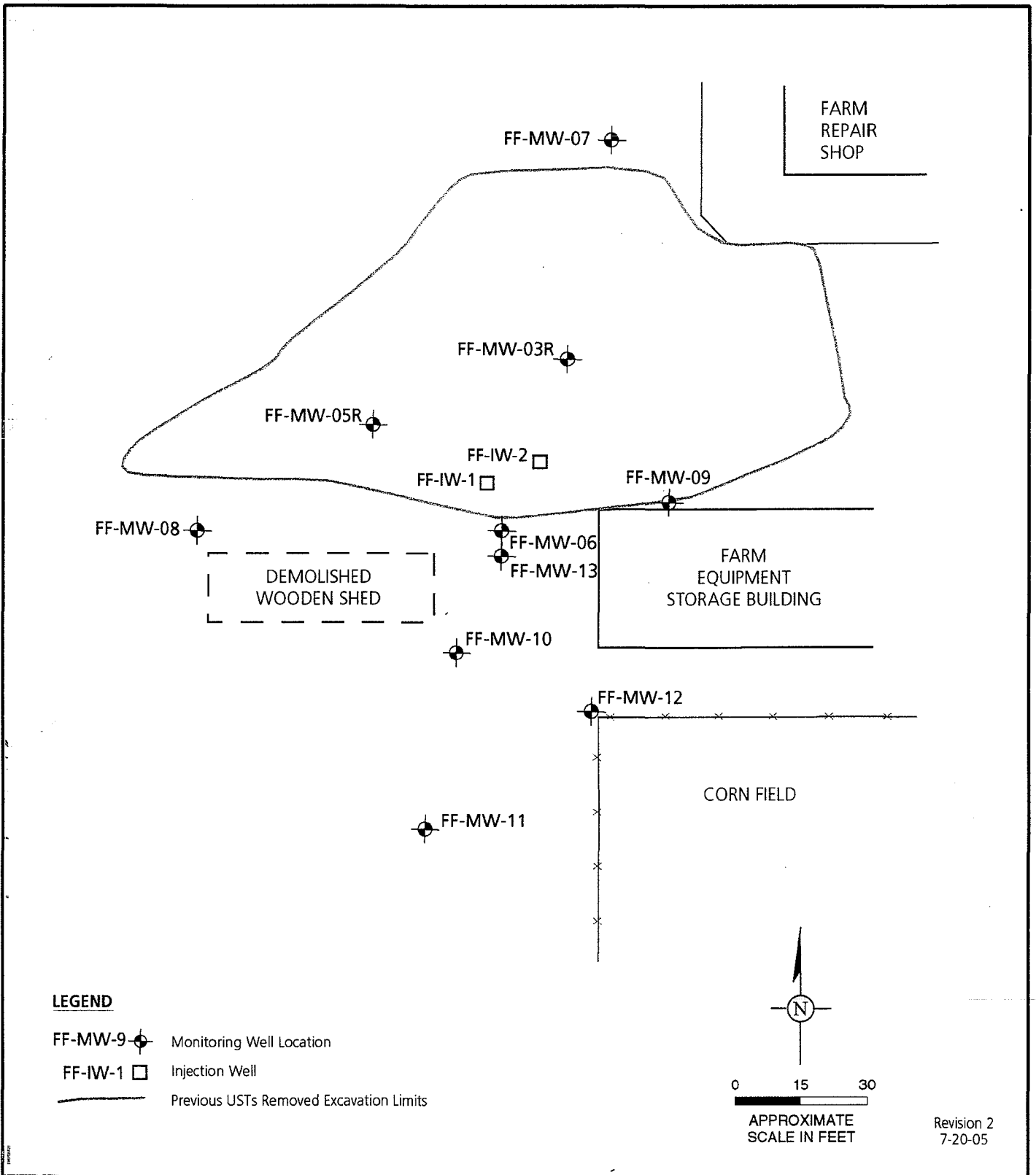
UNITED STATES  
PENITENTIARY  
(USP)

Revision 3  
2-24-06






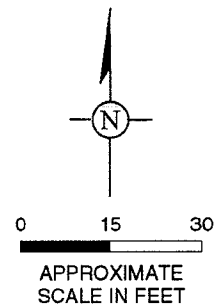
**WASHRACK SITE MAP**  
Former United States Disciplinary Barracks  
Lompoc, California

RC000593.00010
FIGURE
<b>3</b>



**LEGEND**

- FF-MW-9  Monitoring Well Location
- FF-IW-1  Injection Well
-  Previous USTs Removed Excavation Limits



Revision 2  
7-20-05

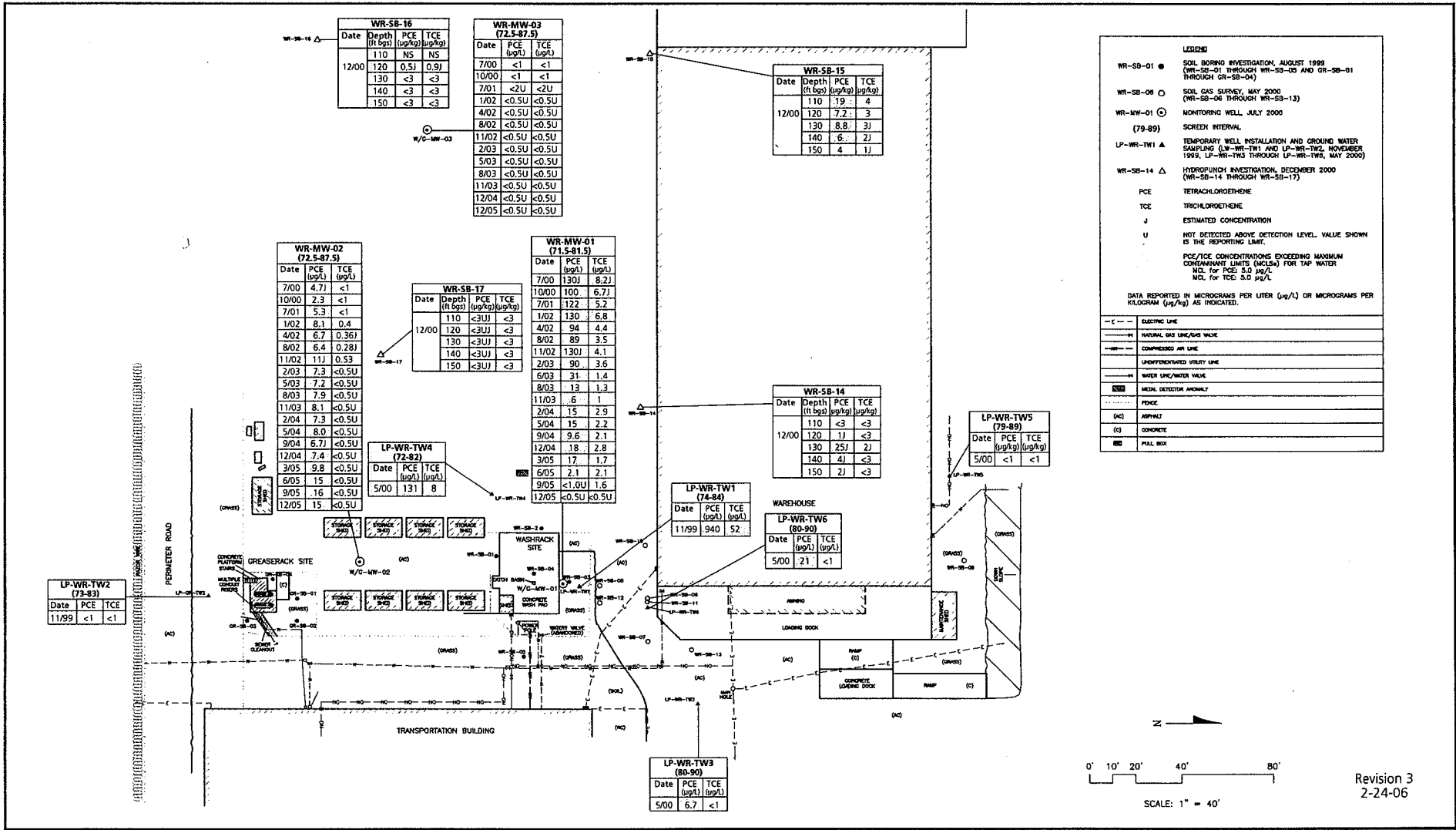


**FARM FUEL SITE MAP**  
Former United States Disciplinary Barracks  
Lompoc, California

RC 000593.0003

**FIGURE**

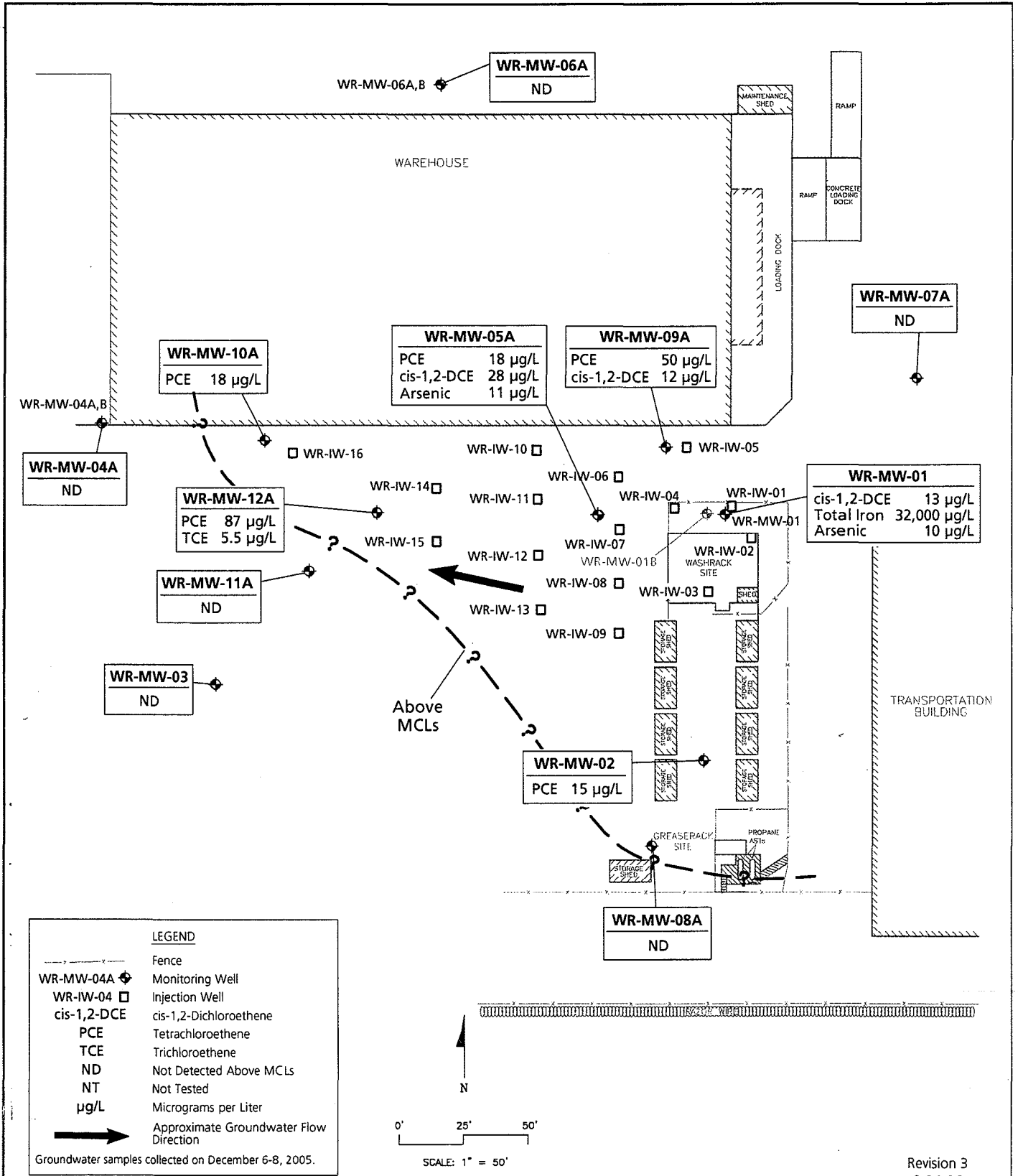
**4**



**WASHRACK SITE - SUMMARY OF GROUNDWATER PCE AND TCE CONCENTRATIONS**  
Former United States Disciplinary Barracks  
Lompoc, California

RC000593.0004  
FIGURE



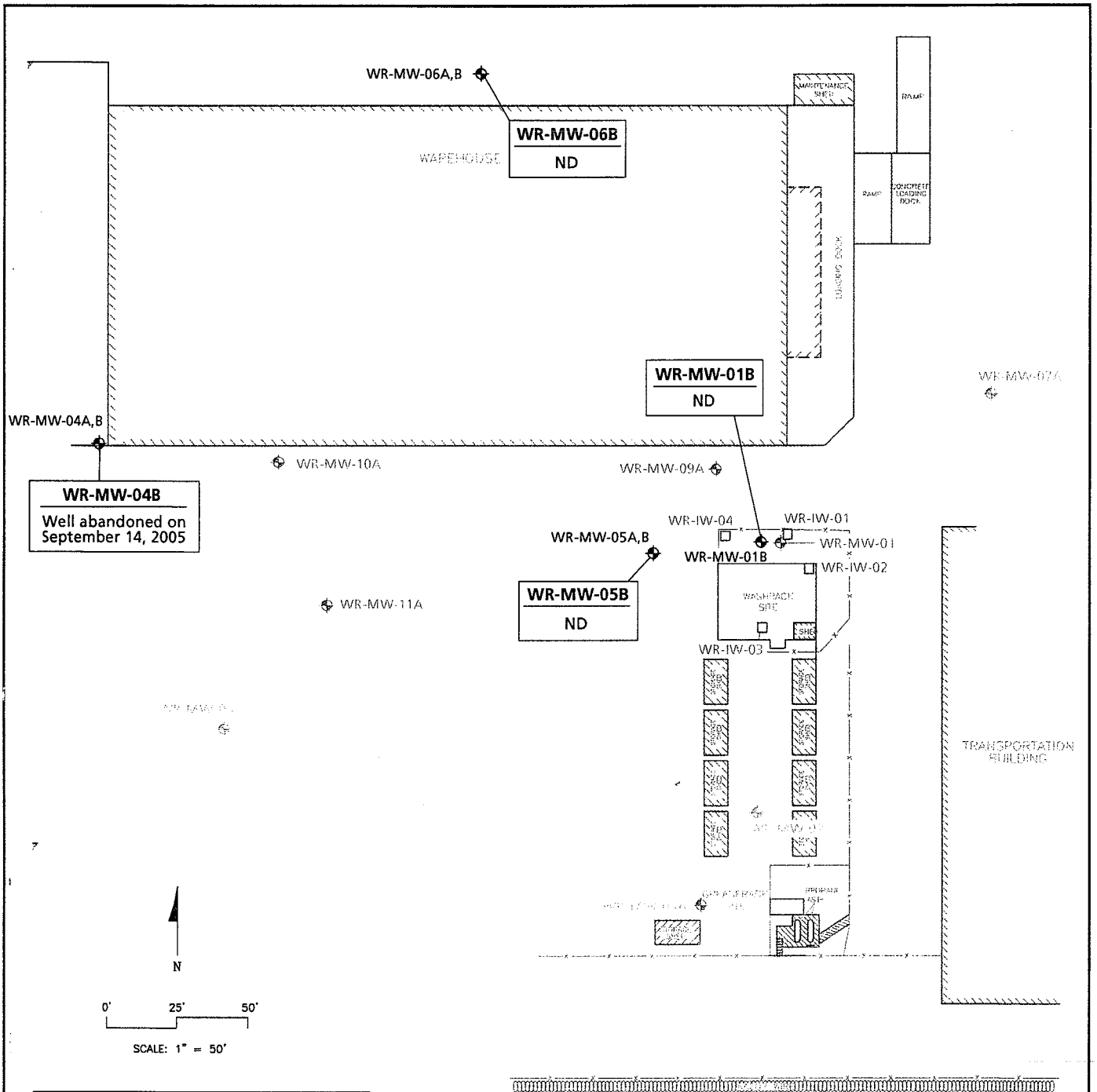


**DETECTED ORGANIC AND INORGANIC COMPOUNDS EXCEEDING MCLs  
IN GROUNDWATER -- A WELLS**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Washrack Site  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC 000593.0020

FIGURE

**6**



**LEGEND**

--- Fence

WR-MW-04B Monitoring Well

WR-IW-04 Injection Well

ND Not Detected Above MCLs

NT Not Tested

Groundwater samples collected on December 6-8, 2005.

Revision 2  
2-24-06






**DETECTED ORGANIC AND INORGANIC COMPOUNDS EXCEEDING MCLs  
IN GROUNDWATER -- B WELLS**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Washrack Site  
 Former United States Disciplinary Barracks  
 Lompoc, California

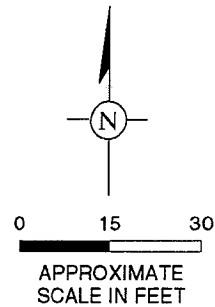
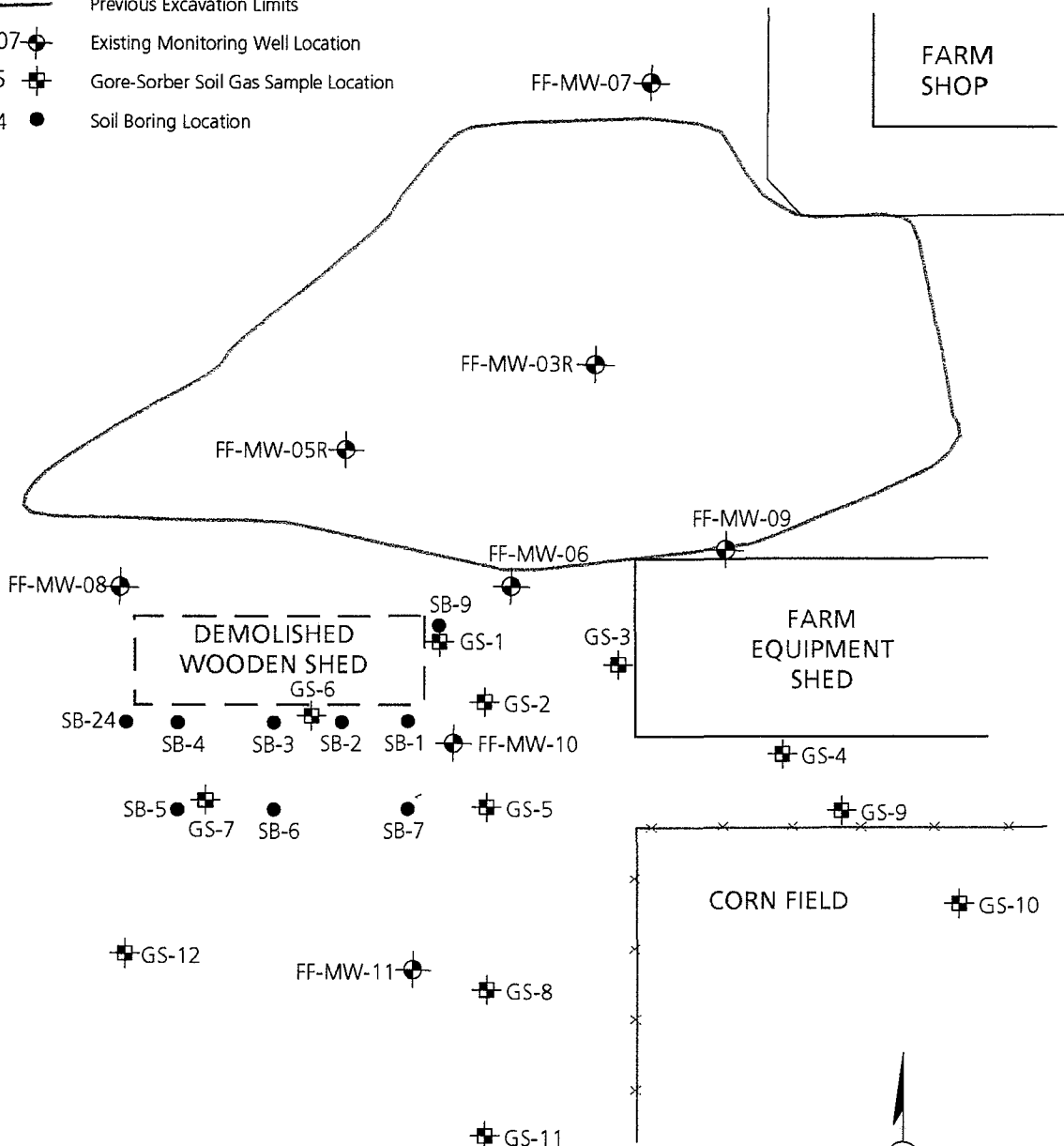
RC000593.0020

FIGURE

**7**

**LEGEND**

- Previous Excavation Limits
- FF-MW-07  Existing Monitoring Well Location
- GS-5  Gore-Sorber Soil Gas Sample Location
- SB-4  Soil Boring Location



Revision 2  
7-20-05

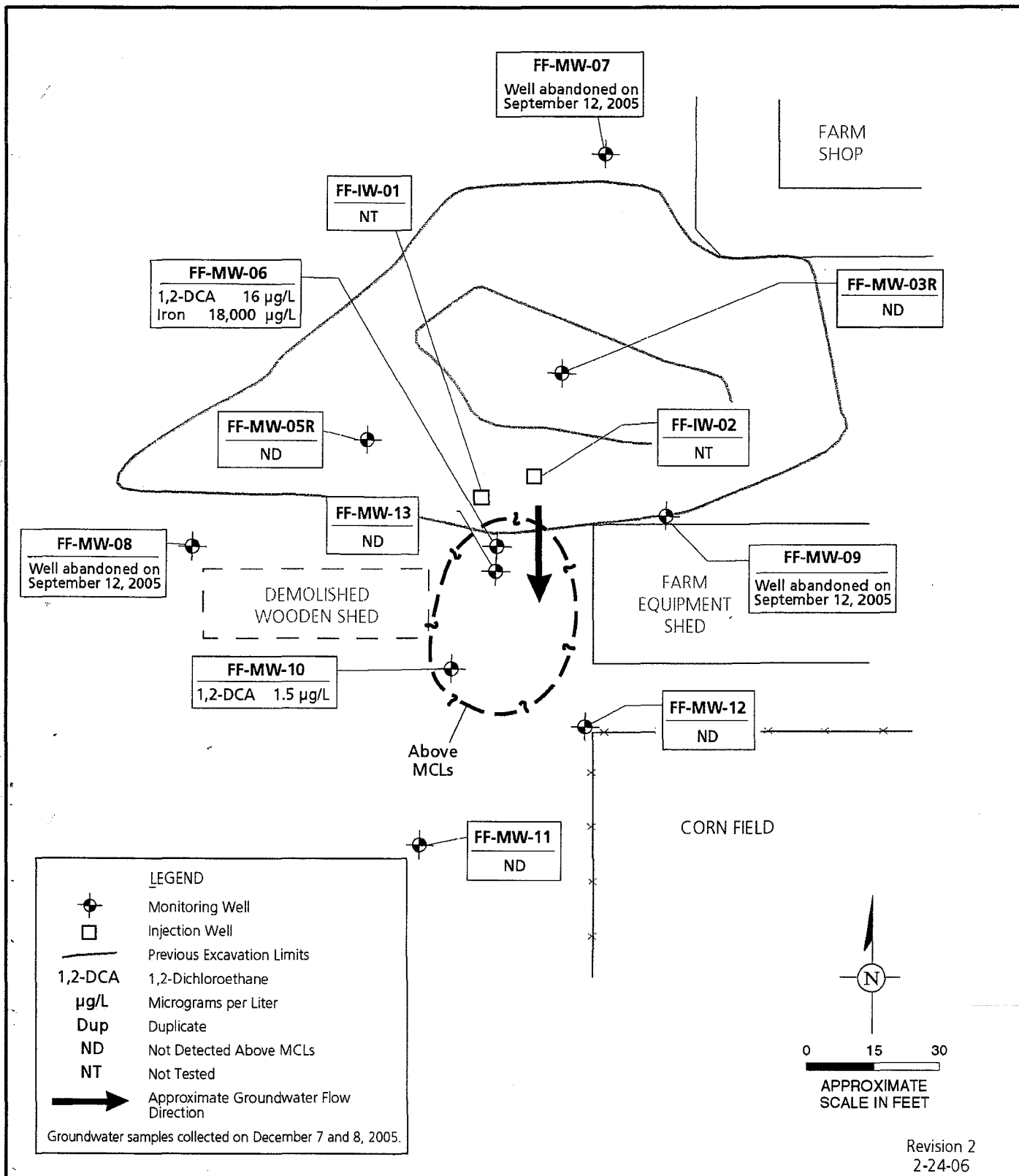


**FARM FUEL SITE - PREVIOUS SOIL BORING AND  
SOIL GAS SAMPLE LOCATIONS**  
Former United States Disciplinary Barracks  
Lompoc, California

RC000593.0003

**FIGURE**

**8**



Revision 2  
2-24-06



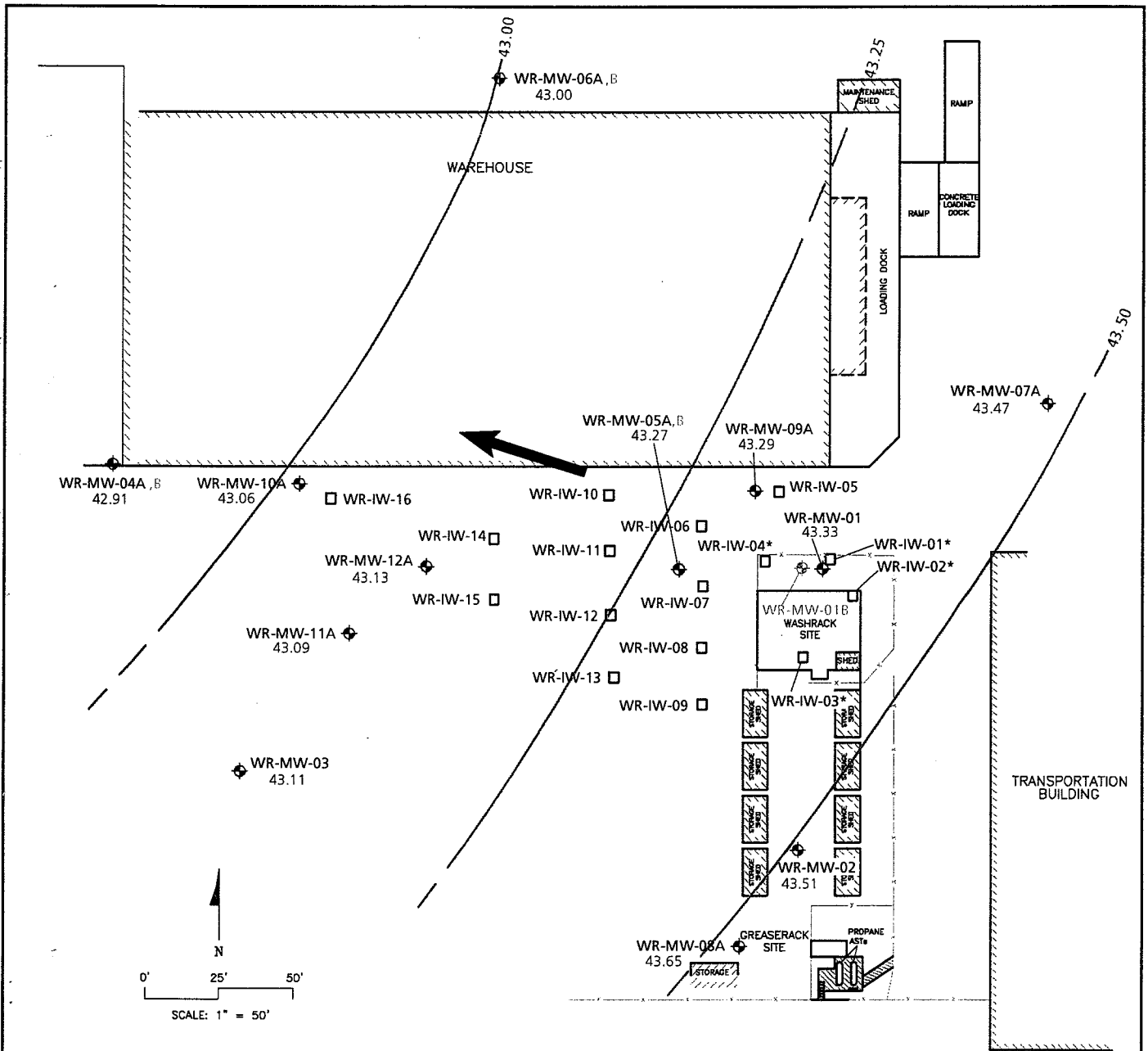
**DETECTED ORGANIC AND INORGANIC COMPOUNDS  
EXCEEDING MCLs IN GROUNDWATER  
FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**

Farm Fuel Site  
Former United States Disciplinary Barracks  
Lompoc, California

RC000593.0020

FIGURE

**9**



**LEGEND**

- Fence
- WR-MW-04BA ◆ Monitoring Well
- WR-IW-01 □ Injection Well
- \* Injection well potentiometric surface elevations were not calculated because couplings were added to the PVC casings after survey of the wells.
- 43.11 Observed Groundwater Elevation December 5, 2005 (feet above mean sea level)
- 43.00 — Groundwater Elevation Contour Line
- ← Inferred Groundwater Flow Direction

Revision 2  
2-24-06

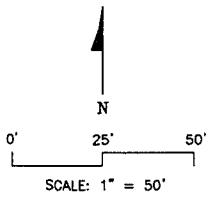
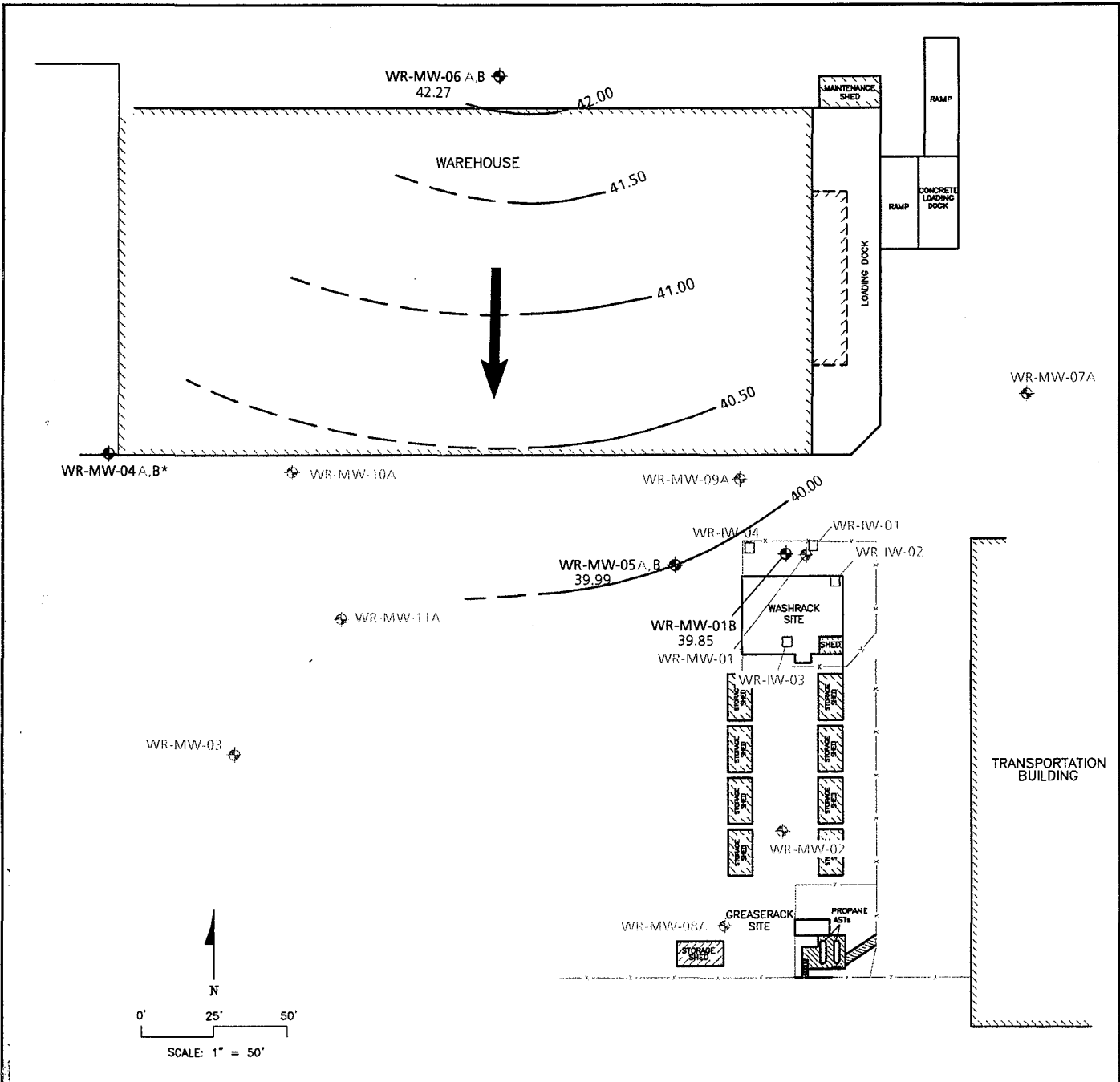


**GROUNDWATER ELEVATION CONTOUR MAP-- A WELLS**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Washrack Site  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC000593.0020

FIGURE

**10**



LEGEND	
	Fence
	Monitoring Well
39.85	Observed Groundwater Elevation - December 5, 2005 (feet above mean sea level)
	Groundwater Elevation Contour Line
	Inferred Groundwater Flow Direction
*	Well abandoned on September 14, 2005

Revision 2  
2-24-06

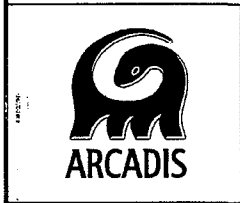
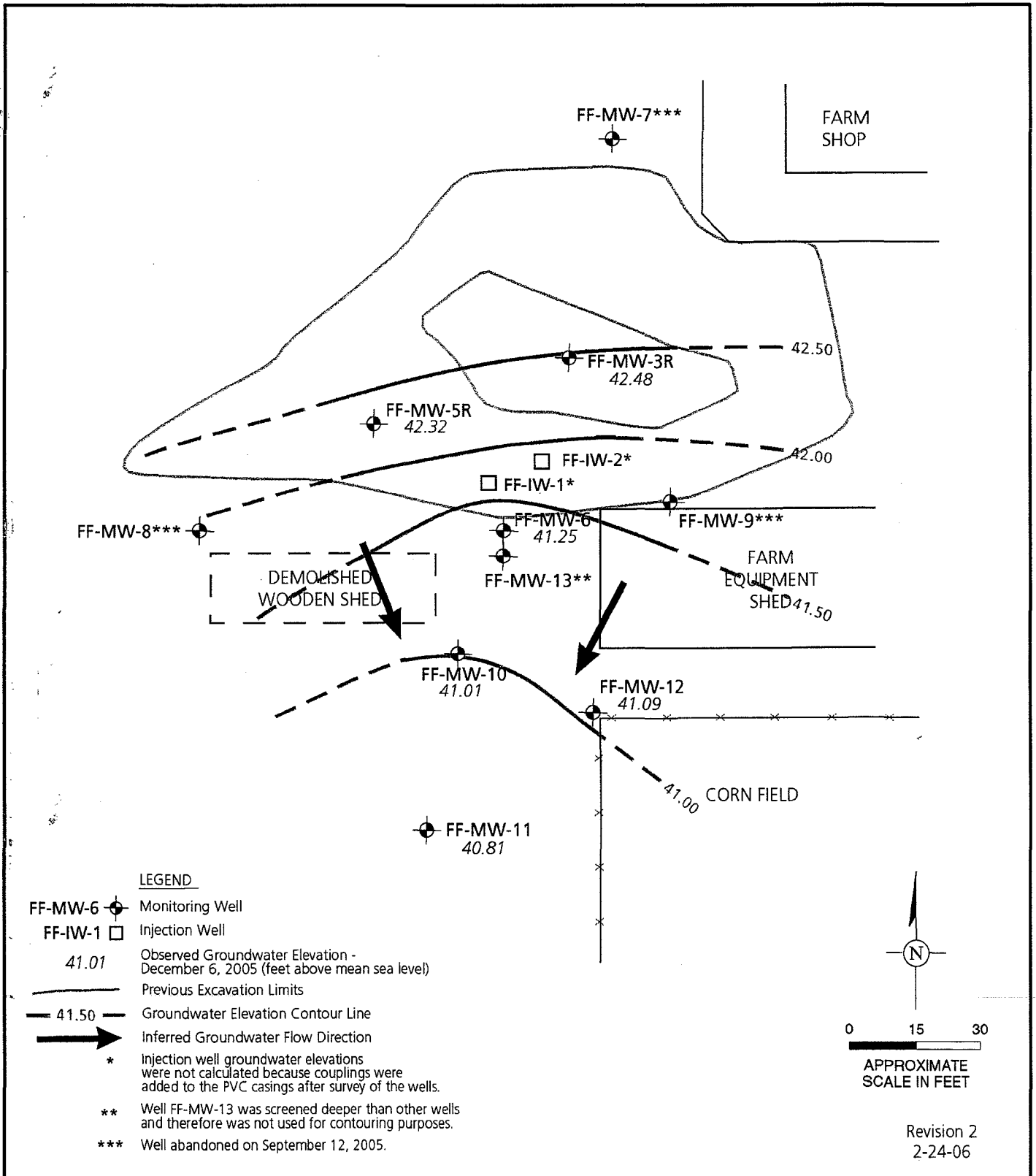


**GROUNDWATER ELEVATION CONTOUR MAP-- B WELLS**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Washrack Site  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC000593.0020

FIGURE

**11**



**GROUNDWATER ELEVATION CONTOUR MAP**  
**FOURTH QUARTER 2005 GROUNDWATER MONITORING AND ERD UPDATE REPORT**  
 Farm Fuel Site  
 Former United States Disciplinary Barracks  
 Lompoc, California

RC000593.0020  
**FIGURE**  
**12**

**Appendix A**

Correspondence Regarding Time Critical Removal Action and Response to Comments on Draft Action Memorandum and Final Draft Action Memorandum for the Washrask and Farm Fuel Sites





U.S. Department of Justice  
Federal Bureau of Prisons

Washington, DC 20534

September 6, 2002

Mr. Victor Bonilla  
Chief, Environmental & Budget Branch  
United States Army HQ FORSCOM  
Building 200, BRAC DIV., Attn: AFDI-BC  
Fort McPherson, Georgia 30330-6000

RE: Need for Expedited Clean-up at the U.S. Penitentiary in  
Lompoc, California

Dear Mr. Bonilla:

The purpose of this letter is to clarify the position of the Federal Bureau of Prisons (BOP) regarding the cleanup activities currently taking place at the Federal Correctional Complex (FCC) in Lompoc, California. This property has recently been formally transferred to BOP control from the United States Army.

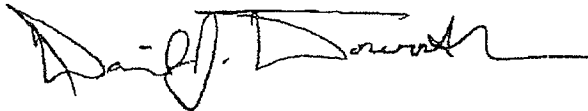
The BOP has been an active participant in the BRAC Closure Team (BCT) meetings for years, and within the last year has become a full member of the team, due specifically to the cost sharing agreement that the BOP entered into upon award to Arcadis a Guaranteed Fixed Price Remediation Contract.

As our primary mission involves the housing and supervision of federal inmates, we would obviously prefer not to be directly involved with site cleanup and remediation. The activities required in conducting this type of work, present security risks to the operation of the (FCC), of which one facility is a high-security United States Penitentiary. The presence near the facility of the workers has a high potential to compromise our security perimeters thus detracting us from our primary mission of public safety. As such, we are formally requesting that any and all actions that can be taken to hasten the work effort at the FCC be done.

Of course, we will continue to make personnel available on site to serve as escorts and monitors for site activity. Repeated visits, however, seriously compromises our staffing needs. Therefore, we wish to have these activities "fast tracked" and successfully concluded in the shortest time possible, and request you give consideration to our needs and modify the action plans accordingly.

Thank you for your consideration in this matter.  
If you have any questions, please call Mr. Rodney Anderson or me at (202) 514-6470.

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Dorworth", with a long horizontal flourish extending to the right.

David J. Dorworth, Chief  
Site Selection and Environmental  
Review Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

September 18, 2002

Mr. Frank Crown  
Lompoc BRAC Environmental Coordinator  
Water Program Manager  
Environmental and Natural Resource Division (Anteon Corp)  
ATTN: AFZH-PWE MS17E  
Bldg 2012, Rm 323  
PO Box 339500  
Fort Lewis, WA 98433-9500

Dear Mr. Crown,

The U.S. Environmental Protection Agency (EPA) received your letter dated September 17, 2002 requesting regulatory concurrence to conduct CERCLA Time Critical Removal Actions at the Wash Rack Site and the Farm Fuel Area at former Lompoc Branch Disciplinary Barracks.

Both sites are located either immediately adjacent to or within the Lompoc prison boundaries. Field investigations and remedial actions in these areas raise serious concerns about the safety of the field crews as well as the prison security. Given the circumstances, EPA, after consultation with the Central Coast Regional Water Quality Control Board, does not object to the Army implementing the Time Critical Removal Action process at the Wash Rack Site and Farm Fuel Area. Please provide the regulatory agencies with all documentation of the Critical Removal Actions.

Should the Army need any assistance or have any questions during the removal process, please feel free to call me with any questions at (415) 972- 3018, or contact me by email [tan.lida@epa.gov](mailto:tan.lida@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Lida Tan", written over a horizontal line.

Lida Tan  
Remedial Project Manager  
Army and Pacific Islands Section

cc: Ms. Linda Stone, RWQCB  
Central Coast Regional Water Quality Control Board  
81 Higuera Street  
San Luis Obispo, CA 93401

Mr. Rodney Anderson, Federal Bureau of Prison  
320 First Street NW  
Washing, DC 20534

Ms. Bridgette Lyles, Federal Bureau of Prison  
320 First Street NW  
Washing, DC 20534

Ms. Susan Knauf, Louis Berger Group, Inc.  
100 Halsted Street  
East Orange, NJ 07019

Mr. Victor Bonilla, HQ, US Army Forces Command  
1777 Hardee Ave SW  
Fort Mcpherson, GA 30330-1062

Mr. Anthony Neslon  
30 CES/CEV  
806 13<sup>th</sup> Street, Suite 115  
Vandenberg Air Force Base, CA 93437

Ms. Karla Brasamele, TechLaw  
90 New Montgomery Street, Suite 1010  
San Francisco, CA 94105

Mr. Mike Schmaeling, County of Santa Barbara  
Solid Waste Enforcement Agency  
225 Camio Del Remedio  
Santa Barbara, CA 93110

Mr. Mike Dukes, Arcadis G&M, Inc.  
1050 Marina Way South  
Richmond, CA 94804



REPLY TO  
ATTENTION OF

Public Works

DEPARTMENT OF THE ARMY  
HEADQUARTERS, I CORPS AND FORT LEWIS  
BOX 339500  
FORT LEWIS WA 98433-9500



09-17-02

Ms. Lida Tan  
SFD-8-3  
U. S. Environmental Protection Agency Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Ms. Tan:

Reference Letter U. S. Department of Justice, Federal Bureau of Prisons, 6 September 2002 (see enclosed copy).

The referenced letter is a request from the Bureau of Prisons (BOP) to "fast track" clean-up efforts at those sites that pose a security risk at the former Lompoc Branch Disciplinary Barracks.

In order to reduce the security risks at the former Lompoc Branch Disciplinary Barracks the Army requests the following sites be designated as time critical removal actions.

a. Wash Rack Site. This site is immediately adjacent to the maximum-security prison. All work conducted at this site must be done under the observation of prison security personnel to ensure there is no contact between regulators/contractors and inmates and that no material of any type is left where an inmate may pick it up. Such intense observation takes prison personnel away from their normal duties resulting in the increased potential for a breach of perimeter security. In addition, regulators/contractors are in close proximity to inmates at this site and are thus at some risk themselves.

b. Farm Fuel Site. This site is in an area of high traffic by trustee inmates. In this area the inmates have the opportunity to mix with the regulators/contractors. While the inmates are classified as trustees they still must be observed. The presence of regulators/contractors in this area makes it more difficult for prison security personnel to monitor the inmates. It also creates an environment in which inmates have the opportunity to pick up material in use or left by the contractors. Inmates may use such material weapons or other illicit purposes thus posing a potential threat to prison security personnel.

It is imperative that the remedial actions at these two sites be completed in as short a time as possible. By designating these as time critical removal actions the contractor will be able to move forward at an accelerated pace thereby reducing the amount of time actually spent on site. This will allow the prison personnel to focus on their primary duties sooner and with the knowledge there will be no continuing disruptions to their security over the next several years.

On 17 September the lead regulatory agency, Central Coast Regional Water Control Board, agreed to follow the lead of the U. S. Environmental Protection Agency in considering this request.

The Army requests your immediate consideration of this request to designate the Wash Rack and Farm Fuel Sites as time critical removal actions under the provisions of CERCLA.

Sincerely,



Eric Waehling  
BRAC Environmental Coordinator

Enclosure

Copy Furnished:

Mr. Rodney Anderson, Federal Bureau of Prisons, 320 First Street NW, Washington, DC 20534

Ms. Bridget Lyles, Federal Bureau of Prisons, 320 First Street NW, Washington, DC 20534

Ms. Susan Knauf, Louis Berger & Associates, 100 Halsted Street, East Orange, NJ 07019

Mr. Victor Bonilla, Headquarters U. S. Army Forces Command, 1777 Hardee Ave SW Fort McPherson, GA 30330-1062

Mr. Anthony S. Nelson, 30 CES/CEV, 806 13th Street, Suite 115, Vandenberg Air Force Base, CA 93437

Ms. Linda Stone, Central Coast Water Quality Control Board, 81 South Higuera Street, Suite 200, San Luis Obispo, CA 93401-5411

Ms. Karla Brasamele, TechLaw, Inc., 90 New Montgomery Street, Suite 1010 San Francisco, CA 94105

Mr. Mike Schmaeling, County of Santa Barbara, Solid Waste Enforcement Agency 225 Camio del Remedio, Santa Barbara, CA 93110

Mr. Michael Dukes, ARCADIS G&M, Inc., 1050 Marina Way South, Richmond, CA 94804