MARINE CORPS BASE
CAMP PENDLETON, CALIFORNIA
RECORD OF DECISION
OPERABLE UNIT 3

FINAL
11 JANUARY 1999

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List of Abbreviations/Acronyms

APCD	Air Pollution Control District
AC/S,ES	Assistant Chief of Staff, Environmental Security
ARAR	Applicable or Relevant and Appropriate Requirement
AWQC	Aquatic Water-Quality Criteria
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
COC	Chemical of Concern
COEC	Chemical of Ecological Concern
COPC	Chemical of Potential Concern
COPEC	Chemical of Potential Ecological Concern
CRDL	Contract Required Detection Limit
DCA	Dichloroethane
DCE	Dichloroethene
DDD	Dichlorodiphenyldichloroethene
DDE	Dichlorodiphenylethene
DDT	Dichlorodiphenyltrichloroethene
DI WET	Deionized Water Waste Extraction Test
DLM	Designated Level Methodology
DTSC	Department of Toxic Substances Control
EcoRA	Ecological Risk Assessment
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
FID	Flame-Ionization Detector
FS	Feasibility Study
HEAST	Health Effects Assessment Summary Tables

HHRA	Human Health Risk Assessment
HI	Hazard Index
HpCDD	Heptachlorodibenzo-p-dioxins
HpCDF	Heptachlorodibenzofuran
HQ	Hazard Quotient
HxCDD	Hexachlorodibenzo-p-dioxins
IAS	Initial Assessment Study
IDL	Instrument Detection Limit
ILCR	Incremental Lifetime Cancer Risk
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
Jacobs	Jacobs Engineering Group Inc.
LUFT	Leaking Underground Fuel Tank
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCL	Maximum Contaminant Level (Federal or State)
MCTSSA	Marine Corps Tactical System Support Activity
mg/dl	Milligrams per Deciliter
mg/kg	Milligrams per Kilogram
mg/kg-day	Milligrams per Kilogram per Day
mg/l	Milligrams per Liter
msl	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEESA	Naval Energy and Environmental Support Activity (currently NFESC)
NOAEL	No Observed Adverse Effect Level
NPL	National Priorities List
OU	Operable Unit

PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PCP	Pentachlorophenol
PLE	Preliminary Limit of Exposure
POL	Petroleum, Oil, and Lubricants
PPE	Personal Protective Equipment
ppm	Parts per Million
PR	Preliminary Review
PRG	Preliminary Remediation Goal
RAGS	Remedial Action Guidance for Superfund
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RfD	Reference Dose
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RME	Reasonable Maximum Exposure
ROD	Record of Decision
RWQCB	California Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act of 1986
SCS	Soil Conservation Service
SF	Slope Factor
SPLP	Synthetic Precipitation Leaching Procedure
SV	Sampling Visit
SVOC	Semivolatile Organic Compound
SWDIV	Southwest Division Naval Facilities Engineering Command
SWRCB	California State Water Resources Control Board

TAL	Target Analyte List
TCA	Trichloroethane
TCE	Trichloroethene
TCLP	Total Concentration Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TVH	Total Volatile Hydrocarbons
UCL	Upper Confidence Limit
UST	Underground Storage Tank
VOC	Volatile Organic Compound
µg/kg	Micrograms per Kilogram
µg/l	Micrograms per Liter

1.0 Declaration

This Record of Decision (ROD) addresses 29 sites that constitute Operable Unit (OU) 3 at Marine Corps Base (MCB) Camp Pendleton, California.

1.1 Site Name and Location

MCB Camp Pendleton is located along the Pacific coast, about halfway between Los Angeles and San Diego (Figure 1-1). The vast majority of the base is within San Diego County, and a small portion of the northwest corner of the base is in Orange County.

Installation Restoration Program (IRP) sites at MCB Camp Pendleton were assigned to one of four groups (A, B, C, and D) during the investigation phase according to potential impact to human health and the environment. Group A sites were believed to have the highest potential for such impact; Group D sites have the lowest. OU3 includes the following sites from Groups B, C, and D:

- Group B: Site 7 soil and groundwater
- Group C: Sites 1D, 1E, 2A, 10, and 35 soil and groundwater; Sites 16 and 27 soil; and Site 17 sediment and surface water
- Group D: Sites 1A, 1B, 1C, 1F, 1I, 2C, 2D, 2E, 2F, 2G, 18, 32, 34, 36, 37, 38, 39, 40, 41, and 42 soil and groundwater.

The base is divided into 35 major area designations for location of base activities. The OU3 sites are located in various areas throughout the base, as shown in Figure 1-2. The OU3 site names are as follows:

- Site 1A - Refuse Burning Ground in 14 Area
- Site 1B - Refuse Burning Ground in 11 Area
- Site 1C - Refuse Burning Ground in 13 Area
- Site 1D - Refuse Burning Ground in 20 Area
- Site 1E - Refuse Burning Ground in 32 Area
- Site 1F - Refuse Burning Ground in 43 Area

- Site 1I - Refuse Burning Ground in 63 Area
- Site 2A - Grease Disposal Pit in 14 Area
- Site 2C - Grease Disposal Pit in 33 Area
- Site 2D - Grease Disposal Pit in 43 Area
- Site 2E - Grease Disposal Pit in 53 Area
- Site 2F - Grease Disposal Pit in 62 Area
- Site 2G - Grease Disposal Pit in 31 Area
- Site 7 - Box Canyon Landfill
- Site 10 - 26 Area Sewage Sludge Composting Yard
- Site 16 - 22 Area Buildings 22151 and 22187 Ditch Confluence and Ditch
- Site 17 - 22 Area Building 22187 Marsh and Ditch
- Site 18 - 13/16 Area Building 1687 Spill and Ditch
- Site 27 - 22 Area Ditches Behind Building 22210
- Site 32 - Drum Storage Area and Drainage Between Buildings 41303 and 41366
- Site 34 - Combat Engineers Maintenance Facility, Buildings 62580-62583
- Site 35 - Former Sewage Treatment Plant Facility in 25 Area
- Site 36 - Debris Pile Area Behind Ponds at Sewage Treatment Plant II
- Site 37 - Pesticide- and POL-Handling Areas at San Clemente Ranch
- Site 38 - 52 Area Sewer Line, Building 52188
- Site 39 - 41 Area Sewer Line, Buildings 41300 and 41346
- Site 40 - 13 Area Sewer Line, Building 13103
- Site 41 - 13 Area Sewer Line, Building 13128
- Site 42 - 13 Area Sewer Line, Building 13129.

Although Site 2E is included in OU3, it could not be located during surveying, historical aerial photograph surveys, or during field reconnaissance. Therefore, it is included in the declaration of this ROD as a no action site. If in the future Site 2E is located, it will be addressed as a new site. Site 2E is not discussed further in Section 2.0 of this ROD.

Sites 1G, 29, 1H, and 30 were also originally included in OU3 in accordance with the Federal Facility Agreement (FFA) (U.S. Environmental Protection Agency [EPA], 1990a; as amended). Site 1G is part of Site 14 - San Onofre Landfill, an active disposal facility that was removed from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. Therefore, Site 1G was also removed from the CERCLA process and will be addressed with Site 14 under the State's landfill program. Site 29 - 25 Area Skeet Range, is an active facility and no plans have been made for its closure. Site 29 has been excluded from CERCLA in an amendment to the FFA (EPA, 1998) and will be addressed in accordance with the Department of

Defense range rule, which is in draft form and is currently available for public comment. Site 1H - Refuse Burning Ground in 62 Area and Site 30 - Firing Range Soil Fill in 31 Area have been moved to OU4 in order to further address site-specific technical issues.

1.2 Statement of Basis and Purpose

This decision document presents the selected remedial actions for Sites 1A, 1D, 1E, 1F, 2A, and 7. In addition, this document sets forth the basis for the no action decisions for Sites 1B, 1C, 1I, 2C, 2D, 2E, 2F, 2G, 10, 16, 17, 18, 27, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42. The actions selected for these sites were chosen in accordance with CERCLA 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The decisions for these sites are based on the information contained in the administrative record file for MCB Camp Pendleton. The primary documents used for the basis of the decisions are the remedial investigation (RI) report for Group C sites (1 November 1996), the RI for Group D sites (16 July 1997), and the RI and feasibility study (FS) report for OU3 (12 December 1997).

The U.S. Marine Corps, the EPA, the Department of Toxic Substances Control (DTSC) and the San Diego Regional Water Quality Control Board (RWQCB) of the California Environmental Protection Agency (Cal/EPA) concur with the selected remedy for each OU3 site.

1.3 Assessment of Operable Unit 3 Sites

In accordance with the EPA's *Interim Final Guidance on Preparing Superfund Decision Documents* (EPA, 1989a), this assessment section applies only to Sites 1A, 1D, 1E, 1F, 2A, and 7 and not to the sites in this ROD requiring no further action.

If Sites 1A, 1D, 1E, 1F, 2A, and 7 are not addressed by implementing the response actions selected in this ROD, actual or threatened releases of hazardous substances from these sites could present current or potential future threats to the public health, welfare, or the environment.

1.4 Description of the Selected Remedy

RI sites at MCB Camp Pendleton were separated into four groups (Groups A, B, C, and D) for investigation based on potential impact to human health and the environment. As investigations were completed, sites were grouped into OUs for selection of cleanup alternatives. The ROD for OU1 was signed in December 1995 and addresses the selected remedies for soil and groundwater at Site 9, soil at Site 4/4A, and soil and groundwater at Site 24, all of which are Group A Sites. The ROD for OU2 was signed in September 1997 and includes 13 Group A, Group B, and Group C sites. These sites include Sites 2B and 31 soil; Sites 28 and 43 groundwater; Site 3 soil, sediment, and surface water; Site 5 soil and groundwater; Sites 19, 20, and 22 soil, sediment, groundwater, and surface water; Sites 8A and 44 sediment and surface water; and Sites 6 and 45 soil, sediment, and surface water.

This ROD addresses the remedies for OU3, which includes sites from Groups B, C, and D, as listed in Section 1.1. Descriptions of the selected remedies for OU3 sites are presented in the following sections.

1.4.1 Description of Selected Remedy for Sites 1A, 1D, 1E, 1F, and 2A

The same remedy, excavation and on-base disposal, was selected for Sites 1A, 1D, 1E, 1F, and 2A. The major components of the selected remedy are as follows:

- Excavation of contaminated soils; for ecological concerns the maximum excavation depth is 5 feet and for human health concerns the maximum excavation depth is 10 feet.

- Confirmation sampling on bottom and side walls of excavation in accordance with EPA guidance Methods for Evaluating the Attainment of Cleanup Standards, Volume I: Soils and Media, PB89-234959.

- Transportation to and disposal of soil that meets the technical and legal requirements (i.e., specified in 40 CFR 264.552[c]) at an on-base landfill, IR Site 7 - Box Canyon Landfill, a designated CAMU

- Backfilling of the excavation with clean soil upon confirmation that cleanup goals have been met; if goals have not been met at the maximum excavation depths, i.e., 5 feet for

ecological concerns and 10 feet for human health concerns, 5 or 10 feet of clean fill will be placed as relevant.

- Site regrading and revegetating.

The low-level threats posed by the contaminants at the sites specified are addressed by removing the contaminated soils and/or eliminating the exposure pathway.

1.4.2 Description of Selected Remedy for Site 7

An evapotranspiration (ET) cover was selected as the final remedy for the Site 7 landfill closure. The major components of the selected remedy are as follows:

- Installation of an ET cover consisting of a vegetated topsoil layer, a minimally compacted soil layer, and a compacted low-permeability bottom layer.
- Installation of lined ditches between the landfill benches on the north face of the landfill.
- Long-term monitoring.

The low-level threats posed by the contaminants at Site 7 are addressed through containment of the wastes, elimination of exposure pathways, and continued monitoring and maintenance.

1.4.3 Description of Selected Action for Sites 1B, 1C, 1I, 2C, 2D, 2E, 2F, 2G, 10, 16, 17, 18, 27, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42

No action was selected for soil and groundwater at Sites 1B, 1C, 1I, 2C, 2D, 2E, 2F, 2G, 10, 18, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42. No action was also selected for soil, sediment, and surface water at Site 16 and for sediment and surface water at Sites 17 and 27.

1.5 Statutory Determinations for Sites 1A, 1D, 1E, 1F, 2A, and 7

The remedies selected for Sites 1A, 1D, 1E, 1F, 2A, and 7 use permanent solutions to the maximum extent practicable. The remedy for Sites 1A, 1D, 1E, 1F, and 2A will not result in hazardous substance remaining on site because contaminated soil will be removed. Therefore, no 5-year reviews are required. At Site 7, landfilled wastes remain in place and 5-year reviews will be conducted to ensure protection of human health and the environment.

The selected remedies are protective of human health and the environment, comply with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial actions, and are cost-effective.

1.6 Declaration Statement - No Action Necessary for Protection for Sites 1B, 1C, 1I, 2C, 2D, 2E, 2F, 2G, 10, 16, 17, 18, 27, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42

No unacceptable human health or ecological risks are presented by soil and groundwater at Sites 1B, 1C, 1I, 2C, 2D, 2E, 2F, 2G, 10, 18, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42; soil, surface water, and sediment at Sites 16; or sediment and surface water at Sites 17 and 27. Therefore, no remedial action is necessary to ensure protection of human health and the environment. Consequently, 5-year reviews are not required for these sites.

FOR THE UNITED STATES MARINE CORPS, MARINE CORPS BASE CAMP PENDLETON:

E. Hanlon, Jr.
Major General, U.S. Marine Corps
Commanding

10 FEB 99
Date

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Daniel D. Opalski
Chief, Federal Facilities Cleanup Office
U.S. Environmental Protection Agency, Region IX

Date

FOR THE STATE OF CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY:

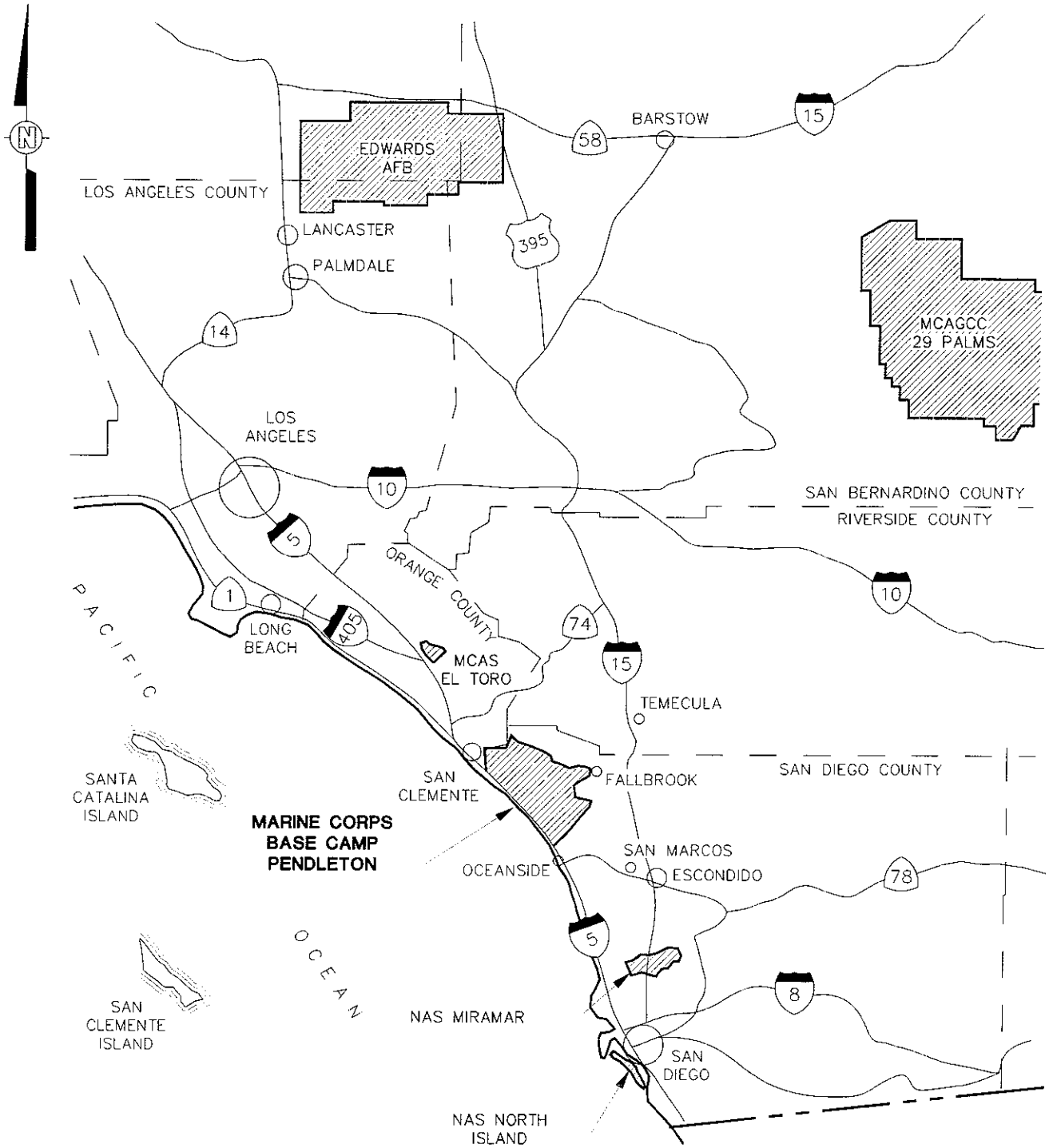
John E. Scandura
Chief, Southern California Operations
Office of Military Facilities
Department of Toxic Substances Control

March 29, 1999
Date

John Robertus
Executive Officer
Regional Water Quality Control Board, San Diego Region

31 March 99
Date

DRAWN BY	mbm 3-5-98	CHECKED BY / APPROVED BY		DRAWING NUMBER	771529-A5



SCALE

0 26 52 MILES

REFERENCE:

NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY. 1984, 'INITIAL ASSESSMENT STUDY, MARINE CORPS BASE. CAMP PENDLETON, CALIFORNIA NEESA 13-057, PREPARED BY SCS ENGINEERS INC SEPT

FIGURE 1-1

LOCATION MAP
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

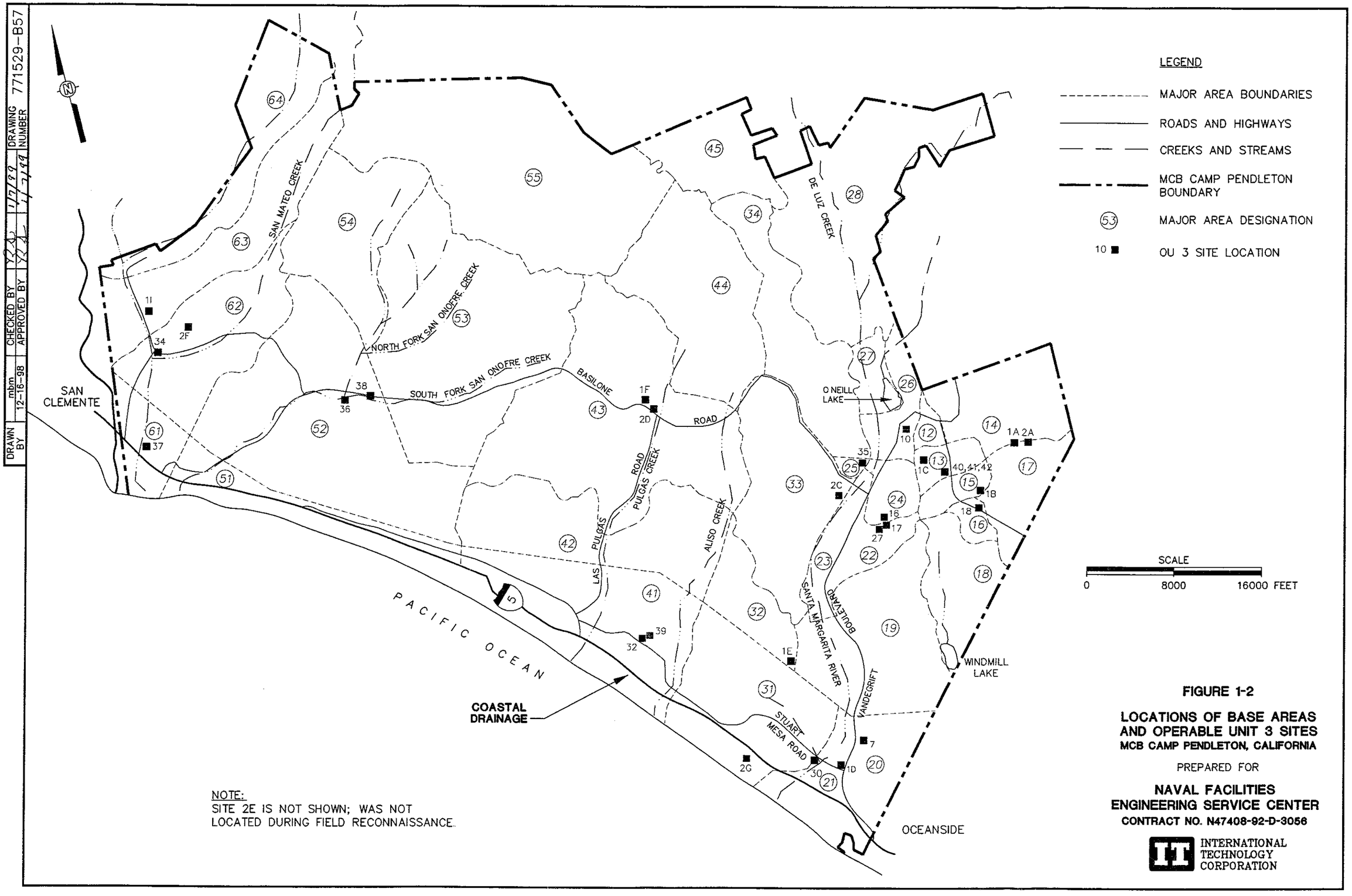


FIGURE 1-2

LOCATIONS OF BASE AREAS AND OPERABLE UNIT 3 SITES
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
mbm 12-16-98			771529-B57

2.0 Decision Summary

General information about MCB Camp Pendleton and information common to the individual sites are presented first in this section, followed by information specific to each site. The general discussion includes a general site description, site history and enforcement activities, the scope and role of OU3, and the history of community participation.

2.1 Site Name, Location, and Description

MCB Camp Pendleton is the primary Marine Corps amphibious training center on the west coast. Located between the cities of Los Angeles and San Diego, California, MCB Camp Pendleton covers approximately 125,000 acres, almost entirely in San Diego County (Figure 1-1). Camp Talega, in the 64 Area near the northwestern border of the base, extends into Orange County. Surrounding communities include San Clemente to the northwest, Fallbrook to the east, and Oceanside to the south. The base is bordered on the west by the Pacific Ocean and encompasses 17 miles of coastal area; rolling hills and valleys stretch inland from the coast an average of 10 to 12 miles.

Site History and Enforcement

Construction of MCB Camp Pendleton started in March 1942, and the base was dedicated as a permanent base in October 1944. The base currently supports more than 36,000 military personnel and employs approximately 4,600 civilians (Innis-Tennebaum Architects, Inc., 1990).

On 15 November 1989, MCB Camp Pendleton was added to the National Priorities List (NPL), primarily because a herbicide was detected in two base drinking water production wells.

2.2 Highlights of Community Participation

The proposed plan for OU3 was released to the public on 1 May 1998. This document and supporting documents were made available to the public in the information repositories at the Base Library and the Oceanside Public Library. The public was also made aware of the availability of these documents in the Administrative Record file, which is maintained at the Southwest Division Navy offices in San Diego. The notice of availability for the proposed plan and supporting documents was published in the *North County Times,* both *Inland* and *Coastal Editions,* the *Sun Post News,* and the *Scout* newspapers on 1 May 1998. In addition, a public meeting was held on

14 May 1998. Base, EPA, San Diego RWQCB, and Southwest Division Navy representatives attended the public meeting. No members of the public attended the meeting. A verbatim transcript of the pubic meeting was prepared in compliance with CERCLA Section 117(a)(2) and is presented in Appendix A. No comments were received during the public comment period or the public meeting.

2.3 Scope and Role of Operable Unit 3

For investigative purposes, the sites at MCB Camp Pendleton were assigned to groups based on their potential impact to human health and the environment. Those sites that pose the highest threat were addressed first and were designated Group A sites. OU1 consists of Group A Sites 9 and 24 soil and groundwater and Site 4/4A soil. The final ROD for OU1 (Southwest Division Naval Facilities Engineering Command [SWDIV], 1995a) was signed on 12 December 1995.

Other sites with lesser degrees of potential threat were investigated as Group B, C, or D sites. The OU2 ROD includes sites from Groups A, B, and C as follows:

- Group A Sites: Site 3 soil, sediment, and groundwater; Site 5 soil and groundwater; Site 6 soil, sediment, and surface water
- Group B Sites: Site 8A sediment and surface water; Sites 19, 20, and 22 soil, sediment, groundwater, and surface water
- Group C sites: Sites 2B and 31 soil; Sites 28 and 43 groundwater; Site 44 sediment and surface water; Site 45 soil, sediment, and groundwater.

The final OU2 ROD was signed and issued on 30 September 1997 (SWDIV, 1997a).

OU3 includes 29 sites as listed in Section 1.1. OU4 includes groundwater at the 22/23 Area sites plus Sites 1H, 21, 30, 33, and 1111. The final ROD for OU4 is scheduled for December 1999.

2.4 Remedial Action Selected for Sites 1A, 1D, 1E, 1F, and 2A

This section addresses five of the six OU3 sites requiring remedial action. Sites 1A, 1D, 1E, 1F, and 2A are discussed together due to the similar nature of the remedial actions proposed for each site. Site 7, the other OU3 site requiring remedial action, is presented separately in Section 2.5. A description of each site is provided, followed by a summary of site characteristics and potential site risks. In general, only those parameters that exceed screening criteria are shown in the site-

specific figures because the decision was made to pursue remedial action for these sites. A description of the alternatives evaluated for each site, a summary of the evaluation, and the rationale for selection of the remedies follow the site descriptions, characteristics, and risks. Four of the sites (Sites 1A, 1D, 1E, and 1F) are former refuse burning grounds and one site (Site 2A) is a former grease disposal pit.

2.4.1 Site 1 - Refuse Burning Grounds

Four refuse burning grounds located throughout the base, Sites 1A, 1D, 1E, and 1F, require remedial action. These four burning grounds are discussed concurrently.

2.4.1.1 Site Name, Location, and Description - Sites 1A, 1D, 1E, and 1F

Site 1 - Refuse Burning Grounds, consists of nine different areas that were used as burning grounds for base refuse. The nine burning grounds are labeled 1A through 1I (Figure 1-2) following the convention used in the initial assessment study (IAS) (Naval Energy and Environmental Support Activity [NEESA], 1984). One of the burning grounds, Site 1G, is part of the San Onofre landfill (Site 14), which has been removed from the CERCLA process and is addressed under the State's landfill program. Four of the burning grounds require remediation and are discussed in this section. No action has been selected for the other four burning grounds, as discussed in Section 2.5.

Site 1A is located in a densely vegetated, undeveloped training region in 14 Area, immediately northeast of base sewage treatment plant No.1 (Figure 2-1). The 14 Area burning ground is no longer in operation and land surrounding the site is covered with natural vegetation. The nearest troop housing is approximately 0.25 mile west of the site and the nearest family housing, De Luz Housing, is approximately 2 miles north of the site.

Site 1D is located in 20 Area, immediately north of the intersection of Vandegrift Boulevard and Stuart Mesa Road (Figure 2-2). The burning ground covers an area of approximately 400 by 220 feet. Surrounding the site on the east and south are plateaus that rise 150 feet above the burning ground. The site is bordered on the north and west by relatively flat land containing moderate to dense vegetation; the Santa Margarita River flows through this area. To the northeast is the Box Canyon landfill; to the south, across Stuart Mesa Road, is the Twin Lake Sewage Disposal Plant. An unpaved road runs along the northern boundary of the site.

Site 1E is located in 32 Area, along MACS Road, approximately 0.75 mile northwest of Stuart Mesa Road, and approximately 3,000 feet from the Santa Margarita River (Figure 2-3). The burning ground covers an area of approximately 200 by 120 feet.

Site 1F is located in 43 Area, approximately 250 feet northeast of Basilone Road and immediately northwest of its intersection with Las Pulgas Road (Figure 2-4). The burning ground covers an area of approximately 275 by 280 feet. The site is bordered on the southeast by Sites 2D and 20, on the north and east by moderate to dense vegetation, and on the west and south by vegetation and Basilone Road. The site slopes gently to the southeast and eventually drains into Pulgas Creek. The surrounding area generally consists of low rolling hills.

2.4.1.2 Site History and Enforcement Activities - Sites 1A, 1D, 1E, and 1F

The refuse burning grounds were used from 1942 through the early 1970s to burn refuse generated by base operations. The areas were not necessarily operated concurrently (NEESA, 1984). No information is available on the specific years of operation or the volume of refuse disposed of by burning at each burning ground. Until 1970, all refuse at the base was disposed of by burning. The entire base generated an estimated 20,000 to 28,000 tons of solid wastes annually, the entire volume of which is assumed to have been distributed to the nine burning grounds.

Although there are no confirmed reports of hazardous waste disposal at these sites, the burning grounds were the primary on-base disposal areas and, thus, could have been used for disposal of hazardous wastes.

The refuse burning grounds were closed sometime between the late 1960s and 1971. The burning grounds were covered with native soil and allowed to revert to natural vegetation. Visual inspection of the sites during 1984 revealed no evidence of environmental contamination (NEESA, 1984). However, the cover material has since eroded, thereby exposing refuse at some of the sites. Areas of stressed vegetation and stains have also been observed.

2.4.1.3 Summary of Site Characteristics

This section describes the investigations performed at Sites 1A, 1D, 1E, and 1F and summarizes the geology/hydrogeology and sampling results for each.

2.4.1.3.1 Site 1A - Refuse Burning Ground in 14 Area

A Phase 1 RI was conducted during June and July 1996 and a Phase 2 RI was conducted from May through June 1997 at Site 1A. Characterization of the site involved surface and subsurface soil and groundwater sampling to evaluate potential contamination from the burning ground and impact to human health and ecological receptors. Detailed results of the Phase 1 RI are presented in the draft final Group D RI report (SWDIV, 1997b) and results of the Phase 2 RI are presented in Appendix A of the draft final RI/FS for OU3 (SWDIV, 1998a). The results of these investigations are summarized in this section.

A total of 18 soil samples, including 2 duplicates, were collected from six soil boring locations during Phase 1. Sample locations are shown on Figure 2-1. Samples were analyzed for target analyte list (TAL) metals, molybdenum, chromium VI, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCBs), and dioxins and furans. During Phase 2, a composite surface soil sample was collected from locations 1AB-01, 1AB-02, and 1AB-03 and a surface sample was collected from location 1AB-05. These samples were split for TAL metals plus molybdenum analyses and lettuce and earthworm bioassay studies.

One temporary well was drilled adjacent to boring location 1AB-01 as part of the Phase 1 investigation. A groundwater sample was collected at the water table (about 5.5 feet below ground surface) and analyzed for TAL metals, molybdenum, chromium VI, VOCs, SVOCs, and general chemistry.

Habitat receptor surveys and habitat mapping were conducted at Site 1A during June 1996 and May 1997. Dominant vegetation types and corresponding wildlife were identified and mapped. Wildlife surveys and small mammal trapping were also conducted in May 1997. Sherman live-traps were used. Trapped animals were identified, marked with a nontoxic marker, and released in the location where they were trapped.

Special-status species surveys for the arroyo toad, the California gnatcatcher, and the least Bell's vireo were conducted at Site 1A in late spring and early summer 1997. Also during May 1997, terrestrial invertebrate samples, plant samples, and small mammal samples were collected in the vicinity of sample locations 1AB-01, 1AB-02, 1AB-03, and 1AB-05. Nine plant tissue samples,

two invertebrate samples, and two mammal tissue samples were analyzed for TAL metals plus molybdenum. Sample locations are shown in Figure 2-1.

Geology and Hydrogeology

Geologic data were derived from the site boring logs. Shallow geology consists of unconsolidated to poorly consolidated alluvium overlying granitic rock. The alluvium consists of silty sand from ground surface to a maximum depth of 18 feet. The remainder of the alluvium consists of fine- to medium-grained sand. Groundwater was encountered between 5.4 and 18.6 feet. No perennial surface water is present in the vicinity of the Site 1A burning ground.

Soil Results

The analytical results for soil samples collected during the Phase 1 and Phase 2 RI are summarized in Figure 2-1.

Organics

With the exception of benzo(a)pyrene, no organic compounds were detected at concentrations exceeding preliminary remediation goals (PRGs) in soil samples from Site 1A. Benzo(a)pyrene was detected at a concentration of 0.3 milligram per kilogram (mg/kg) in the duplicate sample from a depth of 10 feet in boring 1AB-02; this concentration is below the contract-required detection limit (CRDL) but exceeds the PRG of 0.061 mg/kg.

Acetone was detected at a depth of 5 feet in two borings; the maximum concentration was 0.005 mg/kg. Trichloroethene (TCE) was detected at a concentration of 0.01 mg/kg at 5 feet in boring 1AB-02. Benzoic acid was detected in the surface sample from boring 1AB-05 at a concentration of 0.094 mg/kg. Low concentrations of eight polycyclic aromatic hydrocarbons (PAHs) were detected in the duplicate sample at the 10-foot interval of boring 1AB-02; the highest PAH concentration detected was 0.5 mg/kg for benzo(k)fluoranthene. Chlorinated pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were generally detected at low concentrations from ground surface to 10 feet; the maximum concentration was 0.2 mg/kg.

Concentrations of 4,4'-DDE in soil samples collected from 1AB-01, 1AB-02, and 1AB-05 and 4,4'-DDT in soil samples collected from 1AB-01 exceeded preliminary limits of exposure (PLEs). No other organic compounds exceeded PLEs.

Inorganics

Six metals were detected at concentrations exceeding PRGs: arsenic, beryllium, copper, lead, manganese, and thallium. In general, arsenic concentrations were near background levels and were higher in the northern portion of the site. Five arsenic detections exceeded the background concentration. Lead exceeded the PRG and background in 10 samples. Lead concentrations were generally higher in the northeastern portion of the site. The remaining four parameters exceeded PRGs only once each, at depths from ground surface to 5 feet. Of these four parameters, beryllium was below background.

The following 16 inorganic constituents were detected at concentrations exceeding PLEs: antimony, arsenic, barium, boron, cadmium, chromium, copper, iron, lead, manganese, mercury, molybdenum, selenium, thallium, vanadium, and zinc. Inorganic constituents were detected in all six soil sampling locations (1AB-01 through 1AB-06) at concentrations exceeding PLEs. The maximum concentrations of the 16 metals detected also exceeded background concentrations.

Groundwater Results

Groundwater results from the sample collected from temporary well 1AGWT-01 are summarized in the following paragraphs. Only detections above PRGs or MCLs are shown in Figure 2-1.

No organic compounds exceeded maximum contaminant levels (MCLs) or tap-water PRGs. Two organic compounds, acetone and benzoic acid, were detected at concentrations of 1 and 7 micrograms per liter (µg/l), respectively.

With the exception of manganese, no inorganics were detected at concentrations exceeding the evaluation criteria. Manganese was detected at a concentration of 2,200 µg/l, which exceeds the tap-water PRG of 1,700 µg/l.

Manganese has been detected in groundwater throughout MCB Camp Pendleton. In general, manganese concentrations have been higher in hydropunch samples than in samples from permanent monitoring wells, possibly because silts and total suspended solids (TSS) are not as efficiently filtered in undeveloped temporary wells and hydropunch samples compared with fully developed permanent wells. Because temporary well and hydropunch samples typically contain more suspended solids, more nondissolved particles pass through the filter. Some manganese

particles may be small enough to pass through the 0.45-micron filter used in the field (Hem, 1985).

2.4.1.3.2 Site 1D - Refuse Burning Ground in 20 Area

RI work was conducted at Site 1D between December 1993 and October 1995 and between May and July 1997. The RI involved surface and subsurface soil, groundwater, and biological sampling to evaluate potential contamination from the burning ground and impact to human health and the environment. Details of the investigations and results are presented in the Group C report (SWDIV, 1996a) and the draft final RI/FS for OU3 (SWDIV, 1998a). In October and November 1996, a supplemental field investigation was conducted by Kleinfelder to refine the vertical and lateral extent of soil contamination (Kleinfelder, 1997).

During the Phase 1 RI, 22 soil samples were collected from four soil boring locations and four separate surface soil locations to characterize soil contamination in the vicinity of the burning ground at Site 1D. The soil samples were analyzed for TAL metals, molybdenum, VOCs, SVOCs, pesticides and PCBs, gasoline, diesel, dioxins, furans, and chlorinated herbicides. During the supplemental Kleinfelder investigation, an additional 19 shallow soil samples were collected and analyzed for metals. Sample locations are shown in Figure 2-2.

Biological surveys were conducted at Site 1D during March through June 1995 and May through July 1997. Habitat receptor surveys included mapping of dominant vegetation types and corresponding wildlife. Wildlife surveys included bird, mammal, and herpetile (amphibian and reptile) surveys and photographic surveys to document site use by nocturnal mammals. During October 1995, biota sampling was conducted. Plant and invertebrate samples were collected, as well as soil samples for bioassay testing (Figure 2-2). Samples were analyzed for TAL metals plus molybdenum. Special-status species surveys for the California gnatcatcher, least Bell's vireo, and Pacific pocket mouse were conducted at Site 1D during May, June, and July 1997.

Three shallow groundwater wells were drilled at Site 1D to evaluate the potential for, and lateral extent of, groundwater contamination. Three rounds of groundwater sampling were conducted in March, July, and October 1994. Samples were analyzed for TAL metals and molybdenum, VOCs, SVOCs, gasoline, diesel, and general chemistry.

Geology and Hydrogeology

Site 1D is located on the south edge of the alluvial plain in the lower portion of the Santa Margarita Basin, approximately 2 miles upstream from the Pacific Ocean. The geology of the basin consists of stream-deposited younger and older Quaternary alluvium overlying bedrock of the San Mateo Formation. Site 1D is underlain by older alluvium consisting of interbedded, fine- to coarse-grained, unconsolidated to poorly consolidated sand, silt, and gravel interspersed with clay lenses. The regional groundwater flow direction in the valley-fill aquifer is to the west. The current main channel of the Santa Margarita River is approximately 150 feet north of Site 1D.

Soil Results

Analytical results for soil samples collected during the RI and the supplemental investigation are presented in Figure 2-2. Only detections that exceeded PRGs or PLEs and background, as applicable, are shown.

Organics

No organic compounds were reported at concentrations exceeding PRGs or PLEs.

Toluene was detected at a concentration of 2 mg/kg in boring 1DB-01. The maximum concentration of bis(2-ethylhexyl)phthalate was 640 mg/kg in surface soil sample 1DSS003. Chlorinated pesticides were detected in the upper 5 feet of soil across the site, with the highest concentrations reported in surface soil samples. Total petroleum hydrocarbons (TPH) as diesel and as gasoline were detected in two surface soil samples, at maximum concentrations of 90 and 910 mg/kg, respectively.

Inorganics

Of the 19 metals detected in Site 1D soil, five (antimony, arsenic, beryllium, chromium, and lead) were reported at concentrations exceeding PRGs.

The antimony concentration in 1DB-03 exceeded the PRG and background. Beryllium was detected in 1DB-01 at a concentration exceeding the PRG but below background. Arsenic and chromium concentrations exceeding PRGs were reported for all soil boring and surface sample locations. Surface soil samples 1DSS001, 1DSS002, and 1DSS003 contained arsenic, chromium, and lead at concentrations exceeding PRGs and background.

Inorganic constituents detected at concentrations exceeding background levels were reported at all sampling locations, with the exception of 1DB-01, 1DB-03, and 1DSS004. Of the inorganic constituents exceeding background concentrations, antimony, arsenic, boron, chromium, copper, iron, lead, manganese, and zinc also exceeded the respective PLEs. The majority of the constituents exceeding background and PLEs were reported in surface samples 1DSS001, 1DSS002, and 1DSS003.

The soil investigation conducted by Kleinfelder (1997) confirmed that elevated concentrations of antimony, boron, cadmium, lead, mercury, and zinc are present in site soil. Abundant metal and glass debris was observed scattered on the ground surface at or between locations of most of the exploratory borings advanced by Kleinfelder. Most of the detected contamination is in surface or near-surface soil. Inorganic concentrations exceeding PRGs and/or PLEs and background were reported at locations K1DB-01, K1DB-03, K1DB-06, K1DB-09, K1DB-10, K1DB-12, K1DB-15, K1DB-16, K1DB-17, K1DB-18, and K1DB-19.

Groundwater Results

Groundwater results are summarized in Figure 2-2. Only constituents exceeding MCLs or PRGs are shown. During July 1994 (3rd quarter), 1,2-dichloroethane (DCA) was detected in well 1DW-01 at a concentration of 0.6 µg/l, which exceeds both the MCL and PRG. Benzoic acid, butylbenzylphthalate, di-n-butylphthalate, diethylphthalate, and bis(2-ethylhexyl)phthalate were detected in Site 1D wells during the July and October 1994 sampling events. Three PAH compounds were detected in well 1DW-01 during October 1994, each at a maximum concentration of 1 µg/l. Each of these detections were below respective MCLs or PRGs.

Three metals were detected at concentrations exceeding tap-water PRGs: arsenic, beryllium, and manganese. Arsenic exceeded background in well 1DW-03 during May (2nd quarter) and October 1994 (4th quarter). Beryllium exceeded the PRG but not the MCL in wells 1DW-02 and 1DW-03 during July 1994 (3rd quarter). The manganese concentration in well 1DW-03 during October 1994 exceeded the PRG and background.

2.4.1.3.3 Site 1E - Refuse Burning Ground in 32 Area

RI work at Site 1E involved surface/subsurface soil sampling and biological sampling to investigate potential contamination from the burning ground and impact to human health and ecological receptors. No groundwater investigation was performed because groundwater is

estimated to be more than 100 feet below ground surface in the vicinity of the site. At the completion of the RI, a supplemental investigation was conducted by Kleinfelder (1997) during October and November 1996 to refine the extent of soil contamination.

During the RI, 23 soil samples were collected from seven soil borings, five surface soil locations, and one background surface soil location to characterize potential soil contamination in the vicinity of the burning ground at Site 1E. Sample locations are shown in Figure 2-3. The samples were analyzed for TAL metals, VOCs, SVOCs, gasoline, diesel, pesticides, PCBs, dioxins, furans, and chlorinated herbicides. During the supplemental investigation in 1996, 11 additional soil samples were collected and analyzed for TAL metals. These sample locations are also shown in Figure 2-3.

Ecological investigations were also performed during the RI. A habitat and receptor survey was conducted in March 1995 and dominant vegetation habitats were mapped. Bird and general wildlife surveys were conducted to evaluate the potential presence of special-status species. Mammal trapping, using Sherman live-traps, was conducted to identify small mammal use of the site. All small mammals caught in the traps were identified and released.

During June 1995, one plant sample and one invertebrate composite sample were collected from the three soil locations having the highest detections of pesticides and metals (1EB-02, 1EB-03, and 1EB-06) (Figure 2-3). These samples were analyzed for TAL metals plus molybdenum, pesticides, and PCBs. Special-status species surveys for the California gnatcatcher, least Bell's vireo, and Pacific pocket mouse were conducted at Site 1E during May, June, and July 1997 .

Geology and Hydrogeology

Site 1E is within the Santa Margarita Basin. The geology of this basin consists of stream-deposited younger and older Quaternary alluvium overlying bedrock of the San Mateo Formation. Site 1E is underlain by older alluvium, which consists of interbedded, fine- to coarse-grained, unconsolidated to poorly consolidated sand, silt, and gravel interspersed with clay lenses.

Based on the site geology, groundwater is assumed to flow to the southwest, following the surface topography.

No perennial surface water is present in the vicinity of the burning ground area; however, surface-water flow is present in a lagoon downgradient from the site. During the winter, the tributary canyon derives some of its water from runoff originating from the burning ground. Ephemeral water from this canyon flows to an effluent lagoon and ultimately reaches the Santa Margarita River.

Soil Results

Soil analytical results are summarized in Figure 2-3. Only detections that exceed background, if available, and PRGs or PLEs are presented.

Organics

No organic compounds were reported at concentrations exceeding PRGs or PLEs.

Inorganics

Of the 19 metals detected in Site 1E soil, the following 6 exceeded PRGs: antimony, arsenic, beryllium, cadmium, chromium, and lead. The majority of the metals that exceeded PRGs were reported in shallow (0 to 5 feet) soil from borings 1EB-01, 1EB-02, 1EB-03, 1EB-04, and 1EB-06.

Antimony was detected at concentrations exceeding the PRG and background at locations 1ESS002 and 1EB-05. Lead concentrations exceeded the PRG and background in surface samples 1ES002 and 1ESS003. Concentrations of arsenic and chromium exceeded PRGs and background at locations 1ESS002, 1ESS003, and 1EB-03. Beryllium, cadmium, and chromium exceeded PRGs sporadically in several borings.

Inorganic constituents detected at concentrations exceeding PLEs (i.e., aluminum, antimony, barium, boron, cobalt, copper, iron, lead, molybdenum, silver, and zinc) were reported at sampling locations 1EB-01, 1EB-03, 1ESS02, and 1ES003. With the exception of boron, the maximum concentrations of these constituents also exceeded background concentrations. A background concentration is not available for boron.

The soil investigation conducted by Kleinfelder (1997) focused on the area near the bottom of an existing canyon to evaluate potential impact from surface runoff and contaminant transport. Overall, this investigation confirmed that antimony, arsenic, boron, cadmium, chromium, cobalt, lead, and zinc concentrations in Site 1E soil are elevated. Inorganic concentrations exceeding

PRGS and/or PLEs and background concentrations were reported at K1EB-01, K1EB-06, and K1EB-07.

2.4.1.3.4 Site 1F - Refuse Burning Ground in 43 Area

Phase 1 of the RI was conducted at Site 1F in June and July 1996 and Phase 2 was conducted in May, June, and July 1997. Details of the investigation and results are provided in the draft final Group D RI report (SWDIV, 1997b) and the draft final RI/FS for OU3 (SWDIV, 1998a) and are summarized here. The RI work involved surface/subsurface soil sampling, groundwater sampling, and biological surveys and sampling.

A total of 23 samples, including 2 duplicate samples were collected from four soil borings and one surface soil location during Phase 1 to characterize potential soil contamination in the vicinity of the burning ground at Site 1F. Sample locations are shown in Figure 2-4. Samples were analyzed for TAL metals, molybdenum, chromium VI, VOCs, SVOCs, pesticides, and PCBs. In addition, a temporary well (1FGWT-01) common to site boring 1FB-03 was installed and sampled during Phase 1 (Figure 2-4). The groundwater sample was analyzed for TAL metals, molybdenum, chromium VI, VOCs, SVOCs, and general chemistry. A habitat and receptor survey was also conducted, and dominant vegetation types and corresponding wildlife habitats were identified and mapped.

During the Phase 2 RI, special-status species surveys were conducted for the California gnatcatcher and least Bell's vireo.

Geology and Hydrogeology

Based on the soil borings advanced at the site, shallow geology consists of unconsolidated and semiconsolidated alluvium overlying the La Jolla Group. The alluvium is fine- to medium-grained sand, silty sand, and clayey sand with thin discontinuous lenses of clay. Groundwater is assumed to flow to the southeast following surface topography.

No perennial surface water is present in the vicinity of Site 1F. Surface water at the site is ephemeral and follows the gently sloping ground surface to the southeast.

Soil Results

Analytical results for soil samples collected from Site 1F are summarized in Figure 2-4. Only constituents that exceed both background and PRGs or PLEs are shown.

Organics

No organic compounds were detected in Site 1F soil samples at concentrations exceeding PRGs or PLEs. Chlorinated pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected at low concentrations at the 5- and 10-foot intervals in borings 1FB-03 and 1FB-04; the maximum chlorinated pesticide concentration was 0.026 mg/kg for 4,4'-DDE.

Inorganics

Six metals were detected at concentrations exceeding PRGs: antimony, arsenic, beryllium, cadmium, lead, and copper. All but three of the arsenic concentrations and all of the beryllium concentrations that exceeded PRGs were below background levels. Antimony, cadmium, copper, and lead concentrations that exceeded PRGs also exceeded background levels. These detections occurred in the 5-foot interval samples from borings 1FB-03 and 1FB-04.

Concentrations of antimony, arsenic, boron, chromium, cobalt, copper, iron, lead, manganese, molybdenum, silver, and zinc at sample locations 1FB-03 and 1FB-04 exceeded PLEs. With the exception of boron, for which no background concentration is available, the maximum concentrations of these inorganic constituents also exceeded background concentrations. The iron concentration reported at a depth of 20 feet at location 1FB-02 exceeded the PLE and background. However, this iron detection is not of ecological concern because of its depth.

Groundwater Results

No organics were detected in the groundwater sample collected at Site 1F. Arsenic was detected at a concentration of 23.4 µg/l, which exceeds the tap-water PRG but is below the MCL. The detected concentration is consistent with concentrations observed in groundwater throughout the base and is most likely representative of background water quality.

2.4.1.4 Summary of Site Risks

The human health and ecological risk methodologies used for the OU3 sites are summarized in this section. The assessments are presented in detail in the draft final RI report for Group C sites and the draft final RI report for Group D sites (SWDIV, 1996a and 1997b).

Human Health Risk Assessment Methodology

The environmental sampling data were collected in accordance with knowledge-based, purposive sampling decision logic, with additional samples to provide data in areas of high, medium, and low contamination. All RI data were validated and evaluated in accordance with the EPA's *Risk Assessment Guidance for Superfund* (RAGS) (EPA, 1989b).

Exposure scenarios were developed based on available media at the site and current and future land use. The reasonable maximum exposure (RME) receptor was assumed to be present on site for all exposure scenarios.

Toxicity values for the chemicals of concern (COCs) were compiled from the *Integrated Risk Information System* (IRIS) (EPA, 1992a), *Health Effects Assessment Summary Tables* (HEAST) (EPA, 1992b), a Cal/EPA memorandum on criteria for carcinogens (Cal/EPA, 1992a), and tetrachloroethene (PCE) and TCE profiles from the Superfund Health Risk Technical Support Center (EPA, 1994). For the more recent risk assessments conducted after the EPA PRG tables (EPA, 1995 and 1996a) were developed, toxicity values were cited from the above sources, as well as from the National Center for Environmental Assessment.

Cancer slope factors (SFs) have been developed by the EPA for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. SF values, expressed in milligrams per kilogram per day $(mg/kg\text{-}day)^{-1}$, are multiplied by the estimated intake of a potential carcinogen (expressed in mg/kg-day) to provide an upper-bound estimate of the excess lifetime cancer risk associated with exposure at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the SF. This approach makes underestimation of the actual cancer risk highly unlikely. Cancer SF values are derived from the results of human epidemiological studies or chronic animal bioassays using animal-to-human extrapolation and uncertainty factors.

Reference doses (RfDs) have been developed by the EPA to indicate the potential for adverse health effects from exposure to chemicals exhibiting noncarcinogenic effects. RfDs (expressed in mg/kg-day) are estimates of lifetime daily exposure levels for humans, including sensitive individuals. Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) can be compared with the RfD. RfDs are derived from human epidemiological studies or animal studies and incorporate uncertainty factors

(e.g., to account for the use of animal data to predict effects on humans). These uncertainty factors help ensure that the RfDs will not underestimate the potential for adverse effects.

Excess lifetime cancer risks are determined by multiplying the intake level with the cancer SF value. These risks are probabilities that are generally expressed in scientific notation (e.g., $1x10^{-6}$). An excess lifetime cancer risk of $1x10^{-6}$ indicates that, as a plausible upper bound, an individual has a one in one million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at a site.

Potential concern for noncarcinogenic effects of a single contaminant in a single medium is expressed as the hazard quotient (HQ) (or the ratio of the estimated intake derived from the contaminant concentration in a given medium to the RfD for the contaminant). The hazard index (HI) can be derived by adding the HQs for all contaminants within a medium or across all media to which a given population could reasonably be exposed. The HI provides a useful reference point for gaging the potential significance of multiple contaminant exposures within a single medium or across media.

Lead was evaluated separately using both the Federal (EPA, 1991) and State (Cal/EPA, 1992b) lead models. Evaluation of soil and groundwater lead concentrations using Federal and State blood lead models indicated that blood lead concentrations would meet health protection target criteria. The target criteria are less than 10 micrograms per deciliter (mg/dl) for 95 percent of children (age range 0 to 6 years) using the Federal model and for 99 percent of children using the State model.

The EPA has developed a list of media-specific concentrations (PRGs) that represent a $1x10^{-6}$ risk level (EPA, 1995 and 1996a). Soil and groundwater pathways were evaluated using the methodology described above to calculate excess lifetime cancer risk and noncarcinogenic effects. The target risk level of $1x10^{-6}$ and upper-bound intake parameters were used to calculate concentrations. Site concentrations were then compared against these concentrations to calculate risks and hazards.

The quantitative results of the baseline risk assessments were compared against target risk criteria. An RME excess lifetime cancer risk of 10^{-6} is considered the point of departure above which risk management should be considered, according to Title 40, Code of Federal Regulations (CFR),

Section 300.430(e)(2)(i)(A)(2). An excess lifetime cancer risk exceeding 10^{-4} generally requires remediation. Risk management should also be considered for an RME exposure with an HI greater than 1.0.

Risks/hazards associated with chemicals of potential concern (COPCs) were evaluated using maximum and representative (95 percent upper confidence limit [UCL]) concentrations for residential land use and commercial industrial exposure scenarios.

Ecological Risk Assessment Methodology

The baseline ecological risk assessment (EcoRA) methodology is presented in detail in the RI reports and work plans for the sites included in this ROD (SWDIV, 1991, 1993a, 1993b, 1995b, 1996a, and 1998). This section summarizes the approach and methodology for the baseline EcoRA.

To address the EcoRA objectives, a phased approach is used, as suggested by the EPA (1992c). This approach consists of three phases: site characterization and screening, initial determination of ecological impact, and bioassessment.

- **Phase I** - Site Characterization and Screening, involves identifying the presence and concentrations of chemicals of potential ecological concern (COPECs) at the sites and evaluating whether exposure pathways to ecological receptors exist.

- **Phase II** - Initial Determination of Ecological Impact, involves conducting ecological comparisons between potentially impacted and nonimpacted areas. The comparison can include parameters such as the presence or absence of species, health of plants and animals, community structure, and contaminant concentrations in the tissues of plants and animals in order to assess potential food-chain exposure. This phase includes habitat and wildlife surveys and collection of biota to measure bioaccumulation in plants, terrestrial invertebrates, and small mammals.

- **Phase III** - Bioassessment, involves further laboratory studies to determine what COPEC concentrations result in measurable effects. Information collected as part of this phase is used to help make decisions about potential remediation.

Quantification of potential risks to representative species was conducted using an HQ approach. An HQ was calculated for each preliminary COPEC (soil and biota) or sample location (sediment and surface water). The HQ was calculated by dividing the maximum detected concentration by

the PLE for each representative species. Because there is uncertainty in the PLE derivation process, the magnitude of the HQ is used as an indication of potential ecological effects and is discussed in broad terms, i.e., an HQ <1.0 represents no or low risk, 1.0 to 10 represents low to medium risk, 10 to 100 represents medium to high risk, and >100 represents high to very high risk). This results of the HQ approach are evaluated in conjunction with qualitative site-specific factors such as the extent of contamination or frequency of detection, habitat quality, and the home range of representative mammals and birds (which indicates the amount of time each representative species would potentially spend at each site).

A complete EcoRA requires several components. Although each is essential to the risk assessment, not all contribute equal weight to the development of conclusions. In addition, limitations and uncertainties are associated with each component. The conclusions of the EcoRA are based on an assessment of the following:

- Field surveys of receptor populations and habitats
- Home range of representative species
- Chemical concentrations in various media, including biota
- Potential toxicity to primary receptors, as determined through comparisons with reported and calculated effect levels (PLEs)
- Potential bioaccumulation of contaminants in primary receptors, as determined through accumulation measurements using site-collected plants, aquatic, and terrestrial invertebrates and comparison with concentrations measured in biota from reference locations
- Potential bioaccumulation of contaminants in aquatic invertebrates to secondary receptors, as determined through quantitative comparisons with PLEs for dietary intake.

Potential bioaccumulation of detected chemicals by primary and secondary receptors was also evaluated during the COPEC selection process. Bioaccumulation in primary receptors (terrestrial plants and aquatic and terrestrial invertebrates) was evaluated by comparing chemical concentrations detected in field-collected biota with concentrations detected in similar biota collected from several reference locations in the vicinity of the sites or at upstream locations. Bioaccumulation in secondary receptors (representative mammals and birds) was evaluated by

calculating bioaccumulation factors from field-collected plants, terrestrial invertebrates, and mice. These bioaccumulation factors were combined with toxicity information and dietary composition to derive soil PLEs for mammals and birds. Bioaccumulation in secondary receptors was also evaluated by calculating dietary PLEs for mammalian ingestion of aquatic invertebrates.

Potential chemical migration and exposure pathways were evaluated for each site. Current land use scenarios were used in the assessment. Results of the exposure assessment indicated that exposure to terrestrial plants and wildlife could occur through the following major pathways:

- Ingestion of soil
- Ingestion of surface water
- Root absorption of chemicals in soil (plants).

Exposures to aquatic plants and organisms could occur through the following pathways:

- Ingestion of sediment
- Ingestion of surface water
- Inhalation (across gill surfaces) of dissolved chemicals in surface water
- Dermal absorption of chemicals in surface water or sediment
- Root absorption of chemicals in sediment or surface water (plants).

Results of the field surveys, COPEC selection process, exposure assessment, and ecological effects assessment were evaluated in the risk characterization to identify final COPECs for each site. The recommendations for each site are based on both the quantitative and qualitative evaluations.

The PLEs for bird and mammal representative species were modified during the risk estimation based on a site-use factor calculated from the area of contamination for each COPEC and the foraging area for each representative bird or mammal species. The size of the area of concern was divided by the foraging range for each representative species to estimate the site-use factor. PLEs were modified only for COPECs that exceeded PLEs in the initial screening.

2.4.1.4.1 Site 1A - Refuse Burning Ground in 14 Area

This section summarizes the results of the human health risk assessment (HHRA) and EcoRA for Site 1A.

Human Health Risk Characterization

The probable sources of contamination at Site 1A are the refuse burning ground, surface soils, and subsurface soils. Potential transport and/or retention medium are surface-water runoff, air, and surface and subsurface soils. The potential receptors are residents or site workers, and the primary exposure points are air and surface/subsurface soils. A secondary exposure point for potential future residents is groundwater. Because only the residential land use scenario was used to determine whether a site was recommended for further action, this is the only land use scenario discussed in this section.

Analytical results from the Group D RI (SWDIV, 1997b) were used as a basis for the HHRA. The HHRA was conducted using only the results from the Phase 1 investigation because additional soil samples for Phase 2 were collected from Phase 1 locations and the results were similar.

The risk screening for soil exposure using maximum concentrations of COPCs results in a cumulative residential risk of 1.4×10^{-4} and is primarily attributable to arsenic. Excluding that portion of the risk attributable to naturally occurring metals, the EPA Region IX and Cal/EPA incremental lifetime cancer risk (ILCR) values are 9.7×10^{-5} and 9.9×10^{-5}, respectively. Both values are within the risk management range.

Replacing the maximum concentrations with the 95 percent UCL concentrations of the COPCs and excluding the portion of the risk attributable to naturally occurring metals results in EPA Region IX and Cal/EPA ILCRs of 9.1×10^{-5} and 9.2×10^{-5}, respectively. These values are also within the risk management range.

The cumulative residential HI for maximum detected COPCs is 19.0. Using the representative concentrations, the cumulative residential HI is 14.0. Background metals contribute an incremental hazard of 1.7. The primary contributors to the HI are arsenic, copper, and thallium, each of which has an individual HI exceeding 1.0. The maximum lead concentration is 8,800 mg/kg. This exceeds the background concentration for the San Luis Rey Basin (10.2 mg/kg) and is at least one order of magnitude greater than the EPA residential soil PRG of 400 mg/kg and the Cal/EPA residential soil PRG of 130 mg/kg.

As presented in the Group D RI report (SWDIV, 1997b), Site 1A soil represents an acceptable cancer risk under the residential exposure but may present an unacceptable noncarcinogenic

hazard; the HI exceeds the threshold value of 1.0. Final human health COCs for soils are arsenic, copper, thallium, and lead.

Excess cancer risk and noncarcinogenic health hazard for the future residential exposure scenario were evaluated for the groundwater pathway. No cancer risk was estimated because no carcinogenic contaminants were detected in groundwater. The HI is 1.6 and is primarily attributable to manganese (approximately 81 percent of the total hazard). For individual target organs, only the central nervous system exceeds the noncarcinogenic hazard criterion of 1.0 (HQ 1.3).

Uncertainty in the RfD used to calculate the PRG for manganese could result in an overestimation of hazard. In addition, uncertainty is associated with the results for the groundwater sample, which was collected from a temporary well. Temporary well groundwater samples usually have higher TSS (the sample is usually muddy) than samples from permanent wells because of the disturbance associated with the sampling method. Because samples from temporary wells contain more particles, more nondissolved particles could pass through the filter used in the field (Hem, 1985) and could result in a higher concentration of manganese in temporary well samples. Manganese is also naturally occurring, and some of the manganese in groundwater at Site 1A is assumed to be within the background concentration.

Groundwater at Site 1A is considered protective of human health for the following reasons:

- No carcinogenic chemicals were detected in groundwater.
- The HI only slightly exceeds 1.0 (HQ 1.3) for one target organ, the central nervous system, and the uncertainty associated with toxicity of manganese could result in an overestimation of hazard.
- A portion of the manganese concentration is likely background rather than site related.

Summed Groundwater and Soil Human Health Risk and Hazard

If it is conservatively assumed that under the future unrestricted residential use scenario a hypothetical resident could be exposed to soil contaminants and groundwater through domestic use, the incremental site risks and hazards for soil and groundwater can be summed for an overall residential exposure. Because no carcinogenic COPCs were detected in groundwater at Site 1A,

the incremental site risk ($9x10^{-5}$) is completely attributable to soil, primarily due to arsenic. The incremental site hazard from soil (HI 12.3) combined with groundwater (HI 1.6) results in a total residential hazard of approximately 14.0. As discussed previously, the only target organ exceeding a hazard of 1.0 for groundwater was the central nervous system as a result of manganese. Consequently, the noncarcinogenic health hazard for Site 1A is primarily associated with site soil, specifically with metals. Individually, the potential exposure to either soil or groundwater represents the upper-bound RME; when combined, the potential exposure is likely much more conservative than the RME. The combined exposure should be considered a worst-case exposure scenario, especially given the low likelihood of residential use of this site combined with a low likelihood of placing a drinking water well at the point of the plume corresponding to maximum groundwater concentrations.

Ecological Risk Assessment

Site 1A consists primarily of areas of California sagebrush series habitat with some disturbed areas. Some downstream portions of the site and its drainage pathway have riparian habitat. Representative species were selected for (this site) based on habitat types and expected occurrence of special-status species. The representative species include plants, terrestrial invertebrates, California gnatcatcher, California quail, least Bell's vireo, Belding's savannah sparrow, California mouse, and deer mouse. Although portions of the site are disturbed, several wildlife species were observed on site, including the California gnatcatcher. The California gnatcatcher is a listed Federal threatened species and a State special-status species.

Soil concentrations for 17 preliminary inorganic COPECs exceeded background values. These inorganics and all detected organic COPECs were retained for the initial ecological risk screening. The results of the initial risk screening indicated that several inorganic constituents and a few organic compounds exceeded PLEs. COPECs exceeding PLEs were identified at all six soil sampling locations.

A final risk screening was conducted by modifying the PLEs for birds and mammals based on the foraging range and the size of the area of concern. These screening results indicated that modified PLEs were exceeded for plants, invertebrates, California quail, California gnatcatcher, least Bell's vireo, Belding's savannah sparrow, California mouse, and deer mouse. The following contaminants exceeded modified PLEs: antimony, arsenic, barium, boron, cadmium, chromium,

copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, thallium, vanadium, zinc, 4,4'-DDE, and 4,4'-DDT.

Subsequent to the risk screenings, biota tissue collected from site plants, invertebrates, and mice were compared against reference concentrations to evaluate adverse effects to ecological receptors due to bioaccumulation. Comparisons against reference concentrations for plants showed that site tissue concentrations of arsenic, chromium, copper, iron, lead, manganese, molybdenum, and zinc exceeded reference tissue concentrations. The tissue quotients are close to 1.0 for chromium (1.1), copper (1.2), and iron (1.6). However, tissue quotients for arsenic, lead, manganese, molybdenum, and zinc indicated that these COPECs are bioaccumulating and could result in adverse effects directly to plants or to receptors feeding on the plants. Comparison against reference concentrations for invertebrates were similar to those for plants and indicated that arsenic, copper, lead, manganese, and zinc are bioaccumulating in invertebrates and could result in either direct toxicity or food-chain transfer.

Comparison against reference concentrations for mice indicated that only manganese and nickel were present at concentrations greater than reference location concentrations. However, nickel did not exceed PLEs in the final screening and the tissue quotient is close to 1.0 (1.2), indicating the potential bioaccumulation risk from nickel is low. The tissue quotient for manganese is 2.9, indicating that manganese is bioaccumulating and could result in adverse effects directly to mice or to receptors feeding on them.

All COPECs that exceeded modified PLEs were retained as chemicals of ecological concern (COECs) with the exception of cadmium, molybdenum, selenium, 4,4'-DDE, and 4,4'-DDT. The HQs for cadmium, molybdenum, 4,4'-DDE, and 4,4'-DDT are very close to 1.0, indicating low potential risk. Selenium exceeded PLEs in only one sample (1AB-01) and had HQs close to 1.0, also indicating low potential risk.

The results of the EcoRA indicate that several inorganic chemicals are present in Site 1A soils at concentrations that could be directly toxic to ecological receptors or could bioaccumulate in the wildlife food chain. The final COECs for Site 1A are antimony, arsenic, barium, boron, chromium, copper, iron, lead, manganese, mercury, thallium, vanadium, and zinc.

2.4.1.4.2 Site 1D - Refuse Burning Ground in 20 Area

This section summarizes the results of the HHRA and EcoRA for Site 1D.

Human Health Risk Characterization

The conceptual site model for Site 1D indicates that current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs and soil particulates. The model also shows that future workers and residents could be exposed to groundwater contaminants through inhalation of VOCs, ingestion of groundwater, and dermal contact with groundwater. The primary source of contaminants is burned and/or partially burned refuse, and the secondary source is underlying or adjacent soils. Analytical results collected during the Group C RI (SWDIV, 1996a) were used for the risk assessment.

The risk screening for soil exposure using maximum detected chemical concentrations for residential land use results in a cumulative residential risk of $2x10^{-4}$. Subtracting the portion of risk contributed by background concentrations, the ILCR is $3x10^{-5}$. The HI for the same scenario (i.e., removing the contribution from background) is 10.1. The primary contributors to risk and/or hazard are antimony, arsenic, and chromium. In addition, the maximum lead concentration (1,100 mg/kg) exceeds background, the EPA residential soil PRG of 400 mg/kg, and the Cal/EPA residential soil PRG of 130 mg/kg. The site-related risk and hazard indicate that further action is necessary.

To evaluate potential risks due to groundwater exposure, maximum concentrations were used for a residential scenario. The site-related carcinogenic risk, ILCR, is $2x10^{-4}$ and the HI is 1.2. The potential risk was evaluated further using representative concentrations and resulted in an ILCR of $4x10^{-5}$ and an HI of less than 1.0. Beryllium, detected in only 2 of 10 samples, contributes more than 99 percent of the $4x10^{-5}$ ILCR. Although beryllium is a risk contributor in soil at Site 1D, no on-base activities are known or suspected of generating beryllium wastes. The average site concentration of beryllium is 1.27 µg/l, and the background concentration is 1 µg/l. As such, the beryllium concentration is likely representative of background. Based on the reasons presented, potential groundwater risks at Site 1D are considered acceptable.

Ecological Risk Assessment

The predominant habitat at Site 1D is California sagebrush series, interspersed with areas of open disturbed habitat. Various herpetiles, birds, and mammals were observed during general wildlife

surveys of the site. Coastal California gnatcatchers, a special-status species, were also observed. Representative species were selected for this site based on predominant habitat types and include plants, terrestrial invertebrates, California mouse, California quail, and California gnatcatcher.

Concentrations of inorganic chemicals at Site 1D were compared with background values for the Santa Margarita Basin. Concentrations of 13 preliminary inorganic COPECs exceeded available background values and were retained for the initial ecological risk screening, along with all preliminary organic COPECs plus boron. The results of the initial screening indicated that the maximum concentrations of 10 inorganic constituents exceeded PLEs. None of the detected organics exceeded PLEs.

Biota tissue collected from plants and invertebrates were compared against reference concentrations to evaluate adverse effects to ecological receptors due to bioaccumulation. Comparisons against reference concentrations for plants indicated that site tissue concentrations of arsenic, manganese, and zinc were close to the reference concentrations and indicate that exposure to these COPECs will not result in any increased risk to plants. No site invertebrate tissue concentrations exceeded reference concentrations.

A final risk screening was conducted by modifying PLEs. COPECs and HQs greater than 1.0 were grouped into areas of concern based on sample locations where PLEs were exceeded for any representative species. The size of the areas were estimated and the PLEs for birds and mammals were modified based on the foraging range for each representative species and the size of the area of concern. The final risk screening results indicated that modified PLEs were exceeded for plants, invertebrates, California quail, California gnatcatcher, and California mouse. The COPECs exceeding modified PLEs were antimony, arsenic, boron, chromium, copper, iron, lead, manganese, mercury, and zinc. Antimony, copper, iron, lead, and zinc were retained as COECs. Arsenic, boron, chromium, and manganese were not retained because HQs for each species, with the exception of birds, were less than 1.0. The HQs for birds were close to 1.0, indicating low potential risk. In addition, incremental risk above background concentrations resulted in HQs less than 1.0, indicating that the majority of risk is due to background levels. Mercury was not retained because it was detected only once, at location 1DSS003, and HQs were less than 1.0 for all species except the California mouse, which had an HQ of 1.2, which is close to 1.0.

The results of the EcoRA indicate that antimony, copper, iron, lead, and zinc are present in Site 1D soils at concentrations that could be directly toxic to ecological receptors or could bioaccumulate in the wildlife food chain.

2.4.1.4.3 Site 1E - Refuse Burning Ground in 32 Area

This section summarizes the results of the HHRA and EcoRA for Site 1E.

Human Health Risk Characterization

The conceptual site model for Site 1E indicates that current/future workers and potential future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs and soil particulates. There are no complete groundwater exposure pathways at this site. The primary source of contaminants is burned and/or partially burned refuse; the secondary source is underlying or adjacent soils. Analytical results collected during the Group C RI (SWDIV, 1996a) were used for the risk assessment.

The risk screening for soil exposure using maximum detected concentrations for residential land use results in a cumulative residential risk of $6x10^{-4}$ and an HI of 20.1. Subtracting the portion of risk and hazard contributed by background concentrations, the ILCR is $4x10^{-4}$ and the HI is 18.4. The site-related primary contributors to risk and/or hazard are antimony, arsenic, and chromium. In addition, the maximum lead concentration of 1,610 mg/kg exceeds background, the EPA residential PRG of 400 mg/kg, and the Cal/EPA residential soil PRG of 130 mg/kg.

The ILCR and the HI both exceed EPA acceptable levels, and evaluation of remedial actions was recommended.

Ecological Risk Assessment

Habitat at Site 1E consists primarily of California sagebrush series habitat. Various herpetiles, birds, and mammals were observed on site during general wildlife surveys. Pairs of coastal California gnatcatchers, a special-status species, were also observed at Site 1E. Representative species were selected for this site based on habitat types and include plants, terrestrial invertebrates, Pacific pocket mouse, California quail, and California gnatcatcher.

Concentrations of inorganic chemicals at Site 1E were compared with background values for the Santa Margarita Basin. Concentrations of 17 preliminary inorganic COPECs exceeded available

background values and were retained for the initial ecological risk screening along with all detected preliminary organic COPECs and boron. The results of this screening indicated that the maximum concentrations of 15 inorganic constituents exceeded PLEs.

Biota tissue collected from site plants and invertebrates were compared against reference concentrations to evaluate adverse effects to ecological receptors due to bioaccumulation. Comparisons against reference concentrations for plants indicated that site tissue concentrations of arsenic and mercury were greater than reference location concentrations. The tissue quotient for arsenic (1.6) indicated that concentrations are close to reference concentrations and are not expected to result on any increased risk to plants or receptors feeding on plants at the site. The tissue quotient for mercury is 2.3; however, this COPEC did not exceed PLEs for plants in either the initial or final screening, indicating only a small potential risk to receptors.

Comparisons against reference concentrations for invertebrates indicated that site tissue concentrations of cadmium, copper, and zinc were slightly greater than reference location concentrations. Tissue quotients were 1.6 for cadmium, 7.0 for copper, and 1.3 for zinc. Cadmium and zinc concentrations are close to the reference concentrations and indicate that exposure to these COPECs by invertebrates at the site would not result in increased risk. The tissue quotient for copper indicates that copper concentrations may pose an increased risk to invertebrates and receptors feeding on invertebrates at the site.

A final risk screening was conducted by modifying the PLEs for birds and mammals based on the foraging range for each representative species and the size of the area of concern. The final risk screening results indicated that modified PLEs were exceeded for plants, invertebrates, California quail, California gnatcatcher, and Pacific pocket mouse. COPECs exceeding modified PLEs are aluminum, antimony, barium, boron, cobalt, copper, iron, lead, molybdenum, silver, and zinc. With the exception of barium, boron, molybdenum, and silver, these contaminants were retained as COECs.

Barium was not considered to pose a risk because HQs above 1.0 were due largely to background concentrations. Although the HQ for the representative Pacific pocket mouse still exceeds 1.0, excluding background, small mammals using this site are not expected to spend all of their time at Site 1E. In addition, no Pacific pocket mice were observed on site during surveys. Boron was not retained because the HQs were close to 1.0 (1.2 to 1.5). Molybdenum was not retained because

plants were the only representative species for which PLEs were exceeded, and the HQs are close to 1.0. Silver was detected at locations 1ESS002 and 1ESS003 only. At 1ESS002, the HQs for silver only slightly exceeded the plant PLE (HQ of 1.04). At 1ESS003, only one of the detected results exceeded the plant and invertebrate PLEs; the HQs for the other detected silver concentrations were less than 1.0.

The results of the EcoRA indicate that several inorganic chemicals are present in Site 1E soils at concentrations that could be directly toxic to ecological receptors or could bioaccumulate in the wildlife food chain.

2.4.1.4.4 Site 1F - Refuse Burning Ground in 43 Area

This section summarizes the results of the HHRA and EcoRA for Site 1F.

Human Health Risk Characterization

The conceptual site model for Site 1F indicates that current/future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation. The model also indicates that potential future residents could be exposed to groundwater contaminants through ingestion, inhalation of VOCs, and dermal contact. The primary source of contaminants is burned or partially burned refuse, and the secondary source is underlying or adjacent soils. Analytical results from samples collected during the Group D RI (SWDIV, 1997b) were used for the risk assessment.

The risk screening for soils using the maximum detected chemical concentrations results in a cumulative residential risk of $3x10^{-5}$. Subtracting the portion of total risk attributable to naturally occurring metals or background, the ILCR is $2.2x10^{-5}$. The cumulative residential HI for maximum detected contaminants is 8.7. Subtracting the portion attributable to background metals, the incremental HI is 7.5. The maximum lead concentration (1,260 mg/kg) exceeds the EPA residential soil screening value of 400 mg/kg and the Cal/EPA residential soil PRG of 130 mg/kg.

Because the HI exceeds the threshold criterion of 1.0, further risk evaluation for soil was conducted using a more reasonable value, the 95 percent UCL of the average concentration. Using the 95 percent UCL, the ILCRs for the residential scenario based on Region IX and Cal/EPA PRGs are $9.9x10^{-6}$ and $1.2x10^{-5}$. The incremental HI is 7.3. The HI results primarily from a single high detection of copper at 12,500 mg/kg. This detection is a duplicate of the original sample,

which had a reported concentration of 821 mg/kg. As such, a degree of uncertainty is associated with the copper results. Lead and antimony are the other main contributors to hazard.

Potential residential carcinogenic risks for soil are within the risk management range and are considered acceptable for this site. However, potential noncarcinogenic hazard exceeds the acceptable criterion of 1.0, thus requiring further action.

To evaluate potential risks due to groundwater exposure, maximum concentrations were used for a residential scenario. The ILCR is 5.2×10^{-4} and is completely attributable to arsenic. However, the maximum reported value of arsenic, 23.4 micrograms per liter (µg/l), is less than the MCL of 50 µg/l. The noncarcinogenic HI is 3.9 and is primarily attributable to arsenic and boron. As stated, the maximum arsenic concentration is less than the MCL and would not likely represent a threat to human health via ingestion. Boron is not likely a result of site-related activities. For the above stated reasons, groundwater at Site 1F is considered protective of human health.

Ecological Risk Assessment

Two brushfires have disturbed the habitat at Site 1F. One fire occurred in June 1996, just prior to the initial site habitat evaluation. The second brushfire occurred in early summer 1997 between site visits to evaluate special-status species. Prior to the second fire, the site was sparsely vegetated with California sagebrush series habitat. Various birds, the black-tailed hare, house mice, and deer mice were observed at the site. No coastal California gnatcatchers or least Bell's vireos, both special-status species, were observed at the site prior to the 1997 brushfire. However, least Bell's vireos were identified in riparian vegetation along Pulgas Creek adjacent to the site. The representative species selected for evaluation of this site include plants, terrestrial invertebrates, Belding's savannah sparrow, and deer mouse.

Potential ecological risks at Site 1F were evaluated using the RI data and sampling locations presented in the draft final Group D RI report (SWDIV, 1997b).

Concentrations of inorganic chemicals detected at the site were compared with background values for the Las Flores Basin background area. Background values were available for all inorganic chemicals detected except boron. Concentrations of 14 preliminary inorganic COPECs exceeded available background values and were retained for the initial ecological risk screening, along with boron and all detected preliminary organics. The results of the initial screening indicated that the

maximum concentrations of 13 inorganic constituents exceeded PLEs. None of the detected organics exceeded PLEs.

In accordance with the work plan, biota samples (i.e., plants, terrestrial invertebrates, and small mammals) were not collected for tissue analysis at this site during the Phase 2 sampling conducted in May 1997. The site is similar to Site 1A in historical, use, habitat types, and potential ecological receptors. Because of their similarities, the biota sampling and bioassays conducted at Site 1A were extrapolated to Site 1F. Both sites are historical refuse burning grounds that consist of coastal sage scrub and disturbed habitat. The representative species for Site 1F included plants, terrestrial invertebrates, Beldings's savannah sparrow, and deer mouse. These species were also among those selected for Site 1A.

Biota tissue collected at Site 1A included plants, invertebrates, and mice. These tissue concentrations were also compared against reference concentrations for the chemicals detected at Site 1F. Comparisons for plants indicated that tissue concentrations of arsenic (tissue quotient of 3), chromium (1.1), copper (1.2), iron (1.6), lead (10), manganese (2.9), molybdenum (3.4), and zinc (9.2) were elevated compared with reference plants. Soil concentrations of arsenic, chromium, manganese, and molybdenum at Site 1F did not exceed plant PLEs, but only zinc slightly exceeded the PLE (1.2) at one sampling location (B-3). Copper, iron, and lead exceeded plant PLEs at two sampling locations (B-3 and B-4). Results of soil and biota evaluations indicate that copper and iron may bioaccumulate to a limited degree but are of more concern with regard to direct toxicity to plants. Zinc is bioaccumulating and could result in adverse effects directly to plants or to those receptors feeding on them.

Comparisons against reference concentrations for invertebrates were generally similar to those for plants. Resulting tissue quotients for arsenic (3.4), copper (10), lead (12), manganese (5.1), and zinc (4) indicated that these chemicals were accumulating in invertebrates collected from Site 1A. However, none of these chemicals exceeded soil PLEs for invertebrates in Site 1F, indicating that any potential risk at the site would be through food-chain transfer rather than direct toxicity.

Comparisons against reference concentrations for mice indicated that only manganese and nickel were present at concentrations exceeding reference values. Tissue quotients were 2.9 and 1.2, respectively. Manganese did not exceed small mammal PLEs in the final screening and nickel did not exceed small mammal PLEs in either the initial or final screening. These results indicate that

soil concentrations of manganese and nickel at Site 1F are of limited concern to mammals through either direct toxicity or food-chain transfer.

COPECs with HQs greater than 1.0 were grouped into areas of concern based on sample locations where PLEs were exceeded for any representative species. The size of the areas were estimated and the PLEs for birds and mammals were modified based on size of the area of concern relative to the foraging area for each representative species. The modified PLEs were then used for the final risk screening.

The final risk screening results indicated that modified PLEs were exceeded for plants, invertebrates, Belding's sparrow, and deer mouse. COPECs with HQs exceeding 1.0 are antimony, arsenic, boron, chromium, cobalt, copper, iron, lead, manganese, molybdenum, silver, and zinc. Arsenic, boron, chromium, cobalt, manganese, molybdenum, and silver were not retained as COECs because of their low potential risk indicated by low HQs, near background concentrations, and/or low frequency of detections.

The results of the EcoRA indicate that several inorganic chemicals are present in Site 1F soils at concentrations that could be directly toxic to ecological receptors or could bioaccumulate in the wildlife food chain.

2.4.2 Site 2A - Grease Disposal Pit in 14 Area

This section addresses Site 2A and summarizes site history and characteristics and associated risks.

2.4.2.1 Site Name, Location, and Description

Site 2A - Grease Disposal Pit in 14 Area, is located off Pilgrim Creek East Trails Road (Figure 2-5) and is one of seven mess hall grease pits scattered throughout the base. The grease disposal pit boundary is approximately 200 feet long and 300 feet wide. The site is bordered on the west and southwest by Site 1A and on the north, east, and south by areas of light to moderate vegetation. Site 2A slopes gently to the southwest and eventually drains into a stream-cut canyon adjacent to Site 1A. The surrounding area is characterized by low rolling hills.

2.4.2.2 Site History and Enforcement Activities

Grease disposal pits, typically less than 10 feet deep, were used throughout the base from 1942 to 1980 for disposal of mess hall grease. Petroleum, oil, and lubricants (POLs) may have also been placed in the pits. No information is available on the specific years of operation or the amount of grease disposed of in the pit at Site 2A. A burn area is adjacent to the disposal pit at 2A.

The pit at Site 2A was closed by allowing the disposed materials to decay to a semisolid state and then backfilling with native soil.

2.4.2.3 Summary of Site Characteristics

RI work at Site 2A involved surface/subsurface soil sampling and ecological surveys. No groundwater or surface-water sampling was performed. The investigation was conducted in two phases. Phase 1 was conducted in June 1996, and Phase 2 was conducted in May through July 1997. Detailed results of Phase 1 are presented in the draft final Group D RI report (SWDIV, 1997b) and results of the Phase 2 RI are presented in Appendix A of the draft final RI/FS for OU3 (SWDIV, 1998a). A summary is presented in this section.

A total of 19 samples, including 1 duplicate, were collected from five soil boring locations as part of Phase 1. Sample locations are shown in Figure 2-5. The borings were terminated when granitic material was encountered at depths between 15 and 20 feet below grade. The soil samples were analyzed for TAL metals, molybdenum, chromium VI, VOCs, SVOCs, dioxins, and furans.

A habitat and receptor survey was conducted in June 1996. Dominant vegetation types and corresponding wildlife habitats were identified. During the 1997 Phase 2 investigation, small mammal trapping was conducted using Sherman live-traps. Trapped animals were identified, marked with a nontoxic marker, and released in the location where they were trapped. Surveys for special-status species, the California gnatcatcher and least Bell's vireo, were also conducted as part of the Phase 2 effort. Soil, plant tissue, and animal tissue were collected during Phase 2 for chemical analyses and bioassay studies to refine the conclusions of the EcoRA. Five plant samples, two invertebrate samples, and two mice samples were collected at Site 2A. One surface soil sample and one duplicate were collected from sample location 2AB-05. Soil and tissue samples were analyzed for TAL metals plus molybdenum and for organochlorine pesticides.

2.4.2.3.1 Geology and Hydrogeology

Geologic data were derived from the five soil borings advanced at the site. Shallow geology at the site is characterized by semiconsolidated to consolidated alluvium consisting of fine-to medium-grained, poorly graded sand, silt, and sand with silt. The alluvium overlies massive granitic basement rock. Basement granitic rock was encountered in all five soil borings at depths ranging from 3.5 to 18 feet. Based on site geology, groundwater is assumed to flow to the southwest, following surface topography. Using groundwater elevations from a nearby site and ground surface elevations, the depth to groundwater at site 2A is estimated to be nearly 100 feet below grade. No perennial surface water is present in the vicinity of Site 2A.

2.4.2.3.2 Soil Results

The analytical results for soil are summarized in Figure 2-5. Only results that exceed background and PRGs or PLEs are shown.

Organics

Two chlorinated pesticides were detected at concentrations at or exceeding PRGs at Site 2A: 4,4'-DDD in the 5-foot interval sample and 4,4'-DDE in the 5- and 10-foot interval samples from boring 2AB-05. In addition, 15 other organic contaminants were detected at concentrations below PRGs. Four VOCs were detected at low concentrations: acetone, 2-butanone, ethylbenzene, and total xylenes. The highest VOC concentration detected at Site 2A was 0.047 mg/kg for acetone. The SVOCs benzoic acid (3.8 mg/kg), bis(2-ethylhexyl)phthalate (0.13 mg/kg), and phenanthrene (0.18 mg/kg) were each detected once in borings 2AB-03, 2AB-05, and 2AB-01, respectively. Eight dioxin/furans were detected in the 5- and 10-foot samples from boring 2AB-05 at concentrations of 0.001 mg/kg or less.

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD), 4,4'-DDE, 4,4'-DDT, and total heptachlorodibenzo-p-dioxins (total HpCDD) exceeded PLEs in soil samples collected from boring 2AB-05 during June 1996. The sampling conducted during May 1997 confirmed the presence of these pesticides.

Inorganics

A total of 9 metals were detected at concentrations exceeding PRGs: antimony, arsenic, beryllium, cadmium, copper, lead, manganese, thallium, and zinc. Although all arsenic detections exceeded the PRG, the concentrations were at or near background. All beryllium concentrations

were below the calculated background level. Antimony, cadmium, copper, lead, manganese, thallium, and zinc concentrations exceeded PRGs and background concentrations in samples from boring 2AB-05. In addition, the lead concentration for the 5-foot sample from boring 2AB-03 exceeded the PRG and background.

Concentrations of aluminum, antimony, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, silver, thallium, vanadium, and zinc exceeded PLEs in various boring locations. The maximum concentrations of these inorganic constituents also exceeded background concentrations. Boring location 2AB-05 had the greatest number of inorganic constituents with concentrations exceeding PLEs. The results for the surface samples collected near boring location 2AB-05 in 1997 are similar to the results for soil samples collected from the same location in June 1996.

2.4.2.4 Summary of Risks Associated with Site 2A

The HHRA was completed using data from the Phase 1 RI (SWDIV, 1997b). Because the samples for the Phase 2 RI (SWDIV, 1998a) were collected from the same locations as Phase 1 samples and the results were similar for both phases, the HHRA was not revised. The EcoRA was completed using both Phase 1 and Phase 2 results.

2.4.2.4.1 Human Health Risk Characterization

Based on the conceptual site model developed in the RI, current/future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs and particulates. Groundwater was not considered a complete exposure pathway for current/future workers or residents. Data collected during the Group D RI were used for the risk assessment.

The cancer risk and noncarcinogenic hazard for the residential and industrial/commercial scenarios were evaluated using maximum detected contaminant concentrations in soils. Only the residential scenario is summarized here because decisions for the site were based on this scenario. The cumulative residential risk is $5x10^{-5}$ and is attributable primarily to arsenic. Subtracting the portion of total risk attributable to background metals, the ILCRs based on Region IX and Cal/EPA PRGs are $5.6x10^{-6}$ and $1.2x10^{-5}$, respectively. The cumulative residential HI is 150. The primary hazard contributors are manganese, thallium, and zinc. Manganese and zinc concentrations exceed background concentrations by more than three orders of magnitude.

The highest detections of contaminants, driving both the cancer risk and the noncancer hazard, were found at boring location 2AB-05, which is located in the adjacent burn area. Therefore, the site was viewed as two separate areas, the grease disposal pit area and the burn area, and the risks were reassessed.

The maximum concentrations for the grease disposal pit, excluding the samples from the burn area at boring 2AB-05, were compared against EPA Region IX soil PRGs. The results were a cumulative ILCR of 9.8×10^{-6} and an HI of 1.8. The only contributors are arsenic and beryllium, both of which are within the range of background concentrations. Subtracting the contribution from background, the ILCR for the residential scenario using EPA Region IX and Cal/EPA PRGs are less than 1×10^{-8} and 1×10^{-6}, respectively. The HI is 1.0. Based on this assessment, soil in the grease disposal pit area is considered protective of human health. However, the area surrounding boring 2AB-05 appears to present both an unacceptable carcinogenic risk and noncarcinogenic hazard. The human health COCs in this area are 4,4'-DDD, 4,4'-DDE, antimony, arsenic, cadmium, copper, lead, manganese, thallium, and zinc.

2.4.2.4.2 Ecological Risk Assessment

Vegetation at Site 2A burned during a brushfire in June 1997. Most of the existing California sagebrush series habitat and disturbed habitat were destroyed. Bird species observed prior to the fire included cliff swallow, California quail, California towhee, and song sparrow. Mammals observed included black-tail hare, cactus mouse, California mouse, deer mouse, desert woodrat, dusky-footed woodrat, and house mouse. Surveys for the California gnatcatcher and the arroyo toad, both special-status species, were conducted in May 1997, but none were observed. Surveys conducted in 1996 identified least Bell's vireos, also a special-status species, in riparian vegetation adjacent to the site. The representative species selected for evaluation at this site based on habitat types present are plants, terrestrial invertebrates, California gnatcatcher, Belding's savannah sparrow, California mouse, and deer mouse.

Concentrations of inorganic chemicals detected at Site 2A were compared against background concentrations for the San Luis Rey Basin. Inorganic contaminants that exceeded background, boron, and all organic contaminants detected were retained for the initial ecological risk screening. Results of the initial ecological risk screening indicated that 18 inorganics, 2 organochlorine pesticides, and 2 dioxin analytes had HQs exceeding 1.0.

Biota tissue collected from plants, invertebrates, and mice were compared against reference concentrations to evaluate adverse effects to ecological receptors due to bioaccumulation. Comparisons against reference concentrations for plants indicated that several metals are present at concentrations exceeding reference samples. The plant tissue quotients for aluminum (1.9), cobalt (1.2), iron (1.7), lead (1.7), molybdenum (1.3), and silver (1.3) are close to 1.0, indicating only a slightly increased accumulation. Tissue quotients for copper (2.3), manganese (2.8), and zinc (8.8) indicated that these chemicals are accumulating in plant tissue and could result in either direct toxicity or food-chain transfer.

Comparisons against reference concentrations for invertebrates were similar to those for plants and indicated that cadmium (1.04) and manganese (1.6) concentrations are similar to those for reference invertebrates. Copper (2.7), lead (3), and zinc (2.1) are accumulating in invertebrates at higher levels than in reference invertebrates and could result in either direct toxicity or food-chain transfer.

Comparisons against reference concentrations for mice indicated that manganese concentrations slightly exceed reference values. The tissue quotient is very close to 1.0 (1.4), indicating a relatively low potential increase in accumulation over reference levels.

For the final risk screening, COPECs with HQs greater than 1.0 were grouped into two areas of concern based on sample locations where PLEs were exceeded for any representative species. The PLEs for birds and mammals were then modified based on the size of the area of concern and the foraging range for each representative species. Based on the modified PLEs, COPECs with HQs exceeding 1.0 are aluminum, antimony, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, silver, thallium, vanadium, zinc, 4,4'-DDE, and 4,4'-DDT.

Qualitative factors such as habitat quality, severity of potential adverse effects, frequency of PLE exceedances, frequency of detection, and uncertainty were used to evaluate COPECs further and to select COECs. The following compounds were retained as COECs: antimony, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, thallium, silver, and zinc. Aluminum, nickel, vanadium, 4,4'-DDE, and 4,4'-DDT were not retained based on qualitative factors.

2.4.3 Description of Alternatives - Sites 1A, 1D, 1E, 1F, and 2A

As recommended by EPA guidance and the NCP (EPA, 1989a and 1990b), acceptable engineering practices that relate to site-specific conditions were considered during development of the remedial action alternatives for Sites 1A, 1D, 1E, 1F, and 2A. The selected alternatives satisfy the requirements of 40 CFR 300.430(e), which specify that alternatives be developed to include no action; institutional actions; little or no treatment alternatives; and alternatives that reduce toxicity, mobility, or volume of contaminants.

Soils at OU3 Sites 1A, 1D, 1E, 1F, and 2A contain metals at concentrations that pose a potential threat to human health and the environment and could potentially impact groundwater. The soils that pose these potential risks are at depths of up to 10 feet below ground surface over areas approximated using historical information, geophysical survey data, sample results, and natural site boundaries. The remedial action objectives (RAOs) consist of media-specific goals for protecting human health and the environment, including groundwater. RAOs generally consider COCs, exposure pathways and receptors, and acceptable contaminant levels or range of levels for each exposure route. In addition to being protective of human health and the environment, the objective of the remedial action is to ensure that no further action is required in the future. The remedial action goals for Sites 1A, 1D, 1E, 1F, and 2A are listed in Table 2-1. The remedial action goals are based on the human health, ecological, or background levels.

The following alternatives were developed for remediation of soil at Sites 1A, 1D, 1E, 1F, and 2A:

- No action
- Excavation/removal and on-base disposal
- Excavation/removal and off-base disposal.

2.4.3.1 Alternative 1: No Action

The no action alternative provides no remediation, monitoring, or security activities at the sites to reduce risk to human health or the environment. The NCP (40 CFR 300.430[e][6]) requires that the no action response be carried through the detailed analysis of alternatives. This response action is further evaluated as a baseline for comparison with other remedial alternatives developed for contaminated soil.

2.4.3.2 Alternative 2: Excavation/Removal and On-Base Disposal

This alternative includes removal of contaminated soils via mechanical excavation. Upon removal, the impacted soils from Sites 1A, 1D, 1E, 1F, and 2A would be transported to Site 7 - Box Canyon Landfill, which is a designated corrective action management unit (CAMU). The process for CAMU designation is described in Appendix B, and was also included in the OU3 RI/FS (SWDIV, 1998a) and OU3 proposed plan for public review.

Heavy earthmoving equipment such as track-mounted excavators, bulldozers, graders, and front-end loaders will be used to remove impacted soils. For excavations greater than 2 feet deep, excavation sidewalls will be maintained at an approximate 2:1 (horizontal:vertical) engineered slope. Maintenance of the side slopes will provide stability and reduce the need for shoring. During inactive periods, excavation and stockpile areas will be secured with barrier tape and warning signs will be posted. Potential exposure and protection procedures for site workers will be addressed in the site-specific health and safety plan. Risks associated with exposure of site personnel to dust emissions and direct contact with impacted soil during excavation will be minimized by spraying water on stockpiled soil and the excavation areas, using appropriate personal protective equipment (PPE), and observing proper decontamination procedures. Detailed field procedures for management and maintenance of open excavation areas and temporary storage stockpiles will be provided in the remedial design documents.

The impacted soil will be loaded onto dump trucks for disposal at Site 7 - Box Canyon Landfill. All loads will be covered with a secured tarp to prevent fugitive dust emissions during transport. Because volatile compounds are not of primary concern, any potential risk to the public in case of a traffic accident would involve release of particulates and dust and/or physical injuries.

Following completion of excavation to the target depths, confirmation sampling will be performed for CLP metals analysis. For costing purposes in the FS, the confirmation sampling frequency was estimated at one sample per 10,000 square feet; this frequency will be finalized during remedial design in accordance with the EPA *Guidance Methods for Evaluating the Attainment of Cleanup Standards, Volume I: Soils and Media, PB89-234959*. Clean fill will then be obtained from a suitable nearby source and transported to the site for backfilling, compaction, and grading. The site will be graded to original contours to the extent possible, and the final grade will be confirmed via land surveying. The site will then be revegetated to restore habitat and limit erosion.

The time to complete this alternative varies for each of the six sites based on the volume of contaminated soil. This alternative would be completed in approximately 10 weeks for Site 1A, 9 weeks for Sites 1A and 1F, 6 weeks for Site 2A, and 3 weeks for Site 1E.

2.4.3.3 Alternative 3: Excavation/Removal and Off-Base Disposal

This alternative involves excavation of contaminated soil, transportation to an off-base disposal facility, and backfilling of the excavated area using clean imported soil. All of the components of this alternative are identical to Alternative 2 with the exception of the disposal location.

For costing purposes in the FS, excavated soil is expected to be managed as hazardous waste and would require Class I landfill disposal because total metals concentrations exceed 20 times the toxicity characteristic leaching potential (TCLP) criteria. Leachability testing is planned prior to disposal. Excavated soils will be transported off base to an approved hazardous waste facility. The Kettleman Hills landfill, a hazardous waste landfill operated by Waste Management, Inc., in King County, California, was selected as the probable disposal facility. The contaminated soil would be transported in covered trucks on interstate highway systems. The Kettleman Hills landfill is approximately 250 miles north of MCB Camp Pendleton and 55 miles south of Fresno, California. The route to the landfill is along Interstate 5, which passes through central Orange County, the Los Angeles metropolitan area, and the northwestern part of Los Angeles County. The route continues through western portions of Kern and Kings Counties.

Confirmation sampling and backfilling of clean imported soil will be performed in the same manner as for Alternative 2. Safeguards, measures, and management and maintenance procedures discussed for Alternative 2 will also be implemented for this remedial action alternative. The time frames to complete cleanup for each site varies based on soil volumes and would be greater than described for Alternative 2 due largely to the greater transportation distances involved. Time frames are approximately 20 weeks for Site 1D, 18 weeks for Site 1F, 16 weeks for Site 1A, 10 weeks for Site 2A, and 4 weeks for Site 1E.

2.4.4 Summary of Comparative Analysis of Alternatives - Sites 1A, 1D, 1E, 1F, and 2A

This section summarizes the comparison of alternatives based on the nine evaluation criteria provided in the NCP. The nine criteria are grouped into three categories: threshold criteria,

primary balancing criteria, and modifying criteria. The evaluation is the same for Sites 1A, 1D, 1E, 1F, and 2A and the summary, therefore, applies to each of the five sites.

2.4.4.1 Threshold Criteria

These two criteria relate directly to statutory findings that must ultimately be made in the ROD; selected alternatives must meet these criteria.

2.4.4.1.1 Overall Protection of Human Health and the Environment

The no action alternative includes no treatment and no control of exposure pathways. The contaminated soil would be left in place. Under this alternative, the potential long-term risks would be the same as those calculated in the baseline HHRA and EcoRA. This alternative is not protective of human health and the environment and does not prevent potential leaching of soil contamination to groundwater.

Alternatives 2 and 3 would provide protection of human health and the environment by removing and disposing of contaminated soils in on-base or off-base facilities. The excavated areas would be backfilled with clean soil under both alternatives. Both alternatives would eliminate the threat to groundwater because the contaminated soil would be removed and could not leach to groundwater at the sites.

2.4.4.1.2 Compliance with ARARs

No applicable or relevant and appropriate requirements (ARARs) were identified for Alternative 1, since no action is taken. Both Alternatives 2 and 3 comply with ARARs. On-site disposal under Alternative 2 is in compliance with RCRA CAMU requirements because the excavated soil would be placed at Site 7 - Box Canyon Landfill, a designated CAMU (Appendix B). Soil would be screened using the designated level methodology (DLM) to model leachability and DI WET leachability testing would be conducted as required to comply with groundwater ARARs for Site 7. The excavation for Alternatives 2 and 3 would meet Federal and State endangered species ARARs. Mitigation could be required for some of the sites after consultation with the U.S. Fish and Wildlife Service. Excavation and transportation of soil to Site 7 would comply with San Diego Air Pollution Control District (APCD) ARARs by limiting fugitive dust emissions using engineering controls.

2.4.4.2 Primary Balancing Criteria

These criteria represent the primary criteria upon which the analysis is based and take into account technical, cost, institutional, and risk concerns.

2.4.4.2.1 Long-Term Effectiveness and Permanence

The risks associated with the Alternative 1 - No Action were evaluated in the baseline HHRA and the EcoRA (SWDIV, 1997b and 1998). Alternative 1 would not provide additional actions or controls to reduce existing contaminant concentrations and the associated risks to human health and the environment. As a result, the reliability and adequacy of such actions or controls cannot be assessed. In addition, Alternative 1 would leave contaminated material undisturbed at the site. Therefore, Alternative 1 provides no long-term effectiveness and permanence.

Alternatives 2 and 3 would enhance long-term effectiveness through permanent removal of contaminated soil from the sites, resulting in adequate and reliable reduction of exposure pathways and potential human health and ecological risks. Alternatives 2 and 3 would satisfy all RAOs, including the objective for no future action at the site following implementation of the remedial action. Any remaining detections of COCs or COECs would be below acceptable levels for human health and ecological risks. Alternatives 2 and 3 would provide a high degree of long-term effectiveness and permanence.

2.4.4.2.2 Reduction of Toxicity, Mobility, and Volume Through Treatment

Alternatives 1, 2, and 3 do not entail on-site treatment of contaminated soil. Accordingly, no reduction in toxicity, mobility, or volume would occur due to treatment.

2.4.4.2.3 Short-Term Effectiveness

No remedial actions would be implemented under Alternative 1 and, therefore, effectiveness during implementation cannot be evaluated.

Potential exposure and protection procedures for workers during implementation of Alternatives 2 and 3 would be addressed in the site-specific health and safety plan. Risks associated with exposure of site personnel and nearby receptors to dust emissions and direct contact with contaminated soil during excavation would be minimized using dust suppressants and appropriate PPE.

Heavy equipment operated at the OU3 sites would conform with California Occupational Safety and Health Administration (Cal/OSHA, 1979) specifications and would be operated only by authorized, trained personnel. Traffic accidents associated with routine driving on base roads could occur during transport of soil off base or to Site 7. If a traffic accident were to occur, the risk to the public would be from exposure to dust from contaminated soil, in addition to the risk of physical harm due to the accident.

Environmental impacts to threatened or endangered species or migratory birds would be minimal. Only small portions of currently undisturbed habitat would be impacted during implementation of Alternatives 2 and 3, and the sites would be revegetated upon completion of remedial activities. The time required for completion of Alternative 2 varies from 3 to 10 weeks based on the volume of soil at each site; the time required for completion of Alternative 3 ranges from 4 to 20 weeks.

2.4.4.2.4 Implementability

No implementability concerns are posed by Alternative 1 because no action would be taken.

For Alternatives 2 and 3, excavation and disposal of contaminated soil at an existing on-base or off-base facility is readily implementable and several vendors are available. Alternative 2, on-base disposal, would be easier to implement because the transportation distance is less than for Alternative 3. Equipment, materials, and labor for both Alternatives 2 and 3 are available.

2.4.4.2.5 Cost

No cost is associated with Alternative 1 - No Action. The cost for Alternative 2 is lower than the cost for Alternative 3 for each of the five sites.

Site	Alternative 2 (millions)	Alternative 3 (millions)
1A	$1.3	$8.2
1D	$1.4	$10.4
1E	$0.1	$1.0
1F	$1.5	$9.4
2A	$0.7	$4.6

2.4.4.3 Modifying Criteria

Modifying criteria include State and community acceptance and were evaluated following the comment period for the FS and the proposed plan.

2.4.4.3.1 State Acceptance

The Cal/EPA San Diego RWQCB and DTSC have approved the OU3 RI/FS and proposed plan and agree with the selection of Alternative 2 as the preferred alternative for Sites 1A, 1D, 1E, 1F, and 2A.

2.4.4.3.2 Community Acceptance

A public meeting was held on 14 May 1998 to present the preferred alternative to the public. No comments were received during the public meeting or public comment period.

2.4.5 Selected Remedy for OU3 Sites 1A, 1D, 1E, 1F, and 2A

The selected remedy for OU3 Sites 1A, 1D, 1E, 1F, and 2A is Alternative 2: Excavation/ Removal and On-Base Disposal. Soil will be excavated and transported to Site 7 (Box Canyon landfill) for disposal.

The full description of Alternative 2 is presented in Section 2.4.3.2. The approximate areas of excavation are delineated in Figures 2-6 through 2-10. The excavation areas are based on sample results, physical attributes of the site, geophysical surveys conducted at the sites, and historical aerial surveys. The area designations are dashed where there are no sample data representing levels below remedial goals. Excavation depths range from 3 to 10 feet as shown in Figures 2-6 through 2-10. The estimated volumes of soil to be removed from each site are listed below:

Site	Estimated Excavated Soil Volume (cubic yards)
1A	31,700
1D	40,000
1E	4,000
1F	36,300
2A	17,700

Additional data was collected in May 1998 as part of the preconstruction effort to refine the extent of contamination. While estimated boundaries and volumes of soils to be excavated changed for individual sites, based on the additional data, the combined site soil volume remained essentially the same. Results are provided in the Energy Dispersive X-ray Fluorescence Field Investigation Report, dated 5 August 1998. The additional data results will be incorporated into the remedial design report for these sites.

The excavation strategy for each site is to minimize the excavation depth while meeting the remedial objectives. In areas driven by ecological risk only, the maximum excavation depth will be 5 feet. During the site restoration phase, this area will be covered with a minimum of 5 feet of clean soil to eliminate future risk of ecological exposure to any residual contamination remaining below a 5-foot depth. The same strategy will apply to areas driven by human health risks. The maximum excavation depth will be limited to 10 feet. The area will be backfilled with a minimum of 10 feet of clean soil if contaminant concentrations at 10 feet still exceed remedial goals.

The excavated soil will be transported to Site 7 - Box Canyon Landfill, which has been designated as a CAMU for these remedial actions. The Site 7 landfill has been inactive since May 1984. A removal action has been implemented at Site 7 for a phased installation of a landfill cap. The second phase of the landfill cap was designed to use the excavated soil from the OU3 sites as part of the fill (SWDIV, 1997c). The CAMU designation of Site 7 was publicly reviewed as part of the OU3 proposed plan. The criteria, as specified in 40 CFR 264.552(c), and rationale for designation follow:

- The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective corrective action measures.

  The use of Site 7 as a CAMU for the disposal of excavated soil from OU3 sites is a reliable, effective, and protective remedy. A landfill cap will be placed over the excavated soil to limit mobilization of contaminants and minimize potential exposure. The use of Site 7 as a CAMU is more cost-effective than other alternatives evaluated such as off-site disposal.

- Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes, hazardous substances, or hazardous constituents.

The excavated soils from OU3 sites are not expected to result in any unacceptable risks at Site 7. The landfill cap will prevent direct future exposure to humans and the environment. In addition, site data has been evaluated to assess if soils from Sites 1A, 1D, 1E, 1F, and 2A would impact groundwater beneath Site 7. Results of the DLM using RI data and leachability testing of site soils show that placement of the wastes at Site 7 from these five sites would not have a detrimental impact on groundwater. Further evaluation of existing soil and groundwater data, soil pH, landfill gas generation, features of the planned cap at Site 7, and local rainfall data was performed to assess the leaching potential from the site soils. Each of the factors evaluated indicate that metals present in the soils to be placed at Site 7 will not adversely impact groundwater. Details of this evaluation are presented in the Technical Memorandum for Leaching Potential of Sites 1A, 1D, 1E, 1F, and 2A dated 2 October 1998 (SWDIV, 1998c). Review of this evaluation by the EPA's Office of Research and Development found the evaluation to be technically acceptable and found little risk of metals mobilization from the consolidated/capped contaminated soils (EPA, 1998b).

- The CAMU shall include uncontaminated areas of the facility, only if including such areas of the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility.

  Excavated soil from OU3 sites will only be located within the existing footprint of the Site 7 landfill and will not include uncontaminated areas.

- Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.

  The Site 7 landfill will be capped to contain the excavated soil and minimize the potential for future releases from the soil to groundwater.

- The CAMU shall expedite the timing of corrective action activity implementation, when appropriate and practicable.

  Using Site 7 for disposal of excavated soil from OU3 sites will expedite the remedial action because it will take less time than off-site disposal.

- The CAMU shall enable the use, when appropriate, of technologies (including innovative technologies) to enhance the long-term effectiveness of corrective actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU.

  The mobility of contaminants in the soil excavated from the OU3 sites will be reduced when placed at Site 7 because the depth to groundwater at Site 7 is greater than the OU3 remedial action sites and the landfill cap will be placed over the excavated soil.

- The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

  The consolidation of soil wastes from OU3 sites at Site 7 will aid in minimizing the land area of MCB Camp Pendleton upon which wastes will remain in place.

Additional information regarding the CAMU designation of Site 7 is provided in Appendix B.

Costs for the selected alternatives for the OU3 sites are as follows:

Site	Cost for Removal/Excavation and On-Base Disposal (millions)
1A	$1.3
1D	$1.4
1E	$0.1
1F	$1.5
2A	$0.7

Groundwater at OU3 Sites 1A, 1D, 1E, 1F, and 2A was recommended for no further action in the Group C and Group D RI reports (SWDIV, 1996a and 1997b). Excavation of contaminated soil at these sites will eliminate the potential for soil contaminants to leach to groundwater. Based on the DLM, excavated soil from Sites 1A, 1D, 1E, and 1F will not have the potential to impact groundwater at Site 7 (SWDIV, 1998a). Soil from Site 2A exceeded the designated levels, although only slightly; therefore, the soil from Site 2A was tested for leachability using DI WET analysis. The DI WET results were compared against a soluble designated level predicted by the DLM. DI WET results were less than the soluble designated levels, indicating that Site 2A soils would not pose a threat to groundwater (SWDIV, 1998b). Additional detail regarding potential leachability of Sites 1A, 1D, 1E, 1F, and 2A soils is presented in the technical memorandum dated 2 October 1998 (SWDIV, 1998c).

2.4.6 Statutory Determinations

This section discusses how the selected remedy for Sites 1A, 1D, 1E, 1F, and 2A meets the statutory requirements of CERCLA Section 121. Under CERCLA Section 121, the selected remedy at a Superfund site must entail remedial actions that achieve adequate protection of human health and the environment. In addition, CERCLA Section 121 establishes several other statutory

requirements and preferences specifying that, when complete, the selected remedial action must comply with ARARs established under Federal and State environmental laws unless a statutory waiver is justified. The selected remedy must also be cost-effective and must entail permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ, as their principal element, treatment technologies that permanently and significantly reduce the volume, toxicity, or mobility of hazardous wastes.

2.4.6.1 Protection of Human Health and the Environment

Under current conditions, human health risks associated with Sites 1A, 1D, 1E, 1F, and 2A are within the EPA cancer risk management range of 10^{-6} to 10^{-4}; however, the noncancer HQ for humans is greater than 1.0 for each site and lead exceeds acceptable criteria set by the EPA and DTSC for most sites. The risk to ecological receptors also exceeds acceptable levels. The selected remedy was chosen because soil contamination will be reduced to acceptable levels for both human and ecological receptors. Removal of contaminated soil will also eliminate the potential for migration of soil contaminants to groundwater. The potential risk for workers implementing the remedial actions for these five sites will be addressed in a site-specific health and safety plan.

2.4.6.2 Compliance with Applicable or Relevant and Appropriate Requirements

The selected remedy will comply with all Federal and State ARARs. The ARARs for Alternative 2 at Sites 1A, 1D, 1E, 1F, and 2A are discussed in Appendix B.

2.4.6.3 Cost-Effectiveness

The selected remedy was evaluated for cost-effectiveness in comparison with the other two alternatives. The no action alternative is less expensive than the selected alternative but does not reduce risk at the sites to acceptable levels. The selected alternative is the least expensive alternative that will be protective of human health and the environment and comply with ARARs.

2.4.6.4 Use of Permanent Solutions and Alternative Treatment Technologies to the Extent Practicable

The selected remedy uses permanent solutions and treatment technologies to the maximum extent possible for Sites 1A, 1D, 1E, 1F, and 2A. Because of the nature and concentration of contaminants, treatment was not found to be a practical solution. However, capping will reduce the mobility of contaminants by reducing infiltration.

The selected alternative provides the best balance between effectiveness and cost of the three alternatives considered with respect to the five EPA balancing criteria (i.e., long-term effectiveness; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost).

Alternative 1 would leave contaminated soil in place. The selected alternative and Alternative 3 both provide a high degree of long-term effectiveness and permanence because contaminated soil would be removed. Under the selected alternative the contaminated soil will be excavated, placed into a CAMU, and covered with an engineered cap.

None of the alternatives would reduce mobility, toxicity, or volume of the waste because treatment was found to be neither practical nor feasible. Treatment technologies evaluated were not considered feasible because they did not meet RAOs, were energy-intensive and costly, or were not effective for the COCs. The selected alternative was the greatest short-term effectiveness. Although excavation and earthmoving activities are the same for Alternatives 2 and 3, potential exposure during implementation is greater for Alternative 3 because transportation distances and implementation schedules are longer.

Alternative 2 is slightly easier to implement than Alternative 3. Alternative 3 includes longer transportation distances and compliance with permitting requirements for off-base disposal.

For each of the five sites, Alternative 2 is less expensive than Alternative 3. Because Alternatives 2 and 3 are considered approximately equal with regard to three of the other four balancing criteria, the least costly alternative has been selected.

2.5 Remedial Action Selected for Site 7 - Box Canyon Landfill

2.5.1 Site Name, Location, and Description - Site 7

Site 7 - Box Canyon Landfill is located near the southwest corner of the base in 20 Area to the east of Vandegrift Boulevard less than a mile northeast of Stuart Mesa Road (Figure 2-11).

The inactive landfill covers an area of approximately 28 acres. The majority of Box Canyon in which landfilling activities were conducted has been filled with landfill material to the surface of the surrounding marine terrace, which is approximately 140 feet above the Santa Margarita

riverbed. Near the canyon entrance, the landfill slopes steeply down to the north and terminates approximately 1,000 feet from the Santa Margarita River.

2.5.2 Site History and Enforcement Activities

The site was used for quarry operations from approximately 1946 to 1970. The site began Class III landfill operations in May 1974 which ended in 1984. The landfill has been inactive since 1984. Typical wastes accepted for landfilling reportedly included household and construction refuse consisting of tree and lawn clippings, scrap lumber and metal, appliances, furniture, paper, fill, dirt, asphalt, concrete, tile, cans, containers, magazines, and boxes. The site also reportedly received dry cleaning sludges containing stoddard solvent; contaminated soil and dumpster waste containing fuels, POLs, solvents, thinners, strippers, epoxies, sealants, paint wastes, and chemical cleaners.

Based on the nature of wastes disposed at Site 7, a removal action to cap the landfill following the EPA Presumptive Remedy guidance (EPA, 1993) was proposed in the Group B RI (SWDIV, 1995b). Because of the large volume and heterogeneity of the contents of municipal landfills, treatment usually is impracticable and the EPA considers containment to be the appropriate response action, or the presumptive remedy, for the source areas of municipal landfill sites.

An engineering evaluation/cost analysis (EE/CA) was prepared to evaluate closure of Site 7 (SWDIV, 1995d). An addendum to the EE/CA was prepared in 1997 to evaluate an additional cap option (SWDIV, 1997c). Capping alternatives were evaluated as discussed in Section 2.5.5. Since Site 7 is a landfill and the presumptive remedy approach was used in the EE/CA, the level of detail provided in the EE/CA is considered adequate to meet the requirements of an FS, and is used as such for this ROD. Phase 1 of the cap was completed in October 1997. Phase 2 is planned to coincide with disposal of soils from the OU3 remedial action sites.

2.5.3 Summary of Site Characteristics

The initial RI work at Site 7 was conducted during March 1993 through March of 1994. Four soil samples were collected from the surface of the landfill and one soil sample was collected from the surface just outside the northwest edge of the landfill (Figure 2-11). Soil samples were analyzed for VOCs, SVOCs, gasoline, diesel, pesticides, PCBs, and herbicides. Twenty new groundwater monitoring wells were installed and sampled at Site 7. Three groundwater monitoring wells installed during a previous investigation at the site were also sampled (Figure 2-11). Three rounds

of groundwater monitoring were conducted during the initial RI. Samples were analyzed for metals, VOCs, SVOCs, gasoline, diesel, pesticides, PCBs, herbicides, and general chemistry. Three additional rounds of groundwater sampling of the 23 wells were conducted between June 1994 and July 1995. An ecological survey was conducted to identify potential special-status species habitats and trappings were conducted to determine presence of the Pacific pocket mouse. No special-status species were identified at Site 7. Samples were analyzed for metals, VOCs, SVOCs, gasoline, diesel, pesticides, PCBs, herbicides, and general chemistry.

A 24-hour meteorological survey was conducted on 8 and 9 September 1993. Based on the results of the meteorological survey, four 24-hour ambient air samples were collected from 9 to 10 September 1993. Ambient air and air traps (e.g., stairwells, crawl spaces, confined spaces, vents and vaults) were sampled for methane and hydrogen sulfide.

The results of the initial RI at Site 7 are reported in the Group B RI report (SWDIV, 1995b). The results of additional sampling and surveys are presented in the technical addendum to the Group B RI report (SWDIV, 1996c). These results are summarized in the following sections.

2.5.3.1 Geology and Hydrogeology

This section summarizes the geology and hydrogeology for Site 7 from the Group B RI (SWDIV, 1996c). Five distinct geologic units were encountered during the RI at Site 7. These are, from youngest to oldest, the younger alluvium of the Santa Margarita River, Pleistocene marine terrace deposits, the Plio-Pleistocene San Mateo Formation, post-mid-Miocene/pre-Pleistocene sandy and gravelly alluvial deposits, and the mid-Miocene San Onofre Breccia.

The San Onofre Breccia is unconformably overlain by Pleistocene terrace deposits on the west side of the landfill and by the sandy and gravelly alluvial deposits on the north and east sides of the landfill. Field measurements indicate that the San Onofre Breccia strikes to the northwest and dips 10 to 15 degrees to the southwest.

The San Onofre Breccia is not expected to contain or transmit substantial quantities of groundwater (Palmer, 1990). Although this formation is considered an aquitard because of its poor sorting and high percentage of fine-grained materials (Palmer, 1990), two aquifers were encountered in the lower member of the San Onofre Breccia. No significant groundwater was observed in the upper member of the San Onofre Breccia.

The sandy and gravelly alluvium unconformably overlies the San Onofre Breccia and has several characteristics that make it a potential preferential pathway for leachate migration from the Box Canyon landfill. Thus, leachate from the Box Canyon landfill could potentially migrate downgradient through the sandy and gravelly alluvium to the Santa Margarita Basin.

The Plio-Pleistocene San Mateo Formation is exposed in cliffs along Ash Road, approximately 1,500 feet southwest of the Box Canyon landfill, and unconformably overlies the San Onofre Breccia. The contact between the two units is concealed. This unit was not encountered during well installation or soil sampling activities; it is offset by a normal fault that may be related to other faults in the vicinity of Site 7.

The Pleistocene marine terrace deposits unconformably overlie the San Onofre Breccia on the south, west, and north sides of the Box Canyon landfill and the sandy and gravelly alluvium on the east side of the landfill.

The younger alluvium was encountered only in the wells installed in the Santa Margarita Basin, adjacent to the Box Canyon landfill. The alluvium thickens northward and westward toward the Santa Margarita River (away from the landfill).

Evidence of at least two sets of faults was observed in the vicinity of Site 7. One set strikes northeast, and the other strikes northwest. The evidence of faulting includes offset bedding, drag folding, slickensides, fault gouge, and lineations in aerial photographs.

Monitoring wells at Site 7 were installed in three geologic units having distinct hydrogeologic characteristics: Pleistocene marine terrace deposits, San Onofre Breccia Formation, and sandy and gravelly alluvium.

The Pleistocene marine terrace deposits are generally restricted to the uppermost 60 feet of strata and do not appear to act as a separate aquifer. These deposits locally may act as a perched aquifer; however, the presence of sandstone and cobble conglomerate (at the base of the deposits) probably allows percolation of surface waters to the underlying formations.

Nine groundwater monitoring wells were installed in the San Onofre Breccia Formation. Groundwater was encountered in two distinct zones: a shallow zone that extends from 110 to

150 feet below grade, and a deep zone that extends from approximately 150 to 190 feet below grade. The two saturated zones appear to be separated by an aquitard of variable thickness and moisture content (dry to moist).

Six groundwater monitoring wells were installed in the sandy and gravelly alluvium. Groundwater was first encountered within the alluvium at depths of approximately 144 and 160 feet below ground surface and was found to be continuous to at least 220 feet in wells 7W-03 and 7W-06C. In monitoring wells 7W-08B and 7W-08C, the sandy and gravelly alluvium extends from approximately 45 to 117 feet below ground surface and, again, appears to be a continuous aquifer.

No confining zones or changes in water content were observed during drilling, which further indicates that the alluvium acts as one continuous aquifer. The unit is expected to be highly permeable because of its relatively coarse overall grain size and low percentage of fine grains.

Groundwater recharged through the sandy and gravelly alluvium near well cluster 7W-03 would tend to flow toward the landfill. The northwesterly groundwater flow direction through the sandy and gravelly alluvium near well cluster 7W-06 suggests that a pathway may exist for leachate migration from the landfill toward the Santa Margarita River. The planned cover will minimize the potential for rainfall infiltration and the generation of leachate at concentrations above acceptable criteria.

Five groundwater monitoring wells were installed in the alluvium of the Santa Margarita Basin. Groundwater was encountered 12 to 21 feet below ground surface. Observations during drilling and aquifer testing indicate that the alluvium acts as a continuous aquifer from an elevation of 10 feet msl to its intersection with consolidated bedrock. This depth varies and generally increases with distance (to the north) from the marine terrace.

The groundwater flow direction at the site is southwest to northwest. The hydraulic gradient, as determined from water levels measured on 20 April 1994 and 21 August 1995, ranges from approximately 0.076 ft/ft northwest of the landfill to approximately 0.40 ft/ft southwest of the landfill.

The direction of the horizontal hydraulic gradient in the deeper water-bearing units generally is similar to that of the first-encountered groundwater, with the exception of the area in the vicinity

of well 7W-11. Site 7 lies within a recharge area, as indicated by lower head readings in deep monitoring wells compared with shallow wells.

2.5.3.2 Soil Results

Soil sample locations are shown in Figure 2-11. Low concentrations (ranging from approximately 10 to 100 µg/kg) of several polycyclic aromatic hydrocarbon (PAH) compounds were detected in sample 07SD004. Two other organics, toluene and bis(2-ethylhexyl)phthalate were detected in four of the five surface soil samples. Toluene was detected at a concentration of 1J µg/kg in samples 07SD002-LABQC and 07SD005. Bis(2-ethylhexyl)phthalate concentrations ranged from 150J to 1,800B µg/kg.

2.5.3.3 Groundwater Results

Figure 2-11 presents groundwater analytical results for organic contaminants detected at concentrations exceeding MCLs or PRGs in at least one Site 7 well. The figure also presents the breakdown products associated with these organics even though they did not exceed MCLs or PRGs. Metals were all below background and/or MCLs during the last four quarters of monitoring. Therefore, no inorganics are shown in the figure.

Groundwater analytical results for the RI are briefly described below:

- 1,2-DCA was detected during the second quarter 1993 above the MCL in one well, 7W-11B, at 2.0J µg/l. The MCL for 1,2-DCA is at the detection limit, 0.5 µg/l. 1,2-DCA was detected in 7W-11C during the third quarter 1993 at 0.5 µg/l and in well 7W-11A during the first quarter 1994 at 0.6 µg/l. It was detected in wells 7W-11A, 7W-11B and 7W-11C during the fourth quarter 1994 at 0.7, 1.0, and 0.6 µg/l, respectively. 1,2-DCA was not detected in any of these three wells during the first and second quarters 1995.

- 1,2-DCA was detected in well 7W-06A in a duplicate sample during the fourth quarter 1994 at 0.5 µg/l but not in the two subsequent rounds of sampling. It was not detected in the other well of the 2-well cluster, 7W-06B.

- PCE was detected below its MCL (5 µg/l) in well 7W-06A during the second and third quarters 1993 and during the first and fourth quarters 1994 at 1.0, 2.0, 2.0, and 1.0 µg/l, respectively. It was not detected in subsequent quarters in well 7W-06A or in the other well of the 2-well cluster, 7W-06B.

- PCE was detected once below its MCL (5 µg/l) in well 7W-07 during first quarter 1994 at 2.0 µg/l, but was not detected in three subsequent quarters.

- PCE was not detected in well 7W-11C. It was detected in wells 7W-11A and 7W-11B but did not exceed MCLs. PCE was detected in well 7W-11B during the second and third quarters 1993 and the first quarter 1994 at 0.5, 0.9, and 0.7 µg/l, respectively. It was not detected in 7W-11B during the fourth quarter 1994, it was detected in the first quarter 1995 at 0.7 µg/l, but was not detected during the second quarter 1995. PCE was detected in 7W-11A during the second and third quarters 1990, the first and fourth quarters 1994, and the first and second quarters 1995 at 1.5, 1.2, 1.0, 1.0, 1.0, and 0.7 µg/l, respectively.

- 1,1-DCA was detected below its MCL (5.0 µg/l) in wells 7W-06A, 7W-11A, 7W-11B, and 7W-11C. It was detected in well 7W-06A during the first and fourth quarters 1994 (maximum 1.0 µg/l) but not during the two subsequent quarters. It was detected in 7W-11A, 7W-11B, and 7W-11C during the first and fourth quarters 1994 and the first and second quarters 1995 at a maximum concentration of 3 µg/l.

- TCE was detected once above its MCL (5.0 µg/l) at its maximum concentration in well 7MW-02 at 5.2 µg/l during the third quarter 1990 but was not detected during six subsequent quarters. TCE was detected below its MCL (5.0 µg/l) in wells 7W-06A, 7W-07, 7W-11A, 7W-11B, and 7W-11C. It was only detected once at 3.0 µg/l in 7W-07 during the first quarter of 1994 but it was not detected in this well during three subsequent quarters. TCE was detected twice in 7W-06A at 0.9 µg/l during the third quarter 1993 and the first quarter 1994 but not during three subsequent quarters. TCE was detected in well 7W-11A during the second and third quarters 1990, the first and fourth quarters 1994, and the first quarter 1995 at 2.0, 1.6, 2.0, 1.0, and 0.9 µg/l, respectively, but was not detected during the second quarter 1995. TCE was detected in well 7W-11B during the second and third quarter 1993, the first and fourth quarters 1994, and the first and second quarters 1995 at 0.8, 0.9, 1.0, 0.7, 0.9, and 0.9 µg/l, respectively. TCE was detected once in well 7W-11C during the second quarter 1993 at 0.4 µg/l, but was not detected during five subsequent quarters.

- Benzene was only detected once in Site 7 groundwater. It was detected below its MCL in well 7W-07 at 1 µg/l during the first quarter 1994, but was not detected during three subsequent quarters.

- Carbon tetrachloride was detected twice in Site 7 groundwater. It was detected above its MCL (0.5 µg/l) in wells 7W-07 at 7.0 µg/l during the first quarter 1994 and at its MCL in 7W-11C at 0.5 µg/l during the third quarter 1993. It has not been detected since in at least three quarters after each detection.

- 1,4-dichlorobenzene was detected below its MCL (5 µg/l) in 7W-11A during the fourth quarter 1994 and the first quarter 1995 at 0.5 and 2.0 µg/l, respectively, but was not

detected during the second quarter 1995. It was also detected in well 7W-11B during the first and second quarters 1995 at 2.0, and 0.6 µg/l.

- Dibromochloromethane, 1,3-dichlorobenzene, bromodichloromethane, phenol, benzoic acid, bromoform, and chloromethane were detected once or twice in the last four quarters of groundwater sampling but did not exceed MCLs or did not have MCLs. The maximum detected concentrations were 2.0, 0.6, 3.0, 19, 5.0, 3.0, and 5.0 µg/l, respectively.

- Antimony, barium, chromium, manganese, molybdenum, nickel, selenium, thallium, and vanadium were detected at maximum concentrations that exceeded upgradient background concentrations. However, the 95 percent upper confidence limit of the mean site concentrations of these metals did not exceed background except for barium. The maximum concentrations of other metals detected were less than background. There was no background for antimony or thallium available. Barium was detected in 48 of 85 groundwater samples at Site 7. The maximum barium concentration was 362 µg/l which is less than its MCL (1,000 µg/l). Antimony was detected in 2 of 85 groundwater samples. It was detected at 13.3 µg/l in wells 7W-4A and 7W-5A during the second quarter of 1993. The detected antimony concentrations exceed the MCL (6 µg/l). Antimony was not detected during the last four quarters of sampling in 1994 and 1995. Thallium was detected in 4 of 85 groundwater samples. The maximum thallium concentration was 26 µg/l which exceeds its MCL (2 µg/l). All other detections were less than the MCL. Thallium was not detected during the last four quarters of sampling in 1994 and 1995.

- Nitrate was detected at a concentration exceeding its MCL (10 µg/l) only once in an upgradient well 7W-01A during the first quarter 1994 at 14.3 µg/l.

2.5.3.4 Ambient Air and Soil Gas Results

Ambient air monitoring consisted of a 24-hour meteorological survey of wind speed and direction, collection of 24-hour ambient air samples, and direct testing of hydrogen sulfide and methane concentrations. Four soil-gas samples were collected, in duplicate, at the Santa Margarita School and the Wire Mountain Housing Area. The presence of an impenetrable caliche-type soil layer limited sampling depths to 1.5 feet instead of the proposed 3 to 6 feet. The areal extent of the caliche layer is not well defined. Based on the four soil-vapor sample locations, it may extend about 800 feet in a north/south direction. This unit could act as a capping layer that would restrict the upward migration of soil vapors.

Air sampling results are summarized below:

- Four ambient air samplers were placed at the Box Canyon landfill in accordance with CARB requirements. Low levels (1.2 to 2.0 ppb) of 1,1,1-TCA were detected in all four samples. The presence of 1,1,1-TCA in the upwind samples indicates that the landfill is probably not the source for this compound. It is difficult to determine the source of these low levels of 1,1,1-TCA. However, sampling locations were relatively close to roads and developed areas.

- Hydrogen sulfide and methane were not detected in any of the tests at the specified instrument detection limits.

No halogenated volatile compounds were detected in the soil-gas samples. Complete analytical results for the soil-gas samples are presented in Appendix G of the technical memorandum for Group B sites (SWDIV, 1993d).

2.5.4 Summary of Site Risks - Site 7

2.5.4.1 Human Health Risk Characterization

The HHRA for Site 7 soil was an interim screening assessment because of the planned capping of the landfill; capping of this landfill began in 1997, and Phase I was completed 17 November 1997. PAH compounds in one sample, 07SD004, were the primary contributors to risk and resulted in a maximum total site-related risk (residential scenario) of $1x10^{-5}$ for soil at Site 7. No individual PAH exceeded the incremental lifetime cancer risk (ILCR) of $1x10^{-6}$ for ingestion, and benzo(a)pyrene toxicity values were used for PAH compounds of probable lesser toxicity. The total maximum hazard index (HI) for soil was less than the target criterion of 1.0. Because of the small number of soil samples collected and the placement of the landfill cap, no further risk assessment evaluation was conducted for Site 7 soil.

The landfill material is assumed to be contaminated and sampling of the fill material was not conducted consistent with the EPA presumptive remedy guidance. The site was investigated to determine the potential for off-site gas migration and the potential impact to groundwater during the remedial investigation. The potential for gas migration was determined not to be a concern based on results of air monitoring at the site and at the neighboring residential area and elementary school.

There were groundwater contaminants detected intermittently in some of the 23 monitoring wells at the site. The noncancer hazard index was 3.2 due to antimony (1.7 HQ) and thallium (1.4 HQ). Neither thallium nor antimony were detected during the latest 2 rounds of sampling. The main contributors to the groundwater cancer risk were 1,2-dichloroethane (1,2-DCA), tetrachloroethene, and trichloroethene. The cancer risk was calculated to be within the risk management range ($1x10^{-5}$). The results of the latest 2 rounds of sampling (first and second quarter of 1995) were nondetect for 1,2-DCA and the other risk contributors were less than their MCLs. The risk/hazard for groundwater is within the NCP risk management range and is determined to be acceptable.

2.5.4.2 Ecological Risk Assessment

No ecological risk assessment was conducted for Site 7 because no special-status species or habitat were identified and a landfill cap was planned to be installed.

2.5.5 Description of Alternatives - Site 7

The landfill presumptive remedy approach was used to assess alternatives for Site 7. The components of the landfill presumptive remedy include: a landfill cap, source area groundwater control to contain the plume, leachate collection and treatment, landfill gas collection and treatment, and institutional controls.

An EE/CA was prepared to evaluate capping options for Site 7 (SWDIV, 1995d). Four cap alternatives were evaluated for Site 7. All four alternatives include drainage controls, gas monitoring, groundwater monitoring and land use restrictions. No landfill gas collection/control system is required because it has been determined that the landfill does not have the potential to generate significant amounts of gas. Three of the alternatives, Alternatives 1, 2, and 3, consisted of the four layers of a prescriptive cap, but the barrier layer material was varied. The prescriptive cap layers are as follows:

Foundation layer: minimum 2-foot-thick layer of soil over the waste, compacted to provide adequate structural support for successive layers

Barrier layer: infiltration barrier layer composed of low-permeability material

Drainage layer: soil or geocomposite layer with high permeability to permit drainage of infiltration through the topmost protective soil layer

Protective soil layer: minimum 12-inch soil layer to protect the barrier layer, control surface erosion, and provide a medium for vegetation

The different barrier layers for Alternatives 1, 2, and 3, respectively, are as follows:

1. Low permeability clay layer
2. Native soil mixed with bentonite to reduce permeability
3. A textured high-density polyethylene (HDPE) flexible membrane liner (FML).

One additional cap alternative, an evapotranspiration (ET) cover (Alternative 4), was evaluated in the Technical Addendum to the EE/CA (SWDIV, 1997d). This cap includes a vegetated topsoil layer (1 foot thick) over a minimally compacted 3- to 4-foot soil layer. The bottom layer consists of a 1-foot compacted low-permeability ($1x10^{-5}$ centimeters per second [cm/s]) soil layer.

2.5.6 Summary of Comparative Analysis of Alternatives - Site 7

The four cap alternatives were evaluated on the basis of effectiveness, implementability, cost, and compliance with ARARS. A summary of the evaluation is provided in the following sections.

2.5.6.1 Overall Protection of Human Health and the Environment and Compliance with ARARs

Each of the four alternatives would provide adequate overall protection of human health and the environment. For each alternative, the major threat is addressed through containment and appropriate continued monitoring and maintenance. Each of the alternatives also comply with ARARs. Details are provided in Appendix B.

2.5.6.2 Long-Term Effectiveness and Permanence

Each of the alternatives provide a high degree of long-term effectiveness and permanence. The cap and monitoring activities provide adequate and reliable reduction of exposure pathways and potential human health and ecological risks. The ET cover, however, will require less maintenance than the other cap options since the cover is inherently self-renewing and not damaged by long-term wetting and drying. Also, the ET cover will not include synthetic materials and therefore will not be prone to potential deterioration over time.

2.5.6.3 Reduction of Toxicity, Mobility, and Volume Through Treatment

Alternatives 1, 2, 3, and 4 do not include treatment, therefore, no reduction in toxicity, mobility, or volume would occur due to treatment.

2.5.6.4 Short-Term Effectiveness

Potential exposure and protection procedures for workers during implementation of the capping alternatives would be addressed in the site-specific health and safety plans. Potential exposure of site personnel and nearby receptors to windborne particulates would be minimized through the use of dust suppressants and appropriate personal protective equipment.

Each alternative would provide for protection of surface water and groundwater. Alternative 4 provides for restoration of the site to accommodate future habitat to support endangered species. Alternative 4 also preserves additional areas of habitat along the north slope, thus eliminating mitigation measures required by the other three alternatives.

Alternative 4 requires the least amount of construction time, approximately 7 months. The other alternatives range between 9 to 12 months for implementation.

2.5.6.5 Implementability

Equipment, materials, and labor for each alternative are available. The ET cover, Alternative 4, will be relatively easy to construct since only general earthwork is needed with no requirement for strict compaction control. Additionally, no seaming of synthetic materials is required.

2.5.6.6 Cost

The overall cost and cost per acre for Alternative 4 are less than the costs for Alternatives 1, 2, and 3. The estimated costs for each alternative are as follows:

	Cost (Millions $)	Cost per Acre (Millions $)
Alternative 1	$5.9	0.22
Alternative 2	$6.2	0.22
Alternative 3	$5.7	0.21
Alternative 4	$3.1	0.11

2.5.6.7 State Acceptance

The DTSC and San Diego RWQCB agree with the selection of the ET cap and associated actions for Site 7.

2.5.6.8 Community Acceptance

No comments were received from the public during the review for the Site 7 EE/CA.

2.5.7 Selected Remedy for Site 7

The selected remedy for Site 7 is Alternative 4 - Evapotranspiration Cover. This alternative includes construction of an ET cover system for the top deck of Box Canyon landfill. No additional cover material for the north slope of the landfill is planned. The north slope is approximately 4 acres in size with densely vegetated slopes of 2.0-2.5 horizontal on 1.0 vertical and includes approximately 5 feet of existing cover material. Since this slope is considerably steep, a majority of rainfall runs off the slope with very little actually infiltrating the slope. The TR-55 runoff model developed by the Soil Conservation Service (SCS) indicates that for a 24-hour, 100-year storm event (3.3 inches of rain) approximately 2.54 inches runs off and only 0.75 inch infiltrates into the slope. Due to the dense vegetation on the north slope, ET processes are effective at controlling the low percentage of infiltration on the steep slopes. However, lined drainage ditches will be installed at the benches to eliminate infiltration along the relatively flat terraces.

The ET cover utilizes the natural process of surface runoff, storage, evaporation, and transpiration to control infiltration of water through the landfill cover. The basic profile of an ET cover includes a vegetated top soil layer, a minimally compacted soil layer and an optional low-permeability layer. The purpose of the topsoil layer is to promote vigorous plant growth, and the purpose of the underlying minimally compacted soil layer is to provide substantial water storage for removal by the natural process of evapotranspiration. The basic purpose of the low permeability bottom layer is to act as a barrier between the cover and the waste. Soils most suitable for ET covers are those with a high available water retention capacity and an adequate supply of nutrients to support vigorous plant growth. Vegetation's most suitable for ET covers are generally a wide mixture of native grass species so that high transpiration is maintained even under adverse growing conditions and during long-term climatic changes.

ET covers, in general, require less maintenance than traditional covers since this type of cover system is inherently self renewing. Also, ET covers are generally more easily constructed since only general earthwork is required and strict compaction control is generally not required. Additionally, labor intensive details associated with synthetic materials are not required.

The ET cover selected for Site 7 includes a vegetated topsoil layer (1-foot-thick) underlain by a minimally compacted 3- to 4-foot soil layer with a 1- to 3-foot compacted, low-permeability bottom layer. A schematic diagram of this cross-section is shown in Figure 2-12. The cap will cover 28 acres. This alternative would include grading the existing surface, transporting on-base borrow soils as necessary, and importing topsoil. On-base borrow soil will be obtained from the Lemon Grove area of MCB Camp Pendleton. Lemon Grove is located approximately 1 mile southwest of Site 7. The borrow soil sites have been screened for biological and archaeological concerns. A vernal pool area was identified near the borrow sites. The vernal pool will be fenced prior to removal activities. No archaeological concerns were identified.

To ensure that human health and the environment are protected in the future, no breaching of the soil cap at Site 7, through trenching, excavation, or any other similar activity may occur unless prior approval of the FFA signatories is obtained. This restriction does not apply to maintenance activities for purposes of preservation or restoration of the physical integrity of the cap. If a breaching of the cap is proposed other than for purposes of such maintenance, the FFA signatories must be provided with written notification of such a proposed action. MCB Camp Pendleton shall prepare and include an evaluation of the risk to human health and the environment and an evaluation of any need for additional remedial action resulting from the proposed action and shall propose any necessary changes to the remedial action selected in the OU3 ROD in the written notification of a proposed change. The EPA will advise whether a ROD amendment or an explanation of significant difference is required. The FFA signatories must provide written concurrence with MCB Camp Pendleton's evaluation of risk and proposal regarding any necessary changes in the remedial action, if required, before such an action is implemented by MCB Camp Pendleton.

MCB Camp Pendleton shall notify the FFA signatories of any plan to lease or transfer Site 7 real property to a non-Federal or Federal entity. Such notification shall be provided at least 30 days in advance of the lease or transfer conveyance. MCB Camp Pendleton shall comply with Section 120(h)(3) of CERCLA in any such transfers to a non-Federal entity.

The MCB Camp Pendleton Base Master Plan will be amended to incorporate the above-mentioned use limitations and notice requirements for Site 7. The Master Plan amendments will also include language that describes the risk to human health and the environment that exists at Site 7; will reference the MCB Camp Pendleton Group C and Group D RI reports, the Site 7 EE/CA, the OU3 FS report, and the OU3 ROD; and will provide a legal description (metes and bounds) of the boundaries of Site 7. The language in the Master Plan amendments will also include the title and dates of the above-listed documents and their storage location. These amendments to the Master Plan will be completed by MCB Camp Pendleton within 1 year of signing the MCB Camp Pendleton OU3 ROD. The FFA signatories will be provided with a copy of the amendments to the Master Plan reflecting the land use limitations at Site 7.

Long-term groundwater monitoring will also be conducted. Selected groundwater monitoring wells will be analyzed biannually for 5 years. The collected groundwater monitoring wells will be analyzed for volatile and semivolatile organics, metals, and general chemistry. These groundwater monitoring results will be assessed at the end of 5 years, or sooner if appropriate, to determine if any additional sampling is required. No remediation for groundwater at Site 7 is necessary. The carcinogenic human health risk is within the EPA's risk management range.

The estimated cost for this alternative is $3.1 million. The cost per acre is $109,300.

2.5.8 Statutory Determinations

This section discusses how the selected remedy for Site 7 meets the statutory requirements of CERCLA Section 121. Under CERCLA Section 121, the selected remedy at a Superfund site must entail remedial actions that achieve adequate protection of human health and the environment. In addition, CERCLA Section 121 establishes several other statutory requirements and preferences specifying that, when complete, the selected remedial action must comply with ARARs established under Federal and State environmental laws unless a statutory waiver is justified. The selected remedy must also be cost-effective and must entail permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ, as their principal

element, treatment technologies that permanently and significantly reduce the volume, toxicity, or mobility of hazardous wastes.

2.5.8.1 Protection of Human Health and the Environment

The remedy selected for Site 7 will provide protection of human health and the environment by eliminating direct contact of landfilled wastes or inhalation of particulates by humans and animals. The cap will also minimize infiltration of water and leaching of contaminants to the groundwater. Cleanup levels were not established because the type of cap selected and associated actions were determined by ARARs. Short-term potential risks to workers and nearby receptors will be addressed in the site-specific health and safety plan; dust suppression measures and protective clothing will be specified.

2.5.8.2 Compliance with Applicable or Relevant and Appropriate Requirements

The selected remedy will comply with all Federal and State ARARs. The ARARs for Alternative 4 at Site 7 are discussed in Appendix B.

2.5.8.3 Cost-Effectiveness

The selected remedy was evaluated for cost-effectiveness in comparison with the other three alternatives. The selected alternative is the least expensive alternative that will be protective of human health and the environment and comply with ARARs.

2.5.8.4 Use of Permanent Solutions and Alternative Treatment Technologies to the Extent Practicable

The selected remedy uses permanent solutions and treatment technologies to the maximum extent possible. Because the site is an inactive landfill, the presumptive remedy was considered appropriate for Site 7.

The selected alternative provides the best balance between effectiveness and cost of the four alternatives considered with respect to the five EPA balancing criteria (i.e., long-term effectiveness; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost).

The selected alternative and Alternatives 1, 2, and 3 provide a high degree of long-term effectiveness and permanence because wastes would be appropriately contained. Under the selected alternative the wastes would be covered with an engineered ET cap.

None of the alternatives would reduce mobility, toxicity, or volume of the waste because treatment was found to be neither practical nor feasible. Treatment technologies were not specifically evaluated because based on presumptive remedy guidance, they are routinely and appropriately screened out on the basis of effectiveness, feasibility, and cost. The selected alternative provided the greatest short-term effectiveness, due to the shorter timeframe required for implementation.

Alternative 4 is easier to implement than the other alternatives, because seaming and placement of synthetic materials are not components of the ET cap.

Alternative 4 is less expensive than Alternatives 1, 2, and 3. Because Alternative 4 provides greater long-term and short-term effectiveness, the most cost-effective alternative has been selected.

2.6 No Action Selected for Sites 1B, 1C, 1G, 1I, 2C, 2D, 2E, 2F, 2G, 10, 16, 17, 18, 27, 32, 34, 35, 36, 37, 38, 39, 40, 41, and 42

This section presents descriptions, histories, characteristics, and risks associated with the OU3 no action sites. For the no action sites, all inorganics exceeding screening criteria and any detected organics are typically shown in the site-specific figures.

2.6.1 Site 1B - Refuse Burning Ground in 11 Area

Site 1B is a former refuse burning ground in the 11 Area.

2.6.1.1 Site Name, Location, and Description

Site 1B - Refuse Burning Ground in 11 Area, is located in the San Luis Rey Basin, on an unpaved road intersecting 14th Street, approximately 0.5 mile southeast of Vandegrift Boulevard (Figure 1-2). The former burning ground is approximately 340 feet long and 100 feet wide. The site is bordered on the east and south by a densely vegetated stream-cut canyon. To the north and west of Site 1B are low rolling hills with light to moderate vegetation.

No perennial surface water is present in the vicinity of the site. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and eventually discharges into Pilgrim Creek, approximately 0.5 mile to the east.

The burning ground is no longer in use and military and civilian personnel are not on site on a regular basis. The nearest residential housing is approximately 0.25 mile southwest of the site. No base production wells are located within a 1-mile radius of Site 1B. There are no water production wells in the San Luis Rey Basin.

2.6.1.2 Site History and Enforcement Activities

Site history and enforcement activities for refuse burning grounds are described in Section 2.4.1.2.

2.6.1.3 Summary of Site Characteristics

Site 1B was investigated in June and July 1996 during the RI for Group D sites. Five soil samples were collected from two borings and were analyzed for metals, VOCs, SVOCs, and pesticides and PCBs. No sediment or surface-water samples were collected because no surface water was present on site. No groundwater samples were collected because drilling refusal occurred at less than 50 feet below ground surface, before encountering sufficient groundwater for sampling.

2.6.1.3.1 Geology and Hydrogeology

Shallow geology at Site 13 consists of Quaternary alluvium overlying granitic rock (bedrock basement complex). Groundwater is assumed to flow to the east, following surface topography. The depth to groundwater is estimated to be more than 80 feet below grade.

2.6.1.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 1B. Results are summarized in Figure 2-13, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected at Site 1B at concentrations exceeding PRGs (Figure 2-13). Chlorinated pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected at low concentrations in the surface sample from boring 1BB-02; the highest concentration was 0.011 mg/kg. In addition, 4,4'-DDT was detected at a concentration of 0.003 mg/kg in the 5-foot sample from the

same boring. No organics were detected at concentrations exceeding ecological risk screening criteria.

Inorganics

Two metals, arsenic and beryllium, were detected at concentrations exceeding PRGs in two of five and four of five samples, respectively (Figure 2-13). All detections were below background levels. Only lead exceeded ecological risk screening criteria.

Summary

No organics were detected in soil at concentrations exceeding PRGs; arsenic and beryllium were the only inorganics detected, but concentrations were below background. Because only a few low-level detections of inorganics were reported and the depth to groundwater at the site is about 80 feet below ground surface, groundwater is not expected to be impacted. No significant site-related contamination exists at Site 1B.

2.6.1.4 Summary of Risks Associated with Site 1B

Human health and ecological risk assessments were conducted for Site 1B using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 1B are presented in this section.

2.6.1.4.1 Human Health Risk Characterization

COPCs in Site 1B soil include metals and pesticides. Based on the conceptual site model, current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of particulates.

The total residential cancer risk for maximum reported COPCs is 1.1×10^{-5}. The primary contributors to risk are arsenic (approximately 76 percent of the total risk) and beryllium (approximately 24 percent of the total risk). However, arsenic and beryllium concentrations at Site 1B are below the respective background concentrations. Excluding arsenic and beryllium as naturally occurring, the incremental site risks calculated using EPA and Cal/EPA PRGs are both 1.4×10^{-8}, which is below the lower end of the risk management range. The cumulative residential hazard (noncarcinogenic) for maximum detected COPCs is 0.51.

The Site 1B residential cancer risk and noncarcinogenic hazard are less than the risk and hazard criteria. In addition, the maximum lead concentration in soil (26.8 mg/kg) at Site 1B is below the EPA and Cal/EPA residential PRGs of 400 and 130 mg/kg, respectively. Therefore, Site 1B soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 1B because drilling refusal occurred before encountering sufficient groundwater for sampling. Site 1B is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins. Therefore, groundwater at Site 1B was not evaluated further in the HHRA.

2.6.1.4.2 Ecological Risk Assessment

Lead was the only preliminary COPEC with an HQ exceeding 1.0 (Figure 2-13). The HQ for lead (1.5) exceeds but is close to 1.0 for deer mouse, indicating that the potential for toxicity is relatively low. HQs are less than 1.0 for the other representative species evaluated.

Site 1B includes nonnative grasslands and coastal sage scrub habitat. Several wildlife species were observed, and special-status species could be present on site.

None of the preliminary COPECs were retained as final COPECs. The potential for exposure and effects is considered low. The HQs for all but one of the representative species are less than 1.0, indicating little or no potential for toxicity. In addition, because of its small size (approximately 1.3 acres) and proximity to developed areas, this site would provide only a limited proportion of the habitat available for the representative wildlife species. Therefore, ecological receptors would not likely be sufficiently exposed to potentially harmful contaminant concentrations to cause adverse effects.

2.6.1.5 Description of the No Action Alternative

The no action alternative selected for Site 1B includes no institutional controls. Site 1B is considered protective of human health and the environment for the following reasons:

- Under the future residential exposure scenario, maximum soil concentrations resulted in an ILCR less than $1x10^{-6}$ and an HI less than 1.0.

- The maximum lead concentration is below the screening values.

- Groundwater is not considered a complete exposure pathway for either current/future workers or future residents.

- The refuse burning ground is no longer in operation, and military and civilian personnel are on site infrequently.

- Evaluation of potential ecological risks from exposure to soil indicated that the potential for exposure and effects is low and will not likely pose a risk to ecological receptors.

2.6.2 Site 1C - Refuse Burning Ground in 13 Area

Site 1C is a former refuse burning ground in the 13 Area.

2.6.2.1 Site Name, Location, and Description

Site 1C - Refuse Burning Ground in 13 Area, is located along "A" Street and Reservoir Road, approximately 0.5 mile southwest of Rattlesnake Canyon Road (Figure 1-2). The refuse burning ground is approximately 300 feet long and 200 feet wide. The site is bordered on the east by "A" Street, on the north by Reservoir Road, and on the west and south by light to moderate vegetation. Site 1C slopes gently to the south and eventually drains into a stream-cut canyon. An unpaved dirt road runs directly through the middle of the site, and low rolling hills surround the site.

No perennial surface water is present in the vicinity of the Site 1C burning ground. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and discharges into the Santa Margarita River approximately 1 mile to the east.

No development is located in the immediate vicinity of the site. The refuse burning ground is no longer in operation, and military and civilian personnel are present on site infrequently. The undeveloped area surrounding the site is classified as a maneuver area with gently sloping topography covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). The nearest troop housing is approximately 0.25 mile southeast of the site. The nearest family housing, the

Ranch House, is located about 1 mile west of the site. No base production wells are located within a 1-mile radius of Site 1C.

The dominant habitat at Site 1C is nonnative grassland consisting primarily of wild oat and mustard. Coastal sage scrub habitat consists of coyote bush and castor bean, with a few sage interspersed. Special-status wildlife species potentially present at this site include California gnatcatcher. Bird species observed during the reconnaissance survey include western meadowlark and cliff swallow.

2.6.2.2 Site History and Enforcement Activities

Site history and enforcement activities for refuse burning grounds are described in Section 2.4.1.2.

2.6.2.3 Summary of Site Characteristics

Site 1C was investigated in June and July 1996 during the RI for Group D sites. Eight soil samples were collected from two borings and were analyzed for metals, VOCs, SVOCs, and pesticides and PCBs. No sediment or surface-water samples were collected because no surface water was present on site. No groundwater samples were collected because drilling refusal occurred before encountering sufficient groundwater for sampling.

2.6.2.3.1 Geology and Hydrogeology

Shallow geology at this site consists of Quaternary alluvium that was deposited by broad surface erosion. The alluvium is fine- to medium-grained, unconsolidated to poorly consolidated sand and interbedded silty sand. The alluvium is underlain by interbedded sandstone and siltstone bedrock of the La Jolla Group.

Based on site geology, groundwater is assumed to flow to the south, following surface topography. Soil borings were drilled to a maximum depth of 35 feet below ground surface at Site 1C. Groundwater was encountered at a depth of 34.5 feet in boring 1CB-02 but is interpreted to represent a localized, discontinuous perched layer of groundwater rather than a major water-bearing zone (aquifer) because Site 1C is located in a topographically elevated area and is isolated from the alluvial aquifer at the basin floor. Groundwater was consistently encountered at a depth of about 20 feet below grade in boreholes drilled for underground storage tank (UST) studies at the adjacent 12 and 13 Areas approximately 0.75 mile northeast of Site 1C (SWDIV, 1996b).

Because topographically the 12 and 13 Areas are about 100 feet lower than Site 1C, the groundwater table at Site 1C is estimated to be nearly 120 feet below ground surface.

2.6.2.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 1C. Results are summarized in Figure 2-14, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected in soil at Site 1C at concentrations exceeding PRGs (Figure 2-14). Low concentrations of acetone were detected in samples from both borings at Site 1C; the highest concentration was 0.024 mg/kg. In addition, 2-butanone and Aroclor-1254 were detected at concentrations of 0.003 and 0.019 mg/kg, respectively, in the 10-foot sample from boring 1CB-01. None of the detected organics exceeded ecological screening levels.

Inorganics

Beryllium was the only inorganic compound detected in Site 1C soil at concentrations exceeding PRGs. Although beryllium exceeded the PRG in all nine samples, concentrations were below the background concentration of 1.42 mg/kg and below the ecological screening value.

Summary

No organics were detected in soil at concentrations exceeding PRGs or PLEs; beryllium was the only inorganic compound detected, but concentrations were below background. Groundwater is estimated to be 120 feet below ground surface and is not expected to be impacted. No significant site-related contamination exists at Site 1C.

2.6.2.4 Summary of Risks Associated with Site 1C

Human health and ecological risk assessments were conducted for Site 1C using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 1C are presented in this section.

2.6.2.4.1 Human Health Risk Characterization

COPCs detected in Site 1C soil include metals, VOCs, and PCBs (Aroclor-1242). Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential cancer risk for maximum detected COPCs in soil is 5.1×10^{-6}. The primary contributor to risk is beryllium (approximately 94 percent of the total risk). The maximum concentration of beryllium detected at Site 1C is less than the background concentration for the San Luis Rey Basin. Excluding beryllium as naturally occurring, the incremental cancer risk is less than 1×10^{-6}.

The cumulative residential HI for maximum detected COPCs is 0.78 and is attributable primarily to metals. Excluding the portion of total hazard attributable to background metals, the incremental site HI is 0.2, which is below the threshold criterion of 1.0.

The Site 1C residential cancer risk and noncarcinogenic hazard do not exceed risk and hazard criteria. In addition, the maximum lead concentration (6.2 mg/kg) is below the EPA and Cal/EPA residential soil PRGs of 400 and 130 mg/kg, respectively. Therefore, Site 1C soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 1C during the RI because drilling refusal occurred in weathered bedrock less than 50 feet below ground surface, before encountering sufficient groundwater for sampling. Site 1C is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins. Therefore, groundwater at Site 1C was not evaluated further in the HHRA.

2.6.2.4.2 Ecological Risk Assessment

None of the preliminary inorganic COPECs exceeded available background values. All preliminary organic COPECs were evaluated for potential toxicity. None of the preliminary COPECs had HQs exceeding 1.0; therefore, no final COPECs were identified for this site. Site 1C is considered protective of ecological receptors.

2.6.2.5 Description of the No Action Alternative

The no action alternative selected for Site 1C includes no institutional controls. Site 1C is considered protective of human health and the environment for the following reasons:

- Under the future residential exposure scenario, maximum soil concentrations resulted in an ILCR less than $1x10^{-6}$ and an HI less than 1.0.

- The maximum lead concentration is less than the screening values.

- Groundwater is not considered a complete exposure pathway for either current/future workers or future residents.

- The refuse burning ground is no longer in operation, and military and civilian personnel are on site only infrequently.

- Evaluation of potential ecological risks from exposure to soil indicated that the potential for exposure and effects is low and will not likely pose a risk to ecological receptors.

2.6.3 Site 1I - Refuse Burning Ground in 63 Area

Site 1I consists of a former refuse burning ground in the 63 Area.

2.6.3.1 Site Name, Location, and Description

Site 1I - Refuse Burning Ground in 63 Area, is located approximately 1,250 feet east of Cristianitos Road (Figure 1-2), northeast of its intersection with San Mateo Road. The refuse burning ground is approximately 425 feet long and 125 feet wide. The site is bordered on the north and south by steep hills that rise 200 feet above the site and are covered with moderate to dense vegetation, on the south by a paved access road, and on the west and east by a vegetated stream-cut canyon. Site 1I is in the center of a stream-cut canyon that slopes to the west and eventually drains into Cristianitos Creek, approximately 1,500 feet west of the site. The surrounding area is characterized by low rolling hills.

No perennial surface water is present in the vicinity of Site 1I. Surface water at the site is ephemeral and follows the gently sloping ground surface to the west. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and discharges into Cristianitos Creek.

The Site 1I burning ground is no longer in operation, and military and civilian personnel are present on site only infrequently. The undeveloped area to the north, east, and south of the site is classified as a maneuver area and consists of steep slopes covered by moderate to dense vegetation. To the west of the site is the Cristianitos Area, which contains a fire station, two

clubs, and a fleet hospital training complex. The nearest troop housing is approximately 1 mile southwest of the site in the 62 Area. No family housing is located within several miles of the site and none is planned. The nearest base production well is approximately 0.5 mile south of Site 1I.

The dominant habitats at Site 1I are coastal sage scrub and nonnative grassland. The site is densely vegetated with sage, coyote bush, fennel, laurel sumac, and mulefat. Special-status species potentially present on site include California gnatcatcher and least Bell's vireo. Bird species observed during the reconnaissance survey include California towhee, mourning dove, American kestrel, red-tailed hawk, scrub jay, and rufous-sided towhee. Evidence of coyote use (scat) was observed, along with active small mammal burrows and holes.

2.6.3.2 Site History and Enforcement Activities

Site history and enforcement activities for refuse burning grounds are described in Section 2.4.1.2.

2.6.3.3 Summary of Site Characteristics

Site 1I was investigated in June and July 1996 during the RI for Group D sites. Six soil samples were collected from two borings and were analyzed for metals, VOCs, SVOCs, and pesticides and PCBs. No sediment or surface-water samples were collected because no surface water was present on site. No groundwater samples were collected because groundwater was not encountered during sampling. Groundwater is estimated to occur in bedrock at a depth of more than 100 feet.

2.6.3.3.1 Geology and Hydrogeology

Shallow geology at this site is characterized by unconsolidated to poorly consolidated alluvium consisting of very fine grained to fine-grained sand with silt and clay. The alluvium overlies bedrock of the La Jolla Group.

Based on site geology, groundwater is assumed to flow to the southwest, following surface topography. Soil borings were drilled to a maximum depth of 10 feet below ground surface at Site 1I without encountering groundwater.

The nearest RI site at which groundwater was encountered is Site 34, which is approximately 1.5 miles south of Site 1I. Groundwater was encountered in a gravel unit at a depth of about 12 feet below grade at Site 34. Because Site 1I is topographically higher than Site 34 by about

100 feet, the groundwater table at Site 1I is expected to be deeper than 100 feet below ground surface.

No other site-specific groundwater level data were collected in the San Mateo Basin near Site 1I. However, the alluvial units at Site 1I and the bedrock underneath the alluvium are not expected to receive or retain a significant or beneficial amount of groundwater. Groundwater in the San Mateo Basin is concentrated primarily in the alluvium along the basin floor (where Site 34 is located) and not in the adjacent topographically higher areas (where Site 1I is located).

2.6.3.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 1I. Results are summarized in Figure 2-15, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected in soil samples from Site 1I (Figure 2-15).

Inorganics

Arsenic was detected in four of seven samples and beryllium was detected in all seven samples from both site borings at concentrations exceeding PRGs but below background concentrations (Figure 2-15). No inorganics were detected at concentrations exceeding PLEs. The maximum arsenic and beryllium concentrations were 2.9 and 1 mg/kg, respectively.

Summary

No organics were detected in soil; arsenic and beryllium were the only inorganic compounds detected, but concentrations were below background. Groundwater is estimated to be deeper than 100 feet below ground surface at Site 1I and is not expected to be impacted. No site-related contamination exists at Site 1I.

2.6.3.4 Summary of Risks Associated with Site 1I

Human health and ecological risk assessments were conducted for Site 1I using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 1I are presented in this section.

2.6.3.4.1 Human Health Risk Characterization

COPCs in Site 1I soil are limited to metals. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of particulates.

The cumulative residential risk for maximum detected COPCs in soil is 1.2×10^{-5}. The primary risks drivers are arsenic (approximately 63 percent of the total risk) and beryllium (approximately 37 percent of the total risk). However, arsenic and beryllium concentrations are below background. Excluding arsenic and beryllium as naturally occurring, no site-related carcinogenic COPCs are present at Site 1I.

The cumulative residential hazard for maximum detected COPCs is 0.57. Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is less than 0.01. Excluding arsenic and beryllium as naturally occurring background levels, the Site 1I residential cancer risk and noncarcinogenic hazard are less than the risk and hazard criteria. In addition, the maximum lead concentration (9.6 mg/kg) is less than the EPA and Cal/EPA residential PRGs of 400 and 130 mg/kg, respectively. Therefore, Site 1I soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 1I during the Group D RI because drilling refusal occurred in weathered bedrock less than 50 feet below ground surface, before encountering sufficient groundwater for sampling purposes. Site 1I is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins. Therefore, groundwater at Site 1I was not evaluated further in the HHRA and is considered protective of human health.

2.6.3.4.2 Ecological Risk Assessment

None of the preliminary inorganic COPECs exceeded background values, and no organic chemicals were detected. Therefore, no final COPECs were identified for Site 1I; the site is considered protective of ecological receptors.

2.6.3.5 Description of the No Action Alternative

The no action alternative selected for Site 1I includes no institutional controls. Site 1I is considered protective of human health and the environment for the following reasons:

- No carcinogenic chemicals were detected at concentrations exceeding background. Under the future residential exposure scenario, maximum soil concentrations resulted in an HI less than 1.0.
- The maximum lead concentration is below the screening values.
- Groundwater is not considered a complete exposure pathway for either current/future workers or future residents.
- The refuse burning ground is no longer in operation, and military and civilian personnel are on site only infrequently.
- Evaluation of potential ecological risks from exposure to soil indicated that no COPECs exceeded background concentrations and the site is protective of ecological receptors.

2.6.4 Site 2C - Grease Disposal Pit in 33 Area

Site 2C consists of a former grease disposal pit in the 33 Area.

2.6.4.1 Site Name, Location, and Description

Site 2C - Grease Disposal Pit in 33 Area, is located approximately 1,800 feet southwest of the intersection of Basilone and Stagecoach Roads (Figure 1-2). The grease pit is approximately 80 feet long and 70 feet wide. The site is bordered on the east by an unpaved road and is on a plateau surrounded by light to moderate vegetation. The site slopes gently to the northwest and drains into a flat land at an elevation approximately 65 feet lower than the site. The surrounding area consists of low rolling hills.

No perennial surface water is present in the vicinity of Site 2C. During the rainy season, surface-water runoff originating from the grease disposal pit percolates into the subsurface, evaporates, runs off the site, or drains northwesterly into the flatland and a tributary canyon that eventually discharges into the Santa Margarita River.

The grease pit is no longer in operation, and military and civilian personnel are present on site only infrequently. Land surrounding Site 2C is covered with natural vegetation. The area farther northwest is used primarily for training and contains a temporary biotreatment facility. The area north, east, and south of the site is undeveloped and is classified as a maneuver area; this area consists of gently rolling hills covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). The nearest family housing, the Ranch House, is about 1 mile southeast of the site. The nearest designated troop housing is in the Vado Del Rio (25) Area, approximately 1 mile northeast of the site. No other family housing is located within several miles of the site and none is planned. The nearest base production well is approximately 1,700 feet northwest of Site 2C.

The dominant habitats at Site 2C are nonnative grassland and coastal sage scrub. Dominant plant species in the nonnative grassland include turkey mullein, annual grass (wild oat, brome), fivehook bassia, and yellow star-thistle. Black and white sage and coyote brush dominate the coastal sage scrub habitat. A wildlife survey of Site 2C was conducted in October 1995, after the main breeding period for many bird species. Nine species of birds were observed. No small mammal trapping was conducted; however, active runways and holes associated with small mammals were observed. Botta's pocket gopher mounds were also present on site. No reptiles or amphibians were observed.

2.6.4.2 Site History and Enforcement Activities

Grease disposal pits were used between 1942 and 1980 for disposal of mess hall grease; the exact operation dates for most of the sites are unknown. No information is available on specific volumes of grease disposed of in the pits. Although there are no confirmed reports of hazardous waste disposal in these pits, the potential for such disposal practices cannot be altogether discounted. The pits were closed by allowing the greasy materials to decay to a semisolid state and then backfilling with native soil (NEESA, 1984). Visual inspection during the RI indicated that POLs may also have been disposed of in some pits. Field reconnaissance of the pits did not reveal any obvious stress to local vegetation.

2.6.4.3 Summary of Site Characteristics

Site 2C was initially investigated in 1993 and 1994 during the RI for Group C sites. Phase 2 RI was conducted at Site 2C in June and July 1996 during the RI for Group D sites. A total of 13 soil samples were collected from two borings and six surface sample locations. Sample locations are shown in Figure 2-16. Samples were analyzed for metals, VOCs, and SVOCs, pesticides and

PCBs, TPH as diesel and gasoline, and leachability of lead and diesel. No sediment or surface-water samples were collected because no surface water was present on site. No groundwater samples were collected because groundwater was not encountered during sampling. Groundwater is estimated to occur in bedrock at a depth of more than 50 feet below ground surface.

2.6.4.3.1 Geology and Hydrogeology

Subsurface geology at Site 2C consists of artificial fill to about 9.5 feet below ground surface and older Quaternary alluvium from about 9.5 to 13.5 feet. The artificial fill was originally native soil used to backfill the grease disposal pit upon closure. The alluvium was deposited by both stream and broad surface erosion and consists of undifferentiated, fine- to coarse-grained, unconsolidated to poorly consolidated sand, silt, gravel, and minor clay. The alluvium overlies massive granitic basement rock. Weathered granitic rock was encountered at 11 feet below ground surface in boring 2CB-01 and extended to refusal at 16 feet below ground surface. Similar granitic material forced termination of boring 2CB-02 at 13 feet (Figure 2-16).

Based on site topography, local groundwater is assumed to flow to the northwest. Soil borings were drilled to a maximum depth of 16 feet below ground surface without encountering groundwater. Groundwater was encountered at about 10 feet below grade in wells installed in the nearby Santa Margarita Basin, which is about 100 feet lower in elevation than Site 2C. Based on this difference in topography, the groundwater table at Site 2C is estimated to be deeper than 100 feet below ground surface. The alluvium and bedrock at the site are not expected to receive or retain a significant or beneficial amount of groundwater. Groundwater in the Santa Margarita Basin is concentrated primarily in the alluvium along the basin floor and not in the adjacent topographically higher areas (where Site 2C is located).

2.6.4.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 2C. Results are summarized in Figure 2-16, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected at concentrations exceeding PRGs in Site 2C soil (Figure 2-16). Diesel was detected at concentrations of 120 and 2,500 mg/kg in the 9-foot sample from boring 2CB-1 and surface sample 2CSS001, respectively; these concentrations exceed the

100-mg/kg screening level for diesel recommended by the *LUFT Field Manual* guidance (California State Water Resources Control Board [SWRCB], 1989).

In addition, 15 other organics were detected at Site 2C at concentrations below evaluation criteria: ethylbenzene, TCE, total xylenes, 1,1,1-trichloroethane (TCA), benzoic acid, bis(2-ethylhexyl)-phthalate, di-n-butylphthalate, butylbenzylphthalate, benzo(b)fluoranthene, chrysene, pyrene, 4,4'-DDE, dieldrin, Aroclor-1254, and gasoline. The maximum concentration detected was 12 mg/kg for toluene. TCE was detected once at 0.11 mg/kg in the 9-foot sample from 2CSB-01 but was not detected in the two samples collected at deeper intervals in the same boring or in any other soil samples collected at the site.

The 2CSS001 location was resampled (Sample ID - 2CSS001A) for leachability testing during the Phase 2 RI. The sample was analyzed for TPH-diesel but no diesel was detected. The duplicate sample analysis from the same location (2CSS201A-01) yielded a diesel concentration of 1,800 mg/kg but was qualified, indicating that the detection did not match the diesel calibration standard. The sample was further analyzed for volatiles using the synthetic precipitation leaching procedure (SPLP); the only detection was toluene at a concentration of 4.6 µg/l. Based on the SPLP results, volatiles are not expected to leach at unacceptable concentrations.

To evaluate the leachability of diesel, the 2CSS001 location was sampled for a third time (sample 2CSS001B) and subjected to TPH-diesel analysis and SPLP analysis for diesel. The total analysis indicated a diesel concentration of 260 mg/kg, and the SPLP analysis indicated a concentration of 2.6 milligrams per liter (mg/l). The same sample was reanalyzed once more (as sample 2CSS001C) by an independent laboratory to confirm the leachability. The total analysis showed a diesel concentration of 718 mg/kg, whereas the SPLP analysis for diesel indicated a concentration of 51.3 mg/l. These results indicated that diesel would not adversely impact groundwater.

Inorganics

Beryllium was detected in 4 of 12 samples and lead was detected in 1 sample at concentrations exceeding PRGs (Figure 2-16). Beryllium concentrations were below background (1.42 mg/kg). The lead concentration in surface sample 2CSS001 exceeded the PRG and background.

The 2CSS001 location was resampled (sample 2CSS001A) during the Phase 2 RI and was analyzed for total lead and leachable lead; the corresponding results were 4.7 mg/kg and nondetect

(detection limit of 0.5 mg/l), respectively. To confirm the lead analytical results, location 2CSS001 was sampled for a third time (sample 2CSS001B). Lead was detected at a concentration of 65 mg/kg, but was not detected in the leachable lead analysis. Based on these results, lead is not expected to impact groundwater.

Summary

No organics were detected in soil at concentrations exceeding PRGs. Diesel was detected in two locations at concentrations exceeding the 100-mg/kg screening level. Beryllium and lead were detected at concentrations exceeding PRGs. All beryllium concentrations were below background. As discussed previously, the high lead detection was not confirmed during subsequent resampling efforts. TCE was detected in soil at a concentration below the PRG but was not detected in deeper samples at the same location or in any other samples collected at the site. Because no organic or inorganic compounds in Site 2C soil pose a concern, impacts to groundwater from site-specific contamination are unlikely. In addition, leachability testing indicated that diesel concentrations in soil would not adversely impact groundwater.

2.6.4.4 Summary of Risks Associated with Site 2C

Human health and ecological risk assessments were conducted for Site 2C using data collected during the Group C and Group D RIs. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 2C are presented in this section.

2.6.4.4.1 Human Health Risk Characterization

COPCs in Site 2C soil include metals, VOCs, SVOCs, pesticides, and PCBs. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential risk from the maximum detected COPCs is 8.0×10^{-6} and is primarily attributable to beryllium (approximately 88 percent of the total risk). The maximum reported concentration of beryllium (0.98 mg/kg) is below the associated background concentration (1.42 mg/kg) and was excluded from the risk evaluation as naturally occurring. Excluding the portion of total risk attributable to background metals, the incremental residential risk from maximum detected COPCs is 9.5×10^{-7}.

The cumulative residential HI from maximum detected COPCs is 0.32 and is primarily attributable to metals (approximately 81 percent of the total hazard). Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is 0.06, which is below the threshold criterion of 1.0.

The results of the HHRA indicate that the incremental residential site risk (9.5×10^{-7}) for Site 2C is below the lower end of the risk management range and the incremental residential site hazard (0.06) is below the threshold criterion of 1.0. The maximum reported lead concentration (421 mg/kg) exceeds the EPA and Cal/EPA residential PRGs of 400 and 130 mg/kg, respectively, but is below the EPA and Cal/EPA industrial soil PRGs of 1,000 and 3,289 mg/kg, respectively. The duplicate sample for the maximum lead concentration was substantially lower (114 mg/kg), and the remaining nine detections of lead were below the background concentration of 21.7 mg/kg. Therefore, no adverse health impacts are expected. Based on the results of the HHRA, Site 2C soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 2C during the RI because drilling refusal occurred in weathered bedrock less than 50 feet below ground surface, before encountering sufficient groundwater for sampling. Site 2C is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins. Therefore, groundwater at Site 2C was not evaluated further in the HHRA and is considered protective of human health.

2.6.4.4.2 Ecological Risk Assessment

The HQs for two preliminary COPECs (lead and diesel) exceed 1.0 (Figure 2-16). HQs were calculated for representative species for each of six soil samples, which were analyzed for 119 inorganic and organic chemicals. With one exception, the HQs that exceed 1.0 are less than 10, indicating that the potential for toxicity is relatively low; one HQ for lead exceeds 10 (23 for deer mouse), indicating medium potential for toxicity. Lead HQs for all other representative species are less than 1.0. The frequencies of detection for lead and diesel were 100 and 67 percent, respectively.

Site 2C consists of nonnative grassland and disturbed habitat. Birds were observed at the site, but special-status species are not expected to be present because of the lack of suitable habitat. Representative species for this site with HQs exceeding 1.0 include terrestrial invertebrates, deer mouse, and Savannah sparrow.

None of the preliminary COPECs were retained as final COPECs because the potential for exposure and effects is considered low. The toxicity estimates for lead are based on a single detection at a high concentration; all other lead concentrations are within background. The toxicity estimates for diesel are also based on a single high value; the remaining diesel concentrations are less than the PLEs for representative species. The site is less than 0.1 acre in size, which is considerably smaller than the home range size for representative bird and mammal species. The habitat quality at the site is somewhat less suitable than the surrounding areas. For these reasons, wildlife receptors are not likely to spend a significant proportion of time at the site. Therefore, the level of exposure to preliminary COPECs at the site is not expected to result in adverse effects to wildlife receptors.

2.6.4.5 Description of the No Action Alternative

The no action alternative selected for Site 2C includes no institutional controls. Site 2C is considered protective of human health and the environment for the following reasons:

- Under the future residential exposure scenario, maximum site-related soil concentrations resulted in an ILCR less than 1×10^{-6} and an HI less than 1.0.
- Lead concentrations in soil are not expected to pose a threat to human health.
- Groundwater is not considered a complete exposure pathway for either current/future workers or future residents.
- The grease pit is no longer in operation, and military and civilian personnel are on site infrequently.
- Evaluation of potential ecological risks from exposure to soil indicated that the site is protective of ecological receptors.

2.6.5 Site 2D - Grease Disposal Pit in 43 Area

Site 2D consists of a former grease disposal pit in the 43 Area.

2.6.5.1 Site Name, Location, and Description

Site 2D - Grease Disposal Pit in 43 Area, is located approximately 300 feet northeast of Basilone Road, immediately northwest of its intersection with Las Pulgas Road (Figure 1-2). The grease disposal pit is approximately 110 feet long and 90 feet wide. The site is bordered on the southeast by Site 20, on the northeast by Site 1F, and on the west and south by light to moderate vegetation and Basilone Road. Site 2D slopes gently to the southeast and eventually drains into Pulgas Creek, approximately 500 feet southeast of Site 20. The surrounding area is characterized by low rolling hills.

No perennial surface water is present in the vicinity of Site 2D. Surface water at the site is ephemeral and follows the gently sloping ground surface to the southeast. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and discharges into Pulgas Creek.

The grease pit is no longer in operation, and military and civilian personnel are present on site only infrequently. West of Site 2D, 43 Area contains several hundred buildings that are used for a variety of purposes, including personnel training, troop housing, mess, recreation, administration, vehicle fueling and storage, maintenance and repair, and artillery storage and repair. The undeveloped area southeast of the site, beyond Basilone Road, is classified as a maneuver area (Innis-Tennebaum Architects, Inc., 1990). No family housing is located within several miles of the site and none is planned. Base production wells in the Las Flores Basin are located approximately 5 miles south-southwest of Site 2D.

2.6.5.2 Site History and Enforcement Activities

Site history and enforcement activities for grease disposal pits are described in Section 2.6.4.2.

2.6.5.3 Summary of Site Characteristics

Site 2D was investigated in June and July 1996 during the RI for Group D sites. A total of 12 soil samples were collected from three borings and were analyzed for metals, VOCs, SVOCs. No sediment or surface-water samples were collected because no surface water was present on site. Groundwater sampled at Site 1F is considered representative of Site 2D because the sites are directly adjacent to one another. No additional groundwater samples were collected at Site 2D.

Site 2D was included in additional ecological surveys, as part of Site 1F, conducted during May and June 1997. The surveys included habitat receptor surveys, wildlife surveys, small mammal trapping, and special-status species surveys. Sites 1F and 2D were combined for the surveys because of their proximity. The surveys for special-status species included the California gnatcatcher and least Bell's vireo.

2.6.5.3.1 Geology and Hydrogeology

Shallow geology at this site is characterized by unconsolidated to semiconsolidated alluvium consisting of interbedded, fine- to medium-grained sand, sand with silt, and sand with clay overlying the La Jolla Group.

Based on site geology, groundwater is assumed to flow to the southeast, following surface topography. Soil borings were drilled to a maximum depth of 30 feet below ground surface at Site 2D without encountering groundwater. Groundwater was encountered at a depth of about 17 feet below grade at adjacent Site 1F and about 19 feet below grade at nearby Site 20. The surface elevation at Site 2D is approximately 260 feet above mean sea level (msl), which is approximately the same elevation as the groundwater sample location at Site 1F. The surface elevation at the Site 20 groundwater sample location was approximately 245 feet msl. Site 2D is located within 450 feet of both groundwater sampling locations. Although groundwater was not encountered to a depth of 30 feet at Site 2D, the depth to groundwater at the site is estimated to be fairly close to 30 feet based on the depth to groundwater at Sites 1F and 20. The same aquifer encountered at Sites 1F and 20 is expected to underlie Site 2D.

2.6.5.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 2D. Results are summarized in Figure 2-17, which presents detected organics and any inorganics exceeding risk/hazard criteria.

Organics

No organic compounds were detected in soil samples from Site 2D (Figure 2-17).

Inorganics

Arsenic was detected in 11 of 12 samples and beryllium was detected in 2 of 12 samples at concentrations exceeding PRGs but generally below or near background. Arsenic and beryllium each exceeded background once.

2.6.5.3.3 Groundwater Results

One groundwater sample was collected from temporary groundwater well 1FGWT-01 at Site 1F to represent conditions at both Sites 1F and 2D. Analytical results are discussed in Section 2.4.1.3.4 and are summarized in Figures 2-4 and 2-17.

2.6.5.3.4 Ecological Results

Vegetation on Site 2D burned in a brushfire in June 1997, prior to the fifth survey visit. Most of the original habitat (coastal sage scrub) was burned. Prior to the fire, disturbed habitat was found on the site and was sparsely vegetated with fennel, coyote brush, thistle, mustard, and wild oat.

No coastal California gnatcatchers were observed on Site 2D during surveys prior to the fire. Habitat destroyed by the fire was considered marginal. Although no least Bell's vireos were observed on site, surveys conducted in 1996 identified least Bell's vireos in riparian vegetation along Pulgas Creek, approximately 1,000 feet downstream from the site.

2.6.5.3.5 Summary

No organics were detected in soil; arsenic and beryllium were the only inorganic compounds detected, but concentrations were near background. Groundwater data for Site 1F are also representative of Site 2D groundwater. No site-specific contamination was detected in groundwater. Accordingly, no evidence of site-related contamination was observed at Site 2D.

2.6.5.4 Summary of Risks Associated with Site 2D

Human health and ecological risk assessments were conducted for Site 2D using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 2D are presented in this section.

2.6.5.4.1 Human Health Risk Characterization

COPCs in Site 2D soil are limited to metals. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of particulates.

The cumulative residential risk for maximum detected COPCs is 3.1×10^{-5}. The primary risk drivers are arsenic (approximately 66 percent of the total risk) and beryllium (approximately 44 percent of the total risk), both of which exceeded background concentrations for the Las Flores

Basin once but are not considered COPCs for the expected waste streams at this site. Excluding the portion of total risk attributable to background metals, the ILCR is 1.1×10^{-5}. The 95 percent UCL soil concentration for arsenic is 4.3 mg/kg. The 95 percent UCL concentration for arsenic and the maximum concentration for beryllium are close to the 95th percentile background concentrations (4.25 and 1.2 mg/kg, respectively). From ground surface to 10 feet, the depth of interest for the HHRA, beryllium was detected in only one of nine samples, at a concentration of 1.5 mg/kg. Although arsenic was detected in nine of nine samples within the same depth interval (10 feet), it exceeded background in only one sample. Excluding the portion of total risk attributable to background, the incremental residential risk is 2×10^{-6} and is solely attributable to beryllium; this risk value is at the lower end of the risk management range.

The cumulative residential hazard for maximum detected COPCs in soil is 1.1. This estimated hazard is primarily attributable to aluminum (approximately 43 percent of the total hazard), arsenic (approximately 23 percent of the total hazard), manganese (approximately 10 percent of the total hazard), and vanadium (approximately 17 percent of the total hazard). Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is 0.5, which is below the threshold criterion of 1.0. The maximum lead concentration (103 mg/kg) is less than the EPA and Cal/EPA residential PRGs of 400 and 130 mg/kg, respectively.

The cumulative industrial risk and hazard for maximum detected COPCs are 4.7×10^{-6} and 0.55, respectively. Arsenic and beryllium are the main contributors. Excluding background concentrations, the risk is 1.8×10^{-6}. Using the 95 percent UCL soil concentrations and excluding background, the industrial risk is 3×10^{-7}. The industrial risk is below the lower end of the risk management range, and the hazard is less than the threshold criterion of 1.0.

Soil at Site 2D is considered protective of human health for the following reasons:

- The HI is less than 1.0 and the maximum lead concentration is less than the EPA screening value.
- The incremental cancer risk for the residential scenario (2×10^{-6}) is at the lower end of the risk management range.
- The only significant contributors to cancer risk are arsenic and beryllium, which were detected at concentrations that are very close to background concentrations.

- Arsenic was detected in nine of nine samples to a depth of 10 feet but only once at a concentration exceeding background and beryllium was detected only once at 10 feet.

Site 2D is adjacent to Site 1F and the groundwater contaminants characterized for Site 1F are used as the groundwater COPCs for Site 2D. The COPCs detected in groundwater at Site 1F are limited to metals. Future residents could be exposed to groundwater contaminants through ingestion.

The residential ILCR from ingestion of groundwater is 5.2×10^{-4} and is completely attributable to arsenic. However, the maximum reported groundwater concentration of arsenic (23.4 µg/l) is below the MCL (50 µg/l, which corresponds to an incremental cancer risk of 1×10^{-3}).

The total noncarcinogenic health hazard is 3.8 and is primarily attributable to arsenic (55 percent of the total hazard) and boron (26 percent of the total hazard). Although the HI exceeds 1.0, the maximum groundwater concentration of arsenic is below the MCL and would not likely represent a threat to human health via ingestion. Furthermore, boron is not expected to be present in groundwater as a result of site-related activities. Therefore, groundwater at Site 2D is considered protective of human health.

2.6.5.4.2 Ecological Risk Assessment

The EcoRA for Site 2D was revised based on additional data collected in May and June 1997 (SWDIV, 1998a). Most of the HQs that exceed 1.0 are in the 1 to 10 range, indicating a low potential for toxicity. All preliminary COPECs detected are metals and most had relatively high frequencies of detection (greater than 80 percent).

Site 2D is presumed to have been primarily coastal sage scrub, but had been disturbed by burning prior to the habitat evaluations. Birds were observed, but special-status species are not expected to be present on site because of the site disturbance. The final risk screening results indicated that modified PLEs were exceeded for plants, invertebrates, Belding's savannah sparrow, and deer mouse. Preliminary COPECs with HQs exceeding 1.0 are shown in Figure 2-17.

HQs for aluminum exceeded 1.0 for plants (5.9), invertebrates (3.9), and mammals (7.4); however, only one detection of aluminum exceeded background and, thus, the overall risk from aluminum was determined to be low. The HQ for cobalt exceeded 1.0 for mammals (1.7) at one

location and was partially due to background. The overall risk from cobalt was determined to be low. HQs for iron exceeded 1.0 for plants (3.8), invertebrates (1.03), birds (3.6), and mammals (16). Most of the risk was due to background concentrations; the overall risk due to iron was determined to be low. HQs for lead exceeded 1.0 for mammals (1.5 to 8.7). The average concentration of site-related lead resulted in an HQ less than 1.0. The overall site risk due to lead was determined to be low. The HQ for vanadium exceeded 1.0 for mammals (3.1) but was mostly due to background. The average site concentration of vanadium results in an HQ less than 1.0, and the overall risk due to vanadium was determined to be low.

No final COECs were identified at Site 2D. The risk to ecological receptors was determined to be low.

2.6.5.5 Description of the No Action Alternative

The no action alternative selected for Site 2D includes no institutional controls. Site 2D is considered protective of human health and the environment for the following reasons:

- The HI for soil is less than 1.0, and the maximum lead concentration in soil is below the screening criteria.
- The incremental cancer risk ($2x10^{-6}$) for soil under the residential scenario is at the lower end of the risk management range. The only significant contributors to soil cancer risk are arsenic and beryllium at concentrations that are close to background concentrations. Arsenic was detected in nine of nine soil samples to a depth of 10 feet but only once at a concentration exceeding background, and beryllium was detected only once at a depth of 10 feet.
- Groundwater was determined to be protective of human health based on background contribution of the risk contributors and assuming that there is no current or planned future use of groundwater at the site.
- Evaluation of potential ecological risks from exposure to soil identified no COECS.

2.6.6 Site 2F - Grease Disposal Pit in 62 Area

Site 2F consists of a former grease disposal pit in the 62 Area.

2.6.6.1 Site Name, Location, and Description

Site 2F - Grease Disposal Pit in 62 Area, is located approximately 1,200 feet north of San Mateo Road (Figure 1-2). The grease disposal pit is approximately 100 feet long and 75 feet wide. The site is bordered on the east by a paved road and Site 1H, on the north and west by moderate to dense vegetation, and to the south by vegetation and San Mateo Road. The surrounding area is characterized by low rolling hills.

No perennial surface water is present in the vicinity of Site 2F. The area receives only low annual rainfall, primarily during the winter months. Surface water at the site is generally ephemeral and follows the gently sloping ground surface to the south. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and eventually discharges into San Mateo Creek.

The 62 Area grease pit is no longer in operation, and military and civilian personnel are present on site only occasionally. The undeveloped area surrounding the site is classified as a maneuver area and is covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). Site 1H is east of Site 2F. The area south of Site 2F contains several hundred buildings that are used for a variety of purposes, including personnel training, troop housing, mess, recreation, and administration. No family housing is located within several miles of the site and none is planned. The nearest base production well is approximately 1 mile south-southwest of Site 2F.

Site 2F contains predominantly nonnative grassland habitat. Dominant grass species include wild oat and brome. Herbaceous species include pearly everlasting and mustard. A few tree tobacco, coyote bush, and sage plants are also present. No special-status species are expected to be present at this site. Wildlife species observed during the reconnaissance survey include cliff swallow, American crow, sparrow (species not identified), black-tailed hare, and western fence lizard.

2.6.6.2 Site History and Enforcement Activities

Site history and enforcement activities for grease disposal pits are described in Section 2.6.4.2.

2.6.6.3 Summary of Site Characteristics

Site 2F was initially investigated in June and July 1996 during the RI for Group D sites. A total of 10 soil samples and 1 duplicate were collected from four borings at Site 2F. The samples were analyzed for metals, VOCs, and SVOCs. No surface-water or sediment samples were collected

because no surface was present on site. Groundwater is estimated to be greater than 200 feet below grade. Because drilling refusal occurred at a maximum depth of 13.5 feet, no groundwater samples were collected. Further sampling was conducted in October 1997 to evaluate site-specific background concentrations of arsenic. At that time, 12 soil samples were collected from four boring locations with similar lithology and settings as the samples collected during the 1996 RI. The samples were analyzed for metals to establish a site-specific background for arsenic because concentrations of arsenic detected at Site 2F during the 1996 RI were consistently higher than surrogate background concentrations from the Santa Margarita Basin.

2.6.6.3.1 Geology and Hydrogeology

Shallow geology at Site 2F is characterized by unconsolidated and semiconsolidated alluvium consisting of interbedded, fine- to medium-grained sand, sand with silt, gravel, and clay. The alluvium at Site 2F overlies massive granitic basement rock. Weathered granitic rock was encountered at 9.5 feet and drilling refusal occurred at 13.5 feet below ground surface in boring 2FB-04.

Based on site geology, groundwater is assumed to flow to the south or southwest, following surface topography. Soil borings were drilled to a maximum depth of 13.5 feet below ground surface at Site 2F without encountering groundwater.

The nearest RI site at which groundwater was encountered is Site 34 (groundwater level of 12 feet below ground surface), which is approximately 1.25 miles south of Site 2F. Because Site 2F is topographically higher than Site 34 by about 230 feet, the groundwater table at Site 2F is expected to be deeper than 200 feet below ground surface.

No other site-specific groundwater level data were collected in the San Mateo Basin near Site 2F. However, the alluvial units and underlying bedrock at Site 2F are not expected to receive or retain a significant or beneficial amount of groundwater. Groundwater in the San Mateo Basin is concentrated primarily in the alluvium along the basin floor (where Site 34 is located) and not in adjacent topographically elevated areas (where Site 2F is located).

2.6.6.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 2F. Results are summarized in Figure 2-18, which presents detected organics and any inorganics that exceed risk/hazard criteria.

The initial 10 soil samples and 1 duplicate were used for site characterization. The additional 12 soil samples were used to characterize background.

Organics

No organic compounds were detected in soil at concentrations exceeding PRGs (Figure 2-18), but 11 organics were detected at concentrations below the evaluation criteria: acetone, 2-butanone, 4-methyl-2-pentanone, ethylbenzene, toluene, total xylenes, chrysene, 2-methylnaphthalene, phenanthrene, diethylphthalate, and dimethylphthalate. Of these 11 compounds, phenanthrene was reported at the highest concentration (12 mg/kg).

Inorganics

Concentrations of arsenic in 9 of 11 samples and beryllium in all 11 samples exceeded PRGs in soil (Figure 2-18). Beryllium concentrations were below the background concentration of 1.42 mg/kg. Three arsenic detections exceeded the Santa Margarita Basin background concentration of 4.25 mg/kg. The highest arsenic concentration was 15 mg/kg.

Arsenic was detected in all 12 site-specific background samples. The site-specific background concentrations ranged from 1.4 to 10.9 mg/kg. The 95th percentile of the site-specific background concentration was calculated to be 10.9 mg/kg using equation 13.24 from Gilbert (1987) and assuming a lognormal distribution. This result was compared against arsenic concentrations detected during the 1996 RI. The site-specific background concentration was exceeded by three detected concentrations at Site 2F (15, 11.8, and 11 mg/kg). However, the duplicate sample of the maximum detected concentration was less than background. The 95 percent UCL of the mean arsenic concentration detected at Site 2F was calculated to be 10.9 mg/kg using the EPA's supplemental guidance for calculating the concentration term (EPA, 1992d). The UCL of the mean arsenic concentration at Site 2F is equal to the site-specific background concentration.

Summary

No organics were detected in soil at concentrations exceeding PRGs. Arsenic and beryllium were the only inorganics that exceeded PRGs; however, concentrations were within background. As a result, groundwater, which is estimated to be more than 100 feet below ground surface, is not expected to be impacted.

2.6.6.4 Summary of Risks Associated with Site 2F

Human health and ecological risk assessments were conducted for Site 2F using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 2F are presented in this section.

2.6.6.4.1 Human Health Risk Characterization

COPCs in Site 2F soil include metals, VOCs, and SVOCs (PAHs). Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential risk for maximum detected COPCs is 4.6×10^{-5} and is primarily attributable to arsenic (approximately 85 percent of the total risk) and beryllium (approximately 14 percent of the total risk). However, arsenic and beryllium are within background concentrations and are not considered COPCs for the expected waste streams at this site. Excluding the portion of total risk attributable to background metals, the incremental site risk for maximum detected COPCs is less than 1×10^{-6}.

The cumulative residential hazard is 1.2. The primary hazard is due to arsenic, which is within background. Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is 0.5, which is below the threshold criterion of 1.0.

The cumulative industrial risk for maximum detected COPCs is 7.2×10^{-6} and is primarily attributable to arsenic (approximately 89 percent of the total risk) and beryllium (approximately 11 percent of the total risk). Excluding the portion of total risk attributable to background metals, the incremental industrial site risk is less than 1×10^{-6}. The incremental industrial hazard for maximum detected COPCs is 0.04.

Based on the results of the HHRA, the incremental site risks are within the risk management range and the incremental site hazards are below the threshold criterion of 1.0 under both the residential and industrial exposure scenarios. In addition, the maximum lead concentration (25.8 mg/kg) is below the screening criteria. Therefore, Site 2F soil is considered protective of human health under both the residential and industrial land use scenarios.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 2F during the RI because drilling refusal occurred in weathered bedrock at less than 50 feet below ground surface, before encountering sufficient groundwater for sampling purposes. Site 2F is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than and isolated from the aquifers associated with these major basins. Therefore, groundwater at Site 2F was not evaluated further in the HHRA and is considered protective of human health.

2.6.6.4.2 Ecological Risk Assessment

Three preliminary COPECs (arsenic, 2-methylnaphthalene, and phenanthrene) had HQs exceeding 1.0 (Figure 2-18). HQs were calculated for representative species for each of nine soil samples. The HQs that exceed 1.0 are all close to 1.0, indicating that the potential for toxicity is relatively low. Arsenic had a relatively high frequency of detection (90 percent) but is considered to be within background. Although HQs for phenanthrene and 2-methylnaphthalene exceed 1.0, these compounds were detected in only one of nine samples collected at depths of ecological concern.

Site 2F is predominantly nonnative grasslands. Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, deer mouse, and Savannah sparrow.

None of the preliminary COPECs were retained as final COECs because the potential for exposure and effects is considered low for the chemicals and exposure pathways present. HQs for most of the chemicals detected are less than 1.0, indicating little or no potential toxicity, and those that exceed 1.0 are relatively low. The size of this site is approximately 0.14 acre, which is smaller than the home ranges for the representative mammal and bird receptor species (deer mouse and Savannah sparrow). Given the habitat quality of the site and surrounding areas, these receptors would likely be present on the site for only limited periods of time. Therefore, ecological receptors are not expected to suffer adverse effects because they would not be exposed to site contaminants on a consistent basis.

2.6.6.5 Description of the No Action Alternative

The no action alternative selected for Site 2F includes no institutional controls. Site 2F is considered protective of human health and the environment for the following reasons:

- Under the residential scenario, the incremental cancer risk for soil is less than $1x10^{-6}$.

- Excluding background, the HI for soil is less than 1.0 and the maximum lead concentration in soil is less than the screening criteria.

- Groundwater was determined to be protective of human health based on the depth to groundwater and the lack of significant soil contamination. There is no current or planned future use of groundwater at the site.

- Evaluation of potential ecological risks from exposure to soil identified no COECS and indicated that the site is protective of ecological receptors.

2.6.7 Site 2G - Grease Disposal Pit in 31 Area

Site 2G consists of a former grease disposal pit in the 31 Area.

2.6.7.1 Site Name, Location, and Description

Site 2G - Grease Disposal Pit in 31 Area, is located southwest of the Marine Corps Tactical System Support Activity (MCTSSA), along an unpaved dirt road approximately 0.75 mile southwest of Stuart Mesa Road (Figure 1-2). The grease disposal pit is approximately 190 feet long and 115 feet wide. Site 2G is located in a stream-cut canyon surrounded by a gently sloping marine terrace. The site is bordered on the northeast by the MCTSSA, on the east and southeast by agricultural fields, on the north by light to moderate vegetation, and on the west and south by the Pacific Ocean, which is about 300 feet from the site.

The grease pit is no longer in operation, and military and civilian personnel are present on site only occasionally. The undeveloped area surrounding the site on the north, northeast, and east is classified as a clear zone for operation of various types of radar associated with MCTSSA. The agricultural outlease area east and southeast of the site consists of a marine terrace covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). The nearest family housing, Stuart Mesa Housing, is approximately 1.5 miles northeast of the site. Troop housing is located approximately 0.5 mile north of the site.

No perennial surface water is present in the vicinity of Site 2G. Surface water at the site is ephemeral. Runoff originating from the agricultural fields or from significant rainfall events flows into the intermittent stream-cut canyon and discharges into the Pacific Ocean, percolates into the

subsurface, or evaporates. No base production wells are located within the Cockleburr Basin or within a 1-mile radius of Site 2G.

Disturbed habitat is the dominant habitat at Site 2G. The site is vegetated by a variety of ice plants, including buckwheat, wild oat, brome, common reed, tree tobacco, ice plant, and curly dock. Except for the nonnative grasses, most of the vegetation is confined to the arroyo that traverses the site. No special-status species are expected to be present at this site.

2.6.7.2 Site History and Enforcement Activities

Site history and enforcement activities for grease disposal pits are described in Section 2.6.4.2.

2.6.7.3 Summary of Site Characteristics

Site 2G was investigated in June and July 1996 during the RI for Group D sites. A total of 10 soil samples were collected from three boring locations and one surface location (Figure 2-19). Soil samples were analyzed for metals, VOCs, and SVOCs. A groundwater sample was collected from a temporary well placed in an estimated downgradient location (Figure 2-19). The water sample was analyzed for the same parameters as soil, plus general chemistry. A habitat and receptor survey was conducted to identify wildlife present on site.

2.6.7.3.1 Geology and Hydrogeology

Shallow geology at this site is characterized by semiconsolidated alluvium consisting of very fine grained to fine-grained sand, sand with silt, gravel, and clay. Based on site geology, groundwater is assumed to flow to the southwest, following surface topography. Groundwater was encountered at a depth of 14 feet below ground surface in the three borings completed at the site and at approximately 2 feet below ground surface in temporary well 2GGWT-01, which was placed in a shallow location on the beach near the center of the canyon.

2.6.7.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 2G. Results are summarized in Figure 2-19, which presents detected organics and any inorganics that exceed risk/hazard screening criteria.

Organics

No organic compounds were detected in soil at Site 2G.

Inorganics

Arsenic was detected in two of eight samples and beryllium was detected in four of eight samples at concentration exceeding PRGs but below background levels (Figure 2-19). The detections were primarily in surface samples.

2.6.7.3.3 Groundwater Results

No organic compounds were detected in the groundwater sample from Site 2G (Figure 2-19). With the exception of arsenic, no inorganics were detected at concentrations exceeding MCLs or tap-water PRGs (Figure 2-19). Arsenic was detected at a concentration of 16.9 µg/l, which exceeds the tap-water PRG of 0.045 µg/l but is below the MCL of 50 µg/l.

2.6.7.3.4 Summary

No organics were detected in soil; arsenic and beryllium were the only inorganic compounds detected, but concentrations were below background. With the exception of arsenic at a concentration observed basewide and below the MCL, no other contaminants were detected in groundwater.

2.6.7.4 Summary of Risks Associated with Site 2G

Human health and ecological risk assessments were conducted for Site 2G using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 2G are presented in this section.

2.6.7.4.1 Human Health Risk Characterization

COPCs in Site 2G soil are limited to metals. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of particulates.

The cumulative residential risk for the maximum detected COPCs is 1.1×10^{-5} and is primarily attributable to arsenic (approximately 64 percent of the total risk) and beryllium (approximately 36 percent of the total risk). The maximum detected concentrations of these metals are less than Site 2G background concentrations; there are no site-related carcinogenic COPCs after exclusion of naturally occurring background.

The cumulative residential HI from the maximum detected metals is 1.0. Excluding the portion of total risk attributable to background metals, the incremental residential site hazard for maximum detected metals is 0.14, which is below the threshold criterion of 1.0.

The Site 2G residential cancer risk and noncarcinogenic hazard are less than the risk and hazard criteria. In addition, the maximum lead concentration in soil (16.2 mg/kg) is below residential screening criteria. Therefore, Site 2G soil is considered protective of human health.

The COPCs detected in groundwater at Site 2G are limited to metals. Future residents could be exposed to groundwater contaminants through ingestion.

The cumulative residential cancer risk from ingestion of groundwater is 3.8×10^{-4} and is completely attributable to arsenic. However, the maximum reported groundwater concentration of arsenic (16.9 µg/l) is below the MCL (50 µg/l, which corresponds to an incremental cancer risk of 1×10^{-3}). Furthermore, because the maximum detected concentration of arsenic in soil is within naturally occurring background, the groundwater concentration of arsenic is also likely naturally occurring. The total noncarcinogenic hazard associated with ingestion of groundwater is 1.9 and is primarily attributable to arsenic (1.5 HI). Because arsenic in groundwater is likely naturally occurring, groundwater at Site 2G is considered protective of human health.

2.6.7.4.2 Ecological Risk Assessment

Site 2G is within the background area for marine terrace deposits; background values were available for 16 of the 17 inorganic chemicals detected in site soils. Background values were not available for boron. Two preliminary inorganic COPECs (iron and zinc) exceed available background values. Boron, iron, zinc, and all preliminary organic COPECs were evaluated for potential toxicity.

Three preliminary COPECs (boron, iron, and zinc) had HQs exceeding 1.0 (Figure 2-19). HQs were calculated for representative species for each of six soil samples, which were analyzed for 146 inorganic and organic chemicals, including VOCs, SVOCs, pesticides, and PCBs. The HQs that exceed 1.0 are all less than 10, with the exception of boron (32 for plants) and zinc (19 for deer mouse). Iron and zinc had relatively high frequencies of detection (100 percent), but boron was detected in only one of six samples.

Site 2G is predominantly disturbed habitat. Most of the vegetation was confined to a small arroyo that traverses the site. Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, deer mouse, and Savannah sparrow.

None of the preliminary COPECs were retained as final COECs even though some had HQs greater than 1.0. The potential for exposure and effects is considered low for these chemicals. The HQs for most of the chemicals detected are less than 1.0, indicating little or no potential toxicity. Only two HQs exceed 10 and the highest, for boron, was detected only once. Zinc was detected in all six samples; HQs for mammals are less than 1.0 at three locations, in the low toxicity range (1 to 10) at two locations, and in the medium toxicity range (10 to 100) at one location. The HQs for zinc exceed 1.0 only for a single species, the deer mouse. The size of the contaminated area is approximately 0.4 acre. The suitable habitat is primarily limited to an arroyo that traverses the site; as a result, the actual area where exposure would occur is considerably smaller than the home range size of any of the representative bird or mammal species for this site. None of the ecological receptors are expected to be sufficiently exposed to the preliminary COPECs at this site for adverse effects to occur.

2.6.7.5 Description of the No Action Alternative

The no action alternative selected for Site 2G includes no institutional controls. Site 2G is considered protective of human health and the environment for the following reasons:

- No site-related carcinogens were detected.
- The incremental residential site-related hazard for maximum metals concentrations is below the threshold criterion of 1.0.
- The maximum lead concentration in soil is below residential screening criteria.
- Arsenic was the only contributor to the risk and hazard for groundwater but was determined to be naturally occurring.
- There is no potential use for groundwater at the site. Site 2G is close to the ocean and is not in a beneficial use zone, primarily because of the potential for saltwater intrusion.
- Evaluation of potential ecological risks from exposure to soil identified no COECS and indicated that the site is protective of ecological receptors.

2.6.8 Site 10 - 26 Area Sewage Sludge Composting Yard

Site 10 was used for composting sewage sludge.

2.6.8.1 Site Name, Location, and Description

Site 10 - 26 Area Sewage Sludge Composting Yard, is located in 26 Area, approximately 600 feet southwest of the intersection of Vandegrift Boulevard and Santa Margarita Road (Figure 1-2). The site consists of a level, open field. A pile of sewage sludge approximately 100 feet long, 90 feet wide, and 15 feet high was removed in 1997 from the site area and placed at Box Canyon landfill on base. The site is bordered on the north and west by graded piles of concrete mixing facility materials, light vegetation, and an unpaved road; on the east by moderate vegetation; and farther east by a ridge that rises up to 250 feet above the composting yard. South of the site is the 26 Area maintenance yard, which is surrounded by a chain-link fence. The site slopes gently to the southwest, parallel to the Santa Margarita River, and eventually drains into the river farther downstream. The Santa Margarita River is approximately 2,500 feet west, Sites 3 and 28 are southwest, and Site 24 is northeast of the composting yard.

The only perennial surface water in the vicinity of Site 10 is the Santa Margarita River. Ephemeral water is often visible in pools during the rainy season. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and eventually discharges into the Santa Margarita River.

Land use in the vicinity of Site 10 consists of activities associated with MCB facilities and maintenance operations. Structures in the area include maintenance buildings, administrative buildings, heavy equipment facilities, base joint safety centers, communications/electronics outside plant, and MCB laundry facilities. Military and civilian personnel are present in the immediate vicinity of the site on a daily basis. Approximately 2,000 feet north of the site is Lake O'Neill, a recreation area. The Santa Margarita River is west of the site. East of the site is an undeveloped hill classified as a maneuver area; the hill has a steep slope and is covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). The nearest designated troop housing areas are the Vado Del Rio (25) and 24 Areas, approximately 1.5 miles northwest of the site. The nearest family housing, the Ranch House, is about 1.75 miles southwest of the site. The nearest base production well is approximately 1/2 mile northeast of Site 10.

Dominant habitats at Site 10 are nonnative grassland and disturbed habitat. Ripgut brome, red brome, and wild oat are the dominant grass species in the nonnative grassland habitat. Pineapple weed, mustard, and filaree are found in the disturbed habitat, which also contains a small grove of eucalyptus trees. During surveys, 21 species of birds were observed on the site; song sparrow and California towhee were the most prevalent. Least Bell's vireo, a special-status species, was observed on the site during the bird surveys. Small mammals captured during live-trapping include western harvest mouse, deer mouse, California mouse, and California ground squirrel. Audubon cottontail and bats (unidentified species) were also observed during the surveys. A western toad was caught in a live-trap; however, no reptiles were observed.

2.6.8.2 Site History and Enforcement Activities

Composting operations consisted of placing sewage sludge from base sewage treatment facilities into small piles (less than 10 cubic yards) and allowing it to air dry in an area where groundwater is approximately 11 to 13 feet below ground surface. After the sludge dried, it was composted and stockpiled and was reportedly either used as soil supplement at various base locations or hauled off base. No information is available on the dates of composting operations in the 26 Area.

2.6.8.3 Summary of Site Characteristics

Site 10 was initially investigated in 1993 and 1994 during the RI for Group C sites. Phase 2 RI was conducted at Site 10 in June and July 1996 during the RI for Group D sites. A total of 29 soil samples were collected from 10 borings. Boring locations are shown in Figure 2-20. Samples were analyzed for metals, VOCs, SVOCs, pesticides and PCBs, and TPH as diesel and gasoline. SPLP and deionized waste extraction test (DI WET) leachability analyses were conducted on samples from resampled locations where diesel, SVOCs, and lead were detected during the Phase 1 RI. No sediment or surface-water samples were collected because no surface water was present on site. Two groundwater monitoring wells were installed and three rounds of groundwater samples were collected during 1994 (Figure 2-20). The groundwater samples were analyzed for metals, VOCs, SVOCs, TPH as diesel and gasoline, and general chemistry. Two sets of plants and invertebrates were collected at random locations from the sludge pile. The biota samples (plants and invertebrates) were analyzed for metals, PCBs, and pesticides.

2.6.8.3.1 Geology and Hydrogeology

Geology at Site 10 consists primarily of stream-deposited alluvium of Holocene age. The predominant lithology is poorly graded to well-graded sand, with discontinuous lenses of lower

permeability silty sand, silt, and clay. Poorly graded sand and less abundant lenses of low-permeability sand (e.g., silty sand and clayey sand), silt, and clay underlie the sludge composting yard. The shallow geology indicates that Site 10 is underlain by up to 10 feet of strata consisting predominantly of silt and clay. The fine-grained strata are unsaturated. The top 10 to 20 feet of the saturated portion of the aquifer occurs within strata consisting primarily of sand.

No borings were advanced to bedrock at Site 10; however, borings at Group A Site 24 in the Santa Margarita River floodplain and within 1 mile of Site 10 encountered the La Jolla Group, suggesting that the alluvium is up to 50 feet thick.

The La Jolla Group crops out on hillsides surrounding the 26 Area. This unit consists of fine- to medium-grained sandstone interbedded with silty sandstone, clayey sandstone, siltstone, and claystone.

Site 10 is located on the alluvial plain of the Santa Margarita Basin, on the east edge of the Upper subbasin. The groundwater flow direction beneath the site is primarily southwest, parallel to the long axis of the basin. Local groundwater flow is southwest, parallel to the long axis of the basin, and is consistent with regional flow, which is parallel to the long axis of the Upper subbasin.

2.6.8.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 10. Results are summarized in Figures 2-20 and 2-21, which present detected organics and any inorganics that exceed risk/hazard criteria.

Organics

With the exception of 2,4-dinitrotoluene, N-nitroso-di-n-propylamine, pentachlorophenol (PCP), benzo(a)pyrene, and diesel, none of the organic compounds detected in Site 10 soil exceeded human evaluation criteria (Figure 2-20). Diesel and PCP concentrations in boring 10B-03 exceeded ecological evaluation criteria (Figure 2-21). Six detections of diesel in samples from five soil borings exceeded the 100-mg/kg screening level. The highest diesel concentration was 4,300 mg/kg in the 7-foot sample from boring 10B-03. The other four detected organics exceeded PRGs only once in the surface sample from boring 10B-03.

In addition, the following 25 organics were detected in Site 10 soil but at concentrations below PRGs: acetone, 2-butanone, toluene, benzoic acid, bis(2-ethylhexyl)phthalate, 4-chloroaniline, 4-chloro-3-methylphenol, 2-chlorophenol, chrysene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 4-methylphenol, 4-nitrophenol, phenol, pyrene, 1,2,4-trichlorobenzene, acenaphthene, benzo(b)fluoranthene, diethylphthalate, dimethylphthalate, di-n-butylphthalate, dieldrin, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT. Most of the detections were from 10B-03, which also had the highest concentrations of PCP (32 mg/kg), 4-chloroaniline (13 mg/kg), and diesel (4,300 mg/kg) and the only detections of N-nitroso-di-n-propylamine (1.8 mg/kg), benzo(a)pyrene (6.4 mg/kg), and 2,4-dinitrotoluene (2.5 mg/kg).

Sample location 10B-03 was resampled during the Phase 2 RI (sample 10SS003) for SVOC analysis. Only bis(2-ethylhexyl)phthalate (2.3 mg/kg) and 4-chloroaniline (1.7 mg/kg) were detected. Benzo(a)pyrene, 2,4-dinitrotoluene, N-nitroso-di-n-propylamine, and PCP, which were reported at concentrations exceeding the PRGs during the Phase 1 RI, were not detected during this round of sampling. In an effort to confirm these results, the same location was sampled for a third time (sample 10SS003A) and analyzed for TPH-diesel, SPLP-diesel, total SVOCs, and SPLP SVOCs. Total and leachable diesel concentrations were 100 mg/kg and 2.8 mg/l, respectively. The only SVOC detected was 4-chloroaniline at 3.4 mg/kg; no leachable SVOCs were detected. To confirm the leachability of diesel, the sample was reanalyzed (as sample 10SS003B). Total and leachable diesel concentrations were reported at 2,160 mg/kg and 55.4 mg/l, respectively.

Although diesel was detected in soil at leachable concentrations, no leachable semivolatile organic compounds were detected, indicating that no toxic constituents of diesel were leachable. No volatile organics or semivolatile organic constituents of diesel were detected in groundwater. Therefore, the diesel concentrations detected in soil are not considered a threat to groundwater or human health. Diesel was evaluated in the ecological risk assessment and was determined not to be a significant threat to the environment.

Inorganics

Out of the 23 samples analyzed for metals, concentrations of arsenic in 6 samples, beryllium in 14 samples, lead in 1 sample, and manganese in 1 sample exceeded PRGs (Figure 2-20).

Arsenic was detected in surface samples from six boring locations and at depth in one boring location at concentrations exceeding the PRG but below background. Although beryllium

concentrations exceeded the PRG in several samples at Site 10, the concentrations were only slightly higher than the regional background concentration (1.42 mg/kg); the maximum concentration for beryllium was 2.2 mg/kg.

Antimony, barium, chromium, copper, lead, mercury, molybdenum, silver, and zinc exceeded ecological screening criteria (Figure 2-21).

2.6.8.3.3 Groundwater Results

No organics detected in groundwater exceeded MCLs or tap-water PRGs (Figure 2-20). Benzoic acid was detected once in well 10W-02 (approximate groundwater level of 8 feet below ground surface) and bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and diethylphthalate were detected once in well 10W-01 (approximate groundwater level of 7 feet below ground surface). No other organics were detected in Site 10 groundwater.

No inorganics exceeded MCLs; however, arsenic and beryllium were detected at concentrations exceeding tap-water PRGs (Figure 2-20).

Beryllium was detected twice (2 and 2.2 µg/l) in well 10W-01 at concentrations exceeding the tap-water PRG. Arsenic was detected twice (3.3 and 2.8 µg/l) in well 10W-01 and twice (3.7 and 4.4 µg/l) in well 10W-02 at concentrations exceeding the tap-water PRG.

2.6.8.3.4 Biota Results

Terrestrial plant and invertebrate samples were collected from the main portion of the site and the sludge piles. The maximum detected tissue concentrations in biota collected from the main portion of the site were compared with similar biota collected from reference areas. For plants, most chemical concentrations were 1 to 10 times higher than reference levels, indicating uptake of these chemicals at levels exceeding background. None of the tissue concentrations in terrestrial invertebrates exceed the reference value. The maximum detected tissue concentrations in biota collected from the sludge pile were compared with similar biota collected from reference areas, but no tissue concentrations exceeded those from the reference areas.

2.6.8.3.5 Summary

Four semivolatile organics were detected in one surface sample at concentrations exceeding PRGs but were not detected in subsequent boring intervals or elsewhere in Site 10 soil. Diesel was

detected at various locations at concentrations exceeding the evaluation criterion, but is not a threat to groundwater or human health. Manganese, lead, and mercury exceeded PRGs but only once each in 23 soil samples, indicating that inorganics in soil do not pose a concern. Four organics and two inorganics were detected in Site 10 groundwater but at concentrations below MCLs.

2.6.8.4 Summary of Risks Associated with Site 10

Human health and ecological risk assessments were conducted for Site 10 using data collected during the Group C and Group D RIs. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 10 are presented in this section.

2.6.8.4.1 Human Health Risk Characterization

COPCs in Site 10 soil include metals, VOCs, SVOCs, and pesticides. Soil results from the sludge pile were not included in the human health assessment because of the planned removal of the pile. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential risk from the maximum detected COPCs in soil is 7.2×10^{-5} and is primarily attributable to arsenic (approximately 11 percent of the total risk), beryllium (22 percent of the total risk), N-nitroso-di-n-propylamine (approximately 42 percent of the total risk), PCP (approximately 18 percent of the total risk), and 2,4-dinitrotoluene (approximately 5 percent of the total risk). Arsenic is below the associated background concentration and was excluded from the risk evaluation as naturally occurring. N-nitroso-di-n-propylamine has been shown to be a laboratory contaminant in the past, was detected only once during the Group C Phase 1 RI, and has never been associated with site-related activities. Both PCP and 2,4-dinitrotoluene were detected only once at concentrations exceeding PRGs. The sample location (10SB003 surface sample) at which these compounds were detected was resampled twice during the Group D RI but no detections of these compounds were reported. Therefore, N-nitroso-di-n-propylamine, PCP, and 2,4-dinitrotoluene were excluded from the risk evaluation. Excluding the portion of total risk attributable to background metals and to N-nitroso-di-n-propylamine, PCP, and 2,4-dinitrotoluene, the incremental residential site risk is 6×10^{-6}. The only contributor exceeding 1×10^{-6} is beryllium. The maximum detected beryllium concentration is 2.2 mg/kg and exceeds the background concentration of 1.42 mg/kg by only 0.78 mg/kg.

The cumulative residential noncarcinogenic hazard from maximum detected COPCs is 2.4 and is primarily attributable to metals (approximately 92 percent of the total hazard). Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is 1.3, just above the threshold criterion of 1.0. However, the incremental residential hazard (site total hazard minus the hazard attributable to background metals) is below the threshold criterion of 1.0 for each target organ, indicating that soil COPCs will not result in adverse health effects for future residential land use.

The cumulative industrial cancer risk from maximum detected COPCs is 1.6×10^{-5}. Excluding the portion of total risk attributable to background metals and N-nitroso-di-n-propylamine, PCP, and 2,4-dinitrotoluene, the incremental industrial site risk is 1×10^{-6}. The cumulative noncarcinogenic hazard from maximum detected COPCs is 0.41 and is primarily attributable to metals. Excluding the portion of total hazard attributable to background metals, the incremental industrial site hazard is 0.15.

The results of the HHRA indicate that the incremental residential (6×10^{-6}) risk at Site 10 is within the risk management range and the incremental residential site hazard by target organ is below the threshold criterion of 1.0. In addition, the maximum reported lead concentration (95 mg/kg) is below screening criteria. Based on the results of the HHRA, Site 10 soil is considered protective of human health.

Detected COPCs in groundwater include metals and SVOCs. Future residents could be exposed to groundwater contaminants through ingestion.

The cumulative residential cancer risk from ingestion of groundwater is 2.4×10^{-4} and is primarily attributable to arsenic (approximately 41 percent of the total risk) and beryllium (approximately 58 percent of the total risk).

The total noncarcinogenic health hazard is 1.4 and is primarily attributable to metals in groundwater, specifically manganese (HQ 0.71) and arsenic (HQ 0.4). The incremental residential hazard is below the threshold criterion of 1.0 for each target organ evaluated, indicating that groundwater COPCs will not result in adverse health effects for future domestic use of groundwater.

2.6.8.4.2 Ecological Risk Assessment

The site was divided into the main portion and the sludge pile for purposes of the EcoRA. The sludge pile has limited ecological habitat but was included in the EcoRA because it could provide prey items (e.g., soil invertebrates) for secondary receptors. Samples collected from each area include soil (0 to 6 feet below ground surface) and biota (plants and terrestrial invertebrates).

COPECs that exceed background and that have HQs exceeding 1.0 are shown in Figure 2-21. The COPECs are mostly metals but include maximum detected concentrations of diesel and PCP at one location. Most chemicals were not considered COECs because they had a low frequency of detection and/or of exceeding an HQ of 1.0, average concentrations that resulted in HQs less than or close to 1.0, or were not found in tissue samples representing species of concern. The main contributors to ecological risk are lead, copper and zinc. Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, California mouse, deer mouse, American robin, and Swainson's hawk.

The HQs for lead and mercury in soil in areas of concern at the Site 10 main site and sludge pile range from approximately 1.0 to 5 and 1.0 to 4, respectively. These HQs indicate low potential risk. Average detected concentrations of lead and mercury were 46 and 2.2 mg/kg, respectively. Background concentrations of lead and mercury are 29 and 0.08 mg/kg, respectively. The site-related portion of the average concentration of lead results in an HQ less than 1.0. The site-related portion of the average concentration of mercury results in an HQ of 2.2.

The HQs for copper range from 1.0 to 73. The average detected concentration of copper (440 mg/kg) results in an HQ of 21. The receptors of concern for copper are mammals. The laboratory test species used to derive the PLEs for mammals is the rat. The toxicity for copper is based on a subchronic no observed adverse effect level (NOAEL); the adverse effects measured or observed are impairment of learning ability, hyperactivity, and behavioral aberrations. These subtle adverse effects have not been measured in the field and are not fatal. Samples of representative mammal species at Sites 1A and 2A, where similar or higher concentrations of lead, copper, and mercury were detected in soil, were analyzed for these metals. The detected concentrations in the representative species did not exceed reference concentrations. This indicates that these metals are not significantly bioaccumulating in mammals or their diets at the concentrations detected in Site 10 soil and that these metals may not be in a bioavailable chemical state for mammals.

Sewage sludge composting has not made Site 10 a favorable area for mammals. Cover vegetation is limited relative to surrounding areas, and the site appears to be a less favorable habitat than surrounding areas. The site is near base maintenance facilities and land use is not likely to change from industrial use.

Although a few chemicals present a potential low to medium risk at Site 10, the overall potential risk is low.

2.6.8.5 Description of the No Action Alternative

The no action alternative selected for Site 10 includes no institutional controls. Site 10 is considered protective of human health and the environment for the following reasons:

- The HI for soil does not exceed the 1.0 criterion for individual target organs.
- The ILCR is at the lower end of the NCP range of 10^{-6} to 10^{-4} for risk management evaluation.
- At least some portions of the main groundwater risk contributors (arsenic and beryllium) are likely, and are assumed to be, within background.
- Beryllium detections were limited to the first two rounds of sampling in well 10W-01; beryllium was not detected in 10W-01 during the third round of sampling and was not detected in the other Site 10 well (10W-02).
- The arsenic and beryllium detections were qualified with a "B," indicating that these compounds were detected below the CRDL but at or above the IDL.
- The likelihood of installing a drinking water well at the point of maximum arsenic and beryllium concentrations is considered low.
- The maximum arsenic and beryllium groundwater concentrations are less than one-half the respective MCLs (50 and 4 µg/l).
- Although a few chemicals pose a potential low to medium ecological risk at Site 10, the overall potential risk is low.

2.6.9 Site 16 - 22 Area Buildings 22151 and 22187 Ditch Confluence and Ditch

Site 16 is the ditch and ditch confluence between Buildings 22151 and 22187.

2.6.9.1 Site Name, Location, and Description

Site 16 - 22 Area Buildings 22151 and 22187 Ditch Confluence and Ditch, is located about 0.25 mile southeast of the Marine Corps Air Station (MCAS) and approximately 1 mile from the Santa Margarita River (Figure 1-2). Seasonal surface water flows in a highly vegetated, unlined ditch at this site. The ditch is approximately 10 feet wide and 2 to 8 feet deep. Site 16 is adjacent to the south corner of the base motorpool and is immediately northwest of Site 17. The nearest base production well is approximately 2 miles west-southwest of Site 16.

The site includes the Buildings 22151 and 22187 ditch confluence and ditch and an oil/water separator. The site is bordered on the northeast side by a fenced, asphalt-paved area (motor transportation/ maintenance facility) north of the ditches and by an asphalt parking lot south of the ditches; on the southwest and northwest by light to moderate vegetation; and on the southeast by grass. An elevated concrete walkway crosses perpendicular to the ditch. The Santa Margarita River is approximately 1 mile north, Site 17 is south, and Site 27 is southwest of the ditch confluence.

No perennial surface water is present in the vicinity of Site 16. The area receives only low annual rainfall, primarily during winter months. Surface water at the site is generally ephemeral, follows the gently sloping ground surface, and drains southwesterly in well-defined ditches. In addition, the Site 16 ditch drains into the Site 27 ditches, which flow southwesterly and eventually discharge into the Santa Margarita River. The remaining surface water either percolates into the subsurface or evaporates. The ditch confluence between Buildings 22151 and 22187 is within the Santa Margarita River floodplain.

Land use in the vicinity of Site 16 consists of activities associated with major warehousing and food storage functions for the base. Structures in the area include maintenance shops, motor pools, fueling facilities, administrative buildings, scrap yards, recreation areas, troop housing, and industrial and warehouse buildings. Military and civilian personnel are present on roads and buildings in the vicinity of the site on a daily basis. The nearest designated troop housing areas are located in the Chappo (22) Area, approximately 200 feet from the site. The nearest family housing is the Ranch House, about 1.5 miles northeast of Site 16. The nearest base production well is approximately 3,400 feet northwest of Site 16.

Site 16 contains a 30-foot-wide strip of riparian habitat that runs parallel to Avenue "D." Cottonwood and willow are the dominant tree species; mulefat, tree tobacco, and cattail are found in the understory. Nonnative grassland habitat surrounds the riparian strip and is mowed along Avenue "D." Southeast of the riparian strip is a small patch of coastal sage scrub. Sagebrush, coyote brush, and deerweed are the dominant species in this habitat. During the surveys, 17 bird species were identified. Common species include European starling, common yellowthroat, and California towhee. A least Bell's vireo (a special-status species) was observed in the riparian strip parallel to Avenue "D." Deer mice, western harvest mice, and house mice were observed on site. Audubon cottontails were observed throughout the site. No amphibians were observed. A western diamondback rattlesnake was found in a rock pile near the riparian strip.

2.6.9.2 Site History and Enforcement Activities

Site 16 consists of a naturally occurring drainage ditch that could have received hazardous materials from an oil/water separator and from previous operations at the base motorpool north of the site. Adjacent to the ditch is an oil/water separator that was installed in the mid-1980s and used until the late 1980s, when operational problems were observed. Petroleum and oil could have spilled into the ditch during that time; however, no information is available on the constituents or the quantity of effluent from the separator. Facilities in the area include a lube bay, maintenance shop, auto shop, welding facility, steam-cleaning pad, frame-straightening rack, and auto grease rack. These facilities have been operating for more than 20 years and use or store materials such as POLs and solvents.

2.6.9.3 Summary of Site Characteristics

Site 16 was initially investigated in 1993 and 1994 during the RI for Group C sites. Phase 2 RI was conducted in June and July 1996 during the RI for Group D sites. A total of 18 soil samples were collected from 10 borings and 3 surface locations (Figure 2-22). Samples were analyzed for metals, VOCs, SVOCs, and TPH as diesel and gasoline. SPLP and DI WET methods were used for leachability tests on samples from resampled locations where diesel and lead were detected during the Phase 1 RI.

A total of 14 surface-water samples were collected from eight locations during three sampling events in 1994 and 1995 (Figure 2-23). The surface-water samples were analyzed for the same analytes as soil, plus general chemistry. Three sediment samples were collected during the June and July 1996 investigation. The sediment samples were analyzed for metals, PCBs and

pesticides. In addition, leachability tests were run on the sediment samples for toluene, ethylbenzene, xylenes, TCE, and total lead. Groundwater at Site 16 is included in OU4.

A habitat and receptor survey was conducted and dominant vegetative habitats were noted during March 1995. Bird and general wildlife surveys were conducted, along with mammal trappings conducted to identify small mammal use of the site.

During June 1995, one composite plant sample and one composite invertebrate sample were collected. Additional crayfish samples were collected at location 7 during Phase 2 to evaluate organochlorine pesticide (e.g., 4,4'-DDT) bioavailability at the site and potential sources of pesticides previously detected in downstream sediment (Site 27). The samples were analyzed for metals, PCBs, and pesticides.

2.6.9.3.1 Geology and Hydrogeology

The geology of Site 16 consists primarily of stream-deposited alluvium of Holocene age overlying the La Jolla Group bedrock of Eocene age. Soil at this site consists of alluvial sand, silt, and clay deposited as discontinuous lenses. Poorly graded to well-graded sand is the predominant lithology in the area, with discontinuous lenses of lower permeability silty sand, silt, and clay. Poorly graded sand and less abundant lenses of low-permeability silty sand, clayey sand, silt, and clay underlie the ditch confluence area. The La Jolla Group crops out on hillsides surrounding 22 Area and consists of fine- to medium-grained sandstone interbedded with silty sandstone, clayey sandstone, siltstone, and claystone.

Site 16 is located on the alluvial plain of the Santa Margarita Basin, on the south edge of the Chappo subbasin. The groundwater flow direction beneath the site is primarily southwest, parallel to the long axis of the basin. Local groundwater flow is west-southwest, parallel to the long axis of the Chappo subbasin and consistent with regional groundwater flow. Depth to the groundwater table at Site 16 ranges from 5 to 10 feet below ground surface.

Complicated localized variations in the water table were observed throughout the south side of the Chappo subbasin, particularly along the basin edge. The water-level variations could be caused by a combination of factors, including the lower hydraulic conductivities of the abundant fine-grained strata on the edge of the basin, numerous anthropogenic influences (such as pavement and

buildings) that decrease evapotranspiration in some areas, and extensive storm-water control measures that channel and redirect surface-water flow and infiltration.

2.6.9.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 16. Results are summarized in Figure 2-22, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

With the exception of diesel, none of the organic compounds detected in Site 16 soil exceeded evaluation criteria (Figure 2-22).

Diesel concentrations in samples from four soil borings exceeded the 100-mg/kg screening level. The highest diesel concentration was 1,000 mg/kg at sample location 16B-04, which exceeds the *LUFT Manual* guidance and the ecological screening criterion.

The following nine organics were detected in Site 16 soil at concentrations below the evaluation criteria: acetone, toluene, 1,1,1-TCA, methylene chloride, benzoic acid, bis(2-ethylhexyl)-phthalate, butylbenzylphthalate, diethylphthalate, and 4,4'-DDT. Of these nine analytes, the highest concentration was 0.2 mg/kg for benzoic acid.

Surface soil was resampled at locations 16B-04 and 16B-05 during the Phase 2 investigation (samples 16B-04-01RE and 16B-05-01RE, respectively) for TPH-diesel analysis; the corresponding analytical results were 31 and 160 mg/kg, respectively. The samples were further analyzed for leachability via SPLP analysis for toluene, ethylbenzene, xylenes, and TCE. No VOCs were detected in the SPLP analysis, indicating that these constituents are not likely to leach to groundwater.

Surface soil at location 16B-05 was sampled for a third time (sample 16B-05-01RE2) to evaluate the leachability of diesel. However, diesel was not detected in the soil sample or the SPLP test.

Inorganics

Arsenic was detected in 3 samples, beryllium in 15 samples, and lead in 1 sample out of 20 at concentrations exceeding PRGs (Figure 2-22). No other inorganics exceeded the evaluation criterion.

Arsenic was detected in surface samples from three boring locations at concentrations exceeding the PRG but below background. Although beryllium concentrations exceeded the PRG in several samples at Site 16, concentrations were below the regional background concentration (1.42 mg/kg) at all locations except 16B-07, where beryllium was detected in the surface and 6-foot samples at concentrations of 2.2 and 2.4 mg/kg, respectively.

The maximum lead concentration (465 mg/kg) was detected in surface soil at sample location 16B-05 and exceeded the PRG and background. Location 16B-05 was resampled (sample 16B-05-01RE) and tested for total lead and leachable lead by DI WET analysis. The total lead concentration for the repeat sample was 35 mg/kg, but the corresponding leachable lead concentration was 610 µg/l, which is unusually high considering the low total lead concentration. Consequently, the same location was sampled for a third time (sample 16B-05-01RE2). The total lead concentration of 17 mg/kg confirmed the low soil concentration from the previous resampling effort. Leachability testing using DI WET analysis detected no leachable lead. The results are summarized below:

Sampling Round	Total Lead (mg/kg)	DI WET Lead (µg/l)
Phase 1	465	Not performed
Phase 2	35	610
3 January 1997	17	ND

Based on this testing, the original elevated lead detection is considered anomalous, as confirmed by the low concentrations detected during the two subsequent resampling efforts. Given the low total lead concentration of 35 mg/kg, a leachable lead value of 610 µg/l seems to be erroneously high. The final DI WET analysis data support this contention and indicate that leaching of lead to groundwater is unlikely for lead concentrations in this range.

2.6.9.3.3 Groundwater Results

Groundwater at Site 16 is included in OU4 and results are not presented here.

2.6.9.3.4 Surface-Water and Sediment Results

Results of surface-water and sediment sampling are summarized in Figure 2-23. Because no pathways for human exposure exist for sediment or surface water, contaminants detected in these media are of concern only for ecological receptors. Accordingly, the results are not compared

against human health evaluation criteria. Instead, the analytical results for these media are screened against ecological risk criteria.

Diesel and 4,4'-DDT are the only organic compounds that exceeded ecological screening criteria. Diesel exceeded ecological screening criteria at three surface-water sample locations, with a maximum concentration of 1,580 µg/l. The 4,4'-DDT concentration in sediment sample 16SD003 was 3.6 µg/kg, which exceeds the screening criteria.

Barium exceeded screening criteria at three sediment sample locations, with a maximum concentration of 124 mg/kg. Barium, copper, iron, and zinc exceeded screening criteria in surface-water samples, with maximum concentrations of 169, 28.5, 2,280, and 220 µg/l, respectively.

2.6.9.3.5 Biota Results

Terrestrial plant and aquatic invertebrate samples were collected at Site 16. Biota collected from the site included terrestrial plants and aquatic invertebrates. The maximum detected tissue concentrations were compared with similar biota collected from reference areas. For terrestrial plants, all reference HQs are less than 1.0, indicating that bioaccumulation from site-related chemicals is less than that for reference areas.

Aquatic invertebrates (crayfish) were compared with reference values from two different reference areas, as well as with PLEs for ingestion by raccoons. One reference area (R8) was located upstream of sample station 7, in an arm of the drainage into Sites 16 and 27; this location had not been sampled previously and was not expected to be affected by site-related activities. The second reference area (R4) was located above the inlet to the upper end of Lake O'Neill and was used to represent background conditions for the base. Aluminum, barium, copper, and iron at sample station 1 and nickel at station 7 exceeded both R4 and R8 reference values. Manganese and nickel at sample station 1 and cobalt and copper at sample station 7 exceeded only R8 reference values. Arsenic at sample station 1 and aluminum and silver at sample station 7 exceeded only R4 reference values. With the exception of nickel at sample station 7, reference HQs were less than 10, indicating that tissue levels were relatively close to those at unaffected reference areas. Tissue concentrations could be representative of local ambient concentrations because no significant differences were observed in upstream locations compared with downstream sample locations. In addition, the organochlorine pesticide 4,4'-DDT, which exceeded sediment PLEs at Site 27, was

not detected in crayfish tissues, indicating that biota are not bioaccumulating this chemical. A comparison of crayfish tissue concentrations against PLEs for ingestion by raccoons indicated that concentrations could reflect general ambient conditions because PLEs were exceeded by the same chemicals in tissues collected from both the site and the Lake O'Neill reference area.

2.6.9.4 Summary of Risks Associated with Site 16

Human health and ecological risk assessments were conducted for Site 16 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 16 are presented in this section.

2.6.9.4.1 Human Health Risk Characterization

The HHRA evaluated soil only. Groundwater at Site 16 is included in OU4. The pathways for human exposure to surface water and sediment are not complete and, thus, were not evaluated.

Detected COPCs in soil include metals, SVOCs, and VOCs. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential risk from maximum detected COPCs is 1.9×10^{-5} and is primarily attributable to arsenic (approximately 10 percent of the total risk) and beryllium (approximately 90 percent of the total risk). The maximum concentration of arsenic (0.7 mg/kg) is below the background value (4.25 mg/kg), whereas the maximum concentration of beryllium (2.4 mg/kg) exceeds background (1.42 mg/kg). Excluding the portion of total risk attributable to background metals, the incremental residential site risk is 7×10^{-6}. Assuming that beryllium is lognormally distributed throughout the soil at Site 16, the estimated 95 percent UCL soil concentration for beryllium is 1.2 mg/kg. Excluding the portion of total risk attributable to background, the incremental residential site risk for the 95 percent UCL soil concentration is 2.0×10^{-7}.

The cumulative residential noncarcinogenic hazard for the maximum detected COPCs is 0.64 and is primarily attributable to metals (approximately 99 percent of the total hazard). Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard is 0.1.

The incremental residential cancer risk is less than $1x10^{-6}$ and the incremental noncarcinogenic hazard is less than 1.0. The maximum lead concentration (465 mg/kg) exceeds the residential soil PRG. During two resampling events at the location where the maximum lead concentration was detected, lead concentrations were 35 and 17 mg/kg. The other 18 detections of lead were below residential PRGs. The single high concentration of lead is not uniformly distributed throughout site soil, as indicated by the lower detections of lead in subsequent sampling at the maximum concentration location and at other locations. Based on the conservative assumptions used, no adverse health impacts are expected from lead at Site 16. Therefore, Site 16 soil is considered protective of human health.

2.6.9.4.2 Ecological Risk Assessment

Seven preliminary COPECs (six inorganics and one organic) in soil had HQs exceeding 1.0 (Figure 2-23). HQs were calculated for representative species for multiple soil samples at seven locations; the samples were analyzed for 119 inorganic and organic chemicals. Most of the HQs that exceed 1.0 are less than 10, indicating that the potential for toxicity is relatively low. HQs for beryllium, cadmium, chromium, lead, and zinc are in the medium toxicity range (10 to 100). The frequencies of detection for chemicals with HQs greater than 1.0 were high (100 percent), with the exception of cadmium (13 percent) and diesel (47 percent).

HQs for two preliminary sediment COPECs, barium and 4,4'-DDT, exceed 1.0 (Figure 2-23). HQs exceed 1.0 for barium at sample locations 2, 3, and 7 and for 4,4'-DDT at sample station 3. All HQs that exceed 1.0 are less than 10, indicating that potential toxicity is relatively low. The highest HQ is 6.2 for barium at station 7, but barium concentrations are less than those detected at a reference area (R8) located upstream from Site 27 and are considerably less than soil background levels for the Santa Margarita Basin.

HQs for five preliminary surface-water COPECs (barium, copper, iron, zinc, and diesel) exceed 1.0 for chronic exposure by aquatic organisms. HQs that exceed 1.0 are all less than 10, with the exception of barium at sample stations 1 and 3, where HQs are in the medium toxicity range (10 to 100). HQs for barium at sample stations 1 and 3 and zinc at sample station 3 exceed 1.0 for acute exposure but are close to 1.0, indicating that the potential for acute toxicity is relatively low. Chemicals exceeding aquatic water quality criteria (AWQC) include iron at station 2 and copper and zinc at station 3. Iron exceeded chronic AWQC only once. Copper was detected in only one of four samples and did not exceed the acute AWQC. Zinc was detected in all four samples

collected from the station, but only one sample exceeded chronic and acute AWQC values. This sample was collected in 1994, and the subsequent sample collected in 1995 contained much lower zinc concentrations. The HQs for terrestrial representative species exposed to surface water are all less than 1.0.

Birds, small mammals, reptiles, and aquatic invertebrates were observed at the site. The least Bell's vireo (a special-status species) could use the site but is not expected to establish territories or nests because of the limited suitable habitat. Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, deer mouse, raccoon, least Bell's vireo, and Swainson's hawk for soil and aquatic organisms for sediment and surface water.

None of the preliminary COPECs in soil were retained as final COPECs because the potential for exposure and effects is considered low. Additional confirmation sampling of the soils was conducted at Site 16 for lead and TPH, including leachability testing. The results indicated that these chemicals do not have a significant potential for leaching and transport.

The total lead concentration at the highest soil location (16B-05) was originally reported as 465 mg/kg. Two subsequent soil sampling events at the same location resulted in 35 and 17 mg/kg, respectively. Boring 16B-04, which originally had a lead concentration of 80.5 mg/kg, was resampled and a concentration of 12.6 mg/kg was detected. This indicates that the concentrations and extent of lead contamination at the site are not as high as indicated by the initial sampling.

Other preliminary COPECs with HQs exceeding 1.0 include beryllium, cadmium, chromium, copper, and zinc. HQs for these chemicals are in the low and medium toxicity ranges. Soil leachability testing demonstrated that leaching of these chemicals from soil into sediments and surface water is insignificant. The actual areas of the site where contamination is present is likely a limited proportion of the overall site area. These areas are generally smaller than the home range sizes of representative bird and mammal species. Given the relative lack of suitable habitat compared with surrounding areas, ecological receptors would not likely be sufficiently exposed to preliminary COPECs at the site to result in adverse effects.

None of the preliminary COPECs in sediment were retained as final COPECs because the potential for exposure and effects is considered low. Barium was not retained as a final COPEC

because concentrations were less than upstream reference concentrations and soil background levels, indicating that barium concentrations in the ditches are reflective of background conditions for the area. The pesticide 4,4'-DDT was not retained because HQs were low and it was detected only once on site. This compound was not detected in aquatic invertebrate (crayfish) tissues collected from the on-site drainage ditches or in crayfish samples collected from a downstream location at Site 27.

None of the preliminary COPECs in surface water were retained as final COPECs because the potential for exposure and effects is considered low. The HQs indicated low potential toxicity, and barium and diesel were the only chemicals exceeding PLEs at more than one sample station within the site. Barium and diesel were not retained as final COPECs because concentrations of barium could be reflective of underlying sediment concentrations or ambient conditions for the area and the HQs for diesel were generally in the low toxicity range (1 to 10). Diesel was detected in only two surface-water samples. The source of the diesel contamination likely is attributable to storm-water runoff from roadway areas at the different sites that contribute drainage to the ditch. Potential sources that may have contributed to the diesel detections in the stormwater runoff near Site 16 include the motor transportation/maintenance facility immediately northeast of the site and the asphalt parking lot south of the site. Soil leachability studies demonstrated that residual contamination in on-site soils is probably not a significant contributor to surface water at the site. Three preliminary COPECs exceeded PLEs based on AWQC (iron, copper, and zinc). These constituents were not retained as final COPECs because they were detected at concentrations exceeding AWQC only once and at only one location within the site. Subsequent samples were either below AWQC or were nondetects, indicating that concentrations are not consistently at potentially toxic levels. In addition, the ditch is only seasonally wet and, as such, does not support higher tropic level aquatic organisms (e.g., fish).

2.6.9.5 Description of the No Action Alternative

The no action alternative selected for Site 16 soil, sediment, and surface water includes no institutional controls. Site 16 is considered protective of human health and the environment for the following reasons:

- The human health HI for maximum detected soil concentrations is less than 1.0.
- The incremental cancer risk for representative concentrations at the site that exceed background is less than $1x10^{-6}$.

- Although a few chemicals pose a potential ecological risk at Site 16, the overall potential risk is low. The potential for exposure and adverse effects is considered low for soil, surface water, and sediment.

2.6.10 Site 17 - 22 Area Building 22187 Marsh and Ditch

Site 17 consists of a marsh and ditch near Building 22187 in 22 Area.

2.6.10.1 Site Name, Location, and Description

Site 17 - 22 Area Building 22187 Marsh and Ditch, consists of an unlined, densely vegetated ditch located about 0.25 mile southeast of the MCAS and approximately 1 mile from the Santa Margarita River (Figure 1-2). Seasonal surface water flows in the unlined ditch, which is approximately 10 feet wide and 2 to 8 feet deep.

Site 17 is bordered on the west and northwest by light to moderate vegetation, on the east by grass, and on the south by Building 22187. An elevated concrete walkway traverses the ditch. The site is situated in a flat part of the floodplain, is drained by two northwest-flowing ditches, and receives runoff from the Building 22187 area. The confluence of several ditches widens and creates a marsh at the site. Site 16 is north and Site 27 is downstream to the west of the marsh and ditch. Ridges to the east and south rise 350 feet above the site (Figure 2-24).

No perennial surface water is present in the immediate vicinity of Site 17. The area receives only low annual rainfall, primarily during winter months. Surface water at the site is generally ephemeral and follows the gently sloping ground surface to the southwest. The Site 17 ditch drains into Site 16 and Site 27 ditches, which eventually discharge southwest into the Santa Margarita River. Any surface water that does not drain to the ditches either percolates into the subsurface or evaporates.

Land use in the vicinity of Site 17 consists of activities associated with major warehousing and food storage functions for the base. Structures in the area include maintenance shops, motor pools, fueling facilities, administrative buildings, scrap yards, recreation areas, troop housing, and industrial and warehouse buildings. Military and civilian personnel are present in the immediate vicinity of the site on a daily basis. An elevated walkway crosses Site 17 and Site 16 to the north. The nearest designated troop housing areas are in the Chappo (22) Area, approximately 500 feet from the site. The nearest family housing, the Ranch House, is about 1.25 miles northeast of

Site 17. The nearest base production well (10S/05W-13R02) is approximately 1 mile northwest of Site 17.

Site 17 contains predominantly nonnative grassland habitat. Dominant grass species include ripgut brome and wild oat. The two ditches that traverse the site contain remnant strips of riparian habitat, including cottonwood, willow, and cattail. No special-status species were observed during the site surveys. A least Bell's vireo was tentatively identified on the site but could not be confirmed. During ecological surveys, 19 bird species were identified on site, including song sparrow, red-winged blackbird, Anna's hummingbird, and red-shouldered hawk. House mice and California ground squirrels were caught in live-traps during the March 1995 survey. No reptiles were observed. Aquatic and terrestrial invertebrates were observed at the site during the March, June, and October 1995 surveys.

2.6.10.2 Site History and Enforcement Activities

Site 17 consists of a naturally occurring drainage ditch that could have received hazardous materials. The ditch received runoff from the Building 22187 area. Building 22187 is a steam generation plant that was built in 1952. POLs and corrosives (descalers) were used during previous operations and are currently stored in the Building 22187 area. A diesel spill reportedly flowed into the drainage ditch immediately north of Building 22187. In addition, thousands of gallons of diesel from an overflowing UST reportedly spilled into the ditch in the late 1980s. In March 1992, two USTs were removed from the area as part of the Navy's UST program. The tanks stored diesel and had capacities of 12,000 and 6,000 gallons. No additional information is available on the quantities of other contaminants received by the ditch.

An initial study of two diesel USTs near Site 17 was conducted in 1985. Organic vapor concentrations in borings and wells ranged from 200 ppm to more than 1,000 ppm, as measured using a flame-ionization detector (FID). Petroleum hydrocarbon concentrations were 15,000 and 19,000 ppm at approximately 15 feet below ground surface. No other analyses were performed on these samples during the initial study (Dames and Moore, 1986). A later investigation resulted in the installation of two soil borings and three groundwater wells after the removal of the USTs (SWDIV, 1993c). A maximum petroleum hydrocarbon concentration of 9,900 ppm was detected in the soil samples collected as part of the UST removal program.

2.6.10.3 Summary of Site Characteristics

Site 17 was investigated during the RI for Group C sites and was initially reported in the Group C RI report (SWDIV, 1996a). Additional ecological sampling was conducted during the RI for Group D sites (SWDIV, 1997b). The results of the RI indicated that soil contaminants were limited to petroleum hydrocarbons. Site 17 soil was excluded from CERCLA and will be addressed under the base UST program as documented in an amendment to the FFA (EPA, 1996b). Groundwater at Site 17 is included in OU4.

Three surface-water samples were collected from two locations at Site 17 and were analyzed for metals, VOCs, SVOCs, TPH as diesel and gasoline, and general chemistry. Three sediment samples were collected from three locations at Site 17 and were analyzed for metals, PCBs, and pesticides. Sample locations are shown in Figure 2-24.

A habitat and receptor survey was conducted and dominant vegetative habitats were identified at Site 17 during March 1995. Bird and general wildlife surveys were conducted to evaluate the potential presence of special-status wildlife species. Mammal trapping (using Sherman live-traps) was conducted to identify small mammal use of the site.

2.6.10.3.1 Geology and Hydrogeology

The Building 22187 marsh and ditch area is within the Santa Margarita River floodplain. The geology of Site 17 consists primarily of stream-deposited alluvium of Holocene age overlying La Jolla Group bedrock of Eocene age. Soil at this site consists of alluvial sand, silt, and clay deposited as discontinuous lenses. The predominant lithology in the area is poorly graded to well-graded sand, with discontinuous lenses of lower permeability silty sand, silt, and clay. Poorly graded sand and less abundant lenses of low-permeability silty sand, clayey sand, silt, and clay underlie the ditch confluence area.

The alluvium at Site 17 extends to depths of at least 84 feet. The La Jolla Group was encountered at a depth of 71 feet below ground surface in one well close to the eastern hillslope, suggesting a thickening of alluvium downstream. The La Jolla Group crops out on hillsides surrounding 22 Area and consists of fine- to medium-grained sandstone interbedded with silty sandstone, clayey sandstone, siltstone, and claystone. Boring logs and geologic cross-sections for Site 17 are presented in the draft final RI report for Group C sites (SWDIV, 1996a).

Site 17 is located on the alluvial plain of the Santa Margarita Basin, on the south edge of the Chappo subbasin. The regional groundwater flow direction is primarily southwest, parallel to the long axis of the basin. Depth to the water table at Site 17 ranges from 5 to 10 feet below ground surface. Local groundwater flows west-southwest, parallel to the long axis of the Chappo subbasin and consistent with regional groundwater flow.

2.6.10.3.2 Surface-Water and Sediment Results

Because no pathways for human exposure exist for surface water or sediment, the contaminants detected in these media are of concern only for ecological receptors. Accordingly, the results are not compared against human health evaluation criteria. The analytical results are summarized in Figure 2-24.

2.6.10.4 Summary of Risks Associated with Site 17

An EcoRA was conducted for Site 17 using data collected during the Group C and Group D RIs. Risk assessment methodology is summarized in Section 2.4.1.4.

HQs for four preliminary sediment COPECs (barium, cadmium, 4,4'-DDE, and 4,4'-DDT) exceed 1.0 (Figure 2-24). Three sediment samples were collected and analyzed for 119 inorganic and organic chemicals. HQs for cadmium exceed 1.0 at one location (sample station 1). HQs for barium exceed 1.0 at sample stations 1, 2, and 3. HQs for 4,4'-DDE and 4,4'-DDT exceed 1.0 at sample station 1. All HQs that exceed 1.0 are very close to 1.0, indicating that the potential for toxicity is relatively low. Barium concentrations detected at all stations are less than those at the reference area upstream from Site 27 and are considerably less than soil background levels for the Santa Margarita Basin.

HQs for two preliminary surface-water COPECs (barium and silver) exceed 1.0 for chronic exposure by aquatic organisms (Figure 2-24). The HQs for barium are in the medium toxicity range (10 to 100) at sample stations 1 and 4. Silver was detected only once, at sample station 1, with a HQ in the high toxicity range (100 to 1,000) based on comparison with the chronic AWQC. Both chemicals also exceed PLEs for acute exposure by aquatic organisms, but all HQs are less than 10, indicating that the potential for toxicity is relatively low. The frequencies of detection for the preliminary COPECs with HQs exceeding 1.0 are low for both barium and silver at sample station 1 (one detect out of three samples) and only one sample was collected at location 4. The HQs for terrestrial representative species exposed to surface water are all less than 1.0.

Birds, small mammals, reptiles, and aquatic invertebrates were observed at the site. The least Bell's vireo (a special-status species) could use the site but is not expected to establish territories or nests. Representative species for this site with HQs exceeding 1.0 for sediment and surface water consist of aquatic organisms.

None of the preliminary sediment COPECs were retained as final COPECs. The potential for exposure to and effects/toxicity from all preliminary COPECs with HQs exceeding 1.0 is considered low. Barium was not retained as a final COPEC because concentrations are less than the upstream reference concentrations and soil background levels, indicating that barium concentrations in the ditches could reflect background conditions for the area. Cadmium was not retained because it was detected at only one station, with an HQ indicating a low potential for toxicity. The organochlorine pesticides 4,4'-DDE and 4,4'-DDT were not retained as final COPECs because they were detected at only one sample station. These constituents were not detected in sediment collected from upstream or downstream sample locations and were not detected in crayfish collected from downstream sites, indicating that bioaccumulation is not occurring, consistent with the risk characterizations for Sites 16 and 27 (Sections 2.6.9.4.2 and 2.6.12.4.2).

None of the preliminary surface-water COPECs were retained as final COPECs. Silver exceeded the AWQC in a duplicate sample but could not be verified through subsequent sampling because the station was dry. In addition, silver was detected only once at the site and was not detected in underlying sediment samples, suggesting a potential artifact of sampling. Barium was not retained because the potential for exposure and effects is considered low and concentrations of barium could reflect underlying sediment concentrations or ambient conditions for the area.

2.6.10.5 Description of the No Action Alternative

The no action alternative selected for Site 17 sediment and surface water includes no institutional controls. Site 17 surface water and sediment are considered protective of human health and the environment for the following reasons:

- There is no complete human exposure pathway.
- Although a few chemicals pose a potential ecological risk, the overall potential risk is low. The potential for exposure and adverse effects is considered low for surface water and sediment.

2.6.11 Site 18 - 13/16 Area Building 1687 Spill and Ditch

Site 18 consists of ditches and spill areas near Building 1687 in 13/16 Area.

2.6.11.1 Site Name, Location, and Description

Site 18 - 13/16 Area Building 1687 Spill and Ditch, is located in the southern part of the Headquarters Area, approximately 1,250 feet west of Vandegrift Boulevard (Figure 1-2). The ditch is an ephemeral drainage that runs southward down a slight hill, away from two motor pool areas, a large parking area, and an oil/water separator. The drainage ditch runs along "B" Street, into a concrete-lined ditch approximately 200 feet north of the intersection of 6th and "B" Streets. In the vicinity of Site 18, the concrete-lined ditch runs west to east, parallel to 6th Street. The area receives only low annual rainfall, primarily during winter months. The concrete-lined ditches drain east into Pilgrim Creek (approximately 1 mile to the east), flow southwest into Windmill Lake, and eventually discharge into the San Luis Rey River.

No perennial surface water is present in the vicinity of Site 18. Any surface water that does not drain to the ditch either percolates into the subsurface or evaporates. No drinking water wells are located within a 1-mile radius of Site 18.

Structures in the vicinity of Site 18 include maintenance shops, motor pools, fueling facilities, administrative buildings, and troop housing. Military and civilian personnel are present in the immediate vicinity of the ditches on a daily basis. Designated troop housing areas are located within 13/16 Area. The nearest family housing, Serra Mesa Housing, is about 0.5 mile east of Site 18.

Site 18 consists primarily of defined drainages, most of which are concrete-lined. However, one section is vegetated with freshwater emergent wetland species such as bulrush and cattail. Young willows and cottonwoods also grow in this section of the ditch. No special-status species are expected to be present on this site. Wildlife species observed during the reconnaissance survey include cliff swallow, American crow, and California ground squirrel.

2.6.11.2 Site History and Enforcement Activities

Site 18 was added to the RI/FS after a visit by the Navy and Jacobs Engineering Group Inc. (Jacobs) team in May 1990. Base personnel reported a history of fuel spills at this site. In addition, the spill ditch near Building 1687 received runoff from two motor pool areas that housed

battery shops, storage areas, and a bulk fuel area. POLs, solvents, and corrosives represent typical waste types spilled at this site.

2.6.11.3 Summary of Site Characteristics

Site 18 was investigated in June and July 1996 during the RI for Group D sites. A total of 20 soil samples were collected from eight boring locations (Figure 2-25). The samples were analyzed for metals, VOCs, and SVOCs. Poor recovery precluded the collection of groundwater samples. No surface-water or sediment samples were collected because no surface water was present on site.

2.6.11.3.1 Geology and Hydrogeology

Surface geology at Site 18 consists primarily of alluvium of Holocene age overlying the La Jolla Group bedrock of Eocene age. The predominant lithology at the site is poorly graded sand, with discontinuous lenses of lower permeability silty sand, clayey sand, and silt. Bedrock was not encountered in boring 18B-02; alluvium extends to a depth of at least 23 feet at this location. The La Jolla Group was encountered at depths of 9 and 13 feet in borings 18B-03 and 18B-06, respectively. These two borings are located near opposing south and north hillslope walls. The La Jolla Group crops out on hillsides surrounding 13/16 Area and consists of fine- to medium-grained sandstone interbedded with silty sandstone, clayey sandstone, siltstone, and claystone.

Based on site geology, groundwater is assumed to flow to the south, following surface topography. Soil borings were drilled to a maximum depth of 40 feet below ground surface at Site 18; perched groundwater was encountered at a depth of 9.2 feet in boring 18B-04. Field observations indicated that the continuous water-bearing aquifer at Site 18 is more than 40 feet below ground surface.

2.6.11.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 18. Results are summarized in Figure 2-25, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organics were detected in Site 18 soil at concentrations exceeding PRGs (Figure 2-25). Acetone, benzoic acid, 2,4-dinitrotoluene, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and di-n-octylphthalate were detected at low concentrations; the highest concentration detected was 0.52 mg/kg for bis(2-ethylhexyl)phthalate.

Inorganics

Arsenic was detected in 9 of 22 samples and beryllium was detected in 19 of 22 samples at concentrations exceeding PRGs but below background (Figure 2-25).

Summary

No organics were detected in soil at concentrations exceeding PRGs; arsenic and beryllium were the only inorganics that exceeded PRGs, but concentrations were below background. Despite attempts to collect water samples, groundwater was not encountered at Site 18. Based on soil concentrations and the deep water table, groundwater is not expected to be impacted. No significant site-related contamination exists at Site 18.

2.6.11.4 Summary of Risks Associated with Site 18

Human health and ecological risk assessments were conducted for Site 18 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries are presented in this section.

2.6.11.4.1 Human Health Risk Characterization

Detected COPCs in soil include metals, VOCs, and SVOCs. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of VOCs or particulates.

The cumulative residential risk from maximum detected COPCs is 3.4×10^{-5} and is primarily attributable to arsenic (approximately 83 percent of the total risk) and beryllium (approximately 17 percent of the total risk). The maximum concentrations of arsenic (10.6 mg/kg) and beryllium (0.91 mg/kg) are less than their respective background concentrations. Excluding background concentrations, the incremental residential site risk is 2.1×10^{-9}.

The cumulative residential HI from maximum detected COPCs in soil is 1.5 and is primarily attributable to aluminum (approximately 21 percent of the total hazard), arsenic (approximately 34 percent of the total hazard), barium (approximately 20 percent of the total hazard), and manganese (approximately 17 percent of the total hazard). Excluding the portion of total noncarcinogenic hazard attributable to background metals, the incremental residential site hazard for maximum detected COPCs is 0.5.

Based on the results of the HHRA, the incremental residential risk for soil is below the lower end of the risk management range and the incremental residential hazard is less than the threshold criterion of 1.0. In addition, the maximum lead concentration (29.6 mg/kg) is below the residential screening criteria. Therefore, Site 18 soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 18 during the RI because drilling refusal occurred in weathered bedrock less than 50 feet below ground surface, before encountering sufficient groundwater for sampling purposes. Perched groundwater encountered at 9.2 feet below ground surface did not supply sufficient quantities to sample. The site is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins. Therefore, groundwater at Site 18 was not evaluated further in the HHRA and is considered protective of human health.

2.6.11.4.2 Ecological Risk Assessment

HQs for seven preliminary COPECs exceed 1.0 (Figure 2-25) for one or two representative species; HQs are less than 1.0 for the other species. HQs were calculated for representative species for each of 11 soil samples, which were analyzed for 119 inorganic and organic chemicals. Most of the HQs exceeding 1.0 are less than 10, indicating that the potential for toxicity is relatively low. Aluminum, barium, and mercury had HQs in the medium toxicity range (10 to 100). The highest HQs for barium (12) and for aluminum (12) were calculated for the American robin. Aluminum and barium also had high frequencies of detection (100 percent). The highest HQ calculated for mercury was 20 for the deer mouse, indicating potentially high toxicity; however, mercury was detected in only 1 of 11 samples and most of the other HQs were less than 1.0.

Site 18 consists primarily of concrete-lined ditches that have low habitat value for terrestrial receptors. One section is unlined and characterized by emergent wetland species. No special-status species are expected to be present on site. Representative species for this site with HQs exceeding 1.0 include terrestrial invertebrates, deer mouse, and American robin.

None of the preliminary COPECs were retained as final COPECs because the potential for exposure and effects is considered low. The HQs for most of the chemicals detected are less than 1.0, indicating little or no toxicity. Aluminum, barium, and mercury had HQs greater than 10, but the frequency of detection for mercury was low and the remaining HQs are generally less than 1.0. In addition, the site is mostly developed and the available habitat is very limited. The home ranges of the representative mammal and bird species are generally larger than the available site habitat in which contaminants were detected. Given the limited on-site habitat and relatively good habitat surrounding the site, representative wildlife species would likely only be present on site for limited periods of time. Therefore, exposure of wildlife receptors to the preliminary COPECs at the site is not expected to result in any adverse effects.

2.6.11.5 Description of the No Action Alternative

The no action alternative selected for Site 18 soil and groundwater includes no institutional controls. Site 18 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The incremental cancer risk for soil is less than $1x10^{-6}$.
- Excluding background, the HI for soil is less than 1.0.
- The human exposure pathway to groundwater is not complete based on the poor recovery from the geological formation below the site.
- Although a few chemicals present a potential ecological risk, the overall potential risk is low. The potential for exposure and adverse effects is considered low for soil based on the frequency at which risk contributors were detected and the limited site habitat.

2.6.12 Site 27 - 22 Area Ditches Behind Building 22210

Site 27 consists of ditches behind Building 22210 in 22 Area.

2.6.12.1 Site Name, Location, and Description

Site 27 - 22 Area Ditches Behind Building 22210, is approximately 0.25 mile southeast of the MCAS and approximately 1 mile from the Santa Margarita River (Figure 1-2). Seasonal surface water flows in the highly vegetated drainage ditches at this site. The ditches are approximately 10 feet wide and 5 to 8 feet deep; they begin behind Building 22210 and flow northwest until they converge into a southwest-flowing ditch along the southeast side of Avenue D. The ditches are

unlined and receive runoff from various maintenance facilities and hazardous material transfer and storage lots in 22 Area. The site ditches drain the area and eventually discharge southwest into the Santa Margarita River. Surface water not drained through the ditches either percolates into the subsurface or evaporates. No perennial surface water is present in the immediate vicinity of Site 27.

Land use in the vicinity of Site 27 consists of activities associated with major warehousing and food storage functions for the base. Structures in the area include maintenance shops, motor pools, fueling facilities, administrative buildings, scrap yards, recreation areas, troop housing, and industrial and warehouse buildings. Military and civilian personnel are present on roads and in buildings in the vicinity of the ditches on a daily basis. The nearest designated troop housing areas are in the Chappo (22) Area, approximately 200 feet from the site. The nearest family housing is the Ranch House, about 1.5 miles northeast of Site 27. The nearest base production well is approximately 4,200 feet northwest of Site 27.

Site 27 contains a 30-foot-wide strip of riparian habitat that runs parallel to Avenue D. Cottonwood and willow are the dominant tree species; mulefat, tree tobacco, and cattail are found in the understory. Nonnative grassland habitat surrounds the riparian strip and is mowed along Avenue D. Southeast of the riparian strip is a small patch of coastal sage scrub. Sagebrush, coyote brush, and deerweed are the dominant species in this habitat. During the surveys, 24 bird species were identified. Common species include European starling, common yellowthroat, and California towhee. A least Bell's vireo (a special-status species) was observed in the riparian strip parallel to Avenue D. During the March survey, deer mice, western harvest mice, and house mice were caught in live-traps. Audubon cottontails were observed throughout the site. No amphibians were observed. A western diamondback rattlesnake was found in a rock pile near the riparian strip. Aquatic and terrestrial invertebrates were observed at the site during the March, June, and October 1995 surveys.

2.6.12.2 Site History and Enforcement Activities

Site 27 consists of naturally occurring drainage ditches that could have received hazardous materials from various facilities in the 22 Area. Site 27 is downstream from the Site 16 and Site 17 ditches, from storm-water discharge pipes entering the drainage from the 22 Area, and from previously detected contamination. Facilities in the area include warehouses and industrial operations. No information is available on the quantities of contaminants received by the ditches.

Previous investigations at Site 27 were limited to a sampling visit (SV) conducted as part of the RFA for SV Site 111. The SV analysis included six surface soil samples and four subsurface soil samples from six hand-augered soil borings that were advanced in the 22 Area drainage ditches to investigate potential contamination associated with runoff entering the ditches. The SV borings were advanced during the summer when the ditches were dry. Groundwater was encountered in all borings at depths of 2 to 6 feet below surface. No groundwater samples were collected as part of the SV. Chlorinated solvents detected in two soil borings included 1,1-dichloroethene (DCE), TCE, chlorobenzene, methylene chloride, and PCE (SWDIV, 1993a).

2.6.12.3 Summary of Site Characteristics

Site 27 was investigated with the Group C sites (SWDIV, 1996a). Additional ecological sampling was conducted during the RI for Group D Sites (SWDIV, 1997b). Site 27 groundwater is part of OU4. Eight surface-water and eight sediment samples were collected from the Site 27 ditches (Figure 2-26) and were analyzed for metals, VOCs, SVOCs, TPH as diesel and gasoline, and pesticides and PCBs. The surface-water samples were also analyzed for general chemistry. No soil samples were collected because the ditches were saturated.

During March 1995, a habitat and receptor survey was conducted and dominant vegetative habitats were identified. Bird and general wildlife surveys were conducted to evaluate the potential presence of special-status wildlife species. Mammal trapping (using Sherman live-traps) was conducted to identify small mammal use of the site.

One aquatic invertebrate (crayfish) sample and one terrestrial invertebrate (mixed insects) sample were collected in June 1995 and two aquatic invertebrate (crayfish) samples (one sample and one duplicate) were collected in June 1996 from the areas containing the highest inorganic and organochlorine pesticide concentrations (27SD001 and 27SD002) (Figure 2-26). In October 1995, terrestrial invertebrates (sowbugs and grasshoppers) were collected from the seasonally flooded playground area along 10th Street, southeast of Phase 1 RI sampling location 27SD001.

2.6.12.3.1 Geology and Hydrogeology

The geology of Site 27 consists primarily of stream-deposited alluvium of Holocene age overlying the La Jolla Group bedrock of Eocene age. The alluvium is predominantly silt and poorly graded sand containing varying amounts of silt and interbedded clay lenses. The thickness of the alluvium at Site 27 was not fully penetrated during drilling; however, alluvium near well cluster

6W-06, approximately 2,000 feet southwest of 27W-02, extends to a depth of at least 142 feet. Depth to bedrock decreases significantly toward the hills south of the site. The La Jolla Group crops out on hillsides surrounding 22 Area and consists of fine- to medium-grained sandstone interbedded with silty sandstone, clayey sandstone, siltstone, and claystone.

Site 27 is located on the alluvial plain of the Santa Margarita Basin, on the south edge of the Chappo subbasin. The regional groundwater flow direction is primarily southwest, parallel to the long axis of the basin. Depth to the water table at Site 27 ranges from 5 to 10 feet below ground surface. Local groundwater flow is west-southwest, parallel to the long axis of the Chappo subbasin and consistent with regional groundwater flow.

2.6.12.3.2 Surface-Water and Sediment Results

A summary of analytical results is presented in Figure 2-26. Because no pathways for human exposure exist for surface water or sediment, the contaminants detected in these media are of concern only for ecological receptors. Accordingly, the results are not compared against human health evaluation criteria, but rather against ecological risk criteria.

2.6.12.3.3 Biota Results

Biota collected from the site included terrestrial and aquatic invertebrates. The maximum detected tissue concentrations were compared with similar biota collected from reference areas. Tissue concentrations in terrestrial invertebrates exceeded reference values at sample station 1 (seven inorganics), sample station 3 (seven inorganics), and sample station 4 (two inorganics). The reference quotients are all less than 10 and most are very close to 1.0, indicating that tissue levels are very similar to those found in unaffected areas. Organochlorine pesticides were not detected in terrestrial invertebrates.

Tissue concentrations in aquatic invertebrates (crayfish) were compared with reference values from two different reference areas (R8 and R4) and with PLEs for ingestion by raccoons. The following preliminary COPECs exceeded values for both reference areas: aluminum, barium, chromium, cobalt, copper, iron, manganese, nickel, silver, zinc, and 4,4'-DDE. Vanadium exceeded only R8 reference values. All reference HQs are less than 10, indicating that tissue levels are relatively close to those at unimpacted reference areas.

Crayfish tissue concentrations were also compared with PLEs for ingestion by raccoons. This comparison indicated that crayfish tissue concentrations could be reflective of local ambient conditions because PLEs were exceeded by the same chemicals in tissues collected on site and from the R4 reference area.

2.6.12.4 Summary of Risks Associated with Site 27

Human health and ecological risk assessments were conducted for Site 27 using data collected during the Group C and Group D RIs. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 27 are presented in this section.

2.6.12.4.1 Human Health Risk Characterization

The exposure pathways for surface water and sediment are incomplete for human receptors. Humans are not present at the site frequently enough to support a chronic exposure. Therefore, site surface water and sediment are considered protective of human health.

2.6.12.4.2 Ecological Risk Assessment

HQs for 12 preliminary sediment COPECs (8 inorganics and 4 organics) exceed 1.0 (Figure 2-26) but are generally less than 10, indicating a low potential for toxicity, with the following exceptions: 4,4'-DDE at sample stations 1 and 2, 4,4'-DDT at sample stations 1 and 4, and barium at sample stations 5 and 6. Barium, 4,4'-DDE, and 4,4'-DDT were the only preliminary COPECs detected at several of the stations along the main portion of the ditch, but only one or two samples were collected at each sample station. Concentrations of barium, cadmium, manganese, and nickel are within soil background levels for the Santa Margarita Basin and could represent local background conditions. In addition, barium concentrations are less than those detected at a reference area upstream from Site 27. Concentrations of the remaining inorganics (copper, iron, lead, and zinc) exceed soil background levels but resulted in HQs close to 1.0 (ranging from 1.1 to 2.5).

HQs for 11 preliminary surface-water COPECs (8 inorganics and 3 organics) exceed 1.0 for chronic exposure by aquatic organisms (Figure 2-26). HQs are generally less than 10. The exceptions are barium at sample stations 1, 2, 6, 7, 8, and 9; mercury at sample station 1; and silver at sample station 7. The HQs for preliminary COPECs at these sample stations are in the medium toxicity range (10 to 100). Preliminary COPECs exceeding chronic AWQC include aluminum, chloride, cyanide, iron, mercury, and silver. Aluminum, cyanide, mercury, and silver were detected only once (out of three or four samples). Chloride and iron were detected in all

samples (for a particular sample station) but exceeded AWQC values only once. Preliminary COPECs with HQs exceeding 1.0 for acute exposure by aquatic organisms include barium, cyanide, and silver, but all HQs are less than 10, indicating a low potential for toxicity. The frequencies of detection for the preliminary COPECs with HQs exceeding 1.0 ranged from 30 to 100 percent (within each sample station). The HQs for terrestrial representative species exposed to surface water are all less than 1.0.

None of the preliminary sediment COPECs were retained as final COPECs because the potential for exposure and effects is considered low. The HQs for most of the preliminary COPECs are close to 1.0; only a few HQs exceed 10. Inorganics were not retained because concentrations are less than or close to background soil levels and could reflect background conditions for the area. Organochlorine pesticides were not retained because most of the associated HQs are less than 10, indicating low potential toxicity. In addition, the crayfish collected from Site 27, as well as those from upstream (Site 16 and R8 [reference area]), showed very little bioaccumulation of 4,4'-DDT or its metabolites in the aquatic food web.

None of the preliminary surface-water COPECs were retained as final COPECs because the potential for exposure and effects is considered low. The HQs indicated low potential toxicity for most preliminary COPECs based on chronic comparisons and for all preliminary COPECs based on acute comparisons. Preliminary COPECs exceeding PLEs based on AWQC values were not retained as final COPECs because the chemicals were either detected only once or exceeded AWQC values only once, indicating that they are not present at high concentrations on a consistent basis. In addition, the ditches are only seasonally wet and chemicals exceeding acute AWQC were detected only once. Other preliminary COPECs exceeding acute PLEs had HQs very close to 1.0, indicating low potential toxicity.

2.6.12.5 Description of the No Action Alternative

The no action alternative selected for Site 27 surface water and sediment includes no institutional controls. Site 27 surface water and sediment are considered protective of human health and the environment for the following reasons:

- There is no complete exposure pathway for human receptors.
- Although a few chemicals in surface water and sediments pose a potential ecological risk, the overall potential risk is low based on the low potential for bioaccumulation,

the frequency at which risk contributors were detected, and the background contribution to risk.

2.6.13 Site 32 - Drum Storage Area and Drainage Between Buildings 41303 and 41366

Site 32 consists of a drum storage area and drainage in 41 Area.

2.6.13.1 Site Name, Location, and Description

Site 32 - Drum Storage Area and Drainage Between Buildings 41303 and 41366, is located within the Las Flores Area, approximately 1,000 feet northeast of Stuart Mesa Road and immediately east of its intersection with El Camino Real (Figure 1-2). The site consists of an inactive waste oil UST, lube rack, wash rack, oil/water separator, hazardous waste drum storage area, and partially lined drainage ditch. The ditch is approximately 1,500 feet long and runs along the northern side of, and parallel to, El Camino Real. The wash rack, lube rack, oil/water separator, and drum storage area are immediately adjacent to the drainage at various points along the ditch. In addition, some petroleum-stained soil was observed approximately 200 feet northeast of the eastern end of the ditch. The flow direction of the ditch is southeast to northwest. Pulgas Creek is approximately 0.75 mile northwest of Site 32. The surrounding area is characterized by rolling hills.

A small vegetated area is present at the eastern end of the drainage. Dominant plant species include willow, fennel, sage, mulefat, mustard, and curly dock. Special-status species, if present, would likely be limited to least Bell's vireo and would be confined primarily to the eastern end of the site. Bird species observed during the reconnaissance survey include common raven and mourning dove.

No perennial surface water is present in the immediate vicinity of Site 32. The area receives only low annual rainfall, primarily during winter months. Surface water at the site is generally ephemeral and follows the gently sloping ground surface to the southwest and eventually discharges into the Pacific Ocean. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off site.

The Las Flores Area contains an industrial area (tank park, maintenance, and supply), a troop housing area, medical and training facilities, and tank training ranges in the north and recreation

areas in the south. Military and civilian personnel are present on roads and at buildings in the vicinity of the site on a daily basis. The nearest designated troop housing areas are located 300 to 600 feet south of the site, within the Las Flores Area. The nearest family housing, Stuart Mesa Housing, is approximately 3 miles southeast of Site 32. The nearest base production well is approximately 1 mile west of Site 32.

2.6.13.2 Site History and Enforcement Activities

Site 32 has been used solely as a vehicle maintenance area. Past maintenance operations reportedly resulted in oil/water separator overflows, spills, and discharges to the ditch. Although the area is still used for maintenance, the practices that led to its inclusion in the RI have ended. As a general practice, wastes that had been containerized on site were later transported to the base hazardous waste disposal office for disposal. However, no specific information is available on the quantities of waste or the disposal location. This area was recommended for RI during the preliminary review (PR) (PR Sites 200, 203, and 204) and, thus, no sampling was conducted during the RFA.

2.6.13.3 Summary of Site Characteristics

Prior to 1995, no sampling had been conducted at this site; however, in late 1995, Bechtel collected a surface soil sample and a groundwater sample from the locations shown in Figure 2-27. The purpose of this sampling effort was to support SWDIV in estimating and prioritizing funding needs for future environmental restoration work. The samples were analyzed for VOCs, SVOCs, and metals. The groundwater sample was not filtered but was preserved with acid; as a result, the analytical results for metals were not usable. No other analytes were detected at concentrations exceeding MCLs or PRGs.

Site 32 was investigated during the RI for Group D Sites (SWDIV, 1997b). A total of 40 soil samples were collected from eight boring locations and one surface location, including the Bechtel 1995 samples. The samples were analyzed for metals, VOCs, and SVOCs. A groundwater sample was collected using a direct-push method during the 1995 sampling event. Groundwater samples could not be collected from permanent wells during the 1996 RI because sufficient water was not encountered to a depth of approximately 50 feet below ground surface. No surface water was present on site.

A habitat and receptor survey was conducted at Site 32 during June 1996. Dominant vegetation types and corresponding wildlife habitats were identified. Wildlife observed and evidence of wildlife use (i.e., scat or tracks) were also noted.

2.6.13.3.1 Geology and Hydrogeology

Geology at this site is primarily marine terrace deposits. These materials consist predominantly of interbedded fine-grained sand, silty and clayey sand, and clay and gravel lenses and were probably deposited in near-shore marine and/or estuarine conditions during periods of fluctuating sea levels.

Based on site geology, groundwater is assumed to flow to the southwest, following surface topography. During the 1995 investigation, Bechtel collected a hydropunch sample at 47 feet below ground surface. During the RI, soil borings were drilled to a maximum depth of 50 feet below ground surface at Site 32; groundwater was encountered at a depth of 37.5 feet in boring 32B-01. However, data from the boring indicate that shallow groundwater is present only within small, localized, discontinuous perched zones and a distinct continuous water-bearing zone (aquifer) does not exist above 50 feet below grade at this site.

2.6.13.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 32. Results are summarized in Figure 2-27, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected in soil at concentrations exceeding PRGs (Figure 2-27). However, 2-butanone and 2-methylnaphthalene were detected at concentrations of 0.001 and 0.27 mg/kg, respectively, in the upper 5 feet of boring 32B-03.

Inorganics

Concentrations of three metals exceeded PRGs: arsenic, beryllium, and chromium VI (Figure 2-27). All beryllium detections were below the background concentration of 1.52 mg/kg. Arsenic concentrations were generally close to the background concentration of 2.67 mg/kg; the highest arsenic concentration was 3.7 mg/kg. No background value was available for chromium VI, which was detected at concentrations above the PRG only at depths between 10 and 30 feet in three samples from boring 32MW-01. The maximum concentration was 1.2 mg/kg.

2.6.13.3.3 Groundwater Results

No organics were detected at concentrations exceeding MCLs or tap-water PRGs in the groundwater sample from Site 32 (hydropunch sample 104CP61; approximate groundwater level of 47 feet below ground surface). The only organic compound detected was di-n-butylphthalate at a concentration of 1.3 µg/l (Figure 2-27).

The groundwater sample was not filtered and was preserved with acid. As a result, metals concentrations were partially attributable to dissolved particles suspended in the sample. Accordingly, this sample was rejected from the inorganics data set.

2.6.13.3.4 Summary

No organics were detected in soil at concentrations exceeding PRGs. Of the inorganics detected, arsenic and beryllium concentrations were either below or not significantly higher than background. No background is available for chromium VI, but this constituent was detected only at low concentrations between depths of 10 to 30 feet in one boring. Therefore, soil contamination is not considered a problem. Despite attempts to collect water samples during the 1996 investigation, groundwater was not encountered to a depth of 50 feet. Based on the 1995 hydropunch sample (104CP61), none of the contaminant data exceed evaluation criteria. Based on the soil concentrations and the deep water table, groundwater contamination is not of concern.

2.6.13.4 Summary of Risks Associated with Site 32

Human health and ecological risk assessments were conducted for Site 32 using data collected during the Group D RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 32 are presented in this section.

2.6.13.4.1 Human Health Risk Characterization

Soil COPCs include metals, VOCs, and SVOCs. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion of soil, dermal contact with soil, and inhalation of VOCs or soil particulates.

The cumulative residential risk from the maximum detected COPCs is 1.4×10^{-5}. The primary risk drivers are arsenic (approximately 54 percent of the total risk) and beryllium (approximately 26 percent of the total risk). The maximum concentration of beryllium is less than the background concentration for the basin, and the maximum arsenic concentration is only slightly higher than the

background concentration. Excluding the portion of total risk attributable to background metals, the incremental residential site risk from maximum detected COPCs is 2.7×10^{-6}. Assuming that metals are distributed lognormally throughout the soil, the 95 percent UCL for arsenic, 2.7 mg/kg, is less than the background value. Excluding the portion of total risk attributable to background metals, the incremental residential risk from the more representative soil concentrations (e.g., 95 percent UCLs) is less than 1×10^{-6}.

The cumulative residential HI from the maximum detected COPCs is 1.4 and is primarily attributable to aluminum (approximately 25 percent of the total hazard), arsenic (approximately 12 percent of the total hazard), manganese (approximately 30 percent of the total hazard), and vanadium (approximately 11 percent of the total hazard). Excluding the portion of total hazard attributable to background, the incremental residential site hazard is 0.2, which is below the threshold criterion of 1.0.

The results of the HHRA for Site 32 indicate that the incremental residential cancer risk is below the lower end of the risk management range and the incremental residential noncarcinogenic hazard is below the threshold criterion of 1.0. In addition, the maximum lead concentration (10.7 mg/kg) is below the screening criteria. Therefore, Site 32 soil is considered protective of human health.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. However, a hydropunch sample was collected in 1995 as part of another study. No organic compounds were detected at concentrations exceeding PRGs, and the inorganic sample results were rejected. Groundwater sampling was not performed at Site 32 during the 1996 investigation because drilling refusal occurred in weathered bedrock at less than 50 feet below ground surface, before encountering sufficient groundwater for sampling purposes. Site 32 is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than, and isolated from, the aquifers associated with these major basins.

Based on the results of the groundwater sample collected in 1995, the depth to groundwater, the lack of soil contamination, and the incomplete exposure pathway from groundwater to humans, Site 32 groundwater is considered protective of human health.

2.6.13.4.2 Ecological Risk Assessment

The HQs for six preliminary COPECs (aluminum, arsenic, chromium, iron, nickel, and vanadium) exceed 1.0 (Figure 2-27). HQs were calculated for representative species for each of 17 soil samples, which were analyzed for 119 inorganic and organic chemicals. Most of the HQs that exceed 1.0 are less than 10, indicating that the potential for toxicity is relatively low. The HQs for aluminum and chromium are in the medium toxicity range (10 to 100). All preliminary COPECs with HQs exceeding 1.0 also had high frequencies of detection (100 percent in 17 samples).

Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, deer mouse, raccoon, and least Bell's vireo.

None of the preliminary COPECs were retained as final COPECs because the potential for exposure and effects is considered low. The HQs for most of the chemicals detected are less than 10, indicating low potential toxicity, with the exception of aluminum and chromium for raccoons. The maximum detected concentrations of all preliminary COPECs with HQs exceeding 1.0 are close to background levels, and concentrations for most of the remaining samples are close to or less than background levels. In addition, the habitat at the site is primarily mowed, and only a small portion east of the site could provide adequate habitat for special-status species. The limited available habitat at the site is generally smaller than the home ranges for the representative bird and mammal species. Given the developed nature of the site, representative wildlife species are not expected to be on site for significant periods of time. Therefore, exposure of these receptors is probably minimal and is not likely to result in adverse effects.

2.6.13.5 Description of the No Action Alternative

The no action alternative selected for Site 32 soil and groundwater includes no institutional controls. Site 32 soil and groundwater are considered protective of human health and the environment for the following reasons:

- There is no complete pathway for exposure of human receptors to groundwater.
- The incremental cancer risk under the residential scenario using representative concentrations is less than $1x10^{-6}$.

- The incremental HI under the residential exposure scenario using maximum concentrations is less than 1.0 and the maximum lead concentration is less than the screening criteria.

- Although a few chemicals pose a potential ecological risk, the overall potential risk is low. The potential for exposure and adverse effects is considered low for soil based on frequency at which risk contributors were detected, the background contribution to risk, and the low potential for exposure in the developed site area.

2.6.14 Site 34 - Combat Engineers Maintenance Facility, Buildings 62580-62583

Site 34 is a maintenance facility near Buildings 62580-62583.

2.6.14.1 Site Name, Location, and Description

Site 34 - Combat Engineers Maintenance Facility, Buildings 62580-62583, is located in 62 Area, approximately 0.5 mile southeast of the intersection of San Mateo and Cristianitos Roads (Figure 1-2). The facility consists of a lube rack, several wash racks, a large maintenance and motor transport area, a former hazardous waste storage area, and an adjacent drainage. The wash rack, lube rack, and maintenance and motor transport areas are located south of Building 62580, and the former hazardous waste storage area is located to the north. Two storm-water drains adjacent to the wash racks and lube rack discharge storm water toward the drainage ditch that flows east to west at the southern end of Site 34. The site is bordered on the west by Sewage Treatment Plant No. 12, on the south by an unpaved access road and San Mateo Creek, and on the north and east by 62 Area buildings. Site 34 is 1,200 feet due south of Site 1I. Cristianitos Creek is west of the site.

No perennial surface water is present in the vicinity of Site 34. Surface water at this site is ephemeral and follows the gently sloping topography to the south. The area receives only low annual rainfall, primarily during winter months, and surface flow is generally intermittent. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and discharges into San Mateo Creek, which eventually discharges into the Pacific Ocean approximately 3 miles downstream from the site.

A large portion of Site 34 has been disturbed. Remnant vegetation types include coastal sage scrub, nonnative grassland, and freshwater emergent wetland. Plant species in the coastal sage scrub include sage and coyote bush. Wild oat is the dominant grass species in the nonnative grassland habitat. Bulrush is the dominant plant species in the freshwater emergent wetland

habitat. No special-status species are expected to be present on this site. Black phoebes and western kingbirds were observed during the reconnaissance survey. The nearest base production well is approximately 1 mile southwest of Site 34.

The Combat Engineers Maintenance Facility is currently active and is expected to remain so. Military and civilian personnel use the site frequently. The San Mateo (62) Area, where Site 34 is located, is used for personnel training, recreation, troop housing, vehicle maintenance, mess, and administration. An undeveloped area north of the site across San Mateo Road is classified as a maneuver area and is covered by natural vegetation. The nearest designated troop housing is in the San Mateo (62) Area, approximately 800 feet from the site. No family housing is located within several miles of the site and none is planned.

2.6.14.2 Site History and Enforcement Activities

Site 34 has been operated as a large maintenance facility for approximately 28 years and has a history of spills. Wastes include waste oil, used vehicle fluids, and solvents. This facility was recommended for RI during the PR (PR Site 275) and, thus, no sampling was conducted during the RFA.

2.6.14.3 Summary of Site Characteristics

Prior to scheduled RI fieldwork for Group D sites in 1996, eight borings (34B-01 through 34B-08) were drilled in the vicinity of three wash racks that were used throughout the history of Site 34 and the nearby lube rack and maintenance area. This sampling was conducted during March through May 1993 to support scheduled construction at Site 34. The data were also used for RI characterization. A total of 43 soil samples were collected and analyzed for metals, VOCs, and SVOCs. Sample locations are shown in Figure 2-28.

2.6.14.3.1 Geology and Hydrogeology

Shallow geology at this site consists of a cobble zone overlain by alluvial silty sands, clayey sands, and thin, discontinuous lenses of fine-grained sand. Groundwater was encountered at a depth of 11 feet below ground surface in boring 34B-11 and at a depth of 13 feet in monitoring well 34MW-01. Based on site geology, groundwater is assumed to flow to the south, following surface topography; however, because groundwater measurements were taken on separate dates, consistent data are not available to confirm this assumption.

2.6.14.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 34. Results are summarized in Figure 2-28, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

No organic compounds were detected at concentrations exceeding PRGs in Site 34 soil (Figure 2-28). However, diesel was detected in the 2-foot sample from boring 34B-03 and the surface sample from boring 34B-04 at concentrations of 290 and 150 mg/kg, respectively; these concentrations exceed the 100-mg/kg screening level.

The following 14 organics were detected in Site 34 soil at concentrations below evaluation criteria: acetone, 2-butanone, methylene chloride, carbon disulfide, toluene, 1,1,1-TCA, bis(2-ethylhexyl)-phthalate, 2-methylnaphthalene, benzo(a)pyrene, fluorene, diethylphthalate, dimethylphthalate, di-n-butylphthalate, and total volatile hydrocarbons (TVH). The highest concentration was 0.18 mg/kg for bis(2-ethylhexyl)phthalate.

Inorganics

Arsenic and beryllium concentrations consistently exceeded PRGs (Figure 2-28). However, beryllium concentrations were below background (1.42 mg/kg), and arsenic concentrations were generally not significantly higher than background (4.25 mg/kg). The maximum concentration for arsenic was 8 mg/kg.

2.6.14.3.3 Groundwater Results

No organic compounds were detected in Site 34 groundwater (Figure 2-28).

Manganese (2,050 µg/l) and arsenic (8.4 µg/l) concentrations in well 34 GWT-01 (approximate groundwater level of 11 feet below ground surface) exceeded tap-water PRGs (Figure 2-28). Chromium VI (4 µg/l), arsenic (11.8 µg/l), and beryllium (0.04 µg/l) also exceeded tap-water PRGs in the sample from well 34MW-01 (approximate groundwater level of 13 feet below ground surface). However, the result for chromium VI was higher than for total chromium (1.9 µg/l) and was rejected during data validation. No other inorganics were detected at concentrations exceeding evaluation criteria.

As discussed for Site 1A, the elevated manganese result is likely due to relatively poor filtration of silts and small suspended particles in undeveloped hydropunch and temporary well samples. In contrast, the sandpack and well development activities for permanent wells are much more efficient in keeping the smallest suspended particles outside the well screen. Nondissolved particles of manganese could pass through the 0.45-micron filter used in the field, which would result in higher manganese concentrations for samples with higher TSS (i.e., temporary well samples; see Section 4.1.1.2). The groundwater data from temporary well 34GWT-01 and nearby permanent well 34MW-01 clearly depict this variation (Figure 2-28). Manganese was detected at 2,050 µg/l in 34GWT-01 but was not detected in the permanent monitoring well. Furthermore, the detected concentration from 34GWT-01 is not significantly higher than the tap-water PRG for manganese.

2.6.14.3.4 Summary

No organics were detected in soil at concentrations exceeding PRGs. Although diesel was detected in soil at potentially leachable concentrations (greater than 100 mg/kg), no volatile or semivolatile organic compounds were detected in the soil above PRGs indicating that the toxic constituents of diesel are not a concern. Arsenic and beryllium were the only inorganics detected above PRGs, but concentrations were either below or only slightly above background. Therefore, significant site-specific soil contamination does not exist at Site 34. No volatile or semivolatile organic compounds were detected in groundwater. Therefore, the diesel concentrations detected in soil are not considered a threat to groundwater or human health. Accordingly, Site 34 groundwater does not appear to be impacted.

2.6.14.4 Summary of Risks Associated with Site 34

Human health and ecological risk assessments were conducted for Site 34 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 34 are presented in this section.

2.6.14.4.1 Human Health Risk Characterization

Soil COPCs include metals, VOCs, and SVOCs (PAHs). Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, inhalation of VOCs, and inhalation of particulates.

The cumulative residential risk from maximum detected soil COPCs is 2.7×10^{-5}. The primary risk drivers are arsenic (approximately 78 percent of the total risk) and beryllium (approximately 21 percent of the total risk). Site-specific background was not available; therefore, Santa Margarita Basin background levels were used as surrogate values. Arsenic exceeds and beryllium is less than the respective surrogate background concentrations. Neither metal is related to the waste streams associated with the maintenance facility. Excluding the portion of total risk attributable to background metals, the incremental residential site risk from maximum detected COPCs is 1×10^{-5}. Assuming that metals are distributed lognormally throughout the soil, the 95 percent UCL soil concentration of arsenic is 4.4 mg/kg, which is essentially the same as the background concentration (4.25 mg/kg). Excluding the portion of total risk attributable to background metals, the incremental residential risk from the more representative soil concentrations is less than 1×10^{-6}.

The cumulative residential hazard from the maximum detected COPCs is 1.4 and is primarily attributable to metals. Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard from the maximum detected COPCs is less than 1.0.

The results of the Site 34 HHRA indicate that the incremental residential cancer risk is below the lower end of the risk management range and the incremental residential noncarcinogenic hazard is below the threshold criterion of 1.0. In addition, the maximum lead concentration (29.5 mg/kg) is below the screening criteria. Based on the results of the HHRA, soil at Site 34 is considered protective of human health.

Future residents could be exposed to groundwater contaminants through ingestion. The cumulative residential cancer risk from ingestion of groundwater is 2.6×10^{-4} and is completely attributable to arsenic and beryllium. However, the maximum concentrations of arsenic (11.8 µg/l) and beryllium (0.04 µg/l) are below the respective MCLs of 50 and 4 µg/l, respectively. Furthermore, because arsenic and beryllium in soil are within background concentrations, groundwater concentrations of arsenic and beryllium are also likely due, at least in part, to background concentrations.

The total noncarcinogenic hazard associated with ingestion of groundwater is 3.4 and is primarily attributable to manganese (1.2) and arsenic (1.1). The HIs for individual target organs exceed 1.0 for the central nervous system and skin due to manganese (1.2) and arsenic (1.1). Arsenic and

manganese are within background concentrations for soil and are also likely within naturally occurring background concentrations for groundwater. Some uncertainty is associated with the RfD used to calculate the PRG for manganese and could result in an overestimation of the hazard. Manganese was not detected in the permanent monitoring well located within 200 feet of the temporary well in which the manganese concentration of concern was detected. Some uncertainty is associated with the results from the temporary well even though samples from both wells were filtered in the field. Groundwater samples from temporary wells usually contain higher TSS (the samples are muddy) due to the disturbance associated with the sampling method. Permanently installed wells are developed prior to sampling; as a result, samples typically have much lower TSS prior to filtering than temporary well samples. Because temporary well samples contain more particles, nondissolved particles could pass through the filter. Some manganese particles could be small enough to pass through the 0.45-micron filter used in the field (Hem, 1985) and could result in a higher concentration of manganese in the temporary well sample. Many of the other detected metals are also naturally occurring and may be within background.

Groundwater at Site 34 is considered protective of human health for the following reasons:

- The calculated incremental residential cancer risk is 2.6×10^{-4} and is completely attributable to arsenic and beryllium.
- Detected concentrations of arsenic and beryllium are less than the respective MCLs.
- Residential HIs due to manganese and arsenic exceed the 1.0 criterion only slightly for individual target organs; uncertainty could result in an overestimation of hazard due to manganese.
- At least some portions of the metals of concern (arsenic, beryllium, and manganese) are assumed to be within background.

2.6.14.4.2 Ecological Risk Assessment

HQs for nine preliminary COPECs (all inorganics) exceed 1.0 (Figure 2-29). HQs were calculated for representative species for all 29 soil samples, which were analyzed for 119 inorganic and organic chemicals. Most of the HQs are less than 10, indicating that the potential for toxicity is relatively low. HQs for aluminum, boron, and chromium are in the medium toxicity range (10 to 100). The frequencies of detection for preliminary COPECs with HQs exceeding 1.0 ranged from 20 to 100 percent. Both aluminum and chromium were detected in all samples collected, but

concentrations exceeded background in only one sample for aluminum and two samples for chromium. Representative species for this site with HQs exceeding 1.0 include plants, terrestrial invertebrates, deer mouse, raccoon, California gnatcatcher, and Savannah sparrow.

None of the preliminary COPECs were retained as final COPECs because the potential for exposure and effects is considered low. Maximum detected concentrations are close to background levels, and concentrations in the remaining samples are similar to or less than background. Aluminum and chromium, which had potential toxicity in the medium range, exceeded background levels in only 1 or 2 of the 29 samples analyzed. In addition, most of the site is disturbed and has limited habitat. Because the habitat conditions of the surrounding areas are of higher quality, wildlife receptors are not likely to spend much time on the site. The potentially contaminated areas of the site are generally smaller than the home range sizes of the representative species. For these reasons, wildlife receptors are not expected to be exposed to the preliminary COPECs at the site long enough to result in adverse effects.

2.6.14.5 Description of the No Action Alternative

The no action alternative selected for Site 34 soil and groundwater includes no institutional controls. Site 34 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The incremental cancer risk for soil under the residential scenario using representative concentrations is less than $1x10^{-6}$.
- The incremental HI for soil under the residential exposure scenario using maximum concentrations is less than 1.0 and the maximum lead concentration is less than the screening criteria.
- The potential risk from groundwater is due to metals that are considered background, and maximum concentrations are below drinking water standards (MCLs).
- Although a few chemicals pose a potential ecological risk, the overall potential risk is low. The potential for exposure and adverse effects is considered low for soil based on the frequency at which risk contributors were detected, the background contribution to risk, and the low potential for exposure.

2.6.15 Site 35 - Former Sewage Treatment Plant Facility in 25 Area

Site 35 consists of a former sewage treatment plant facility in 25 Area.

2.6.15.1 Site Name, Location, and Description

Site 35 - Former Sewage Treatment Plant Facility in 25 Area, is located approximately 0.9 mile north of the intersection of Basilone Road and Vandegrift Boulevard (Figure 1-2). This site is an abandoned wastewater treatment facility area that was reportedly subject to overflows. The site is approximately 160 feet long and 140 feet wide. Adjacent to the treatment facility are four abandoned drying beds, each approximately 100 feet long and 60 feet wide. These beds were probably used in conjunction with the treatment facility. Three of the four borings drilled at the drying beds showed a clay or silt layer about 10 feet below ground surface, suggesting that this site may have been lined. Both the facility and drying beds are on a level surface. The facility is partially fenced, and the drying beds are completely surrounded by fencing.

The only perennial surface water in the vicinity of Site 35 is the Santa Margarita River. The current main channel of the river is approximately 600 feet east of the site. Water is often visible in the drying beds. The area receives only low annual rainfall, primarily during winter months. Excess surface water from significant rainfall events percolates into the subsurface, evaporates, or runs off the site and discharges into the Santa Margarita River.

The Santa Margarita River is a perennial braided stream that flows southwesterly. At the Basilone Road bridge in the immediate vicinity of Site 35, the banks of the river are 10 to 15 feet high and are artificially maintained by loose riprap. The bridge is approximately 25 feet above the stream bottom and typically does not restrict surface flow in the channel, even during winter months. The banks of the Santa Margarita River are not artificially maintained upstream or downstream of Site 35.

The 25 Area former sewage treatment plant facility is no longer in operation. Military and civilian personnel are on site only occasionally. The Vado Del Rio (25) Area is used for personnel training, recreation, troop housing, vehicle maintenance, mess, and administration. The undeveloped area north of the 25 Area is classified as a maneuver area and consists of gently rolling hills covered by natural vegetation (Innis-Tennebaum Architects, Inc., 1990). The nearest family housing is the Ranch House, located about 1 mile south of the site. The nearest designated troop housing is in the Vado Del Rio (25) Area, approximately 200 feet from the site. No other family housing is located within several miles of the site and none is planned. The nearest base production well is less than 1 mile downgradient from Site 35.

Dominant habitats at Site 35 include nonnative grassland and southern willow scrub. Coastal sage scrub habitat is found southwest of the former sewage treatment plant. The willow scrub habitat is dominated by willow, tree tobacco, and mulefat. Nonnative grassland species include wild oat, brome, prickly sowthistle, and black mustard. White sage and coyote brush are the dominant plant species in the coastal sage habitat. Bird species observed at Site 35 during the March 1995 survey include Anna's hummingbird, bushtit, common yellowthroat, red-tailed hawk, and greater roadrunner. Deer mice, San Diego pocket mice, brush mice, and house mice were trapped during the March survey. No reptiles or amphibians were observed during the surveys. Aquatic and terrestrial invertebrates were observed during March, June, and October 1995 surveys.

2.6.15.2 Site History and Enforcement Activities

Operations at former Sewage Treatment Plant No. 7 began in 1951 and ended in the late 1970s or early 1980s. The facility overflowed in the past, but no staining is present. AC/S,ES office staff indicated that samples were not collected when the facility overflowed, and no additional information is available on the chemistry, extent, or date of such incidents. After RI sampling of other portions of the site, the drying beds were discovered by base personnel while clearing brush in the area.

Site 35 was investigated in 1991 and 1992 as part of the RFA SV for Site 129. Two surface and three subsurface samples were collected from two soil borings advanced around the site perimeter. Groundwater was encountered at a depth of 6 to 11 feet below surface. No groundwater samples were collected. Arsenic and antimony were detected in soil at concentrations of 7.1 and 35.6 ppm, respectively (SWDIV, 1993a).

2.6.15.3 Summary of Site Characteristics

Site 35 was investigated in 1995 during the Group C RI (SWDIV, 1996a). A total of 84 soil samples were collected from 13 borings for metals analysis. A groundwater sample was also collected at one of the beds by hydropunch methods for metals analysis. Sample locations are shown in Figure 2-30.

A habitat and receptor survey was conducted and dominant vegetative habitats were identified at Site 35 during March 1995. Bird and general wildlife surveys were conducted to evaluate the potential presence of special-status wildlife species. Mammal trapping (using Sherman live-traps) was conducted to identify small mammal use of the site. During May through July 1997,

additional biological surveys were conducted at Site 35 to evaluate whether special-status species (i.e., California gnatcatcher and Least Bell's vireo) were present.

2.6.15.3.1 Geology and Hydrogeology

The geology of Site 35 consists of older Quaternary alluvium underlain by pre-Tertiary granitic basement complex rocks. The alluvium consists of poorly graded to well-graded sand, sand with varying amounts of silt, and lenses of silt and clay. No borings were advanced to bedrock at Site 35. Borings at Site 29, approximately 1,500 feet north of the site, encountered granitic basement rock approximately 15 feet below ground surface. Similar geologic conditions are expected at Site 35. The thickness of the alluvium at Site 35 was not determined during drilling but is assumed to be more than 50 feet.

Groundwater was encountered at a depth of approximately 50 feet below ground surface at Site 35. Based on site geology, groundwater is assumed to flow to the southwest, following surface topography. No groundwater monitoring wells were installed at this site because, at the time, depth to groundwater was unknown but was estimated to be 30 to 100 feet.

2.6.15.3.2 Soil Results

This section discusses analytical results from soil sampling at Site 35. Results are summarized in Figure 2-30, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

The only organic compound that exceeded PRGs was benzo(a)pyrene in 35SS012 (Figure 2-30). Acenaphthene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene were detected at concentrations ranging from 35 to 350 mg/kg. Acenaphthene and pyrene were detected in the intermediate soil zone (5 to 10 feet), each at a maximum concentration of 38 mg/kg. Most of the PAHs were detected primarily at or near surface soil sample 35SS012.

Acetone and methylene chloride were detected in the lower drying bed area of Site 35. Acetone was detected only once, at a depth greater than 10 feet. Methylene chloride was detected at all depth intervals.

Benzoic acid was detected at depths greater than 10 feet at a maximum concentration of 120 mg/kg. Samples 35SS011 and 35SS012 contained 4-chloroanaline at concentrations of 180 and 2,200 mg/kg, respectively. N-nitroso-di-n-propylamine was detected at a concentration of 36 mg/kg at 7.5 feet in soil boring 35B-10. Phthalates were detected at depths greater than 10 feet at concentrations of up to 81 mg/kg.

Inorganics

The following metals exceeded PRGs: arsenic, beryllium, chromium, and manganese. Arsenic and chromium concentrations in most soil borings exceeded PRGs and background at all depth intervals. Beryllium exceeded the PRG in 35B-05, 35B-11, and 35B-12 but exceeded background only in 35B-05 at a depth greater than 10 feet. Manganese exceeded the PRG only at depths greater than 10 feet. Analytical results for soil borings 35B-01, 35B-02, 35B-03, and 35B-04 are not included in Figure 2-30 because they were used for site-specific background analysis.

2.6.15.3.3 Groundwater Results

No background values were calculated for Site 35 because there are no upgradient wells near the site and few data points are available for comparison. One groundwater hydropunch sample was collected at Site 35 during the second quarter 1995.

Because of the recent discovery of a lower area previously covered by dense vegetation, the work plan addendum for additional work at Site 35 (SWDIV, 1995c) specified the collection of one hydropunch groundwater sample to assess whether mobile COCs in soil are migrating to groundwater. Although groundwater was originally estimated to be within 20 feet of ground surface (soil sampling range) in this lower area, groundwater was not encountered within the 20-foot-depth interval. Instead, a boring was advanced to 40 feet and a groundwater sample was collected.

Benzene exceeded the tap-water PRG, and bis(2-ethylhexyl)phthalate exceeded the tap-water PRG and MCL. Di-n-butylphthalate was detected at a concentration of 0.6 µg/l; 2-butanone was detected at a concentration of 3 µg/l; 4-methylphenol, benzene, and toluene were each detected at a concentration of 1 µg/l. Bis(2-ethylhexyl)phthalate, a common laboratory contaminant, was the only organic compound detected in both soil and groundwater samples.

Of the 12 metals detected in groundwater, the following exceeded PRGs and MCLs: aluminum, chromium, barium, lead, cadmium, and nickel. The following metals exceeded tap-water PRGs but have no established MCLs: manganese, molybdenum, vanadium. A review of the request for analysis and field logs indicated that the groundwater sample was not filtered in the field and was preserved with hydrochloric acid. The high metals concentrations evidently are a result of suspended solids reacting with the acid preservative prior to analysis. No inorganics detected in soil at concentrations that exceeded PRGs and background (arsenic) or organics detected at concentrations that exceeded PRGs (benzo[a]pyrene) were detected in the groundwater sample, indicating that these compounds have not migrated from soil to groundwater. As previously stated, bis(2-ethylhexyl)phthalate was the only organic compound detected in both soil and groundwater samples.

2.6.15.4 Summary of Risks Associated with Site 35

Human health and ecological risk assessments were conducted for Site 35 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 35 are presented in this section.

2.6.15.4.1 Human Health Risk Characterization

Metals (inorganics, including cyanide), SVOCs, and one VOC were detected in Site 35 soil. Maximum concentrations for inorganics were detected at soil depth intervals extending from ground surface to 1 foot and from 8.5 to 10 feet. Organics were detected primarily in the depth interval from ground surface to 1 foot, with the exception of benzoic acid (9.5 to 10 feet), acenaphthene (5.5 to 7 feet), and N-nitrosodi-n-propylamine (5.5 to 7 feet).

Representative concentrations for a residential exposure scenario, with consideration for background, yielded a summed site-related risk of 4×10^{-6} ILCR and a hazard of less than 1.0 HI. The same concentrations under the commercial/industrial scenario resulted in a risk of less than 1×10^{-6}. There are no plans to use this site for residential purposes, and the risk for residential receptors was determined to be acceptable.

The groundwater pathway to humans is not currently complete, but groundwater could be used as a drinking water source in the future. However, no site-related contaminants were detected in groundwater at Site 35 and there is no indication that soil contaminants are leaching to

groundwater. Therefore, groundwater is considered protective of human health and the environment.

2.6.15.4.2 Ecological Risk Assessment

The final risk screening results indicated that modified PLEs were exceeded for plants and the California mouse. HQs for the following COPECs exceed 1.0, as shown in Figure 2-30: barium, copper, lead, mercury, benzo(a)pyrene, and benzo(g,h,i)perylene.

Barium was not retained as a COEC because HQs for the California mouse are close to 1.0 (1.6, 2.5, and 1.9, respectively). The background concentration of barium (97.7 mg/kg) contributed more than half of the HQs. The incremental HQs above background are less than or close to 1.0, indicating low potential risk.

Copper was not retained as a COEC because the average concentration is less than background levels and the HQ for the average concentration is less than 1.0.

Lead was not retained as a COEC because the only HQ exceeding 1.0 was for the California mouse (1.9) and is close to 1.0, indicating low potential risk. HQs for all other representative species are less than 1.0. The average concentration of lead in the depth interval extending from ground surface to 5 feet is less than background and the HQ for the average concentration is less than 1.0.

Mercury was not retained as a COEC because the only HQ exceeding 1.0 was for the California mouse. HQs for all other representative species are less than 1.0. The average concentration of mercury results in an HQ of 2.8 and indicates a low potential risk.

Benzo(a)pyrene and benzo(g,h,i)perylene were detected only once. The maximum detected concentrations resulted in HQs of 6.5 and 5.3, respectively, indicating a low to medium potential risk. The detected concentrations were flagged by the laboratory with a "J" qualifier, indicating that the concentrations were estimated. The detected values were estimated at levels below the CRDL (330 µg/kg). Based on the uncertainty associated with the detected concentrations, the frequency of detection (one of four samples), and the low potential exposure to maximum concentrations, benzo(a)pyrene and benzo(g,h,i)perylene were not retained as COECs.

No COECs were identified because COPECs generally were not detected at concentrations exceeding background and/or resulted in low potential risk to the environment.

2.6.15.5 Description of the No Action Alternative

The no action alternative selected for Site 35 soil and groundwater includes no institutional controls. Site 35 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The incremental cancer risk for soil using representative concentrations is $4x10^{-6}$ under the future residential scenario and less than $1x10^{-6}$ under the current commercial industrial scenario.
- The incremental HI for soil using representative concentrations is less than 1.0 under the residential exposure scenario.
- There is no current pathway to groundwater at the site. Future risk to humans from groundwater is unlikely because concentrations of contaminants detected in groundwater were determined not to pose a threat to human health and the environment.
- Although a few chemicals pose a potential ecological risk, the overall potential risk is low. The potential for exposure and adverse effects is considered low for soil based on the frequency at which risk contributors were detected, the background contribution to risk, and the low potential for exposure.

2.6.16 Site 36 - Debris Pile Area Behind Ponds at Sewage Treatment Plant 11

Site 36 consists of debris piles at Sewage Treatment Plant No. 11.

2.6.16.1 Site Name, Location, and Description

Site 36 - Debris Pile Area Behind Ponds at Sewage Treatment Plant 11, is an area of debris piles containing glass bottles and scrap metal (Figure 1-2). Glass and metal debris appear to have been dumped down a nearby hillside and scattered between the trash piles. A geophysical survey and SV sampling performed in this area indicated that the depth of debris between the piles is very shallow and that the debris piles are 2 to 3 feet high. The maximum depth of debris is approximately 2 feet below ground surface. Groundwater was encountered at approximately 6.5 feet below ground surface. Vegetation in this area is quite dense and includes sensitive plant species such as willows.

2.6.16.2 Site History, Enforcement Activities, and Site Characteristics

Little is known about the history of Site 36. Bottles dating from the 1950s and scrap metal were found in the debris piles. The actual debris piles were not discovered until a fire exposed them in 1990.

Sampling was conducted at Site 36 during the RFA (SV Site 207). SV soil samples were collected from three borings adjacent to the two largest debris piles and in the area between the piles (Figure 2-31).

SV soil samples were analyzed for VOCs, SVOCs, and metals. Except for low concentrations of toluene (less than 200 mg/kg), no VOCs or SVOCs were detected. Chromium, cadmium, lead, and mercury were detected at concentrations below risk-based levels (SWDIV, 1993a). The only analyte detected at a concentration exceeding PRGs was arsenic, at 4.3 mg/kg in one sample. The PRG for arsenic is 0.38 mg/kg for the cancer endpoint and 22 mg/kg for the noncancer endpoint.

The background concentration of arsenic for the Santa Margarita Basin is 4.25 mg/kg (SWDIV, 1996a). The Santa Margarita Basin background data set is the largest and most representative of the base and is used as background for sites for which no background data are available. Two of the three soil samples analyzed for metals during the RFA SV contained no detectable concentrations of arsenic (Figure 2-31). The one soil sample concentration of 4.3 mg/kg is considered representative of naturally occurring conditions. Based on the visual inspection of the site during the SV and the soil sample analytical results, the debris at this site appears to be municipal waste and past disposal of hazardous waste in this area is considered unlikely.

2.6.16.3 Summary of Risks Associated with Site 36

No risk assessment was necessary for Site 36 because constituent concentrations were within background or were less than the RFA screening criteria.

2.6.16.4 Description of the No Action Alternative

The no action alternative selected for Site 36 soil and groundwater includes no institutional controls. Site 36 soil and groundwater are considered protective of human health and the environment because detected constituent concentrations are below risk screening criteria or are within background.

2.6.17 Site 37 - Pesticide- and POL-Handling Areas at San Clemente Ranch

Site 37 is part of an agricultural lease area at MCB Camp Pendleton.

2.6.17.1 Site Name, Location, and Description

Site 37 - Pesticide- and POL-Handling Areas at San Clemente Ranch, is located in the 61 Area, approximately 0.5 mile southeast of Cristianitos Road (Figure 1-2) and consists of a pesticide-handling area and a POL-handling area. The pesticide-handling area contains a sump that was previously used for rinsing pesticide containers and other equipment. The POL-handling area includes a stained spill area adjacent to the former locations of pure product fuel USTs.

No perennial surface water is present in the vicinity of Site 37. Surface water at the site is ephemeral and follows the gently sloping ground surface to the southwest. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site and drains into San Mateo Creek, which eventually discharges into the Pacific Ocean approximately 1 mile downstream from the site.

Land use in the vicinity of Site 37 consists of activities associated with agricultural farmland. The site is crossed frequently by civilian personnel associated with farm operations. Land surrounding Site 37 includes agricultural fields and natural vegetation. The area south of the site is undeveloped and contains coastal wetland vegetation. The nearest designated troop housing area is San Mateo (62) Area, approximately 2 miles north-northwest of the site. The nearest base production well is approximately 1 mile southwest of Site 37.

No special-status species are expected to be present on the site because the site area consists of bare ground and an assortment of buildings and storage areas. Wildlife species observed near the site during the reconnaissance survey include western kingbird, American crow, cliff swallow, cottontail, and California ground squirrel.

2.6.17.2 Site History and Enforcement Activities

Chemicals associated with farming operations at the San Clemente Ranch are the probable source of contamination at Site 37. This site was added to the list of RI/FS sites following the RFA (SWDIV, 1993a). In addition, in 1994, a hand-dug well from which farm workers regularly drank was discovered near the pesticide mixing area. This well and another were abandoned on 15 May

1996, in accordance with State and County codes and under San Diego County Department of Environmental Health Permit Nos. W63158 and W63159.

Sampling was conducted at the San Clemente Ranch during the RFA as SV Site 255. Soil samples from the pesticide-handling area were analyzed for VOCs, SVOCs, pesticides and PCBs, and chlorinated herbicides. Samples were analyzed using a mobile laboratory, and confirmation analysis was provided by an off-site laboratory. Both pesticides and herbicides were detected in soil at concentrations exceeding PRGs. A water sample was also collected from the nearby hand-dug well. The water sample was analyzed for pesticides and PCBs, chlorinated herbicides, and general chemistry, but no contaminants were detected. Depth to groundwater in this well was 20 feet below ground surface.

During the RFA, a sediment sample (SV255B-05) was also collected in the drainage ditch at Site 37 to evaluate runoff. This sample location was recommended for no further action because detected metals and pesticides were below screening levels.

The POL-handling area contained a fuel dispensing area and underground fuel tanks. The contaminants in this area were limited to petroleum product constituents. This area has been addressed under the UST program at the base (SWDIV, 1993c).

2.6.17.3 Summary of Site Characteristics

Site 37 was investigated in June and July 1996 during the RI for Group D sites (SWDIV, 1997b). A total of 27 soil samples were collected from six borings and two surface locations. Samples were analyzed for metals, PCBs, pesticides, and chlorinated herbicides. Groundwater was sampled from three temporary well locations and one permanent well. Groundwater was analyzed for the same parameters as soil, plus general chemistry. Sample locations are shown in Figure 2-32.

2.6.17.3.1 Geology and Hydrogeology

Shallow geology at this site is characterized by poorly consolidated alluvium consisting of silty sand overlying very fine grained to fine-grained sand. Groundwater was encountered at a depth of 15 feet below ground surface at Site 37. Based on site geology, groundwater is assumed to flow to the southwest, following surface topography.

2.6.17.3.2 Soil Results

This section discusses soil analytical results from RI activities at Site 37. Results are summarized in Figure 2-32, which presents detected organics and any inorganics that exceed risk/hazard criteria.

Organics

The chlorinated pesticides 4,4'-DDE and 4,4'-DDT exceeded PRGs in surface samples from borings 37B-01, 37B-03, and 37B-04. In addition, 4,4'-DDE exceeded the PRG in surface sample 37SS001, as did 4,4'-DDT in surface sample 37SS002 (Figure 2-32). The maximum detected concentrations of 4,4'-DDE and 4,4'-DDT were 1.7 and 3.8 mg/kg, respectively.

Toxaphene was detected in the surface sample from 37MW-01 at a concentration (4.7 mg/kg) exceeding the PRG (0.4 mg/kg). The chlorinated pesticide 4,4'-DDD was also detected in a few samples but at concentrations below the evaluation criterion. The maximum detected concentration of 4,4'-DDD was 0.43 mg/kg. Nine other organic compounds were detected in the surface sample from boring 37MW-01 at concentrations below evaluation criteria: gamma-chlordane, alpha-chlordane, endosulfan I, endosulfan II, endrin, endrin aldehyde, endrin ketone, aldrin, and methoxychlor. Of these compounds, endosulfan I had the highest concentration at 0.19 mg/kg.

Inorganics

Arsenic was detected in 24 samples and beryllium was detected in 18 out of 30 samples at concentrations exceeding PRGs in Site 37 soil (Figure 2-32). All beryllium detections were below the background concentration of 1.42 mg/kg. In general, detected arsenic results only slightly exceeded the background concentration of 4.25 mg/kg; the maximum arsenic concentration was 6 mg/kg.

2.6.17.3.3 Groundwater Results

This section discusses groundwater analytical results from RI activities at Site 37.

Organics

No organics were detected at concentrations exceeding MCLs; however, the dieldrin concentration of 0.0065 µg/l in the sample from well 37MW-01 (approximate groundwater level of 16 feet below ground surface) exceeds the tap-water PRG of 0.0042 µg/l (Figure 2-32). Six other

organics were detected in well 37MW-01 at concentrations below evaluation criteria: 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, endosulfan I, endosulfan II, and endosulfan sulfate. Endosulfan I was also detected in the sample from temporary well 37GWT-03 (approximate groundwater level of 16 feet below ground surface) at a concentration of 0.026 µg/l, which is the highest organic concentration measured in Site 37 groundwater.

Inorganics

No inorganics were detected at concentrations exceeding MCLs (Figure 2-32) or tap-water PRGs. A detection of chromium VI, reported at 7 µg/l in well 37MW-01, was rejected during data evaluation because it exceeds the total chromium concentration by approximately one order of magnitude.

2.6.17.3.4 Summary

Chlorinated pesticides 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT generally were found in the upper 5 feet of soil throughout the site; however, 4,4'-DDE and 4,4'-DDT exceeded PRGs only in surface samples. Arsenic and beryllium were the only inorganics detected at concentrations exceeding PRGs, but concentrations were either below or only slightly above background. None of the parameters detected in Site 37 groundwater exceeded MCLs.

2.6.17.4 Summary of Risks Associated with Site 37

Human health and ecological risk assessments were conducted for Site 37 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 37 are presented in this section.

2.6.17.4.1 Human Health Risk Characterization

Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion, dermal contact, and inhalation of particulates. The cumulative residential risk from the maximum detected COPCs in soil is $4x10^{-5}$ and is primarily attributable to arsenic (approximately 40 percent of the total risk), beryllium (approximately 10 percent of the total risk), and pesticides (approximately 40 percent of the total risk). Excluding the portion of total risk attributable to background metals, the incremental residential site risk from maximum concentrations detected is $2.1x10^{-5}$. Using more representative concentrations (95 percent UCL), the incremental residential cancer risk is $1.8x10^{-5}$, with the majority of risk attributable to pesticides (approximately 89 percent of the risk).

The cumulative residential HI from the maximum detected COPCs is 1.1 and is primarily attributable to metals (approximately 86 percent of the total hazard). Excluding the portion of total hazard attributable to background metals, the incremental residential site hazard from maximum detected COPCs is 0.2.

The cumulative industrial cancer risk from maximum detected COPCs in soil is 7.4×10^{-6} and is primarily attributable to arsenic (approximately 34 percent of the total risk), beryllium (approximately 7 percent of the total risk), and pesticides (approximately 51 percent of the total risk). Excluding the portion of risk attributable to background metals, the incremental industrial site risk from maximum detected COPCs in soil is 4.5×10^{-6}. The incremental industrial site hazard is 0.02. Using the more representative soil concentration for arsenic and excluding the portion of total risk and hazard attributable to background metals, the incremental industrial site risk and hazard are 4×10^{-6} and 0.01, respectively.

The results of the HHRA indicate that the incremental residential (1.8×10^{-5}) and industrial (4×10^{-6}) cancer risks at Site 37 are within the risk management range and the incremental residential (0.2) and industrial (0.01) hazard indices are below the threshold criterion of 1.0. The maximum lead concentration (40.1 mg/kg) is below the residential screening criteria. The main risk contributors are pesticides associated with the current use of the site as a farm. Toxaphene is the main contributor to risk but was detected in only 1 of 20 samples, in the surface sample from boring 37MW-01.

The site is currently used as a farm and there are no plans to change the land use. The risk for the current commercial/industrial scenario is 4×10^{-6} for the pesticide-handling area. Receptors are not expected to be in the pesticide-handling area their entire time on site. Therefore, the soil is considered protective of human health.

Future residents could be exposed to groundwater contaminants through ingestion, although there is no current complete pathway. The residential risk from ingestion of groundwater using maximum detected concentrations is 5.8×10^{-5} and is primarily attributable to arsenic (approximately 97 percent of the total risk). Arsenic detections in Site 37 soil were approximately within the background concentration. The 95 percent UCL concentration of arsenic in soil at Site 37 was calculated to be 4.9 mg/kg and the background concentration is 4.25 mg/kg. Arsenic is expected to be naturally occurring in groundwater as well. The maximum reported groundwater

concentration of arsenic (2.5 µg/l) is below the MCL (50 µg/l). The majority of the risk from groundwater is likely due to naturally occurring arsenic and is not a site-related threat to human health. Pesticides represent an incremental risk of $2x10^{-6}$. The pesticide contributors include 4,4'-DDD, along with its isomers, and dieldrin. These pesticides were detected in only one of the four groundwater samples collected at Site 37 (37MW-01). The total noncarcinogenic health hazard associated with ingestion of groundwater is 0.8, which is below the threshold criterion of 1.0.

Groundwater at Site 37 is considered protective of human health because there is no current pathway for human receptors to groundwater. The risk above background is at the lower end of the risk management range ($2x10^{-6}$) and is due to pesticides, as would be expected given the current farming practices at the site. Furthermore, groundwater COCs were not detected consistently (one of four samples). Potential future use of groundwater would most likely be from locations upgradient of the site. Topographically, the ocean is less than 1 mile downgradient from the farm.

2.6.17.4.2 Ecological Risk Assessment

Site 37 was not carried through the quantitative or qualitative ecological evaluations because suitable wildlife habitat is not available on site and none of the potential exposure pathways are expected to be complete. Site 37 includes a pesticide-handling area located amid agricultural fields at the San Clemente Ranch. No surface water was observed in the pesticide-handling area at the site. An ephemeral surface-water drainage runs through the POL-handling area downstream from the pesticide-handling area and was sampled during the RFA (SWDIV, 1993a). The sediment sample collected in the drainage area contained contaminant concentrations below the risk screening action levels. Based on the RFA, no further action was recommended for the drainage area and it was not evaluated during the RI.

2.6.17.5 Description of the No Action Alternative

The no action alternative selected for Site 37 soil and groundwater includes no institutional controls. Site 37 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The incremental HI for soil under the residential exposure scenario using maximum concentrations is less than 1.0.

- The incremental cancer risk for soil is within the risk management range. The cancer risk is 1.8×10^{-5} under the future residential scenario using representative concentrations and 4×10^{-6} under the current commercial industrial scenario.

- Human exposure is limited because receptors are not expected to be in the pesticide-handling area an entire day.

- There is no current pathway to groundwater at the site. Future risk to humans is unlikely because following the destruction of the hand-dug well discussed in Section 2.5.18.2, the San Clemente Ranch water supply was connected to the base water supply system.

- Wildlife habitat does not exist at the site, which is used for farm operations and is surrounded by agricultural fields. There are no complete pathways for ecological receptors. As such, the site is considered protective.

2.6.18 Sites 38, 39, 41, and 42

Sites 38, 39, 41, and 42 were recommended for inclusion in the MCB Camp Pendleton RI/FS because elevated concentrations of arsenic were detected along sewer lines in several base areas, as reported in the draft final RFA report (SWDIV, 1993a). Because arsenic is the only COPC at these sites and the selected alternative is the same, the discussion/rationale presented in this section pertains to the sites collectively.

2.6.18.1 Site Name, Location, Description, and History

The sewer lines include the following:

- Site 38 - 52 Area Sewer Line, Building 52188
- Site 39 - 41 Area Sewer Line, Buildings 41300 and 41346
- Site 41 - 13 Area Sewer Line, Building 13128
- Site 42 - 13 Area Sewer Line, Building 13129.

Site locations are shown in Figure 1-2. These sites were selected during the RFA to represent potential impact to human health and the environment from sewer line breaks. Locations were selected near industrial facilities and where sewer lines crossed major roads. Sewer line sites in the 13 Area were selected where previous unauthorized discharges were reported.

Soil samples were collected along sewer lines during the RFA because interviews indicated that chemicals, although not specifically arsenic, could have been disposed of in sewer lines in the

past. The soil samples were analyzed for VOCs, SVOCS, and metals. No COPCs were identified other than arsenic, which exceeded the calculated PRG. Because, at that time, background concentrations of metals had not yet been determined for any base area, the sites with elevated arsenic concentrations were recommended for further investigation under CERCLA. No interviews or other evidence indicated any disposal of arsenic-containing chemicals in sewer lines and no evidence, past or present, was found to suggest that arsenic-containing chemicals were disposed of in the sewer lines.

2.6.18.2 Summary of Site Characteristics

Arsenic results and sample locations investigated during the RFA are shown in Figure 2-33 for Site 38, Figure 2-34 for Site 34, and Figure 2-35 for Sites 41 and 42. Site-specific background concentrations of metals in soil were not determined. The RFA data were compared against Santa Margarita Basin background during preparation of the revised work plan for Group D RI sites. The Santa Margarita Basin background data set is considered representative of Sites 38, 39, 40, 41, and 42 because it is the largest background data set for the base and is in geographic proximity to these sites, which are located in the San Luis Rey Basin. Background for the latter basin had not yet been determined.

As part of the RI for Group C sites (SWDIV, 1996a), Santa Margarita Basin background for arsenic in soil was determined statistically to be 4.25 mg/kg. The average detected concentration of arsenic in the RFA soil samples for Sites 38, 39, 41, and 42 is 4.0 mg/kg. This value was determined by assigning a value of one-half the reporting limit (reporting limit is 3.0 mg/kg for arsenic) for samples reported as "nondetects." On this basis, arsenic concentrations appear to be within background.

No consistency was observed in the data relative to the depth of the sewer lines. If elevated concentrations of arsenic were due to disposal of arsenic-containing materials in sewer lines and sewer line leakage to the surrounding soil, higher concentrations of arsenic should be found at or below the depth of the sewer line, not above the line. However, this is not the case. Six of the samples containing detectable concentrations of arsenic were collected above the sewer line. This suggests that the concentrations of arsenic are not due to disposal of arsenic-containing chemicals in the sewer lines.

2.6.18.3 Summary of Risks Associated with Sites 38, 39, 41, and 42

A risk assessment was not conducted for Sites 38, 39, 41, and 42. The only chemical that did not meet the risk screening criteria of the RFA was arsenic, which was shown to be within background concentrations. Ecological pathways were determined to be incomplete because the sewer line sites are located in developed areas where there is little or no wildlife habitat. Soil and groundwater at Sites 38, 39, 41, and 42 were determined to be protective of human health for the following reasons:

- The concentrations of arsenic in RFA soil samples are due to naturally occurring processes, not to any site-specific disposal practices, past or present.
- The concentrations of arsenic in soil are found above and below the depth of the sewer lines, thus indicating that the sewer lines are not the source.
- No evidence was found to suggest that any past or present operations in these areas could have been responsible for elevated concentrations of arsenic in soil.
- Using the noncancer endpoint of 22.0 mg/kg, the only sample exceeding an HI of 1.0 is 264B2 (Site 41), which was collected at a depth of 13 to 15 feet and below the 10-foot depth generally accepted as the maximum for human exposure under a future residential scenario. Using an industrial scenario, the noncancer endpoint for arsenic in soil is 380 mg/kg.
- The lack of soil contamination eliminates the potential for impact to groundwater. Therefore, groundwater is considered protective of human health.

2.6.18.4 Description of the No Action Alternative

The no action alternative selected for Sites 38, 39, 41, and 42 soil and groundwater includes no institutional controls. Sites 38, 39, 41, and 42 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The detected soil concentrations were less than risk screening criteria or were within background concentrations.
- The lack of soil contamination eliminates the potential for impact to groundwater from these sites.
- The sewer line sites are in developed areas with little or no wildlife habitat and no complete pathway to ecological receptors.

2.6.19 Site 40 - 13 Area Sewer Line, Building 13103

Site 40 consists of the sewer line near Building 13103.

2.6.19.1 Site Name, Location, and Description

Site 40 - 13 Area Sewer Line, Building 13103, is located approximately 0.25 mile east of the intersection of 14th Street and Vandegrift Boulevard (Figure 1-2). The site is on the north side of 14th Street, directly in front of Building 13182, approximately 1,200 feet from the crest of a hill. The surface of the site slopes gently to the east and drains toward Vandegrift Boulevard.

Site 40 consists primarily of a buried sewer pipeline and an aboveground manhole adjacent to Building 13182 and the surrounding parking lot. A limited amount of landscaping (lawn) surrounds the site. The site contains no habitat suitable for special-status species and no such species are expected to be present. Wildlife species observed near the site during the reconnaissance survey include American crow and western kingbird; no animals were seen directly on site.

No perennial surface water is present in the vicinity of Site 40. Surface water at the site is generally ephemeral and follows the gently sloping ground surface to the east. The area receives only low annual rainfall, primarily during winter months. During significant rainfall events, surface water percolates into the subsurface, evaporates, or runs off the site.

The 13 Area is used for training activities, recreation, troop housing, vehicle maintenance, mess, and administration. The nearest family housing, Serra Mesa Housing, is about 0.75 mile southeast of the site. The nearest designated troop housing is within the 13 Area. No base production wells are located in the San Luis Rey Basin or within a 1-mile radius of Site 40.

2.6.19.2 Site History and Enforcement Activities

Sewer line sites were selected during the RFA to represent potential impact to human health and the environment from sewer line breaks. Locations were selected near industrial facilities and where sewer lines crossed major roads. Sewer line sites in the 13 Area were selected where previous unauthorized discharges were reported.

Soil samples were collected along sewer lines during the RFA because interviews indicated that chemicals, although not specifically arsenic, could have been disposed of in sewer lines in the

past. The soil samples were analyzed for VOCs, SVOCS, and metals. No COPCs were identified other than arsenic, which exceeded the PRG. Because, at that time, background concentrations of metals had not yet been determined for any base area, Site 40 was recommended for further investigation under CERCLA. Further evaluation of the RFA data comparing results with background levels calculated during the RI for Group C sites (SWDIV, 1996a) indicated that the arsenic concentration in one soil sample from Site 40 significantly exceeded background.

2.6.19.3 Summary of Site Characteristics

Site 40 was investigated in June and July 1996 during the RI for Group D sites (SWDIV, 1997b). Seven soil samples were collected from one boring (Figure 2-36) and were analyzed for metals. Groundwater was not sampled because none was encountered prior to drilling refusal at 40 feet below ground surface. A habitat and receptor survey was conducted and dominant vegetation types and corresponding wildlife habitats were identified. Wildlife observed and evidence of wildlife use (e.g., scat or tracks) were also noted.

2.6.19.3.1 Geology and Hydrogeology

Shallow geology at Site 40 consists primarily of stream-deposited alluvium of Holocene age overlying the Eocene-age La Jolla Group bedrock. The alluvium consists of poorly graded to well-graded sand and varying amounts of silt.

Based on site geology, groundwater is assumed to flow to the east, following surface topography. Boring 40B-01 was drilled to a maximum depth of 40 feet below ground surface without encountering groundwater. Groundwater was consistently encountered at a depth of about 20 feet below grade in boreholes drilled for UST studies at the adjacent 12 and 13 Areas, approximately 0.2 mile north of Site 40 (SWDIV, 1996b). However, 12 and 13 Areas are topographically lower than Site 40 by about 80 feet. As such, groundwater at Site 40 is estimated to be more than 50 feet below grade.

2.6.19.3.2 Analytical Results

No organics were detected in soil; arsenic and beryllium were the only inorganic compounds detected, but concentrations were below background (Figure 2-36). Despite efforts to collect water samples, groundwater was not encountered at Site 40.

2.6.19.4 Summary of Risks Associated with Site 40

Human health and ecological risk assessments were conducted for Site 40 using data collected during the RI. Risk assessment methodologies are summarized in Section 2.4.1.4. Risk assessment summaries for Site 40 are presented in this section.

2.6.19.4.1 Human Health Risk Characterization

COPCs detected in soil are limited to metals. Current/future workers and future residents could be exposed to soil contaminants through incidental ingestion of soil, dermal contact with soil, and inhalation of soil particulates.

The cumulative residential risk from maximum detected soil COPCs is 5.0×10^{-6} and is completely attributable to beryllium. The maximum concentration of beryllium (0.7 mg/kg) is less than the background concentration for beryllium in the San Luis Rey Basin. Excluding the portion of risk attributable to background metals, the incremental site risk is less than 1×10^{-6}.

The cumulative residential HI from maximum detected metals is 0.35. Excluding the portion of total hazard attributable to background metals, the incremental residential hazard from the maximum detected COPCs is 0.03. The maximum lead concentration (12.6 mg/kg) is below residential screening criteria.

Site 40 soil is considered protective of human health because the incremental risk and hazard are less than 1×10^{-6} and 1.0, respectively.

Groundwater is not considered a complete exposure pathway for either current/future workers or future residents. Groundwater sampling was not performed at Site 40 during the RI because drilling refusal occurred in weathered bedrock at less than 50 feet below ground surface, before encountering sufficient groundwater for sampling purposes. Site 40 is not located above a shallow aquifer associated with any of the four major groundwater basins at MCB Camp Pendleton (i.e., San Mateo, San Onofre, Las Flores, or Santa Margarita Basin). The site is topographically higher than and isolated from the aquifers associated with these major basins. Based on the above, groundwater at Site 40 is considered protective of human health.

2.6.19.4.2 Ecological Risk Assessment

Site 40 was not carried through the quantitative or qualitative ecological evaluation because suitable wildlife habitat is not available on site and none of the potential exposure pathways are expected to be complete.

2.6.19.5 Description of the No Action Alternative

The no action alternative selected for Site 40 soil and groundwater includes no institutional controls. Site 40 soil and groundwater are considered protective of human health and the environment for the following reasons:

- The incremental cancer risk for soil is less than $1x10^{-6}$
- The incremental hazard index for soil is less than 1.0
- Site 40 has no suitable wildlife habitat and no complete pathways to ecological receptors.

TABLE 2-1
Remedial Action Standards for Soil at
Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 1 of 3)

Contaminant of Concern	Maximum Concentration(mg/kg)	Remediation Standard (mg/kg) (0-5 feet)	Remediation Standard (mg/kg) (5-10 feet)
Site 1A			
Antimony	27	8.8[a]	--
Arsenic	51	17[a]	22[b]
Barium	704	133[a]	--
Boron	42	3.6[c]	--
Chromium	61	16[a]	--
Copper	25,000	12[c]	2800[b]
Iron	148,000	20,200[a]	--
Lead	8,800	12[c]	130[b]
Manganese	12,100	199[a]	--
Mercury	4.9	0.2[c]	--
Thallium	6.8	1.4[a]	5.4[b]
Vanadium	93	40[a]	--
Zinc	7,390	56[a]	--
Site 1D[f]			
Antimony	35	8.8[a]	--
Arsenic	6.4	4.3[d]	--
Chromium	37	33[d]	--
Copper	739	26[a]	--
Iron	30,100	26,459[a]	--
Lead	1,100	29[a]	--
Zinc	2,880	111[a]	--
Site 1E			
Aluminum	47,200	20,999[a]	
Antimony	140	8.8[a]	31[b]
Arsenic	11	4.3[d]	4.3[d]
Cadmium	9.3	9[b]	9[b]
Chromium	104	33[d]	33[d]
Cobalt	25	13[a]	
Copper	1,660	26[a]	--

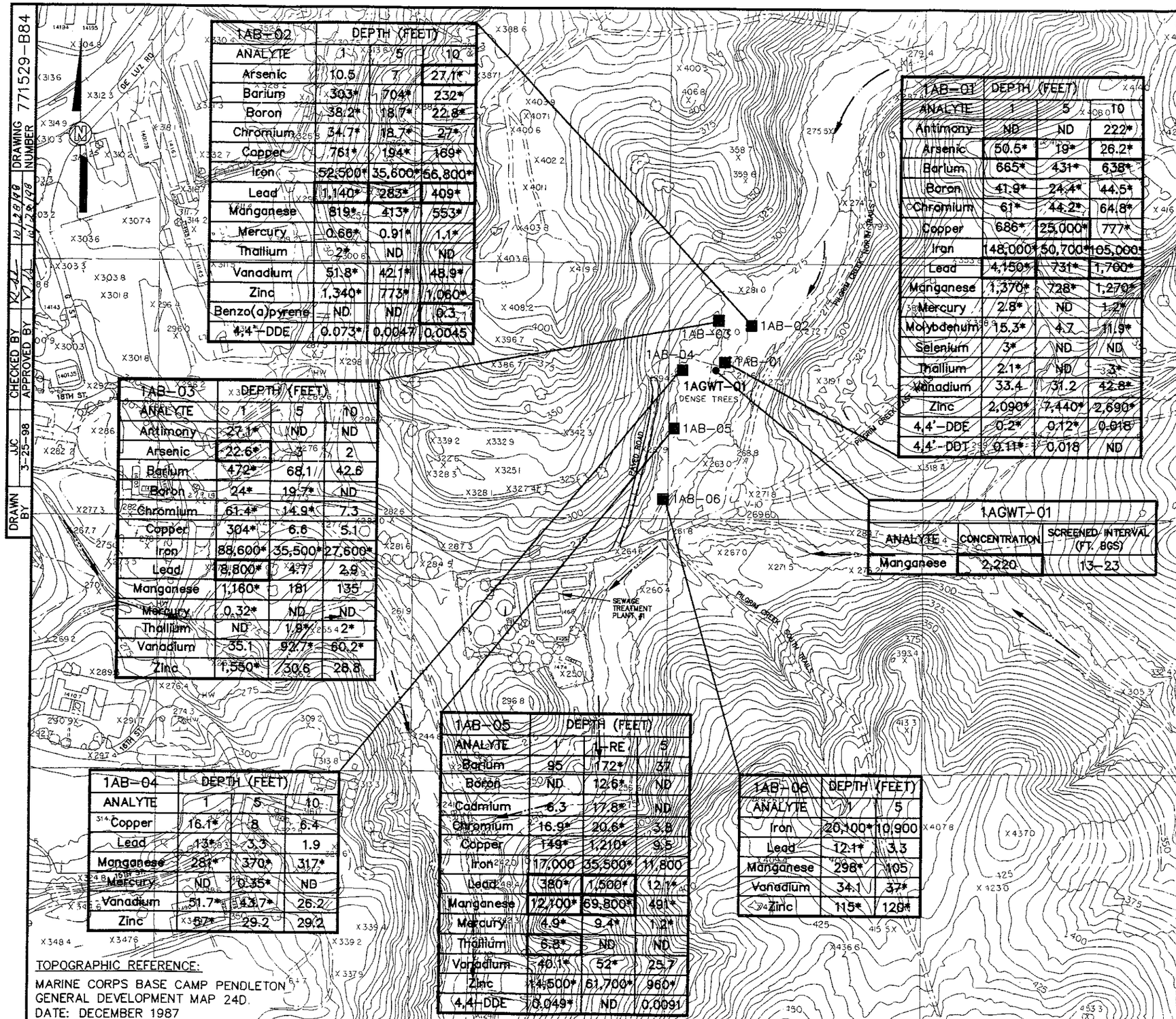
TABLE 2-1
Remedial Action Standards for Soil at
Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 2 of 3)

Contaminant of Concern	Maximum Concentration(mg/kg)	Remediation Standard (mg/kg) (0-5 feet)	Remediation Standard (mg/kg) (5-10 feet)
Iron	61,500	26,459[a]	--
Lead	1,610	29[a]	130[b]
Zinc	5,930	960[c]	
Site 1F			
Antimony	61	8.8[a]	30[e]
Arsenic	12	4.3[d]	4.3[d]
Copper	12,500	28[a]	2,800[b]
Iron	129,000	37,000[a]	--
Lead	1,260	15[a]	130[b]
Zinc	7,390	91[a]	--
Site 2A			
Antimony	64	8.8[a]	31[b]
Arsenic	16	16[d]	16[b]
Barium	1,530	133[a]	--
Cadmium	44	9[b,c]	9[b]
Chromium	890	16[a]	--
Cobalt	160	13[a]	--
Copper	8,790	12[c]	2,800[b]
Iron	99,500	20,200[a]	--
Lead	2,020	12[c]	130[b]
Manganese	345,000	783[c]	3,200[b]
Mercury	7.3	0.6[c]	--
Molybdenum	73	7.4[a]	--
Silver	120	5[c]	--
Thallium	144	1.4[a]	5.4[b]
Zinc	226,000	163[c]	23,000[b]
4,4'-DDD	1.9	1.9[b]	1.9[b]
4,4'-DDE	2.2	1.3[b]	1.3[b]

TABLE 2-1
Remedial Action Goals for Soil at
Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 3 of 3)

[a]Remediation goal was set at background calculated for the 0- to 5-foot depth interval.
[b]Remediation goal was set at the risk-based PRG
[c]Remediation goal was set at the most stringent PLE of the species evaluated for the site.
[d]Remediation goal was set at background calculated for the 0- to 10-foot depth interval.
[e]Remediation goal was set at a soil concentration estimated to be protective of groundwater.
[f]Although listed remediation goals are applicable to 5 feet, contamination is expected to be present only to 3 feet below ground surface at Site 1D.

mg/kg - Milligrams per kilogram.
PLE - Preliminary limit of exposure.
PRG - Preliminary remediation goal.
-- Denotes that the contaminant is not of concern at the specified depth range.



1AB-02	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	10.5	7	27.1*
Barium	303*	704*	232*
Boron	38.2*	18.7*	22.8*
Chromium	34.7*	18.7*	27*
Copper	761*	194*	169*
Iron	52,500*	35,600*	66,800*
Lead	1,140*	283*	409*
Manganese	819*	413*	553*
Mercury	0.66*	0.91*	1.1*
Thallium	2*	ND	ND
Vanadium	51.8*	42.1*	48.9*
Zinc	1,340*	773*	1,060*
Benzo(a)pyrene	ND	ND	0.3
4,4'-DDE	0.073*	0.0047	0.0045

1AB-03	DEPTH (FEET)		
ANALYTE	1	5	10
Antimony	27.1*	ND	ND
Arsenic	22.6*	3	2
Barium	472*	68.1	42.6
Boron	24*	19.7*	ND
Chromium	61.4*	14.9*	7.3
Copper	304*	6.6	5.1
Iron	88,600*	35,500*	27,600*
Lead	8,800*	4.7	2.9
Manganese	1,160*	181	135
Mercury	0.32*	ND	ND
Thallium	ND	1.9*	2*
Vanadium	35.1	92.7*	60.2*
Zinc	1,550*	30.6	28.8

1AB-04	DEPTH (FEET)		
ANALYTE	1	5	10
Copper	16.1*	8	6.4
Lead	13*	3.3	1.9
Manganese	281*	370*	317*
Mercury	ND	0.35*	ND
Vanadium	51.7*	43.7*	26.2
Zinc	57*	29.2	29.2

1AB-05	DEPTH (FEET)		
ANALYTE	1	1-RE	5
Barium	95	172*	37
Boron	ND	12.6*	ND
Cadmium	6.3	17.8*	ND
Chromium	16.9*	20.6*	3.8
Copper	149*	1,210*	9.5
Iron	17,000	35,500*	11,800
Lead	380*	1,500*	12.1*
Manganese	12,100*	69,800*	491*
Mercury	4.9*	9.4*	1.2*
Thallium	6.8*	ND	ND
Vanadium	40.1*	52*	25.7
Zinc	14,500*	61,700*	960*
4,4-DDE	0.049*	ND	0.0091

1AB-01	DEPTH (FEET)		
ANALYTE	1	5	10
Antimony	ND	ND	222*
Arsenic	50.5*	19*	26.2*
Barium	665*	431*	638*
Boron	41.9*	24.4*	44.5*
Chromium	61*	44.2*	64.8*
Copper	686*	25,000*	777*
Iron	148,000*	50,700*	105,000*
Lead	4,150*	731*	1,700*
Manganese	1,370*	728*	1,270*
Mercury	2.8*	ND	1.2*
Molybdenum	15.3*	4.7	11.9*
Selenium	3*	ND	ND
Thallium	2.1*	ND	3*
Vanadium	33.4	31.2	42.8*
Zinc	2,090*	7,440*	2,690*
4,4'-DDE	0.2*	0.12*	0.018
4,4'-DDT	0.11*	0.018	ND

1AB-06	DEPTH (FEET)	
ANALYTE	1	5
Iron	20,100*	10,900
Lead	12.1*	3.3
Manganese	298*	105
Vanadium	34.1	37*
Zinc	115*	120*

1AGWT-01		
ANALYTE	CONCENTRATION	SCREENED INTERVAL (FT. BGS)
Manganese	2,220	13-23

LEGEND

1AB-02 ■	SOIL BORING LOCATION
1AGWT-01 ●	TEMPORARY WELL SAMPLE LOCATION
⟶	SURFACE-WATER FLOW DIRECTION
ND	NOT DETECTED
NA	NOT APPLICABLE
1-RE	REPEAT SAMPLE COLLECTED AT 1 FOOT

COMPOUND (mg/kg)	PRG	PLE	BACKGROUND
ANTIMONY	31	0.3	16.0
ARSENIC	22	0.3	16
BARIUM	5,300	65	133
BORON	5,900	3.6	NA
CADMIUM	9	9	1.5
CHROMIUM	77,000	1.5	13.2
COPPER	2,800	12	4.8
IRON	NA	32	19,883
LEAD	130	12	10
MANGANESE	3,200	109	199
MERCURY	100,000	0.2	0.05
MOLYBDENUM	380	6	7.4
SELENIUM	380	1	0.8
THALLIUM	5.4	0.4	1.4
VANADIUM	540	6	36
ZINC	23,000	14	56
BENZO(a)PYRENE	0.061	NA	NA
4,4'-DDE	1.3	0.037	NA
4,4'-DDT	1.3	0.074	NA

GROUNDWATER COMPOUND (µg/l)	MCL	TAP-WATER PRG
MANGANESE	–	1,700

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM. GROUNDWATER CONCENTRATIONS ARE GIVEN IN MICROGRAMS PER LITER
2. THIS FIGURE PRESENTS CONSTITUENTS EXCEEDING PRGs OR PLEs AND BACKGROUND, AS APPLICABLE.
3. SOIL CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs AND BACKGROUND
4. SOIL CONCENTRATIONS DENOTED WITH AN ASTERISK (*) EXCEED PLEs AND BACKGROUND CONCENTRATIONS, AS APPLICABLE
5. GROUNDWATER CONCENTRATION OUTLINED IN BOLD EXCEED PRGs.

SCALE

0 400 800 FEET

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON
GENERAL DEVELOPMENT MAP 24D.
DATE: DECEMBER 1987

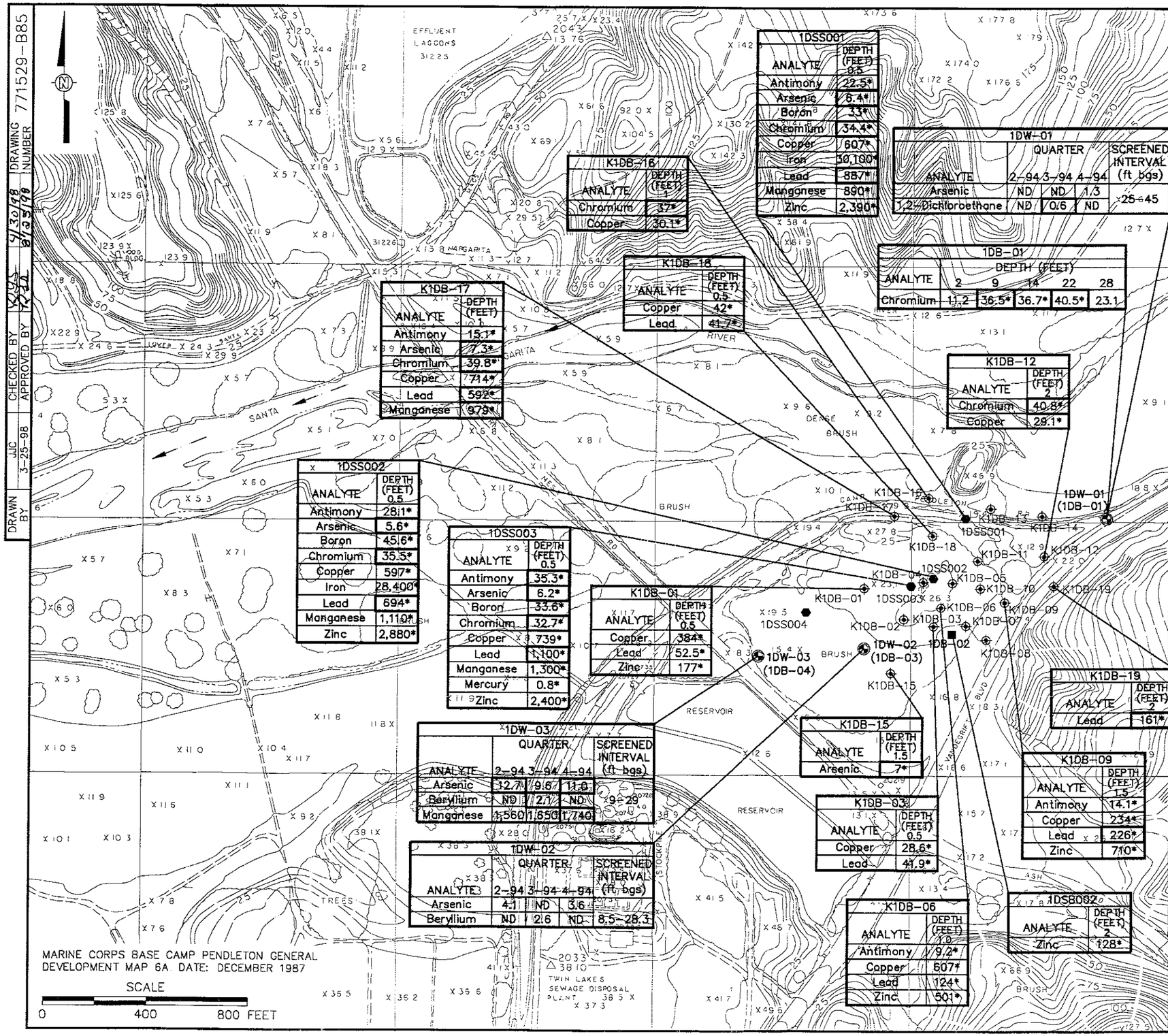
FIGURE 2-1

SITE 1A - REFUSE BURNING GROUND IN 14 AREA
SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



1DSS001	
ANALYTE	DEPTH (FEET) 0.5
Antimony	22.5*
Arsenic	6.4*
Boron	33*
Chromium	34.4*
Copper	607*
Iron	30,100*
Lead	887*
Manganese	890*
Zinc	2,390*

1DW-01				
	QUARTER			SCREENED INTERVAL (ft bgs)
ANALYTE	2-94	3-94	4-94	
Arsenic	ND	ND	1.3	25-45
1,2-Dichloroethane	ND	0.6	ND	

1DB-01					
	DEPTH (FEET)				
ANALYTE	2	9	14	22	28
Chromium	11.2	36.5*	36.7*	40.5*	23.1

K1DB-16	
ANALYTE	DEPTH (FEET) 1
Chromium	37*
Copper	30.1*

K1DB-18	
ANALYTE	DEPTH (FEET) 0.5
Copper	42*
Lead	41.7*

K1DB-17	
ANALYTE	DEPTH (FEET) 1
Antimony	15.1*
Arsenic	7.3*
Chromium	39.8*
Copper	714*
Lead	592*
Manganese	979*

K1DB-12	
ANALYTE	DEPTH (FEET) 2
Chromium	40.8*
Copper	28.1*

1DSS002	
ANALYTE	DEPTH (FEET) 0.5
Antimony	28.1*
Arsenic	5.6*
Boron	45.6*
Chromium	35.5*
Copper	597*
Iron	28,400*
Lead	694*
Manganese	1,110*
Zinc	2,880*

1DSS003	
ANALYTE	DEPTH (FEET) 0.5
Antimony	35.3*
Arsenic	6.2*
Boron	33.6*
Chromium	32.7*
Copper	739*
Lead	1,100*
Manganese	1,300*
Mercury	0.8*
Zinc	2,400*

K1DB-01	
ANALYTE	DEPTH (FEET) 0.5
Copper	384*
Lead	52.5*
Zinc	177*

1DW-03				
	QUARTER			SCREENED INTERVAL (ft bgs)
ANALYTE	2-94	3-94	4-94	
Arsenic	12.7	9.6	11.0	9-29
Beryllium	ND	2.7	ND	
Manganese	1,560	1,650	1,740	

1DW-02				
	QUARTER			SCREENED INTERVAL (ft bgs)
ANALYTE	2-94	3-94	4-94	
Arsenic	4.1	ND	3.6	8.5-28.3
Beryllium	ND	2.6	ND	

K1DB-15	
ANALYTE	DEPTH (FEET) 1.5
Arsenic	7*

K1DB-03	
ANALYTE	DEPTH (FEET) 0.5
Copper	28.6*
Lead	41.9*

K1DB-06	
ANALYTE	DEPTH (FEET) 1.0
Antimony	9.2*
Copper	607*
Lead	124*
Zinc	501*

K1DB-19	
ANALYTE	DEPTH (FEET) 2
Lead	161*

K1DB-09	
ANALYTE	DEPTH (FEET) 1.5
Antimony	14.1*
Copper	234*
Lead	226*
Zinc	710*

1DSB002	
ANALYTE	DEPTH (FEET) 2
Zinc	128*

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 6A. DATE: DECEMBER 1987

SCALE

0 400 800 FEET

DRAWING NUMBER 771529-B85

DRAWN BY JJC 3-25-98

CHECKED BY 4/30/98

APPROVED BY 8/25/98

LEGEND

K1DB-18	LOCATION SAMPLED BY KLEINFELDER (1996)
1DSS001	SURFACE SOIL SAMPLE
1DSB003	BOREHOLE LOCATION
1DW-03 (1DB-04)	MONITORING WELL LOCATION WITH BORING NUMBER IN PARENTHESES
	SURFACE-WATER FLOW DIRECTION
	APPROXIMATE GROUNDWATER FLOW DIRECTION (FROM POTENTIOMETRIC SURFACE CONTOUR MAP)
ND	NOT DETECTED
NA	NOT APPLICABLE

SOIL INORGANICS (mg/kg)	PRG	PLE	BACKGROUND
ANTIMONY	31	1.3	8.4
ARSENIC	0.38	2.0	4.3
BORON	5,900	21	NA
CHROMIUM	0.2	7	32.6
COPPER	2,800	13	26.0
IRON	NA	186	26,459
LEAD	130	13	21.7
MANGANESE	3,200	390	655
MERCURY	23	0.6	0.08
ZINC	23,000	80	104

GROUNDWATER INORGANICS (µg/l)	TAP-WATER PRG	MCL	BACKGROUND
ARSENIC	0.045	50	10.1
BERYLLIUM	0.016	4	NA
MANGANESE	1,700	NA	674

GROUNDWATER ORGANICS (µg/l)	TAP-WATER PRG	MCL	BACKGROUND
1,2-DICHLOROETHANE	0.12	0.5	NA

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM. GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER.
2. THIS FIGURE REPRESENTS CONSTITUENTS EXCEEDING PRGs OR PLEs AND BACKGROUND, AS APPLICABLE.
3. THIS FIGURE ONLY PRESENTS CHEMICALS WITH SOIL CONCENTRATIONS EXCEEDING BACKGROUND AND PRGs OR PLEs. ANALYTES WITH CONCENTRATIONS GREATER THAN OR EQUAL TO PRGs DURING AT LEAST ONE SAMPLING ROUND ARE SHOWN.
4. CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs AND BACKGROUND, AS APPLICABLE.
5. SOIL CONCENTRATIONS DENOTED WITH AN ASTERISK (*) ARE GREATER THAN PLEs AND BACKGROUND, AS APPLICABLE.

FIGURE 2-2

SITE 1D - REFUSE BURNING GROUND IN 20 AREA

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

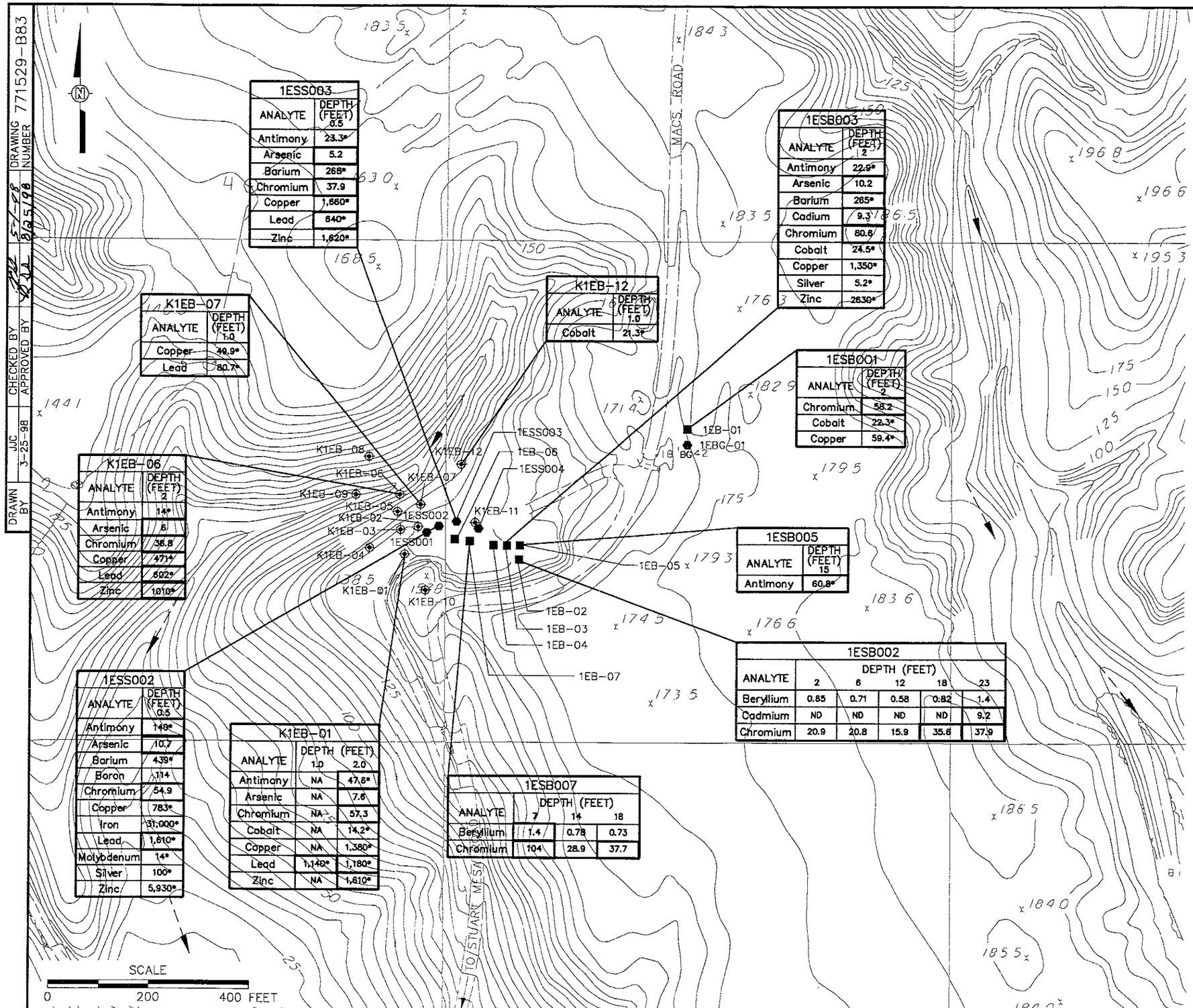
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



1ESS003	
ANALYTE	DEPTH (FEET) 0.5
Antimony	23.3*
Arsenic	5.2
Barium	268*
Chromium	37.9
Copper	1,660*
Lead	640*
Zinc	1,620*

1ESB003	
ANALYTE	DEPTH (FEET) 2
Antimony	22.9*
Arsenic	10.2
Barium	265*
Cadium	9.3
Chromium	80.6
Cobalt	24.5*
Copper	1,350*
Silver	5.2*
Zinc	2630*

K1EB-07	
ANALYTE	DEPTH (FEET) 1.0
Copper	49.9*
Lead	80.7*

K1EB-12	
ANALYTE	DEPTH (FEET) 1.0
Cobalt	21.3*

1ESB001	
ANALYTE	DEPTH (FEET) 2
Chromium	58.2
Cobalt	22.3*
Copper	59.4*

K1EB-06	
ANALYTE	DEPTH (FEET) 2
Antimony	14*
Arsenic	6
Chromium	36.8
Copper	471*
Lead	602*
Zinc	1010*

1ESB005	
ANALYTE	DEPTH (FEET) 15
Antimony	60.8*

1ESB002					
ANALYTE	DEPTH (FEET) 2	6	12	18	23
Beryllium	0.85	0.71	0.58	0.82	1.4
Cadmium	ND	ND	ND	ND	9.2
Chromium	20.9	20.8	15.9	35.6	37.9

1ESS002	
ANALYTE	DEPTH (FEET) 0.5
Antimony	149*
Arsenic	10.7
Barium	439*
Boron	114
Chromium	54.9
Copper	783*
Iron	31,000*
Lead	1,610*
Molybdenum	14*
Silver	100*
Zinc	5,930*

K1EB-01		
ANALYTE	DEPTH (FEET) 1.0	2.0
Antimony	NA	47.6*
Arsenic	NA	7.6
Chromium	NA	57.3
Cobalt	NA	14.2*
Copper	NA	1,380*
Lead	1,140*	1,180*
Zinc	NA	1,610*

1ESB007			
ANALYTE	DEPTH (FEET) 7	14	18
Beryllium	1.4	0.78	0.73
Chromium	104	28.9	37.7

LEGEND

K1EB-06	LOCATION SAMPLED BY KLEINFELDER (1996)
1ESS003	SURFACE SOIL SAMPLE
1EB-02	BOREHOLE LOCATION
1EBG-01 (BG)	BACKGROUND SURFACE SOIL SAMPLE
— — →	SURFACE-WATER FLOW DIRECTION (EPHEMERAL)
ND	NOT DETECTED
NA	NOT APPLICABLE

INORGANICS (mg/kg)	PRG	PLE	BACKGROUND
ALUMINUM	77,000	891	20,999
ANTIMONY	31	1.2	8.4
ARSENIC	0.38	37	4.3
BARIUM	5,300	59	261
BERYLLIUM	0.14	NA	1.4
BORON	5,900	91	NA
CADMIUM	9.0	NA	1.5
CHROMIUM	0.2	145	32.6
COBALT	4,600	3	12.8
COPPER	2,800	11	26.0
IRON	NA	437	26,459
LEAD	130	16	21.7
MOLYBDENUM	380	6	7.4
SILVER	380	5	1.36
ZINC	23,000	960	104

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM.
2. THIS FIGURE PRESENTS CONSTITUENTS EXCEEDING PRGs AND PLEs AND BACKGROUND AS APPLICABLE.
3. CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs AND BACKGROUND.
4. CONCENTRATIONS DENOTED WITH AN ASTERISK (*) EXCEED PLEs AND BACKGROUND.

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 6C. DATE: DECEMBER 1987

FIGURE 2-3

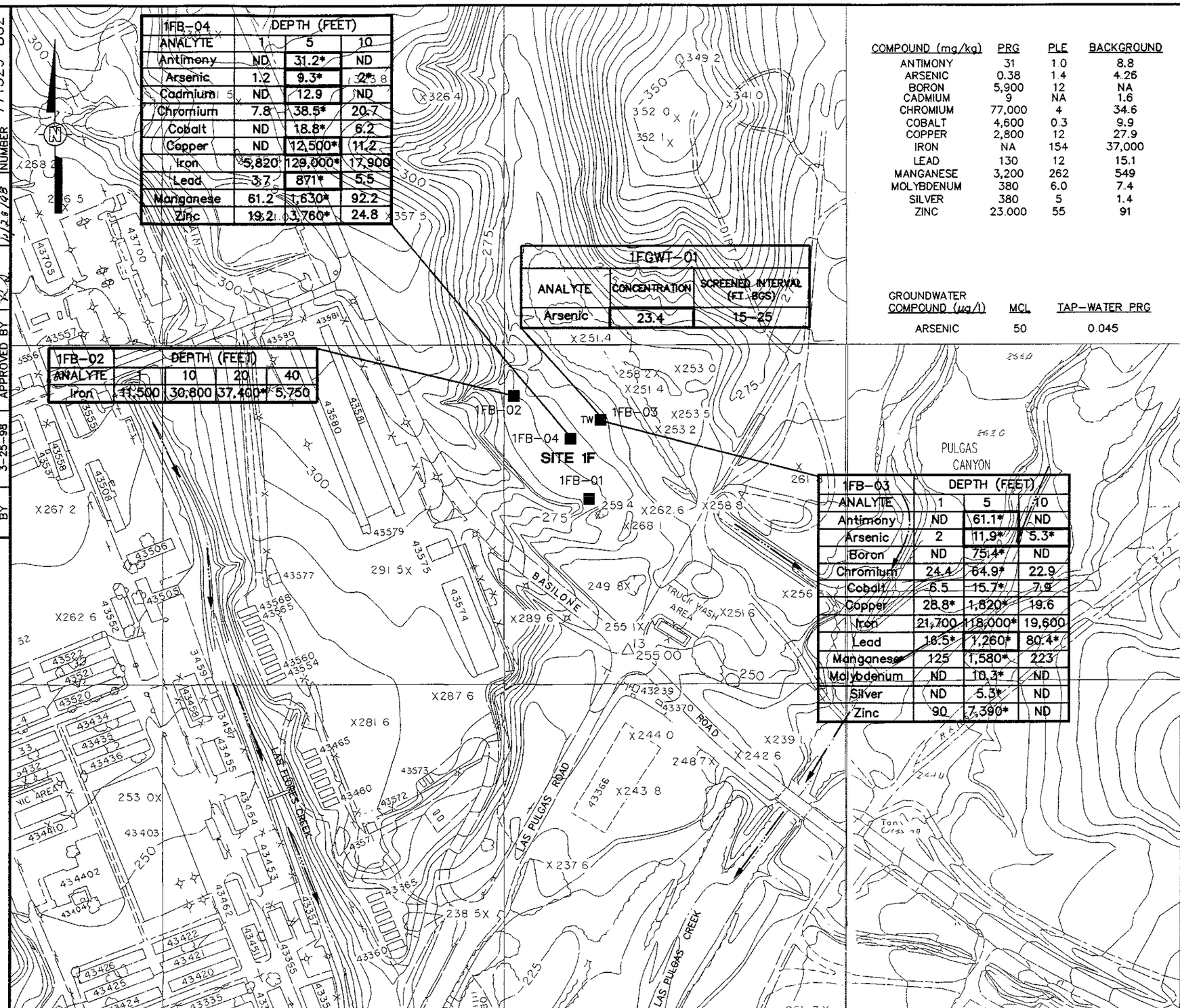
SITE 1E - REFUSE BURNING GROUND IN 32 AREA - SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWN BY JJC 3-25-98 | CHECKED BY | APPROVED BY | DRAWING NUMBER 771529-B83



1FB-04	DEPTH (FEET)		
ANALYTE	1	5	10
Antimony	ND	31.2*	ND
Arsenic	1.2	9.3*	2*
Cadmium	ND	12.9	ND
Chromium	7.8	38.5*	20.7
Cobalt	ND	18.8*	6.2
Copper	ND	12,500*	11.2
Iron	5,820	129,000*	17,900
Lead	3.7	871*	5.5
Manganese	61.2	1,630*	92.2
Zinc	19.2	3,760*	24.8

1FGWT-01		
ANALYTE	CONCENTRATION	SCREENED INTERVAL (FT BGS)
Arsenic	23.4	15-25

1FB-02	DEPTH (FEET)			
ANALYTE	1	10	20	40
Iron	11,500	30,800	37,400*	5,750

1FB-03	DEPTH (FEET)		
ANALYTE	1	5	10
Antimony	ND	61.1*	ND
Arsenic	2	11.9*	5.3*
Boron	ND	75.4*	ND
Chromium	24.4	64.9*	22.9
Cobalt	6.5	15.7*	7.9
Copper	28.8*	1,820*	19.6
Iron	21,700	118,000*	19,600
Lead	16.5*	1,260*	80.4*
Manganese	125	1,580*	223
Molybdenum	ND	10.3*	ND
Silver	ND	5.3*	ND
Zinc	90	7,390*	ND

COMPOUND (mg/kg)	PRG	PLE	BACKGROUND
ANTIMONY	31	1.0	8.8
ARSENIC	0.38	1.4	4.26
BORON	5,900	12	NA
CADMIUM	9	NA	1.6
CHROMIUM	77,000	4	34.6
COBALT	4,600	0.3	9.9
COPPER	2,800	12	27.9
IRON	NA	154	37,000
LEAD	130	12	15.1
MANGANESE	3,200	262	549
MOLYBDENUM	380	6.0	7.4
SILVER	380	5	1.4
ZINC	23,000	55	91

GROUNDWATER COMPOUND (µg/l)	MCL	TAP-WATER PRG
ARSENIC	50	0.045

LEGEND

1FB-03 TW ■ SOIL BORING LOCATION (TW INDICATES GROUNDWATER SAMPLE)

SURFACE-WATER FLOW DIRECTION

ND NOT DETECTED

NA NOT APPLICABLE

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM. GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER.
2. THIS FIGURE PRESENTS CONSTITUENTS EXCEEDING PRGs OR PLEs AND BACKGROUND, AS APPLICABLE.
3. CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs AND BACKGROUND, AS APPLICABLE
4. SOIL CONCENTRATIONS DENOTED WITH AN ASTERISK (*) EXCEED PLEs AND BACKGROUND

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 36B, 36D, AND 37A.
DATE: DECEMBER 1987

SCALE

0 300 600 FEET

FIGURE 2-4

SITE 1F - REFUSE BURNING GROUND IN 43 AREA SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

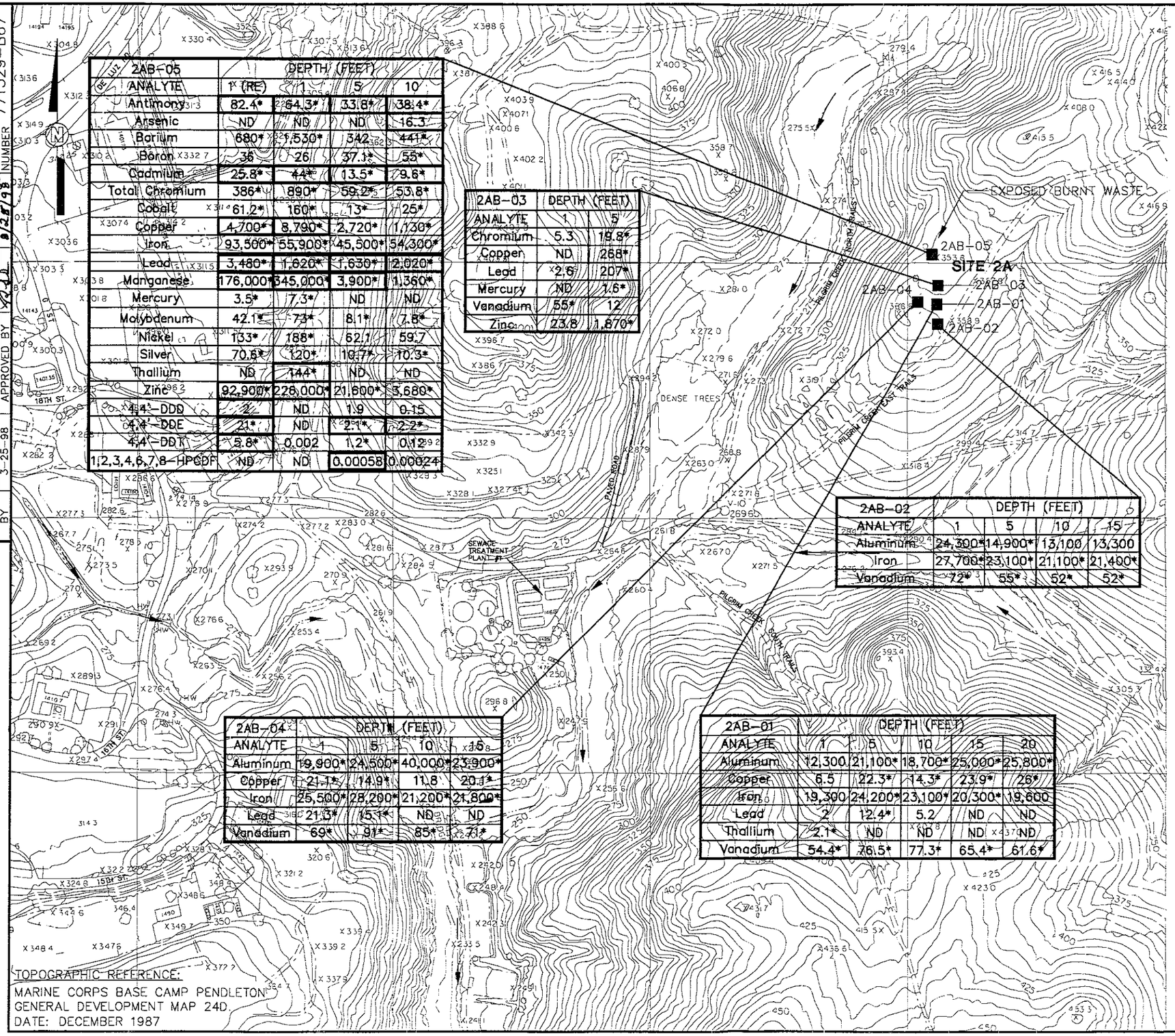
INTERNATIONAL TECHNOLOGY CORPORATION

DRAWING NUMBER 771529-B82

CHECKED BY 10/28/98

APPROVED BY 10/28/98

DRAWN BY JJC 3-25-98



2AB-05	DEPTH (FEET)			
ANALYTE	1* (RE)	1	5	10
Antimony	82.4*	64.3*	33.8*	38.4*
Arsenic	ND	ND	ND	16.3
Barium	680*	1,530*	342	441*
Boron	36	26	37.1*	55*
Cadmium	25.8*	44*	13.5*	9.6*
Total Chromium	386*	890*	59.2*	53.8*
Cobalt	61.2*	160*	13*	25*
Copper	4,700*	8,790*	2,720*	1,130*
Iron	93,500*	55,900*	45,500*	54,300*
Lead	3,480*	1,620*	1,630*	2,020*
Manganese	176,000*	345,000*	3,900*	1,360*
Mercury	3.5*	7.3*	ND	ND
Molybdenum	42.1*	73*	8.1*	7.8*
Nickel	133*	188*	62.1	59.7
Silver	70.6*	120*	10.7*	10.3*
Thallium	ND	144*	ND	ND
Zinc	92,900*	226,000*	21,600*	3,680*
4,4'-DDD	2	ND	1.9	0.15
4,4'-DDE	21*	ND	2.1*	2.2*
4,4'-DDT	5.8*	0.002	1.2*	0.12
1,2,3,4,6,7,8-HPCDF	ND	ND	0.00058	0.00024

2AB-03	DEPTH (FEET)	
ANALYTE	1	5
Chromium	5.3	19.8*
Copper	ND	268*
Lead	2.6	207*
Mercury	ND	1.6*
Vanadium	55*	12
Zinc	23.8	1,870*

2AB-02	DEPTH (FEET)			
ANALYTE	1	5	10	15
Aluminum	24,300*	14,900*	13,100	13,300
Iron	27,700*	23,100*	21,100*	21,400*
Vanadium	72*	55*	52*	52*

2AB-04	DEPTH (FEET)			
ANALYTE	1	5	10	15
Aluminum	19,900*	24,500*	40,000*	23,900*
Copper	21.1*	14.9*	11.8	20.1*
Iron	25,500*	28,200*	21,200*	21,800*
Lead	21.3*	15.1*	ND	ND
Vanadium	69*	91*	85*	71*

2AB-01	DEPTH (FEET)				
ANALYTE	1	5	10	15	20
Aluminum	12,300	21,100*	18,700*	25,000*	25,800*
Copper	6.5	22.3*	14.3*	23.9*	26*
Iron	19,300	24,200*	23,100*	20,300*	19,600
Lead	2	12.4*	5.2	ND	ND
Thallium	2.1*	ND	ND	ND	ND
Vanadium	54.4*	76.5*	77.3*	65.4*	61.6*

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON
GENERAL DEVELOPMENT MAP 24D.
DATE: DECEMBER 1987

LEGEND

2AB-02 ■ SOIL BORING LOCATION

SURFACE-WATER FLOW DIRECTION

ND NOT DETECTED

NA NOT APPLICABLE

HPCDF HEPTACHLORODIBENZOFURANS

COMPOUND (mg/kg)	PRG	PLE	BACKGROUND
ALUMINUM	77,000	769	16,398
ANTIMONY	31	1.2	8.38
ARSENIC	0.38	NA	16
BARIUM	5,300	65	385
BORON	5,900	37	NA
CADMIUM	9	9	1.52
TOTAL CHROMIUM	77,000	12	13
COBALT	4,600	1.0	12.8
COPPER	2,800	12	4.8
IRON	NA	350	19,883
LEAD	130	12	10
MANGANESE	3,200	783	199
MERCURY	100,000	0.6	0.05
MOLYBDENUM	380	6	7.36
NICKEL	1,500	63	4.1
SILVER	380	5	1.36
THALLIUM	5.4	0.37	1.33
VANADIUM	380	7	40
ZINC	23 000	163	59.7
4,4'-DDD	1.9	90	NA
4,4'-DDE	1.3	0.6	NA
4,4'-DDT	1.3	1.1	NA
1,2,3,4,6,7,8-HPCDF	0.00038	NA	NA

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM.
2. THIS FIGURE PRESENTS CONSTITUENTS EXCEEDING PRGs OR PLEs AND BACKGROUND, AS APPLICABLE.
3. CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs AND BACKGROUND, AS APPLICABLE.
4. CONCENTRATIONS DENOTED WITH AN ASTERISK (*) EXCEED PLEs AND BACKGROUND, AS APPLICABLE.
5. 1 (RE) IS A RESAMPLE AT 1 FOOT.

SCALE

0 400 800 FEET

FIGURE 2-5

SITE 2A - GREASE DISPOSAL PIT IN 14 AREA
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES
ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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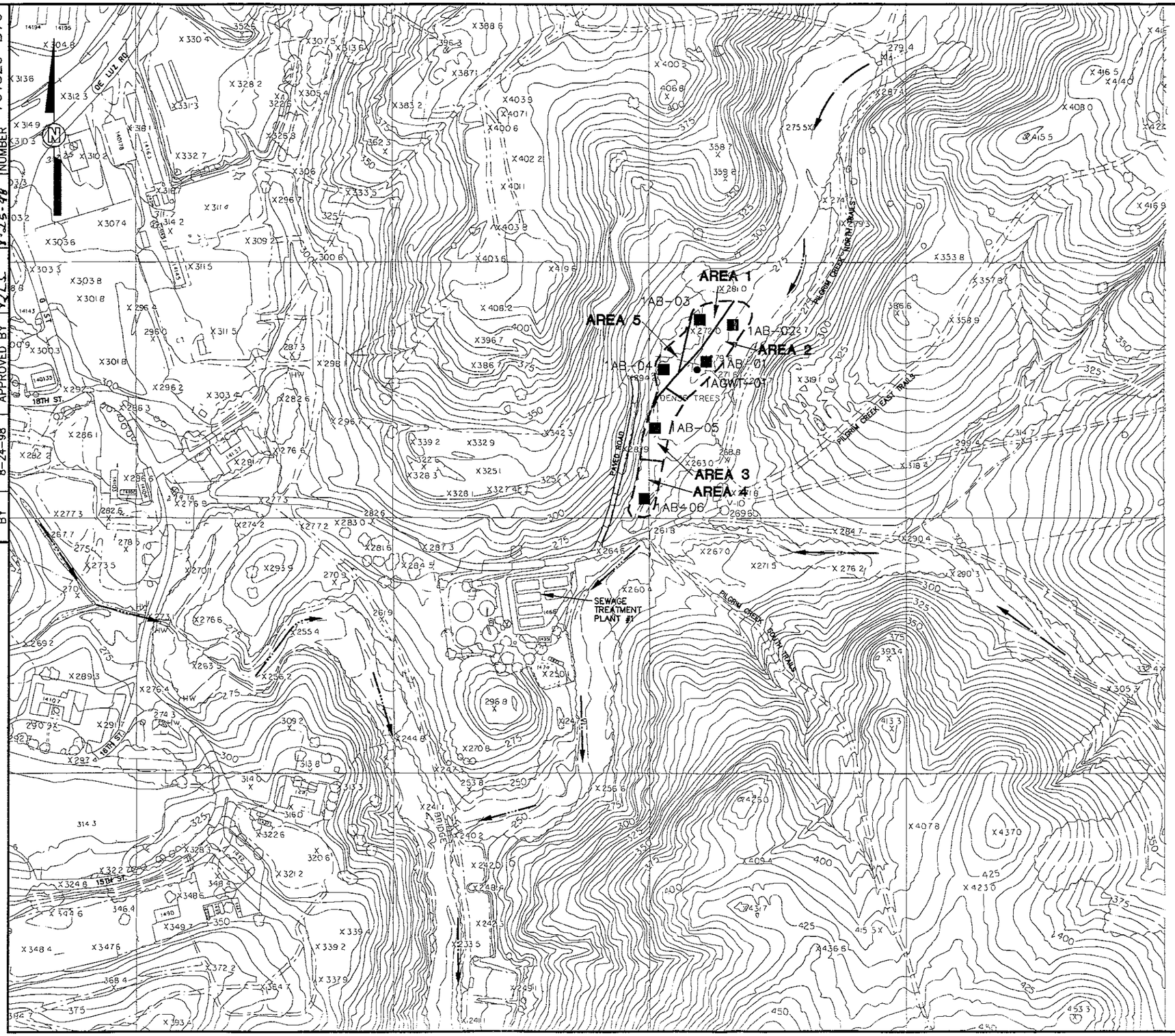
APPROVED BY
DRAWING NUMBER 771529-B67



LEGEND

1AB-02 ■ SOIL BORING LOCATION

1AGWT-01 ● TEMPORARY WELL SAMPLE LOCATION

SURFACE-WATER FLOW DIRECTION

EXCAVATION AREA ESTIMATED BASED ON HISTORICAL AERIAL AND GEOPHYSICAL SURVEYS AND SITE-SPECIFIC FEATURES

AREA #	AREA (acres)	EXCAVATION DEPTH (FT)	ESTIMATED VOLUME (YD^3)
1	0.4	5	3,264
2	0.9	10	14,815
3	0.6	5	5,000
4	0.4	5	2,963
5	0.7	5	5,647
TOTAL	3.0		31,689

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON
GENERAL DEVELOPMENT MAP 24D
DATE: DECEMBER 1987

SCALE

0 400 800 FEET

FIGURE 2-6

SITE 1A - REFUSE BURNING GROUND IN 14 AREA EXCAVATION AREA

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICES CENTER

CONTRACT NO. N4708-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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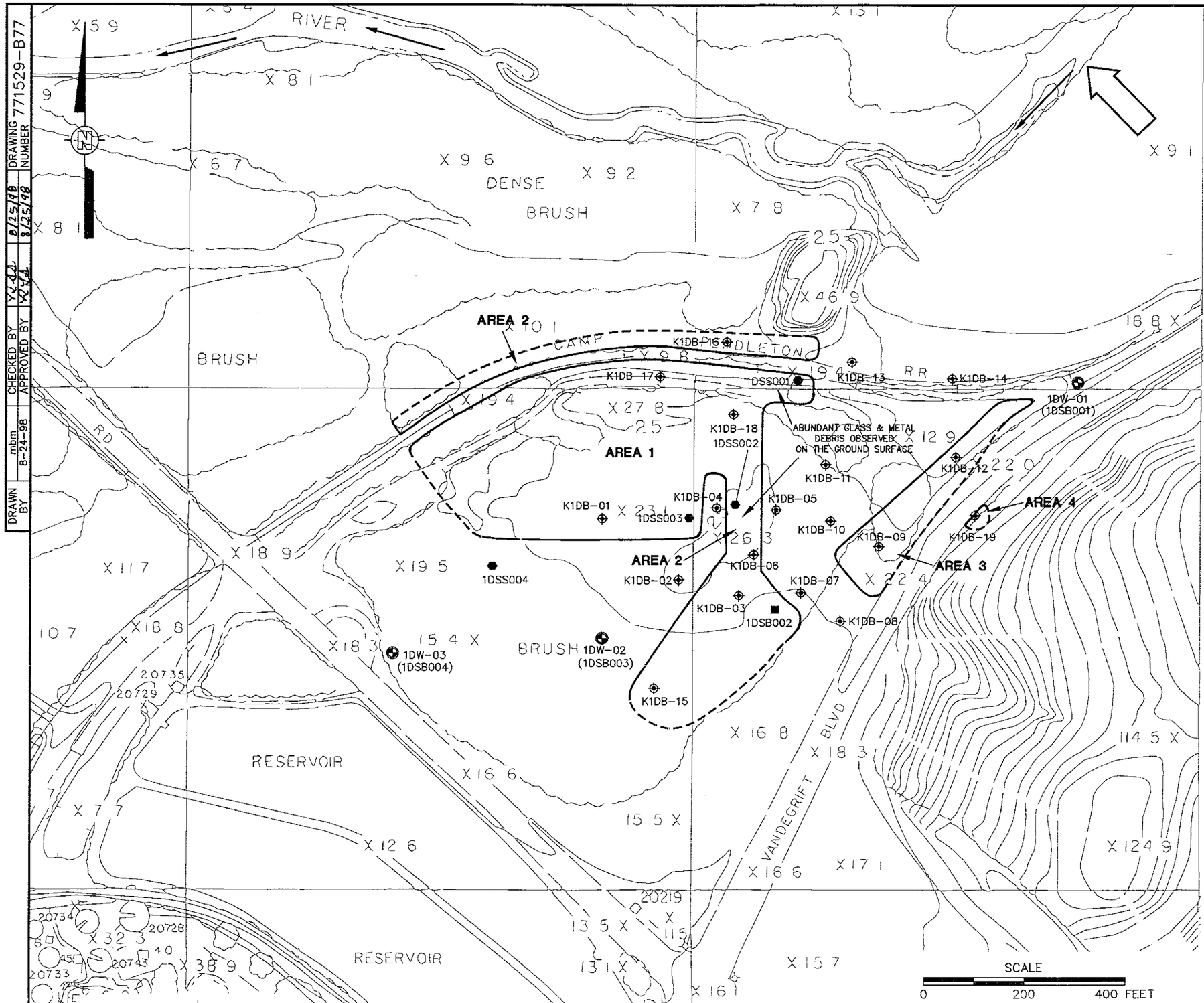

LEGEND

K1DB-01	HAND-AUGER BOREHOLE BY KLEINFELDER (NOV 1996)
1DSS001	SURFACE SOIL SAMPLE BY IT CORPORATION (1993)
1DSB003	BOREHOLE LOCATION BY IT CORPORATION (1993)
10W-03 (1DSB004)	MONITORING WELL LOCATION (BY IT CORPORATION, 1993) WITH BORING NUMBER IN PARENTHESES
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	SURFACE-WATER FLOW DIRECTION
	EXCAVATION AREA ESTIMATED BASED ON ANALYTICAL RESULTS AND SURFACE FEATURES DASHED WHERE NO SAMPLES WERE COLLECTED OUTSIDE AREA

AREA#	AREA (acres)	EXCAVATION DEPTH (FT)	ESTIMATED VOLUME (YD^3)
1	6.3	3	30,492
2	0.8	3	3,800
3	1.1	3	5,556
4	0.02	3	109
TOTAL	8.2		39,957

TOPOGRAPHIC REFERENCES:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 5B/6A DATE: DECEMBER 1987

SOURCE:
MARINE CORPS BASE, CAMP PENDLETON, CALIFORNIA REMEDIAL INVESTIGATION / FEASIBILITY STUDY, DRAFT RI REPORT FOR GROUP C SITES, CLE-101-01F301-B7-0023, CTO 0301, REVISION 0, VOLUME 1. PREPARED BY IT CORP APRIL 1996

FIGURE 2-7

SITE 1D - REFUSE BURNING GROUND IN 20 AREA EXCAVATION AREA

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47409-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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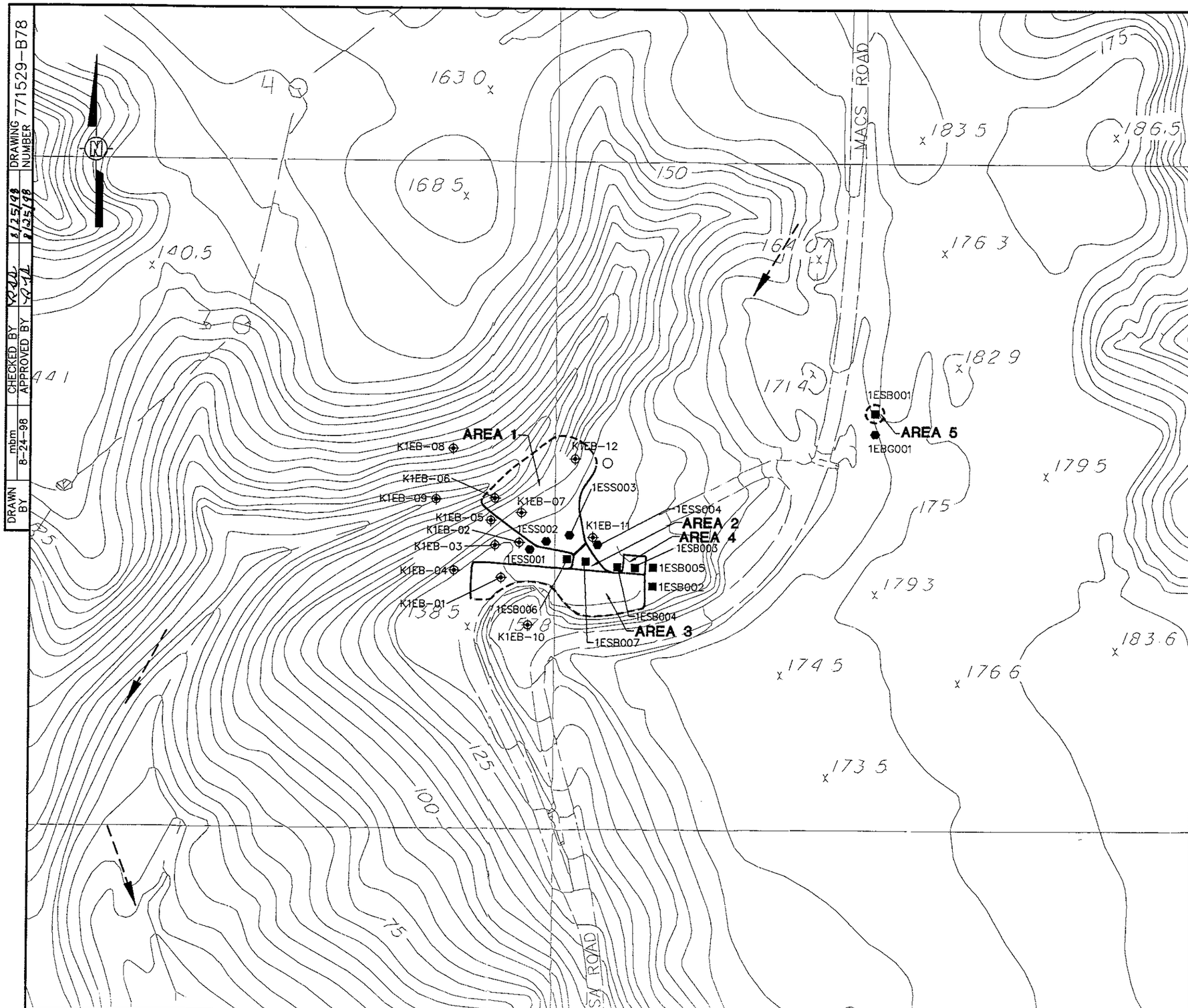

LEGEND

K1EB-12 ⊕	HAND AUGER BOREHOLE BY KLEINFELDER (NOV 96)
1ESS003 ●	SURFACE SOIL SAMPLE BY IT CORP. (1993)
1EB-02 ■	BOREHOLE LOCATION BY IT CORP. (1993)
1EBG-01 ●	BACKGROUND SURFACE SOIL SAMPLE BY IT CORP. (1993)
— — →	SURFACE-WATER FLOW DIRECTION (EPHERERAL)
———	EXCAVATION AREA ESTIMATED BASED ON ANALYTICAL RESULTS AND SURFACE CONTOURS; DASHED WHERE NO SAMPLES WERE COLLECTED OUTSIDE AREA.

AREA#	AREA (acres)	EXCAVATION DEPTH (FT)	ESTIMATED VOLUME (YD^3)
1	0.3	3	1,452
2	0.04	10	694
3	0.2	5	1,759
4	0.01	3	51
5	0.02	3	79
TOTAL	0.6		4,035

TOPOGRAPHIC REFERENCES:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 5B/6A. DATE: DECEMBER 1987

SOURCE:
MARINE CORPS BASE, CAMP PENDLETON, CALIFORNIA REMEDIAL INVESTIGATION / FEASIBILITY STUDY, DRAFT RI REPORT FOR GROUP C SITES, CLE-101-01F301-B7-0023, CTO 0301, REVISION 0, VOLUME 1. PREPARED BY IT CORP. APRIL 1996.

SCALE

0 150 300 FEET

FIGURE 2-8

SITE 1E
IN 20 AREA
EXCAVATION AREA
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES
ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3058

INTERNATIONAL TECHNOLOGY CORPORATION

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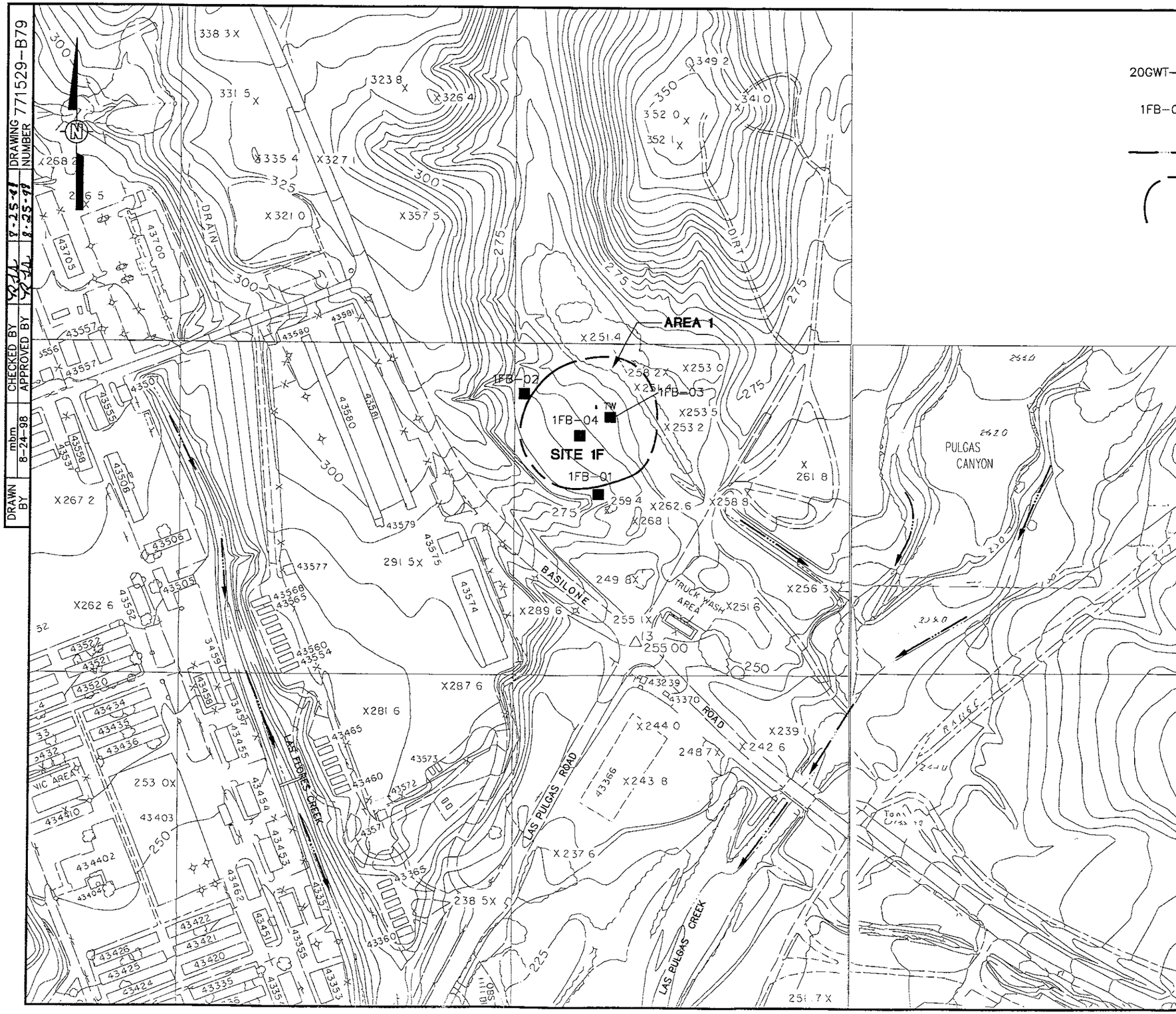

LEGEND

20GWT-01 ● TEMPORARY WELL SAMPLE LOCATION

1FB-03 TW ■ SOIL BORING LOCATION (TW INDICATES GROUNDWATER SAMPLE)

SURFACE-WATER FLOW DIRECTION

EXCAVATION AREA ESTIMATED BASED ON ANALYTICAL RESULTS, HISTORICAL AERIAL AND GEOPHYSICAL SURVEYS, AND SURFACE CONDITIONS; DASHED WHERE NO SAMPLES WERE COLLECTED OUTSIDE AREA

AREA#	AREA (acres)	EXCAVATION DEPTH (FT)	ESTIMATED VOLUME (YD^3)
1	3.0	7.5	36,300

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 36B, 36D, AND 37A.
DATE: DECEMBER 1987

SCALE
0 300 600 FEET

FIGURE 2-9

SITE 1F - REFUSE BURNING GROUND IN 43 AREA EXCAVATION AREA

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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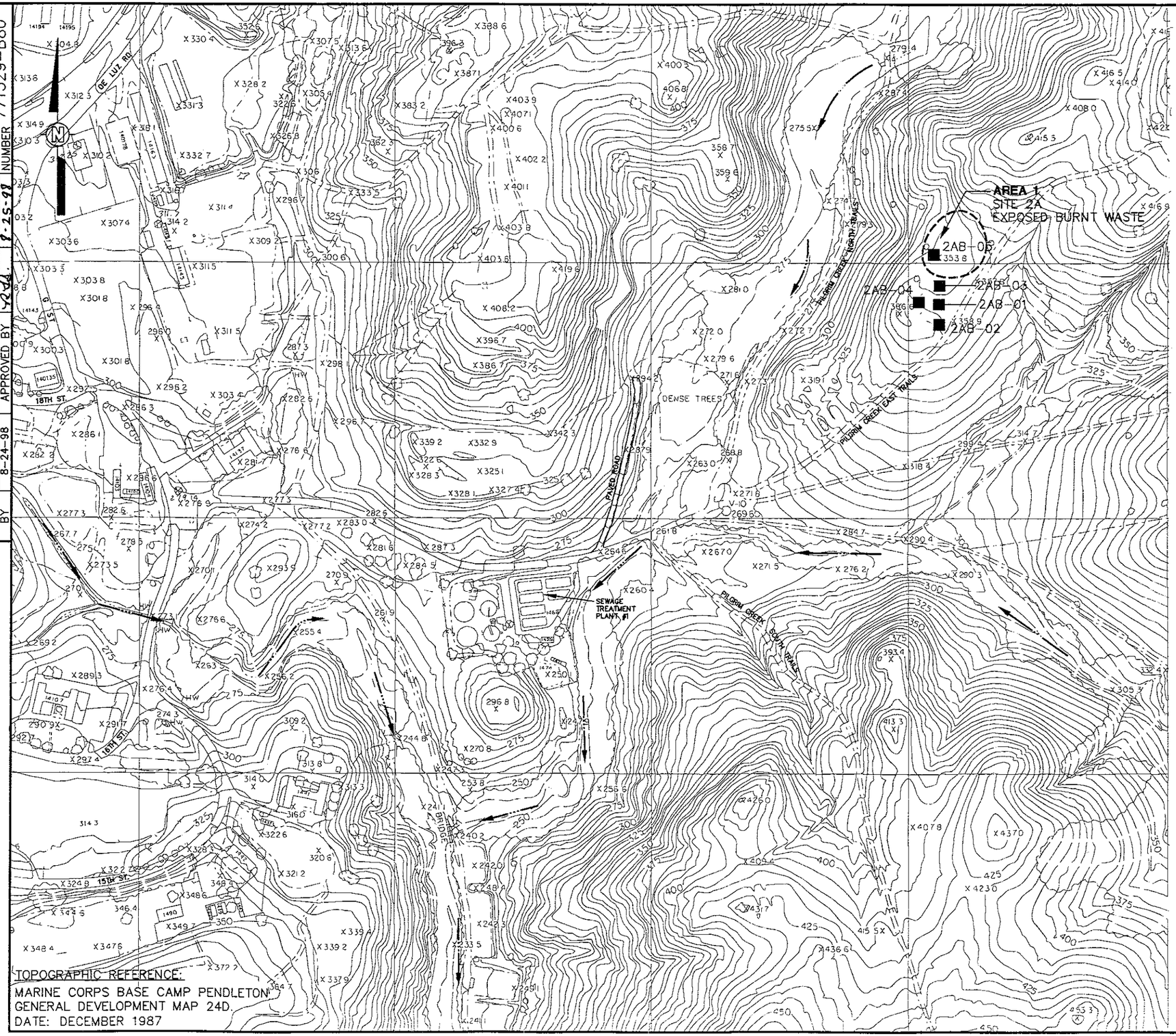

LEGEND

2AB-02 ■ SOIL BORING LOCATION

SURFACE-WATER FLOW DIRECTION

EXCAVATION AREA ESTIMATED BASED ON SURFACE CONDITIONS

AREA #	AREA (acres)	EXCAVATION DEPTH (FT)	ESTIMATED VOLUME (YD^3)
1	1.1	10	17,747

SCALE

0 400 800 FEET

FIGURE 2-10

SITE 2A - GREASE DISPOSAL PIT IN 14 AREA EXCAVATION AREA

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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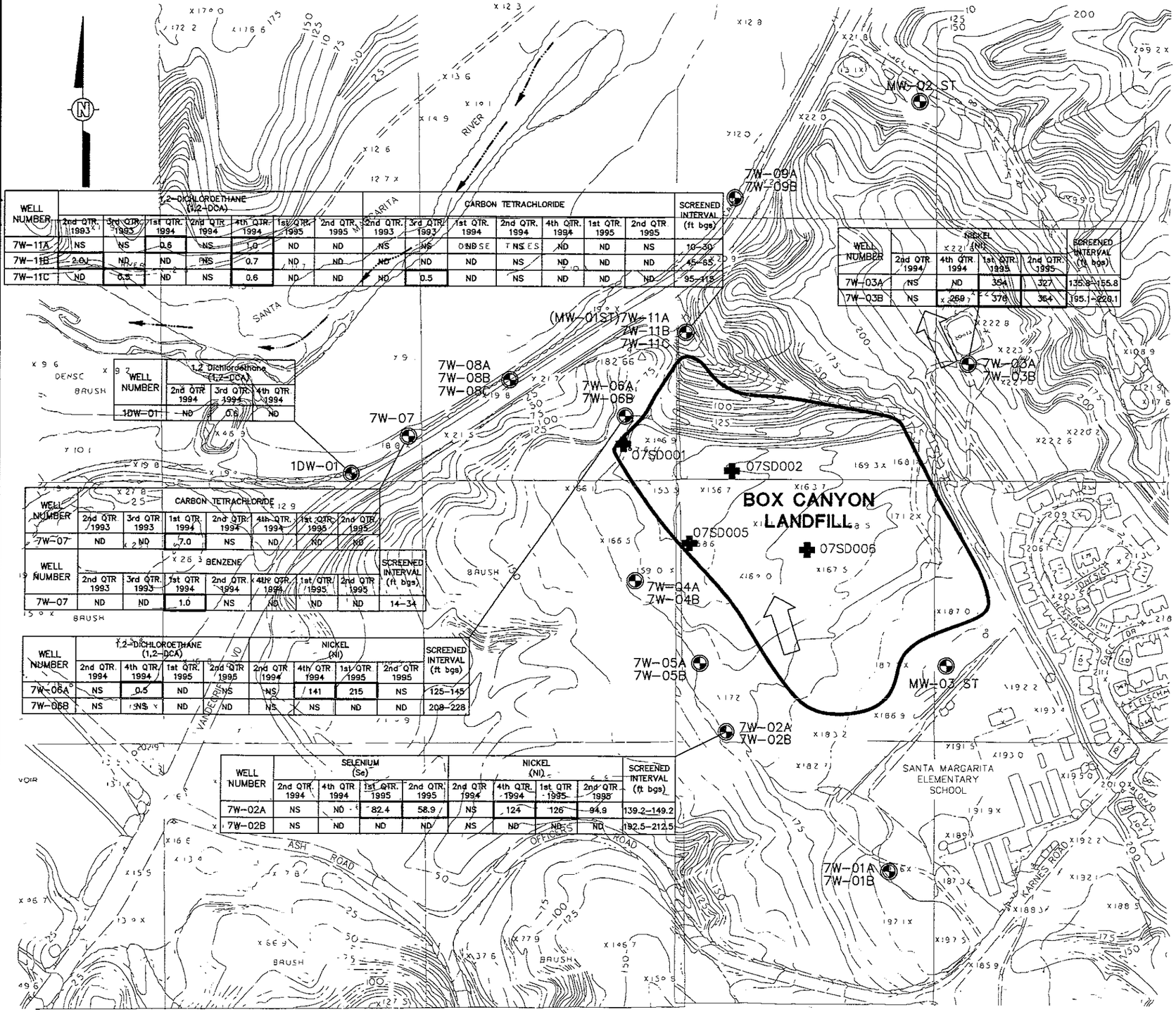

WELL NUMBER	1,2-DICHLOROETHANE (1,2-DCA)							CARBON TETRACHLORIDE							SCREENED INTERVAL (ft bgs)
	2nd QTR. 1993	3rd QTR. 1993	1st QTR. 1994	2nd QTR. 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR. 1995	2nd QTR. 1993	3rd QTR. 1993	1st QTR. 1994	2nd QTR. 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR. 1995	
7W-11A	NS	NS	0.6	NS	1.0	ND	ND	NS	NS	ONBSE	TNSES	ND	ND	NS	10-30
7W-11B	2.0J	ND	ND	NS	0.7	ND	ND	ND	ND	ND	NS	ND	ND	ND	45-65
7W-11C	ND	0.5	ND	NS	0.6	ND	ND	ND	0.5	ND	NS	ND	ND	ND	95-115

WELL NUMBER	NICKEL (NI)				SCREENED INTERVAL (ft bgs)
	2nd QTR 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR. 1995	
7W-03A	NS	ND	354	327	135.8-155.8
7W-03B	NS	269	378	364	195.1-228.1

WELL NUMBER	1,2 Dichloroethane (1,2-DCA)		
	2nd QTR 1994	3rd QTR. 1995	4th QTR. 1994
1DW-01	ND	0.6	ND

WELL NUMBER	CARBON TETRACHLORIDE						
	2nd QTR 1993	3rd QTR 1993	1st QTR. 1994	2nd QTR. 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR 1995
7W-07	ND	ND	7.0	NS	ND	ND	ND

WELL NUMBER	BENZENE							SCREENED INTERVAL (ft bgs)
	2nd QTR 1993	3rd QTR. 1993	1st QTR 1994	2nd QTR. 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR 1995	
7W-07	ND	ND	1.0	NS	ND	ND	ND	14-34

WELL NUMBER	1,2-DICHLOROETHANE (1,2-DCA)				NICKEL (NI)				SCREENED INTERVAL (ft bgs)
	2nd QTR. 1994	4th QTR. 1994	1st QTR. 1995	2nd QTR 1995	2nd QTR 1994	4th QTR 1994	1st QTR 1995	2nd QTR 1995	
7W-06A	NS	0.5	ND	NS	NS	141	215	NS	125-145
7W-06B	NS	NS	ND	ND	NS	NS	ND	ND	208-228

WELL NUMBER	SELENIUM (Se)				NICKEL (NI)				SCREENED INTERVAL (ft bgs)
	2nd QTR. 1994	4th QTR 1994	1st QTR. 1995	2nd QTR. 1995	2nd QTR 1994	4th QTR. 1994	1st QTR 1995	2nd QTR. 1995	
7W-02A	NS	ND	82.4	58.9	NS	124	126	94.9	139.2-149.2
7W-02B	NS	ND	ND	ND	NS	ND	ND	ND	192.5-212.5

LEGEND

7W-06A — GROUNDWATER MONITORING WELL LOCATION

MW-03 ST — GROUNDWATER MONITORING WELL INSTALLED OR MONITORED DURING SOLID WASTE ASSESSMENT TEST

SURFACE SOIL SAMPLE LOCATION

SURFACE-WATER FLOW DIRECTION

ESTIMATED SHAPE OF ORIGINAL CANYON (FROM 1963 AND 1970 AERIAL PHOTOS AND 1995 TRENCHING)

APPROXIMATE GROUNDWATER FLOW DIRECTION

269 — CONCENTRATIONS THAT EXCEED OR EQUAL MCLS ARE OUTLINED IN BOLD

NOTES:

CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (μg/l)

ANALYTES WITH CONCENTRATIONS GREATER THAN OR EQUAL TO MAXIMUM CONTAMINANT LEVELS (MCLS) DURING AT LEAST ONE SAMPLING ROUND ARE SHOWN

J,B,D – ANALYTICAL DATA QUALIFIERS

ft bgs – FEET BELOW GROUND SURFACE

ND – NOT DETECTED

NS – NOT SAMPLED

SCALE

0 400 800 FEET

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 6A AND 6B

DATE: DECEMBER 1987

FIGURE 2-11

SITE 7 - BOX CANYON LANDFILL SOIL AND GROUNDWATER SAMPLE LOCATIONS AND SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N68711-89-D-9296

INTERNATIONAL TECHNOLOGY CORPORATION

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mbm 4-30-98	APPROVED BY 8/25/98	771529-B92

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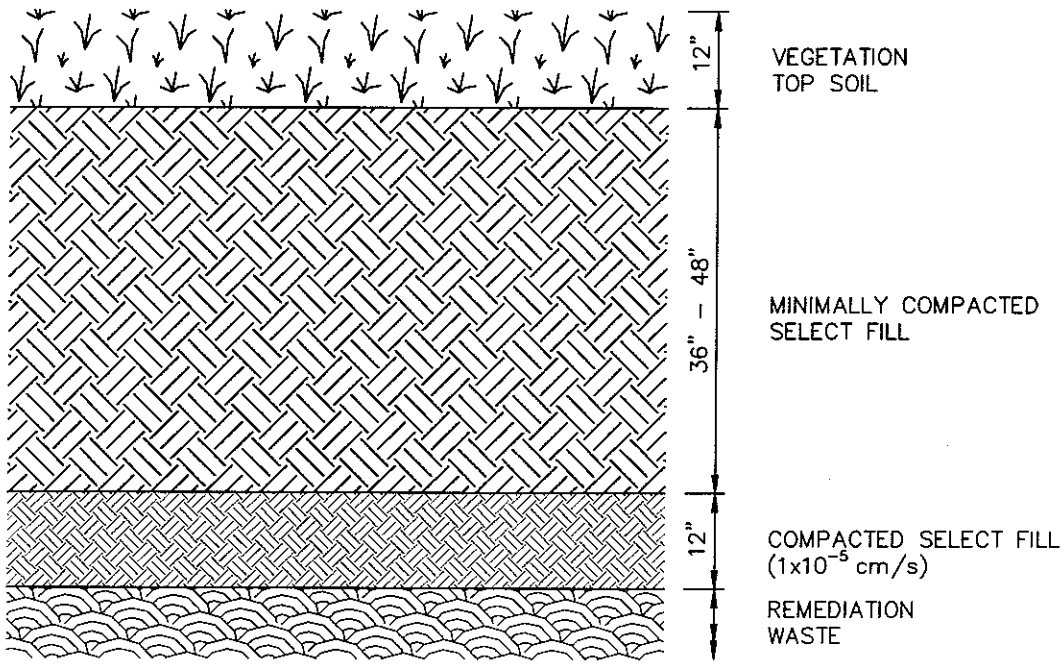

FIGURE 2-12

EVAPOTRANSPIRATION COVER SYSTEM PROFILE

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND

CONTRACT NO. N68711-89-D-9296
CLE-I01-01F301-S2-0009

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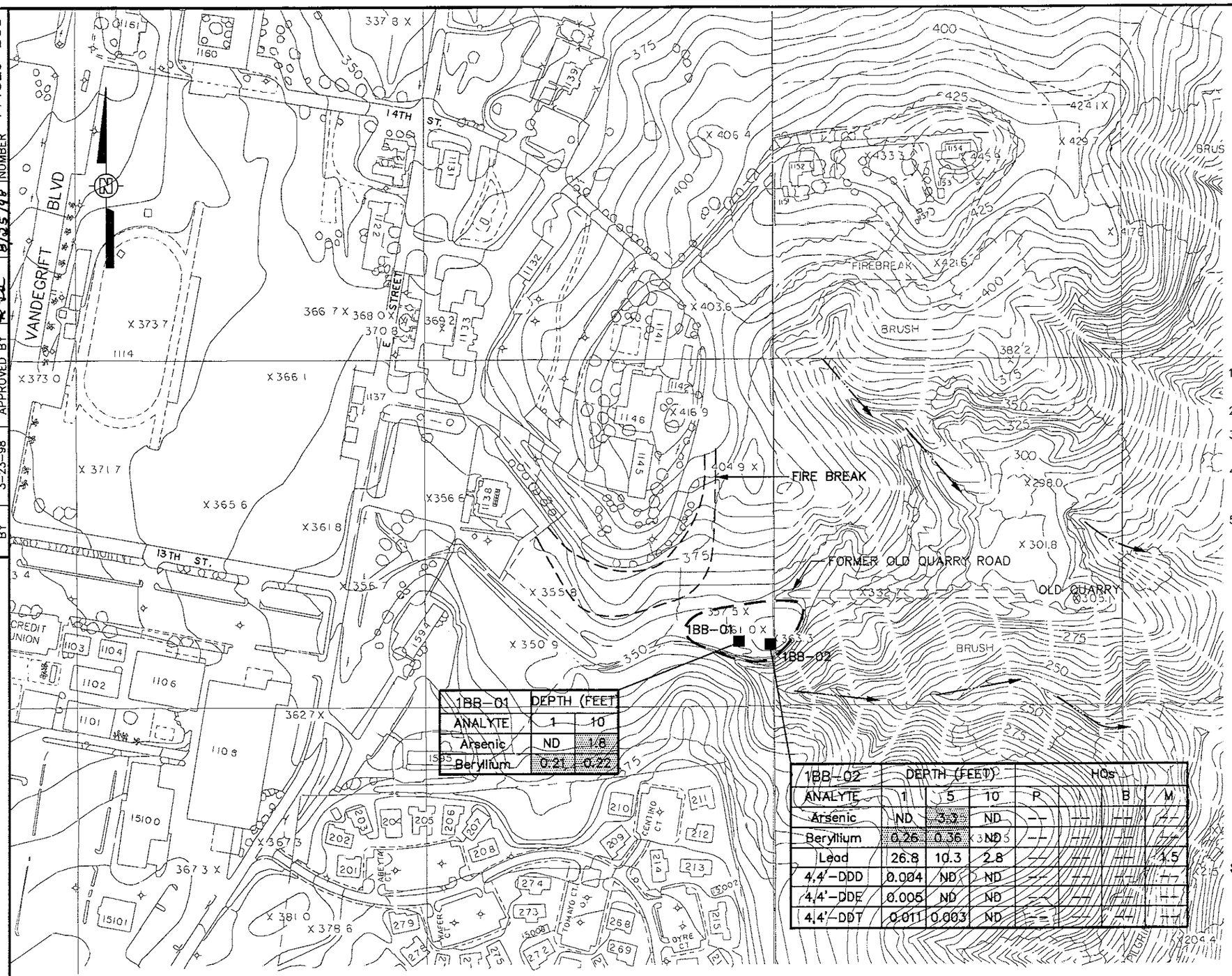


1BB-01	DEPTH (FEET)	
ANALYTE	1	10
Arsenic	ND	1.6
Beryllium	0.21	0.22

1BB-02	DEPTH (FEET)			HQs			
ANALYTE	1	5	10	P	I	B	M
Arsenic	ND	3.3	ND	--	--	--	--
Beryllium	0.26	0.36	ND	--	--	--	--
Lead	26.8	10.3	2.8	--	--	--	1.5
4,4'-DDD	0.004	ND	ND	--	--	--	--
4,4'-DDE	0.005	ND	ND	--	--	--	--
4,4'-DDT	0.011	0.003	ND	--	--	--	--

LEGEND

1BB-01 ■	SOIL BORING LOCATION
⟶	SURFACE-WATER FLOW DIRECTION
(dashed oval)	APPROXIMATE BOUNDARY OF REFUSE BURNING GROUND
ND	NOT DETECTED
--	LESS THAN 1.0

COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	16
BERYLLIUM	0.14	1.42
LEAD	130	11.7

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg)
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs OR WITH HQs ≥1.0 ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS ABOVE PRGs ARE NOT SHOWN.
5. FOR EACH SAMPLE LOCATION, ECOLOGICAL HAZARD QUOTIENTS (HQs) ≥1.0 ARE GIVEN FOR THE MAXIMUM DETECTED CONCENTRATIONS FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M).

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 24A AND 24B. DATE: DECEMBER 1987

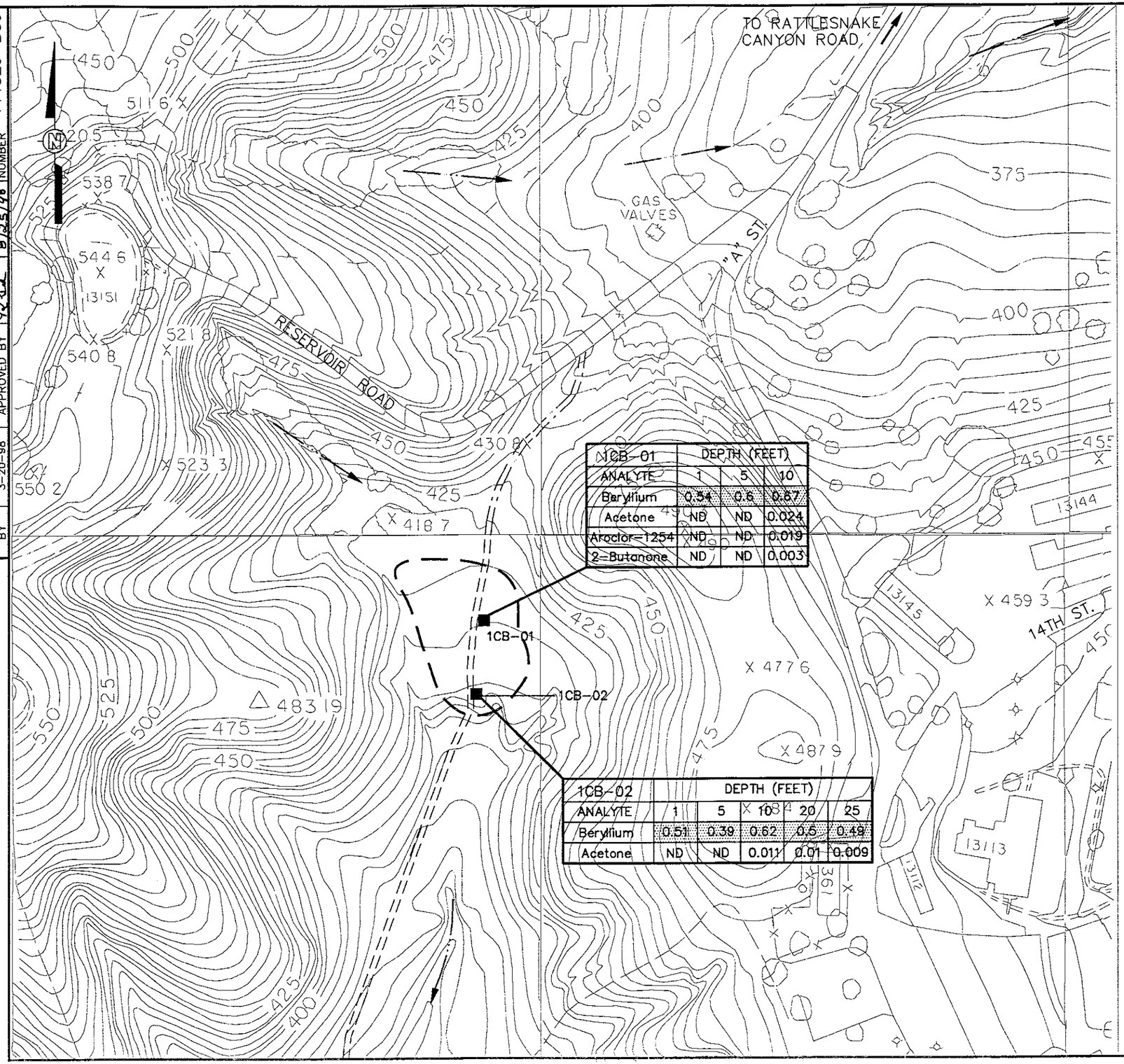
FIGURE 2-13

SITE 1B - REFUSE BURNING GROUND IN 11 AREA
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



1CB-01	DEPTH (FEET)		
ANALYTE	1	5	10
Beryllium	0.54	0.6	0.67
Acetone	ND	ND	0.024
Aroclor-1254	ND	ND	0.019
2-Butanone	ND	ND	0.003

1CB-02	DEPTH (FEET)				
ANALYTE	1	5	10	20	25
Beryllium	0.51	0.39	0.62	0.5	0.49
Acetone	ND	ND	0.011	0.01	0.009

LEGEND

1CB-02 ■ SOIL BORING LOCATION

SURFACE-WATER FLOW DIRECTION

APPROXIMATE BOUNDARY OF REFUSE BURNING GROUND

ND NOT DETECTED

COMPOUND (mg/kg)	PRG	BACKGROUND
BERYLLIUM	0.14	1.42

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg)
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 24A AND 24C. DATE: DECEMBER 1987

SCALE

0 200 400 FEET

FIGURE 2-14

SITE 1C - REFUSE BURNING GROUND IN 13 AREA SUMMARY OF SOIL ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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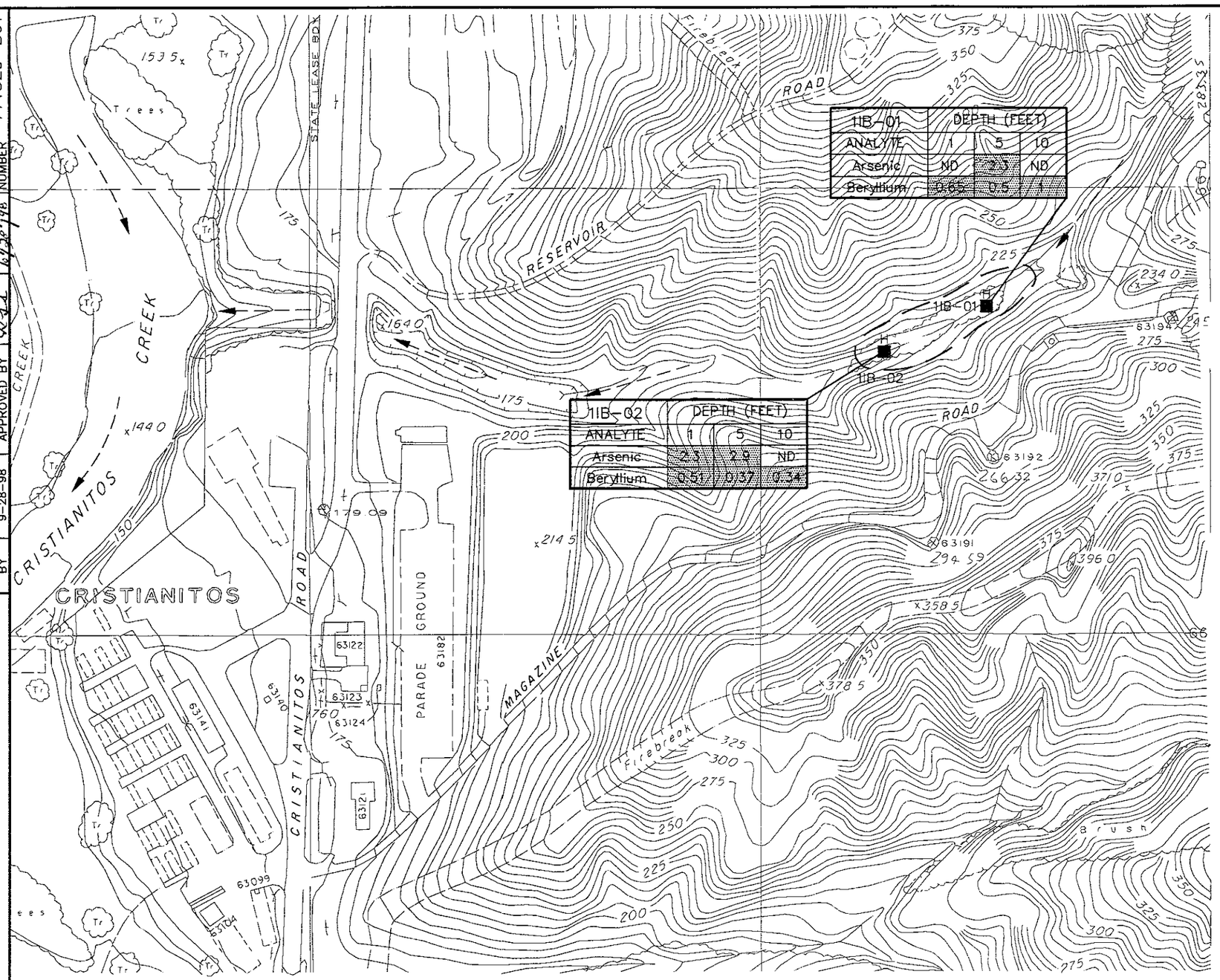
mbm 9-28-98	APPROVED BY	771529-B61



1IB-01	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	ND	2.3	ND
Beryllium	0.65	0.5	1

1IB-02	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	2.3	2.9	ND
Beryllium	0.51	0.37	0.34

LEGEND

1IB-02 (H) — SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)

SURFACE-WATER FLOW DIRECTION (EPHERMAL)

APPROXIMATE BOUNDARY OF REFUSE BURNING GROUND

ND — NOT DETECTED

COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	4.25
BERYLLIUM	0.14	1.42

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM.
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.

SCALE

0 250 500 FEET

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON
GENERAL DEVELOPMENT MAP 66D
DATE: DECEMBER 1987

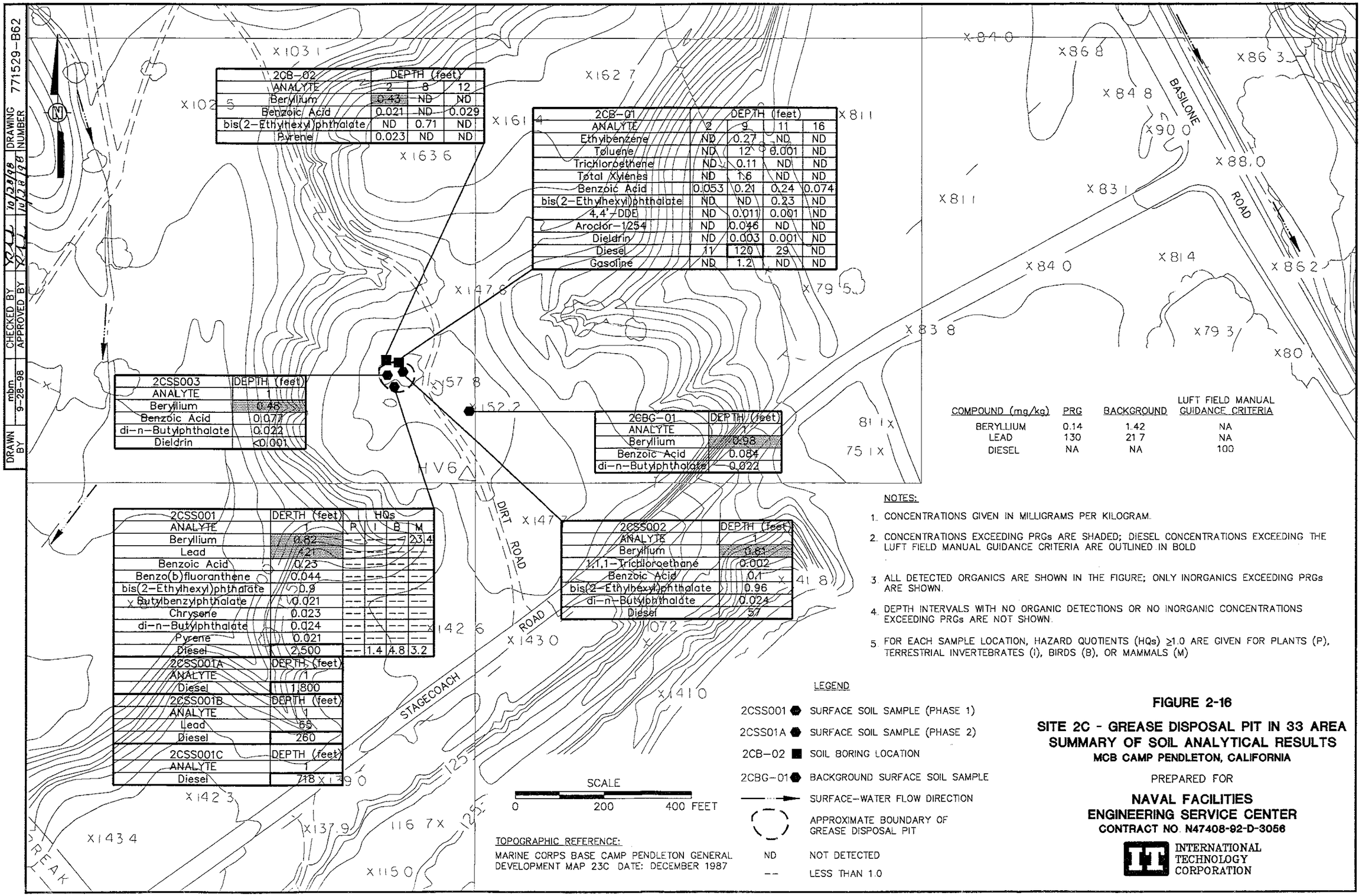
FIGURE 2-15

SITE 1I - REFUSE BURNING GROUND IN 63 AREA
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



COMPOUND (mg/kg)	PRG	BACKGROUND	LUFT FIELD MANUAL GUIDANCE CRITERIA
BERYLLIUM	0.14	1.42	NA
LEAD	130	21.7	NA
DIESEL	NA	NA	100

2CB-02	DEPTH (feet)		
ANALYTE	2	8	12
Beryllium	0.43	ND	ND
Benzoic Acid	0.021	ND	0.029
bis(2-Ethylhexyl)phthalate	ND	0.71	ND
Pyrene	0.023	ND	ND

2CB-01	DEPTH (feet)			
ANALYTE	2	9	11	16
Ethylbenzene	ND	0.27	ND	ND
Toluene	ND	12	0.001	ND
Trichloroethene	ND	0.11	ND	ND
Total Xylenes	ND	1.6	ND	ND
Benzoic Acid	0.053	0.21	0.24	0.074
bis(2-Ethylhexyl)phthalate	ND	ND	0.23	ND
4,4'-DDE	ND	0.011	0.001	ND
Aroclor-1254	ND	0.046	ND	ND
Dieldrin	ND	0.003	0.001	ND
Diesel	11	120	29	ND
Gasoline	ND	1.2	ND	ND

2CSS003	DEPTH (feet)
ANALYTE	1
Beryllium	0.48
Benzoic Acid	0.077
di-n-Butylphthalate	0.022
Dieldrin	<0.001

2CBG-01	DEPTH (feet)
ANALYTE	1
Beryllium	0.98
Benzoic Acid	0.084
di-n-Butylphthalate	0.022

2CSS001	DEPTH (feet)	HQs			
ANALYTE	1	P	I	B	M
Beryllium	0.82	--	--	--	23.4
Lead	42	--	--	--	--
Benzoic Acid	0.23	--	--	--	--
Benzo(b)fluoranthene	0.044	--	--	--	--
bis(2-Ethylhexyl)phthalate	0.9	--	--	--	--
Butylbenzylphthalate	0.021	--	--	--	--
Chrysene	0.023	--	--	--	--
di-n-Butylphthalate	0.024	--	--	--	--
Pyrene	0.021	--	--	--	--
Diesel	2,500	--	1.4	4.8	3.2

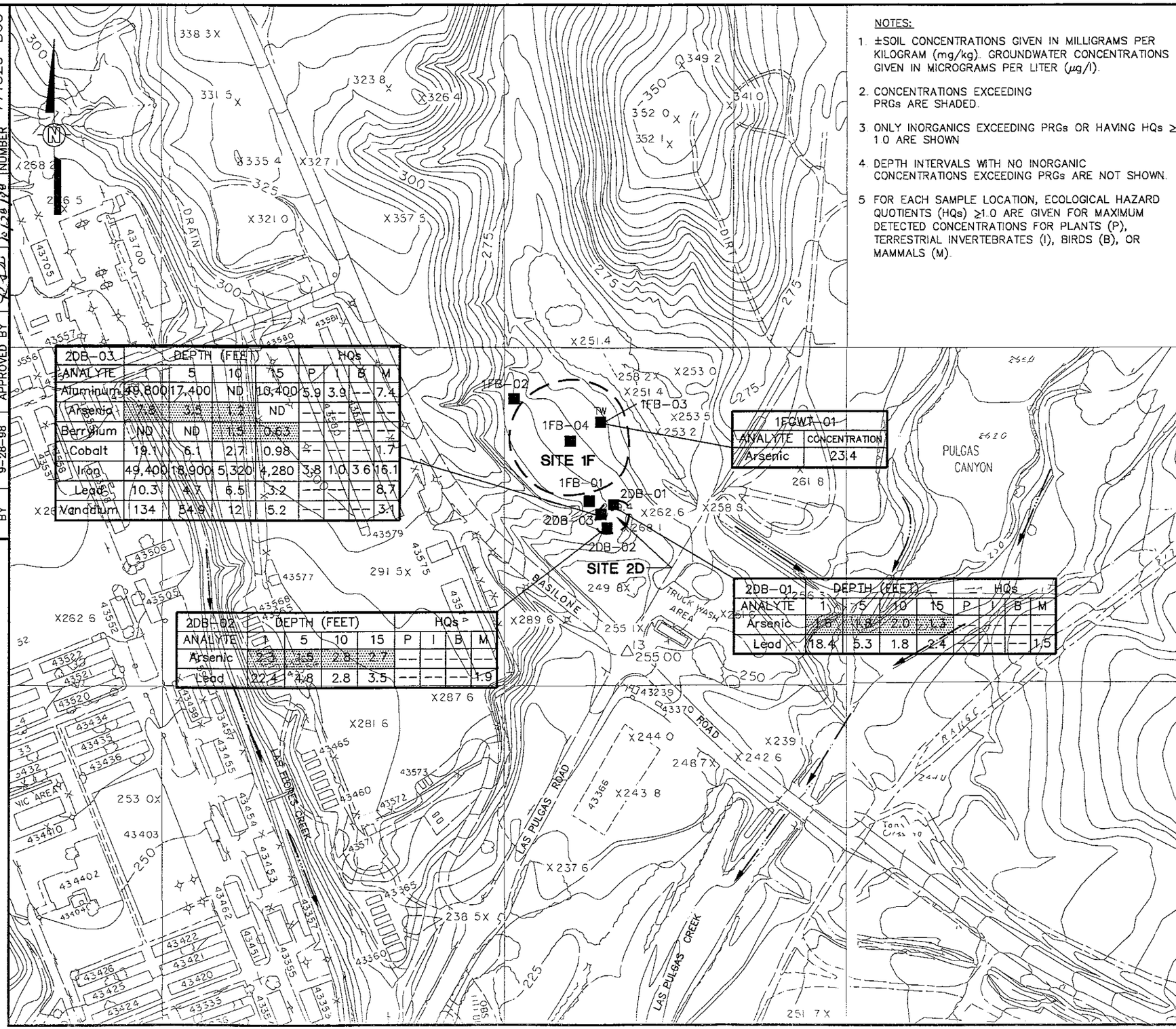
2CSS001A	DEPTH (feet)
ANALYTE	1
Diesel	1,800

2CSS001B	DEPTH (feet)
ANALYTE	1
Lead	65
Diesel	260

2CSS001C	DEPTH (feet)
ANALYTE	1
Diesel	718

2CSS002	DEPTH (feet)
ANALYTE	1
Beryllium	0.61
1,1,1-Trichloroethane	0.002
Benzoic Acid	0.1
bis(2-Ethylhexyl)phthalate	0.96
di-n-Butylphthalate	0.024
Diesel	57

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
mbm 9-28-98			771529-B63



2DB-03	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Aluminum	49,800	17,400	ND	10,400	5.9	3.9	--	7.4
Arsenic	7.6	3.5	1.2	ND	--	--	--	--
Beryllium	ND	ND	1.5	0.63	--	--	--	--
Cobalt	19.1	6.1	2.7	0.98	--	--	--	1.7
Iron	49,400	18,900	5,320	4,280	3.8	1.0	3.6	16.1
Lead	10.3	4.7	6.5	3.2	--	--	--	8.7
Vanadium	134	54.9	12	5.2	--	--	--	3.1

1FGWT-01	
ANALYTE	CONCENTRATION
Arsenic	23.4

2DB-01	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Arsenic	1.6	1.3	2.0	1.3	--	--	--	--
Lead	18.4	5.3	1.8	2.4	--	--	--	1.5

2DB-02	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Arsenic	2.3	1.5	2.8	2.7	--	--	--	--
Lead	22.4	4.8	2.8	3.5	--	--	--	1.9

NOTES:

1. ±SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg). GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (µg/l).
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ONLY INORGANICS EXCEEDING PRGs OR HAVING HQs ≥ 1.0 ARE SHOWN
4. DEPTH INTERVALS WITH NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.
5. FOR EACH SAMPLE LOCATION, ECOLOGICAL HAZARD QUOTIENTS (HQs) ≥1.0 ARE GIVEN FOR MAXIMUM DETECTED CONCENTRATIONS FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M).

SOIL COMPOUND (mg/kg)	PRG	BACKGROUND
ALUMINUM	77,000	40,000
ANTIMONY	31	8.8
ARSENIC	0.38	4.26
BERYLLIUM	0.14	1.2
CADMIUM	9	1.6
COLBALT	NA	9.85
COPPER	2,800	27.9
LEAD	130	15.1
IRON	NA	37,000
VANADIUM	540	102

GROUNDWATER COMPOUND (µg/l)	PRG	MCL
ARSENIC	50	0.045

LEGEND

1FGWT-01 TW — TEMPORARY WELL SAMPLE LOCATION

2DB-01 — SOIL BORING LOCATION

SURFACE-WATER FLOW DIRECTION

APPROXIMATE BOUNDARY OF REFUSE BURNING GROUND AND GREASE DISPOSAL PIT

ND — NOT DETECTED

-- — LESS THAN 1.0

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 36B, 36D, AND 37A.
DATE: DECEMBER 1987

SCALE

0 300 600 FEET

FIGURE 2-17

SITE 2D - GREASE DISPOSAL PIT IN 43 AREA SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

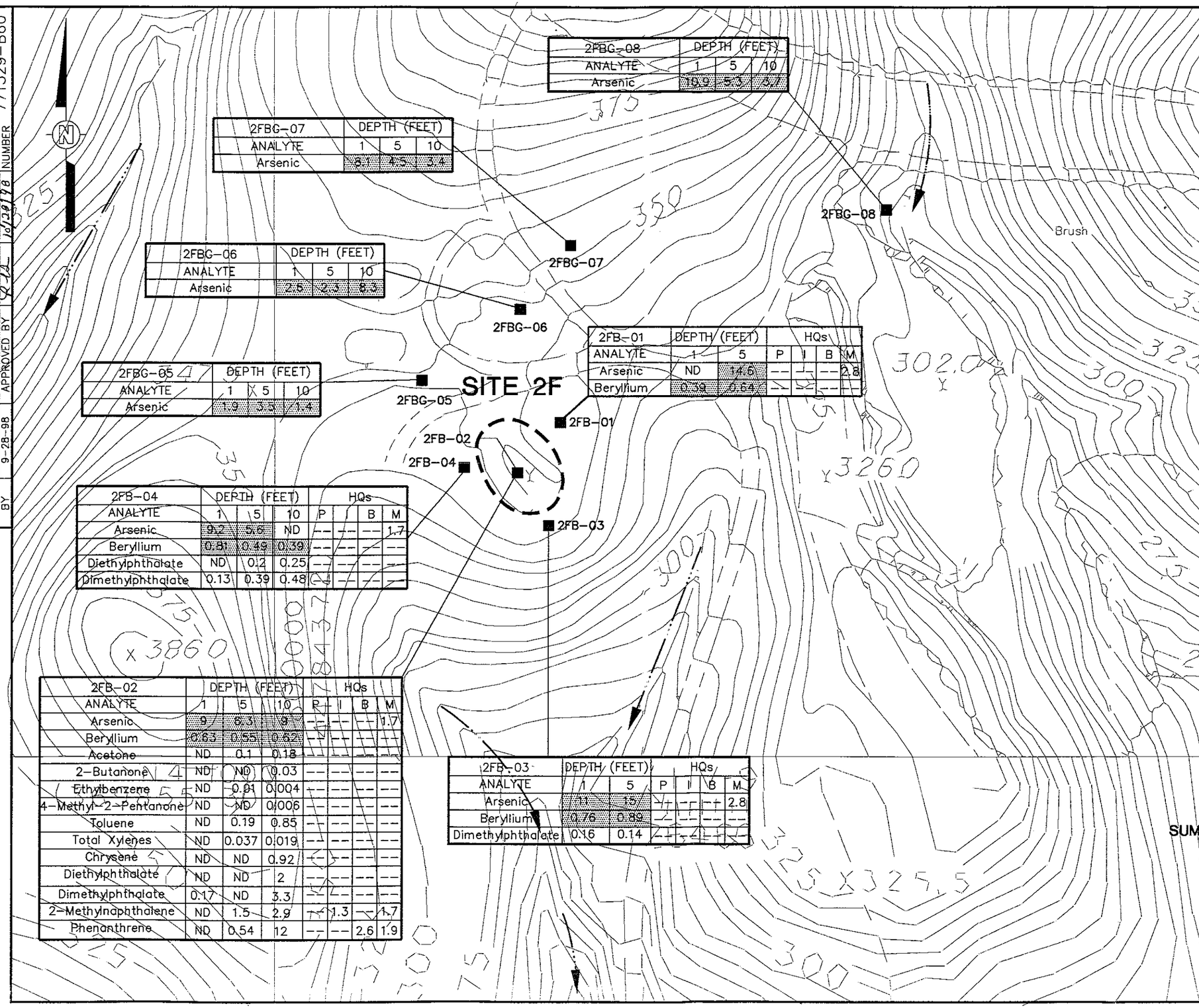
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



2FBG-08	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	10.9	5.3	3.7

2FBG-07	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	9	4.5	3.4

2FBG-06	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	2.5	2.3	8.3

2FBG-05	DEPTH (FEET)		
ANALYTE	1	5	10
Arsenic	1.9	3.5	1.4

2FB-01	DEPTH (FEET)		HQs			
ANALYTE	1	5	P	I	B	M
Arsenic	ND	14.6	--	--	--	2.8
Beryllium	0.39	0.64	--	--	--	--

2FB-04	DEPTH (FEET)			HQs			
ANALYTE	1	5	10	P	I	B	M
Arsenic	9.2	5.6	ND	--	--	--	1.7
Beryllium	0.81	0.49	0.39	--	--	--	--
Diethylphthalate	ND	0.2	0.25	--	--	--	--
Dimethylphthalate	0.13	0.39	0.48	--	--	--	--

2FB-02	DEPTH (FEET)			HQs			
ANALYTE	1	5	10	P	I	B	M
Arsenic	9	6.3	9	--	--	--	1.7
Beryllium	0.63	0.55	0.52	--	--	--	--
Acetone	ND	0.1	0.18	--	--	--	--
2-Butanone	ND	ND	0.03	--	--	--	--
Ethylbenzene	ND	0.01	0.004	--	--	--	--
4-Methyl-2-Pentanone	ND	ND	0.006	--	--	--	--
Toluene	ND	0.19	0.85	--	--	--	--
Total Xylenes	ND	0.037	0.019	--	--	--	--
Chrysene	ND	ND	0.92	--	--	--	--
Diethylphthalate	ND	ND	2	--	--	--	--
Dimethylphthalate	0.17	ND	3.3	--	--	--	--
2-Methylnaphthalene	ND	1.5	2.9	--	1.3	--	1.7
Phenanthrene	ND	0.54	12	--	--	2.6	1.9

2FB-03	DEPTH (FEET)		HQs			
ANALYTE	1	5	P	I	B	M
Arsenic	11	15	--	--	--	2.8
Beryllium	0.76	0.89	--	--	--	--
Dimethylphthalate	0.16	0.14	--	--	--	--

LEGEND

1HB-01 ■	SOIL BORING LOCATION
→	SURFACE-WATER FLOW DIRECTION
◯	APPROXIMATE BOUNDARY OF REFUSE BURNING GROUND OR GREASE DISPOSAL PIT
ND	NOT DETECTED
NA	NOT ANALYZED
--	LESS THAN 1.0

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg).
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs OR WITH HQs ≥1.0 ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.
5. FOR EACH SAMPLE LOCATION, ECOLOGICAL HAZARD QUOTIENTS (HQs) ≥1.0 ARE GIVEN FOR THE MAXIMUM DETECTED CONCENTRATION FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M).

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 57D, 58C, 67A, AND 66B. DATE: DECEMBER 1987

SCALE

0 100 200 FEET

FIGURE 2-18

SITE 2F - GREASE DISPOSAL PIT IN 62 AREA SUMMARY OF SOIL ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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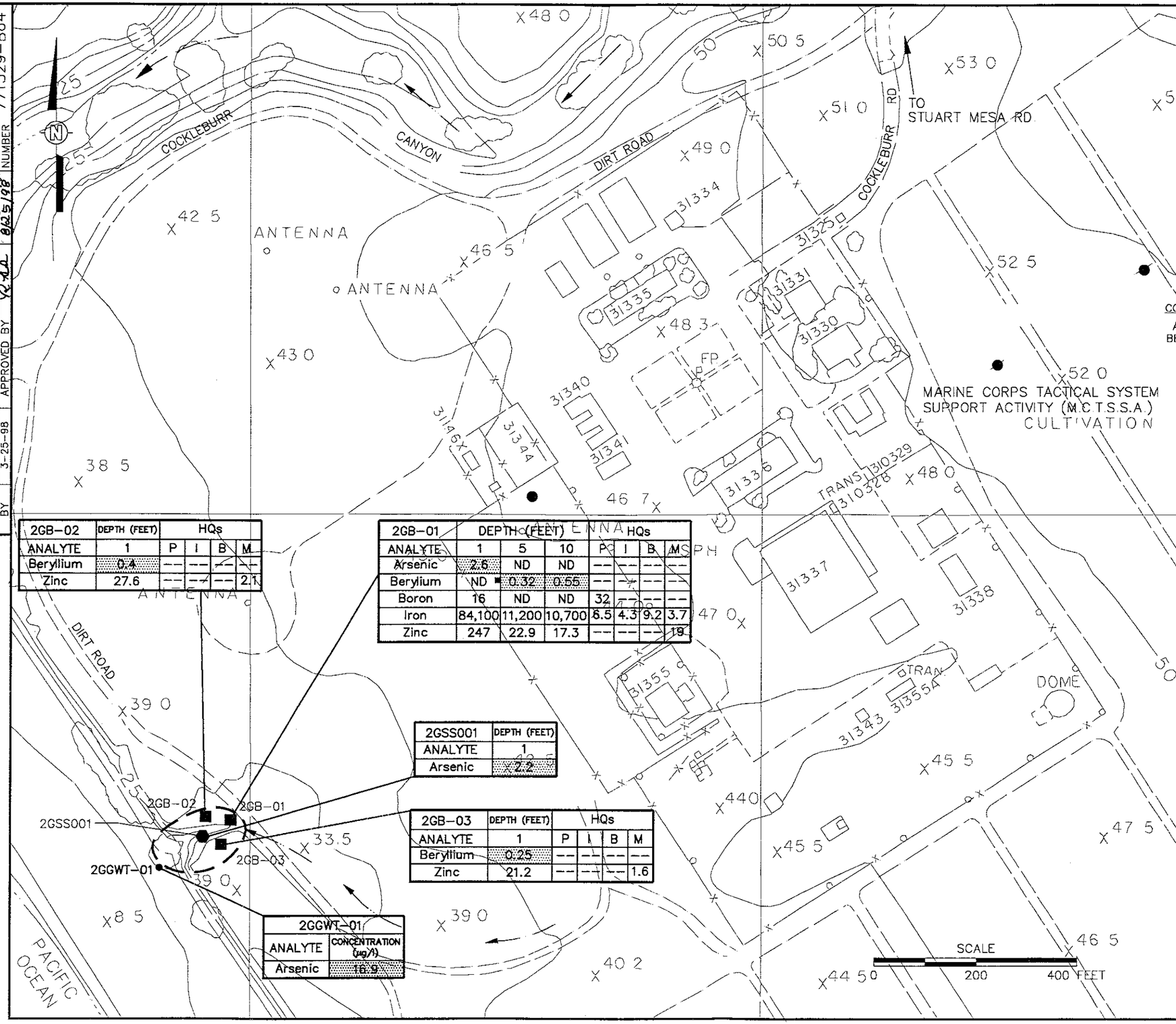

2GB-02	DEPTH (FEET)	HQs			
ANALYTE	1	P	I	B	M
Beryllium	0.4	--	--	--	--
Zinc	27.6	--	--	--	2.1

2GB-01	DEPTH (FEET)			HQs			
ANALYTE	1	5	10	P	I	B	M
Arsenic	2.6	ND	ND	--	--	--	--
Beryllium	ND	0.32	0.55	--	--	--	--
Boron	16	ND	ND	32	--	--	--
Iron	84,100	11,200	10,700	6.5	4.3	9.2	3.7
Zinc	247	22.9	17.3	--	--	--	19

2GSS001	DEPTH (FEET)
ANALYTE	1
Arsenic	2.2

2GB-03	DEPTH (FEET)	HQs			
ANALYTE	1	P	I	B	M
Beryllium	0.25	--	--	--	--
Zinc	21.2	--	--	--	1.6

2GGWT-01	
ANALYTE	CONCENTRATION (µg/l)
Arsenic	16.9

LEGEND

2GB-03 ■	SOIL BORING LOCATION
2GSS001 ⬢	SURFACE SOIL SAMPLE LOCATION
2GGWT-01 ●	TEMPORARY WELL SAMPLE LOCATION
——→	SURFACE-WATER FLOW DIRECTION
◯	APPROXIMATE BOUNDARY OF GREASE DISPOSAL PIT
ND	NOT DETECTED
--	LESS THAN 1.0
NA	NOT APPLICABLE

COMPOUND	SOIL PRG (mg/kg)	BACKGROUND (mg/kg)	TAP-WATER PRG (µg/l)	MCL (µg/l)
ARSENIC	0.38	2.67	0.045	50
BERYLLIUM	0.14	1.52	NA	NA
BORON	5,900	NA	NA	NA
IRON	NA	31,400	NA	NA
ZINC	23,000	67.4	NA	NA

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM. GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER.
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs OR HAVING HQs ≥1.0 ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS AND NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.
5. FOR EACH SAMPLE LOCATION, ECOLOGICAL HAZARD QUOTIENTS (HQs) ≥1.0 ARE GIVEN FOR THE MAXIMUM DETECTED CONCENTRATION FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B) OR MAMMALS (M).

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 5C AND 9A. DATE: DECEMBER 1987

FIGURE 2-19

SITE 2G - GREASE DISPOSAL PIT IN 31 AREA SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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DRAWN BY	MPB 3-25-98	CHECKED BY	APPROVED BY	DRAWING NUMBER
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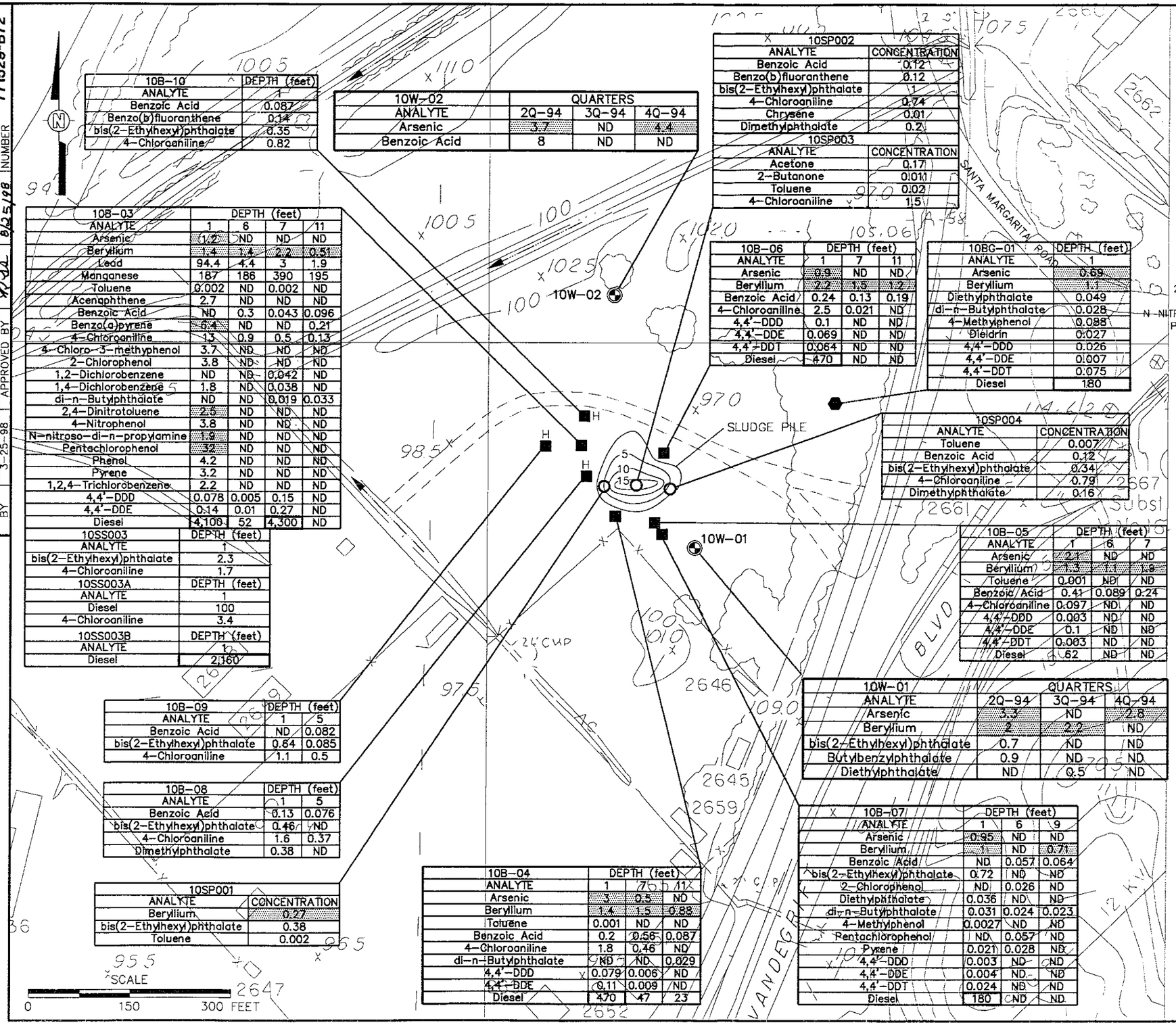


10B-10	DEPTH (feet)
ANALYTE	1
Benzoic Acid	0.087
Benzo(b)fluoranthene	0.14
bis(2-Ethylhexyl)phthalate	0.35
4-Chloroaniline	0.82

10W-02	QUARTERS		
ANALYTE	2Q-94	3Q-94	4Q-94
Arsenic	3.7	ND	4.4
Benzoic Acid	8	ND	ND

10SP002	
ANALYTE	CONCENTRATION
Benzoic Acid	0.12
Benzo(b)fluoranthene	0.12
bis(2-Ethylhexyl)phthalate	1
4-Chloroaniline	0.74
Chrysene	0.01
Dimethylphthalate	0.2

10SP003	
ANALYTE	CONCENTRATION
Acetone	0.17
2-Butanone	0.011
Toluene	0.02
4-Chloroaniline	1.5

10B-03	DEPTH (feet)			
ANALYTE	1	6	7	11
Arsenic	1.2	ND	ND	ND
Beryllium	1.4	1.4	2.2	0.51
Lead	94.4	4.4	3	1.9
Manganese	187	186	390	195
Toluene	0.002	ND	0.002	ND
Acenaphthene	2.7	ND	ND	ND
Benzoic Acid	ND	0.3	0.043	0.096
Benzo(a)pyrene	6.4	ND	ND	0.21
4-Chloroaniline	13	0.9	0.5	0.13
4-Chloro-3-methyphenol	3.7	ND	ND	ND
2-Chlorophenol	3.8	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	0.042	ND
1,4-Dichlorobenzene	1.8	ND	0.038	ND
di-n-Butylphthalate	ND	ND	0.019	0.033
2,4-Dinitrotoluene	2.5	ND	ND	ND
4-Nitrophenol	3.8	ND	ND	ND
N-nitroso-di-n-propylamine	1.9	ND	ND	ND
Pentachlorophenol	32	ND	ND	ND
Phenol	4.2	ND	ND	ND
Pyrene	3.2	ND	ND	ND
1,2,4-Trichlorobenzene	2.2	ND	ND	ND
4,4'-DDD	0.078	0.005	0.15	ND
4,4'-DDE	0.14	0.01	0.27	ND
Diesel	4,100	52	4,300	ND

10SS003	DEPTH (feet)
ANALYTE	1
bis(2-Ethylhexyl)phthalate	2.3
4-Chloroaniline	1.7

10SS003A	DEPTH (feet)
ANALYTE	1
Diesel	100
4-Chloroaniline	3.4

10SS003B	DEPTH (feet)
ANALYTE	1
Diesel	2,160

10B-09	DEPTH (feet)	
ANALYTE	1	5
Benzoic Acid	ND	0.082
bis(2-Ethylhexyl)phthalate	0.64	0.085
4-Chloroaniline	1.1	0.5

10B-08	DEPTH (feet)	
ANALYTE	1	5
Benzoic Acid	0.13	0.076
bis(2-Ethylhexyl)phthalate	0.46	ND
4-Chloroaniline	1.6	0.37
Dimethylphthalate	0.38	ND

10SP001	
ANALYTE	CONCENTRATION
Beryllium	0.27
bis(2-Ethylhexyl)phthalate	0.38
Toluene	0.002

10B-04	DEPTH (feet)		
ANALYTE	1	7	11
Arsenic	3	0.5	ND
Beryllium	1.4	1.5	0.88
Toluene	0.001	ND	ND
Benzoic Acid	0.2	0.56	0.087
4-Chloroaniline	1.8	0.46	ND
di-n-Butylphthalate	ND	ND	0.029
4,4'-DDD	0.079	0.006	ND
4,4'-DDE	0.11	0.009	ND
Diesel	470	47	23

10B-06	DEPTH (feet)		
ANALYTE	1	7	11
Arsenic	0.9	ND	ND
Beryllium	2.2	1.5	1.2
Benzoic Acid	0.24	0.13	0.19
4-Chloroaniline	2.5	0.021	ND
4,4'-DDD	0.1	ND	ND
4,4'-DDE	0.069	ND	ND
4,4'-DDT	0.064	ND	ND
Diesel	470	ND	ND

10BG-01	DEPTH (feet)
ANALYTE	1
Arsenic	0.69
Beryllium	1.1
Diethylphthalate	0.049
di-n-Butylphthalate	0.028
4-Methylphenol	0.088
Dieldrin	0.027
4,4'-DDD	0.026
4,4'-DDE	0.007
4,4'-DDT	0.075
Diesel	180

10SP004	
ANALYTE	CONCENTRATION
Toluene	0.007
Benzoic Acid	0.12
bis(2-Ethylhexyl)phthalate	0.34
4-Chloroaniline	0.79
Dimethylphthalate	0.16

10B-05	DEPTH (feet)		
ANALYTE	1	6	7
Arsenic	2	ND	ND
Beryllium	1.3	1	1.8
Toluene	0.001	ND	ND
Benzoic Acid	0.41	0.089	0.24
4-Chloroaniline	0.097	ND	ND
4,4'-DDD	0.003	ND	ND
4,4'-DDE	0.1	ND	ND
4,4'-DDT	0.003	ND	ND
Diesel	62	ND	ND

10W-01	QUARTERS		
ANALYTE	2Q-94	3Q-94	4Q-94
Arsenic	3.3	ND	2.8
Beryllium	2	2.2	ND
bis(2-Ethylhexyl)phthalate	0.7	ND	ND
Butylbenzylphthalate	0.9	ND	ND
Diethylphthalate	ND	0.5	ND

10B-07	DEPTH (feet)		
ANALYTE	1	6	9
Arsenic	0.95	ND	ND
Beryllium	1	ND	0.71
Benzoic Acid	ND	0.057	0.064
bis(2-Ethylhexyl)phthalate	0.72	ND	ND
2-Chlorophenol	ND	0.026	ND
Diethylphthalate	0.036	ND	ND
di-n-Butylphthalate	0.031	0.024	0.023
4-Methylphenol	0.0027	ND	ND
Pentachlorophenol	ND	0.057	ND
Pyrene	0.021	0.028	ND
4,4'-DDD	0.003	ND	ND
4,4'-DDE	0.004	ND	ND
4,4'-DDT	0.024	ND	ND
Diesel	180	ND	ND

LEGEND

10SP001 ○	SOIL PILE SAMPLE LOCATION
10B-04 ■ (H)	SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE) AND/OR SURFACE SOIL SAMPLE
10W-02 ⊕	MONITORING WELL LOCATION
10BG-01 ⬢	BACKGROUND SURFACE SOIL SAMPLE
— — — ►	SURFACE-WATER FLOW DIRECTION
ND	NOT DETECTED

SOIL COMPOUND (mg/kg)	PRG	BACKGROUND	LUFT FIELD MANUAL GUIDANCE CRITERIA
ANTIMONY	31	8.38	NA
ARSENIC	0.38	4.25	NA
BERYLLIUM	0.14	1.42	NA
MANGANESE	3,200	655	NA
LEAD	130	21.7	NA
2,4-DINITROTOLUENE	0.65	NA	NA
DIESEL	NA	NA	100
N-NITROSO-DI-N-PROPYLAMINE	0.022	NA	NA
PENTACHLOROPHENOL	2.5	NA	NA
BENZO(a)PYRENE	0.061	NA	NA

GROUNDWATER COMPOUND (µg/l)	MCL	TAP-WATER PRG
ARSENIC	50	0.045
BERYLLIUM	4	0.016
BENZOIC ACID	–	150,000
BIS(2-ETHYLHEXYL)PHTHALATE	4	4.8
BUTYLBENZYLPHTHALATE	–	7,300
DIETHYLPHTHALATE	–	29,000

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM GROUNDWATER CONCENTRATIONS ARE GIVEN IN MICROGRAMS PER LITER.
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED; DIESEL CONCENTRATIONS EXCEEDING THE LUFT FIELD MANUAL GUIDANCE ARE ARE OUTLINED IN BOLD.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN.
4. DEPTH INTERVALS WITH NO DETECTS EXCEEDING PRGs ARE NOT SHOWN.

TOPOGRAPHIC REFERENCES:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 30B AND 23D DATE: DECEMBER 1987

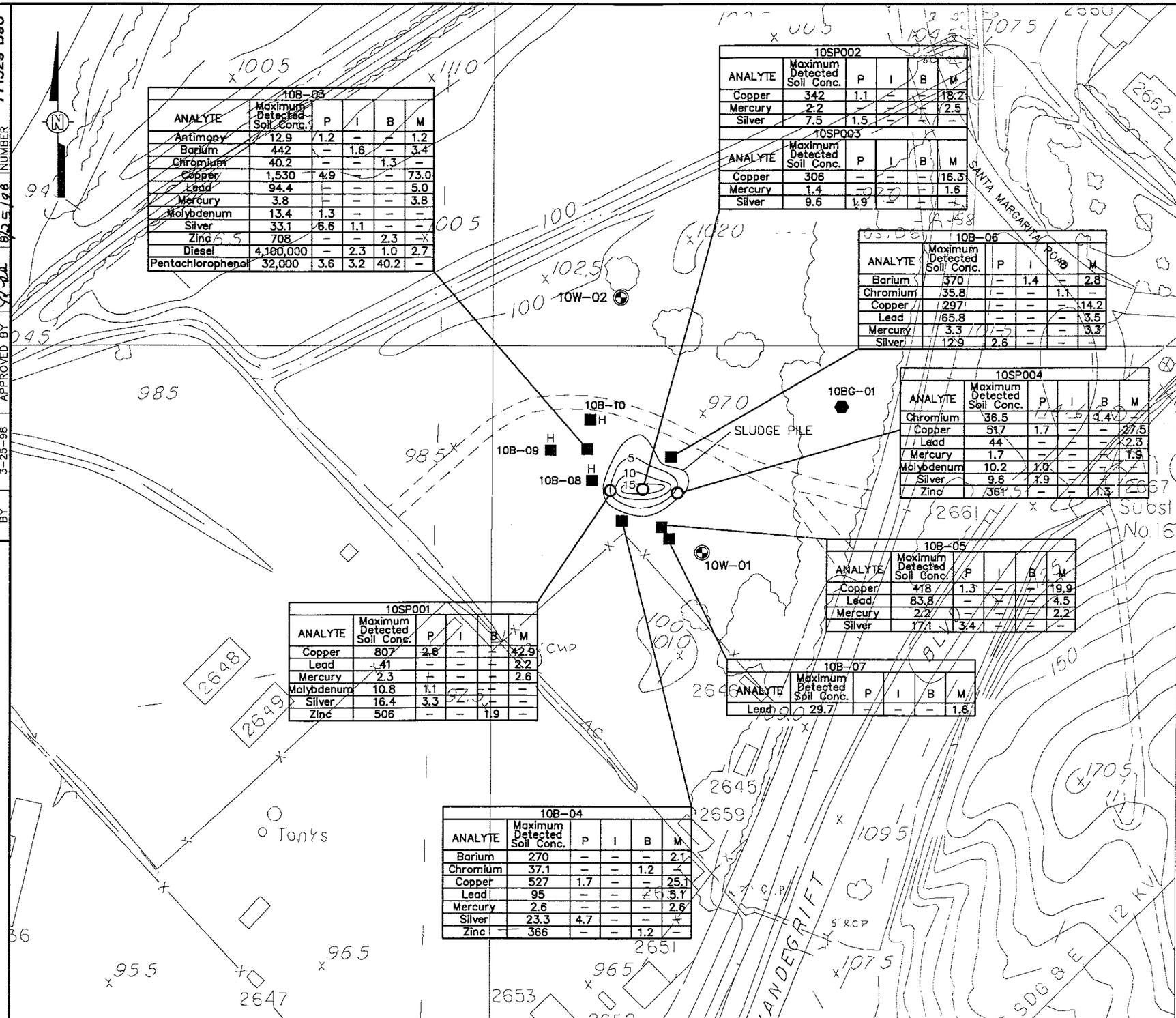
FIGURE 2-20

SITE 10 - 26 AREA SEWAGE SLUDGE COMPOSTING YARD
SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS FOR HUMAN HEALTH
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



10B-03					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Antimony	12.9	1.2	–	–	1.2
Barium	442	–	1.6	–	3.4
Chromium	40.2	–	–	1.3	–
Copper	1,530	4.9	–	–	73.0
Lead	94.4	–	–	–	5.0
Mercury	3.8	–	–	–	3.8
Molybdenum	13.4	1.3	–	–	–
Silver	33.1	6.6	1.1	–	–
Zinc	708	–	–	2.3	–
Diesel	4,100,000	–	2.3	1.0	2.7
Pentachlorophenol	32,000	3.6	3.2	40.2	–

10SP002					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Copper	342	1.1	–	–	18.2
Mercury	2.2	–	–	–	2.5
Silver	7.5	1.5	–	–	–

10SP003					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Copper	306	–	–	–	16.3
Mercury	1.4	–	–	–	1.6
Silver	9.6	1.9	–	–	–

10B-06					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Barium	370	–	1.4	–	2.8
Chromium	35.8	–	–	1.1	–
Copper	297	–	–	–	14.2
Lead	65.8	–	–	–	3.5
Mercury	3.3	–	–	–	3.3
Silver	12.9	2.6	–	–	–

10SP004					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Chromium	36.5	–	–	1.4	–
Copper	517	1.7	–	–	27.5
Lead	44	–	–	–	2.3
Mercury	1.7	–	–	–	1.9
Molybdenum	10.2	1.0	–	–	–
Silver	9.6	1.9	–	–	–
Zinc	361	–	–	1.3	–

10B-05					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Copper	418	1.3	–	–	19.9
Lead	83.8	–	–	–	4.5
Mercury	2.2	–	–	–	2.2
Silver	17.1	3.4	–	–	–

10SP001					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Copper	807	2.6	–	–	42.9
Lead	41	–	–	–	2.2
Mercury	2.3	–	–	–	2.6
Molybdenum	10.8	1.1	–	–	–
Silver	16.4	3.3	–	–	–
Zinc	506	–	–	1.9	–

10B-07					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Lead	29.7	–	–	–	1.6

10B-04					
ANALYTE	Maximum Detected Soil Conc.	P	I	B	M
Barium	270	–	–	–	2.1
Chromium	37.1	–	–	1.2	–
Copper	527	1.7	–	–	25.1
Lead	95	–	–	–	5.1
Mercury	2.6	–	–	–	2.6
Silver	23.3	4.7	–	–	–
Zinc	366	–	–	1.2	–

LEGEND

10SP001	○	SOIL PILE SAMPLE LOCATION
10B-04	■ H	SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)
10W-02	⊕	MONITORING WELL LOCATION
10BG-01	⬢	BACKGROUND SURFACE SOIL SAMPLE
ND		NOT DETECTED
--		LESS THAN 1.0

NOTES:

1. FOR EACH SAMPLE LOCATION, CONCENTRATIONS ARE GIVEN IN MILLIGRAMS PER KILOGRAM FOR INORGANIC ANALYTES AND IN MICROGRAMS PER KILOGRAM FOR ORGANIC ANALYTES.
2. HAZARD QUOTIENTS HQs ≥1.0 ARE GIVEN FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I) BIRDS (B), OR MAMMALS (M).

TOPOGRAPHIC REFERENCES:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 30B AND 23D. DATE: DECEMBER 1987

SCALE
0 150 300 FEET

FIGURE 2-21

SITE 10 - 26 AREA SEWAGE SLUDGE COMPOSTING YARD
SUMMARY OF SOIL ANALYTICAL RESULTS WITH ECOLOGICAL HAZARD QUOTIENTS ≥1.0
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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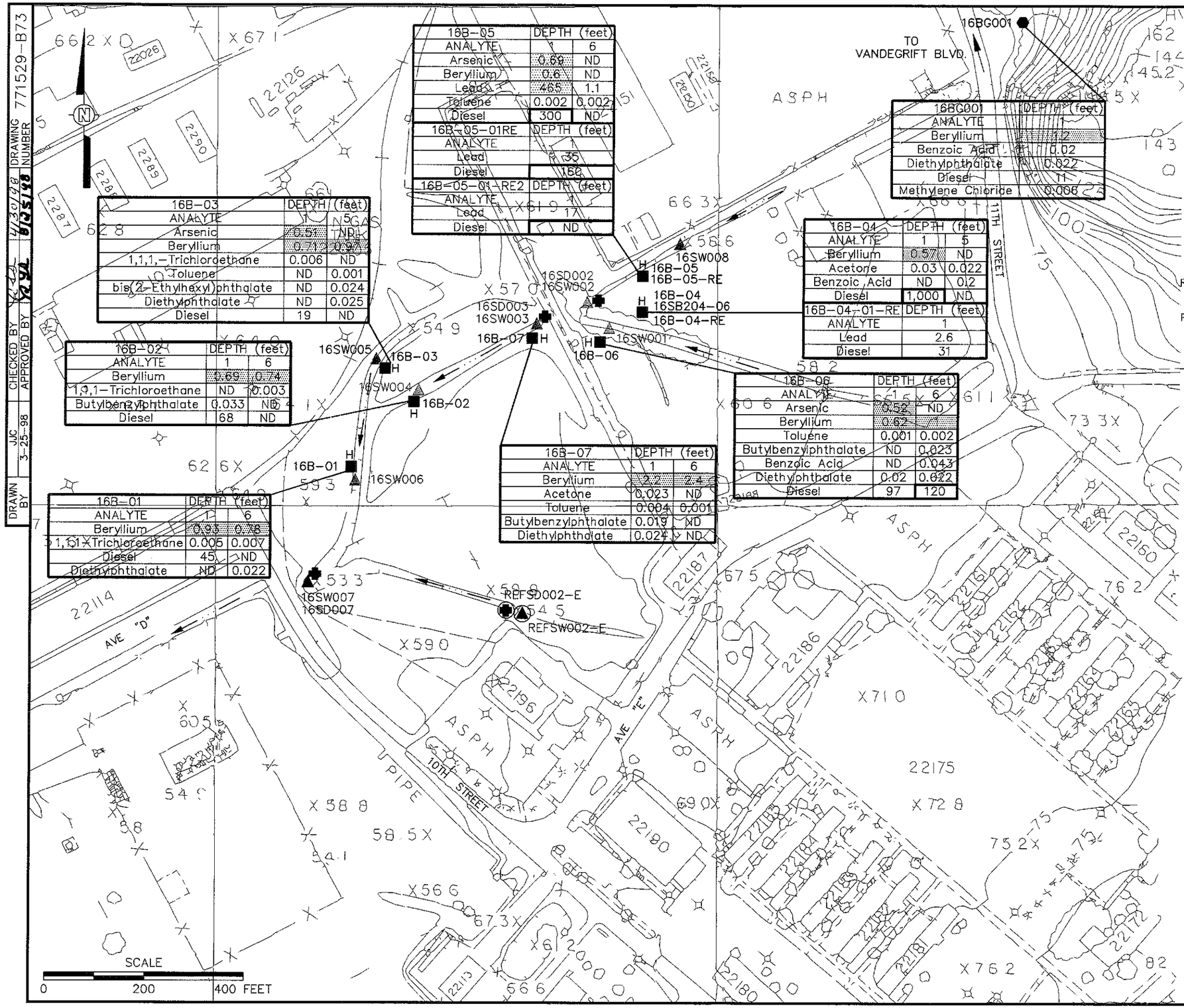

16B-05	DEPTH (feet)	
ANALYTE	1	6
Arsenic	0.69	ND
Beryllium	0.6	ND
Lead	465	1.1
Toluene	0.002	0.002
Diesel	300	ND

16B-05-01RE	DEPTH (feet)
ANALYTE	1
Lead	35
Diesel	160

16B-05-01-RE2	DEPTH (feet)
ANALYTE	1
Lead	17
Diesel	ND

16BG001	DEPTH (feet)
ANALYTE	1
Beryllium	1.2
Benzoic Acid	0.02
Diethylphthalate	0.022
Diesel	11
Methylene Chloride	0.006

16B-03	DEPTH (feet)	
ANALYTE	1	6
Arsenic	0.51	ND
Beryllium	0.71	0.97
1,1,1,-Trichloroethane	0.006	ND
Toluene	ND	0.001
bis(2-Ethylhexyl)phthalate	ND	0.024
Diethylphthalate	ND	0.025
Diesel	19	ND

16B-04	DEPTH (feet)	
ANALYTE	1	5
Beryllium	0.57	ND
Acetone	0.03	0.022
Benzoic Acid	ND	0.2
Diesel	1,000	ND

16B-04-01-RE	DEPTH (feet)
ANALYTE	1
Lead	2.6
Diesel	31

16B-02	DEPTH (feet)	
ANALYTE	1	6
Beryllium	0.69	0.74
1,1,1-Trichloroethane	ND	0.003
Butylbenzylphthalate	0.033	ND
Diesel	68	ND

16B-06	DEPTH (feet)	
ANALYTE	1	6
Arsenic	0.52	ND
Beryllium	0.62	
Toluene	0.001	0.002
Butylbenzylphthalate	ND	0.023
Benzoic Acid	ND	0.043
Diethylphthalate	0.02	0.022
Diesel	97	120

16B-07	DEPTH (feet)	
ANALYTE	1	6
Beryllium	2.2	2.4
Acetone	0.023	ND
Toluene	0.004	0.001
Butylbenzylphthalate	0.019	ND
Diethylphthalate	0.024	ND

16B-01	DEPTH (feet)	
ANALYTE	1	6
Beryllium	0.93	0.78
1,1,1-Trichloroethane	0.005	0.007
Diesel	45	ND
Diethylphthalate	ND	0.022

LEGEND

16SW001 — SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94 AND 2/95. NO WATER PRESENT IN 11/94

16SW003 — SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94, 11/94 AND 2/95

16SW005 — SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94. NO WATER PRESENT IN 11/94 AND 2/95

16SD002 — PHASE 2 SEDIMENT SAMPLE LOCATION

16B-04 H — HAND-AUGER SOIL BORING LOCATION

16B-04-RE — PHASE 2 SURFACE SOIL SAMPLE COLLECTED AT SPECIFIED SAMPLING LOCATION

16BG-01 — BACKGROUND SURFACE SOIL SAMPLE

REFSW002-E — ECOLOGICAL RISK ASSESSMENT REFERENCE SURFACE-WATER SAMPLE

REFSD002-E — ECOLOGICAL RISK ASSESSMENT REFERENCE SEDIMENT SAMPLE

SURFACE-WATER FLOW DIRECTION

ND — NOT DETECTED

COMPOUND (mg/kg)	PRG	BACKGROUND	LUFT MANUAL GUIDANCE CRITERIA
ARSENIC	0.38	4.25	NA
BERYLLIUM	0.14	1.42	NA
DIESEL	NA	NA	100
LEAD	130	21.7	NA

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED; DIESEL CONCENTRATIONS EXCEEDING THE LUFT FIELD MANUAL GUIDANCE ARE OUTLINED IN BOLD
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.

FIGURE 2-22

SITE 16 - 22 AREA BUILDINGS 22151 AND 22187
DITCH CONFLUENCE AND DITCH SUMMARY OF SOIL ANALYTICAL RESULTS FOR HUMAN HEALTH
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3058

INTERNATIONAL TECHNOLOGY CORPORATION

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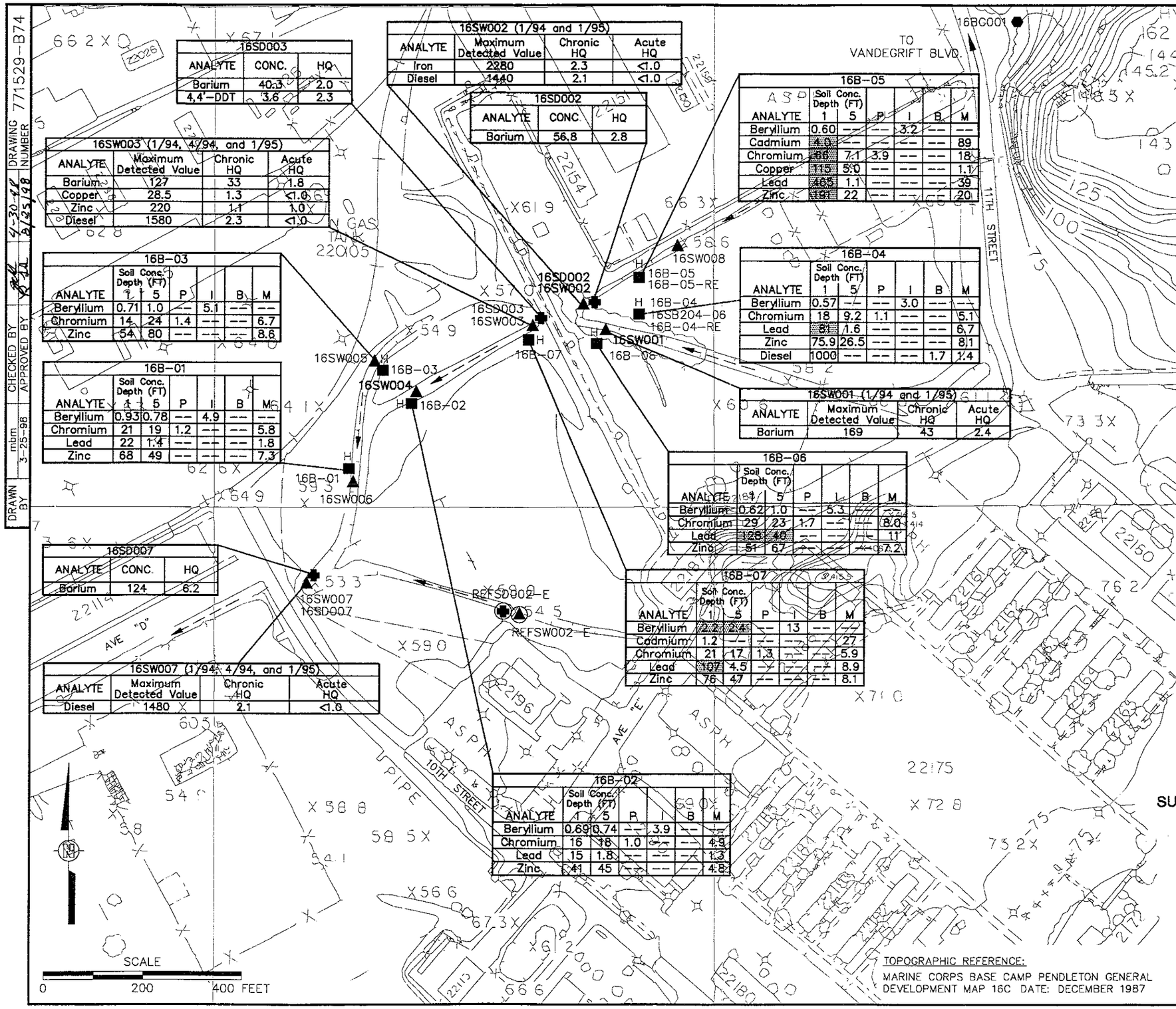

16SD003		
ANALYTE	CONC.	HQ
Barium	40.3	2.0
4,4'-DDT	3.6	2.3

16SW002 (1/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Iron	2280	2.3	<1.0
Diesel	1440	2.1	<1.0

16SD002		
ANALYTE	CONC.	HQ
Barium	56.8	2.8

16SW003 (1/94, 4/94, and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	127	33	1.8
Copper	28.5	1.3	<1.0
Zinc	220	1.1	1.0
Diesel	1580	2.3	<1.0

16B-05						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.60	--	--	3.2	--	--
Cadmium	1.0	--	--	--	--	89
Chromium	36	7.1	3.9	--	--	18
Copper	11.5	5.0	--	--	--	1.1
Lead	16.5	1.1	--	--	--	39
Zinc	101	22	--	--	--	20

16B-03						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.71	1.0	--	5.1	--	--
Chromium	14	24	1.4	--	--	6.7
Zinc	54	80	--	--	--	8.6

16B-04						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.57	--	--	3.0	--	--
Chromium	18	9.2	1.1	--	--	5.1
Lead	8.1	1.6	--	--	--	6.7
Zinc	75.9	26.5	--	--	--	8.1
Diesel	1000	--	--	--	1.7	1.4

16B-01						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.93	0.78	--	4.9	--	--
Chromium	21	19	1.2	--	--	5.8
Lead	22	1.4	--	--	--	1.8
Zinc	68	49	--	--	--	7.3

16SW001 (1/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	169	43	2.4

16B-06						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.62	1.0	--	5.3	--	--
Chromium	29	23	1.7	--	--	8.0
Lead	28	40	--	--	--	11
Zinc	51	67	--	--	--	7.2

16SD007		
ANALYTE	CONC.	HQ
Barium	124	6.2

16B-07						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	2.2	2.4	--	13	--	--
Cadmium	1.2	--	--	--	--	27
Chromium	21	17	1.3	--	--	5.9
Lead	107	4.5	--	--	--	8.9
Zinc	76	47	--	--	--	8.1

16SW007 (1/94, 4/94, and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Diesel	1480	2.1	<1.0

16B-02						
	Soil Conc. Depth (FT)					
ANALYTE	1	5	P	I	B	M
Beryllium	0.69	0.74	--	3.9	--	--
Chromium	16	18	1.0	--	--	4.9
Lead	15	1.8	--	--	--	1.3
Zinc	41	45	--	--	--	4.8

LEGEND

16SW001 ▲	SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94 AND 2/95 NO WATER PRESENT IN 11/94.
16SW003 ▲	SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94, 11/94, AND 2/95.
16SW005 ▲	SURFACE-WATER SAMPLE LOCATION. SAMPLES COLLECTED DURING 3/94 NO WATER PRESENT IN 11/94 AND 2/95
16SD002 ✚	SEDIMENT SAMPLE LOCATION
H 16B-04 ■	HAND-AUGER SOIL BORING LOCATION
16SB204-06	QUALITY CONTROL (DUPLICATE) SOIL SAMPLE COLLECTED AT SPECIFIED SAMPLING LOCATION
16B-04-RE	PHASE 2 SOIL SAMPLE COLLECTED AT SPECIFIED SAMPLING LOCATION
16BG-01 ⬢	BACKGROUND SURFACE SOIL SAMPLE
REFSW002-E (▲)	ECOLOGICAL RISK ASSESSMENT REFERENCE SURFACE-WATER SAMPLE
REFSD002-E (✚)	ECOLOGICAL RISK ASSESSMENT REFERENCE SEDIMENT SAMPLE
— — →	SURFACE-WATER FLOW DIRECTION

ANALYTE	SOIL BACKGROUND CONCENTRATION (mg/kg)
BARIUM	262
BERYLLIUM	1.52
CADMIUM	1.58
CHROMIUM	33
COPPER	26.8
IRON	26,459
LEAD	29.1
ZINC	111

NOTES:

1. FOR EACH SAMPLE LOCATION, ANALYTE CONCENTRATION GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg). HAZARD QUOTIENT ≥1.0 ARE GIVEN FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M).
2. SHADING INDICATES THAT CONCENTRATIONS EXCEED BACKGROUND FOR THE SANTA MARGARITA BASIN
3. SURFACE-WATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (μg/l); SEDIMENT CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg) FOR INORGANICS AND IN MICROGRAMS PER KILOGRAM (μg/kg) FOR ORGANICS.

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 16C DATE: DECEMBER 1987

FIGURE 2-23

SITE 16 - 22 AREA BUILDINGS 22151 AND 22187 DITCH CONFLUENCE AND DITCH SUMMARY OF SOIL, SEDIMENT, AND SURFACE-WATER ANALYTICAL RESULTS WITH ECOLOGICAL HAZARD QUOTIENTS ≥1.0

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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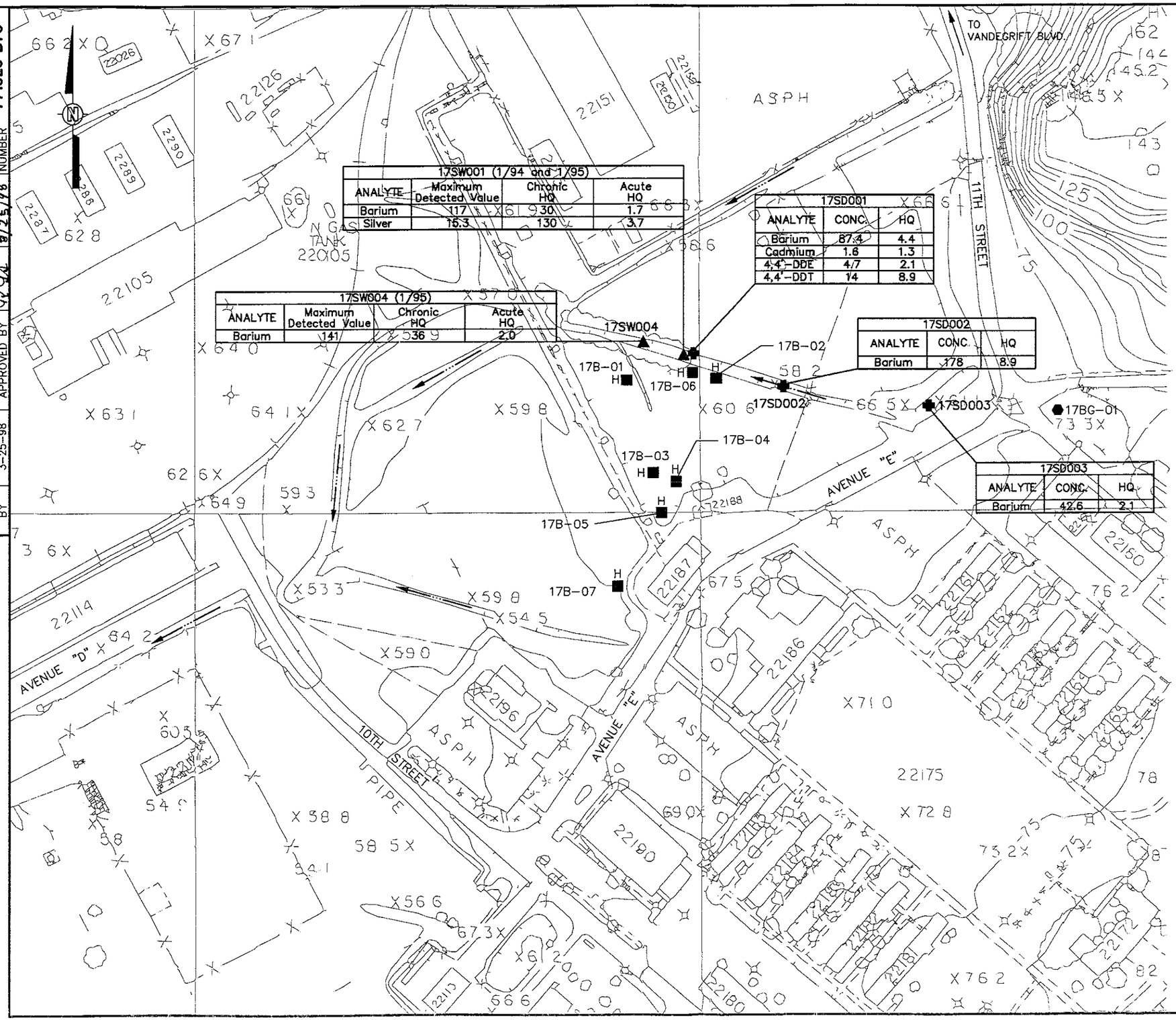

17SW001 (1/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	117	30	1.7
Silver	15.3	130	3.7

17SW004 (1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	141	36	2.0

17SD001		
ANALYTE	CONC.	HQ
Barium	87.4	4.4
Cadmium	1.6	1.3
4,4'-DDE	4.7	2.1
4,4'-DDT	14	8.9

17SD002		
ANALYTE	CONC.	HQ
Barium	178	8.9

17SD003		
ANALYTE	CONC.	HQ
Barium	42.6	2.1

LEGEND

17SW001 ▲ SURFACE-WATER SAMPLE LOCATION SAMPLES COLLECTED DURING MARCH 1994 AND FEB. 1995

17SW004 ⊗ SURFACE-WATER SAMPLE LOCATION SAMPLE COLLECTED DURING FEB. 1995. NO WATER PRESENT IN MARCH 1994.

17SD002 ✚ PHASE 2 SEDIMENT SAMPLE LOCATION

17B-07 H ■ SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)

17BG-01 ⬢ BACKGROUND SURFACE SOIL SAMPLE

SURFACE-WATER FLOW DIRECTION

CONC. CONCENTRATION

HQ HAZARD QUOTIENT

ND NOT DETECTED

NA NOT AVAILABLE

SURFACE-WATER INORGANICS (µg/l)	PLE	BACKGROUND
BARIUM	3.9	NA
SILVER	0.12	NA
SEDIMENT INORGANICS (mg/kg)	**PLE**	**BACKGROUND**
BARIUM	2.0	262
CADMIUM	1.2	1.6
SEDIMENT ORGANICS (µg/kg)	**PLE**	**BACKGROUND**
4,4'-DDE	2.2	NA
4,4'-DDT	1.6	NA

NOTE:

SURFACE-WATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (µg/l). SEDIMENT CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg) FOR INORGANICS AND IN MICROGRAMS PER KILOGRAM (µg/kg) FOR ORGANICS

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 16C. DATE: DECEMBER 1987

SCALE
0 200 400 FEET

FIGURE 2-24

SITE 17 - 22 AREA BUILDING 22187 MARSH AND DITCH SUMMARY OF SURFACE-WATER AND SEDIMENT ANALYTICAL RESULTS WITH ECOLOGICAL HAZARD QUOTIENTS ≥1.0

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

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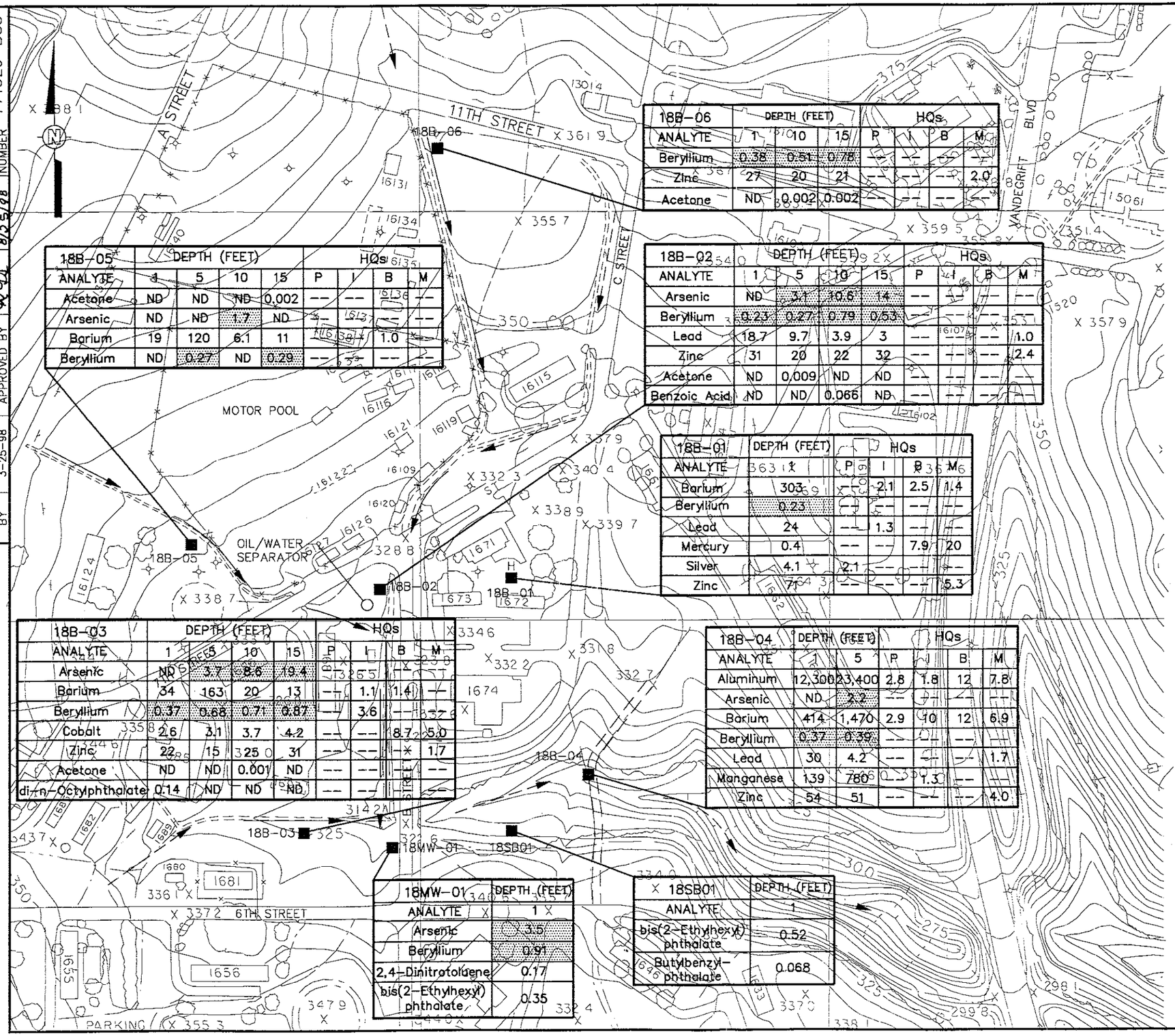

18B-06	DEPTH (FEET)			HQs			
ANALYTE	1	10	15	P	I	B	M
Beryllium	0.38	0.51	0.78	--	--	--	--
Zinc	27	20	21	--	--	--	2.0
Acetone	ND	0.002	0.002	--	--	--	--

18B-05	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Acetone	ND	ND	ND	0.002	--	--	--	--
Arsenic	ND	ND	1.7	ND	--	--	--	--
Barium	19	120	6.1	11	--	--	1.0	--
Beryllium	ND	0.27	ND	0.29	--	--	--	--

18B-02	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Arsenic	ND	3.1	10.6	14	--	--	--	--
Beryllium	0.23	0.27	0.79	0.53	--	--	--	--
Lead	18.7	9.7	3.9	3	--	--	--	1.0
Zinc	31	20	22	32	--	--	--	2.4
Acetone	ND	0.009	ND	ND	--	--	--	--
Benzoic Acid	ND	ND	0.066	ND	--	--	--	--

18B-01	DEPTH (FEET)	HQs			
ANALYTE	1	P	I	B	M
Barium	303	--	2.1	2.5	1.4
Beryllium	0.23	--	--	--	--
Lead	24	--	1.3	--	--
Mercury	0.4	--	--	7.9	20
Silver	4.1	2.1	--	--	--
Zinc	71	--	--	--	5.3

18B-03	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Arsenic	ND	3.7	8.6	19.4	--	--	--	--
Barium	34	163	20	13	--	1.1	1.4	--
Beryllium	0.37	0.68	0.71	0.87	--	3.6	--	--
Cobalt	2.6	3.1	3.7	4.2	--	--	8.7	5.0
Zinc	22	15	25	31	--	--	--	1.7
Acetone	ND	ND	0.001	ND	--	--	--	--
di-n-Octylphthalate	0.14	ND	ND	ND	--	--	--	--

18B-04	DEPTH (FEET)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	12,300	23,400	2.8	1.8	12	7.8
Arsenic	ND	3.2	--	--	--	--
Barium	414	1,470	2.9	10	12	6.9
Beryllium	0.37	0.39	--	--	--	--
Lead	30	4.2	--	--	--	1.7
Manganese	139	780	--	1.3	--	--
Zinc	54	51	--	--	--	4.0

18MW-01	DEPTH (FEET)
ANALYTE	1
Arsenic	3.5
Beryllium	0.91
2,4-Dinitrotoluene	0.17
bis(2-Ethylhexyl) phthalate	0.35

18SB01	DEPTH (FEET)
ANALYTE	1
bis(2-Ethylhexyl) phthalate	0.52
Butylbenzyl-phthalate	0.068

LEGEND

18B-03 ■ (H) — SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)

18SB01 ■ — SOIL BORING LOCATION SAMPLED DURING BECHTEL NATIONAL, INC., 1996 INVESTIGATION

18MW-01 ■ — ATTEMPTED WELL BORING LOCATION DRILLED AND SAMPLED DURING BECHTEL NATIONAL, INC., 1996 INVESTIGATION (REFUSAL PREVENTED GROUNDWATER SAMPLING)

— — — → UNLINED DRAINAGE DITCH

——→ CONCRETE-LINED DITCH

ND — NOT DETECTED

HQs — HAZARD QUOTIENTS

COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	16
BERYLLIUM	0.14	1.42

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg).
2. CONCENTRATIONS ABOVE PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs OR HQs ≥1.0 ARE SHOWN
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs OR WITH HAZARD QUOTIENTS ≥1.0 ARE NOT SHOWN
5. FOR EACH SAMPLE LOCATION, HAZARD QUOTIENTS ≥1.0 ARE GIVEN FOR PLANTS(P), TERRESTRIAL INVERTEBRATES(I), BIRDS(B), OR MAMMALS(M).

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 24A AND 17C. DATE: DECEMBER 1987

SCALE

0 250 500 FEET

FIGURE 2-25

SITE 18 - 13/16 AREA BUILDING 1687 SPILL AND DITCH SUMMARY OF SOIL ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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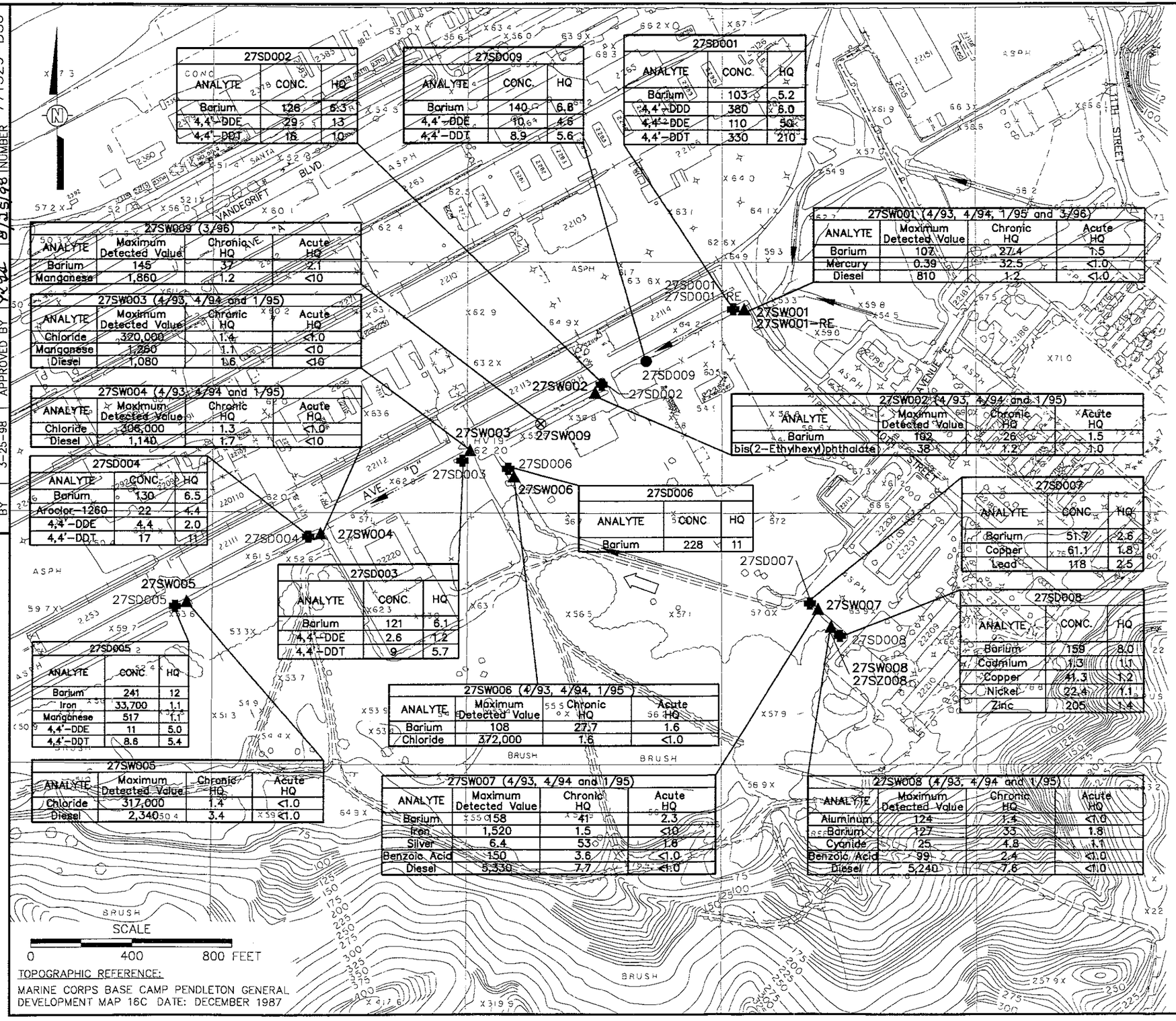

27SD002		
ANALYTE	CONC.	HQ
Barium	126	6.3
4,4'-DDE	29	13
4,4'-DDT	18	10

27SD009		
ANALYTE	CONC.	HQ
Barium	140	6.8
4,4'-DDE	10.4	4.6
4,4'-DDT	8.9	5.6

27SD001		
ANALYTE	CONC.	HQ
Barium	103	5.2
4,4'-DDD	380	6.0
4,4'-DDE	110	50
4,4'-DDT	330	210

27SW009 (3/96)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	145	37	2.1
Manganese	1,860	1.2	<10

27SW001 (4/93, 4/94, 1/95 and 3/96)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	107	27.4	1.5
Mercury	0.39	32.5	<1.0
Diesel	810	1.2	<1.0

27SW003 (4/93, 4/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Chloride	320,000	1.4	<1.0
Manganese	1,260	1.1	<10
Diesel	1,080	1.6	<10

27SW004 (4/93, 4/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Chloride	306,000	1.3	<1.0
Diesel	1,140	1.7	<10

27SW002 (4/93, 4/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	102	26	1.5
bis(2-Ethylhexyl)phthalate	38	1.2	1.0

27SD004		
ANALYTE	CONC.	HQ
Barium	130	6.5
Aroclor-1260	22	4.4
4,4'-DDE	4.4	2.0
4,4'-DDT	17	11

27SD006		
ANALYTE	CONC.	HQ
Barium	228	11

27SD007		
ANALYTE	CONC.	HQ
Barium	51.7	2.6
Copper	61.1	1.8
Lead	118	2.5

27SD003		
ANALYTE	CONC.	HQ
Barium	121	6.1
4,4'-DDE	2.6	1.2
4,4'-DDT	9	5.7

27SD005		
ANALYTE	CONC.	HQ
Barium	241	12
Iron	33,700	1.1
Manganese	517	1.1
4,4'-DDE	11	5.0
4,4'-DDT	8.6	5.4

27SD008		
ANALYTE	CONC.	HQ
Barium	159	8.0
Cadmium	1.3	1.1
Copper	41.3	1.2
Nickel	22.4	1.1
Zinc	205	1.4

27SW006 (4/93, 4/94, 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	108	27.7	1.6
Chloride	372,000	1.6	<1.0

27SW005			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Chloride	317,000	1.4	<1.0
Diesel	2,340	3.4	<1.0

27SW007 (4/93, 4/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Barium	158	41	2.3
Iron	1,520	1.5	<10
Silver	6.4	53	1.8
Benzoic Acid	150	3.6	<1.0
Diesel	5,330	7.7	<1.0

27SW008 (4/93, 4/94 and 1/95)			
ANALYTE	Maximum Detected Value	Chronic HQ	Acute HQ
Aluminum	124	1.4	<1.0
Barium	127	33	1.8
Cyanide	25	4.8	1.1
Benzoic Acid	99	2.4	<1.0
Diesel	5,240	7.6	<1.0

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 16C DATE: DECEMBER 1987

LEGEND

27SW004 ▲	PHASE 1 SURFACE-WATER SAMPLE LOCATIONS. SAMPLES COLLECTED DURING 12/93, 11/94, AND 2/95
27SW001-RE	PHASE 2 SURFACE-WATER SAMPLE COLLECTED AT SPECIFIED SAMPLING LOCATION.
27SW009 ⊗	PHASE 2 SURFACE-WATER SAMPLE LOCATION. SAMPLE COLLECTED DURING 6/96.
27SD009 ✚	PHASE 1 SEDIMENT SAMPLE LOCATION.
27SD001-RE	PHASE 2 SEDIMENT SAMPLE COLLECTED AT SPECIFIED SAMPLING LOCATION.
27SD009 ●	PHASE 2 SEDIMENT SAMPLE LOCATION.
—·— →	SURFACE-WATER FLOW DIRECTION
⇦	APPROXIMATE GROUNDWATER FLOW DIRECTION

HQ HAZARD QUOTIENT
NA NOT APPLICABLE
ND NOT DETECTED

SEDIMENT INORGANICS (mg/kg)	PLE	BACKGROUND
BARIUM	20	262
CADMIUM	1.2	1.6
COPPER	34	28.8
LEAD	46.7	29.1
MANGANESE	460	688
NICKEL	20.9	22.5
ZINC	150	111

SEDIMENT ORGANICS (µg/kg)	PLE	BACKGROUND
AROCLOR-1260	5	NA
4,4'-DDD	63	NA
4,4'-DDE	2.2	NA
4,4'-DDT	1.58	NA

SURFACE-WATER INORGANICS (µg/l)	PLE
ALUMINUM	87
BARIUM	3.9
CHLORIDE	230,000
CYANIDE	5.2
IRON	1,000
MANGANESE	1,100
MERCURY	0.012
SILVER	0.12

SURFACE-WATER ORGANICS (µg/l)	PLE
BENZOIC ACID	2.0
BIS(2-ETHYLHEXYL)PHTHALATE	32
DIESEL	690

NOTE:
SURFACE-WATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (µg/l); SEDIMENT CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg) FOR INORGANICS AND MICROGRAMS PER KILOGRAM (µg/kg) FOR ORGANICS.

FIGURE 2-26

SITE 27 - 22 AREA DITCHES BEHIND BUILDING 22210 SUMMARY OF SURFACE-WATER AND SEDIMENT ANALYTICAL RESULTS WITH ECOLOGICAL HAZARD QUOTIENTS ≥1.0

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

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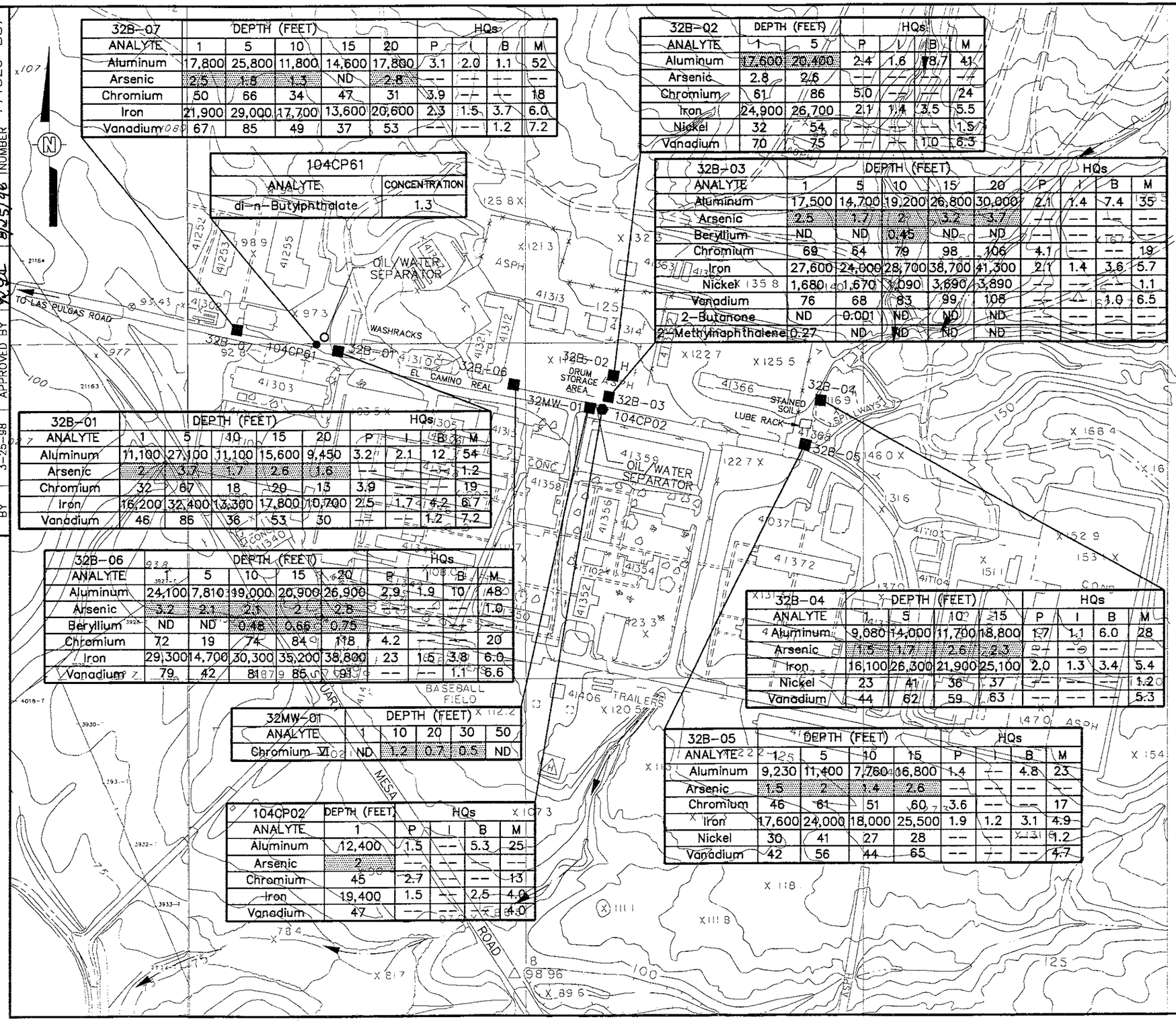

32B-07	DEPTH (FEET)					HQs			
ANALYTE	1	5	10	15	20	P	I	B	M
Aluminum	17,800	25,800	11,800	14,600	17,800	3.1	2.0	1.1	52
Arsenic	2.5	1.8	1.3	ND	2.8	--	--	--	--
Chromium	50	66	34	47	31	3.9	--	--	18
Iron	21,900	29,000	17,700	13,600	20,600	2.3	1.5	3.7	6.0
Vanadium	67	85	49	37	53	--	--	1.2	7.2

104CP61	
ANALYTE	CONCENTRATION
di-n-Butylphthalate	1.3

32B-02	DEPTH (FEET)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	17,600	20,400	2.4	1.6	8.7	41
Arsenic	2.8	2.6	--	--	--	--
Chromium	61	86	5.0	--	--	24
Iron	24,900	26,700	2.1	1.4	3.5	5.5
Nickel	32	54	--	--	--	1.5
Vanadium	70	75	--	--	1.0	6.3

32B-03	DEPTH (FEET)					HQs			
ANALYTE	1	5	10	15	20	P	I	B	M
Aluminum	17,500	14,700	19,200	26,800	30,000	2.1	1.4	7.4	35
Arsenic	2.5	1.7	2	3.2	3.7	--	--	--	--
Beryllium	ND	ND	0.45	ND	ND	--	--	--	--
Chromium	69	64	79	98	106	4.1	--	--	19
Iron	27,600	24,000	28,700	38,700	41,300	2.1	1.4	3.6	5.7
Nickel	1,680	1,670	1,090	3,690	3,890	--	--	--	1.1
Vanadium	76	68	83	99	108	--	--	1.0	6.5
2-Butanone	ND	0.001	ND	ND	ND	--	--	--	--
2-Methylnaphthalene	0.27	ND	ND	ND	ND	--	--	--	--

32B-01	DEPTH (FEET)					HQs			
ANALYTE	1	5	10	15	20	P	I	B	M
Aluminum	11,100	27,100	11,100	15,600	9,450	3.2	2.1	12	54
Arsenic	2	3.7	1.7	2.6	1.6	--	--	--	1.2
Chromium	32	87	18	20	13	3.9	--	--	19
Iron	16,200	32,400	13,300	17,800	10,700	2.5	1.7	4.2	6.7
Vanadium	46	86	36	53	30	--	--	1.2	7.2

32B-06	DEPTH (FEET)					HQs			
ANALYTE	1	5	10	15	20	P	I	B	M
Aluminum	24,100	7,810	19,000	20,900	26,900	2.9	1.9	10	48
Arsenic	3.2	2.1	2.1	2	2.8	--	--	--	1.0
Beryllium	ND	ND	0.48	0.66	0.75	--	--	--	--
Chromium	72	19	74	84	118	4.2	--	--	20
Iron	29,300	14,700	30,300	35,200	38,800	2.3	1.5	3.8	6.0
Vanadium	79	42	81	85	93	--	--	1.1	6.6

32B-04	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Aluminum	9,080	14,000	11,700	18,800	1.7	1.1	6.0	28
Arsenic	1.8	1.7	2.6	2.3	--	--	--	--
Iron	16,100	26,300	21,900	25,100	2.0	1.3	3.4	5.4
Nickel	23	41	36	37	--	--	--	1.2
Vanadium	44	62	59	63	--	--	--	5.3

32MW-01	DEPTH (FEET)				
ANALYTE	1	10	20	30	50
Chromium VI	ND	1.2	0.7	0.5	ND

32B-05	DEPTH (FEET)				HQs			
ANALYTE	1	5	10	15	P	I	B	M
Aluminum	9,230	11,400	7,760	16,800	1.4	--	4.8	23
Arsenic	1.5	2	1.4	2.6	--	--	--	--
Chromium	46	61	51	60	3.6	--	--	17
Iron	17,600	24,000	18,000	25,500	1.9	1.2	3.1	4.9
Nickel	30	41	27	28	--	--	--	1.2
Vanadium	42	56	44	65	--	--	--	4.7

104CP02	DEPTH (FEET)	HQs			
ANALYTE	1	P	I	B	M
Aluminum	12,400	1.5	--	5.3	25
Arsenic	2	--	--	--	--
Chromium	45	2.7	--	--	13
Iron	19,400	1.5	--	2.5	4.0
Vanadium	47	--	--	--	4.0

LEGEND

32B-01 ■	SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)
32MW-01 ■	ATTEMPTED WELL BORING LOCATION DRILLED AND SAMPLED DURING BECHTEL NATIONAL, INC., 1996 INVESTIGATION
104CP61 ●	HYDROPUNCH GROUNDWATER LOCATION SAMPLED DURING BECHTEL NATIONAL, INC., 1995 INVESTIGATION
104CP02 ⬢	SURFACE SOIL LOCATION SAMPLED DURING BECHTEL NATIONAL, INC., 1995 INVESTIGATION
→	SURFACE-WATER FLOW DIRECTION
ND	NOT DETECTED

COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	2.67
BERYLLIUM	0.14	1.52
CHROMIUM VI	0.2	NA

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg). GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (μg/l).
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs OR HAVING HQs ≥ 1.0 ARE SHOWN.
4. SOIL DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN.
5. FOR EACH SAMPLE LOCATION, HAZARD QUOTIENTS ≥1.0 ARE GIVEN FOR PLANTS(P), TERRESTRIAL INVERTEBRATES(I), BIRDS(B) OR MAMMALS(M).

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 13D AND 14C. DATE: DECEMBER 1987

SCALE

0 300 600 FEET

FIGURE 2-27

SITE 32 - DRUM STORAGE AREA AND DRAINAGE BETWEEN BUILDINGS 41303 AND 41366, SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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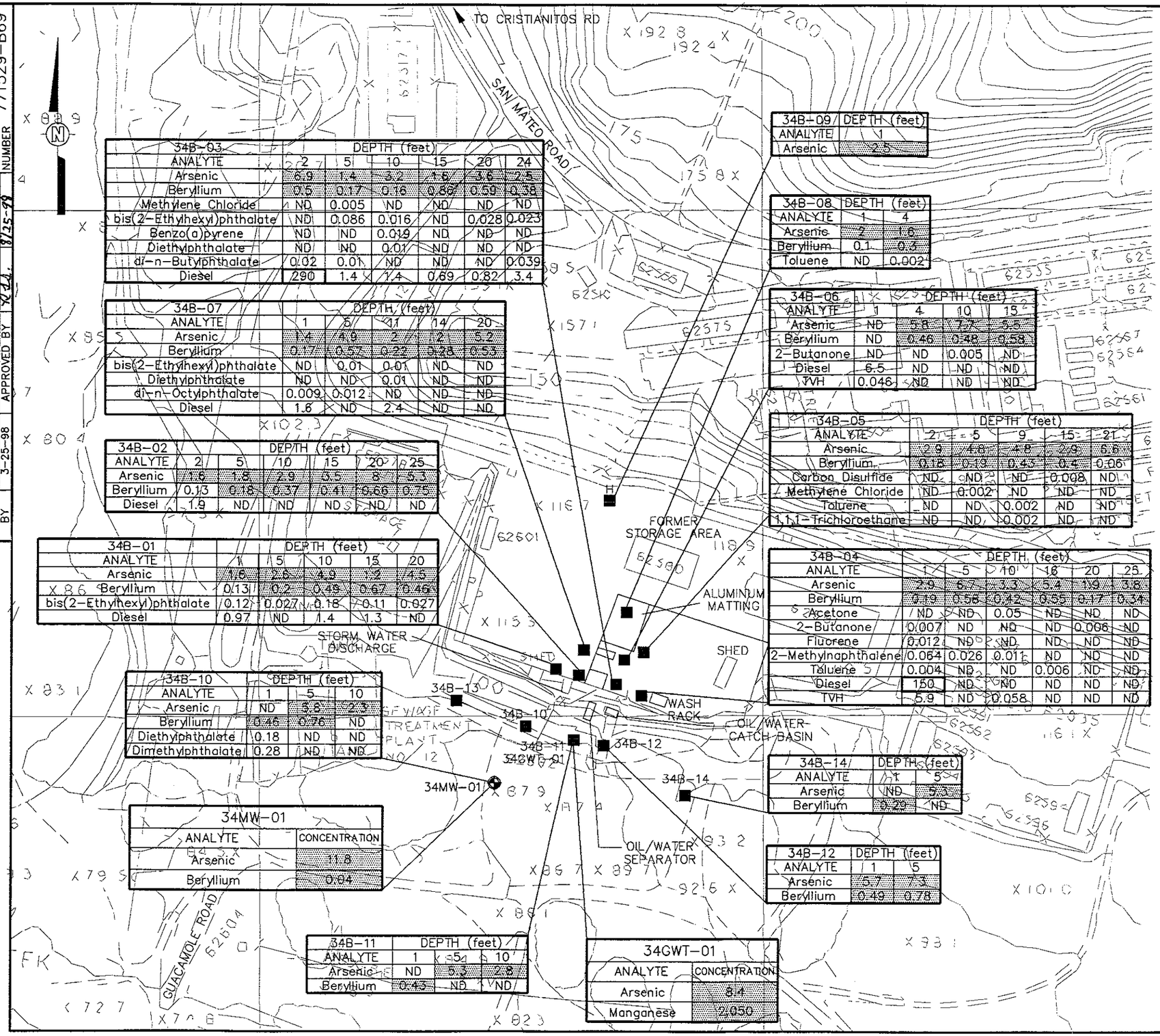

34B-03	DEPTH (feet)					
ANALYTE	2	5	10	15	20	24
Arsenic	6.9	1.4	3.2	1.5	3.6	2.5
Beryllium	0.5	0.17	0.16	0.69	0.59	0.38
Methylene Chloride	ND	0.005	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	ND	0.086	0.016	ND	0.028	0.023
Benzo(a)pyrene	ND	ND	0.019	ND	ND	ND
Diethylphthalate	ND	ND	0.01	ND	ND	ND
di-n-Butylphthalate	0.02	0.01	ND	ND	ND	0.039
Diesel	290	1.4	1.4	0.69	0.82	3.4

34B-07	DEPTH (feet)				
ANALYTE	1	5	11	14	20
Arsenic	1.4	4.9	2	2	5.3
Beryllium	0.17	0.57	0.22	0.28	0.53
bis(2-Ethylhexyl)phthalate	ND	0.01	0.01	ND	ND
Diethylphthalate	ND	ND	0.01	ND	ND
di-n-Octylphthalate	0.009	0.012	ND	ND	ND
Diesel	1.6	ND	2.4	ND	ND

34B-02	DEPTH (feet)					
ANALYTE	2	5	10	15	20	25
Arsenic	1.6	1.8	2.9	3.5	8	5.3
Beryllium	0.13	0.18	0.37	0.41	0.66	0.75
Diesel	1.9	ND	ND	ND	ND	ND

34B-01	DEPTH (feet)				
ANALYTE	1	5	10	15	20
Arsenic	1.6	2.6	4.9	1.2	4.5
Beryllium	0.13	0.2	0.49	0.67	0.46
bis(2-Ethylhexyl)phthalate	0.12	0.027	0.18	0.11	0.027
Diesel	0.97	ND	1.4	1.3	ND

34B-10	DEPTH (feet)		
ANALYTE	1	5	10
Arsenic	ND	3.8	2.3
Beryllium	0.46	0.76	ND
Diethylphthalate	0.18	ND	ND
Dimethylphthalate	0.28	ND	ND

34MW-01	
ANALYTE	CONCENTRATION
Arsenic	11.8
Beryllium	0.04

34B-11	DEPTH (feet)		
ANALYTE	1	5	10
Arsenic	ND	6.2	2.8
Beryllium	0.43	ND	ND

34GWT-01	
ANALYTE	CONCENTRATION
Arsenic	8.4
Manganese	2,050

34B-09	DEPTH (feet)
ANALYTE	1
Arsenic	2.5

34B-08	DEPTH (feet)	
ANALYTE	1	4
Arsenic	2	1.8
Beryllium	0.1	0.3
Toluene	ND	0.002

34B-06	DEPTH (feet)			
ANALYTE	1	4	10	15
Arsenic	ND	5.8	1.7	3.5
Beryllium	ND	0.46	0.48	0.58
2-Butanone	ND	ND	0.005	ND
Diesel	6.5	ND	ND	ND
TVH	0.046	ND	ND	ND

34B-05	DEPTH (feet)				
ANALYTE	2	5	9	15	21
Arsenic	2.9	4.8	4.8	2.9	6.6
Beryllium	0.18	0.19	0.43	0.4	0.06
Carbon Disulfide	ND	ND	ND	0.008	ND
Methylene Chloride	ND	0.002	ND	ND	ND
Toluene	ND	ND	0.002	ND	ND
1,1,1-Trichloroethane	ND	ND	0.002	ND	ND

34B-04	DEPTH (feet)					
ANALYTE	1	5	10	16	20	25
Arsenic	2.9	6.7	3.3	5.4	1.9	3.8
Beryllium	0.19	0.58	0.42	0.55	0.17	0.34
Acetone	ND	ND	0.05	ND	ND	ND
2-Butanone	0.007	ND	ND	ND	0.006	ND
Fluorene	0.012	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.064	0.026	0.011	ND	ND	ND
Toluene	0.004	ND	ND	0.006	ND	ND
Diesel	150	ND	ND	ND	ND	ND
TVH	5.9	ND	0.058	ND	ND	ND

34B-14	DEPTH (feet)	
ANALYTE	1	5
Arsenic	ND	5.3
Beryllium	0.29	ND

34B-12	DEPTH (feet)	
ANALYTE	1	5
Arsenic	5.7	7.3
Beryllium	0.49	0.78

LEGEND

34B-09 ■	SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)
34GWT-01 ■	TEMPORARY WELL GROUNDWATER SAMPLE LOCATION
34MW-01 ⊕	MONITORING WELL LOCATION DRILLED AND SAMPLED DURING BECHTEL NATIONAL, INC., 1996 INVESTIGATION
——→	SURFACE-WATER FLOW DIRECTION
ND	NOT DETECTED
TVH	TOTAL VOLATILE HYDROCARBONS

SOIL COMPOUND (mg/kg)	PRG	LUFT MANUAL GUIDANCE CRITERIA	BACKGROUND
ARSENIC	0.38	–	4.25
BERYLLIUM	0.14	–	1.42
DIESEL	NA	100	NA

GROUNDWATER COMPOUND (µg/l)	MCL	TAP-WATER PRG
ARSENIC	50	0.045
BERYLLIUM	4	0.016
MANGANESE	–	1,700

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg). GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (µg/l).
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED; DIESEL CONCENTRATIONS EXCEEDING THE LUFT FIELD MANUAL GUIDANCE CRITERIA ARE OUTLINED IN BOLD
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN.
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON
GENERAL DEVELOPMENT MAP 57D
DATE: DECEMBER 1987

SCALE

0 200 400 FEET

FIGURE 2-28

SITE 34 - COMBAT ENGINEERS MAINTENANCE FACILITY, BUILDINGS 62580-62583 SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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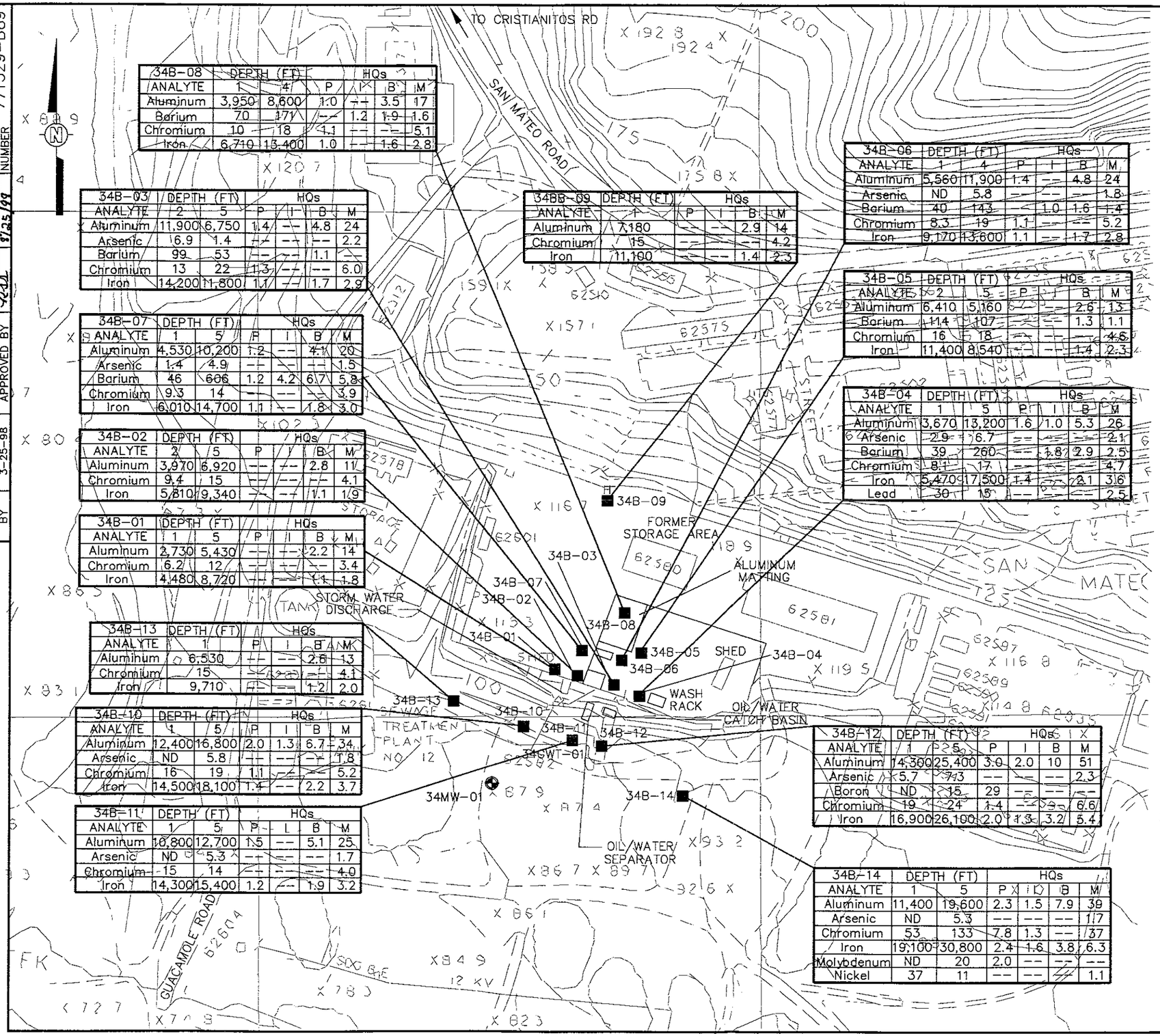


34B-08	DEPTH (FT)		HQs			
ANALYTE	1	4	P	I	B	M
Aluminum	3,950	8,600	1.0	--	3.5	17
Barium	70	171	--	1.2	1.9	1.6
Chromium	10	18	1.1	--	--	5.1
Iron	6,710	13,400	1.0	--	1.6	2.8

34B-03	DEPTH (FT)		HQs			
ANALYTE	2	5	P	I	B	M
Aluminum	11,900	6,750	1.4	--	4.8	24
Arsenic	6.9	1.4	--	--	--	2.2
Barium	99	53	--	--	1.1	--
Chromium	13	22	1.3	--	--	6.0
Iron	14,200	11,800	1.1	--	1.7	2.9

34B-07	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	4,530	10,200	1.2	--	4.1	20
Arsenic	1.4	4.9	--	--	--	1.5
Barium	46	606	1.2	4.2	6.7	5.8
Chromium	9.3	14	--	--	--	3.9
Iron	6,010	14,700	1.1	--	1.8	3.0

34B-02	DEPTH (FT)		HQs			
ANALYTE	2	5	P	I	B	M
Aluminum	3,970	6,920	--	--	2.8	11
Chromium	9.4	15	--	--	--	4.1
Iron	5,810	9,340	--	--	1.1	1.9

34B-01	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	2,730	5,430	--	--	2.2	14
Chromium	6.2	12	--	--	--	3.4
Iron	4,480	8,720	--	--	1.1	1.8

34B-13	DEPTH (FT)	HQs			
ANALYTE	1	P	I	B	M
Aluminum	6,530	--	--	2.6	13
Chromium	15	--	--	--	4.1
Iron	9,710	--	--	1.2	2.0

34B-10	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	12,400	16,800	2.0	1.3	6.7	34
Arsenic	ND	5.8	--	--	--	1.8
Chromium	16	19	1.1	--	--	5.2
Iron	14,500	18,100	1.4	--	2.2	3.7

34B-11	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	10,800	12,700	1.5	--	5.1	25
Arsenic	ND	5.3	--	--	--	1.7
Chromium	15	14	--	--	--	4.0
Iron	14,300	15,400	1.2	--	1.9	3.2

34BB-09	DEPTH (FT)	HQs			
ANALYTE	1	P	I	B	M
Aluminum	7,180	--	--	2.9	14
Chromium	15	--	--	--	4.2
Iron	11,100	--	--	1.4	2.3

34B-06	DEPTH (FT)		HQs			
ANALYTE	1	4	P	I	B	M
Aluminum	5,560	11,900	1.4	--	4.8	24
Arsenic	ND	5.8	--	--	--	1.8
Barium	40	143	--	1.0	1.6	1.4
Chromium	8.3	19	1.1	--	--	5.2
Iron	9,170	13,600	1.1	--	1.7	2.8

34B-05	DEPTH (FT)		HQs			
ANALYTE	2	5	P	I	B	M
Aluminum	6,410	5,160	--	--	2.6	13
Barium	114	107	--	--	1.3	1.1
Chromium	16	18	--	--	--	4.6
Iron	11,400	8,540	--	--	1.4	2.3

34B-04	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	3,670	13,200	1.6	1.0	5.3	26
Arsenic	2.9	6.7	--	--	--	2.1
Barium	39	260	--	1.8	2.9	2.5
Chromium	8.1	17	--	--	--	4.7
Iron	5,470	17,500	1.4	--	2.1	3.6
Lead	30	15	--	--	--	2.5

34B-12	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	14,300	25,400	3.0	2.0	10	51
Arsenic	5.7	7.3	--	--	--	2.3
Boron	ND	15	29	--	--	--
Chromium	19	24	1.4	--	--	6.6
Iron	16,900	26,100	2.0	1.3	3.2	5.4

34B-14	DEPTH (FT)		HQs			
ANALYTE	1	5	P	I	B	M
Aluminum	11,400	19,600	2.3	1.5	7.9	39
Arsenic	ND	5.3	--	--	--	1.7
Chromium	53	133	7.8	1.3	--	37
Iron	19,100	30,800	2.4	1.6	3.8	6.3
Molybdenum	ND	20	2.0	--	--	--
Nickel	37	11	--	--	--	1.1

LEGEND

34B-09 ■ SOIL BORING LOCATION (H INDICATES HAND-AUGER SAMPLE)

34GWT-01 ■ TEMPORARY WELL GROUNDWATER SAMPLE LOCATION

34MW-01 ⊕ MONITORING WELL LOCATION

→ SURFACE-WATER FLOW DIRECTION

COMPOUND (mg/kg)	BACKGROUND
ALUMINUM	20,999
ARSENIC	4.6
BARIUM	262
BORON	--
CHROMIUM	33.0
IRON	26,459
MOLYBDENUM	7.4
NICKEL	22.5

NOTE:

1. FOR EACH SAMPLE LOCATION, HAZARD QUOTIENTS (HQs) ≥1.0 ARE GIVEN FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M)

TOPOGRAPHIC REFERENCE:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 57D. DATE: DECEMBER 1987

SCALE

0 200 400 FEET

FIGURE 2-29

SITE 34 - COMBAT ENGINEERS MAINTENANCE FACILITY, BUILDINGS 62580 - 62583 SUMMARY OF SOIL ANALYTICAL RESULTS WITH ECOLOGICAL HAZARD QUOTIENTS ≥ 1.0

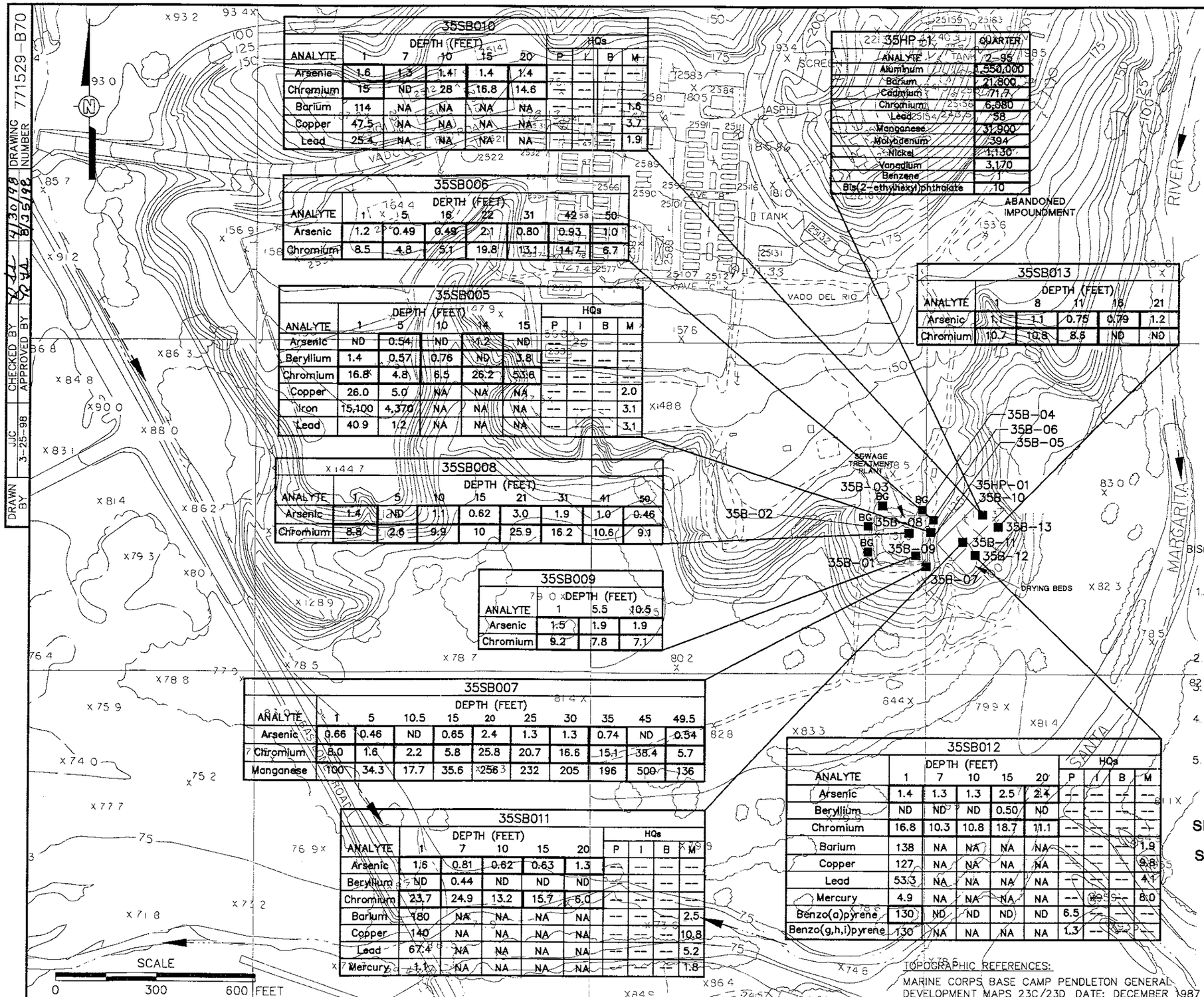
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



35SB010	DEPTH (FEET)					HQs			
ANALYTE	1	7	10	15	20	P	I	B	M
Arsenic	1.6	1.3	1.4	1.4	1.4	--	--	--	--
Chromium	15	ND	28	16.8	14.6	--	--	--	--
Barium	114	NA	NA	NA	NA	--	--	--	1.6
Copper	47.5	NA	NA	NA	NA	--	--	--	3.7
Lead	25.4	NA	NA	NA	NA	--	--	--	1.9

35SB006	DEPTH (FEET)						
ANALYTE	1	5	16	22	31	42	50
Arsenic	1.2	0.49	0.49	2.1	0.80	0.93	1.0
Chromium	8.5	4.8	5.1	19.8	13.1	14.7	6.7

35SB005	DEPTH (FEET)					HQs			
ANALYTE	1	5	10	14	15	P	I	B	M
Arsenic	ND	0.54	ND	1.2	ND	--	--	--	--
Beryllium	1.4	0.57	0.76	ND	3.8	--	--	--	--
Chromium	16.8	4.8	6.5	26.2	53.6	--	--	--	--
Copper	26.0	5.0	NA	NA	NA	--	--	--	2.0
Iron	15,100	4,370	NA	NA	NA	--	--	--	3.1
Lead	40.9	1.2	NA	NA	NA	--	--	--	3.1

35SB008	DEPTH (FEET)							
ANALYTE	1	5	10	15	21	31	41	50
Arsenic	1.4	ND	1.1	0.62	3.0	1.9	1.0	0.46
Chromium	8.8	2.6	9.9	10	25.9	16.2	10.6	9.1

35SB009	DEPTH (FEET)		
ANALYTE	1	5.5	10.5
Arsenic	1.5	1.9	1.9
Chromium	9.2	7.8	7.1

35SB007	DEPTH (FEET)									
ANALYTE	1	5	10.5	15	20	25	30	35	45	49.5
Arsenic	0.66	0.46	ND	0.65	2.4	1.3	1.3	0.74	ND	0.54
Chromium	8.0	1.6	2.2	5.8	25.8	20.7	16.6	15.1	38.4	5.7
Manganese	100	34.3	17.7	35.6	256	232	205	196	500	136

35SB011	DEPTH (FEET)					HQs			
ANALYTE	1	7	10	15	20	P	I	B	M
Arsenic	1.6	0.81	0.62	0.63	1.3	--	--	--	--
Beryllium	ND	0.44	ND	ND	ND	--	--	--	--
Chromium	23.7	24.9	13.2	15.7	6.0	--	--	--	--
Barium	180	NA	NA	NA	NA	--	--	--	2.5
Copper	140	NA	NA	NA	NA	--	--	--	10.8
Lead	67.4	NA	NA	NA	NA	--	--	--	5.2
Mercury	1.1	NA	NA	NA	NA	--	--	--	1.8

35HP-01	QUARTER
ANALYTE	2-95
Aluminum	1,550,000
Barium	21,800
Cadmium	71.7
Chromium	6,080
Lead	38
Manganese	31,900
Molybdenum	394
Nickel	1,130
Vanadium	3,170
Benzene	1
Bis(2-ethylhexyl)phthalate	10

35SB013	DEPTH (FEET)				
ANALYTE	1	8	11	16	21
Arsenic	1.1	1.1	0.75	0.79	1.2
Chromium	10.7	10.8	8.5	ND	ND

35SB012	DEPTH (FEET)					HQs			
ANALYTE	1	7	10	15	20	P	I	B	M
Arsenic	1.4	1.3	1.3	2.5	2.4	--	--	--	--
Beryllium	ND	ND	ND	0.50	ND	--	--	--	--
Chromium	16.8	10.3	10.8	18.7	11.1	--	--	--	--
Barium	138	NA	NA	NA	NA	--	--	--	1.9
Copper	127	NA	NA	NA	NA	--	--	--	9.8
Lead	53.3	NA	NA	NA	NA	--	--	--	4.1
Mercury	4.9	NA	NA	NA	NA	--	--	--	8.0
Benzo(a)pyrene	130	ND	ND	ND	ND	6.5	--	--	--
Benzo(g,h,i)pyrene	130	NA	NA	NA	NA	1.3	--	--	--

LEGEND

35B-05 ■ BOREHOLE LOCATION

35B-02 BG ■ BACKGROUND BOREHOLE LOCATION

35HP-01 ■ HYDROPUNCH GROUNDWATER SAMPLE LOCATION

-- HQ LESS THAN 1.0

SURFACE-WATER FLOW DIRECTION

SURFACE-WATER FLOW DIRECTION (EPHEMERAL)

NA NOT APPLICABLE

ND NOT DETECTED

SOIL INORGANICS (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	0.68
BERYLLIUM	0.14	1.6
CHROMIUM	0.2	16.9
MANGANESE	380	276
SOIL ORGANICS (µg/kg)	**PRG**	**BACKGROUND**
BENZO(a)PYRENE	61	NA

GROUNDWATER COMPOUNDS (µg/l)	PRG	MCL	BACKGROUND
ALUMINUM	37,000	1,000	NA
BARIUM	2,600	1,000	NA
CADMIUM	18	5	NA
CHROMIUM	0.16	50	NA
LEAD	4	50	NA
MANGANESE	180	NA	NA
MOLYBDENUM	180	NA	NA
NICKEL	730	100	NA
VANADIUM	260	NA	NA
BENZENE	0.39	1	NA
BIS(2-ETHYLHEXYL)PHTHALATE	4.8	4	NA

NOTES:

1. INORGANIC CONCENTRATIONS IN SOIL GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg). ORGANIC CONCENTRATIONS IN SOIL GIVEN IN MICROGRAMS PER KILOGRAMS (µg/kg) CONCENTRATIONS IN GROUNDWATER GIVEN IN (µg/l)
2. CONCENTRATIONS OUTLINED IN BOLD EXCEED PRGs.
3. SOIL DEPTH INTERVALS WITH NO DETECTS EXCEEDING PRGs OR NO HAZARD QUOTIENTS ≥1.0 ARE NOT SHOWN.
4. GROUNDWATER ANALYTES WITH CONCENTRATIONS EXCEEDING PRGs ARE SHOWN
5. HAZARD QUOTENTS ≥1.0 ARE GIVEN FOR PLANTS (P), TERRESTRIAL INVERTEBRATES (I), BIRDS (B), OR MAMMALS (M).

TOPOGRAPHIC REFERENCES:

MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 23C/23D DATE: DECEMBER 1987

FIGURE 2-30

SITE 35 - FORMER SEWAGE TREATMENT PLANT FACILITY IN 25 AREA SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER

CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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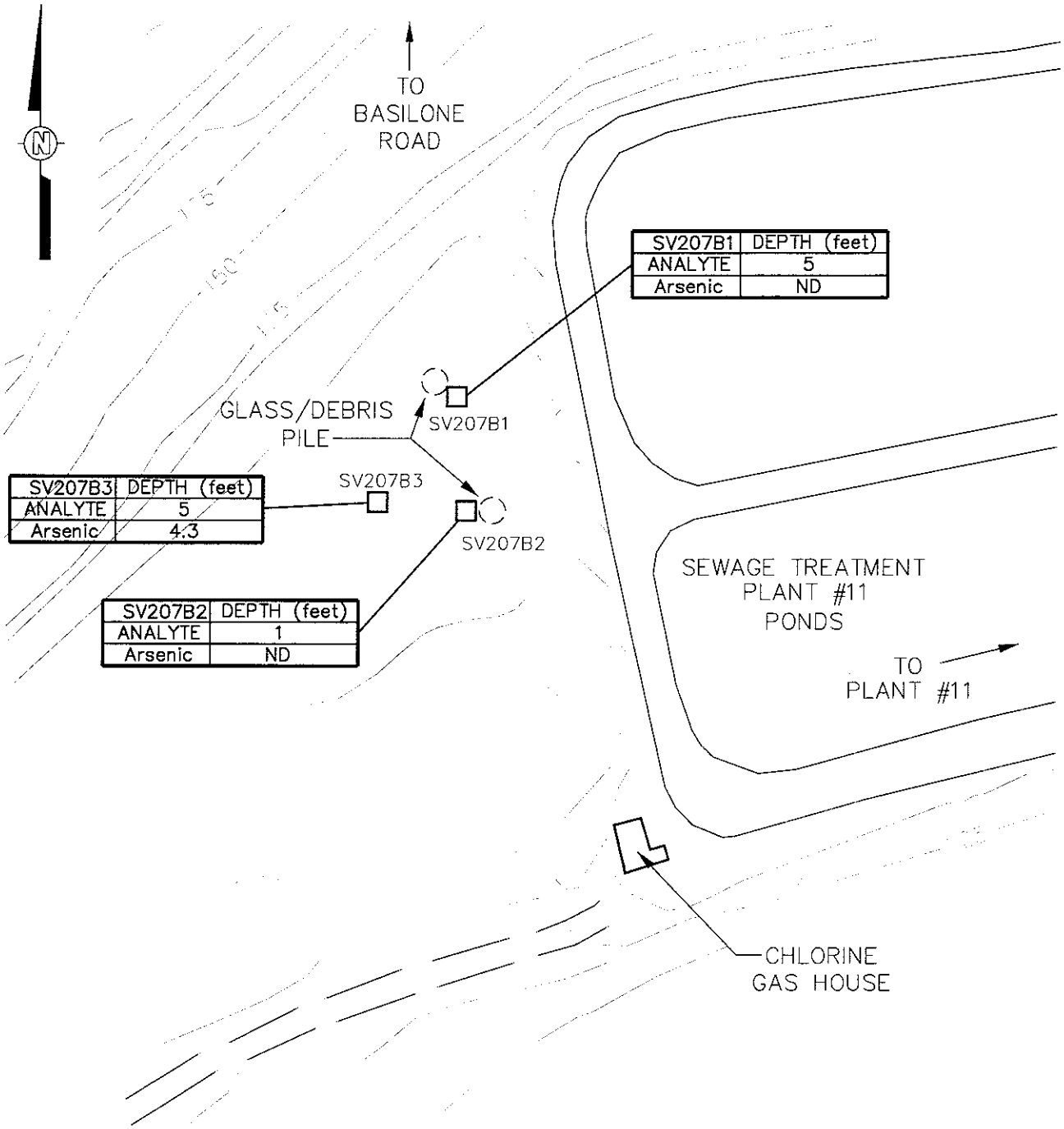

LEGEND

□ PREVIOUS SOIL SAMPLE LOCATION

SV207B2 DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 207, BORING 2

◯ GLASS/DEBRIS PILE

SCALE

0 75 100 FEET

REFERENCE:
GENERAL DEVELOPMENT MAP 49D (4B)

FIGURE 2-31

SITE 36
DEBRIS PILE AREA BEHIND PONDS AT SEWAGE TREATMENT PLANT 11
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-30546

INTERNATIONAL TECHNOLOGY CORPORATION

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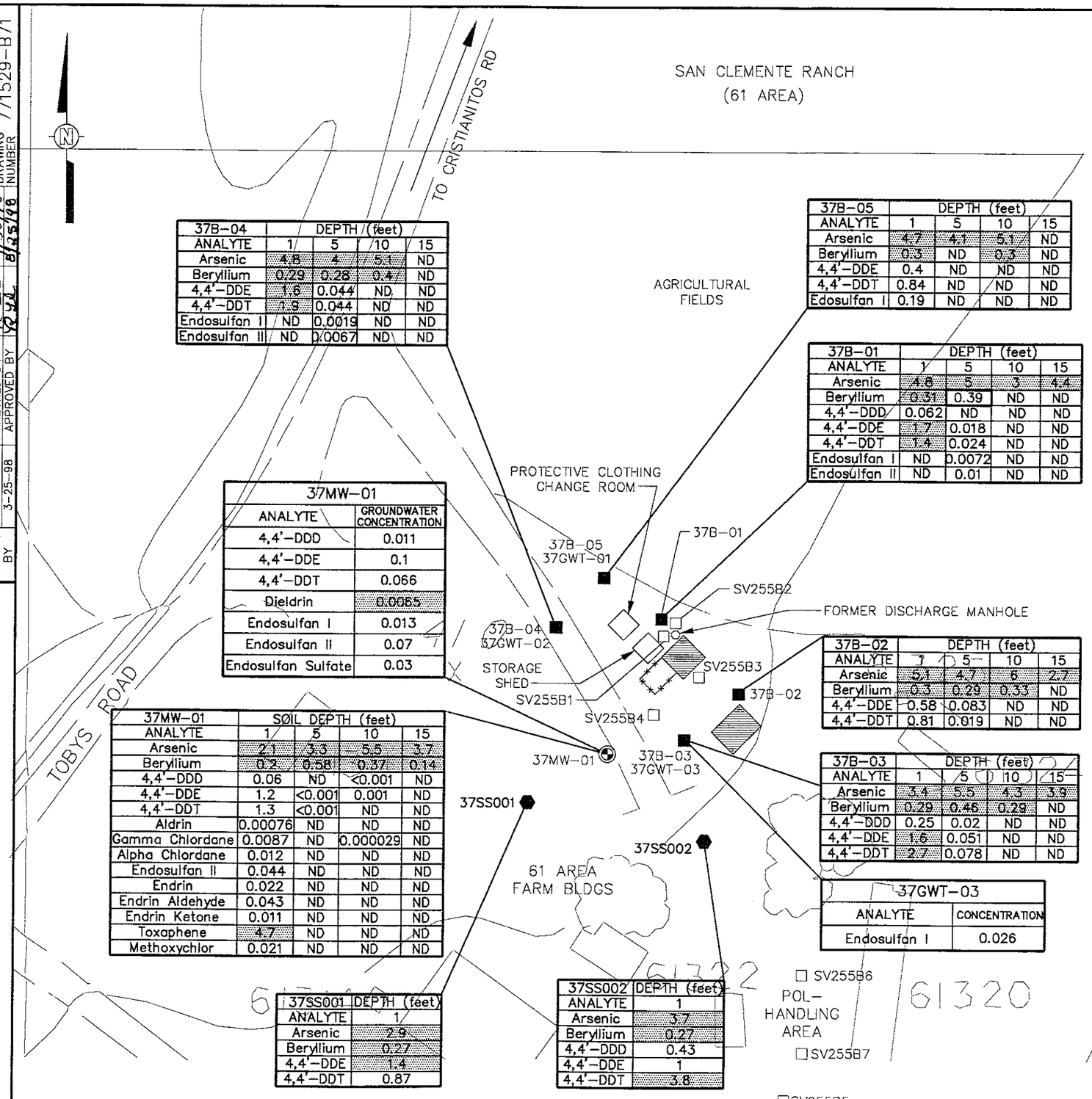

37B-04	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	4.8	4	5.1	ND
Beryllium	0.29	0.28	0.4	ND
4,4'-DDE	1.6	0.044	ND	ND
4,4'-DDT	1.9	0.044	ND	ND
Endosulfan I	ND	0.0019	ND	ND
Endosulfan II	ND	0.0067	ND	ND

37B-05	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	4.7	4.1	5.1	ND
Beryllium	0.3	ND	0.3	ND
4,4'-DDE	0.4	ND	ND	ND
4,4'-DDT	0.84	ND	ND	ND
Edosulfan I	0.19	ND	ND	ND

37B-01	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	4.8	5	3	4.4
Beryllium	0.31	0.39	ND	ND
4,4'-DDD	0.062	ND	ND	ND
4,4'-DDE	1.7	0.018	ND	ND
4,4'-DDT	1.4	0.024	ND	ND
Endosulfan I	ND	0.0072	ND	ND
Endosulfan II	ND	0.01	ND	ND

37MW-01	
ANALYTE	GROUNDWATER CONCENTRATION
4,4'-DDD	0.011
4,4'-DDE	0.1
4,4'-DDT	0.066
Dieldrin	0.0065
Endosulfan I	0.013
Endosulfan II	0.07
Endosulfan Sulfate	0.03

37B-02	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	5.1	4.7	6	2.7
Beryllium	0.3	0.29	0.33	ND
4,4'-DDE	0.58	0.083	ND	ND
4,4'-DDT	0.81	0.019	ND	ND

37MW-01	SOIL DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	2.1	3.3	5.5	3.7
Beryllium	0.2	0.58	0.37	0.14
4,4'-DDD	0.06	ND	<0.001	ND
4,4'-DDE	1.2	<0.001	0.001	ND
4,4'-DDT	1.3	<0.001	ND	ND
Aldrin	0.00076	ND	ND	ND
Gamma Chlordane	0.0087	ND	0.000029	ND
Alpha Chlordane	0.012	ND	ND	ND
Endosulfan II	0.044	ND	ND	ND
Endrin	0.022	ND	ND	ND
Endrin Aldehyde	0.043	ND	ND	ND
Endrin Ketone	0.011	ND	ND	ND
Toxaphene	4.7	ND	ND	ND
Methoxychlor	0.021	ND	ND	ND

37B-03	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	3.4	5.5	4.3	3.9
Beryllium	0.29	0.46	0.29	ND
4,4'-DDD	0.25	0.02	ND	ND
4,4'-DDE	1.6	0.051	ND	ND
4,4'-DDT	2.7	0.078	ND	ND

37GWT-03	
ANALYTE	CONCENTRATION
Endosulfan I	0.026

37SS001	DEPTH (feet)
ANALYTE	1
Arsenic	2.9
Beryllium	0.27
4,4'-DDE	1.4
4,4'-DDT	0.87

37SS002	DEPTH (feet)
ANALYTE	1
Arsenic	3.7
Beryllium	0.27
4,4'-DDD	0.43
4,4'-DDE	1
4,4'-DDT	3.8

LEGEND

37SS001 ●	SURFACE SOIL SAMPLE LOCATION
SV255B2 □	PREVIOUS SOIL BORING LOCATION DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 255, BORING 2
37B-01 ■	SOIL BORING LOCATION
37GWT-01	TEMPORARY WELL GROUNDWATER SAMPLE LOCATION
37MW-01 ⊕	MONITORING WELL LOCATION DRILLED AND SAMPLED DURING BECHTEL NATIONAL, INC., 1996 INVESTIGATION
▤	CONCRETE SLAB
—×—×—	FENCE
POL	PETROLEUM, OIL, AND LUBRICANT
ND	NOT DETECTED

SOIL COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	4.25
BERYLLIUM	0.14	1.42
4,4'-DDE	1.3	NA
4,4'-DDT	1.3	NA
TOXAPHENE	0.4	NA

GROUNDWATER COMPOUND (µg/l)	MCL	TAP-WATER PRG
4,4'-DDD	NA	0.28
4,4'-DDE	NA	0.2
4,4'-DDT	NA	0.2
DIELDRIN	NA	0.0042
ENDOSULFAN I	NA	220
ENDOSULFAN II	NA	220
ENDOSULFAN SULFATE	NA	NA

NOTES:

1. SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg) GROUNDWATER CONCENTRATIONS GIVEN IN MICROGRAMS PER LITER (µg/l).
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ALL DETECTED ORGANICS ARE SHOWN IN THE FIGURE; ONLY INORGANICS EXCEEDING PRGs ARE SHOWN
4. SOIL DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAP 48C DATE: DECEMBER 1987

SCALE
0 75 150 FEET

FIGURE 2-32

SITE 37 - PESTICIDE- AND POL-HANDLING AREAS AT SAN CLEMENTE RANCH SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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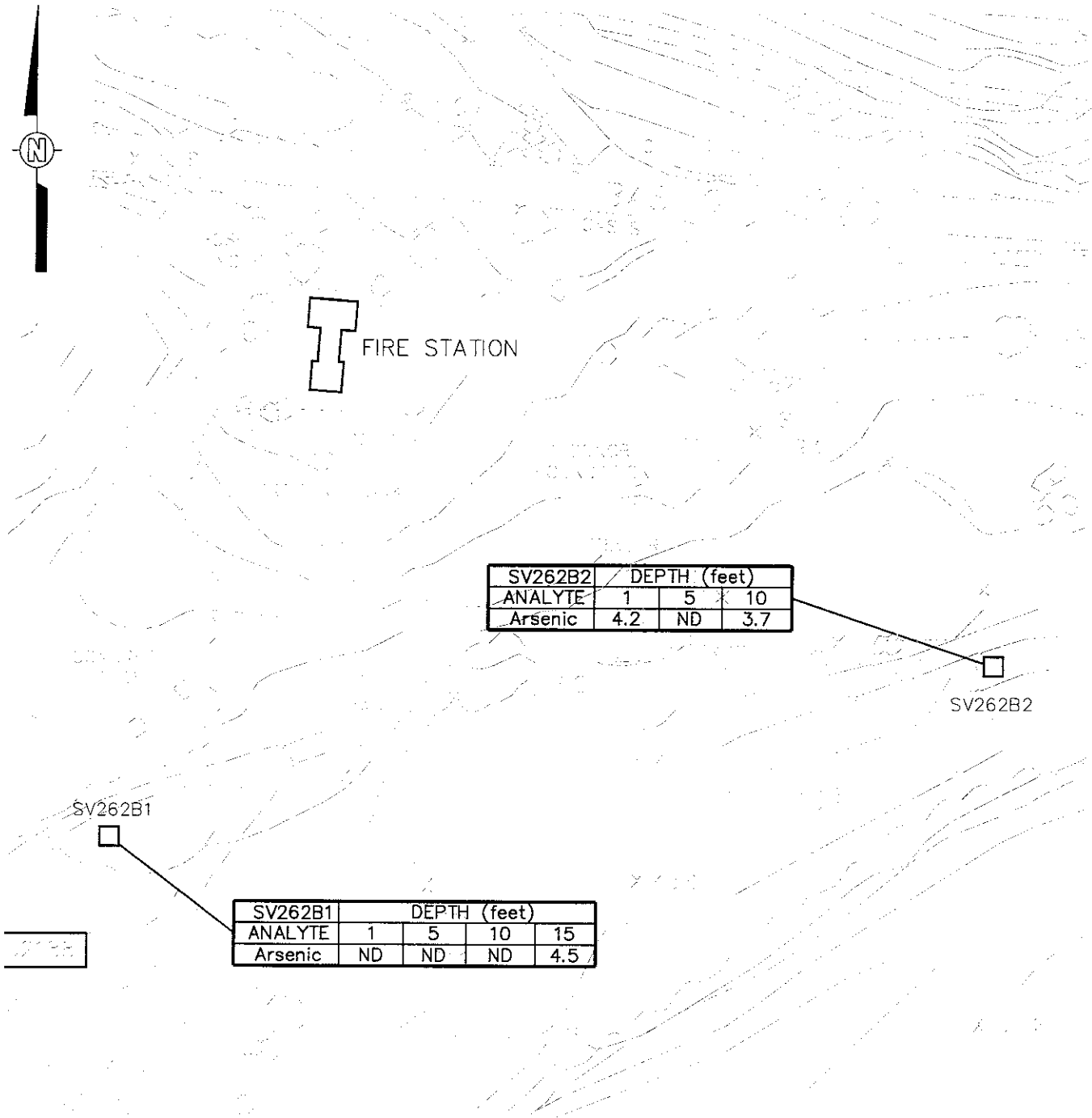

SV262B2	DEPTH (feet)		
ANALYTE	1	5	10
Arsenic	4.2	ND	3.7

SV262B1	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	ND	ND	ND	4.5

LEGEND

□ PREVIOUS RFA SOIL BORING

SV262B2 DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 262 BORING 2

SCALE

0 150 300 FEET

REFERENCE:
GENERAL DEVELOPMENT MAP 49D (4D,E)

FIGURE 2-33

SITE 38
52 AREA SEWER LINE, BUILDING 52188
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES
ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

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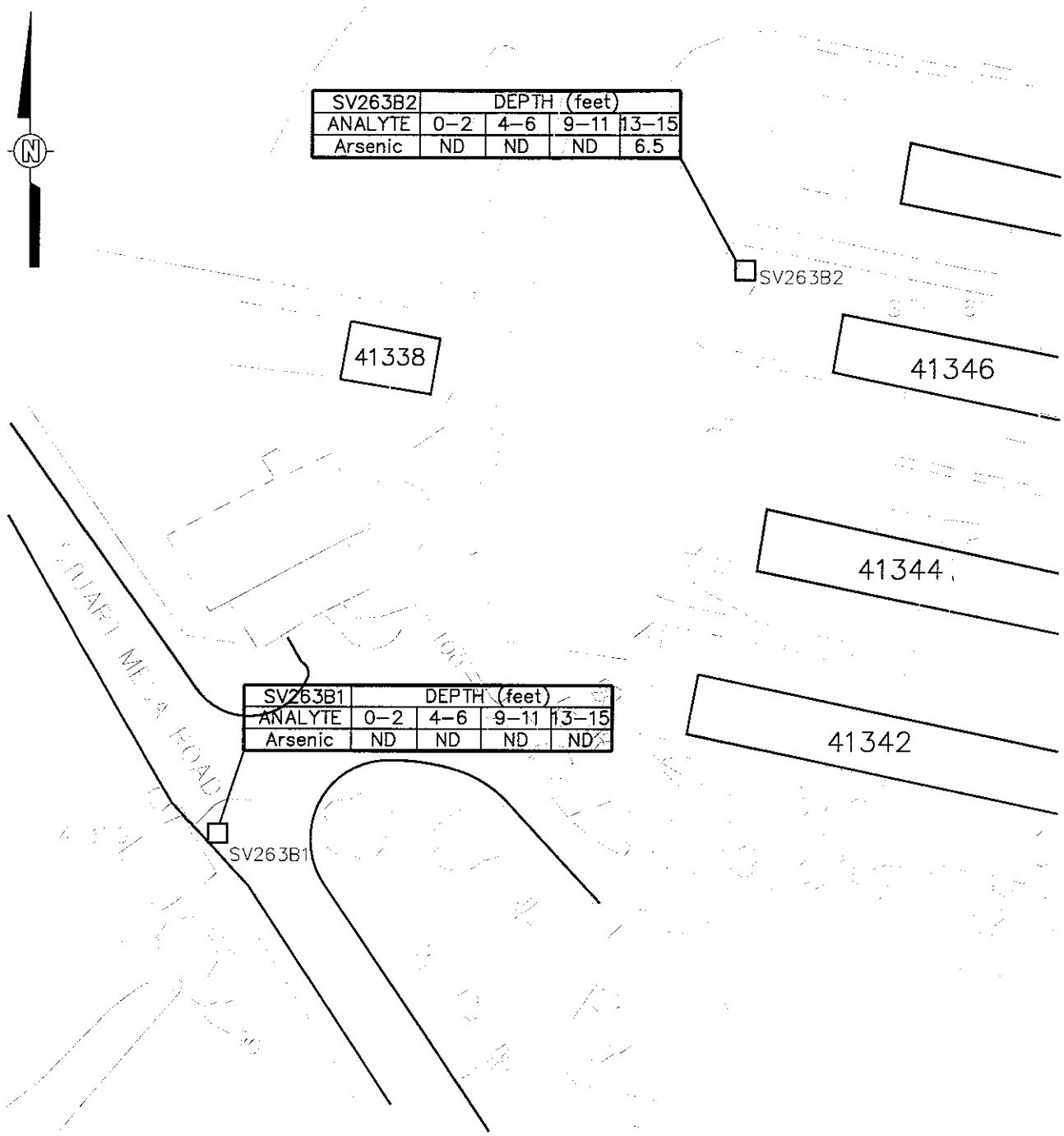


SV263B2	DEPTH (feet)			
ANALYTE	0–2	4–6	9–11	13–15
Arsenic	ND	ND	ND	6.5

SV263B1	DEPTH (feet)			
ANALYTE	0–2	4–6	9–11	13–15
Arsenic	ND	ND	ND	ND

NOTE: SOIL CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAMS

LEGEND

□ RFA SOIL BORING

SV263B1 DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 263, BORING 2

SCALE

0 100 200 FEET

REFERENCE:
GENERAL DEVELOPMENT MAP 14C (3A)

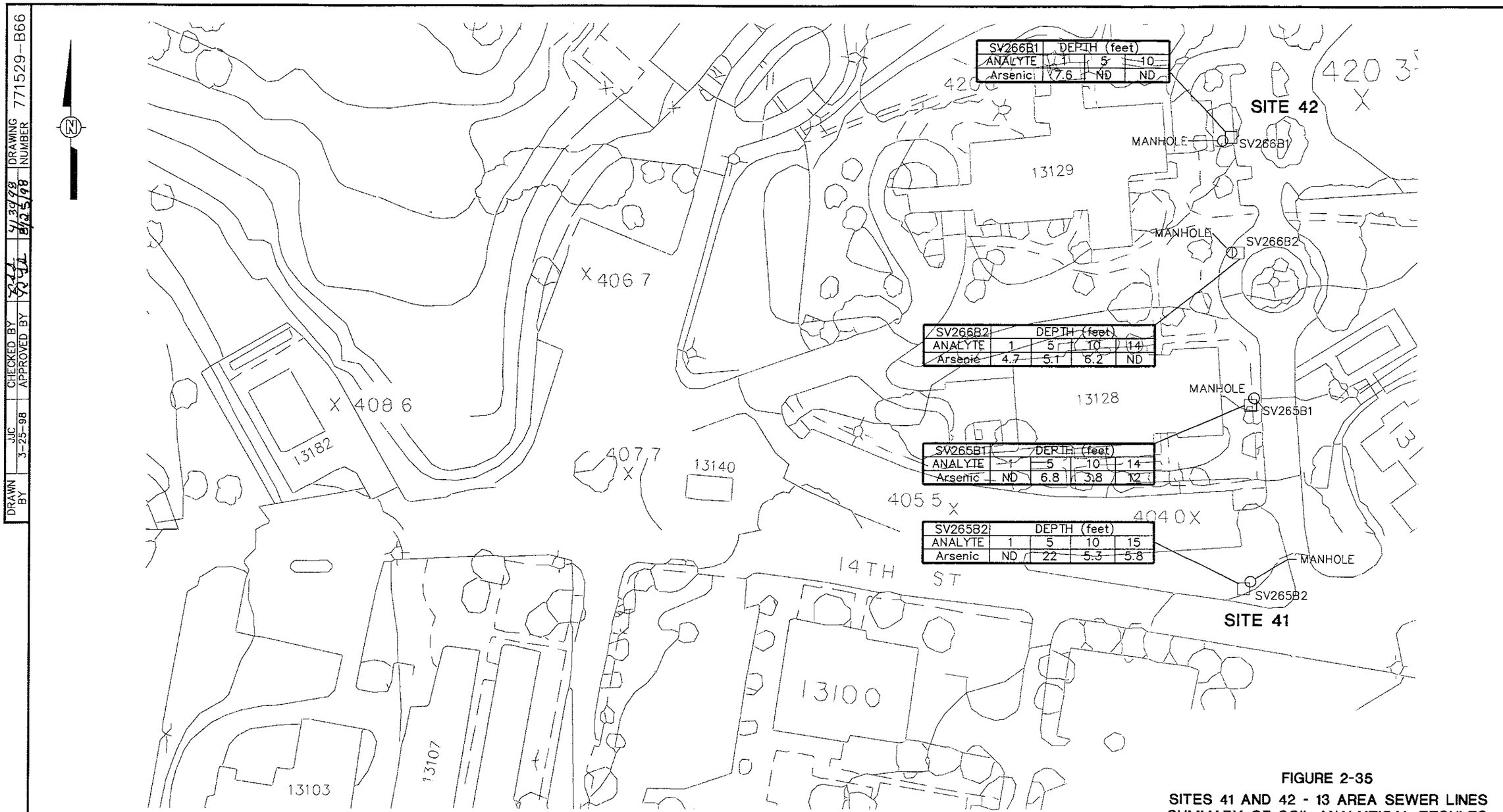
FIGURE 2-34

SITE 39
41 AREA SEWER LINE,
BUILDINGS 41300 AND 41346
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES
ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION



SV266B1	DEPTH (feet)		
ANALYTE	1	5	10
Arsenic	7.6	ND	ND

SV266B2	DEPTH (feet)			
ANALYTE	1	5	10	14
Arsenic	4.7	5.1	6.2	ND

SV265B1	DEPTH (feet)			
ANALYTE	1	5	10	14
Arsenic	ND	6.8	3.8	12

SV265B2	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	ND	22	5.3	5.8

SCALE

0 100 200 FEET

LEGEND

☐ PREVIOUS RFA SOIL BORING LOCATION

SV264B2 DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 264, BORING 2

REFERENCE:
GENERAL DEVELOPMENT MAPS 24A AND 24C

FIGURE 2-35
SITES 41 AND 42 - 13 AREA SEWER LINES
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES
ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

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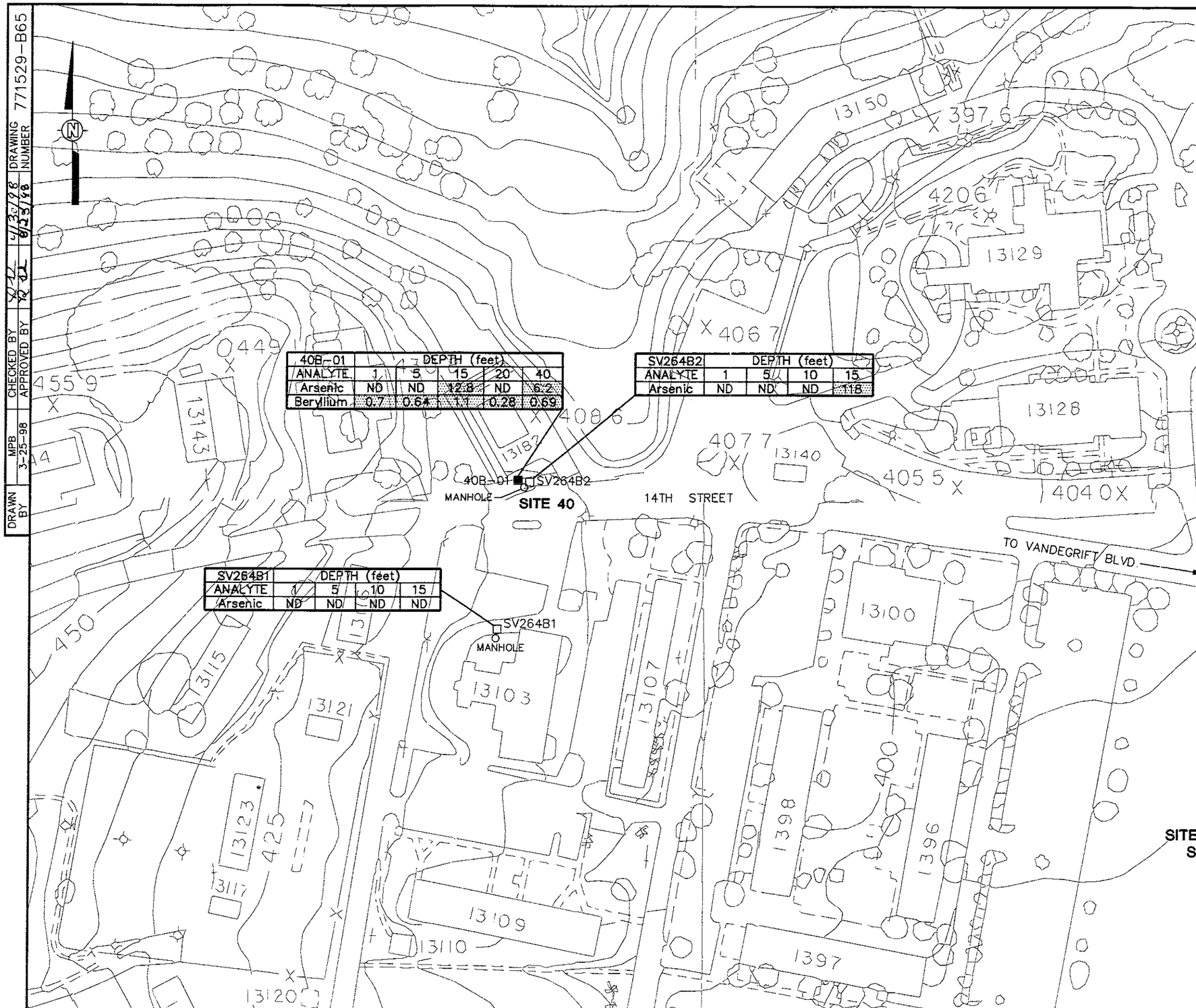

40B-01	DEPTH (feet)				
ANALYTE	1	5	15	20	40
Arsenic	ND	ND	12.8	ND	6.2
Beryllium	0.7	0.64	1.1	0.28	0.69

SV264B2	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	ND	ND	ND	11.8

SV264B1	DEPTH (feet)			
ANALYTE	1	5	10	15
Arsenic	ND	ND	ND	ND

LEGEND

40B-01 ■ SOIL BORING LOCATION

SV264B2 □ PREVIOUS RFA SOIL BORING LOCATION DRILLED AND SAMPLED DURING RCRA FACILITY ASSESSMENT; SITE 264, BORING 2

ND NOT DETECTED

COMPOUND (mg/kg)	PRG	BACKGROUND
ARSENIC	0.38	16
BERYLLIUM	0.14	1.42

NOTES:

1. CONCENTRATIONS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg)
2. CONCENTRATIONS EXCEEDING PRGs ARE SHADED.
3. ONLY INORGANICS EXCEEDING PRGs ARE SHOWN IN THE FIGURE
4. DEPTH INTERVALS WITH NO ORGANIC DETECTIONS OR NO INORGANIC CONCENTRATIONS EXCEEDING PRGs ARE NOT SHOWN, WITH THE EXCEPTION OF ARSENIC

TOPOGRAPHIC REFERENCE:
MARINE CORPS BASE CAMP PENDLETON GENERAL DEVELOPMENT MAPS 24A AND 24C.
DATE: DECMBER 1987

SCALE
0 150 300 FEET

FIGURE 2-36

SITE 40 - 13 AREA SEWER LINE, BUILDING 13103
SUMMARY OF SOIL ANALYTICAL RESULTS
MCB CAMP PENDLETON, CALIFORNIA

PREPARED FOR

NAVAL FACILITIES ENGINEERING SERVICE CENTER
CONTRACT NO. N47408-92-D-3056

INTERNATIONAL TECHNOLOGY CORPORATION

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3.0 Responsiveness Summary

As previously discussed in Section 2.2, documents leading to the decisions presented in this ROD have been released to the public and are included in the Administrative Record available for public review. The main documents were made available to the public in the information repositories maintained at the base and at the Oceanside Public Library. The public was informed of the availability of the complete Administrative Record, which is maintained at the AC/S,ES offices at MCB Camp Pendleton and at the SWDIV offices in San Diego. Notices of availability were published in local newspapers, as were notices of public meetings and public review and comment periods. No questions or comments were received from any source during the public comment periods. Therefore, a responsiveness summary is not required and is not part of the Administrative Record. This decision document presents the selected remedies for MCB Camp Pendleton OU3 sites, chosen in accordance with CERCLA, as amended by SARA, and to the extent practicable, the NCP. The decisions for these sites are based on the Administrative Record.

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APPENDIX A
TRANSCRIPT OF THE PUBLIC MEETING

A public meeting was held at the Oceanside Senior Citizens Center in Oceanside, California on 14 May 1998 at 7:00 p.m. for the Operable Unit 3 sites. A display session was held prior to the meeting at the Senior Citizens Center from 5:00 p.m. to 7:00 p.m. Displays included photographs and information relating to the Operable Unit 3 sites, as well as general information regarding the environmental program at MCB Camp Pendleton. Personnel from the base, Southwest Division Navy, U.S. Environmental Protection Agency, California Environmental Protection Agency Department of Toxic Substances Control and San Diego Regional Water Quality Control Board, and the Navy's environmental contractor were present to provide information to the public and to answer any questions or concerns. No members of the public attended the display session or the public meeting. The base did not receive any telephone calls or written comments during the 30-day public comment period.

The meeting was publicized in four local newspapers, the *North County Times*, both *Inland* and *Coastal Editions*, the *Sun Post*, and the *Scout*, on 1 May 1998.

The transcripts of the meeting are provided in this appendix. Because no members of the public attended the meeting, it lasted only several minutes, however, base, Navy, and agency representatives remained at the Senior Citizens Center for an additional 1/2 hour to ensure that no late arrivals from the public were missed.

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PUBLIC MEETING

Commencing : 7:00 p.m.
Location : 455 Country Club Lane
Oceanside, California 92054
Day, Date : Thursday, May 14, 1998
Reported By : LESLIE R. JOHNSON, CSR No. 11451

MS. TROST: Welcome to the public meeting for Operable Unit Three of the Installation Restoration Program for Camp Pendleton, California. My name is Teresa Trost, and I represent the Marine Corps on the Federal Facilities Team.

For the record, will the other members of the Federal Facilities Team state their name and affiliation.

MR. MANGOLD: Davis Mangold, the Remedial Project Manager for Southwest Division.

MS. LAUTH: Sheryl Lauth, L-a-u-t-h, Remedial Project Manager from EPA.

MR. ODERMATT: John Odermatt, O-d-e-r-m-a-t-t, Remedial Project Manager from the Regional Water Quality Control Board.

MS. TROST: Okay. Let the record show that there is no member of the public in the audience and that we have fulfilled the requirement under CERCLA for a public meeting. And I would propose that the meeting is now closed.

Do I have a second?

MR. MANGOLD: Second.

MS. TROST: The meeting is now closed.

(The public meeting concluded at 7:03 p.m.)

REPORTER'S CERTIFICATE

I, LESLIE R. JOHNSON, Certified Shorthand Reporter for the State of California, do hereby certify:

That said public meeting was taken before me at the time and place therein stated and was thereafter transcribed into print under my direction and supervision, and I hereby certify the foregoing public meeting is a full, true and correct transcript of my shorthand notes so taken.

In witness whereof I have subscribed my name this 25th day of May, 1998.

Leslie R. Johnson

LESLIE R. JOHNSON
Certified Shorthand Reporter No. 11451
for the State of California

APPENDIX B

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS FOR OU3 SITES 1A, 1D, 1E, 1F, 2A AND 7

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1E, 1F, and 2A

Table B-2 Applicable or Relevant and Appropriate Requirements for Site 7

Abbreviations/Acronyms

APCD	Air Pollution Control District
ARAR	Applicable or Relevant and Appropriate Requirement
CAA	Clean Air Act
CAMU	Corrective Action Management Unit
CCC	California Coastal Commission
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIWMB	California Integrated Waste Management Board
DLM	Designated Level Methodology
DON	Department of the Navy
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection
FR	Federal Register
MCB	Marine Corps Base
MSWLF	Municipal Solid Waste Landfill
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OU	Operable Unit
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RWQCB	California Regional Water Quality Control Board
SIP	State Implementation Plan
SWDIV	Southwest Division Naval Facilities Engineering Command
SWRCB	California State Water Resources Control Board
TBC	To Be Considered
USC	United States Code

1.0 Introduction

Section 121(d) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) states that remedial actions at CERCLA sites must attain (or the decision document justify the waiver of) any Federal or more stringent State environmental standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address the situation at a CERCLA site. The requirement is applicable if the jurisdictional prerequisites of the standard show a direct correspondence when objectively compared with conditions at the site. If the requirement is not legally applicable, the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that, although not applicable, address problems or situations sufficiently similar to the circumstances of the proposed response action and are well-suited to the conditions of the site (U.S. Environmental Protection Agency [EPA], 1988). The criteria for determining relevance and appropriateness are listed in Title 40, Code of Federal Regulations (CFR), Section 300.400(g)(2).

To qualify as a State applicable or relevant and appropriate requirement (ARAR) under CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), a State requirement must be all of the following:

- A State law
- An environmental or facility siting law
- Promulgated (of general applicability and legally enforceable)
- Substantive (not procedural or administrative)
- More stringent than the Federal requirement
- Identified in a timely manner
- Consistently applied.

In order to constitute an ARAR, a requirement must be substantive. Therefore, only substantive provisions of requirements identified are considered ARARs. The ARARs identified for the selected remedial action alternative for Operable Unit (OU) 3 Sites 1A, 1D, 1E, 1F, and 2A at Marine Corps Base (MCB) Camp Pendleton are summarized in the following sections, Table B-1 and Table B-2. Table B-1 provides ARARs for Sites 1A, 1D, 1E, 1F, and 2A. Table B-2 provides ARARs for Site 7 and includes landfill cap ARARs originally presented in the Site 7 engineering evaluation/cost analysis (EE/CA) for installation of a landfill cap (SWDIV, 1995), in addition to groundwater monitoring and postclosure maintenance ARARs not previously included in the EE/CA ARARs.

Although, the cap ARARs were identified for a removal action, they are considered complete due to the Department of the Navy's (DON's) policy to comply with EPA's promulgated requirement that removal actions "... shall, to the extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws" (40 CFR 300.415[i]). Groundwater ARARs were not addressed in the EE/CA because the groundwater remedial investigation (RI) was not complete. Subsequent to completion of the EE/CA, the RI recommended no remedial action for Site 7 groundwater based on the results of the risk assessment (SWDIV, 1996a). Groundwater monitoring ARARs for the presumptive remedy cap and postclosure maintenance of the landfill are however, included in Table B-2. Subsequent to the time that Site 7 ARARs were presented in the EE/CA, State Water Quality Control Board (SWQCB) landfill requirements of Title 23 California Code of Regulations (CCR) and California Integrated Waste Management Board (CIWMB) landfill requirements of Title 14 have since been replaced by the combined SWRCB/CIWMB Regulations in Title 27 CCR. Updated citations are provided in Table B-2 in addition to the former citations.

2.0 ARARs for the Selected Remedies for OU3 Sites 1A, 1D, 1E, 1F, 2A, and 7

Remedial action for soil was selected for the following OU 3 sites at MCB Camp Pendleton:

- 1A - Refuse Burning Ground in 14 Area
- 1D - Refuse Burning Ground in 20 Area
- 1E - Refuse Burning Ground in 32 Area
- 1F - Refuse Burning Ground in 43 Area
- 2A - Grease Disposal Pit in 14 Area
- 7 - Box Canyon Landfill.

The same action was selected for Sites 1A, 1D, 1E, 1F, and 2A: soil excavation and on-base disposal; no further action for groundwater. No further action was recommended for groundwater at these sites during the RI (SWDIV, 1996b and 1997). The risk assessment identified no unacceptable risks from groundwater. The selected remedy involves no treatment because the RI results indicate that contaminated soils at Sites 1A, 1D, 1E, 1F, and 2A would not leach to groundwater, and meet the requirements for fill at Site 7 - Box Canyon Landfill. Based on the Designated Level Methodology (DLM) (California Regional Water Quality Control Board [RWQCB], 1986), excavated soil from Sites 1A, 1D, 1E, and 1F would not impact groundwater at Site 7 (SWDIV, 1998a). Soil from Site 2A exceeded the designated levels, although only slightly; therefore, the soil from Site 2A was tested for leachability using DI WET analysis. The DI WET results were compared against a soluble designated level predicted by the DLM. DI WET results were less than the soluble designated levels, indicating that Site 2A soils would not pose a threat to groundwater (SWDIV, 1998b). The identified ARARs for Sites 1A, 1D, 1E, 1F, and 2A are listed in Table B-1.

The action selected for Site 7 includes installation of an evapotranspiration cap and associated long-term monitoring. Groundwater monitoring will be conducted to measure the effectiveness of the landfill cap, as part of the presumptive remedy, and to comply with postclosure maintenance requirements identified in the EE/CA. ARARs for Site 7 are identified in this appendix and are listed in Table B-2.

2.1 ARARs for Sites 1A, 1D, 1E, 1F, and 2A

The Department of the Navy (DON) has determined that 22 CCR 66264.94 is a "relevant and appropriate" Federal ARAR for the selected remedies for the OU3 sites. The DON considers 22 CCR 66264.94 a federal ARAR because it was approved by the EPA in its 23 July 1992 authorization of the State of California Resource Conservation and Recovery Act (RCRA) program and is federally enforceable (see 57 Federal Register [FR] 32727, 23 July 1992, and 55 FR 8742, 8 March 1990; see also Wyckoff v. EPA 796 F.2d 1197, [9th Cir. 1986]). The State of California disagrees that 22 CCR 66264.94 is a "Federal" ARAR. This regulation is a part of the State's authorized hazardous waste control program. It is the State's position that it is a "State" ARAR and not a "Federal" ARAR. See 55 FR 8765, 8 March 1990, and U.S. v. State of Colorado, 990 F.2d 1565, (1993).

For the same reasons stated above for 22 CCR 66264.94, the DON has determined that other specifically identified substantive requirements of Title 22 CCR approved under the authorized State RCRA program are Federal ARARs for the selected remedies for the OU3 sites. The State of California disagrees with finding the other substantive requirements under the authorized State RCRA program "Federal" ARARs for the reasons set forth above. It is the State's position that these requirements are "State" ARARs not "Federal" ARARs.

The DON has determined that the SWRCB Resolution No. 92-49 and 27 CCR 20400 (formerly 23 CCR 2550.4) do not constitute ARARs for the selected remedies for OU3 because they are State requirements and are not more stringent than the Federal ARAR provisions of 22 CCR 66264.94. The NCP, as set forth in 40 CFR 300.400(g), provides that only state standards more stringent than Federal standards may be ARARs (see also Section 121[d][2][A][ii] of CERCLA).

The provisions of 22 CCR 66264.94 and 27 CCR 20400 (formerly 23 CCR 2550.4) that address soil concentration limits are identical. Therefore, 27 CCR 20400 is not more stringent than 22 CCR 66264.94 and its provisions are not ARARs. SWRCB Resolution No. 92-49 was promulgated by the SWRCB as policies and procedures to be followed by Regional Water Boards for oversight of investigations and cleanup and abatement orders. It is, therefore, not of general applicability and is not an "applicable" ARAR. However, it was evaluated as a potential "relevant and appropriate" State ARAR. Section III.G of

SWRCB Resolution 92-49 provides in relevant part that regional boards shall "....in approving any alternative cleanup levels less stringent than background, apply Section 2550.4.... [now 27 CCR 20400]." Because this resolution incorporates and relies upon the provisions of 23 CCR 2550.4 (now 27 CCR 20400), which are not more stringent than 22 CCR 66264.94, SWRCB Resolution No. 92-49 is also not more stringent and, hence, its provisions are not State ARARs.

The State of California disagrees with the DON's assertion that SWRCB Resolution No. 92-49 is not an ARAR and believes the resolution is an applicable requirement for the OU3 remedial actions. It requires compliance with more than 66264.94. Resolution No. 92-49 requires compliance with 23 CCR 2550.4, but Sections III.F and III.G also have additional requirements that must be met. To the extent that Resolution No. 92-49 includes provisions that are the same as 22 CCR 66264.94, the State believes it is appropriate for the DON to defer to the State's interpretation of 22 CCR 66264.94.

Despite the disagreement on whether identified ARARs are "federal" or "state," the State has decided to exercise its discretion not to invoke dispute resolution for this Record of Decision for the following reasons:

- The State believes excavation of soil from the OU3 sites and placement under the landfill cover at the Site 7 CAMU is the best remedy and complies with all substantive State requirements
- The soil from OU3 Sites 1A, 1D, 1E, 1F, and 2A are contaminated with metals that, when placed under the landfill cover already approved by the State for the Site 7 CAMU, will be protective of groundwater
- The cleanup levels for the soil at Sites 1A, 1D, 1E, 1F, and 2A will be protective of groundwater and comply with all substantive requirements.

The excavation, transportation, and handling of soil at the OU3 remedial action sites could result in fugitive emissions of particulate matter. San Diego County Air Pollution Control District (APCD) Rule 50(d)(1) has been identified as an applicable Federal ARAR for such emissions (Table B-1). This rule is considered a Federal ARAR because it is included in the approved State Implementation Plan (SIP) under Section 110 of the Clean Air Act (CAA).

The DON has determined that substantive provisions of 22 CCR 66262.10(a) and 66262.11 are ARARs for determination of hazardous waste. The soils at Sites 1A, 1D, 1E, 1F, and 2A have been identified as hazardous waste by applying knowledge of the hazard characteristic of the waste in light of the materials or processes used to generate the wastes.

The substantive provisions of 22 CCR 66264.13(a) and (b) are also determined to be ARARs. The substantive provisions at 22 CCR 66264.13(a) require analysis of hazardous waste "before an owner or operator transfers, treats, stores, or disposes of any hazardous waste." Representative samples of the soil from the OU3 sites have been analyzed during the RI and in a recent field sampling effort in May 1998 to further delineate the sites. This analysis included the information necessary for acceptance into the CAMU designated at Site 7. The requirements at 22 CCR 66264.13(b) require an analysis plan. Work plans for the RI and the additional sampling for further delineation were written to satisfy the substantive provisions for analysis plans in 22 CCR 66264.13(b) and concurrence was received from DTSC, RWQCB, and EPA. The sampling and analysis provided adequate information for placing the waste at the Site 7 CAMU even if it was assumed to be hazardous waste and therefore, no additional sampling and analysis to determine whether the waste is hazardous was necessary.

The Department of the Navy has determined that substantive provisions of 27 CCR 20230(a) and (b) are the controlling ARARs for soil discharge levels for the Site 7 - Box Canyon Landfill (Table B-1). To assess if the soils at Sites 1A, 1D, 1E, 1F, and 2A meet these requirements, a two-phased screening process was conducted. The first phase included using the designated level methodology (DLM) (California Regional Water Quality Control Board [RWQCB], 1986). Acceptable soil concentrations are calculated through the use of DLM equation and compared to actual soil concentrations. Soil concentrations at Sites 1A, 1D, 1E, and 1F met the requirements. The soil at Site 2A did not meet DLM criteria. Because of the conservative nature of the DLM, the second phase of screening was applied for Site 2A and leachability analysis using DI WET, was conducted for Site 2A soils. The DI WET results were compared against a soluble designated level predicted by the DLM. DI WET results were less than the soluble designated levels, indicating that Site 2A soils also meet State discharge requirements (SWDIV, 1998b).

The Department of the Navy has determined that the DLM is "to be considered" (TBC) guidance for indicating acceptable contaminant concentrations in soil to meet State discharge requirements, specifically 27 CCR 20230. However, failure of site soil to meet DLM does not indicate noncompliance. Further testing and/or evaluation may indicate compliance.

Federal- and State-listed threatened and endangered species are present at or near remedial action Sites 1A, 1D, 1E, 1F, and 2A. The California gnatcatcher (Federal-listed endangered species) was observed on Sites 1A, 1D, and 1E and is suspected at Sites 1F and 2A, where habitat had burned prior to field surveys (SWDIV, 1998a). The least Bell's vireo (State-listed endangered species) was observed near Sites 1A and 1D. The Federal and State endangered species requirements are identified as ARARs as indicated in Table B-1. The Migratory Bird Act set forth in 16 USC 703 is a Federal ARAR for the remedial actions at Sites 1A, 1D, and 1E and may also be an ARAR for Sites 2A and 1F after the habitat recovers from the 1997 brushfire.

The substantive provisions of 36 CFR 800.4 for historical property identification are considered applicable Federal ARARs for the OU3 remedial action sites. An archaeologist will monitor excavation activities. If previously unidentified archaeological resources are identified during the remedial actions, substantive provisions of 32 CFR 229.1 et seq. will be applicable Federal ARARs. These sections require protection of archaeological resources on Federal lands by consultation with the State Historic Preservation Officer.

Sites 1D and 1E are located within the designated boundary of the coastal zone, as indicated on California Coastal Commission (CCC) maps that delineate the extent of the coastal zone (CCC, 1993). The Federal and State requirements are applicable for controlling direct significant impacts on coastal waters and for protecting State and national interests in California coastal resources. The coastal zone requirements are ARARs.

Site 1D is located within the 100-year floodplain and is subject to Federal ARARs identified at 22 CCR 66264.18(b) and 40 CFR Part 6.

2.2 ARARs for Site 7

The ARAR evaluation for Site 7 focused on the action-specific closure and postclosure care requirements of the Resource Conservation and Recovery Act (RCRA) and the State municipal solid waste landfill (MSWLF) requirements. Air, vadose zone, and groundwater action-specific requirements are discussed as appropriate. Limited location-specific ARARs are discussed because the location of the landfill is fixed and only those requirements that pertain to the selected removal action alternative are identified.

RCRA closure and postclosure requirements are set forth in Subtitle D for MSWLFs and in Subtitle C for hazardous waste landfills. State requirements other than RCRA requirements for closure and postclosure care of landfills are set forth in Title 27 CCR Division 2, Subdivision 1. California implemented portions of RCRA Subtitle D requirements in Title 27 CCR, Division 2, Subdivision 1, and in SWRCB Resolution No. 93-62. These requirements are discussed further in the following paragraphs.

RCRA Subtitle C requirements are applicable if the waste is a listed or characteristic waste under RCRA and was treated, stored, or disposed of after the effective date of the RCRA requirements or the activity at the CERCLA site constitutes treatment, storage, or disposal as defined by RCRA (EPA, 1988). The wastes disposed of at Site 7 are not considered listed wastes because their source cannot be identified. Because of the heterogeneous nature of the landfilled wastes and because a representative sample could not be obtained from the landfill, the hazardous characteristics of the waste were not tested. The landfill stopped accepting municipal waste in 1984, after the effective date (1980) of the RCRA requirements for hazardous waste. However, the hazardous wastes reportedly disposed of at the site (Naval Energy and Environmental Support Activity, 1984) likely were deposited before the effective date of RCRA. The capping of waste in place does not constitute RCRA placement or disposal (EPA, 1988). Therefore, RCRA Subtitle C requirements are not applicable for the Site 7 cap.

Although RCRA requirements are not applicable for Site 7, because of the similarity of the landfill waste to a RCRA hazardous waste, the similarity of the site to a hazardous waste landfill, and the similarity of the selected action to RCRA closure, those RCRA closure and postclosure care requirements for landfills set forth in 22 CCR 66264.310 that are pertinent and substantive are considered relevant and appropriate requirements and are

considered Federal ARARs (Table B-2). Section 66264.310(a) requires the owner or operator of a landfill to cover the landfill during final closure. The design and construction requirements are detailed in Table B-2.

Significant provisions of RCRA Subtitle D requirements are set forth in 40 CFR 258 - Criteria for Municipal Solid Waste Landfills. The purpose of the Subtitle D requirements is to establish minimum national criteria under RCRA for all MSWLF units to ensure the protection of human health and the environment. The criteria apply to owners and operators of new MSWLF units and existing MSLWF units that received waste after 9 October 1991. The requirements do not apply to Site 7 because waste receipts at the Box Canyon landfill stopped in 1984. However, most of the closure and postclosure care requirements set forth in 40 CFR 258.60 and 258.61 are relevant and appropriate substantive requirements. Section 258.60(a) requires owners or operators to install a final cover system. Detailed substantive RCRA Subtitle D requirements that are Federal ARARs for Site 7 are listed in Table B-2.

In October 1991, the EPA promulgated revised Federal laws and regulations on solid waste disposal under RCRA Subtitle D (56 *Federal Register* 50978, 9 October 1991). On 7 October 1993, the EPA issued a final determination of the adequacy for California's MSWLF permit program, in compliance with 40 CFR 258 (58 *Federal Register* 52300, 7 October 1993). The EPA expects any owner or operator complying with the provisions of a State program approved by the EPA to be in compliance with the Federal criteria (56 *Federal Register* 50978 and 50995, 9 October 1991).

CIWMB and SWRCB have combined their regulations for solid waste into Title 27 CCR which became effective on July 18, 1997. Regulations for closure and postclosure of solid waste disposal sites for both agencies are listed in Table B-2. These regulations include landfill cover design specifications, maintenance and monitoring requirements, and other requirements pertinent to landfill capping.

SWRCB requirements for discharges of waste to land went into effect on 27 November 1984. Because operations at the Box Canyon landfill ended in May 1984, the site is considered an inactive unit. Therefore, these closure and postclosure care requirements are not applicable but may be relevant and appropriate if they are more stringent than Federal

ARARs. The substantive provisions of 27 CCR that are more stringent than Federal ARARs are listed in Table B-2 as State ARARs for Site 7.

Air emission requirements are identified in the SIP as Federal ARARs that affect the design of landfill covers and implementation of construction activities. San Diego County APCD requirements not included in the SIP have been identified as State ARARs that may affect the design and construction of the proposed removal action. Pertinent and substantive air requirements are listed in Table B-2, along with their ARAR status.

The Department of the Navy has determined that substantive provisions of 22 CCR 66264.98 are controlling ARARs for groundwater monitoring to measure the landfill cap effectiveness and for postclosure landfill maintenance (Table B-2). Title 22 CCR 66264.98 is considered "relevant and appropriate" and is a Federal ARAR because it was approved by the EPA in its 23 July 1992 authorization of the State of California's RCRA program Title 22 CCR 66264.98 requires that a detection monitoring program be implemented and is essentially the same as 27 CCR 20420 (formerly 23 CCR 2550.8). The Federal ARAR (22 CCR 66264.98) is controlling because the State monitoring requirements (27 CCR 20420) are not more stringent and are, therefore, not potential ARARs. The NCP (40 CFR 300.400[g]) provides that only State standards more stringent than Federal standards may be ARARs (see also Section 121[d][2][A][ii] of CERCLA).

The corrective action management unit (CAMU) requirements are Federal ARARs for Site 7, where the excavated soil from the OU3 remedial action sites will be placed. These requirements are set forth in 40 CFR 264.552(c) and (e); they allow for consolidation of wastes in a more cost-effective approach while still protecting human health and the environment. Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous waste or creation of a unit subject to minimum technology requirements and, as such, are not subject to land disposal requirements. The Department of the Navy has designated Site 7 as a CAMU for the consolidation of excavated soil from OU3 Sites 1A, 1D, 1E, 1F, and 2A by applying the substantive CAMU regulations but not the procedural requirements. The following seven criteria of 40 CFR 264.552(c) were evaluated based on the Site 7 rationale provided after each:

1. The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective corrective action measures.

   The use of Site 7 as a CAMU for the disposal of excavated soil from OU3 sites is a reliable, effective, and protective remedy. A landfill cap will be placed over the excavated soil to limit mobilization of contaminants and minimize potential exposure. The use of Site 7 as a CAMU is more cost-effective than other alternatives evaluated such as off-site disposal.

2. Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes, hazardous substances, or hazardous constituents.

   The excavated soils from OU3 sites are not expected to result in any unacceptable risks at Site 7. In addition, site data has been evaluated to assess if soils from Sites 1A, 1D, 1E, 1F, and 2A would impact groundwater beneath Site 7. Results of the DLM using RI data and leachability testing of site soils show that placement of the wastes at Site 7 from these five sites would not have a detrimental impact on groundwater. Further evaluation of existing soil and groundwater data, soil pH, landfill gas generation, features of the planned cap at Site 7, and local rainfall data was performed to assess the leaching potential from the site soils. Each of the factors evaluated indicate that metals present in the soils to be placed at Site 7 will not adversely impact groundwater. Details of this evaluation are presented in the Technical Memorandum for Leaching Potential of Sites 1A, 1D, 1E, 1F, and 2A dated 2 October 1998 (SWDIV, 1998c). Review of this evaluation by the EPA's Office of Research and Development found the evaluation to be technically acceptable and found little risk of metals mobilization from the consolidated/capped contaminated soils (EPA, 1998).

3. The CAMU shall include uncontaminated areas of the facility, only if including such areas of the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility.

   Excavated soil from OU3 sites will only be located within the existing footprint of the Site 7 landfill and will not include uncontaminated areas.

4. Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.

   The Site 7 landfill will be capped to contain the excavated soil and minimize the potential for future releases from the soil to groundwater.

5. The CAMU shall expedite the timing of corrective action activity implementation, when appropriate and practicable.

Using Site 7 for disposal of excavated soil from OU3 sites will expedite the remedial action because it will take less time than off-site disposal.

6. The CAMU shall enable the use, when appropriate, of technologies (including innovative technologies) to enhance the long-term effectiveness of corrective actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU.

   The mobility of contaminants in the soil excavated from the OU3 sites will be reduced when placed at Site 7 because the depth to groundwater at Site 7 is greater than the OU3 remedial action sites and the landfill cap will be placed over the excavated soil.

7. The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

   The consolidation of soil wastes from OU3 sites at Site 7 will aid in minimizing the land area of MCB Camp Pendleton upon which wastes will remain in place.

The substantive provisions of 40 CFR 264.552(e) require the following to be specified:

- The areal configuration of the CAMU
- Remediation waste management including applicable design, operation, and closure requirements
- Requirements for groundwater monitoring
- Closure and post-closure requirements

The areal configuration of the Site 7 CAMU is shown in Figure 2-11 of the main text. The design, operation, and closure and post-closure requirements for the CAMU are identified in Table B-2 and Appendix A of the Site 7 EE/CA. The requirements for groundwater monitoring at Site 7 have been identified in this appendix and are included in Table B-2. As identified in Table B-2, the substantive detection monitoring requirements at 22 CCR 66264.98 and the concentration limits at 22 CCR 66264.94 have been determined to be relevant and appropriate Federal ARARs for groundwater monitoring at the Site 7 CAMU.

The substantive requirements set forth in 22 CCR 66264.111(a) and (b) are Federal ARARs for closing the OU3 remedial action sites after excavation of the contaminated soil and replacement of clean fill. These provisions require elimination of the need for further

maintenance and control of the sites and elimination of the postclosure escape of hazardous waste. The excavation of the contaminated soil will comply with these requirements.

3.0 References

California Coastal Commission, 1993, Maps indicating coastal zone designations for County of San Diego, June.

California Regional Water Quality Control Board, 1986, *The Designated Level Methodology for Waste Classification and Cleanup Level Determination,* updated June 1989.

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RWQCB, see California Regional Water Quality Control Board, Central Valley Region.

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SWDIV, see Southwest Division Naval Facilities Engineering Command.

SWRCB, see California State Water Resources Control Board.

U.S. Environmental Protection Agency, 1988, *CERCLA Compliance with Other Laws Manual, Draft Guidance*, EPA/540/G-89/006, Office of Emergency and Remedial Response, Washington, DC, August.

U.S. Environmental Protection Agency, 1993, *Presumptive Remedy for CERCLA Municipal Landfill Sites*, Directive No. 9355.0-49FS, EPA 540-F-93-035, Office of Solid Waste and Emergency Response, September.

U.S. Environmental Protection Agency, 1998, memorandum regarding MCB Camp Pendleton Consolidation and Capping of Metal Contaminated Soils, Office of Research and Development, 21 October.

TABLE B-1
Applicable or Relevant and Appropriate Requirements for
OU3 Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 1 of 4)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal[a]	22 CCR 66264.94(a)(1) and (3), (c), (d), and (e)	Groundwater protection standards: Owners/operators of RCRA treatment, storage, or disposal facilities must comply with conditions in this section that are designed to ensure that hazardous constituents entering the groundwater from a regulated unit do not exceed the concentration limits for contaminants of concern (set forth under Section 66264.94) in the uppermost aquifer underlying the waste management area beyond the point of compliance.	Relevant and appropriate for soil excavation cleanup levels at Sites 1A, 1D, 1E, 1F, and 2A.
State	California Regional Water Quality Control Board, Central Valley Region	Designated Level Methodology for Waste Classification and Cleanup Level Determination	To-be-considered (TBC) guidance for compliance with SWRCB requirements for soil left in place and excavated soil disposal at the Site 7 CAMU.
Federal[a]	22 CCR 66264.18(b)	Facility must be designed, constructed, operated, and maintained to avoid washout.	Relevant and appropriate for Site 1D, which is located within a 100-year floodplain.
Federal	40 CFR 6, Appendix A; (excluding 6[a][2], [4], and [6]); 40 CFR 6.302(b)	Actions taken should avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values.	Applicable for Site 1D; Site 1D is located within a floodplain.
Federal	36 CFR 800.4 (a),(b),(c), and (e)	Identify potentially affected historic properties or cultural resources.	Applicable for excavation activities at OU3 sites, which constitute a Federal undertaking.
Federal	16 USC 1536(a)	Action to conserve endangered species or threatened species, including consultation with the Department of the Interior	Applicable for Sites 1A, 1D, and 1E where endangered or threatened species have been obseved on or near the sites. Potentially applicable for Sites 1F and 2A after habitat recovers from wild fire in 1997.

TABLE B-1
Applicable or Relevant and Appropriate Requirements for
OU3 Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 2 of 4)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal	Section 1456(c); 15 CFR 930 and 923.45	Conduct activities in a manner consistent with approved State management programs.	Applicable for Sites 1D and 1E; Sites 1D and 1E are located within the coastal zone.
Federal	16 USC 703	Protects almost all species of native birds in the United States from unregulated "take," which can include poisoning at hazardous waste sites.	Applicable; Migratory birds have been observed in the vicinity of Sites 1A, 1D, and 1E. Not ARARs for Sites 1F and 2A because wildfires destroyed potential habitat.
State	Fish and Game Code Section 2080	No person shall import, export, take, possess, or sell any endangered or threatened species or part or product thereof.	Applicable for Sites 1A, 1D, and 1E; An endangered species (California gnatcatcher) has been identified at Sites 1A, 1D, and 1E.
State	Public Resources Code §30000-30900; 14 CCR 13001-13666.4	Regulates activities associated with development to control direct significant impacts on coastal waters and to protect State and national interests in California Coastal Resources.	Applicable for Sites 1D and 1E; Sites 1D and 1E are located within the designated boundary of the coastal zone on California Coastal Commission maps (CCC, 1993).
Federal[a]	22 CCR 66264.111(a) and (b), excluding references to procedural requirements such as plans and notifications.	General performance standard requires elimination of need for further maintenance and control; elimination of postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products.	Relevant and appropriate for the excavation of contaminated soil.
Federal[a]	22 CCR 66262.10(a) and 66262.11	Person who generates waste shall determine if that waste is a hazardous waste.	Applicable; Excavation of contaminated soil is considered generation of waste. Not an ARAR for no action.
Federal[a]	22 CCR 66264.13(a) and (b)	Before an owner or operator transfers, treats, stores, or disposes of any hazardous waste, a detailed chemical and physical analysis of a representative sample shall be obtained. The owner or operator shall develop and follow a written analysis plan, which describes the analysis procedures.	Applicable for the soil excavation and placement at Site 7.

TABLE B-1
Applicable or Relevant and Appropriate Requirements for
OU3 Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 3 of 4)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal[a]	22 CCR 66262.34	Generator may accumulate waste on-site for 90 days or less or must comply with requirements for operating a storage facility.	Potential applicable for on-site storage of contaminated soil. All excavated soil is proposed to be removed from site daily.
Federal[a]	22 CCR 66264.552(c) and (e) also: (40 CFR 264.552[c] and [e])	An area at a RCRA facility may be designated as a CAMU. Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes or creation of a unit subject to minimum technology requirements.	Applicable for on-base placement of excavated soil.
Federal	40 USC 7410; portions of 40 CFR 52.220 applicable to San Diego County Air Pollution Control District (APCD)	Provisions of State implementation plan (SIP) approved by the U.S. Environmental Protection Agency (EPA) under Section 110 of CAA.	Specific pertinent rules are listed below.
Federal	APCD Rule 50(d)(1)	No person shall discharge into the atmosphere from any single source of emissions, for more than 3 minutes in any 60-minute period, any air contaminant that is darker than number 1 on the Ringelmann chart.	Fugitive dust emissions of particulate matter are expected for excavation and transportation of soil.
State	Title 27 CCR, Division 2, Subdivision 1, Discharges of Waste to Land, Sections 20200-20230	Regulates siting, design, construction, operation, closure, and monitoring of waste discharges to land for treatment, storage, or disposal, including landfills, surface impoundments, waste piles, and land treatment facilities. Wastes regulated include hazardous, designated, nonhazardous, and inert wastes.	Applicable for the placement of excavated soil on base. Relevant and appropriate for soil left in place.

TABLE B-1
Applicable or Relevant and Appropriate Requirements for
OU3 Sites 1A, 1D, 1E, 1F, and 2A
MCB Camp Pendleton
(Sheet 4 of 4)

Federal or State ARAR or TBC	Citation	Requirement	Comments
State	Comprehensive Water Quality Control Plan for the San Diego Basin Water Code Section 13240	Establishes beneficial uses of groundwater; establishes water quality objectives.	Applicable for the soil excavation at Sites 1A, 1D, 1E, 1F, and 2A.
State	Fish and Game Code, Section 3005	Prohibits taking animals with nets, poison, cage, etc.	Soil contaminants could be poisonous to animals.

[a]The provisions of the California Hazardous Waste Control Act that have been approved by the EPA as part of the State RCRA program are federally enforceable and are, therefore, Federal ARARs. It is the State of California's position that the requirements under the approved RCRA program are State ARARs. See Section 2.0 for a more detailed discussion.

APCD - Air pollution Control District
ARARs - Applicable or relevant and appropriate requirements.
CAA - Clean Air Act.
CAMU - Corrective Action Management Unit.
CCR - California Code of Regulations.
CFR - Code of Federal Regulations.
EPA - U.S. Environmental Protection Agency.
OU - Operable unit.
RCRA - Resource Conservation and Recovery Act.
SIP - State Implementation Plan.
TBC - To be considered.
USC - United States Code.

References:
California Coastal Commission, 1993, Maps indicating coastal zone designations for County of San Diego, June.

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 1 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal	Title 40, Code of Federal Regulations (CFR), 258.61(a)(4)	A gas monitoring system must be maintained and monitored in accordance with 40 CFR 258.23.	Relevant and appropriate. See also Title 27, California Code of Regulations (CCR), Section 20921(a); formerly 14 CCR Section17783(a).
Federal	40 CFR 258.60(a)(2) and (3)	The final cover must have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present or a permeability no greater than $1x10^{-5}$ centimeters per second (cm/s), whichever is less. The infiltration layer must contain a minimum of 18 inches of earthen material.	Relevant and appropriate for Site 7 cover.
Federal	40 CFR 258.60(a)(3)	An erosion layer must be provided, must contain a minimum of 6 inches of earthen material, and must be capable of sustaining native plant growth.	Relevant and appropriate for Site 7 cover.
Federal	40 CFR 258.61(a) and (b)	Postclosure care must be conducted for 30 years. Based on protectiveness of human health and the environment, the postclosure care period may be shortened or lengthened.	Only relevant and appropriate as related to capping requirements.
State	27 CCR 21135(a)(b)(f) and (g) and 27 CCR 21180(a)(i) [formerly 14 CCR 17767(c), (d), and (e) and 17788(a)(3)]	Sign(s) shall be posted at all points of access at the site and for a period of not less than one hundred eighty (180) days after the facility has received the final shipment of waste stating the intended date of last receipt of waste at the site and the location of alternative permitted solid waste management facilities. Sites which do not allow public disposal shall be exempt from the provisions of this section. The operator shall ensure that all points of access to the site are restricted to protect public health and safety. Once closure activities are complete, site access by the public may be allowed.	Applicable.
State	27 CCR 21142(a) [formerly 14 CCR 17776(e)]	Final grades must be designed to reduce impacts to health and safety and take into consideration any postclosure land use. Final grading requirements concerning water quality protection are in Section 21090(b).	Applicable.

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 2 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
State	27 CCR 21142(b) [formerly 14 CCR 17776(f)]	Requires owner/operator to produce five yearly iso settlement maps subsequent to the creation and submittal of the initial postclosure topographic map.	Applicable.
State	27 CCR 21550(a), (b), and (c) [formerly 14 CCR 17778(a) and (c) to (j)]	The drainage and erosion control system shall be designed and maintained to ensure integrity of postclosure land uses; to prevent public contact with wastes; to ensure integrity of gas monitoring systems; to prevent safety hazards; and to prevent exposure of waste.	Applicable.
State	14 CCR 17783(a)(1), (2), and (3)	The operator shall ensure that landfill gases generated at a facility are controlled during the periods of closure and postclosure maintenance. Methane must not exceed 1.25 percent by volume in air within on-site structures. Concentrations of methane gas migrating from the landfill must not exceed 5 percent by volume in air at the facility property boundary. Trace gases shall be controlled to prevent adverse acute and chronic exposure to toxic and/or carcinogenic compounds.	Applicable.
State	27 CCR 21180(a) (formerly 14 CCR 17788(a) and (b))	The landfill must be maintained and monitored for no less than 30 years following closure of the entire landfill.	Applicable.
Federal[a]	22 CCR 66264.94(a)(1) and (3), (c), (d), and (e)	Groundwater protection standards: Owners/operators of RCRA treatment, storage, or disposal facilities must comply with conditions in this section that are designed to ensure that hazardous constituents entering the ground-water from a regulated unit do not exceed the concentration limits for contaminants of concern (set forth under Section 66264.94) in the uppermost aquifer underlying the waste management area beyond the point of compliance.	Relevant and appropriate for the groundwater monitoring at Site 7.

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 3 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal[a]	22 CCR 66264.98	Groundwater detection monitoring program.	Relevant and approprite for measuring the effectiveness of the landfill cap at Site 7 and for postclosure maintenance.
Federal[a]	22CCR 66264.25	Cover and drainage control systems shall be designed to function without failure when subjected to capacity, hydrostatic, and hydrodynamic loads resulting from a 24-hour maximum precipitation storm. Covers and cover systems and all containment and control features shall be designed, constructed, and maintained to withstand the maximum credible earthquake without decrease to the level of protection of public health and the environment.	Relevant and approprite for Site 7 landfill.
Federal[a]	22 CCR 66264.117(b)(1) and (2)	Postclosure care shall begin after completion of closure and continue for 30 years. Based on protectiveness to human health and the environment, the postclosure care period may be shortened or lengthened.	Only relevant and appropriate as related to the capping requirements.
Federal[a]	22 CCR 66264.310(c)	A control system must be provided to prevent migration of gas.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(e)(1)	If waste is to remain in a unit, the unit shall be compacted before any portion of the final cover is installed.	Relevant and appropriate. Waste is to be left in place for the Site 7 remedial action.
Federal[a]	22 CCR 66264.228(e)(4)	A foundation layer shall be provided for the compacted barrier.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(e)(5) and (7)	A compacted barrier layer of clean earth shall be provided above the foundation layer. A nonearthen layer may be used as the barrier layer if it will equally impede fluid movement and be as durable.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(e)(10)	A water drainage layer, blanket, or channel must be provided above the compacted barrier layer.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(e)(11)	A filter layer must be provided above the water drainage layer.	Relevant and appropriate.

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 4 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
Federal[a]	22 CCR 66264.228(e)(12)	A layer of topsoil must be provided that is thick enough to support vegetation for erosion control and deep enough to prevent root penetration into the filter layer.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(e)(13)	Permanent disposal areas shall be graded at closure so that, with allowance for settling and subsidence, the slope of the land surface above all portions of the cover shall be sufficient to prevent ponding of water and soil erosion.	Relevant and appropriate.
Federal[a]	22 CCR 66264.228(f)	Before installing the compacted barrier layer of the final cover, the correlation between the desired permeability and the density at which that permeability is achieved must be established.	Relevant and appropriate.
Federal[a]	22 CCR 66264.309(a)	A map must be prepared showing the exact location and dimensions, including depth, of each cell with respect to surveyed permanent benchmarks with horizontal and vertical controls.	Relevant and appropriate.
Federal[a]	22 CCR 66264.310(a)(1) and (5)	The final cover must be designed and constructed to prevent downward entry of water into the closed landfill throughout a period of at least 100 years and to accommodate lateral and vertical shear forces generated by the maximum credible earthquake so that the integrity of the cover is maintained.	Relevant and appropriate.
State	27 CCR 20320(c) and (d) [formerly 23 CCR Section 2541(c) and (d)]	Hydraulic conductivities determined through laboratory methods shall be confirmed by appropriate field testing. Earthen materials used in containment structures shall consist of a mixture of clay and other suitable fine-grained soils that have specified characteristics and that, in combination, can be compacted to attain the required permeability when installed.	Relevant and appropriate. Applies to the construction of engineered caps at solid waste disposal sites. Incorporated by reference in 27 CCR 21090 (formerly 23 CCR 2581).

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 5 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
State	27 CCR 20365(c) and (d) [formerly 23 CCR 2546(c) and (d)]	Diversion and drainage facilities shall be designed, constructed and maintained to accommodate the anticipated volume of precipitation and peak flows. Collection and holding facilities associated with drainage control shall be emptied immediately or otherwise managed to maintain the design capacity.	Relevant and appropriate.
State	27CCR 20950(d) [formerly 23 CCR 2580(d)]	Closed waste management units shall be provided with two permanent monuments, installed by a licensed land surveyor or a registered civil engineer, from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the postclosure period.	Relevant and appropriate.
State	27 CCR 21090(a)(1) [formerly 23 CCR 2581(a)(1)]	Closed landfills shall be provided with not less than 2 feet of appropriate materials as a foundation layer for the final cover.	Relevant and appropriate.
State	27 CCR 21090(a)(2) [formerly 23 CCR 2581(a)(2)]	Not less than 1 foot of soil containing no waste or leachate shall be placed on top of the foundation layer and be compacted to a permeability of $1x10^{-6}$ cm/s or less or equal to the permeability of underlying geology or liner, whichever is less.	Relevant and appropriate.
State	27 CCR 21090(a)(3) [formerly 23 CCR 2581(a)(3)]	Not less than 1 foot of topsoil containing no waste or leachate shall be placed on top of (a)(2) layer and vegetation rooting depth must not exceed the depth to the (a)(2) layer.	Relevant and appropriate.
State	27CCR 21090(b)(1) (formerly 23 CCR 2581(b)(1))	Closed landfills shall be graded and maintained to prevent ponding and to provide slopes of at least 3 percent.	Applicable.
State	APCD Rule 50(d)(1)	No person shall discharge into the atmosphere from any single source of emissions for more than 3 minutes in any 60-minute period any air contaminant, other than uncombined water vapor, that is darker than No. 1 on the Ringelmann chart.	Applicable. Remedial action activities will include engineering controls to limit emissions of fugitive dust.

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 6 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
State	APCD Rule 52	Particulate matter from any source may not be discharged to the atmosphere in excess of 0.1 grain per dry standard cubic foot (0.231 gram per dry standard cubic meter) of gas.	Applicable. Minor fugitive dust emissions are expected from excavation and storage of soil.
State	APCD Rule 59(a) and (b)(2)	Rule 59 is applicable to waste disposal sites with the potential to emit gaseous reactive organic compounds, odors, and/or toxic air contaminants unless they comply with provisions of Section 59(e) and can demonstrate that concentration limits of Section 59 (d)(1)(ii) are never exceeded in the absence of a gas control system.	Applicable. Substantive provisions only (State rule not included in SIP).
State	Rule 59(d)(1)(ii)	No person owning or operating a landfill shall allow emissions of any odors, toxic air contaminants, and/or reactive organic compounds to any point immediately above the surface of the landfill unless it is demonstrated that, at all times, concentrations of organic compounds do not exceed 500 parts per million volumetric expressed as methane, toxic air contaminant concentrations do not exceed threshold levels established by the California Air Resources Board (CARB) or threshold limit values established by the American Conference of Governmental Industrial Hygienists (ACGIH) or any concentration that poses unacceptable health risk to human beings, and there are no detectable emissions of toxics for which no level is known below which adverse health effects are anticipated. The most stringent limit will apply. If these concentrations are not maintained, the owner/operator shall install best available control technology (BACT).	Applicable. Substantive provisions only (State rule not included in SIP).
State	APCD Rule 59(e)(1)	Every landfill owner/operator shall analyze the concentrations of total organic compounds and toxic air contaminants found in the body and immediately above the surface of the landfill.	Applicable. Substantive provisions only (State rule not included in SIP).

TABLE B-2
Applicable or Relevant and Appropriate Requirements
Site 7 - Box Canyon Landfill
MCB Camp Pendleton
(Sheet 7 of 7)

Federal or State ARAR or TBC	Citation	Requirement	Comments
State	Comprehensive Water Quality Control Plan for the San Diego Basin (Basin Plan) Water Code Section 13240	Establishes beneficial uses of groundwater; established water quality objectives.	Applicable for groundwater monitoring at Site 7.
State	Fish and Game Code Sections 5650 and 5652	It is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this State any material listed in Fish and Game Code Sections 5650 and 5652.	Applicable. Site 7 may leach if not capped under the presumptive remedy.

[a]The provisions of the California Hazardous Waste Control Act that have been approved by the EPA as part of the State RCRA program are federally enforceable and are, therefore, Federal ARARs. It is the State of California's position that the requirements under the approved RCRA program are State ARARs. See Section 2.0 for a more detailed discussion.

ACGIH - American Conference of Governmental Industrial Hygienists.
APCD - Air Pollution Control District.
ARAR - Applicable or relevant and appropriate requirement.
BACT - Best available control technology.
CARB - California Air Resources Board.
CCR - California Code of Regulations.
CFR - Code of Federal Regulations.
cm/s - Centimeters per second.
MCB - Marine Corps Base.
RCRA - Resource Conservation and Recovery Act.
SIP - State implementation plan.
TBC - To be considered.

APPENDIX C
ADMINISTRATIVE RECORD INDEX

UIC No. / DOCUMENT.TYPE... / CONTR/GUID..NO.. / APPROX.#.OF.PAGES	DOC.NO.	PRC.DATE / DOC.DATE / CTO.NO.. / EPA.CAT#	FROM..... / FROM.SIGNATURE..... / TO..... / TO.SIGNATURE.....	.....SUBJECT.....	CLASSIFICATION	KEY WORDS	...Site...	....Location.....
M00681 DATA 0004	001923	06/28/94 04.3	MCB CAMP PENDLETON MCB CAMP PENDLETON	PROPOSED REMEDIAL ACTION OBJECTIVES FOR SOIL GROUP A SITES, ECOLOGICAL RISK ASSESSMENT FOR MCB CAMP PENDLETON.	ADMIN RECORD	RA RISK	GROUP A	
M00681 DATA 0004	002036	06/29/94 02.1	MCB CAMP PENDLETON MCB CAMP PENDLETON	SUMMARY OF ANALYTICAL DATA FOR SURFACE IMPOUNDMENT CONSTITUENTS.	ADMIN RECORD	SAP SLUDGE		
M00681 DATA 0003	002037	06/29/94 02.2	DAMES & MOORE MCB CAMP PENDLETON	SITE VISIT COLLECTING SAMPLES AND TIMES SAMPLES WERE COLLECTED.	ADMIN RECORD	SV SLUDGE		
M00681 DATA 000000000000000 0004	001504	06/21/94 09/18/80 00000 02.2	ENVIRONMENTAL ENG. MCB CAMP PENDLETON	LOS FLORES B-41614 MCB CAMP PENDLETON DATA	ADMIN RECORD	DATA	8A GROUP B OU2	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0003	001371	06/20/94 04/19/82 00000 03.2	ENVIRON ENG LAB. R. CHAMBERS SOUTHWEST DIVISION	ANALYTICAL DATA MCB CAMP PENDLETON #1	ADMIN RECORD	DATA		SOUTHWEST DIVISION
M00681 DATA 0003	002054	06/29/94 12/08/89 01.1	MCB CAMP PENDLETON MCB CAMP PENDLETON	MCB CAMP PENDLETON INSTALLATION RESTORATION PROGRAM BACKGROUND.	ADMIN RECORD	IAS FS RI REMOVAL(3) REMOVAL(6)	3 4 5 6 8 41 GROUP A GROUP B OU1,OU2	SOUTHWEST DIVISION
M00681 DATA 0004	001780	06/27/94 08/07/91 03.2	SOUTHWEST DIVISION A.E. THOMPSON MCB CAMP PENDLETON	CONTAMINATED SOIL TREATMENT. PROJECT ACTIVATION GUIDELINES.	ADMIN RECORD	TSDF		
M00681 DATA 000000000000000 0009	000802	05/17/94 03/03/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: ORGANOCHLORINE PESTICIDES PCBs SDG# S0525	ADMIN RECORD	PESTICIDES PCB	GROUP A	SOUTHWEST DIVISION
M00681 DATA 0007	000805	05/17/94 03/03/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: VOLATILES SDG# S0525	ADMIN RECORD	VOLATILES		

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M00681 DATA 0008	000806	05/17/94 03/03/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: SEMIVOLATILES SDG# S0525	ADMIN RECORD	SEMIVOLATILES		
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M00681 DATA 000000000000000 0003	002314	07/20/94 03/03/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: S0525	ADMIN RECORD	FUEL		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0007	002310	07/20/94 03/04/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0525	ADMIN RECORD	METALS		SOUTHWEST DIVISION
M00681 DATA 35073 0256	000611	05/13/94 03/09/92 00166 02.2	CH2M HILL PEGGY A. NORTON CH2M HILL EARL BYRON	ANALYTICAL DATA MCB CAMP PENDLETON BIO ACCUMULATION PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDES METALS		
M00681 DATA 35128 0297	000612	05/13/94 03/09/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA MCB CAMP PENDLETON PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 0007	000794	05/17/94 03/09/92 00166 02.2		DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL AND WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0598	ADMIN RECORD	WATER PESTICIDES PCB		

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M00681 DATA 35121 0390	000610	05/13/94 03/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARKLY	ANALYTICAL DATA MCB CAMP PENDLETON PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 35078 0201	000613	05/13/94 03/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON CH2M HILL EARL BYRON	ANALYTICAL DATA MCB CAMP PENDLETON BIO ACCUMULATION PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 0009	000795	05/17/94 03/10/92 00166 02.2		DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0636	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 0006	000796	05/17/94 03/10/92 00166 02.2		DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0617	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0006	000812	05/17/94 03/10/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0617	ADMIN RECORD	WATER PESTICIDES PCB		
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M00681 DATA 000000000000000 0005	002312	07/20/94 03/10/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0636	ADMIN RECORD	METALS		SOUTHWEST DIVISION

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M00681 DATA 000000000000000 0532	000789 	05/17/94 03/12/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S268	ADMIN RECORD	DATA	6	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0020	002358 	07/21/94 03/12/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CARBAMATE/UREA PESTICIDES SDG: G26823,G26961,G28402,G28403,G28541,G29186	ADMIN RECORD	WATER PESTICIDES	23	SOUTHWEST DIVISION
M00681 DATA 0007	000797 	05/17/94 03/13/92 00166 02.2		DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0657	ADMIN RECORD	PESTICIDES PCB		
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M00681 DATA 000000000000000 0003	002307 	07/20/94 03/13/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: S0657	ADMIN RECORD	FUEL		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0007	002311 	07/20/94 03/13/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0657	ADMIN RECORD	METALS		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0241	000734 	05/16/94 03/16/92 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TRIAZINE, PESTICIDES LAB: ESE SDG# G26951,G27060,G28670,G28964,G29112,G29391	ADMIN RECORD	PESTICIDES		
M00681 DATA 000000000000000 0050	002351 	07/21/94 03/16/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: CHLORINATED HERBICIDES CASE: NACPS1 SDG: G27017, G29493, G28842, AND G28712	ADMIN RECORD	HERBICIDE		SOUTHWEST DIVISION
M00681 DATA 0271	000776 	05/17/94 03/19/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S352	ADMIN RECORD	HPCCD		

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M00681 DATA 0351	000780	05/17/94 03/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S351	ADMIN RECORD	HPCCD		
M00681 DATA 0419	000781	05/17/94 03/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S347	ADMIN RECORD	HPCCD		
M00681 DATA 0329	000791	05/17/94 03/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S317	ADMIN RECORD	HPCCD		
M00681 DATA 0339	000790	05/17/94 03/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S379	ADMIN RECORD	HPCCD		
M00681 DATA 0037	000784	05/17/94 03/26/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE HYDROCARBONS ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	TPH		
M00681 DATA 0038	000785	05/17/94 03/26/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE HYDROCARBONS ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	TPH		
M00681 DATA 0053	000786	05/17/94 03/27/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON GCMS\SEMIVOLATILES ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0045	000798	05/17/94 03/27/92 00166 02.2	WESTON MANAGER IT CORPORATION	DATA SUMMARY PACKAGE FOR MCB CAMP PENDLETON GCMS\VOLATILES ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	VOLATILES		
M00681 DATA 0005	000803	05/17/94 03/27/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: ORGANOCHLORINE PESTICIDES PCBs SDG# S0848	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0004	000804	05/17/94 03/27/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES SDG# S0848	ADMIN RECORD	WATER SEMIVOLATILES		

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M00681 DATA 0005	000810	05/17/94 03/27/92 00166 02.2	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCB SDG# S0848	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0004	000811	05/17/94 03/27/92 00166 02.2	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES SDG# S0848	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0003	002308	07/20/94 03/27/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: S0872	ADMIN RECORD	FUEL	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0005	002325	07/21/94 03/27/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0848	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION
M00681 DATA 0270	000783	05/17/94 03/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S438	ADMIN RECORD	HPCCD	
M00681 DATA 0028	000799	05/17/94 03/30/92 00166 02.2	WESTON MANAGER IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	TPH	
M00681 DATA 0005	000800	05/17/94 03/30/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: SEMIVOLATILES SDG# S0909	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 0005	000801	05/17/94 03/30/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: ORGANOCHLORINE PESTICIDES PCBs SDG# S0909	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 DATA 0005	000814	05/17/94 03/30/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: SEMIVOLATILES SDG# S0909	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 0005	000815	05/17/94 03/30/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs SDG# S0909	ADMIN RECORD	WATER PESTICIDES PCB	

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M00681 DATA 000000000000000 0008	002321	07/21/94 03/30/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0909	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 0478	000782	05/17/94 03/31/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S447	ADMIN RECORD	HPCCD		
M00681 DATA 0034	000792	05/17/94 03/31/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	TEH		
M00681 DATA 0070	000793	05/17/94 03/31/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	IOG		
M00681 DATA 0028	000766	05/17/94 04/01/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	TPH		
M00681 DATA 0033	000767	05/17/94 04/01/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	TPH		
M00681 DATA 0310	000769	05/17/94 04/01/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON PESTICIDES\PCB RFW# 9203S471	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 0005	000779	05/17/94 04/01/92 00166 02.2		DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL AND WATER PARAMETER: ORGANOCHLORINE PESTICIDES/PCBs SDG# S0952	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0278	000787	05/17/94 04/01/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9203S471	ADMIN RECORD	VOLATILES		
M00681 DATA 0362	000788	05/17/94 04/01/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S350	ADMIN RECORD	HPCCD		

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M00681 DATA 000000000000000 0008	002326	07/21/94 04/01/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL AND WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0952	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 0027	000762	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PETROELUM HYDROCARBONS ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	TPH		
M00681 DATA 0041	000763	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROELUM HYDROCARBONS ANALYSIS SDG# S0617 RFW# 9203S362,9203S363,9203S364,9203S399	ADMIN RECORD	TPH		
M00681 DATA 0043	000764	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS VOLATILES ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	VOLATILES		
M00681 DATA 0037	000765	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES SDG# S0525 RFW# 9203S361	ADMIN RECORD	PESTICIDES		
M00681 DATA 0328	000768	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON DIOXINS\FURANS RFW# 9203S483	ADMIN RECORD	HPCCD		
M00681 DATA 0243	000771	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON DIXIONS RFW# 9203S485	ADMIN RECORD	HPCCD		
M00681 DATA 0027	000772	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	TPH		
M00681 DATA 0050	000773	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	PESTICIDES		
M00681 DATA 0487	000775	05/17/94 04/02/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES RFW# 9203S483	ADMIN RECORD	SEMIVOLATILES		

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M00681	000777	05/17/94	WESTION MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	PESTICIDES		
DATA		04/02/92		PESTICIDES PCB		PCB		
		00166	IT CORPORATION	RFW# 9203S483				
0268		02.2						
M00681	000778	05/17/94	WESTION MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	VOA		
DATA		04/02/92		VOA				
		00166	IT CORPORATION	RFW# 9203S483				
0219		02.2						
M00681	000761	05/17/94	WESTION MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	TPH		
DATA		04/03/92		TOTAL PURGEABLE PETROELUM HALOCARBONS ANALYSIS				
		00166	MCB CAMP PENDLETON	SDG# S0848 RFW# 9203S463				
0019		02.2						
M00681	000774	05/17/94	WESTION MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	IOG		
DATA		04/03/92		INORGANICS				
		00166	IT CORPORATION	RFW# 9203S483				
0217		02.2	DAVE MARK					
M00681	000900	05/18/94	WESTON MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	HPCCD		
DATA		04/03/92		DIXIONS				
		00166	IT CORPORATION	RFW# 9204S501				
0525		02.2						
M00681	000640	05/13/94	CH2M HILL	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	DATA		
DATA		04/06/92	PEGGY A. NORTON	ORGANICS				
32461		00166	IT CORPORATION					
0022		02.2	DAVE MARK					
M00681	000641	05/13/94	CH2M HILL	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	VOC		
DATA		04/06/92	PEGGY A. NORTON	ORGANICS VOLATILES				
32364		00166	IT CORPORATION					
0091		02.2	DAVE MARK					
M00681	000642	05/13/94	CH2M HILL	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	IOG		
DATA		04/06/92	PEGGY A. NORTON	INORGANICS				
32461		00166	IT CORPORATION					
0104		02.2	DAVE MARK					
M00681	000643	05/13/94	CH2M HILL	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	IOG		
DATA		04/06/92	PEGGY A. NORTON	INORGANICS				
32364461		00166	IT CORPORATION					
0226		02.2	DAVE MARK					
M00681	000685	05/13/94	ROY F. WESTION INC	ANALYTICAL DATA PACKAGE FOR MCB CAMP PENDLETON	ADMIN RECORD	DATA		
DATA		04/06/92		ANALYSIS				
		00166	IT CORPORATION	RFW# 9204S506				
0540		02.2						

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M00681 DATA 0049	000652	05/13/94 04/07/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES & PCBs ANALYSIS SDG# S0525 RFW# 9203S230,9203S268,9203S316	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 0040	000653	05/13/94 04/07/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# S0598 RFW# 9203S332,9203S347	ADMIN RECORD	HERBICIDE		
M00681 DATA 0063	000654	05/13/94 04/07/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	IOG		
M00681 DATA 0036	000648	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0617 RFW# 9203S363,9203S364,9203S399	ADMIN RECORD	TPH		
M00681 DATA 0025	000649	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0872 RFW# 9203S471,9203S483	ADMIN RECORD	TPH		
M00681 DATA 0043	000650	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S0617 RFW# 9203S362,9203S363,9203S364	ADMIN RECORD	SOLVENTS		
M00681 DATA 0025	000651	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0872 RFW# 9203S471,9203S483	ADMIN RECORD	TPH		
M00681 DATA 0037	000655	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	HERBICIDE		
M00681 DATA 0071	000656	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S0636 RFW# 9204S488	ADMIN RECORD	IOG		
M00681 DATA 0036	000669	05/13/94 04/10/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS VOLATILE ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	VOC		

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M00681 DATA 32699 0212	000639	05/13/94 04/11/92 00166 02.2	CH2M HILL MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON VOLATILES	ADMIN RECORD	HERBICIDE WATER PESTICIDES	
M00681 DATA 0035	000672	05/13/94 04/13/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	SOLVENTS	
M00681 DATA 0093	000679	05/13/94 04/13/92 00166 02.2	ESE	LABORATROY REPORT FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 0049	000657	05/13/94 04/14/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0069	000670	05/13/94 04/14/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS 9203S399 SDG# S0617 RFW# 9203S362,9203S363,9203S364,9203S379	ADMIN RECORD	IOG	
M00681 DATA 0021	000671	05/13/94 04/14/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS VOLATILES ANALYSIS SDG# S0848 RFW# 9203S463	ADMIN RECORD	VOC	
M00681 DATA 0435	000683	05/13/94 04/14/92 00166 02.2	ROY F. WESTION INC IT CORPORATION	ANALYTICAL DATA PACKAGE FOR MCB CAMP PENDLETON ANALYSIS RFW# 9204S580	ADMIN RECORD	DATA	
M00681 DATA 0410	000684	05/13/94 04/14/92 00166 02.2	ROY F. WESTION INC IT CORPORATION	ANALYTICAL DATA PACKAGE FOR MCB CAMP PENDLETON ANALYSIS RFW# 9204S571	ADMIN RECORD	DATA	
M00681 DATA 32717 0215	000638	05/13/94 04/15/92 00166 02.2	CH2M HILL MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON VOLATILES	ADMIN RECORD	VOC	
M00681 DATA 32717 1379	000644	05/13/94 04/15/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES (missing pages 00001-000278)	ADMIN RECORD	SOLVENTS	

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M00681 DATA 0053	000658	05/13/94 04/16/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GS\MS SEMIVOLATILES ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	SOLVENTS		
M00681 DATA 0065	000659	05/13/94 04/16/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GS\MS VOLATILES ANALYSIS SDG# S0598 RFW# 9203S317,9203S332,9203S347	ADMIN RECORD	VOC		
M00681 DATA 0047	000662	05/13/94 04/16/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0617 RFW# 9203S362,9203S363,9203S364	ADMIN RECORD	PESTICIDES		
M00681 DATA 0021	000665	05/13/94 04/17/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S0848 RFW# 9203S463	ADMIN RECORD	SOLVENTS		
M00681 DATA 0629	000681	05/13/94 04/17/92 00166 02.2	ROY F. WESTION INC IT CORPORATION	ANALYTICAL DTA PACKAGE FOR MCB CAMP PENDLETON ANALYSIS RFW# 9204S607	ADMIN RECORD	DATA		
M00681 DATA 0516	000682	05/13/94 04/18/92 00166 02.2	ROY F. WESTION INC IT CORPORATION	ANALYTICAL DATA PACKAGE FOR MCB CAMP PENDLETON ANALYSIS RFW# 9204S616	ADMIN RECORD	DATA		
M00681 DATA 000000000000000 0005	002323	07/21/94 04/19/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S0598	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 0018	000645	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS SDG# S0952 RFW# 9204S506	ADMIN RECORD	TPH		
M00681 DATA 0022	000646	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS SDG# S0848 RFW# 9203S463	ADMIN RECORD	TPH		
M00681 DATA 0026	000647	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PUREABLE PETROLEUM HYDROCARBONS SDG# S0909 RFW# 9204S485,9204S501	ADMIN RECORD	TPH		

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M00681 DATA 0065	000660	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	PESTICIDES		
M00681 DATA 0107	000661	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	PESTICIDES		
M00681 DATA 0007	000674	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: VOLATILES LAB: ROY F. WESTON SDG# S1126	ADMIN RECORD	WATER		
M00681 DATA 0006	000675	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: SEMIVOLATILES LAB: ROY F. WESTON SDG# S1126	ADMIN RECORD	SOLVENTS WATER		
M00681 DATA 0006	000676	05/13/94 04/20/92 00166 02.2	WESTION MANAGERS IT CORPORATION	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs LAB: ROY F. WESTON SDG# S1126	ADMIN RECORD	PESTICIDES PCB WATER		
M00681 DATA 000000000000000 0007	002320	07/21/94 04/20/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S1126	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 0052	000678	05/13/94 04/21/92 00166 02.2	ESE	LABORATROY REPORT FOR MCB CAMP PENDLETON ANALYSIS	ADMIN RECORD	DATA		
M00681 DATA 0054	000663	05/13/94 04/22/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES & PCBs ANALYSIS SDG# S0636 RFW# 9203S350,9203S351	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 0042	000664	05/13/94 04/22/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS VOLATILES ANALYSIS SDG# S0617 RFW# 9203S362,9203S363,9203S364,9203S399	ADMIN RECORD	VOC		
M00681 DATA 0042	000677	05/13/94 04/22/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATROY REPORT FOR MCB CAMP PENDLETON CHLORINATED HERBICIDES ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	HERBICIDE		

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M00681 DATA 0060	000680	05/13/94 04/22/92 00166 02.2	ESE	LABORATROY REPORT FOR MCB CAMP PENDLETON CHLORINATED HERBICIDES ANALYSIS SDG# S0617 RFW# 9203S363,9203S364,9203S399	ADMIN RECORD	HERBICIDES		
M00681 DATA 0007	001330	05/31/94 04/22/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: SEMIVOALTILES LAB: ROY F. WESTON SDG# S1166	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0006	002284	07/20/94 04/22/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: CLP METALS AND MOLYBDENUM SDG: S1166	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 0056	000666	05/13/94 04/23/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	IOG		
M00681 DATA 0026	000667	05/13/94 04/23/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NONCLP ANALYSIS SDG# S0848 RFW# 9203S463,9203S447	ADMIN RECORD	IOG		
M00681 DATA 0031	000668	05/13/94 04/23/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILE ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	SOLVENTS		
M00681 DATA 0042	000673	05/13/94 04/23/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS VOLATILES ANALYSIS SDG# S0909 RFW# 9204S485,9204S501	ADMIN RECORD	VOC		
M00681 DATA 32459 0468	000576	05/12/94 04/28/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. VOLATILES, HERBICIDES	ADMIN RECORD	VOC HERBICIDES		
M00681 DATA 0026	000588	05/12/94 04/28/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS VOLATILES ANLYSIS SDG# S0952 RFW# 9204S506	ADMIN RECORD	VOC		
M00681 DATA 0028	000589	05/12/94 04/28/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S204S483 RFW# 9203S471, 9204S483	ADMIN RECORD	TPH		

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M00681 DATA 0011	000601	05/13/94 04/28/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: SEMIVOLATILES LAB: ROY F. WESTON SDG# S1166	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 000000000000000 0006	002313	07/20/94 04/28/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL,WATER PARAMETERS: VOLATILES SDG: S1188	ADMIN RECORD	WATER VOLATILES		SOUTHWEST DIVISION
M00681 DATA 0073	000587	05/12/94 04/29/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS ANALYSIS SDG# S0909 RFW# 9204S485,9204S501	ADMIN RECORD	IOG		
M00681 DATA 000000000000000 0008	002283	07/20/94 04/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: CLP METALS AND MOLYBDENUM SDG: S1188	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 0052	000591	05/12/94 04/30/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0657 RFW# 9203S352,9203S374	ADMIN RECORD	PWSTICIDES		
M00681 DATA 0007	000602	05/13/94 04/30/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: ORGANOCHLORINE PESTICIDES\PCBs LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0006	000603	05/13/94 04/30/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: VOLATILES LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER VOC		
M00681 DATA 0004	000604	05/13/94 04/30/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: SEMIVOLATILES LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 0006	001327	05/31/94 04/30/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 0007	001328	05/31/94 04/30/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER PESTICIDES PCB		

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M00681 DATA 0004	001329	05/31/94 04/30/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: SEMIVOALTILES LAB: ROY F. WESTON SDG# S1197	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0005	002322	07/21/94 04/30/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: S1197	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 32452 0079	000577	05/12/94 05/01/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS REF# 32510,32520	ADMIN RECORD	IOG		
M00681 DATA 32452 0148	000578	05/12/94 05/01/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDES, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH		
M00681 DATA 0034	000590	05/12/94 05/04/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0848 RFW# 9203S463	ADMIN RECORD	PESTICIDES		
M00681 DATA 0040	000593	05/12/94 05/04/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0909 RFW# 9204S485,9204S501	ADMIN RECORD	TPH		
M00681 DATA 0027	000594	05/12/94 05/04/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS SEMIVOLATILES ANALYSIS SDG# S0909 RFW# 9204S485,9204S501	ADMIN RECORD	SOLVENTS		
M00681 DATA 0051	000595	05/12/94 05/04/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS ANALYSIS SDG# S0952 RFW# 9204S506	ADMIN RECORD	IOG		
M00681 DATA 0250	000607	05/13/94 05/04/92 00166 02.2	ENSECO CAL LAB MARK BECHTHOLD WESTION, INC. LYNDA KELLY	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON DIXION FURAN ANALYSES LAB ID: 063255	ADMIN RECORD	HXCDD		
M00681 DATA 35548 0914	000609	05/13/94 05/04/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARKLY	ANALYTICAL DATA MCB CAMP PENDLETON ORGANIC AND INORGANIC PARAMETERS	ADMIN RECORD	IOG		

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M00681 DATA 0012	002061	06/29/94 05/04/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	5 6 9 24 GROUP A OU1	SOUTHWEST DIVISION
M00681 DATA 0029	000596	05/12/94 05/05/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS SEMIVOLATILES ANALYSIS SDG# S0952 RFW# 9204S506	ADMIN RECORD	SOLVENTS		
M00681 DATA 0021	000598	05/12/94 05/05/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1105 RFW# 9204S622,9204S623	ADMIN RECORD	TPH		
M00681 DATA 35569 0615	000608	05/13/94 05/05/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARKLY	ANALYTICAL DATA MCB CAMP PENDLETON ORGANIC AND INORGANIC PARAMETERS	ADMIN RECORD	IOG		
M00681 DATA 0006	001331	05/31/94 05/05/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: SEMIVOALTILES LAB: ROY F. WESTON SDG# S1224	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0005	002327	07/21/94 05/05/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL AND WATER PARAMETERS: CLP METALS AND MOLYBDENUM SDG: S1224	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 0039	000597	05/12/94 05/07/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S0848 RFW# 9203S463	ADMIN RECORD	PESTICIDES		
M00681 DATA 0035	000605	05/13/94 05/07/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0909 RFW# 9204S485	ADMIN RECORD	PESTICIDES		
M00681 DATA 0031	000599	05/12/94 05/08/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S0952 RFW# 9204S506	ADMIN RECORD	TPH		
M00681 DATA 0030	000600	05/12/94 05/08/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS VOLATILES ANLYSIS SDG# S1105 RFW# 9204S622,9204S623	ADMIN RECORD	VOC		

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M00681 DATA 0059	000606	05/13/94 05/08/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	DATA VALAIDATION REPORT FOR MCB CAMP PENDLETON ORGANOPHOSPHOROUS PESTICIDES AND PCBs SDG# S0617 RFW# 9203S362,9203S363,923S364,9203S399	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0008	002062	06/29/94 05/08/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	5 6 9 24 GROUP A OU1	SOUTHWEST DIVISION
M00681 DATA 32510 0275	000579	05/12/94 05/11/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDES, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	
M00681 DATA 32521 0372	000585	05/12/94 05/12/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 32521 0384	000586	05/12/94 05/12/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDE, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	
M00681 DATA 0004	002063	06/29/94 05/12/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	6 9 24 GROUP A OU1	SOUTHWEST DIVISION
M00681 DATA 32531 0130	000580	05/12/94 05/13/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDES, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	
M00681 DATA 32576 0229	000581	05/12/94 05/13/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDES, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	

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M00681 DATA 32576 0100	000582	05/12/94 05/13/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCB, HERBICIDES, TFH REF# 32587,32594	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	
M00681 DATA 32531 0039	000583	05/12/94 05/13/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS,	ADMIN RECORD	IOG	
M00681 DATA 32520 0268	000584	05/12/94 05/13/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, PESTICIDES, PCBs, HERBICIDES, TFH	ADMIN RECORD	PESTICIDES PCB HERBICIDE TFH	
M00681 DATA 0049	000592	05/12/94 05/13/92 00166 02.2	WESTION MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS VOLATILE ANALYSIS SDG# S1126 RFW# 9204S635,9204S646	ADMIN RECORD	VOC	
M00681 DATA 32520 0271	001183	05/25/94 05/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 0004	002064	06/29/94 05/13/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	6 9 24 GROUP A OU1
M00681 DATA 32587 0340	000569	05/12/94 05/14/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, VOLATILES, SEMIVOLATILES, PESTICIDES\PCBs TFH, HERBICIDES	ADMIN RECORD	SOLVENTS PESTICIDES PCB TFH HERBICIDES	
M00681 DATA 32594 0176	000570	05/12/94 05/14/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, VOLATILES, SEMIVOLATILES, PESTICIDES\PCBs TFH, HERBICIDES	ADMIN RECORD	SOLVENTS PESTICIDES PCB TFH HERBICIDE	

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M00681 DATA 0004	002065	06/29/94 05/14/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	6 9 24
M00681 DATA 0047	000551	05/12/94 05/15/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1105 RFW# 9204S622, 9204S623	ADMIN RECORD	PESTICIDES	
M00681 DATA 0030	000552	05/12/94 05/15/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL PURGEABLE PETROLEUM HYDROCARBON ANALYSIS SDG# S1126 RFW# 9204S635, 9204S646	ADMIN RECORD	TPH	
M00681 DATA 0050	000553	05/12/94 05/15/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1126 RFW# 9204S635, 9204S646	ADMIN RECORD	PESTICIDES	
M00681 DATA 32595 0330	000573	05/12/94 05/15/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS,SEMIVOLATILES, PESTICIDES\PCBs, TPH, HERBICIDES	ADMIN RECORD	SOLVENTS PESTICIDES PCB TPH HERBICIDES	
M00681 DATA 32595 0187	000574	05/12/94 05/15/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 0004	002066	06/29/94 05/15/92 166 01.2	INTERNATIONAL TECH MCB CAMP PENDLETON	CONSTRUCTION REPRESENTATIVES REPORT FOR CAMP PENDLETON	ADMIN RECORD	DATA	6 9 24
M00681 DATA 0028	000563	05/12/94 05/18/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL EXTRACTABLE PETROLEUM HYDRICARBONS ANALYSIS SDG# S1105 RFW# 9204S622,9204S623	ADMIN RECORD	TPH	
M00681 DATA 0035	000564	05/12/94 05/18/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL EXTRACTABLE PETROLEUM HYDRICARBONS ANALYSIS SDG# S1146 RFW# 9204S647,9204S661	ADMIN RECORD	TPH	
M00681 DATA 0032	000565	05/12/94 05/18/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL EXTRACTABLE PETROLEUM HYDRICARBONS ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	TPH	

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M00681 DATA 0039	000556	05/12/94 05/19/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS SEMIVOLATILES ANALYSIS SDG# S1146 RFW# 9204S647, 9204S661	ADMIN RECORD	SOLVENTS		
M00681 DATA 000000000000000 0020	002359	07/21/94 05/20/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: G28606 CASE: NACPB1	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0025	002360	07/21/94 05/20/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: G29002,G28641,G28346 CASE: NACPB1	ADMIN RECORD	WATER VOLATILES		SOUTHWEST DIVISION
M00681 DATA 0054	000554	05/12/94 05/21/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S0952 RFW# 9204S571, 9204S580	ADMIN RECORD	PESTICIDES		
M00681 DATA 0276	000555	05/12/94 05/21/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S1069 RFW# 9204S597, 9204S607,9204S615	ADMIN RECORD	PESTICIDES		
M00681 DATA 0276	000557	05/12/94 05/21/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S1069 RFW# 9204S597, 9204S607,9204S615	ADMIN RECORD	PESTICIDES		
M00681 DATA 0080	000558	05/12/94 05/22/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1188 RFW# 9204S715, 9204S721,9204S754	ADMIN RECORD	TPH		
M00681 DATA 0035	000559	05/12/94 05/22/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. GC\MS VOLATILES ANALYSIS SDG# S1146 RFW# 9204S647, 9204S661	ADMIN RECORD	VOC		
M00681 DATA 0045	000560	05/12/94 05/22/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S0909 RFW# 9204S485, 9204S501	ADMIN RECORD	PESTICIDES		
M00681 DATA 0037	000561	05/12/94 05/22/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S0952 RFW# 9204S506	ADMIN RECORD	PESTICIDES		

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M00681 DATA 0030	000562	05/12/94 05/22/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOPHOSPHOROUS PESTICIDES ANALYSIS SDG# S1105 RFW# 9204S616,9204S622	ADMIN RECORD	PESTICIDES	
M00681 DATA 32948 0613	000571	05/12/94 05/22/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS, WATER, SOIL	ADMIN RECORD	IOG WATER	
M00681 DATA 32698 0425	000572	05/12/94 05/22/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 32732 0292	000575	05/12/94 05/22/92 00166 02.2	CH2M HILL PEGGA. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANICS, SEMIVOLATILES, TFH, PESTICIDES, PCBs, HERBICIDES	ADMIN RECORD	SOLVENTS TFH PESTICIDES PCB HERBICIDE	
M00681 DATA 0494	000993	05/18/94 05/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON RFW# 9205S880 DIXIONS	ADMIN RECORD	HPCCD	
M00681 DATA 0028	000568	05/12/94 05/26/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	TPH	
M00681 DATA 0028	000845	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	TPH	
M00681 DATA 0046	000846	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1226 RFW# 9204S635,9204S646	ADMIN RECORD	TPH	
M00681 DATA 0039	000847	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	TPH	
M00681 DATA 0039	000848	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1146 RFW# 9204S647,9204S661	ADMIN RECORD	TPH	

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M00681 DATA 0042	000849	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S1126 RFW# 9204S635,9204S646	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0026	000850	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S1105 RFW# 9204S622,9204S623	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 32704 0443	000994	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON SEMIVOLATILES	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 32734 0697	001004	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES	ADMIN RECORD	VOLATILES SEMIVOLATILES		
M00681 DATA 32726 0367	001005	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES,TPH, PESTICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES TPH PESTICIDES		
M00681 DATA 32699 0048	001006	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, INORGANICS	ADMIN RECORD	METALS IOG		
M00681 DATA 32726 0670	001007	05/18/94 05/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, INORGANICS	ADMIN RECORD	METALS IOG		
M00681 DATA 0044	000851	05/18/94 05/27/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0040	000852	05/18/94 05/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBON ANALYSIS SDG# S1188 RFW# 9204S715,9205S721,9205S754	ADMIN RECORD	TPH		
M00681 DATA 0041	000853	05/18/94 05/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC\MS SEMIVOLATILES ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	SEMIVOLATILES		

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M00681 DATA 32703 0867	001012	05/18/94 05/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON SEMIVOLATILES, PESTICIDES	ADMIN RECORD ADMIN RECORD	SEMIVOLATILES PESTICIDES		
M00681 DATA 32717 0123	000995	05/18/94 05/29/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON SEMIVOLATILES, VOLATILES, TFH, HERBICIDES	ADMIN RECORD	SEMIVOLATILES VOLATILES TFH HERBICIDE		
M00681 DATA 32743 0743	000996	05/18/94 05/29/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON SEMIVOLATILES, VOLATILES, TFH, HERBICIDES PESTICIDES, PCB	ADMIN RECORD	SEMIVOLATILES VOLATILES TFH HERBICIDE PESTICIDES PCB		
M00681 DATA 000000000000000 0015	002329	07/21/94 05/29/92 00166 02.2	CH2M HILL MCB CAMP PENDLETON	PARAMETER: VOLATILES SDG: 33024	ADMIN RECORD	VOLATILES WATER	SOUTHWEST DIVISION	
M00681 DATA 0108	000882	05/18/94 06/01/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S1226 RFW# 9204S635,9204S646,9204S675	ADMIN RECORD	IOG		
M00681 DATA 0028	000879	05/18/94 06/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON POLYCHLORINATED BIPHENYLS ANALYSIS SDG# S1284 RFW# 9205S893	ADMIN RECORD	PCB		
M00681 DATA 0028	000880	05/18/94 06/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0027	000881	05/18/94 06/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	TEH		
M00681 DATA 000000000000000 0002	002475	07/22/94 06/04/92 00166 02.2	CH2M HILL MCB CAMP PENDLETON	PARAMETERS: SEMIVOLATILES SDG: 33062	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	

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M00681 DATA 0006	000706	05/13/94 06/08/92 00166 02.2	MCB CAMP PENDLTON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES SDG# S1525	ADMIN RECORD	SOLVENTS		
M00681 DATA 0006	000707	05/13/94 06/08/92 00166 02.2	MCB CAMP PENDLTON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON VOLATILES SDG# S1525	ADMIN RECORD	VOC		
M00681 DATA 0043	000885	05/18/94 06/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1146 RFW# 9204S647,9204S661	ADMIN RECORD	PESTICIDES		
M00681 DATA 0052	000886	05/18/94 06/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1124 RFW# 9205S764,9205S771	ADMIN RECORD	PESTICIDES		
M00681 DATA 0006	001326	05/31/94 06/08/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# S1525	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0005	002309	07/20/94 06/08/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL AND WATER PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: S1525	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002328	07/21/94 06/08/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL AND WATER PARAMETERS: CLP METALS AND MOLYBDENUM SDG: S1525	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 0040	000887	05/18/94 06/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# S1188 RFW# 9204S715,9205S721,9205S754	ADMIN RECORD	VOLATILES		
M00681 DATA 0048	000888	05/18/94 06/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# S1188 RFW# 9204S715,9205S721,9205S754	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0032	000889	05/18/94 06/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	VOLATILES		

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M00681 DATA 0100	000854	05/18/94 06/10/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S1188 RFW# 9204S715,9205S721,9205S754	ADMIN RECORD	IOG		
M00681 DATA 32948 1079	000694	05/13/94 06/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	DATA		
M00681 DATA 32948 0606	000708	05/13/94 06/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS SDG# ITCORP17	ADMIN RECORD	IOG		
M00681 DATA 32943 1287	000710	05/13/94 06/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	DATA		
M00681 DATA 0088	000884	05/18/94 06/11/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	IOG		
M00681 DATA 32943 0298	001003	05/18/94 06/11/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS		
M00681 DATA 32953 0083	000695	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG		
M00681 DATA 32946 0550	000697	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	WATER		
M00681 DATA 32936 0220	000699	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TPH HERBICIDE		
M00681 DATA 32936 0088	000700	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	WATER		

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M00681 DATA 32953 0270	000701	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE		
M00681 DATA 32942 0156	000702	05/13/94 06/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE		
M00681 DATA 0053	000704	05/13/94 06/15/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINES PESTICIDES ANALYSIS SDG# S1166 RFW# 9204S662,9204S676,9204S714	ADMIN RECORD	PESTICIDES		
M00681 DATA 0078	000705	05/13/94 06/15/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# S1224 RFW# 9205S764,9205S771	ADMIN RECORD	IOG		
M00681 DATA 000000000000000 0050	002411	07/22/94 06/15/92 00166 02.2	ROY WESTON -STOCKTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: SEMIVOLATILES SDG: 33143(S1568)	ADMIN RECORD	SEMIVOLATILES		SOUTHWEST DIVISION
M00681 DATA 0076	000566	05/12/94 06/18/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1188 RFW# 9204S715,9204S721,9204S754	ADMIN RECORD	PESTICIDES		
M00681 DATA 0022	000567	05/12/94 06/19/92 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLETON IT CORP. INORGANICS ANALYSIS SDG# S1284 RFW# 9205S868	ADMIN RECORD	IOG		
M00681 DATA 32990 0211	000686	05/13/94 06/25/92 00166 02.2	ROY F. WESTION INC IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG		
M00681 DATA 32990 0294	000687	05/13/94 06/25/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS, PESTICIDES, PCB, TFH	ADMIN RECORD	PESTICIDES PCB TFH		
M00681 DATA 33052 0100	000688	05/13/94 06/26/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG		

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M00681 DATA 0233	001208	05/27/94 06/29/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S1577 RFW# 9206S093	ADMIN RECORD	PESTICIDES	
M00681 DATA 32998 0289	000709	05/13/94 07/06/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS SDG# S1548 RFW# 9206S082,9206S087 GC\MS VOLATILES ANALYSIS	ADMIN RECORD	VOC	
M00681 DATA 33007 0476	000712	05/13/94 07/08/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 0134	000883	05/18/94 07/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GCMS/SEMIVOLATILES ANALYSIS SDG# S1577 RFW# 9206S093	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 33007 0107	001002	05/18/94 07/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 33062 0168	000711	05/13/94 07/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	SOLVENTS	
M00681 DATA 33042 0176	000713	05/13/94 07/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	TFH	
M00681 DATA 33042 0073	000714	05/13/94 07/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 33062 0182	000715	05/13/94 07/10/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 33024 0353	000696	05/13/94 07/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB HERBICIDES TFH	

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M00681 DATA 33063 0183	000703	05/13/94 07/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 33063 0084	000716	05/13/94 07/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 33019 0196	000717	05/13/94 07/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH	
M00681 DATA 33019 0104	000718	05/13/94 07/13/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 33043 0242	000698	05/13/94 07/16/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDES	
M00681 DATA 33053 0763	000689	05/13/94 07/17/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	
M00681 DATA 33534 0860	000692	05/13/94 07/17/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD	DATA	
M00681 DATA 000000000000000 0136	002480	07/22/94 07/17/92 00000 02.2	 MCB CAMP PENDLETON	INORGANIC ANALYSIS DATA REPORT FOR NAVY-CAMP PENDLETON SDG 29147	ADMIN RECORD	DATA QC	SOUTHWEST DIVISION
M00681 DATA 33064 0552	000691	05/13/94 07/18/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON ORGANICS	ADMIN RECORD ADMIN RECORD ADMIN RECORD	DATA HW DISPOSAL	
M00681 DATA 33141 0345	000690	05/13/94 07/20/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG	

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M00681 DATA 33143 0075	000693	05/13/94 07/23/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANICS	ADMIN RECORD	IOG		
M00681 DATA 01F166S920066 0035	000735	05/16/94 07/23/92 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: ESE SDG# G30232	ADMIN RECORD	VOC		
M00681 DATA 33143 0282	001155	05/25/94 07/23/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs,	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH PESTICIDES PCB		
M00681 DATA 33142 0264	001156	05/25/94 07/23/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, HERBICIDES	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH PESTICIDES PCB HERBICIDE		
M00681 DATA 000000000000000 0060	002274	07/20/94 07/23/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR CTO #166, LABORATORY REFERENCE #33142 INORGANICS.	ADMIN RECORD	DATA		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0015	002349	07/21/94 07/29/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES CASE: NACPW2D SDG: G30443, G31088	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 000000000000000 0030	002354	07/21/94 07/29/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: G30484 AND G30704	ADMIN RECORD	WATER SEMIVOLATILES		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0017	002355	07/21/94 07/29/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: G30482	ADMIN RECORD	PESTICIDES PCB WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0015	002357	07/21/94 07/29/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TRIAZINE, ORGANOPHOSPHORUS, AND ORGANO- NITROGEN PESTICIDE SDG: G30483	ADMIN RECORD	WATER PESTICIDES		SOUTHWEST DIVISION

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M00681 002347 DATA 000000000000000 0010	07/21/94 07/31/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE AND TPH-DIESEL CASE: NACPW1A SDG: G30469	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 002350 DATA 000000000000000 0020	07/21/94 08/03/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES CASE: NACPW1A SDG: G30553, G30281	ADMIN RECORD	WATER VOLATILES		SOUTHWEST DIVISION
M00681 002348 DATA 000000000000000 0010	07/21/94 08/05/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE AND TPH-DIESEL CASE: NACPW1A SDG: G30841	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 002356 DATA 000000000000000 0010	07/21/94 08/05/92 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE, TPH-DIESEL SDG: G30689	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 001333 DATA 0023	05/31/94 08/18/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: BORON LAB: ROY F. WESTON SDG# W2206	ADMIN RECORD	WATER		
M00681 001212 DATA 0079	05/27/94 08/24/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS CLP ANALYSIS SDG# W2116 RFW# 9207S377 9207S434	ADMIN RECORD	IOG		
M00681 001215 DATA 0062	05/27/94 08/24/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2116 RFW# 9207S377,9207S434	ADMIN RECORD	IOG		
M00681 002476 DATA 0776	07/22/94 08/28/92 02.2	ENVIRON & SCI ENG. MCB CAMP PENDLETON	ESE FIELD GROUP SAMPLES. CASE: NACPS2D*22-24	ADMIN RECORD	HERBICIDE TOC GC/MS TIC VOLATILES		
M00681 002477 DATA 0662	07/22/94 08/28/92 02.2	ENVIRON & SCI ENG. MCB CAMP PENDLETON	ESE FIELD GROUP SAMPLES. CASE: NACPS2D*20,21	ADMIN RECORD	TPH HERBICIDE PESTICIDES VOC GC/MS SEMIVOLATILES VOLATILES		

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M00681 DATA 33538 0180	001163	05/25/94 09/02/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS	
M00681 DATA 0027	001336	05/31/94 09/02/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: BORON LAB: ROY F. WESTON SDG# W2272	ADMIN RECORD	WATER	
M00681 DATA 33577 0180	001161	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOALTILES TFH METALS	
M00681 DATA 33598 0180	001162	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS	
M00681 DATA 33599 0303	001165	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 33560 0249	001166	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES, SEMIVOLATILES	ADMIN RECORD	TFH VOLATILES SEMIVOALTILES	
M00681 DATA 33599 0239	001167	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES,	ADMIN RECORD	TFH VOLATILES	
M00681 DATA 33584 0183	001171	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOALTILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 33559 0197	001174	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS	

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M00681 DATA 33560 0532	001175	05/25/94 09/03/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 0018	001335	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0007	001337	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ALKALINITY LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER	
M00681 DATA 0007	001338	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER	
M00681 DATA 0013	001339	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ANIONS LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER	
M00681 DATA 0007	001340	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TPH GASOLINE & DIESEL LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER	
M00681 DATA 0031	001341	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 DATA 0028	001342	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TAL METALS & MOLYBDENUM LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER METALS	
M00681 DATA 0044	001343	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 0043	001344	05/31/94 09/09/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# W2282	ADMIN RECORD	WATER SEMIVOLATILES	

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M00681 DATA 33624 0219	001164	05/25/94 09/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCB , METALS, HERBICIDES	ADMIN RECORD	VOALTILES SEMIVOALTILES TFH PESTICIDES PCB METALS HERBICIDE		
M00681 DATA 33611 0239	001168	05/25/94 09/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOALTILES PESTICIDES PCB TFH METALS HERBICIDE		
M00681 DATA 33690 0028	001170	05/25/94 09/11/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS		
M00681 DATA 33642 0283	001169	05/25/94 09/14/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS HERBICIDES	ADMIN RECORD	VOALTILES SEMIVOALTILES PESTICIDES PCB TFH METALS HERBICIDE		
M00681 DATA 33666 0055	001172	05/25/94 09/14/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON CYANIDE, SDG# W222 RFW# 9208S628	ADMIN RECORD	CYANIDE		
M00681 DATA 000000000000000 0007	002237	07/19/94 09/14/92 00000 02.2	ROY WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ALKALINITY SDG: W2294	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0007	002238	07/19/94 09/14/92 00000 02.2	ROY WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2294	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0007	002239	07/19/94 09/14/92 00000 02.2	ROY WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS SDG: W2294 (CHLORIDE,NITRATE-N,NITRATE-N AND SULFATE)	ADMIN RECORD	WATER		SOUTHWEST DIVISION

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M00681 002240 DATA 000000000000000 0009	07/20/94 09/14/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: W2294	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION
M00681 002257 DATA 000000000000000 0004	07/20/94 09/14/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2590	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION
M00681 002258 DATA 000000000000000 0025	07/20/94 09/14/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: BORON SDG: W2282 AND W2294	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 002259 DATA 000000000000000 0009	07/20/94 09/14/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2294	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION
M00681 001001 DATA 33643 0927	05/18/94 09/16/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS,PESTICIDES, PCB HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS PESTICIDES PCB HERBICIDE	
M00681 001173 DATA 33643 0063	05/25/94 09/16/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON CYANIDE, SDG# W2231 RFW# 9208S633	ADMIN RECORD	CYANIDE	
M00681 001179 DATA 33666 0252	05/25/94 09/16/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH, METALS, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS HERBICIDE	
M00681 001180 DATA 33673 0226	05/25/94 09/16/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH, METALS, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS HERBICIDE	

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M00681 DATA 0061	001210 	05/27/94 09/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2116 RFW# 9207S377 9207S434	ADMIN RECORD	VOLATILES		
M00681 DATA 0109	001211 	05/27/94 09/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# W2116 RFW# 9207S377 9207S434	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0070	001213 	05/27/94 09/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2116 RFW# 9207S377,9207S434	ADMIN RECORD	TEH		
M00681 DATA 0035	001216 	05/27/94 09/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON METALS SDG# W2116 RFW# 9207S377,9207S434	ADMIN RECORD	METALS		
M00681 DATA 0041	001217 	05/27/94 09/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2116 RFW# 9207S377,9207S434	ADMIN RECORD	TPH		
M00681 DATA 000000000000000 0028	002233 	07/19/94 09/21/92 00000 02.2	WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2506	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002318 	07/21/94 09/21/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2506	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION
M00681 DATA 33682 0212	001008 	05/18/94 09/22/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METAL VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE		
M00681 DATA 33683 0795	001009 	05/18/94 09/22/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES		

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M00681 DATA 33696 0059	001184	05/25/94 09/22/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON CYANIDE	ADMIN RECORD	CYANIDE		
M00681 DATA 33719 1003	001018	05/18/94 09/24/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES	ADMIN RECORD	VOLATILES SEMIVOLATILES		
M00681 DATA 33718 0223	001019	05/18/94 09/25/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 000000000000000 0015	002260	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE, NITRATE-N, NITRATE-N AND SULFATE) SDG: W2294	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002261	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2336	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0009	002262	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH GASOLINE TPH DIESEL SDG: W2336	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002263	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: W2336	ADMIN RECORD	WATER VOLATILES		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0006	002264	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2336	ADMIN RECORD	WATER HERBICIDE		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0035	002265	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2336	ADMIN RECORD	WATER METALS		SOUTHWEST DIVISION

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M00681 002266 DATA 000000000000000 0009	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: W2336	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION
M00681 002267 DATA 000000000000000 0009	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2336	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION
M00681 002268 DATA 000000000000000 0007	07/20/94 09/25/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2336	ADMIN RECORD	WATER PCB PESTICIDES	SOUTHWEST DIVISION
M00681 001010 DATA 33733 0301	05/18/94 09/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE	
M00681 001011 DATA 33696 0230	05/18/94 09/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE	
M00681 001020 DATA 33740 0218	05/18/94 09/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS	
M00681 000866 DATA 0109	05/18/94 09/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL VOLATILE PETROLEUM HYROCARBONS ANALYSIS SDG# W2272 RFW# 9209S726,9209S748,9209S765,9209S780	ADMIN RECORD	TPH	
M00681 000867 DATA 0082	05/18/94 09/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL VOLATILE PETROLEUM HYROCARBONS ANALYSIS SDG# W2206 RFW# 9208S595,9209S697,9209S719	ADMIN RECORD	TPH	

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M00681 DATA 0079	000868	05/18/94 09/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYROCARBONS ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9208S697,9209S719	ADMIN RECORD	TPH	
M00681 DATA 0088	000869	05/18/94 09/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2272 RFW# 9209S765,9209S780,9209S791,9209S804	ADMIN RECORD	PESTICIDES	
M00681 DATA 0100	000903	05/18/94 10/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INOGRANICS CLP ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9209S697,9209S719	ADMIN RECORD	IOG	
M00681 DATA 0100	000904	05/18/94 10/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INOGRANICS NON CLP ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9209S697,9209S719	ADMIN RECORD	IOG	
M00681 DATA 33820 0277	001014	05/18/94 10/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, PESTICIDES, PCB, SEMIVOLATILES, TFH, HERBICIDES, METALS	ADMIN RECORD	SEMIVOLATILES VOLATILES PCB PESTICIDES TFH HERBICIDE METALS	
M00681 DATA 33806 0224	001015	05/18/94 10/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, PESTICIDES, PCB, SEMIVOLATILES, TFH, HERBICIDES, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH PESTICIDES PCB HERBICIDE METALS	
M00681 DATA 0032	001301	05/31/94 10/02/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 DATA 0009	001302	05/31/94 10/02/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TPH DIESEL LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER TPH	
M00681 DATA 0008	001303	05/31/94 10/02/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TOTAL DISOLVED SOLIDS LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER	

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M00681 DATA 0008	001304	05/31/94 10/02/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ALKALINITY LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER	
M00681 DATA 0036	001305	05/31/94 10/02/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 0019	001306	05/31/94 10/02/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0150	000870	05/18/94 10/05/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2272 RFW# 9209S765,9209S780,9209S791,9209S804	ADMIN RECORD	HERBICIDE	
M00681 DATA 0098	000871	05/18/94 10/05/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2272 RFW# 9209S726,9209S748,9209S765,9209S780	ADMIN RECORD	TPH	
M00681 DATA 0027	001316	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TAL METALS & MOLYBDENUM LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER METALS	
M00681 DATA 0013	001317	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ANIONS LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER	
M00681 DATA 0018	001318	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0008	001319	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TPH GASOLINE & DIESEL LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER TPH	
M00681 DATA 0006	001320	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER	

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M00681 DATA 0029	001321	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0007	001322	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ALKALINITY LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER		
M00681 DATA 0058	001323	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0041	001324	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# W2383	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 0017	001325	05/31/94 10/05/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ANIONS LAB: ROY F. WESTON SDG# W2376	ADMIN RECORD	WATER		
M00681 DATA 0194	000872	05/18/94 10/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2282 RFW# 9209S779	ADMIN RECORD	PESTICIDES		
M00681 DATA 0207	000899	05/18/94 10/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GCMS/SEMIVOLATILE ANALYSIS SDG# W2282 RFW# 9209S779,9209S909	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0114	000901	05/18/94 10/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2282 RFW# 9209S779,9209S909	ADMIN RECORD	VOLATILES		
M00681 DATA 0144	000905	05/18/94 10/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2282 RFW# 9209S779	ADMIN RECORD	HERBICIDE		
M00681 DATA 0101	000906	05/18/94 10/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2282 RFW# 9209S779,9209S909	ADMIN RECORD	TEH		

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M00681 DATA 0137	000890	05/18/94 10/14/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9209S697,9209S719	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0084	000902	05/18/94 10/14/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9209S697,9209S719	ADMIN RECORD	VOLATILES		
M00681 DATA 0174	000891	05/18/94 10/15/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GCMS/VOLATILES ANALYSIS SDG# W2282 RFW# 9209S779,9209S909	ADMIN RECORD	VOLATILES		
M00681 DATA 0130	000894	05/18/94 10/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2272 RFW# 9209S726,9209S748,9209S780,9209S791	ADMIN RECORD	VOLATILES		
M00681 DATA 0008	001311	05/31/94 10/19/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ALKALINITY LAB: ROY F. WESTON SDG# S2506	ADMIN RECORD	WATER		
M00681 DATA 0250	000892	05/18/94 10/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2272 RFW# 9209S726,9209S765,9209S765,9209S780	ADMIN RECORD	IOG		
M00681 DATA 0200	000895	05/18/94 10/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS CLP ANALYSIS SDG# W2272 RFW# 9209S726,9209S748,9209S765,9209S780	ADMIN RECORD	IOG		
M00681 DATA 0102	000893	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2336 RFW# 9209S942,9209S949,9209S957,9210S004	ADMIN RECORD	TPH		
M00681 DATA 0120	000896	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2336 RFW# 9209S942,9209S949,9209S957,9210S004	ADMIN RECORD	VOLATILES		
M00681 DATA 0090	000897	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2294 RFW# 9209S816,9209S832,9209S886,9209S910	ADMIN RECORD	TPH		

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M00681 DATA 0136	000898	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2383 RFW# 9210S064,9210S038	ADMIN RECORD	VOALTILES	
M00681 DATA 0072	000947	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2294 RFW# 9209S816,9209S832,9209S886,9209S910	ADMIN RECORD	TEH	
M00681 DATA 0078	000952	05/18/94 10/21/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2336 RFW# 9209S942,9209S949,9209S957,9201S004	ADMIN RECORD	TEH	
M00681 DATA 0034	001307	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# S2506	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 DATA 0019	001308	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES LAB: ROY F. WESTON SDG# W2506	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0008	001309	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TPH GASOLINE & DIESEL LAB: ROY F. WESTON SDG# W2506	ADMIN RECORD	WATER TPH	
M00681 DATA 0052	001310	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# S2506	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 0016	001312	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE,NITRATE-N, NITRITE-N & SULFATE) LAB: ROY F. WESTON SDG# W2506	ADMIN RECORD	WATER	
M00681 DATA 0005	001313	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDES LAB: ROY F. WESTON SDG# W2506	ADMIN RECORD	WATER	
M00681 DATA 0062	001314	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# S2506	ADMIN RECORD	WATER SEMIVOLATILES	

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M00681 DATA 0029	001315	05/31/94 10/21/92 02.2	MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: TAL METALS & MOLYBDENUM LAB: ROY F. WESTON SDG# W2506	ADMIN RECORD	WATER METALS		
M00681 DATA 0080	000950	05/18/94 10/22/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2294 RFW# 9209S816,9209S832,9209S886,9209S919,9209S934	ADMIN RECORD	PESTICIDES		
M00681 DATA 0224	000951	05/18/94 10/22/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2336 RFW# 9209S942,9209S949,9209S957,9201S004,9210S015	ADMIN RECORD	PESTICIDES		
M00681 DATA 0090	000944	05/18/94 10/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS CLP ANALYSIS SDG# W2294 RFW# 9209S816, 9209S832,9209S886,9209S910,9209S919,9209S934	ADMIN RECORD	IOG		
M00681 DATA 0180	000945	05/18/94 10/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2282 RFW# 9209S779, 9209S909	ADMIN RECORD	IOG		
M00681 DATA 0325	000953	05/18/94 10/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON IORGANICS NON CLP ANALYSIS SDG# W2294 RFW# 9209S816 9209S832,9209S886,9209S910,9209S919,9209S934	ADMIN RECORD	IOG		
M00681 DATA 0093	000956	05/18/94 10/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2383 RFW# 9210S038,9210S064	ADMIN RECORD	TEH		
M00681 DATA 0162	000957	05/18/94 10/23/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2282 RFW# 9209S779 9209S909	ADMIN RECORD	IOG METALS		
M00681 DATA 0180	000946	05/18/94 10/26/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# W2336 RFW# 9209S942, 9209S949,9209S957,9210S004,9210S015	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0100	000948	05/18/94 10/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2336 RFW# 9209S942,9209S949, 9209S957,9210S004,9210S015	ADMIN RECORD	HERBICIDE		

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M00681 DATA 0150	001187	05/26/94 10/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2294 RFW# 9209816,9209S832, 9209S886,9209S910,9209S919,9209S934	ADMIN RECORD	HERBICIDE		
M00681 DATA 0150	001188	05/26/94 10/28/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# W2294 RFW# 9209S816, 9209S886,9209S910,9209S919,9209S934,9209S832	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0037	001334	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: TAL METALS & MOLYBDENU LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER METALS		
M00681 DATA 0072	001347	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0011	001348	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETERS: TPH GASOLINE & DIESEL LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER		
M00681 DATA 0017	001349	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ANIONS LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER		
M00681 DATA 0037	001350	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: TAL METALS & MOLYBDENUM LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER METALS		
M00681 DATA 0086	001351	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER, SOIL PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 0042	001352	05/31/94 10/28/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES PCBs LAB: ROY F. WESTON SDG# W2555	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 000000000000000 0011	002275	07/20/94 10/28/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2555	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION

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M00681 DATA 000000000000000 0008	002276	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ALKALINITY SDG: W2555	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002277	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2555	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0021	002278	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2555	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002279	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2555	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002280	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE, NITRATE-N, NITRATE-N AND SULFATE) SDG: W2555	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0040	002298	07/20/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2555	ADMIN RECORD	WATER PESTICIDES PCB	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0011	002319	07/21/94 10/28/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2555	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION
M00681 DATA 0223	000949	05/18/94 10/29/92 00166 02.2 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2294 RFW# 9209S816, 9209S832,9209S886,9209S910,9209S919,9209S934	ADMIN RECORD	VOLATILES	
M00681 DATA 0036	001346	05/31/94 10/29/92 02.2 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETERS: VOLATILES LAB: ROY F. WESTON SDG# W2582	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 000000000000000 0016	002281	07/20/94 10/29/92 00000 02.2 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE, NITRATE-N, NITRATE-N AND SULFATE) SDG: W2582	ADMIN RECORD	WATER	SOUTHWEST DIVISION

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M00681 DATA 000000000000000 0008	002282 	07/20/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ALKALINITY SDG: W2582	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0040	002286 	07/20/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: SEMIVOLATILES SDG: W2582	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0008	002288 	07/20/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2582	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0040	002289 	07/20/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2582	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0007	002291 	07/20/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2582	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0010	002317 	07/21/94 10/29/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2582	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 0224	001214 	05/27/94 11/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PTESTICIDES ANALYSIS SDG# W2383 RFW# 9210S038,9210S064	ADMIN RECORD	PESTICIDES		
M00681 DATA 0178	001218 	05/27/94 11/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2383 RFW# 9210S038, 9210S064	ADMIN RECORD	HERBICIDE		
M00681 DATA 000000000000000 0045	002253 	07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: SEMIVOLATILES SDG: W2590	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0040	002254 	07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2590	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	

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M00681 DATA 000000000000000 0008	002255 07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2590	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0050	002256 07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: VOLATILES SDG: W2590	ADMIN RECORD	WATER VOLATILES	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0013	002292 07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE, NITRATE-N, NITRATE-N AND SULFATE) SDG: W2590	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0006	002295 07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ALKALINITY SDG: W2590	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0008	002296 07/20/94 11/02/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2590	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0034	002287 07/20/94 11/04/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2582	ADMIN RECORD	WATER PCB PESTICIDES	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0020	002290 07/20/94 11/04/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2582	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0001	002297 07/20/94 11/04/92 00166 02.2	IT CORPORATION E.T. BUENCAMINO SOUTHWEST DIVISION CHRIS POTTER	PARTIAL ANALYTICAL RESULTS DATA FOR THE MCB CAMP PENDLETON RI/FS.	ADMIN RECORD	DATA RI FS	SOUTHWEST DIVISION
M00681 DATA 0192	001221 05/27/94 11/05/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP VOLATILE ANALYSIS SDG# W2383 RFW# 9210S038, 0210S064	ADMIN RECORD	VOLATILES	
M00681 DATA 0282	001222 05/27/94 11/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2376, RFW# 9210S027, 9210S039,9210S065,9210S108	ADMIN RECORD	PESTICIDES	

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M00681 DATA 0199	001223	05/27/94 11/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2376 RFW# 9210S027,9210S039,9210S065,9210S108	ADMIN RECORD	TEH TPH		
M00681 DATA 0349	001227	05/27/94 11/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILES ANALYSIS SDG# W2376 RFW# 9210S027, 9210S039,9210S065,9210S108	ADMIN RECORD	VOLATILES		
M00681 DATA 000000000000000 0035	002293	07/20/94 11/10/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2590	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0018	002294	07/20/94 11/10/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2590	ADMIN RECORD	WATER HERBICIDE		SOUTHWEST DIVISION
M00681 DATA 0186	001219	05/27/94 11/11/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2336 RFW# 9209S942, 9209S949,9209S957,9210S004, 9210S015	ADMIN RECORD	IOG		
M00681 DATA 0173	001220	05/27/94 11/11/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS CLP ANALYSIS SDG# W2336 RFW# 9209S942, 9209S949,9209S957,9210S004, 9210S015	ADMIN RECORD	IOG		
M00681 DATA 34118 0319	001181	05/25/94 11/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH	ADMIN RECORD	VOLATILES SEMIVOALTILES PESTICIDES PCB TFH		
M00681 DATA 34117 0255	001182	05/25/94 11/12/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH, HERBICIDES AND METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 0323	001230	05/27/94 11/13/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP SEMI VOLATILES ANALYSIS SDG# W2383 RFW# 9210S038 9210S064	ADMIN RECORD	SEMIVOLATILES		

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M00681 DATA 0030	001345	05/31/94 11/16/92 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETERS: SEMIVOLATILES LAB: ROY F. WESTON SDG# W2628	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 000000000000000 0036	002269	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: VOLATILES SDG: W2630	ADMIN RECORD	WATER VOLATILES	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0008	002270	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2630	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0018	002271	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2630	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0033	002272	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2630	ADMIN RECORD	WATER PESTICIDES	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0040	002273	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: SEMIVOLATILES SDG: W2630	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0006	002299	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2628	ADMIN RECORD	FUEL	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0040	002300	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX:WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2628/W2630	ADMIN RECORD	WATER METALS	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0006	002301	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ALKALINITY SDG: W2628/W2630	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0006	002302	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TOTAL DISSOLVED SOLIDS SDG: W2628/W2630	ADMIN RECORD	WATER	SOUTHWEST DIVISION	

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M00681 DATA 000000000000000 0011	002303	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: ANIONS (CHLORIDE, NITRATE-N, NITRATE-N AND SULFATE) SDG: W2628/W2630	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0030	002304	07/20/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: VOLATILES SDG: W2628	ADMIN RECORD	VOLATILES		
M00681 DATA 000000000000000 0010	002316	07/21/94 11/16/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TAL METALS AND MOLYBDENUM SDG: W2628/W2630	ADMIN RECORD	WATER METALS		
M00681 DATA 0111	000873	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON BORON ANALYSIS SDG# W2282 & W2294 RFW# 9209S779,9209S816,9209S832	ADMIN RECORD	DATA		
M00681 DATA 0098	000874	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON BORON ANALYSIS SDG# W2272 RFW# 9209S726,9209S748,9209S765,9209S780	ADMIN RECORD	DATA		
M00681 DATA 0072	000875	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON BORON ANALYSIS SDG# W2206 RFW# 9208S595,9208S674,9209S697,9209S719	ADMIN RECORD	DATA		
M00681 DATA 0232	000878	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GCMS/SEMIVOLATILE ANALYSIS SDG# W2582 RFW# 9210S249,920S278,9210S292,9211S306	ADMIN RECORD	SEMIVOLATILE		
M00681 DATA 34237 0176	000998	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS		
M00681 DATA 34218 0245	000999	05/18/94 11/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS		
M00681 DATA 0274	000857	05/18/94 11/18/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2582 RFW# 9210S249,9210S292,9210S278,9210S306	ADMIN RECORD	VOLATILES		

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M00681 DATA 0314	000858	05/18/94 11/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2582 RFW# 9210S249,9211S278,9211S292,9211S306	ADMIN RECORD	VOLATILES	
M00681 DATA 0357	000859	05/18/94 11/19/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2376 RFW# 9210S027,9210S039,9210S065,9210S108	ADMIN RECORD	HERBICIDE	
M00681 DATA 0171	000855	05/18/94 11/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/INORGANIC METALS ANALYSIS SDG# W2383 RFW# 9210S038,9210S064	ADMIN RECORD	IOG METALS	
M00681 DATA 0188	000856	05/18/94 11/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC NON CLP ANALYSIS SDG# W2383 RFW# 9210S038,9210S064	ADMIN RECORD	IOG	
M00681 DATA 0536	000876	05/18/94 11/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILE ANALYSIS SDG# W2506 RFW# 9210S164,9210S192,9210S219,9210S248	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0354	000877	05/18/94 11/20/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILE ANALYSIS SDG# W2506 RFW# 9210S164,9210S192,9210S219,9210S248	ADMIN RECORD	VOLATILES	
M00681 DATA 34287 0223	001141	05/25/94 11/23/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 34314 0191	001145	05/25/94 11/23/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 34297 0178	001146	05/25/94 11/23/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 0573	001185	05/26/94 11/24/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILE ANALYSIS SDG# W2555 RFW# 9210S237, 9210S265,9211S293,9211S307,9211S323	ADMIN RECORD	VOLATILES	

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M00681 DATA 34369 0072	001142	05/25/94 11/25/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 34370 0063	001143	05/25/94 11/25/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, SDG# WESTON4	ADMIN RECORD	METALS	
M00681 DATA 34372 0066	001144	05/25/94 11/25/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, SDG# WESTON5	ADMIN RECORD	METALS	
M00681 DATA 34372 0066	001147	05/25/94 11/25/92 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS SDG# WESTON5	ADMIN RECORD	METALS	
M00681 DATA 34325 0188	001148	05/25/94 11/25/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS	
M00681 DATA 34296 0719	001153	05/25/94 11/25/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH	
M00681 DATA 0229	001186	05/26/94 11/25/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDORCARBONS ANALYSIS SDG# W2506, RFW# 9210S192,9210S219,9210S248	ADMIN RECORD	TPH	
M00681 DATA 0652	001189	05/26/94 11/25/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES ANALYSIS SDG# W2555 RFW# 9210S237, 9210S265,9210S265,9211S293,9211S307,9211323	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0374	001193	05/26/94 11/25/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2555 RFW# 9210S237,9210S265,9211S293,9211S307	ADMIN RECORD	TPH	
M00681 DATA 000000000000000 0022	002315	07/21/94 11/28/92 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: W2555	ADMIN RECORD	WATER HERBICIDE	

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M00681 DATA 34348 0239	001152	05/25/94 11/30/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, PESTICIDES, PCBs, TFH, HERBICIDES METALS	ADMIN RECORD	VOLATILES PESTICIDES PCB TFH HERBICIDES METALS	
M00681 DATA 0243	001190	05/26/94 11/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2506 RFW# 9210S192	ADMIN RECORD	PESTICIDES	
M00681 DATA 0257	001194	05/27/94 11/30/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2555 RFW# 9210S237,9210S307	ADMIN RECORD	PESTICIDES	
M00681 DATA 34349 0406	000988	05/18/94 12/01/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES	ADMIN RECORD	VOLATILES	
M00681 DATA 0124	000862	05/18/94 12/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2582 (ADDITION) RFW# 9211S358	ADMIN RECORD	SEMIVOLATILE	
M00681 DATA 0068	000863	05/18/94 12/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCRBONS ANALYSIS SDG# W2582 RFW# 9211S358	ADMIN RECORD	VOLATILE	
M00681 DATA 0110	000864	05/18/94 12/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2582(ADDITIONAL) RFW# 9211S358	ADMIN RECORD	VOLATILES	
M00681 DATA 0328	000865	05/18/94 12/02/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYROCARBONS ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370,9211S400	ADMIN RECORD	VOLATILES	
M00681 DATA 0252	000861	05/18/94 12/03/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2506 RFW# 9210S192,9210S219,9210S248	ADMIN RECORD	TEH	
M00681 DATA 34374 0069	000982	05/18/94 12/03/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANIC	ADMIN RECORD	IOG	

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M00681 DATA 34403 0057	000997 05/18/94 12/03/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 0072	002236 07/19/94 12/03/92 02.2	CH2M HIL PEGGY A. NORTON ROY F. WESTON, INC. KELLY MORGAN	ANALYTICAL DATA FOR JACOBS ENGINEERING, LRD LAB REFERENCE NO. 34374.	ADMIN RECORD	DATA DISPOSAL HAZ WASTE	
M00681 DATA 34376 0267	001000 05/18/94 12/04/92 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS,PESTICIDES, PCB HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS PESTICIDES PCB HERBICIDE	
M00681 DATA 34364 0382	001017 05/18/94 12/04/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES	ADMIN RECORD	VOLATILES SEMIVOLATILES	
M00681 DATA 0514	000838 05/17/94 12/07/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILE ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370,9211S400	ADMIN RECORD	VOLATILE	
M00681 DATA 0168	000839 05/17/94 12/07/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILE ANALYSIS SDG# W2628 RFW# 9211S401,9211S413	ADMIN RECORD	SEMIVOLATILE	
M00681 DATA 0328	000966 05/18/94 12/07/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS SDG# W2555 RFW# 9210S237,9210S265,9211S293,9211S307,9211S323	ADMIN RECORD	TEH	
M00681 DATA 0216	000942 05/18/94 12/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2630 RFW# 9211S402,9211S414	ADMIN RECORD	VOLATILES	
M00681 DATA 0218	000943 05/18/94 12/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2590 RFW# 9211S359,9211S370	ADMIN RECORD	PESTICIDES	

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M00681 DATA 0349	000960	05/18/94 12/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILE ANALYSIS SDG# W2630 RFW# 9211S402, 9211S414	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0223	000967	05/18/94 12/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2582 RFW# 9211S306,9211S358	ADMIN RECORD	PESTICIDES	
M00681 DATA 34429 0322	001016	05/18/94 12/08/92 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, PESTICIDES, PCB, SEMIVOLATILES, TPH, HERBICIDES, METALS	ADMIN RECORD	VOLATILES PESTICIDES PCB SEMIVOLATILES TPH HERBICIDE METALS	
M00681 DATA 0525	000835	05/17/94 12/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILE ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370,9211S400	ADMIN RECORD	SEMIVOLATILE	
M00681 DATA 0135	000959	05/18/94 12/09/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2628 RFW# 9211S401, 9211S413	ADMIN RECORD	VOLATILES	
M00681 DATA 0262	000837	05/17/94 12/10/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2582 RFW# 9210S249,9211S278,9211S292,9211S306,9211S358	ADMIN RECORD	TEH	
M00681 DATA 0251	000836	05/17/94 12/11/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2630 RFW# 9211S402,9211S414	ADMIN RECORD	PESTICIDES	
M00681 DATA 0245	000963	05/18/94 12/14/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2506 RFW# 9210S192	ADMIN RECORD	HERBICIDE	
M00681 DATA 0095	000964	05/18/94 12/14/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2628 RFW# 9211S401,9211S413	ADMIN RECORD	TEH	

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M00681 DATA 0353	000965	05/18/94 12/14/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS VOLATILE ANALYSIS SDG# W2630 RFW# 9211S402, 9211S414	ADMIN RECORD	VOLATILES		
M00681 DATA 0114	000841	05/17/94 12/15/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2628 RFW# 9211S401,9211S413	ADMIN RECORD	VOLATILE		
M00681 DATA 000000000000000 0015	002352	07/21/94 12/16/92 00166 02.2	CH2M NILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 34688	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 0302	000834	05/17/94 12/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370,9211S400	ADMIN RECORD	TEH		
M00681 DATA 0205	000840	05/17/94 12/17/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2630 RFW# 9211S402,9211S414	ADMIN RECORD	TEH		
M00681 DATA 0008	002234	07/19/94 12/17/92 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH - GASOLINE SDG: 34729	ADMIN RECORD	WATER TPH		
M00681 DATA 0376	000843	05/17/94 12/18/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2582 RFW# 9211S308,9211S358	ADMIN RECORD	HERBICIDE		
M00681 DATA 0425	000822	05/17/94 12/22/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2555 RFW# 9210S237,9210S307	ADMIN RECORD	HERBICIDE		
M00681 DATA 0387	000824	05/17/94 12/22/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2590 RFW# 9211S359,9211S370	ADMIN RECORD	HERBICIDE		
M00681 DATA 0292	000842	05/17/94 12/22/92 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2506 RFW# 9210S164,9210S192,9210S219,9210S248	ADMIN RECORD	IOG		

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M00681 DATA 0386	000844	05/17/94 12/22/92 00166 02.2 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/INORGANIC METALS ANALYSIS SDG# W2555 RFW# 9210S237,9210S265,9211S293,9211S307	ADMIN RECORD	IOG METALS	
M00681 DATA 0247	000961	05/18/94 12/22/92 00166 02.2 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANICS METALS ANALYSIS SDG# W2506 RFW# 9210S192,9210S219,9210S248	ADMIN RECORD	IOG METALS	
M00681 DATA 0442	000962	05/18/94 12/22/92 00166 02.2 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2555 RFW# 9210S237,9210S293,9211S293,9211S307,9211S323	ADMIN RECORD	IOG	
M00681 DATA 0276	000823	05/17/94 12/23/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2630 RFW# 9211S402,9211S411	ADMIN RECORD	HERBICIDE	
M00681 DATA 0291	000818	05/17/94 12/29/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP\INORGANICS METALS ANALYSIS SDG# W2582 RFW# 9210S249,9211S278,9211S292,9211S306,9211S358	ADMIN RECORD	METALS IOG	
M00681 DATA 0390	000819	05/17/94 12/29/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS RFW# 9210S249,9211S278,9211S292,9211S306,9211S358	ADMIN RECORD	IOG	
M00681 DATA 0363	000826	05/17/94 12/29/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370,9211S400	ADMIN RECORD	IOG	
M00681 DATA 0362	000821	05/17/94 12/30/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2590 RFW# 9211S277,9211S359,9211S370 9211S400	ADMIN RECORD	IOG METALS	
M00681 DATA 34573 0222	000831	05/17/94 12/30/92 00166 02.2 CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS	
M00681 DATA 0408	000820	05/17/94 12/31/92 00166 02.2 WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS CLP ANALYSIS SDG# W2628, W2630 RFW# 9211S401,9211S402,9211S413 9211S414	ADMIN RECORD	IOG	

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M00681 DATA 0212	000825	05/17/94 12/31/92 00166 02.2	WESTION MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS NON CLP ANALYSIS SDG# W2628 & W2630 RFW# 9211S401,9211S402,9211S413,9211S414	ADMIN RECORD	IOG		
M00681 DATA 34585 0061	000827	05/17/94 12/31/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES SEMIVOLATILES	ADMIN RECORD	VOLATILES SEMIVOLATILES		
M00681 DATA 34563 0245	000828	05/17/94 12/31/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES SEMIVOLATILES, PESTICIDES, PCB, HERBICIDES TFH	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB HERBICIDE TFH		
M00681 DATA 34583 0284	000829	05/17/94 12/31/92 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES SEMIVOLATILES, PESTICIDES, PCB, HERBICIDES TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB HERBICIDE TFH METALS		
M00681 DATA 34633 0241	000972	05/18/94 01/04/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, HERBICIDES, METALS	ADMIN RECORD	TFH VOLATILES SEMIVOLATILES PESTICIDES PCB HERBICIDE METALS		
M00681 DATA 34652 0226	000990	05/18/94 01/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES,PESTICIDES,PCB,TFH, HERBICIDES METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 34688 0277	000968	05/18/94 01/18/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDE METALS VOLATILES SEMIVOLATILES		

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M00681 DATA 34640 0260	000969	05/18/94 01/18/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, HERBICIDES, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH HERBICIDE METALS		
M00681 DATA 34689 1014	001013	05/18/94 01/18/93 00166 02.2	WESTON MANAGERS IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON SEMIVOLATILES, PESTICIDES	ADMIN RECORD	SEMIVOLTILES PESTICIDES		
M00681 DATA 34678 0223	000986	05/18/94 01/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS HERBICIDE		
M00681 DATA 000000000000000 0020	002335	07/21/94 02/02/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: SEMIVOLATILES SDG: 35073	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 000000000000000 0030	002341	07/21/94 02/02/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TRIAZINE PESTICIDES CASE NUMBER: NACPW7G SDG: G36215 AND G35443	ADMIN RECORD	WATER PESTICIDES		
M00681 DATA 000000000000000 0027	002366	07/21/94 02/02/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CARBAMATE/UREA PESSTICIDES CASE: NACPW7G SDG: G35130 AND G35999	ADMIN RECORD	WATER PESTICIDES		
M00681 DATA 000000000000000 0040	002392	07/22/94 02/02/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: G35546 AND G36508 CASE: NACPW7G	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0010	002406	07/22/94 02/02/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: TPH-DIESEL SDG: 35073	ADMIN RECORD	FUEL		
M00681 DATA 000000000000000 0032	002442	07/22/94 02/02/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES CASE: NACPW7G SDG: G35201,G36167	ADMIN RECORD	WATER HERBICIDE		SOUTHWEST DIVISION

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M00681 / DATA / 000000000000000 / 0019	002342 / 07/21/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	PARAMETERS: TRIAZINE PESTICIDES CASE NUMBER: NACPS4E SDG: G35419 AND G35426	ADMIN RECORD	PESTICIDES		
M00681 / DATA / 000000000000000 / 0015	002364 / 07/21/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY CASE: NACPW8D SDG:G36526,G36446,G36442,G36029,G35334,G35493,G35103	ADMIN RECORD	WATER		
M00681 / DATA / 000000000000000 / 0018	002365 / 07/21/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	PARAMETERS: CARBAMATE/UREA PESSTICIDES CASE: NACPS4E SDG: G35299 AND G35301	ADMIN RECORD	PESTICIDES WATER		
M00681 / DATA / 000000000000000 / 0032	002393 / 07/22/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: G35671 AND G36519 CASE: NACPW8D	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 / DATA / 000000000000000 / 0015	002397 / 07/22/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER PARAMETERS: CARBANATE/UREA PESTICIDES SDG: G35284 AND G35941 CASE: NACPW7G	ADMIN RECORD	WATER PESTICIDES		
M00681 / DATA / 000000000000000 / 0022	002399 / 07/22/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER CASE: NACPW8D PARAMETERS: TRIAZINE PESTICIDES SDG: G35408 AND G36215	ADMIN RECORD	WATER PESTICIDES		
M00681 / DATA / 000000000000000 / 0020	002441 / 07/22/94 / 02/03/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES CASE: NACPW8D SDG: G35333,G36167	ADMIN RECORD	WATER HERBICIDE		SOUTHWEST DIVISION
M00681 / DATA / 000000000000000 / 0021	002331 / 07/21/94 / 02/04/93 / 00166 / 02.2	MCB CAMP PENDLETON	CH2M HILL	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35078	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 / DATA / 000000000000000 / 0030	002374 / 07/21/94 / 02/04/93 / 00166 / 02.2	MCB CAMP PENDLETON	CH2M HILL	MATRIX: SOIL AND WATER PARAMETERS: TCL METALS WITH MOLYBDENUM SDG: 35104	ADMIN RECORD	WATER METALS		
M00681 / DATA / 000000000000000 / 0015	002396 / 07/22/94 / 02/04/93 / 00166 / 02.2	MCB CAMP PENDLETON	ESE	MATRIX: WATER PARAMETERS: TPH-GASOLINE AND TPH-DIESEL SDG: G35304 CASE: NACPW7G	ADMIN RECORD	WATER FUEL		

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M00681 DATA 0006	002246	07/20/94 02/10/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: CLP METALS AND MOLYBDENUM SDG: W2666	ADMIN RECORD	WATER METALS		
M00681 DATA 0004	002247	07/20/94 02/10/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2666	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0004	002248	07/20/94 02/10/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: VOLATILES SDG: W2666	ADMIN RECORD	WATER VOA	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0010	002249	07/20/94 02/10/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: SEMIVOLATILES SDG: W2666	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	
M00681 DATA 0008	002241	07/20/94 02/11/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: CLP METALS AND MOLYBKENUM SDG: W2684	ADMIN RECORD	WATER		
M00681 DATA 000000000000000 0008	002250	07/20/94 02/11/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: VOLATILES SDG: W2684	ADMIN RECORD	WATER VOA	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0004	002251	07/20/94 02/11/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2684	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0008	002252	07/20/94 02/11/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: SEMIVOLATILES SDG: W2684	ADMIN RECORD	WATER SEMIVOLATILES	SOUTHWEST DIVISION	
M00681 DATA 34729 0847	000830	05/17/94 02/12/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES	ADMIN RECORD	VOLATILES		
M00681 DATA 34728 0326	000832	05/17/94 02/12/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TPH, METALS, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TPH METALS HERBICIDE		

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M00681 DATA 34681 0328	000833	05/17/94 02/12/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS HERBICIDE		
M00681 DATA 0028	002242	07/20/94 02/12/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: SEMIVOLATILES SDG: W2684	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0027	002243	07/20/94 02/12/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: VOLATILES SDG: W2684	ADMIN RECORD	VOA		
M00681 DATA 0006	002244	07/20/94 02/12/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: TPH GASOLINE AND TPH DIESEL SDG: W2684	ADMIN RECORD	WATER FUEL		
M00681 DATA 0030	002245	07/20/94 02/12/93 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER AND SOIL PARAMETERS: CLP METALS AND MOLYBDENUM SDG: W2684	ADMIN RECORD	WATER METALS		
M00681 DATA 000000000000000 0050	002343	07/21/94 02/16/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES CASE NUMBER: NACPW5E SDG: G35790, G35792, G35793, G36496	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0050	002367	07/21/94 02/16/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND CARBAMA MOLYBDENUM SDG: G35648,G35733,G35767,G35818,	ADMIN RECORD	WATER METALS CYANIDE	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0029	002394	07/22/94 02/16/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE AND TPH-DIESEL SDG: G35623,G35615,G36420,G365503,G36494,G35812,	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0030	002438	07/22/94 02/16/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY CASE: NACPW5E SDG: G35849,G35881,G36526,G35950,G35951,G36442,G35896	ADMIN RECORD	WATER	SOUTHWEST DIVISION	

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M00681 DATA 0016	001255	05/27/94 02/18/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC RFW# 9302S098	ADMIN RECORD	IOG
M00681 DATA 000000000000000 0015	002361	07/21/94 02/25/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35235	ADMIN RECORD	WATER HERBICIDE
M00681 DATA 0238	000722	05/16/94 02/26/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2666 RFW# 9302S098,9302S111	ADMIN RECORD	TPH
M00681 DATA 0158	000723	05/16/94 02/26/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON VOLATILE PURGEABLE PETROLEUM HYDROCARBON ANALYSIS SDG# W2666 RFW# 9302S098,9302S111	ADMIN RECORD	TPH
M00681 DATA 0156	000724	05/16/94 02/26/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2684 RFW# 9302S112	ADMIN RECORD	TEH
M00681 DATA 0318	000721	05/16/94 02/28/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON CLP\GS\MS VOLATILE ANALYSIS SDG# W2666 RFW# 9302S098,9302S111	ADMIN RECORD	VOC
M00681 DATA 0496	000619	05/13/94 03/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP\GC\MS VOLATILE ANALYSIS SDG# W2684 RFW# 9302S112,9302S133	ADMIN RECORD	VOC
M00681 DATA 0542	000726	05/16/94 03/01/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON CLP/GS/MS SEMIVOLATILE ANALYSIS SDG# W2666 RFW# 9302S098,9302S111	ADMIN RECORD	SOLVENTS
M00681 DATA 0121	000727	05/16/94 03/01/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON VOALTILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2684 RFW# 9302S112	ADMIN RECORD	TPH
M00681 DATA 0316	000728	05/16/94 03/01/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON CLP AND NON-CLP\ INOGRANICS ANALYSIS SDG# W2666 RFW# 9302S098,9302S111	ADMIN RECORD	IOG

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M00681 DATA 0549	000729 03/01/93 00166 02.2	05/16/94 WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON CLP AND NON-CLP\ SEMIVOLATILE ANALYSIS SDG# W2684 RFW# 9302S112,9302S133	ADMIN RECORD	SOLVENTS	
M00681 DATA 000000000000000 0015	002353 03/01/93 00166 02.2	07/21/94 CH2M NILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35251	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 000000000000000 0110	000297 03/03/93 00166 02.2	05/11/94 WESTON MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. CLP\ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2700 RFW# 9302S205, 9302S215 9303S237, 9303S245	ADMIN RECORD	PESTICIDES	SOUTHWEST DIVISION
M00681 DATA 0401	000621 03/03/93 00166 02.2	05/13/94 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP AND NONCLP\INORGANICS ANALYSIS SDG# W2684 RFW# 9302S112,9302S133	ADMIN RECORD	IOG	
M00681 DATA 0146	000622 03/03/93 00166 02.2	05/13/94 WESTON MANAGERS IT CORPORATION DAVE MARK	LABORATORY REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES BY GC\MS LAB ID: 9302S098-001	ADMIN RECORD	SOLVENTS	
M00681 DATA 01F166S920066 0005	000550 03/04/93 00166 02.2	05/12/94 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: PCDDs AND PCDFs LAB: ROY F. WESTON SDG# NA	ADMIN RECORD	DATA	
M00681 DATA 000000000000000 0006	002305 03/04/93 00000 02.2	07/20/94 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: VOLATILES SDG: W2700	ADMIN RECORD	VOLATILES	
M00681 DATA 000000000000000 0006	002306 03/04/93 00000 02.2	07/20/94 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: VOLATILES SDG: W2700	ADMIN RECORD	VOLATILES	
M00681 DATA 0006	002464 03/04/93 02.2	07/22/94 ROY F. WESTON MCB CAMP PENDLETON	MATRIX: SOIL PARAMETERS: ORGANOCHLORINE PESTICIDES/PCBs SDG: W2700	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 01F166S920066 0020	000538 03/05/93 00166 02.2	05/12/94 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER & SOIL PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33142	ADMIN RECORD	WATER PESTICIDES PCB	

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M00681 DATA 01F166S920066 0002	000539 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 32946	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0032	000540 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: SEMIVOLATILE LAB: CH2M HILL SDG# 33559	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0018	000541 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33673	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0018	000542 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33682	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0014	000543 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33682	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0018	000544 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33718	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0015	000545 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33718	ADMIN RECORD	WATER HERBICIDES		
M00681 DATA 01F166S920066 0020	000546 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 32452	ADMIN RECORD	PESTICIDES PCB		
M00681 DATA 01F166S920066 0019	000547 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33719	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0019	000548 	05/12/94 03/05/93 00166 02.2 QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33733	ADMIN RECORD	WATER PESTICIDES PCB		

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M00681 000549 DATA 01F166S920066 0014	05/12/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 32946	ADMIN RECORD	WATER HERBICIDE	
M00681 000628 DATA 01F166S920066 0018	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34118	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000629 DATA 01F166S920066 0018	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34348	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000630 DATA 01F166S920066 0019	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34349	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000631 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 34297	ADMIN RECORD	WATER	
M00681 000632 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33820	ADMIN RECORD	WATER TPH	
M00681 000633 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34314	ADMIN RECORD	WATER TPH	
M00681 000634 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34296	ADMIN RECORD	WATER TPH	
M00681 000635 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33820	ADMIN RECORD	WATER TPH	
M00681 000636 DATA 01F166S920066 0012	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34314	ADMIN RECORD	WATER TPH	

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M00681 000637 DATA 01F166S920066 0013	05/13/94 03/05/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34296	ADMIN RECORD	WATER TPH	
M00681 002345 DATA 000000000000000 0025	07/21/94 03/05/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES CASE NUMBER: NACPW6D SDG: G35793 AND G36496	ADMIN RECORD	WATER VOLATILES	
M00681 002395 DATA 000000000000000 0016	07/22/94 03/05/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE AND TPH-DIESEL SDG: G35812 AND G36494	ADMIN RECORD	WATER FUEL	
M00681 002398 DATA 000000000000000 0045	07/22/94 03/05/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER CASE: NACPW6D PARAMETERS: TCL METALS WITH BORON, CYANIDE, MOLYBDENUN SDG: G36251,G36110,G36361,G36331,G36246,G36245,G36224	ADMIN RECORD	WATER METALS CYANIDE	
M00681 002440 DATA 000000000000000 0020	07/22/94 03/05/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY CASE: NACPW6D SDG: G35881,G36526,G36442,G36234,G36446,G35961,G36031	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 001258 DATA 0450	05/27/94 03/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON SOIL RFW# 9303S245	ADMIN RECORD	DATA	
M00681 000325 DATA 01F166S920066 0013	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33806	ADMIN RECORD	WATER TPH	
M00681 000326 DATA 01F166S920066 0014	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33806	ADMIN RECORD	WATER TPH	
M00681 000327 DATA 01F166S920066 0027	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34325	ADMIN RECORD	WATER SOLVENTS	
M00681 000328 DATA 01F166S920066 0024	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34364	ADMIN RECORD	WATER SOLVENTS	

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M00681 000329 DATA 01F166S920066 0027	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34314	ADMIN RECORD	WATER SOLVENTS	
M00681 000330 DATA 01F166S920066 0028	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34402	ADMIN RECORD	WATER SOLVENTS	
M00681 000331 DATA 01F166S920066 0019	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILE LAB: CH2M HILL SDG# 33806	ADMIN RECORD	WATER VOC	
M00681 000332 DATA 01F166S920066 0020	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34364	ADMIN RECORD	WATER VOC	
M00681 000333 DATA 01F166S920066 0021	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34314	ADMIN RECORD	WATER	
M00681 000334 DATA 01F166S920066 0023	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34402	ADMIN RECORD	WATER	
M00681 000335 DATA 01F166S920066 0025	05/11/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER	
M00681 000496 DATA 01F166S920066 0012	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33733	ADMIN RECORD	WATER TPH	
M00681 000497 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33733	ADMIN RECORD	WATER TPH	
M00681 000498 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33673	ADMIN RECORD	WATER TPH	

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M00681 000499 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33673	ADMIN RECORD	WATER TPH	
M00681 000500 DATA 01F166S920066 0024	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: SEMIVOLATIES LAB: CH2M HILL SDG# 32452	ADMIN RECORD	SOLVENTS	
M00681 000501 DATA 01F166S920066 0018	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: VOLATIES LAB: CH2M HILL SDG# 32452	ADMIN RECORD	VOC	
M00681 000502 DATA 01F166S920066 0014	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 32948	ADMIN RECORD	WATER TPH	
M00681 000503 DATA 01F166S920066 0031	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 32948	ADMIN RECORD	WATER TPH	
M00681 000504 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33718	ADMIN RECORD	WATER TPH	
M00681 000505 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33718	ADMIN RECORD	WATER TPH	
M00681 000506 DATA 01F166S920066 0020	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 33696	ADMIN RECORD	WATER VOC	
M00681 000507 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33683	ADMIN RECORD	WATER TPH	
M00681 000508 DATA 01F166S920066 0013	05/12/94 03/08/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 33683	ADMIN RECORD	WATER TPH	

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M00681	000509	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES	ADMIN RECORD	WATER		
DATA		03/08/93						
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 32520				
0033		02.2						
M00681	000510	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: SEMIVOLATILES	ADMIN RECORD	SOLVENTS		
DATA		03/08/93						
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 32520				
0047		02.2						
M00681	000511	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: SEMIVOLATILES	ADMIN RECORD	SOLVENTS		
DATA		03/08/93						
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33042				
0031		02.2						
M00681	000512	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: VOLATILES	ADMIN RECORD	WATER VOC		
DATA		03/08/93						
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33024				
0053		02.2						
M00681	000324	05/11/94	ESE	SAMPLE DATA PACKAGE FOR MCB CAMP PENDLETON ROLLOFF SOILS QC DATA	ADMIN RECORD	DATA QC		
DATA		03/10/93	JEFF THOMAS					
		00166	IT CORPORATION					
0102		02.2	DAVID MARK					
M00681	001232	05/27/94	WESTON MANAGERS	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS SDG# W2684 RFW# 9302S112	ADMIN RECORD	IOG		
DATA		03/10/93						
		00166	IT CORPORATION					
0015		02.2						
M00681	002390	07/21/94	CH2M HILL	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs	ADMIN RECORD	WATER PESTICIDES		
DATA		03/10/93						
000000000000000		00166	MCB CAMP PENDLETON	SDG: G36519 CASE: NACPW6D		PCB		
0020		02.2						
M00681	002391	07/22/94	ESE	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs	ADMIN RECORD	WATER PESTICIDES		
DATA		03/10/93						
000000000000000		00166	MCB CAMP PENDLETON	SDG: G36519 CASE: NACPW5E		PCB		
0023		02.2						
M00681	002443	07/22/94	ESE	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES CASE: NACPW6D	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION	
DATA		03/10/93						
000000000000000		00166	MCB CAMP PENDLETON	SDG: G36167				
0015		02.2						
M00681	002444	07/22/94	ESE	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES CASE: NACPW5E	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION	
DATA		03/10/93						
000000000000000		00166	MCB CAMP PENDLETON	SDG: G36167				
0019		02.2						

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M00681 002330 DATA 000000000000000 0022	07/21/94 03/11/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR CTO #166, LRD LAB REFERENCE NO. 34364.	ADMIN RECORD	DATA LAB	
M00681 002336 DATA 000000000000000 0020	07/21/94 03/11/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35326	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 000336 DATA 01F166S920066 0027	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER SOLVENTS	
M00681 000337 DATA 01F166S920066 0022	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER	
M00681 000338 DATA 01F166S920066 0002	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 33062	ADMIN RECORD	WATER	
M00681 000339 DATA 01F166S920066 0013	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 32520	ADMIN RECORD	TPH	
M00681 000340 DATA 01F166S920066 0016	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 32953	ADMIN RECORD	WATER HERBICIDE	
M00681 000341 DATA 01F166S920066 0053	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 33062	ADMIN RECORD	WATER SOLVENTS	
M00681 000342 DATA 01F166S920066 0014	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33611	ADMIN RECORD	WATER HERBICIDES	
M00681 000343 DATA 01F166S920066 0015	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33683	ADMIN RECORD	WATER HERBICIDES	

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M00681	000344	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	TPH
DATA		03/12/93		MATRIX: SOIL PARAMETER: TPH GASOLINE		
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 32520		
0013		02.2				
M00681	000345	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	HERBICIDES
DATA		03/12/93		MATRIX: SOIL PARAMETER: CHLORINATED HERBICIDES		
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33141		
0014		02.2				
M00681	000346	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: SOIL & WATER PARAMETER: TPH GASOLINE		TPH
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33007		
0014		02.2				
M00681	000347	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: TPH DIESEL		TPH
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33740		
0026		02.2				
M00681	000348	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: TPH GASOLINE		TPH
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33740		
0012		02.2				
M00681	000349	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES		HERBICIDES
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33733		
0014		02.2				
M00681	000350	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES		HERBICIDES
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33719		
0018		02.2				
M00681	000351	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: TPH GASOLINE		TPH
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33719		
0013		02.2				
M00681	000352	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER
DATA		03/12/93		MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES		HERBICIDES
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 33740		
0015		02.2				
M00681	000353	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	HERBICIDES
DATA		03/12/93		MATRIX: SOIL PARAMETER: CHLORINATED HERBICIDES		
01F166S920066		00166	MCB CAMP PENDLETON	LAB: CH2M HILL SDG# 32942		
0015		02.2				

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M00681 000354 DATA 01F166S920066 0015	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33643	ADMIN RECORD	WATER HERBICIDES	
M00681 000355 DATA 01F166S920066 0016	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33624	ADMIN RECORD	WATER HERBICIDES	
M00681 000356 DATA 01F166S920066 0013	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 33673	ADMIN RECORD	WATER HERBICIDES	
M00681 000357 DATA 01F166S920066 0019	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 34689	ADMIN RECORD	WATER HERBICIDES	
M00681 000358 DATA 01F166S920066 0019	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 32948	ADMIN RECORD	WATER HERBICIDES	
M00681 000359 DATA 01F166S920066 0013	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 32452	ADMIN RECORD	TPH	
M00681 000360 DATA 01F166S920066 0012	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 32452	ADMIN RECORD	TPH	
M00681 000361 DATA 01F166S920066 0016	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: CHLORINTED HERBICIDES LAB: CH2M HILL SDG# 32936	ADMIN RECORD	WATER HERBICIDES	
M00681 000362 DATA 01F166S920066 0018	05/11/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: CHLORINTED HERBICIDES LAB: CH2M HILL SDG# 32943	ADMIN RECORD	HERBICIDES	
M00681 000431 DATA 01F166S920066 0021	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34325	ADMIN RECORD	WATER VOC	

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M00681 DATA 01F166S920066 0017	000432	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34365	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0021	000433	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34376	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0033	000434	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34376	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0026	000435	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34414	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0020	000436	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34583	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0023	000437	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2MHILL SDG# 34429	ADMIN RECORD	WATER VOC		
M00681 DATA 01F166S920066 0016	000438	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2MHILL SDG# 34118	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0013	000439	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2MHILL SDG# 34348	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0029	000440	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\MOLYBDENUM BORON LAB: CH2MHILL SDG# 34314	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0022	000441	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2MHILL SDG# 34365	ADMIN RECORD	WATER SOLVENTS		

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M00681 DATA 01F166S920066 0027	000442	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2MHILL SDG# 34237	ADMIN RECORD ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0024	000443	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2MHILL SDG# 34376	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0060	000444	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2MHILL SDG# 34376	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0032	000445	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34414	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0029	000446	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34429	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0025	000447	05/12/94 03/12/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 0436	000323	05/11/94 03/15/93 00166 02.2	WESTION MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2700 RFW# 93024S205, 9302S215, 9303S237, 9303S245	ADMIN RECORD	VOC		
M00681 DATA 000000000000000 0025	002334	07/21/94 03/17/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35377	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0030	002434	07/22/94 03/17/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35377	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 35104 1837	000316	05/11/94 03/18/93 00166 02.2	CH2M HILL PEGGY A. NORTON MCB CAMP PENDLETON	ANALYTICAL DATA BIO ACCUMULATION, PESTICIDES\PCBs ORGNAICS, INORGANICS, SDG# 35104	ADMIN RECORD	PESTICIDES PCB IOG		

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M00681 000315 DATA 01F166S920066 0017	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34365	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000320 DATA 0083	05/11/94 03/19/93 00166 02.2	WESTION MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2700 RFW# 9302S205, 9303S245	ADMIN RECORD	TPH	
M00681 000387 DATA 01F166S920066 0012	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 33624	ADMIN RECORD	WATER TPH	
M00681 000388 DATA 01F166S920066 0018	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33642	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000389 DATA 01F166S920066 0020	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34689	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000390 DATA 01F166S920066 0018	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SEDIMENT PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 32452	ADMIN RECORD	HERBICIDE	
M00681 000391 DATA 01F166S920066 0020	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34688	ADMIN RECORD	WATER VOC	
M00681 000392 DATA 01F166S920066 0012	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34688	ADMIN RECORD	WATER TPH	
M00681 000393 DATA 01F166S920066 0012	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34688	ADMIN RECORD	WATER TPH	
M00681 000394 DATA 01F166S920066 0017	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34688	ADMIN RECORD	WATER HERBICIDE	

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M00681 / DATA / 01F166S920066 / 0024	000395	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34688	ADMIN RECORD	WATER SOLVENTS	
M00681 / DATA / 01F166S920066 / 0019	000396	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34640	ADMIN RECORD	WATER HERBICIDE	
M00681 / DATA / 01F166S920066 / 0012	000397	05/11/94 / 03/19/93 / 00166 / 01.1	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34640	ADMIN RECORD	WATER	
M00681 / DATA / 01F166S920066 / 0012	000398	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34640	ADMIN RECORD	WATER TPH	
M00681 / DATA / 01F166S920066 / 0030	000399	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 34640	ADMIN RECORD	WATER SOLVENTS	
M00681 / DATA / 01F166S920066 / 0022	000400	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34640	ADMIN RECORD	WATER VOC	
M00681 / DATA / 01F166S920066 / 0019	000401	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER HERBICIDE	
M00681 / DATA / 01F166S920066 / 0031	000402	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER CYANIDE	
M00681 / DATA / 01F166S920066 / 0020	000403	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 / DATA / 01F166S920066 / 0013	000404	05/11/94 / 03/19/93 / 00166 / 02.2	QUANTALEX / MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER TPH	

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M00681 DATA 01F166S920066 0013	000405	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34633	ADMIN RECORD	WATER TPH		
M00681 DATA 01F166S920066 0016	000406	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 32904	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0023	000407	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 32904	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0016	000408	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33683	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0018	000409	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 32520	ADMIN RECORD	HERBICIDE		
M00681 DATA 01F166S920066 0043	000410	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: 14\SOIL 1\WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 33007	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0019	000411	05/11/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 33696	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0018	000448	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34376	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0022	000449	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 01F166S920066 0019	000450	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER PESTICIDES PCB		

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M00681 000451 DATA 01F166S920066 0022	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34414	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000452 DATA 01F166S920066 0021	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34402	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000453 DATA 01F166S920066 0028	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34376	ADMIN RECORD	WATER CYANIDE	
M00681 000454 DATA 01F166S920066 0027	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER CYANIDE	
M00681 000455 DATA 01F166S920066 0031	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER CYANIDE	
M00681 000456 DATA 01F166S920066 0029	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM LAB: CH2M HILL SDG# 34429	ADMIN RECORD	WATER	
M00681 000457 DATA 01F166S920066 0013	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL MOLYBDENUM LAB: CH2M HILL SDG# 34429	ADMIN RECORD	WATER TPH	
M00681 000458 DATA 01F166S920066 0013	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE MOLYBDENUM LAB: CH2M HILL SDG# 34429	ADMIN RECORD	WATER TPH	
M00681 000459 DATA 01F166S920066 0020	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34402	ADMIN RECORD	WATER HERBICIDE	
M00681 000460 DATA 01F166S920066 0020	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34429	ADMIN RECORD	WATER HERBICIDE	

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M00681 DATA 01F166S920066 0016	000461 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34117	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0020	000462 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 33820	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0017	000463 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 33806	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0018	000464 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34364	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0018	000465 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34349	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0018	000466 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34376	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0017	000467 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34365	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0022	000468 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE MOLYBDENUM LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0016	000469 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 01F166S920066 0016	000470 	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34348	ADMIN RECORD	WATER HERBICIDE		

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M00681 DATA 01F166S920066 0020	000471	05/12/94 03/19/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG# 34414	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 000000000000000 0488	000298	05/11/94 03/22/93 00166 02.2	WESTON MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. CLP\GC\MS SEMIVOLATILE ANALYSIS SDG# W2700 RFW# 9302S205, 9302S215 9303S237, 9303S245	ADMIN RECORD	SOLVENTS		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0012	002337	07/21/94 03/22/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35427	ADMIN RECORD	WATER FUEL		
M00681 DATA 0030	002421	07/22/94 03/22/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35549	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 35235 0336	000253	05/10/94 03/23/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCLB BARSTOW VOLATILES, PCB's SEMIVOLATILES, PESTICIDES, DIESEL & GASOLINE TOTAL FUEL HYDROCARBONS	ADMIN RECORD	PESTICIDES DIESEL FUEL		SOUTHWEST DIVISION
M00681 DATA 35218 0402	000291	05/11/94 03/23/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA SELECTED ORGANIC AND INORGANIC PARAMETERS MCB CAMP PENDLETON	ADMIN RECORD	IOG		SOUTHWEST DIVISION
M00681 DATA 35223 0289	000293	05/11/94 03/23/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA SELECTED ORGANIC AND INORGANIC PARAMETERS PESTICIDES, PCBs, TPH, HERBICIDES CAMP PENDLETON	ADMIN RECORD	PESTICIDES PCB TPH HERBICIDES		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0019	002333	07/21/94 03/23/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35441	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0020	002424	07/22/94 03/23/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35441	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 35251 0371	000292	05/11/94 03/24/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCLB BARSTOW SELECTED ORGANIC AND INORGANIC PARAMETERS	ADMIN RECORD	IOG		SOUTHWEST DIVISION

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M00681 000296 DATA 000000000000000 0110	05/11/94 03/24/93 00166 02.2	WESTON MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2700 RFW# 9302S205, 9303S245	ADMIN RECORD	TEH	SOUTHWEST DIVISION
M00681 001257 DATA 0018	05/27/94 03/24/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC RFW# 9303S345	ADMIN RECORD	IOG	
M00681 002506 DATA 01F166S920066 0012	08/24/94 03/25/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG: 35471	ADMIN RECORD	DATA WATER TPH	SOUTHWEST DIVISION
M00681 000254 DATA 01F166S920066 0020	05/10/94 03/26/93 00166 02.2	QUANTALEN CH2M HILL	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES SDG #34689	ADMIN RECORD	WATER VOC	SOUTHWEST DIVISION
M00681 000255 DATA 01F166S920066 0020	05/10/94 03/26/93 00166 02.2	QUANTALEN CH2M HILL	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES SDG #34689	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 000256 DATA 01F166S920066 0020	05/10/94 03/26/93 00166 02.2	QUANTALEN CH2M HILL	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH-DIESEL SDG #34689	ADMIN RECORD	TPH	SOUTHWEST DIVISION
M00681 000257 DATA 01F166S920066 0020	05/10/94 03/26/93 00166 02.2	QUANTALEN CH2M HILL	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CYANIDE (FOR SDG# SEE ADDL INFO)	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 000258 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG # 34729	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION
M00681 000259 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG # 34729	ADMIN RECORD	TPH WATER	SOUTHWEST DIVISION
M00681 000260 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERIBICIDE LAB: CH2M HILL SDG # 34728	ADMIN RECORD	WATER HERIBICIDE	SOUTHWEST DIVISION

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M00681 000261 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG # 34689	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000262 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDE LAB: CH2M HILL SDG # 34681	ADMIN RECORD	WATER HERBICIDE	SOUTHWEST DIVISION
M00681 000263 DATA 01F166S920066 0015	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORAON, MOLYB- DENUM & CYANIDE LAB: CH2M HILL SDG # 34688	ADMIN RECORD	WATER CYANIDE	SOUTHWEST DIVISION
M00681 000264 DATA 01F166S920066 0020	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG # 34681	ADMIN RECORD	WATER PESTICIDES PCB	SOUTHWEST DIVISION
M00681 000265 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG # 34652	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000266 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG # 34652	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000267 DATA 01F166S920066 0028	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MLYBDENUM & CYANIDE LAB: CH2M HILL SDG # 34640	ADMIN RECORD	WATER CYANIDE	SOUTHWEST DIVISION
M00681 000268 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG # 34728	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000269 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG # 34728	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000270 DATA 01F166S920066 0026	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CYANIDE LAB: CH2M HILL	ADMIN RECORD	WATER CYANIDE	SOUTHWEST DIVISION

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M00681 000271 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 32904	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000272 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL & WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 32904	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 000294 DATA 35262 0279	05/11/94 03/26/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA SELECTED ORGANIC AND INORGANIC PARAMETERS PESTICIDES, PCBs, TPH, HERBICIDES CAMP PENDLETON	ADMIN RECORD	PESTICIDES PCB TPH HERBICIDES	SOUTHWEST DIVISION
M00681 000295 DATA 35262 0279	05/11/94 03/26/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA SELECTED ORGANIC AND INORGANIC PARAMETERS PESTICIDES, PCBs, TPH, HERBICIDES CAMP PENDLETON	ADMIN RECORD	PESTICIDES IOG PCB TPH HERBICIDES	SOUTHWEST DIVISION
M00681 000303 DATA 01F166S920066 0025	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, ILL MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34118	ADMIN RECORD	WATER CYANIDE	
M00681 000304 DATA 01F166S920066 0019	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 34117	ADMIN RECORD	WATER PESTICIDES PCB	
M00681 000305 DATA 01F166S920066 0019	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34365	ADMIN RECORD	WATER TPH	
M00681 000306 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34365	ADMIN RECORD	WATER TPH	
M00681 000307 DATA 01F166S920066 0013	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER TPH	
M00681 000308 DATA 01F166S920066 0013	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34563	ADMIN RECORD	WATER TPH	

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M00681 000309 DATA 01F166S920066 0025	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34365	ADMIN RECORD	WATER CYANIDE	
M00681 000310 DATA 01F166S920066 0026	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, MOLYBDENUM & CYANIDE LAB: CH2M HILL SDG# 34296	ADMIN RECORD	WATER CYANIDE	
M00681 000311 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34376	ADMIN RECORD	WATER TPH	
M00681 000312 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER TPH	
M00681 000313 DATA 01F166S920066 0013	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34376	ADMIN RECORD	WATER TPH	
M00681 000314 DATA 01F166S920066 0012	05/11/94 03/26/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34583	ADMIN RECORD	WATER TPH	
M00681 001256 DATA 0013	05/27/94 03/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON DIOXION RFW# 9303L019	ADMIN RECORD	DATA	
M00681 000301 DATA 000000000000000 0378	05/11/94 03/29/93 00166 02.2	WESTON MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. CLP\INORGANICS & NON- CLP INORGANICS ANALYSIS SDG# W2700 RFW# 9302S205, 9302S215, 9303S237, 9303S245 MCB CAMP PENDLETON	ADMIN RECORD	IOG	SOUTHWEST DIVISION
M00681 002430 DATA 0025	07/22/94 03/29/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35491	ADMIN RECORD	WATER METALS CYANIDE	
M00681 002433 DATA 0030	07/22/94 03/30/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35502	ADMIN RECORD	WATER METALS CYANIDE	

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M00681 DATA 000000000000000 0012	002338	07/21/94 03/31/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35518	ADMIN RECORD	WATER FUEL	
M00681 DATA 0030	002422	07/22/94 03/31/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35518	ADMIN RECORD	WATER METALS CYANIDE	
M00681 DATA 0025	002426	07/22/94 03/31/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35531	ADMIN RECORD	WATER METALS CYANIDE	
M00681 DATA 0029	002435	07/22/94 03/31/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35520	ADMIN RECORD	WATER METALS CYANIDE	
M00681 DATA 000000000000000 0010	002450	07/22/94 03/31/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35520	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002451	07/22/94 03/31/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35518	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002454	07/22/94 03/31/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35531	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002339	07/21/94 04/01/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35533	ADMIN RECORD	WATER FUEL	
M00681 DATA 0025	002427	07/22/94 04/01/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35533	ADMIN RECORD	WATER CYANIDE METALS	
M00681 DATA 000000000000000 0015	002453	07/22/94 04/01/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35533	ADMIN RECORD	WATER	SOUTHWEST DIVISION

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M00681 DATA 0027	002425	07/22/94 04/02/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35539	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 0025	002432	07/22/94 04/02/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35540	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 000000000000000 0013	002452	07/22/94 04/02/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35539	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 000000000000000 0013	002460	07/22/94 04/02/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35540	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 0289	000954	05/18/94 04/05/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2714 RFW# 9303S312, 9303S321	ADMIN RECORD	VOLATILES		
M00681 DATA 35268 0351	001128	05/25/94 04/05/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON INORGANIC METALS	ADMIN RECORD	IOG METALS		
M00681 DATA 000000000000000 0015	002373	07/21/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35548	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 000000000000000 0010	002376	07/21/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 35549	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 000000000000000 0018	002384	07/21/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35549	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0010	002389	07/21/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35549	ADMIN RECORD	WATER HERBICIDE		

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M00681 DATA 0010	002401	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35548	ADMIN RECORD	WATER FUEL	
M00681 DATA 0012	002405	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35549	ADMIN RECORD	WATER FUEL	
M00681 DATA 0022	002416	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35548	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 0015	002420	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35549	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 0025	002429	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35548	ADMIN RECORD	WATER METALS CYANIDE	
M00681 DATA 0019	002437	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35548	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 000000000000000 0010	002449	07/22/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35549	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002457	07/22/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35548	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0010	002463	07/22/94 04/05/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35548	ADMIN RECORD	WATER FUEL	SOUTHWEST DIVISION
M00681 DATA 0010	002467	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35548	ADMIN RECORD	WATER FUEL	

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M00681 DATA 0012	002472	07/22/94 04/05/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35549	ADMIN RECORD	WATER FUEL	
M00681 DATA 0559	001252	05/27/94 04/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# W2714 RFW# 9303S312,9303S321	ADMIN RECORD	SEMIVOLATILE	
M00681 DATA 35352 0219	000979	05/18/94 04/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES,TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 35337 0325	000981	05/18/94 04/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES,TFH, METALS,PESTICIDES,PCB HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS PESTICIDES PCB HERBICIDE	
M00681 DATA 35326 0387	001133	05/25/94 04/07/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES,TFH, METALS, PESTICIDES, PCB, HERBICIDES	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS PESTICIDES PCB HERBICIDES	
M00681 DATA 000000000000000 0013	002370	07/21/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35565	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 000000000000000 0015	002372	07/21/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35569	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 000000000000000 0020	002375	07/21/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 35565	ADMIN RECORD	WATER PESTICIDES PCB	

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M00681 DATA 000000000000000 0020	002379	07/21/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35565	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0013	002380	07/21/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35569	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 0013	002403	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35569	ADMIN RECORD	WATER FUEL		
M00681 DATA 0010	002409	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35565	ADMIN RECORD	WATER FUEL		
M00681 DATA 0025	002413	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35565	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0020	002415	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35569	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0025	002423	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35569	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 000000000000000 0013	002448	07/22/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35565	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0013	002461	07/22/94 04/07/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35569	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 0010	002470	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35569	ADMIN RECORD	WATER FUEL		

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M00681 DATA 0010	002473	07/22/94 04/07/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35565	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0020	002368	07/21/94 04/08/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35576	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 000000000000000 0013	002377	07/21/94 04/08/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 35576	ADMIN RECORD	WATER PESTICIDES PCB		
M00681 DATA 0032	002417	07/22/94 04/08/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35576	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 0035	002428	07/22/94 04/08/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35576	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 0020	002436	07/22/94 04/08/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35520	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0015	002458	07/22/94 04/08/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35576	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 0010	002471	07/22/94 04/08/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35576	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0015	002371	07/21/94 04/09/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35583	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 000000000000000 0018	002378	07/21/94 04/09/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 35583	ADMIN RECORD	WATER PESTICIDES PCB		

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M00681 DATA 000000000000000 0020	002382 	07/21/94 04/09/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35583	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 0010	002410 	07/22/94 04/09/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35583	ADMIN RECORD	WATER FUEL	
M00681 DATA 0025	002419 	07/22/94 04/09/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35583	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 000000000000000 0010	002447 	07/22/94 04/09/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35583	ADMIN RECORD	WATER	SOUTHWEST DIVISION
M00681 DATA 0012	002465 	07/22/94 04/09/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35583	ADMIN RECORD	WATER FUEL	
M00681 DATA 2020	002478 	07/22/94 04/09/93 02.2	ENVIRON & SCI ENG. MCB CAMP PENDLETON	ESE FIELD GROUP SAMPLES. CASE: NACPW8D*1-4	ADMIN RECORD	QC GC/MS VOLATILES SEMIVOLATILES	
M00681 DATA 35335 0281	001135 	05/25/94 04/12/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS	ADMIN RECORD	METALS	
M00681 DATA 0100	001286 	05/27/94 04/12/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2763 RFW# 9304S448	ADMIN RECORD	VOLATILES	
M00681 DATA 000000000000000 0013	002369 	07/21/94 04/13/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35601	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0013	002407 	07/22/94 04/13/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35601	ADMIN RECORD	WATER FUEL	

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M00681 DATA 000000000000000 0013	002456	07/22/94 04/13/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35601	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 0013	002474	07/22/94 04/13/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35601	ADMIN RECORD	WATER FUEL		
M00681 DATA 35377 0332	001134	05/25/94 04/14/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES,TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS		
M00681 DATA 000000000000000 0027	002381	07/21/94 04/14/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35623	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0020	002387	07/21/94 04/14/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35623	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 0030	002418	07/22/94 04/14/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35623	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0010	002462	07/22/94 04/14/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35623	ADMIN RECORD	WATER FUEL		SOUTHWEST DIVISION
M00681 DATA 0010	002468	07/22/94 04/14/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35623	ADMIN RECORD	WATER FUEL		
M00681 DATA 0205	000926	05/18/94 04/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2763 RFW# 9304S448 9304S462	ADMIN RECORD	VOLATILES		
M00681 DATA 35441 0184	001131	05/25/94 04/15/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES,TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS		

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M00681 DATA 35427 0196	001132	05/25/94 04/15/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES,TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 35379 0224	001136	05/25/94 04/15/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 35407 0173	001138	05/25/94 04/15/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOALTILES TFH METALS	
M00681 DATA 0048	001287	05/27/94 04/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9303S383	ADMIN RECORD	VOLATILES	
M00681 DATA 0071	001288	05/27/94 04/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9303S390	ADMIN RECORD	VOLATILES	
M00681 DATA 000000000000000 0020	002383	07/21/94 04/15/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35633	ADMIN RECORD	WATER VOLATILES	
M00681 DATA 000000000000000 0018	002388	07/21/94 04/15/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35633	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 0010	002402	07/22/94 04/15/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35633	ADMIN RECORD	WATER FUEL	
M00681 DATA 0023	002412	07/22/94 04/15/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35633	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 0029	002431	07/22/94 04/15/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE,AND MOLYBDENUM SDG: 35633	ADMIN RECORD	WATER METALS CYANIDE	

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M00681 DATA 000000000000000 0010	002455	07/22/94 04/15/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35633	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 0010	002469	07/22/94 04/15/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35633	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0018	002385	07/21/94 04/16/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35637	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0016	002386	07/21/94 04/16/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35637	ADMIN RECORD	WATER HERBICIDE		
M00681 DATA 0013	002408	07/22/94 04/16/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35637	ADMIN RECORD	WATER FUEL		
M00681 DATA 0015	002414	07/22/94 04/16/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35637	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0010	002459	07/22/94 04/16/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35637	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 0008	002466	07/22/94 04/16/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35637	ADMIN RECORD	WATER FUEL		
M00681 DATA 35091 0067	000976	05/18/94 04/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON DIESEL FUEL	ADMIN RECORD	DIESEL FUEL		
M00681 DATA 000000000000000 0005	002285	07/20/94 04/19/93 00000 02.2	ROY F. WESTON MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CYANIDE SDG: S1284	ADMIN RECORD	WATER CYANIDE	SOUTHWEST DIVISION	

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M00681 DATA 35235 0074	000977	05/18/94 04/20/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON PESTICIDES PCBs	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 35223 0064	000978	05/18/94 04/20/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON PESTICIDES PCBs	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0068	002235	07/19/94 04/20/93 166 02.2 CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR CTO #166, LRD LAB REFERENCE NO. 35218.	ADMIN RECORD	DATA LAB	
M00681 DATA 0041	000958	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOA RFW# 9303S407	ADMIN RECORD	VOA	
M00681 DATA 35458 0719	000971	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH	ADMIN RECORD	TFH	
M00681 DATA 35471 0210	000973	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES, SEMIVOLATILES, METALS	ADMIN RECORD	TFH VOLATILES SEMIVOLATILES METALS	
M00681 DATA 35502 0240	000974	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES, SEMIVOLATILES, METALS	ADMIN RECORD	TFH VOLATILES SEMIVOLATILES METALS	
M00681 DATA 35479 0245	000980	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES,TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	
M00681 DATA 35470 0623	000991	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES	ADMIN RECORD	VOLATILES	
M00681 DATA 35491 0282	000992	05/18/94 04/21/93 00166 02.2 WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH METALS	

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M00681 DATA 35532 0244	000970	05/18/94 04/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES,SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS	
M00681 DATA 35520 0315	000987	05/18/94 04/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS	
M00681 DATA 35531 0754	000989	05/18/94 04/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON PESTICIDES, PCB, SEMIVOLATILES	ADMIN RECORD	PESTICIDES PCB SEMIVOLATILES	
M00681 DATA 0421	002479	07/22/94 04/23/93 02.2	ENVIRON & SCI ENG. MCB CAMP PENDLETON	ESE FIELD GROUP SAMPLES. CASE: NACPW5E*3-34	ADMIN RECORD	QC GC/MS METALS TPH PESTICIDES PCB	
M00681 DATA 35518 0270	000983	05/18/94 04/26/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS	ADMIN RECORD	VOLATILES SEMIBOLATILES TFH METALS	
M00681 DATA 35533 0774	000984	05/18/94 04/26/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILES	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 35540 0241	000985	05/18/94 04/26/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TFH METALS	
M00681 DATA 0145	000730	05/16/94 04/27/93 00166 02.2	 MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON	ADMIN RECORD	DATA	

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M00681 DATA 35539 0815	000731	05/16/94 04/28/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLTON ORGANIC AND INORGANIC PARAMETERS	ADMIN RECORD	IOG	
M00681 DATA 0091	000860	05/18/94 04/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2763 RFW# 9304S569	ADMIN RECORD	VOLATILE	
M00681 DATA 1073	000719	05/16/94 04/29/93 00166 02.2	MCB CAMP PENDLETON	ANALYSIS DATA FOR MCB CAMP PENDLETON	ADMIN RECORD	PESTICIDES PCB VOC	
M00681 DATA 1018	000720	05/16/94 04/29/93 00166 02.2	MCB CAMP PENDLETON	ANALYSIS DATA FOR MCB CAMP PENDLETON	ADMIN RECORD	PESTICIDES PCB VOC	
M00681 DATA 35091 0125	000732	05/16/94 04/29/93 00166 02.2	CH2M HILL PEGGY A. NORTON CH2M HILL EARL HILL	ANALYTICAL DATA FOR MCB CAMP PENDLTON PESTICIDES/PCBs	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 01F166S920066 0015	000520	05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TPH GASOLINE TPH DIESEL LAB: CH2M HILL SDG# G28558	ADMIN RECORD	TPH	
M00681 DATA 01F166S920066 0037	000521	05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES CASE# NACPBI LAB: ESE SDG# G29064,G28950,G28341,G28342	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0021	000522	05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE TPH DIESEL CASE# NACPB1 LAB: ESE SDG# G28572,G28726,G29172,G29354	ADMIN RECORD	WATER TPH	
M00681 DATA 01F166S920066 0025	000523	05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G28371 MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES CASE# NACPB1 LAB: ESE SDG# G29116,G28115,G28458,G28994	ADMIN RECORD	WATER HERBICIDE	
M00681 DATA 01F166S920066 0062	000524	05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: TRIAZINE, PESTICIDES CASE# NACPB1 LAB: ESE SDG# G29289,G29015,G28626,G27029	ADMIN RECORD	WATER PESTICIDES	

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M00681 DATA 01F166S920066 0096	000525 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: PESTICIDES\PCBs CASE# NACPB1 LAB: ESE SDG# G29292,G28783,G29104	ADMIN RECORD	PESTICIIDES PCB	
M00681 DATA 01F166S920066 0026	000526 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER:SEMIVOLATILES CASE# NACPB1 LAB: ESE SDG# G26992	ADMIN RECORD	SOLVENTS	
M00681 DATA 01F166S920066 0106	000530 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: TCL METALS W\MOLYBDENUM LAB: ESE SDG# G28859 (SEE ADDL INFO)	ADMIN RECORD	METALS	
M00681 DATA 01F166S920066 0045	000531 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: TCL METALS W\MOLYBDENUM LAB: ESE SDG# G28728 (SEE DOCUMENT FOR MORE SDG#'S)	ADMIN RECORD	WATER METALS	
M00681 DATA 01F166S920066 0024	000532 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: PESTICIDES\PCBs LAB: ESE SDG# G29554 & G28757	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 01F166S920066 0033	000533 05/12/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: SOIL PARAMETER: PESTICIDES, TRIAZINE LAB: ESE SDG# G29565 & G28910	ADMIN RECORD	PESTICICIDES	
M00681 DATA 0379	000620 05/13/94 04/30/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP\GC\SEMIVOLATILE ANALYSIS SDG# W2763 RFW# 9304S448,9304S462,9304S569	ADMIN RECORD	SOLVENTS	
M00681 DATA 01F166S920066 0014	000736 05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TPH GASLINE TPH DIESEL LAB: ESE SDG# G29107	ADMIN RECORD	TPH	
M00681 DATA 01F166S920066 0020	000737 05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: VOLATILES LAB: ESE SDG# G28751	ADMIN RECORD	VOLATILES	
M00681 DATA 01F166S920066 0024	000738 05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: SEMIVOLATILES LAB: ESE SDG# G28609	ADMIN RECORD	SEMIVOLATILES	

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M00681 000739 DATA 01F166S920066 0015	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CARBAMATE/UREA PESTICIDES LAB: ESE SDG# G32675	ADMIN RECORD	PESTICIDES WATER	
M00681 000740 DATA 01F166S920066 0027	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TRIAZINE, PESTICIDES LAB: ESE SDG# G32752	ADMIN RECORD	WATER PESTICIDES	
M00681 000741 DATA 01F166S920066 0017	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: ESE SDG# G33069	ADMIN RECORD	WATER HERBICIDE	
M00681 000742 DATA 01F166S920066 0026	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CARBAMATE/UREA PESTICIDES LAB: ESE SDG# G28540,G29189	ADMIN RECORD	WATER PESTICIDES	
M00681 000743 DATA 01F166S920066 0022	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: CHLORINATED HERBICIDES LAB: ESE SDG# G28841,G29573	ADMIN RECORD	HERBICIDE	
M00681 000744 DATA 01F166S920066 0050	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: ESE SDG# G31087,G30577,G30271	ADMIN RECORD	WATER HERBICIDE	
M00681 000745 DATA 01F166S920066 0082	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: ESE SDG# G30674	ADMIN RECORD	WATER	
M00681 000746 DATA 01F166S920066 0041	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON CYANIDE & MOLYBDENUM LAB: ESE SDG# G30457,G30624,G30428	ADMIN RECORD	WATER METALS CYANIDE	
M00681 000747 DATA 01F166S920066 0066	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TCL METALS W\MOLYBDENUM LAB: ESE SDG# G29147,G28759,G29521, ETC.	ADMIN RECORD	METALS	
M00681 000748 DATA 01F166S920066 0014	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: ESE SDG# 34681	ADMIN RECORD	WATER	

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M00681 000749 DATA 01F166S920066 0019	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: ESE SDG# G30417, ETC.	ADMIN RECORD	WATER	
M00681 000750 DATA 01F166S920066 0016	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: ESE SDG# G33072,G32534,G32782,G32965	ADMIN RECORD	WATER	
M00681 000751 DATA 01F166S920066 0023	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: ESE SDG# G33071	ADMIN RECORD	WATER HERBICIDE	
M00681 000752 DATA 01F166S920066 0040	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: ESE SDG# G32437,G32487	ADMIN RECORD	WATER VOLATILES	
M00681 000753 DATA 01F166S920066 0072	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYNAIDE MOLYBDENUM LAB: ESE SDG# G33335,G33133, ETC.	ADMIN RECORD	WATER METALS CYNAIDE	
M00681 000754 DATA 01F166S920066 0026	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYNAIDE MOLYBDENUM LAB: CH2MHILL SDG# 33643	ADMIN RECORD	WATER METALS CYNAIDE	
M00681 000755 DATA 01F166S920066 0057	05/16/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: ESE SDG# G30479,G30706	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 000756 DATA 01F166S920066 0084	05/17/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\CYNAIDE MOLYBDENUM LAB: ESE SDG# G30306, etc.	ADMIN RECORD ADMIN RECORD	METALS CYANIDE	
M00681 000757 DATA 01F166S920066 0040	05/17/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: ORGANOPHOSPHORUS PESTICIDES LAB: ESE SDG# G32924,G33527	ADMIN RECORD	PESTICIDES WATER	
M00681 000758 DATA 01F166S920066 0037	05/17/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: ORGANONITROGEN PESTICIDES LAB: ESE SDG# G32924,G33527	ADMIN RECORD	WATER PESTICIDES	

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M00681 DATA 01F166S920066 0031	000759	05/17/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: ESE SDG# G30076, ETC.	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0096	000760	05/17/94 04/30/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: CARBAMATE\UREA PESTICIDES LAB: ESE SDG# G26905, ETC.	ADMIN RECORD	PESTICIDES	
M00681 DATA 0174	000725	05/16/94 05/04/93 00166 02.2	WESTON MANAGERS MCB CAMP PENDLETON	LABORATORY REPORT FOR MCB CAMP PENDLTON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2763 RFW# 9304S448	ADMIN RECORD	TEH	
M00681 DATA 35549 0225	000733	05/16/94 05/04/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLTON ORGANIC AND INORGANIC PARAMETERS	ADMIN RECORD	IOG PESTICIDES PCB TFH HERBICIDE METALS	
M00681 DATA 35583 0293	000615	05/13/94 05/05/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA MCB CAMP PENDLETON METALS, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 35601 0336	000616	05/13/94 05/05/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA MCB CAMP PENDLETON METALS, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 35565 0333	000617	05/13/94 05/05/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA MCB CAMP PENDLETON METALS, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS PESTICIDES PCB TFH HERBICIDE	
M00681 DATA 35576 0426	000618	05/13/94 05/05/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA MCB CAMP PENDLETON METALS, PESTICIDES, PCB, TFH, HERBICIDES	ADMIN RECORD	METALS PESTICIDES PCB TFH HERBICIDE	

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M00681 DATA 35558 0275	000614	05/13/94 05/06/93 00166 02.2	CH2M HILL PEGGY A. NORTON CH2M HILL EARL BYRON	ANALYTICAL DATA MCB CAMP PENDLETON BIO ACCUMULATION METALS, INORGANICS	ADMIN RECORD	IOG METALS		
M00681 DATA 000000000000000 0030	002340	07/21/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TCL METALS WITH BORON,CYANIDE, AND MOLY-BDENUM SDG: 35533	ADMIN RECORD	WATER METALS CYANIDE		
M00681 DATA 000000000000000 0021	002344	07/21/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: VOLATILES SDG: 35781	ADMIN RECORD	WATER VOLATILES		
M00681 DATA 000000000000000 0025	002346	07/21/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES CASE NUMBER: NACPW6D SDG: 35781	ADMIN RECORD	WATER SEMIVOLATILES		
M00681 DATA 000000000000000 0013	002362	07/21/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35781	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0013	002400	07/22/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-GASOLINE SDG: 35781	ADMIN RECORD	WATER FUEL		
M00681 DATA 000000000000000 0015	002439	07/22/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY SDG: 35781	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0015	002445	07/22/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: CHLORINATED HERBICIDES SDG: 35781	ADMIN RECORD	WATER HERBICIDE		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0020	002446	07/22/94 05/06/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: PESTICIDES/PCBs SDG: 35781	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 35633 0353	000317	05/11/94 05/07/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON PCBs\PESTICIDES VOLATILES, TFH GASOLINE AND DIESEL, HERBICIDES	ADMIN RECORD	PCB PESTICIDES VOC TFH HERBICIDES		

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M00681 DATA 35623 0369	000318	05/11/94 05/07/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON PCBs\PESTICIDES VOLATILES, TFH GASOLINE AND DIESEL, HERBICIDES	ADMIN RECORD	PCB PESTICIDES VOC TFH HERBICIDES	
M00681 DATA 35637 0309	000319	05/11/94 05/07/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON PCBs\PESTICIDES VOLATILES, TFH GASOLINE AND DIESEL, HERBICIDES	ADMIN RECORD	PCB PESTICIDES VOC TFH HERBICIDES	
M00681 DATA 01F166S920066 0024	000534	05/12/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35427	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0026	000535	05/12/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35379	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0024	000536	05/12/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35352	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0022	000537	05/12/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35407	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0026	000623	05/13/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER SOLVENTS	
M00681 DATA 01F166S920066 0022	000624	05/13/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35379	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0021	000625	05/13/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER	

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M00681 000626 DATA 01F166S920066 0019	05/13/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35407	ADMIN RECORD	WATER	
M00681 000627 DATA 01F166S920066 0020	05/13/94 05/07/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35352	ADMIN RECORD	WATER	
M00681 000322 DATA 0166	05/11/94 05/10/93 00166 02.2	WESTION MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. MCB CAMP PENDLETON CLP\ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2763 RFW# 9304S569	ADMIN RECORD	PESTICIDES	
M00681 000321 DATA 0331	05/11/94 05/11/93 00166 02.2	WESTION MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. MCB CAMP PENDLETON CLP\INORGANIC METALS ANALYSIS SDG# W2763 RFW# 9304S448, 9304S569	ADMIN RECORD	IOG	
M00681 000420 DATA 01F166S920066 0014	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35377	ADMIN RECORD	WATER	
M00681 000421 DATA 01F166S920066 0013	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35352	ADMIN RECORD	WATER	
M00681 000422 DATA 01F166S920066 0013	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER	
M00681 000423 DATA 01F166S920066 0013	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35326	ADMIN RECORD	WATER	
M00681 000424 DATA 01F166S920066 0017	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 35326	ADMIN RECORD	WATER HERBICIDES	
M00681 000425 DATA 01F166S920066 0019	05/11/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CHLORINATED HERBICIDES LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER HERBICIDE	

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M00681 DATA 01F166S920066 0013	000426 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2MHILL SDG# 35441	ADMIN RECORD	WATER TPH	
M00681 DATA 01F166S920066 0013	000427 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2MHILL SDG# 35441	ADMIN RECORD	WATER TPH	
M00681 DATA 01F166S920066 0026	000428 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TCL METALS W\MOLYBDENUM LAB: CH2MHILL SDG# 35073	ADMIN RECORD	DATA	
M00681 DATA 01F166S920066 0025	000429 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\MOLYBDENUM LAB: CH2MHILL SDG# 35078	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0032	000430 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TCL METALS W\BORON MOLYBDENUM & CYANIDE LAB: CH2MHILL SDG# 34414	ADMIN RECORD	WATER CYANIDE	
M00681 DATA 01F166S920066 0015	000513 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35471	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0013	000514 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35407	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0013	000515 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35427	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0013	000516 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35441	ADMIN RECORD	WATER	
M00681 DATA 01F166S920066 0009	000517 05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35470	ADMIN RECORD	WATER	

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M00681 DATA 01F166S920066 0013	000518	05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35379	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0013	000519	05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35479	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0014	000527	05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0013	000528	05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35491	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0013	000529	05/12/94 05/14/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON G29380 MATRIX: WATER PARAMETER: GENERAL CHEMISTRY LAB: CH2M HILL SDG# 35458	ADMIN RECORD	WATER		
M00681 DATA 01F166S920066 0010	000486	05/12/94 05/17/93 00166 02.2	 MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: CPL METALS & MOLYBDEUM LAB: ROY F. WESTON SDG# W2700	ADMIN RECORD	METALS		
M00681 DATA 01F166S920066 0022	000273	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35539	ADMIN RECORD	WATER SOLVENTS		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0017	000274	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 35540	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0022	000275	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 35218	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0020	000276	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 35223	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION

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M00681	000277	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35235		PCB		
0022		02.2						
M00681	000278	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35251		PCB		
0020		02.2						
M00681	000279	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35520		PCB		
0018		02.2						
M00681	000280	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35078		PCB		
0016		02.2						
M00681	000281	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35533		PCB		
0016		02.2						
M00681	000282	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35531		PCB		
0016		02.2						
M00681	000283	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: WATER PARAMETER: PESTICIDES\PCBs		PESTICIDES		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35539		PCB		
0017		02.2						
M00681	000284	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	VOC	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: SOIL PARAMETER: VOLATILES				
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35091				
0023		02.2						
M00681	000285	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	PESTICIDES	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: SOIL PARAMETER: PESTICIDES\PCBs		PCB		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35073				
0020		02.2						
M00681	000286	05/11/94	QUANTALEX	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON	ADMIN RECORD	PESTICIDES	SOUTHWEST DIVISION	
DATA		05/21/93		MATRIX: SOIL PARAMETER: PESTICIDES\PCBs		PCB		
01F166S920066		00166	JACOBS	LAB: CH2M HILL SDG# 35091				
0021		02.2						

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M00681 DATA 01F166S920066 0023	000287 	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: CYANIDE LAB: CH2M HILL SDG# 33683	ADMIN RECORD	WATER CYANIDE		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0013	000288 	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35104	ADMIN RECORD	WATER TPH		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0026	000289 	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: PESTICIDES\PCBs LAB: CH2M HILL SDG# 35104	ADMIN RECORD	WATER PESTICIDES PCB		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0027	000290 	05/11/94 05/21/93 00166 02.2	QUANTALEX JACOBS	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: TCL METALS W\MOLYBDENUM LAB: CH2M HILL SDG# 35091	ADMIN RECORD	DATA METALS		SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0029	000363 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER SOLVENTS		
M00681 DATA 01F166S920066 0012	000364 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35379	ADMIN RECORD	WATER TPH		
M00681 DATA 01F166S920066 0013	000365 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 34681	ADMIN RECORD	WATER TPH		
M00681 DATA 01F166S920066 0012	000366 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35520	ADMIN RECORD	WATER TPH		
M00681 DATA 01F166S920066 0013	000367 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35531	ADMIN RECORD	WATER TPH		
M00681 DATA 01F166S920066 0019	000368 	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: SOIL PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35073	ADMIN RECORD	VOC		

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M00681 DATA 01F166S920066 0022	000369	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0020	000370	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0021	000371	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35518	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0021	000372	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35491	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0021	000373	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35479	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0019	000374	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35471	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0019	000375	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35470	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0017	000376	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 34117	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0022	000377	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35326	ADMIN RECORD	WATER VOC	
M00681 DATA 01F166S920066 0023	000378	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35377	ADMIN RECORD	WATER VOC	

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M00681 000379 DATA 01F166S920066 0019	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35441	ADMIN RECORD	WATER VOC	
M00681 000380 DATA 01F166S920066 0020	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35458	ADMIN RECORD	WATER VOC	
M00681 000381 DATA 01F166S920066 0018	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35531	ADMIN RECORD	WATER VOC	
M00681 000382 DATA 01F166S920066 0019	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35078	ADMIN RECORD	WATER VOC	
M00681 000383 DATA 01F166S920066 0026	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35104	ADMIN RECORD	WATER VOC	
M00681 000384 DATA 01F166S920066 0018	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35533	ADMIN RECORD	WATER VOC	
M00681 000385 DATA 01F166S920066 0019	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35540	ADMIN RECORD	WATER VOC	
M00681 000386 DATA 01F166S920066 0012	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35491	ADMIN RECORD	WATER TPH	
M00681 000412 DATA 01F166S920066 0023	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35520	ADMIN RECORD	WATER SOLVENTS	
M00681 000413 DATA 01F166S920066 0029	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35518	ADMIN RECORD	WATER SOLVENTS	

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M00681 000414 DATA 01F166S920066 0028	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35479	ADMIN RECORD	WATER SOLVENTS	
M00681 000415 DATA 01F166S920066 0022	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35471	ADMIN RECORD	WATER SOLVENTS	
M00681 000416 DATA 01F166S920066 0022	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35470	ADMIN RECORD	WATER SOLVENTS	
M00681 000417 DATA 01F166S920066 0023	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35458	ADMIN RECORD	WATER SOLVENTS	
M00681 000418 DATA 01F166S920066 0020	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35533	ADMIN RECORD	WATER SOLVENTS	
M00681 000419 DATA 01F166S920066 0022	05/11/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: SEMIVOLATILES LAB: CH2M HILL SDG# 35540	ADMIN RECORD	WATER SOLVENTS	
M00681 000472 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER TPH	
M00681 000473 DATA 01F166S920066 0014	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER & SOIL PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35104	ADMIN RECORD	WATER TPH	
M00681 000474 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35326	ADMIN RECORD	WATER TPH	
M00681 000475 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER TPH	

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M00681 000476 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35377	ADMIN RECORD	WATER TPH	
M00681 000477 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35379	ADMIN RECORD	WATER TPH	
M00681 000478 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 34681	ADMIN RECORD	WATER TPH	
M00681 000479 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35520	ADMIN RECORD	WATER TPH	
M00681 000480 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35531	ADMIN RECORD	WATER TPH	
M00681 000481 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35502	ADMIN RECORD	WATER TPH	
M00681 000482 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35491	ADMIN RECORD	WATER TPH	
M00681 000483 DATA 01F166S920066 0012	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35326	ADMIN RECORD	WATER TPH	
M00681 000484 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35337	ADMIN RECORD	WATER TPH	
M00681 000485 DATA 01F166S920066 0013	05/12/94 05/21/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT MCB CAMP PENDLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35377	ADMIN RECORD	WATER TPH	

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M00681	000487	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANAIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 34237				
0029		02.2						
M00681	000488	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANAIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35379				
0030		02.2						
M00681	000489	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANAIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35407				
0027		02.2						
M00681	000490	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANAIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35218		CYANIDE		
0034		02.2						
M00681	000491	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35235		CYANIDE		
0032		02.2						
M00681	000492	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35251		CYANIDE		
0029		02.2						
M00681	000493	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35326		CYANIDE		
0030		02.2						
M00681	000494	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35337		CYANIDE		
0031		02.2						
M00681	000495	05/12/94	QUANTALEX	DATA VALIDATION REPORT MCB CAMP PENDLETON	ADMIN RECORD	WATER		
DATA		05/21/93		MATRIX: WATER PARAMETER: TCL METALS W\BORON, CYANIDE		METALS		
01F166S920066		00166	MCB CAMP PENDLETON	& MOLYBDENUM LAB: CH2M HILL SDG# 35352		CYANIDE		
0028		02.2						
M00681	000299	05/11/94	WESTON MANAGERS	LABORATORY REPORT FOR IT CORP. CLP\SEMIVOLATILES	ADMIN RECORD	SOLVENTS		SOUTHWEST DIVISION
DATA		05/26/93	ROY F. WESTON	ANALYSIS SDG# W2773 RFW# 9304S687, 9305S700				
000000000000000		00166	IT CORPORATION					
0677		02.2						

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M00681 DATA 000000000000000 0237	000300	05/11/94 05/27/93 00166 02.2	WESTON MANAGERS ROY F. WESTON IT CORPORATION	LABORATORY REPORT FOR IT CORP. DIOXION EED RFW# 9305S763	ADMIN RECORD	HPCDD	SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0019	000302	05/11/94 05/28/93 00166 02.2	QUANTALEX MCB CAMP PENDLETON	DATA VALIDATION REPORT FOR MCB CAMP PENDLETON MATRIX: WATER PARAMETER: VOLATILES LAB: CH2M HILL SDG# 35539	ADMIN RECORD	WATER VOC	SOUTHWEST DIVISION
M00681 DATA 0059	001224	05/27/94 06/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9305S741	ADMIN RECORD	VOALTILES	
M00681 DATA 0213	001289	05/27/94 06/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,935S804,9305S812	ADMIN RECORD	TPH	
M00681 DATA 0213	001290	05/27/94 06/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2773 RFW# 9304S687,9305S700	ADMIN RECORD	TEH	
M00681 DATA 0196	001291	05/27/94 06/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON PURGEABLE HALOCARBONS ANALYSIS SDG# W2773 RFW# 9304S687,9305S700	ADMIN RECORD	DATA	
M00681 DATA 000000000000000 0019	002332	07/21/94 06/02/93 00166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: SEMIVOLATILES SDG: 35531	ADMIN RECORD	WATER SEMIVOLATILES	
M00681 DATA 01F166S920066 0013	002481	08/09/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB:CH2M HILL SDG: 35539	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0012	002487	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35540	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION
M00681 DATA 01F166S920066 0012	002488	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35407	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION

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M00681 002489 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35352	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002490 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35078	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002491 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35479	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002492 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35471	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002493 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35470	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002494 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH GASOLINE LAB: CH2M HILL SDG# 35458	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002495 DATA 01F166S920066 0041	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT PARAMETER: ORGANOINTROGEN PESTICIDE LAB:ESE SDG# G27557,G27581,G27664,G27718	ADMIN RECORD	PESTICIDES WATER DATA	SOUTHWEST DIVISION
M00681 002496 DATA 01F166S920066 0044	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT PARAMETER: CARBAMATE\UREA PESTICIDE LAB:ESE SDG# G27393,G27423,G27468,G27593	ADMIN RECORD	PESTICIDES DATA	SOUTHWEST DIVISION
M00681 002497 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35533	ADMIN RECORD	WATER DATA TPH	SOUTHWEST DIVIISON
M00681 002498 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35352	ADMIN RECORD	WATER DATA TPH	SOUTHWEST DIVISION

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M00681 002499 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35518	ADMIN RECORD	WATER DATA TPH	SOUTHWEST DIVISION
M00681 002500 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35479	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002501 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35539	ADMIN RECORD	WATER DATA TPH	SOUTHWEST DIVISION
M00681 002502 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35540	ADMIN RECORD	WATER DATA TPH	SOUTHWEST DIVISION
M00681 002503 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35427	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002504 DATA 01F166S920066 0012	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35078	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 002505 DATA 01F166S920066 0013	08/10/94 06/02/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENDLETON DATA VALIDATION REPORT MATRIX: WATER PARAMETER: TPH DIESEL LAB: CH2M HILL SDG# 35470	ADMIN RECORD	WATER TPH DATA	SOUTHWEST DIVISION
M00681 001293 DATA 0634	05/27/94 06/03/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# W2792 RFW# 9305S701,9305S725,9305S763	ADMIN RECORD	SEMIVOLATILES	
M00681 001297 DATA 0252	05/27/94 06/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2792 RFW# 9305S701,935S725,9305S763	ADMIN RECORD	TEH	
M00681 001298 DATA 0520	05/27/94 06/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,9305S804,9305S812	ADMIN RECORD	SEMIVOLATILE	

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M00681 DATA 0502	001300	05/27/94 06/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILES ANALYSIS SDG# W2773 RFW# 9304S687,9305S700	ADMIN RECORD	VOLATILES	
M00681 DATA 0453	001294	05/27/94 06/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2836 RFW# 9305S820, 9305S828, 9305S842,9305S851,9305S858,9305S866	ADMIN RECORD	VOLATILES	
M00681 DATA 0430	001295	05/27/94 06/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2818 RFW# 9305S775, 9305S787,9305S798,9305S804,9305S812	ADMIN RECORD	VOLATILES	
M00681 DATA 0150	001296	05/27/94 06/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2792 RFW# 9305S763	ADMIN RECORD	HERBICIDE	
M00681 DATA 0216	001299	05/27/94 06/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,9305S804,9305S812	ADMIN RECORD	TEH	
M00681 DATA 35781 0408	001125	05/25/94 06/10/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH HERBICIDES, METALS	ADMIN RECORD	PESTICIDES PCB TFH HERBICIDES METALS VOLATILES SEMIVOALTILES	
M00681 DATA 35848 0216	001126	05/25/94 06/10/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB METALS	
M00681 DATA 0821	001231	05/27/94 06/10/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP SEMIVOLATILES ANALYSIS SDG# W2858 RFW# 9305S843 9305S852,9305S857	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0364	001248	05/27/94 06/10/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2773 \ RFW# 9304S687,9304S700	ADMIN RECORD	PESTICIDES	

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M00681 DATA 0492	001274	05/27/94 06/10/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2858 RFW# 9305S843, 9305S852,9305S857	ADMIN RECORD	VOLATILES		
M00681 DATA 0337	001234	05/27/94 06/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2818 RFW# 9305S775,9305S787, 9305S798 9305S804,9305S812	ADMIN RECORD	HERBICIDE		
M00681 DATA 0357	001236	05/27/94 06/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2792 RFW# 9305S701, 9305S763	ADMIN RECORD	PESTICIDES		
M00681 DATA 0321	001237	05/27/94 06/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,9305S804,9305S812	ADMIN RECORD	PESTICIDES		
M00681 DATA 0505	001249	05/27/94 06/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2890 RFW# 9305S877, 9305S878, 9305S891	ADMIN RECORD	VOLATILES		
M00681 DATA 0252	001233	05/27/94 06/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2792 RFW# 9305S701,9305S725,9305S763	ADMIN RECORD	TPH VOLATILES		
M00681 DATA 0563	001235	05/27/94 06/16/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS AND CYANIDE ANALYSIS SDG# W2792 RFW# 9305S701, 9305S725,9305S763	ADMIN RECORD	IOG METALS CYANIDE		
M00681 DATA 0249	001238	05/27/94 06/16/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2858 RFW# 9305S843,9305S852,9305S857	ADMIN RECORD	TEH		
M00681 DATA 0160	001239	05/27/94 06/16/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS ANALYSIS SDG# W2792 RFW# 9305S701,9305S725, 9305S763	ADMIN RECORD	IOG		
M00681 DATA 0356	001263	05/27/94 06/17/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851,9305S858	ADMIN RECORD	PESTICIDES		

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M00681 DATA 0010	002404	07/22/94 06/17/93 166 02.2	CH2M HILL MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: TPH-DIESEL SDG: 35576	ADMIN RECORD	WATER FUEL
M00681 DATA 0371	001241	05/27/94 06/18/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2773 RFW# 9304S687 9304S700	ADMIN RECORD	IOG METALS
M00681 DATA 0187	001240	05/27/94 06/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2890 RFW# 9305S877,9305S878,9305S891	ADMIN RECORD	TEH
M00681 DATA 0258	001242	05/27/94 06/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851,9305S858	ADMIN RECORD	TEH
M00681 DATA 0271	001243	05/27/94 06/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851	ADMIN RECORD	VOLATILES TPH
M00681 DATA 0385	001244	05/27/94 06/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2836 RFW# 9305S820,9305S828, 9305S842,9305S851,9305S858,9305S866	ADMIN RECORD	HERBICIDE
M00681 DATA 0763	001246	05/27/94 06/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851,9305S858	ADMIN RECORD	SEMIVOLATILE
M00681 DATA 0230	001245	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2905 RFW# 9305S879,9305S889,9305S902,9305S904	ADMIN RECORD	TEH
M00681 DATA 0449	001247	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2905 RFW# 9305S879, 9305S889,9305S904	ADMIN RECORD	VOLATILE
M00681 DATA 0263	001250	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2905 RFW# 9305S879,9305S889,9305S902	ADMIN RECORD	PESTICIDES

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M00681 DATA 0101	001251	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2858 RFW# 9305S843,9305S852,9305S857	ADMIN RECORD	TPH VOLATILES
M00681 DATA 0273	001253	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2905 RFW# 9305S879,9305S889, 9305S902	ADMIN RECORD	HERBICIDE
M00681 DATA 0391	001254	05/27/94 06/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2926 RFW# 9306S011, 9306S024,9306S030,9306S037,9306S044,9306S050	ADMIN RECORD ADMIN RECORD	VOLATILES VOLATILES
M00681 DATA 0332	001262	05/27/94 06/22/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,9305S804, 9305S812	ADMIN RECORD	IOG METALS
M00681 DATA 0198	001264	05/27/94 06/22/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS WET CHEMISTRY ANALYSIS SDG# W2818 RFW# 9305S775,9305S787,9305S798,9305S804,9305S812	ADMIN RECORD	IOG
M00681 DATA 0608	000920	05/18/94 06/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2890 RFW# 9305S877,9305S878,9305S891	ADMIN RECORD	SEMIVOLATILES
M00681 DATA 0464	000921	05/18/94 06/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2945 RFW# 9306S051,9306S058,9306S059,9306S060,9306S068	ADMIN RECORD	SEMIVOLATILES
M00681 DATA 0522	000927	05/18/94 06/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2905 RFW# 9305S879,9305S889,9305S902,9305S904	ADMIN RECORD	SEMIVOLATILES
M00681 DATA 0269	001261	05/27/94 06/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2890 RFW# 9305S877,9305S878,9305S891	ADMIN RECORD	VOLATILES TPH
M00681 DATA 0395	001272	05/27/94 06/23/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# W2945 RFW# 9306S051, 9306S058,9306S059,9306S060,9306S068	ADMIN RECORD	VOLATILES

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M00681 DATA 0337	000913	05/18/94 06/25/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851,9305S858	ADMIN RECORD	METALS IOG	
M00681 DATA 0350	000916	05/18/94 06/25/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC WET CHEMISTRY ANALYSIS SDG# W2836 RFW# 9305S820,9305S828,9305S842,9305S851	ADMIN RECORD	IOG	
M00681 DATA 0310	000917	05/18/94 06/25/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2905 RFW# 9305S879,9305S889,9305S902,9305S904	ADMIN RECORD	VOLATILE	
M00681 DATA 0517	000907	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2926 RFW# 9306S011,9306S024,9306S030,9306S037	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0234	000914	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOA RFW# 9306S224	ADMIN RECORD	VOA	
M00681 DATA 0360	000915	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES RFW# 9306S224	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0084	000918	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9306S224	ADMIN RECORD	VOLATILES	
M00681 DATA 0112	000919	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON DIESEL FUEL RFW# 9306S224	ADMIN RECORD	DIESEL FUEL	
M00681 DATA 0224	000928	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON PESTICIDES PCBs RFW# 9306S224	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0223	000929	05/18/94 06/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON WATER SOIL HBGX RFW# 9306S224	ADMIN RECORD	WATER	

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M00681 DATA 0255	000910	05/18/94 06/29/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2926 RFW# 9306S011,9306S024,9306S030,9306S037,9306S044	ADMIN RECORD	VOLATILES	
M00681 DATA 0352	000933	05/18/94 06/29/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2890 RFW# 9305S877 9305S878,9305S891	ADMIN RECORD	IOG METALS	
M00681 DATA 0229	000937	05/18/94 06/29/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2926 RFW# 9306S011,9306S024,9306S030,9306S037,9306S044	ADMIN RECORD	TEH	
M00681 DATA 0383	000938	05/18/94 06/29/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2926 RFW# 9306S011,9306S024 9306S030,9306S037,9306S044,9306S050	ADMIN RECORD	HERBICIDE	
M00681 DATA 0320	000932	05/18/94 06/30/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W2926 RFW# 9306S011 9306S024,9306S030,9306S037,9306S044,9306S050	ADMIN RECORD	IOG METALS	
M00681 DATA 0256	000934	05/18/94 06/30/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INOGRANIC WET CHEMISTRY ANALYSIS SDG# W2890 RFW# 9306S051,9306S058,9306S059,9306S060,9306S068	ADMIN RECORD	IOG	
M00681 DATA 0151	000935	05/18/94 06/30/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INOGRANIC ANALYSIS SDG# W2905 RFW# 9305S879,9305S889, 9305S902,9305S904	ADMIN RECORD	IOG	
M00681 DATA 0255	000955	05/18/94 06/30/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC WET CHEMISTRY ANALYSIS SDG# W2926 RFW# 9306S011,9306S024,9306S030,9306S037,9306S044	ADMIN RECORD	IOG	
M00681 DATA 0077	000908	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON DIESEL FUEL W2926 RFW# 99306S258	ADMIN RECORD	DIESEL FUEL	
M00681 DATA 0061	000909	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILES RFW# 9306S258	ADMIN RECORD	VOLATILES	

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M00681 DATA 0160	000911	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS RFW# 9306S258	ADMIN RECORD	IOG	
M00681 DATA 0161	000912	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON PESTICIDES\PCBs RFW# 9306S258	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0203	000930	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON SEMIVOLATILES RFW# 9306S258	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0093	000931	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES RFW# 9306S258	ADMIN RECORD	HERBICIDE	
M00681 DATA 0430	000939	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/INORGANICS METALS ANALYSIS SDG# W2905 RFW# 9305S879,9305S889,9305S902,9305S904	ADMIN RECORD	IOG METALS	
M00681 DATA 0387	000940	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/INORGANICS METALS ANALYSIS SDG# W2858 RFW# 9305S843,9305S852,9305S857	ADMIN RECORD	IOG METALS	
M00681 DATA 0351	000941	05/18/94 07/01/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/ORGANOCHORINE PESTICIDES ANALYSIS SDG# W2926 RFW# 9306S011,9306S024,9306S030,9306S037,9306S044	ADMIN RECORD	PESTICIDES	
M00681 DATA 0504	000925	05/18/94 07/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS VOLATILE ANALYSIS SDG# W2960 RFW# 9306S067 RFW# 9306S070,9306S078,9306S079,9306S080,9306S091	ADMIN RECORD	VOLATILES	
M00681 DATA 0526	000936	05/18/94 07/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GC/MS SEMIVOLATILE ANALYSIS SDG# W2960 RFW# 9306S067,9306S070,9306S078,9306S079,9306S080	ADMIN RECORD	SEMIVOLATILE	
M00681 DATA 35908 0244	000975	05/18/94 07/02/93 00166 02.2	WESTON MANAGERS IT CORPORATION	ANALYTICAL DATA FOR MCB CAMP PENDLETON TFH, VOLATILES, SEMIVOLATILES,PESTICIDES, PCB HERBICIDES	ADMIN RECORD	TFH VOLATILES SEMIVOLATILES PESTICIDES PCB HERBICIDE	

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M00681 DATA 0227	000922	05/18/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM ANALYSIS SDG# W2945 RFW# 9306S501,9306S058,9306S059,9306S060,9306S068	ADMIN RECORD	TPH		
M00681 DATA 0189	000923	05/18/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2945 RFW# 9306S501,9306S058,9306S059,9306S060,9306S068	ADMIN RECORD	TEH		
M00681 DATA 0428	000924	05/18/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GCMS VOLATILES ANALYSIS SDG# W2984 RFW# 9306S103 RFW# 9306S119,9306S120,9306S135,9306S136,9306S137	ADMIN RECORD	VOLATILES		
M00681 DATA 0389	001192	05/26/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2945, RFW# 9306S051,9306S058 9306S059	ADMIN RECORD	HERBICIDE		
M00681 DATA 0252	001196	05/27/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON ORGANOCHLORINE PESTICIDES ANALYSIS SDG# 2945 RFW# 9306S051,9306S058,9306S059	ADMIN RECORD	PESTICIDES		
M00681 DATA 0224	001197	05/27/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM ANALYSIS SDG# 2960 RFW# 9306S067,9306S070,9306S078,9306S079,9306S080	ADMIN RECORD	TPH		
M00681 DATA 0311	001198	05/27/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON METALS ANALYSIS SDG# 2945 RFW# 9306S051,9306S058 9306S059,9306S060,9306S068	ADMIN RECORD	METALS		
M00681 DATA 000000000000000 0409	001199	05/27/94 07/06/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GCMS VOLATILES ANALYSIS SDG# W3004 RFW# 9306S163, 9306S164,9306S180,9306S181,9306S182,9306S192,9306S205	ADMIN RECORD	VOLATILES		SOUTHWEST DIVISION
M00681 DATA 0506	001191	05/26/94 07/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GCMS SEMIVOLATILES ANALYSIS SDG# W2984, RFW# 9306S103, 9306S119,9306S120,9306S135,9306S136,9306S137	ADMIN RECORD	SEMIVOLATILES		
M00681 DATA 0327	001195	05/27/94 07/07/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2960 RFW# 9306S067,9306S070, 9306S078,9306S078,9306S079,9306S91,9306S102	ADMIN RECORD	HERBICIDE		

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M00681 DATA 0265	001202	05/27/94 07/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANICS WET CHEMISTRY SDG# W2960 RFW# 9306S067, 9306S070,9306S078,9306S079,9306S080,9306S091,9306S102	ADMIN RECORD	IOG	
M00681 DATA 000000000000000 0249	001200	05/27/94 07/12/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W2984 RFW# 9306S103, 9306S135	ADMIN RECORD		SOUTHWEST DIVISION
M00681 DATA 0073	001204	05/27/94 07/12/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON INORGANIC RFW# 9306S147	ADMIN RECORD	IOG	
M00681 DATA 0203	001205	05/27/94 07/12/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W2984 RFW# 9306S103,9306S119,9306S120,9306S135,9306S136	ADMIN RECORD	TPH VOLATILES	
M00681 DATA 0156	001207	05/27/94 07/12/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2984 RFW# 9306S103	ADMIN RECORD	PESTICIDES	
M00681 DATA 35967 0232	001151	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TFH, METALS	ADMIN RECORD	VOALTILES SEMIVOALTILES PESTICIDES PCB TFH METALS	
M00681 DATA 35926 0242	001154	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, METALS	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH PESTICIDES PCB METALS	
M00681 DATA 35914 0316	001157	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH PESTICIDES PCB HERBICIDE	

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M00681 DATA 35945 0273	001158	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH PESTICIDES PCB METALS
M00681 DATA 35901 0297	001159	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH PESTICIDES PCB METALS
M00681 DATA 35934 0380	001160	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, PESTICIDES, PCBs, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TFH PESTICIDES PCB METALS
M00681 DATA 35966 0960	001176	05/25/94 07/13/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs,	ADMIN RECORD	VOALTILES SEMIVOLATILES PESTICIDES PCB
M00681 DATA 0097	001201	05/27/94 07/13/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP/GCMS VOLATILE ANALYSIS SWG# W3030 RFW# 9306S258	ADMIN RECORD	VOLATILES
M00681 DATA 0202	001203	05/27/94 07/13/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILES ANALYSIS SDG# W3020 RFW# 9306S193, 99306S194,9306S225	ADMIN RECORD	VOLATILES
M00681 DATA 0252	001206	05/27/94 07/13/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2960 RFW# 9306S067,9306S070,9306S078,9306S079,9306S080	ADMIN RECORD	TEH
M00681 DATA 0239	001209	05/27/94 07/13/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W2984 RFW# 9306S103,9306S119,9306S120,9306S135,9306S136	ADMIN RECORD	TEH

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M00681 DATA 35984 0966	001177 05/25/94 07/14/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs,	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDIES PCB	
M00681 DATA 35985 0280	001178 05/25/94 07/14/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCBs, TPH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TPH METALS	
M00681 DATA 0412	001225 05/27/94 07/14/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANICS METALS ANALYSIS SDG# W2960 RFW# 9306S067,9306S070,9306S078,9306S079,9306S080	ADMIN RECORD	IOG METALS	
M00681 DATA 0272	001226 05/27/94 07/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANICS METALS ANALYSIS SDG# W2984 RFW# 9306S103,9306S119,9306S120,9306S135,9306S136	ADMIN RECORD	IOG METALS	
M00681 DATA 0210	001228 05/27/94 07/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON GC/MS SEMIVOLATILE ANALYSIS SDG# W3020 RFW# 9306S0193 9306S194,9306S225	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0328	001229 05/27/94 07/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANICS WET CHEMISTRY ANALYSIS SDG# W2984 RFW# 9306S0103,9306S119,9306S120,9306S135,9306S136	ADMIN RECORD	IOG	
M00681 DATA 0471	001265 05/27/94 07/15/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# W3004 RFW# 9306S163,9306S164,9306S180,9306S181,9306S182	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 36008 0303	001127 05/25/94 07/16/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TPH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES TPH METALS	
M00681 DATA 0294	001266 05/27/94 07/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2960 RFW# 9306S067,9306S070,9306S078,9306S079,9306S091	ADMIN RECORD	PESTICIDES	

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M00681 DATA 0231	001267	05/27/94 07/20/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W3004 RFW# 9306S163,9306S164,9306S180,9306S181,9306S182	ADMIN RECORD	VOLATILES TPH	
M00681 DATA 0397	001269	05/27/94 07/20/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# W3004 RFW# 9306S163,9306S164,9306S180,9306S181,9306S182	ADMIN RECORD	IOG METALS	
M00681 DATA 0318	001268	05/27/94 07/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON WET CHEMISTRY ANALYSIS SDG# W3004 RFW# 9306S163,9306S164,9306S180,9306S181,9306S182	ADMIN RECORD	DATA	
M00681 DATA 0205	001270	05/27/94 07/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W3004 RFW# 9306S164, 9306S180,9306S182	ADMIN RECORD	HERBICIDE	
M00681 DATA 0194	001271	05/27/94 07/21/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W3004 RFW# 9306S163,9306S164,9306S180,9306S181,9306S182	ADMIN RECORD	TEH	
M00681 DATA 0122	001259	05/27/94 07/22/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON VOLATILE PETROLEUM HYDROCARBONS ANALYSIS SDG# W3020 RFW# 9306S193,9306S194,9306S225	ADMIN RECORD	TPH VOLATILES	
M00681 DATA 0189	001260	05/27/94 07/22/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W3004 RFW# 9306S164,9306S180,9306S182	ADMIN RECORD	PESTICIDES	
M00681 DATA 000000000000000 0026	002363	07/21/94 07/23/93 00166 02.2	ESE MCB CAMP PENDLETON	MATRIX: WATER PARAMETERS: GENERAL CHEMISTRY CASE: NACPW7G G35714,G36446,G36029,G35103,G35334,G35715,G36442,	ADMIN RECORD	WATER	
M00681 DATA 0113	001273	05/27/94 07/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# W30201, RFW# 9306S193,9306S194,9306S225	ADMIN RECORD	TEH	
M00681 DATA 0269	001275	05/27/94 07/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANICS METALS ANALYSIS SDG# W3020 RFW# 9306S193,9306S194,9306S206,9306S225,9306S259	ADMIN RECORD	IOG METALS	

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M00681 DATA 0153	001276	05/27/94 07/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# W3020 RFW# 9306S225	ADMIN RECORD	HERBICIDE		
M00681 DATA 0193	001277	05/27/94 07/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W2984 RFW# 9307S405, 9306S135	ADMIN RECORD	PESTICIDES		
M00681 DATA 0161	001278	05/27/94 07/27/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# W3020 RFW# 9306S225	ADMIN RECORD	PESTICIDES		
M00681 DATA 0230	001279	05/27/94 07/28/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON WET CHEMISTRY SDG# W3020 RFW# 9306S193,9306S194, 9306S205,S9306S225,S9306S259	ADMIN RECORD	DATA		
M00681 DATA 01F166S920066 0032	002482	08/09/94 07/28/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: VOLATILES LAB:ESE SDG: G35398,G36497	ADMIN RECORD	WATER VOLATILES	SOUTHWEST DIVISION	
M00681 DATA 01F166S920066 0050	002483	08/09/94 07/28/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: VOLATILES LAB:ESE SDG: G35397,G35398,G35399,G36496	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 01F166S920066 0063	002484	08/09/94 07/28/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TCL METALS WITH BORON,CTANODE, AND MOLYBDENUM SDG:G35338,G36107,G35740,G36332,G35751,G36374,G36336,	ADMIN RECORD	WATER	SOUTHWEST DIVISION	
M00681 DATA 01F166S920066 0051	002485	08/10/94 07/28/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TCL METALS WITH BORON,CYANIDE, AND MOLYBDENUM LAB: ESE SDG# G36251, G35621	ADMIN RECORD	WATER METALS CYANIDE	SOUTHWEST DIVISION	
M00681 DATA 01F166S920066 0014	002486	08/10/94 07/28/93 00166 02.2	QUANTLEX MCB CAMP PENDLETON	MCB CAMP PENLETON MATRIX: WATER PARAMETER: TPH GASOLINE & TPH DIESEL LAB: ESE CASE# NACPW8D SDG# G35462	ADMIN RECORD	WATER TPH	SOUTHWEST DIVISION	
M00681 DATA 36209 0233	001129	05/25/94 07/30/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TPH, METALS	ADMIN RECORD	VOLATILES SEMIVOLATILES PESTICIDES PCB TPH METALS		

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M00681 DATA 36198 0258	001130	05/25/94 07/30/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, PESTICIDES, PCB, TFH, METALS	ADMIN RECORD	VOLATILES SEMIVOALTILES PESTICIDES PCB TFH METALS	
M00681 DATA 36235 0912	001137	05/25/94 08/06/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, RISK ASSESSMENT	ADMIN RECORD	VOALTILES SEMIVOLATILES RA	
M00681 DATA 36234 0332	001139	05/25/94 08/06/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON VOLATILES, SEMIVOLATILES, TFH, METALS, PESTICIDES, PCB RISK ASSESSMENT	ADMIN RECORD	VOALTILES SEMIVOLATILES TFH METALS PESTICIDES PCB RA	
M00681 DATA 0112	001280	05/27/94 08/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS SEMIVOLATILE ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	SEMIVOALTILES	
M00681 DATA 0096	001285	05/27/94 08/11/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP GCMS VOLATILE ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	VOLATILES	
M00681 DATA 0070	001284	05/27/94 08/16/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL PURGEABLE PETROLEUM HYDROCARBONS ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	TPH	
M00681 DATA 0145	001283	05/27/94 08/19/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON HERBICIDES ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	HERBICIDE	
M00681 DATA 0065	001282	05/27/94 08/26/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON TOTAL EXTRACTABLE HYDROCARBONS ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	TEH	
M00681 DATA 0159	001281	05/27/94 08/31/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP ORGANOCHLORINE PESTICIDES ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	PESTICIDES	

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M00681 DATA 0163	001292	05/27/94 09/08/93 00166 02.2	WESTON MANAGERS IT CORPORATION	LABORATORY REPORT FOR MCB CAMP PENDLETON CLP INORGANIC METALS ANALYSIS SDG# S3060 RFW# 9307S468	ADMIN RECORD	IOG METALS	
M00681 DATA 0295	001108	05/25/94 09/10/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002 HERBICIDE	ADMIN RECORD	HERBICIDE	
M00681 DATA 36562 0322	001140	05/25/94 09/17/93 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, RISK ASSESSMENT	ADMIN RECORD	METALS RA	
M00681 DATA 36563 0327	001150	05/25/94 09/17/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON METALS, RISK ASSESSMENT	ADMIN RECORD	METALS RA	
M00681 DATA 000000000000000 1385	001091	05/25/94 09/22/93 00000 02.2	IT CORPORATION	INORGANIC ANALYSIS DATA SHEET FOR MCB CAMP PENDLETON SDG# CP006 MATRIX: SOIL AND WATER	ADMIN RECORD	WATER IOG	
M00681 DATA 36561 0235	001149	05/25/94 09/24/93 00166 02.2	CH2M HILL PEGGY A. NORTON IT CORPORATION DAVE MARK	ANALYTICAL DATA FOR MCB CAMP PENDLETON RISK ASSESSMENT, PESTICIDES, PCBs	ADMIN RECORD	RA PESTICIDES PCB	
M00681 DATA 0460	001071	05/24/94 10/11/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP003-A TAL METALS, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE	
M00681 DATA 0269	001074	05/24/94 10/11/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP003-B VOLATILE ORGANICS	ADMIN RECORD	VOC	
M00681 DATA 0120	001106	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0281	001107	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB	

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M00681 DATA 0142	001109	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-C DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TPH
M00681 DATA 0360	001110	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-N VOLATILE ORGANICS	ADMIN RECORD	VOC
M00681 DATA 0696	001111	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-C SEMIVOLATILES ORGANICS	ADMIN RECORD	SEMIVOALTILES
M00681 DATA 0709	001112	05/25/94 10/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE
M00681 DATA 0838	001069	05/24/94 10/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON 0DG# CP003-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOLATILES
M00681 DATA 0118	001070	05/24/94 10/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP003-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TPH
M00681 DATA 0122	001072	05/24/94 10/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP003-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TPH
M00681 DATA 0286	001073	05/24/94 10/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP003-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB
M00681 DATA 0870	001119	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOALTILES
M00681 DATA 0477	001120	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001-O WATER	ADMIN RECORD	WATER

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M00681 DATA 0477	001121	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001 METALS, TFH, PESTICIDES, PCBs	ADMIN RECORD	METALS TFH PESTICIDES PCB	
M00681 DATA 0147	001122	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0219	001123	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0850	001124	05/25/94 10/14/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP001-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE	
M00681 DATA 1068	001113	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-O WATER	ADMIN RECORD	WATER	
M00681 DATA 0675	001114	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE	
M00681 DATA 0877	001115	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0410	001116	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-N VOLATILE ORGANICS	ADMIN RECORD	VOLATILES	
M00681 DATA 0184	001117	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-E DIESEL FUEL HYRDOCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0187	001118	05/25/94 10/15/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP004-D GASOLINE FUEL HYRDOCARBONS	ADMIN RECORD	TFH	

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M00681 DATA 0369	001085	05/24/94 10/21/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-H HERBICIDES WATER	ADMIN RECORD	HERBICIDE WATER	
M00681 DATA 0195	001095	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-H HERBICIDES WATER	ADMIN RECORD	HERBICIDE WATER	
M00681 DATA 1243	001099	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-O WATER	ADMIN RECORD	WATER	
M00681 DATA 0480	001100	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-N VOLATILE ORGANICS	ADMIN RECORD	VOC	
M00681 DATA 0793	001101	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-C SEMIVOLATILES	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0742	001102	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE	
M00681 DATA 0749	001105	05/25/94 10/21/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP002-0 CARBONATE\BICARBONATE	ADMIN RECORD	DATA	
M00681 DATA 0162	001093	05/25/94 10/28/93 0166 02.2	IT CORPORATION	ANLYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0200	001094	05/25/94 10/28/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0446	001096	05/25/94 10/28/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-N VOLATILE ORGANICS	ADMIN RECORD	VOC	

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M00681 DATA 0471	001097	05/25/94 10/28/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-C SEMIVOLATILES	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 0943	001083	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOLATILES	
M00681 DATA 1056	001084	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-O WATER	ADMIN RECORD	WATER	
M00681 DATA 0552	001086	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE	
M00681 DATA 0215	001087	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0530	001088	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB	
M00681 DATA 0507	001089	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-N VOLATILE ORGANICS	ADMIN RECORD	VOLATILES	
M00681 DATA 0199	001090	05/24/94 10/29/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP007-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH	
M00681 DATA 0235	001092	05/25/94 10/29/93 0166 02.2	IT CORPORATION	ANLYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDE PCB	
M00681 DATA 0142	001103	05/25/94 10/29/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH	

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M00681 DATA 0186	001104	05/25/94 10/29/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP005-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TFH
M00681 DATA 0170	001066	05/24/94 11/03/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-H HERBICIDES	ADMIN RECORD	HERBICIDE
M00681 DATA 0199	001076	05/24/94 11/03/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-H HERBICIDES WATER	ADMIN RECORD	WATER HERBICIDES
M00681 DATA 1180	001075	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-O WATER	ADMIN RECORD	WATER
M00681 DATA 0798	001077	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOLATILES
M00681 DATA 0873	001078	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB
M00681 DATA 0403	001079	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-N VOLATILE ORGANICS	ADMIN RECORD	VOC
M00681 DATA 0935	001080	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-A TAL METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE
M00681 DATA 0171	001081	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-E DIESEL FUEL HYDROCARBONS	ADMIN RECORD	TFH
M00681 DATA 0185	001082	05/24/94 11/05/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP008-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH

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M00681 001054 DATA 000000000000000 0100	05/24/94 11/11/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP010-H WATER	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 001098 DATA 0581	05/25/94 11/11/93 0166 02.2	IT CORPORATION	ANALYSIS DATA FOR MCB CAMP PENDLETON SDG# CP006-A METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE		
M00681 001050 DATA 000000000000000 0375	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON CSQB# CP010-N VOLATILE ORGANICS USING COMBINED GAS CHROMATOGRAHPY-MASS	ADMIN RECORD	VOA		SOUTHWEST DIVISION
M00681 001051 DATA 000000000000000 0667	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON CSQB# CP010-A TAL METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE		SOUTHWEST DIVISION
M00681 001052 DATA 000000000000000 0320	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON CSQB# CP010-C SEMIVOLATILE ORGANICS	ADMIN RECORD	SEMIVOLATILES		SOUTHWEST DIVISION
M00681 001053 DATA 000000000000000 0141	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON CSQB# CP010-E BOILING FUEL HYDROCARBONS DIESEL	ADMIN RECORD	TFH		SOUTHWEST DIVISION
M00681 001056 DATA 000000000000000 0319	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP010-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB		SOUTHWEST DIVISION
M00681 001057 DATA 000000000000000 1013	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP010-O WATER	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 001058 DATA 000000000000000 0124	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP010-D FUEL HYDROCARBONS GASOLINE	ADMIN RECORD	TFH	GROUP B	SOUTHWEST DIVISION
M00681 001061 DATA 0764	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-A TAL METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE		SOUTHWEST DIVISION

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M00681 DATA 1540	001062	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-O WATER	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 0746	001064	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-C SEMIVOLATILES ORGANICS	ADMIN RECORD	SEMIVOLATILES		SOUTHWEST DIVISION
M00681 DATA 0502	001065	05/24/94 11/12/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-N VOLATILE ORGANICS	ADMIN RECORD	VOA		
M00681 DATA 0173	001067	05/24/94 11/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-E DIESEL FULE HYDROCARBONS	ADMIN RECORD	TFH		
M00681 DATA 0162	001068	05/24/94 11/12/93 00166 02.2	IT CORPORATION	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON 0DG# CP009-D GASOLINE FUEL HYDROCARBONS	ADMIN RECORD	TFH		
M00681 DATA 000000000000000 0382	001055	05/24/94 11/16/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP011-A TAL METALS, BORON, CYANIDE AND MOLYBDENUM	ADMIN RECORD	METALS CYANIDE		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0150	001059	05/24/94 11/16/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP012-H WATER AND SOIL	ADMIN RECORD	WATER		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0538	001060	05/24/94 11/17/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP011-C SEMIVOLATILES ORGANICS	ADMIN RECORD	SEMIVOLATILES		SOUTHWEST DIVISION
M00681 DATA 000000000000000 0507	001063	05/24/94 11/19/93 00166 02.2	IT CORPORATION DAVE MARK	CERTIFICATE OF ANALYSIS FOR MCB CAMP PENDLETON SDG# CP009-F PESTICIDES AND PCBs	ADMIN RECORD	PESTICIDES PCB	GROUP B	SOUTHWEST DIVISION
M00681 DATA 000000000000000 0007	002168	06/30/94 12/03/93 00000 00.0	SOUTHWEST DIVISION W.N. THORNTON MCB CAMP PENDLETON	UNDERGROUND STORAGE TANK SITE ASSESSMENT.	ADMIN RECORD	PR ESR UST		SOUTHWEST DIVISION

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M00681 002211 DATA 000000000000000 0052	06/30/94 02/03/94 00166 04.4	I.T. CORPORATION SHERRY GAZZIGLI SOUTHWEST DIVISION CHRIS POTTER	CORRECTIONS TO SDG'S SENT BY THE IT LAB.	ADMIN RECORD			SOUTHWEST DIVISION
M00681 003293 DATA 000000000000000 0021	08/25/97 03/08/95 00000 01.1		MISCELLANEOUS DATA INCLUDING ATTENDANCE SHEET TO MAR. 8, 1995 ECOLOGICIAL RISK ASSESSMENT SCOPING SESSION AND SOIL EXPOSURE FOR VARIOUS SITES	ADMIN RECORD INFO REPOSITORY	DATA SOIL HABITAT RA	1D 1E 2B 2C 10 16 17 25N 26 27 28 29 30 35	SOUTHWEST DIVISION MCB CAMP PENDLETON

TOTAL RECORDS PRINTED: 1360

REPORT SPECIFICATION FOR: RPT210

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