WORK PLAN

CLOSURE OF TEMPORARY ACCUMULATION AREAS 771, 130C, AND MSC P1 UNIT 2 BUILDING 493

FORMER MARINE CORPS AIR STATION EL TORO, CALIFORNIA

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Contract No. N68711-04-C-1010

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ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
BCT	BRAC Cleanup Team
Bgs	below ground surface
BNI	Bechtel National, Inc.
BRAC	Base Realignment and Closure Act
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Cal-OSHA	California Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	chemical of concern
CSO	Caretaker Site Office
CTO	Contract Task Order
DO	Delivery Order
DOT	U.S. Department of Transportation
DSA	drum storage area
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EPA	U.S. Environmental Protection Agency
EZ	exclusion zone
HI	hazard index
HSWA	hazardous waste storage area
IT	IT Corporation
JEG	Jacobs Engineering Inc.
JP	jet propellant
LUFT	leaking underground fuel tank
MCAS	Marine Corp Air Station
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MTBE	methyl tert-butyl ether
NCP	National Oil and Hazardous Substances Contingency Plan
NFA	no further action
OHM	OHM Remediation Services Corp.

ACRONYMS AND ABBREVIATIONS (Continued)

PCB	polychlorinated biphenyl
PID	photoionization detector
ppmv	parts per million by volume
PR	preliminary review
PRG	preliminary remediation goal
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RMA	RMA Land Construction Inc.
RWQCB	California Regional Water Quality Control Board
SAP	sampling and analysis plan
SHSO	site health and safety officer
SHSP	site health and safety plan
SVOC	semivolatile organic compound
SWDIV	Southwest Division Naval Facilities Engineering Command
SWMU	solid waste management units
SWRCB	State Water Resources Control Board
TAA	Temporary Accumulation Area
TCE	trichloroethene
TCL	target cleanup level
TCLP	toxicity characteristics leaching procedure
TCP	trichloropropane
TEF	toxicity equivalency factors
TPH	total petroleum hydrocarbon
USA	Underground Service Alert
UST	underground storage tank
VOC	volatile organic compound
VSI	visual site inspection
WMP	waste management plan
yd^3	cubic yards
µg/kg	micrograms per kilogram

1.0 INTRODUCTION

RMA Land Construction, Inc. (RMA) has prepared this Work Plan (WP) to be implemented during field activities at the following sites located at the former Marine Corps Air Station (MCAS) El Toro, California (the Station).

- Former Temporary Accumulation Areas (TAAs) 771 and 130C.
- Miscellaneous Sites of Concern (MSC) Pesticide Storage Area 1 (MSC P1) Unit 2, former Building 493.

The work is being performed under Southwest Division Naval Facilities Engineering Command (SWDIV), Contract Number N68711-04-R-1010. Field activities at each location will be coordinated through SWDIV with involvement from the appropriate Caretaker Site Office (CSO) representative.

The field activities at former TAAs 771, 130C and MSC P1 Unit 2; former Building 493 will include excavation of contaminated soil, collection of confirmation soil samples, backfilling of excavated areas with clean soil, and management of excavated soil.

1.1 Site Location and Description

The former Station is located in Orange County, California, approximately 45 miles southeast of the City of Los Angeles, and 1 mile north of the intersection of Interstate 5 (Santa Ana Freeway) and Interstate 405 (San Diego Freeway). The City of Lake Forest is less than 2 miles southeast, and East Irvine is approximately 1 mile to the northwest. The former Station covers approximately 4,700 acres. The location of the former Station is shown on Figure 1-1, Facility Location Map. The locations of former TAA 771, TAA 130C and MSC-P1, Unit 2 site are shown in Figure 1-2, Site Location Map.

1.2 Project Scope and Objective

The objectives at the former TAA 771, 130C and MSC P1 Unit 2 sites are to remove very near surface and subsurface contaminated soils identified by previous investigations, perform confirmation soil sampling to verify removal of contaminated soils and obtain regulatory closure of these sites.

The scope of the work and objectives for each site presented in this work plan is as follows:

- **Former TAA 771 site – Excavation of impacted soil:** This task will involve the excavation of subsurface soil from one area that contains concentrations of metals exceeding human health risk based on residential scenario, confirmation soil sampling, and off-site disposal of excavated soil.

- **Former TAA 130C site – Excavation of impacted soil:** This task will involve the excavation of subsurface soil from two separate areas that contains concentration of metals exceeding human health risk based on the residential scenario, confirmation soil sampling, and off-site disposal of excavated soil.

- **MSC P1, Unit 2, Former Building 493 – Excavation of impacted soil:** This task will involve the excavation of subsurface soil from one area that contains concentrations of pesticide compounds exceeding human health risk based on the residential scenario, confirmation soil sampling, and off-site disposal of excavated soil.

1.3 Work Plan Organization

This work plan outlines procedures for excavation of impacted soil. The work plan is organized to support efficient field execution of these tasks and includes a sampling and analysis plan (SAP) in Appendix A and a Site Health and Safety Plan (SHSP) in Appendix B. Existing background documents and plans from previous contractors are referenced.

1.3.1 Sampling and Analysis Plan

The SAP was prepared to ensure that data collected during the planned field activities are precise, accurate, representative, complete, and comparable to meet the intended use of the data. The SAP incorporates the data quality objectives process and describes quality assurance (QA) objectives and quality control (QC) requirements for this project. The SAP also describes the soil sampling rationale, sample collection procedures, analytical methods, and sampling and analytical QA/QC protocols associated with the tasks described in this work plan. The SAP is presented in Appendix A.

1.3.2 Site Health and Safety Plan

The site health and safety plan (SHSP) presents health and safety procedures required by Title 29, Code of Federal Regulations (CFR), Section 1910.120. The SHSP addresses health and safety issues pertaining to protection of workers against exposure to chemical and physical hazards associated with the tasks described in this work plan, including air monitoring, accident reporting, and emergency procedures. All field activities will be conducted in accordance with the SHSP. The SHSP is presented in Appendix B.

2.0 SITE BACKGROUND

This section provides a brief background and summarizes results from the previous investigations conducted at the former TAA 771, TAA 130C and MSC-P1, Unit 2, former Building 493 sites.

2.1 Former TAA 771

Former TAA 771, a temporary, less than 90-day, Hazardous Waste Storage Area (HWSA) is located in the northwestern quadrant of the Station, west of Bee Canyon Wash. Former TAA 771 is located southeast of former Tank Farm 1 near the intersection of "South 8th" street and West Marine Way as shown in Figure 1-2.

In 1991, Jacobs Engineering Group (JEG) Inc., as part of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), performed the initial Preliminary Review (PR) and a Visual Site Inspection (VSI) of the 307 Solid Waste Management Units (SWMUs) within the Station. JEG also conducted a site visit to observe the current conditions of the SWMUs and/or TAAs, and performed limited sampling. JEG identified SWMU 224 (also known as TAA 771) as a temporary HWSA southeast of former Tank Farm 1 during their field RFA visit in April 1991 (JEG 1993).

Per JEG VSI Evaluation form, SWMU 224 (TAA 771) was one of the six Department of Health Services permitted HWSA consisting of a concrete pad with berm and aluminum roof, but no sump. JEG observed that the 180 square foot TAA was not in use and appeared to be inactive for long a time. The concrete pad, however, was covered with about 2-inches of accumulated water. JEG also observed that there were no significant stains or cracks on the concrete pad. Although there was no evidence of a release during the site visit at SWMU 224, JEG recommended that all past permitted HWSAs receive a sampling visit. Therefore, as part of the VSI evaluation process a *"Sampling Visit"* (JEG 1993) was recommended at SWMU 224 (TAA 771).

During the 1992 sampling visit, JEG advanced one angle soil boring (224A1) to a depth of 60 feet below ground surface (bgs) in close proximity of TAA 771 and collected six soil samples and one duplicate. Analytical results for TPH, VOCs, SVOCs, pesticide and PCB compounds were below the contract required detection limit for the Station. As a result of these findings JEG recommended *"No Further Action (NFA)"* for SWMU 224 (TAA 771). Copies of the VSI form, figure and analytical results table from the JEG RFA report are included in Attachment 1, RFA Background Information.

After review of the JEG RFA report, DTSC requested additional information about the TAAs to determine the closure requirements. BNI performed the visual assessment of 73 TAA sites to provide more specific information for a closure strategy for the TAAs. In November 1995, BNI visited SWMU 224, TAA 771 (BNI 1996).

During the BNI VSI in November 1995, the 10-foot by 15-foot TAA 771 was empty, vacant and the concrete pad was clean. Therefore, no soil sampling was performed by BNI. Copies of the TAA 771 VSI evaluation forms from the BNI Final RFA Addendum report are also included in Attachment 1, RFA Background Information.

In October 1997, OHM Remediation Services Corps (OHM) advanced five soil borings to three feet below ground surface next to TAA 771 (TAA771-SB-A, TAA771-SB-B, TAA771-SB-C, TAA771-SB-D and TAA771-SB-E). All soil samples that were collected from 1.5 feet bgs were analyzed for total petroleum hydrocarbons (TPH), pesticides, polychlorinated biphenyls (PCBs), metals, total cyanide, pH, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs). All soil samples collected from three feet bgs were analyzed for VOCs. In December 1999, a *Closure Report, Temporary Accumulation Area 771,* Marine Corps Air Station, El Toro, California was prepared by OHM and submitted to Department of Toxic Substances Control (DTSC) Region 4.

The DTSC reviewed the closure report, and requested additional analysis of 3 feet bgs samples in a letter dated March 22, 2000. In March 2003, Shaw Environmental, Inc. (Shaw) advanced three soil borings in close proximity to the 1997 soil boring locations at TAA 771, and collected soil samples from 3 feet bgs as requested by the DTSC. Based on the presence of arsenic above background levels in one sample at 1.5 feet bgs at TAA771-SB-B, two additional four-foot soil borings (TAA771-SB-B1 and TAA771-SB-B2) were advanced next to TAA771-SB-B in July 2003. Arsenic was not detected above background levels in any of the four soil samples collected from the two four-foot soil borings. (Shaw 2003).

Based on the review of analytical data collected by OHM, Shaw and preliminary risk screening analysis, the 13 mg/kg of arsenic (above residential PRGs and Station's background concentrations) in boring TAA 771 SB-B contributed to over 99% of the cancer risk. Also, other detected metal compounds above the residential PRGs in borings TAA 771-SB-B1 and TAA 771-SB-B2 contributed to cancer and non-cancer risk (Shaw 2003). A copy of the OHM and Shaw soil sample analytical data tables are included in Attachment 2, OHM and Shaw Analytical Data Tables. Locations of OHM and Shaw hand auger soil borings are shown in Figure 2-1, Proposed Excavation Area, Former TAA 771.

2.2 *Former TAA 130C*

Former TAA 130C, a temporary, less than 90-day, Hazardous Waste Storage Area (HWSA) is located in the northwestern quadrant of the Station and northwest of Building 130 as shown in Figure 1-2.

In 1991, JEG, as part of the RFA, performed the initial PR and a VSI of the 307 SWMUs within the Station. JEG also conducted a site visit to observe the current conditions of the SWMUs and/or TAA, and performed limited sampling. JEG identified SWMU 42 (also known as TAA 130C) as a temporary Drum Storage Area (DSA) near Building 130 during their field RFA visit in May 1991 (JEG 1993).

Per JEG VSI Evaluation form, SWMU 42 was an active DSA consisting of a plastic lining surrounded by a sandbag berm on a concrete surface, surrounded by a chain link fence. During the VSI, one drum containing dirty rags was stored within the bermed area. No evidence of a release was observed during the VSI, and the DSA appeared to be in good condition. Therefore, as part of the VSI evaluation process JEG recommended *"No Further Action (NFA)"* for SWMU 42 (TAA 130C). Excerpts from the JEG RFA report for TAA 130C are included in Attachment 1, RFA Background Information.

After review of the JEG RFA report, DTSC requested additional information about the TAAs to determine the closure requirements. BNI performed the visual assessment of 73 TAA sites to provide more specific information for a closure strategy for the TAAs. In December 1994, BNI visited SWMU 42 (TAA 130C) near Building 130 (BNI 1996).

During the BNI VSI in 1994, former TAA 130C was observed to be a concrete pad with berm and roof. No stains were observed on the concrete pad during the VSI. Therefore, no soil sampling was performed by BNI. Copies of former TAA 130C VSI evaluation forms from the BNI Final RFA Addendum report are included in Attachment 1, RFA Background Information.

In June 2003, Shaw collected soil samples from four hand auger locations at former TAA 130C site. A total of 6 soil samples were collected from four-hand auger boring locations (TAA130C-SB-A, TAA130C-SB-B, TAA130C-SB-C1 and TAA130C-SB-C2). TAA130C-SB-A was advanced to 5.5 feet bgs, and TAA130C-SB-B was advanced to 3 feet bgs. Refusal was encountered below the 2 feet bgs sample, therefore a second soil boring, TAA130C-SB-C2, was advanced next to TAA130C-SB-C1 in order to collect a sample from 3 feet bgs (Shaw 2003). A copy of the Shaw soil sample analytical data table for the TAA 130C site is included in Attachment 2, OHM and Shaw Analytical Data Tables. Locations of Shaw hand auger soil borings are shown in Figure 2-2, Proposed Excavation Area, Former TAA 130C.

2.3 *MSC-P1, Unit 2*

Former Building 493 is located in the southwest quadrant of the Station, between Agua Chinon Wash and Bee Canyon Wash. The former Building 493 encompass an area approximately 20 by 20 feet, located southwest of the Marine Way and "L" Street intersection as shown in Figure 1-2. Included within the area are remnants of the concrete foundation of the former building and the asphalt-paved area around the old building footprint.

The Final Environmental Baseline Survey (EBS) Report (Jacobs Engineering Group Inc., 1995) indicated that pesticides were stored at former Building 1687 (MSC P1 Unit 1) and former Building 493 (MSC P1 Unit 2). In 1998, OHM conducted an interview with a Station employee. The interview indicated that former Building 493 was also used for pesticide storage in the early 1980's, and includes the former building area, the paved and unpaved surfaces to the west of the building site, and the drainage swale to the west. This site had not previously been identified as a pesticide storage site. Pesticides and herbicides were stored in the building, which had a concrete floor; however, it was reported that nothing was dumped inside the building (OHM 1998). As a follow up to the interviews, site visits were conducted to the MSC P1 locations identified in the interview. No visible stains or other indications of spills were observed at either location. Based on the existing landmarks, OHM proposed the location of the soil borings and hand auger sample locations (IT Corporation 2002).

Following the interview and site visits, OHM developed a sampling strategy in January 1999 and presented it to the Navy and DTSC. Two former pesticide storage areas were identified that included former Building 1687 (MSC P1 Unit 1) and former Building 493 (MSC P1 Unit 2).

The sampling strategy at former Building 493 was focused on obtaining soil samples adjacent to the former Building foundation to evaluate potential migration and extent of the contaminants.

At the former Building 493 location, the verification sampling effort consisted of three soil borings, BLDG-493-PB01 through BLDG-493-PB03, to approximately 30 feet bgs. Two hand auger soil borings, BLDG-493-HA04 and BLDG-493-HA05, were hand augered to 9 feet bgs in the vicinity of the former Building 493 as shown on Figure 2-3, Proposed Excavation Area, MSC P1 Unit 2. A copy of the OHM soil sample analytical data table for the MSC P1 Unit 2 is included in Attachment 2, OHM and Shaw Analytical Data Tables.

<u>Detected Pesticides at MSC P1 Unit 2</u>

Fourteen pesticide analytes were detected in the soil samples collected from borings HA04, HA05, PB01 and PB03, all of which are adjacent to the former Building 493. No pesticide

analytes were detected in PB02. The maximum concentrations of pesticide analytes detected in each boring are summarized as follows:

- 4,4-DDD was detected in several samples, at 18 (J) mg/kg in boring HA-04 at 1 foot bgs, at 0.44 (J) mg/kg in boring HA-05 at 3 feet bgs, 0.044 mg/kg in boring PB-01 at 5 feet bgs, and 0.26 mg/kg in boring PB-03 at 5 feet bgs.
- 4,4 DDE was detected in several samples, at 3.3 (J) mg/kg in boring HA-04 at 1 foot bgs, 0.053 mg/kg in boring PB-01 at 5 feet bgs, and 0.24 mg/kg in boring PB-03 at 5 feet bgs.
- 4,4-DDT was detected at 27 (J) mg/kg in boring HA-04 at 1 foot bgs, at 2 (J) mg/kg at 3 feet bgs in boring HA-05, 0.298 mg/kg in boring PB-01 at 5 feet bgs, and 1.57 mg/kg in boring PB03 at 5-feet bgs.
- Aldrin was detected at 0.023 (J) mg/kg in boring HA-04 at 1 foot bgs
- Alpha-chlordane was detected at 0.15 (J) mg/kg in boring HA-04 at 1 foot bgs
- Dieldrin was detected at 0.06 (J) mg/kg in boring HA-04 at 1 foot bgs
- Endosulfan I was detected at 0.14 (J) mg/kg in boring HA-04 at 1 foot bgs
- Endrin was detected at 0.014 (J) mg/kg in boring HA-05 at 3 feet bgs
- Endrin aldehyde was detected at 0.033 (J) mg/kg in boring HA-04 at 1 foot bgs
- Dicofol was detected at 0.39 mg/kg in boring HA-04 at 1 foot bgs and 0.0025 (J) mg/kg in boring HA-05 at 1 foot bgs
- Malathion was detected at 10 (J) µg/kg in boring HA-04 at 3 feet bgs
- Gamma chlordane was detected at 0.0045 (J) mg/kg in boring HA-05 at 1 foot bgs and 0.0093 (J) mg/kg in boring HA05 at 9 feet bgs
- Heptachlor was detected at 0.21 (J) mg/kg in boring HA-04, 0.002 (J) mg/kg in soil boring PB01 at 5 feet bgs, and PB03 at a depth of 10 feet bgs at 2 (J) µg/kg
- Methoxychlor was detected at 3 (J) µg/kg in boring PB01 (20242-876) and PB03 (20242-892) at 10 feet bgs.

No other pesticide compounds were detected at or above the stated reporting limit in the borings around former Building 493. The detected pesticides were limited to a 10-foot depth or less, (the majority were in the top 1 to 5 feet) which is consistent with the limited mobility of pesticides in soil. In addition, a majority of the detected compounds were estimated ((J)) values (IT 2002).

IT Corporation prepared and submitted a closure report, MSC P1 Former Pesticide Storage Areas, in January 2002. DTSC reviewed the closure report and requested further action, since cancer risk for the residential scenario was exceeding the screening value of 1×10^{-6} (DTSC 2002).

3.0 REGULATORY COMPLIANCE AND DOCUMENTATION

This section describes the clean up levels and data evaluation methodology and procedures for closure of the TAAs and MSC P1 Unit 2 site.

3.1 Target Cleanup Levels

Cleanup goals for soil at former TAA 771, TAA 130C and MSC P1, Unit 2, Former Building 493 is based on:

- EPA Region IX preliminary remediation goals (PRGs) for residential use for organic contaminants (EPA, 2002)
- Background concentrations (BNI, 1996b) or EPA Region IX PRG values, whichever is greater, for residential land use for metal contaminants.

If soil analytical data from all three sites suggest low concentrations of organic compounds and background levels of metals in the vadose zone, screening-level risk assessment/hazard index calculations (for carcinogenic and noncarcinogenic impacts respectively) will be performed as applicable. The screening-level risk assessment will provide documentation that the remaining residual concentrations of organic and metal compounds do not pose a significant threat to human health or the environment.

3.2 Evaluation Methodology and Procedures

The following presents the methodology and procedures used to evaluate soil confirmation results in order to obtain site closure.

3.2.1 TAAs and MSC P1 Unit 2 Site

A screening risk methodology for organics and metals will be used to evaluate site closure. The screening risk approach is based on the COCs for each specific site.

The final confirmation soil sampling results and the historical previous soil boring results outside the final excavation area, for organic and metal analytes will be used to calculate the cumulative carcinogenic and noncarcinogenic risks. The risk assessment screening process to determine the carcinogenic and noncarcinogenic risk is as follows:

- The highest measured concentration (including estimated values [flagged with "J"]) for each organic analyte detected in soil boring samples (in areas not excavated) or final confirmation soil samples (in areas excavated) will be divided by the respective carcinogenic or noncarcinogenic PRG. The results of this calculation are termed the site-

specific "risk quotient" for incremental cancer risk and the "hazard index (HI) quotient" for noncancer risk. The quotients will then be added together to provide a site-specific cancer risk and noncancer HI values.

- The final site-specific risk values are referred to as the net cancer risk and noncancer HI. If the net cancer risk or HI exceeds $1x10^{-6}$ or 1.0, respectively, additional excavation will be undertaken, if practicable. In general, if the net cancer risk and HI totals were less than $1x10^{-6}$ or 1.0, respectively, the site will be recommended for "no further action."

4.0 PRECONSTRUCTION ACTIVITIES

Preconstruction activities include meetings, fulfilling permit requirements, issuing notifications, and inspecting facilities and utilities.

4.1 Permitting and Notifictation

Applicable permits and/or authorizations to proceed will be obtained before work begins at the sites. Before beginning fieldwork, notifications of the following planned work will be provided as specified:

- Excavation and trenching activities to the local California Occupational Safety and Health Administration (Cal-OSHA) division office
- Excavation activities to Underground Service Alert (USA)
- Utility clearance request (Dig Permit) to the CSO
- Work activities, potential exposures, site security measures, air monitoring, controls for minimizing releases, and emergency contacts will be kept on site during all field activities.

Fieldwork will be implemented in accordance with the SHSP included in Appendix B.

4.2 Premobilization Activities

Several activities will be completed before mobilization of personnel and equipment to the site, including convening preconstruction meetings and procuring equipment, subcontractors, and materials necessary to complete the activities described in this work plan.

4.2.1 Meetings

Preconstruction Meeting – A preconstruction meeting will be scheduled before field mobilization. The purpose of the meetings will be to discuss project-specific issues, roles of all project personnel, project schedule, and other issues. The meetings will be attended by representatives of the Navy, CSO and the RMA. A mutual understanding meeting will also be scheduled to discuss the QC procedures for the project.

Construction Quality Control Meeting – Construction QC meetings will be held on a weekly basis throughout the course of the fieldwork described in this work plan. The meetings will be attended by the Navy Remedial Project Manager, the CSO representative, and the RMA site superintendent and field QC engineer. The agenda for the meetings will include project status

review and work accomplished, scheduling issues, identification of action items, and corrective measures.

4.2.2 Procurement

Procurement activities will include subcontractor prequalification and procurement of materials and equipment.

4.3 Site Survey

Site surveys will be performed to locate aboveground and underground utilities and establish survey controls.

4.3.1 Identification of Utilities

RMA will identify underground piping, utilities, or other types of metallic underground structures within and near the planned work areas using a underground pipe locator. The utilities will be marked on the ground with indications (standard colors, letters, and numbers) of the assumed type of utility. The location and type of utilities will also be compared with existing Navy subsurface utility maps. This information will be provided to the CSO in the form of a utility clearance request (Dig Permit) for approval prior to excavating. Before excavation activities begin, the public underground utility location service USA will be contacted to document utilities within their responsibility and a final visual inspection for subsurface utilities will be made, including a review of drawings and site markings.

4.3.2 Land Surveying

A California-licensed surveyor will establish construction and excavation setback control points. The surveyor will also determine the horizontal and vertical position of sample locations. Points will be surveyed using the State Plane Coordinate System (Lambert Zone G). The northing and easting coordinates of each point will be measured to the nearest 0.01 foot with reference to the North American Datum of 1983. In addition, the northing and easting coordinates will be converted to latitude and longitude coordinates. The elevation of each point will be measured to the nearest 0.01 foot with reference to the North American Vertical Datum of 1988.

4.4 Mobilization

Project site mobilization will involve establishing the staging areas for equipment and material storage. Earthmoving equipment, including backhoes and other necessary equipments, will be delivered to the site and inspected prior to start of the field work.

5.0 GENERAL CONSTRUCTION ACTIVITIES

This section describes the general construction activities associated with the excavation of contaminated soil at the Station. These activities include the establishment of site controls, site preparation, and equipment and personnel decontamination.

5.1 Site Controls

Site controls will be established to regulate or guide operations and to protect the facility, surrounding environment, and natural resources.

5.1.1 Quality Control

A QC field engineer will be assigned to this project to observe, inspect, and document site activities. The QC field engineer will ensure that the work is performed in general accordance with this work plan, applicable engineering standards, and QC procedures.

5.1.2 Site Security

At present, the Station is nonoperational and access to the Station is regulated by City of Irvine Police. Access to the Station outside of normal operating hours will be coordinated with the Irvine Police and CSO representatives. Facility security will include the following control:

- ***Facility Access*** – Personnel requiring access to the Station are required to satisfy base access requirements as stipulated by the facility, including proof of identity (company identification and valid driver's license).

Daily project operations will be between the hours of 0600 and 1800; however, the hours for excavation, loading, and other operations will be between 0700 and 1730 unless otherwise authorized by the Navy and the CSO representative. When construction operations are not actively in progress, all traveled lanes of the roadway will be maintained for use or secured with traffic controls. The CSO representative will review traffic controls. During site remediation activities, work areas will be secured to minimize public exposure to contaminants and unauthorized entry. Site controls will include the following:

- ***Fencing*** – Temporary fence panels with appropriate signs will be assembled around excavation and selected remediation areas unless directed otherwise by the site superintendent.
- ***Site Access*** – An exclusion zone (EZ) will be established around the perimeter of the work areas and excavations. Fences and/or flagging (caution tape) may be used to delineate the EZ. Only project personnel, approved subcontractors, and authorized

visitors who provide evidence of having completed 40 hours of Hazardous Waste and Emergency Response training and annual updates in accordance with 29 CFR 1910.120 and who comply with SHSP requirements will be allowed to enter the EZ. Personnel must follow applicable health and safety procedures and protocols and will be required to wear appropriate personal protective equipment described in the SHSP.

Access to the project areas will be limited to minimize public exposure to contaminants. Signs to direct vehicle and pedestrian traffic will be posted at entrance and exit points as needed.

5.1.3 Dust and Emission Control

Engineered controls will be implemented during site construction to minimize the dispersion and creation of dust and VOC emissions. Engineered controls could include, but will not necessarily be limited to, the following activities:

- Application of potable water
- Application of dust suppressants
- Installation of temporary wind screens/barriers
- Use of plastic sheeting covers
- Control of equipment and vehicle speed
- Application of gravel to unpaved haul routes
- Covering of truck beds with tarpaulins or equivalent.

5.2 Site Preparation

Steps will be taken to protect vegetation, landscape, and other facility features near the planned fieldwork. Materials temporarily removed (e.g., active utilities, property-line or security fencing, and other facility elements) will be restored "in-kind" unless directed otherwise by the CSO personnel. No property or materials will be disposed of by RMA without the concurrence of the CSO personnel.

5.3 Equipment and Personnel Decontamination

Equipment and personnel exiting an EZ (Section 5.1.2) will follow the decontamination procedures presented in SHSP. The level of decontamination of equipment will be determined by the SHSO. The need for and degree of decontamination will be based on the characteristics of the material within the EZ, associated health risks, and the potential for transporting COCs outside the EZ.

In general, equipment decontamination areas will consist of an impermeable surface (e.g., plastic sheeting and sealer coat) to catch material removed from equipment for collection and disposal.

If a greater decontamination effort is required, the equipment decontamination station could include a bermed area with an impermeable surface and a low point for the collection of liquids. If necessary, a protective layer (e.g., geosynthetic material, sand layer, or soil layer) will be installed to protect the liner from puncture. A decontamination water source and rinsate water collection tank will be located adjacent to the area, as needed. In addition, a decontamination area will be developed for equipment to be removed from the site. Decontamination areas will be located near the exit points for off-site traffic.

Decontamination water will be stored, sampled, managed, and disposed of in accordance with the procedures outlined in the SAP (Appendix A).

6.0 EXCAVATION OF IMPACTED SOIL

Previous soil sampling data indicate that excavation and off-site disposal of residual metal contaminated soil at former TAA 771, former TAA 130C and pesticide contaminated soil at MSC P1 Unit 2 is required to reduce human health risk based on the residential scenario. Eliminating the soil will remove the exposure pathways for dermal contact, ingestion, and inhalation of contaminated soil. The limits of the excavations are approximate and are based on previous soil sampling analytical results.

6.1 Summary of Excavation Activities at Former TAA 771

Per review of all the background information, RMA will remove subsurface contaminated soils at former TAA 771 site to the levels that will not pose an excessive human health risk based on residential scenario. Subsurface soil will be removed in the vicinity of borings TAA 771 SB-B, SB-B1 and SB-B2 up to 5 feet bgs as shown in Figure 2-1. Excavation of subsurface soil at former TAA 771 will also remove exposure pathways for dermal contact, ingestion, and inhalation of metal contaminated soil. Confirmation soil sampling will be conducted subsequent to soil removal.

The following table presents a summary of the proposed excavation activities at Former TAA 771.

Description	Contaminant of Concern	Dimensions – Length x Width (ft)	Depth Range (ft)	Volume (yd^3)	Volume (tons)
Former TAA 771, near boring SB-B1 & SB-B2	Metals (Arsenic)	6 x 3	5	~4	5.3
Former TAA 771, near boring SB-B	Metals (Arsenic)	3 x 3	2	~0.7	~1

ft – feet
yd^3 – cubic yards
~ – approximate

6.2 *Summary of Excavation Activities at Former TAA 130C*

Review of the Shaw analytical data suggest that arsenic was detected above Station background levels, in three of the samples collected from TAA 130C-SB-B (8.7 mg/kg at 3 feet bgs), TAA 130C-SB-C1 (26.1 mg/kg at 2 feet bgs) and TAA 130C-SB-C2 (35.8 mg/kg at 3 feet bgs). Other analytes detected above Station Background levels included: aluminum, chromium, cobalt, lead, and zinc.

Per review of all the background information, RMA will remove subsurface contaminated soils at former TAA 130C site to the levels that will not pose an excessive human health risk based on the residential scenario. Subsurface soil will be removed in the vicinity of borings TAA 130C SB-B, SB-C1 and SB-C2 up to 5 feet bgs as shown in Figure 2-2. Excavation of subsurface soils from two separate areas at former TAA 130C will also remove exposure pathways for dermal contact, ingestion, and inhalation of metal contaminated soil. Confirmation soil sampling will be conducted subsequent to soil removal.

The following table presents a summary of the proposed excavation activities at former TAA 130C.

Description	Contaminant of Concern	Dimensions – Length x Width (ft)	Depth Range (ft)	Volume (yd^3)	Volume (tons)
Former TAA 130C, near boring SB-B	Metals (Arsenic)	5 x 5	5	~5	6.3
Former TAA 130C, near boring SB-C1 & SB-C2	Metals (Arsenic)	5 x 5	5	~5	6.3

ft – feet
yd^3 – cubic yards
~ – approximate

6.3 *Summary of Excavation Activities at MSC-P1, Unit 2*

Review of the OHM analytical data suggests that maximum concentrations of pesticides were detected in hand auger boring HA-04 at 1 and 3 feet bgs. Therefore, RMA will remove subsurface contaminated soils at MSC P1 Unit 2, former Building 493 site to the levels that will

not pose an excessive human health risk based on residential scenario. Subsurface soil will be removed in the vicinity of boring HA-04 up to 5 feet bgs as shown in Figure 2-3. Excavation of subsurface soil will also remove exposure pathways for dermal contact, ingestion, and inhalation of pesticide contaminated soil. Confirmation soil sampling will be conducted subsequent to soil removal.

The following table presents a summary of the proposed excavation activities at MSC P1, Unit 2, former Building 493.

Description	Contaminant of Concern	Dimensions – Length x Width (ft)	Depth Range (ft)	Volume (yd^3)	Volume (tons)
Former Building 493, near boring HA-04	Pesticides	5 x 5	5	~5	6.3

ft – feet
yd^3 – cubic yards
~ – approximate

The proposed excavation limits and confirmation soil sampling locations are shown in Figure 2-3.

6.4 *Excavation*

Excavation of impacted soil will be performed in a stepwise fashion using heavy construction equipment. In general, excavation of impacted soil will be performed in accordance with the following sequence:

1. Implement the necessary controls to help protect surrounding improvements and minimize impacts to the environment and surrounding communities (Section 5.1).
2. Mark perimeter of area to be excavated with paint or chalk lines.
3. Remove existing above and below grade improvements and saw-cut and remove the pavement surface, if necessary.
4. Excavate the impacted soil using a rubber-tired backhoe for limited access locations. Continue excavation to the depth determined based on previous soil characterization and removal activities (Section 2.0).
5. Place the excavated soil in suitable containers or temporary stockpiles.
6. Establish a sample grid and collect sidewall and excavation bottom floor samples

7. Continue excavating in the next area pending receipt of analytical results for the previous area.

8. If results for the confirmation samples are below cleanup criteria presented in the site-specific SAP (Appendix A), the excavated section can be backfilled and site restoration can begin (Step 9). Otherwise, expand the excavation and return to Step 6.

9. Restore the site to original conditions, as practicable (Section 6.7).

6.5 Stockpiled Soil Management and Disposal

Excavated soil from all three sites will be stockpiled and sampled, managed, and disposed of in accordance with the procedures outlined in the SAP (Appendix A).

The stockpiles will be constructed and managed to minimize the discharge of any surface water that could collect in them and to minimize air quality impacts and reduce nuisance odors in accordance with SCAQMD Rule 1166. The contaminated soil carriers, containers, and stockpiles will be sampled, managed, and disposed of in accordance with the procedures outlined in the SAP (Appendix A).

At the end of each workday, each stockpile will be inspected and secured with temporary fencing or barricades with appropriate signs. Corrective measures will be instituted to ensure the integrity of the stockpile, if needed. For off-site soil disposal, the stockpiles will remain at the Station until the Navy has determined the method and site for disposal, the licensed disposal facility has formally accepted the materials, and waste manifests or bills of lading are signed.

6.6 Confirmation Sampling

Excavation sidewall and bottom floor confirmation sampling will be conducted prior to backfilling the excavations to verify that contaminated soil has been removed. All confirmation soil samples will be analyzed for each site-specific contaminants of concern as outlined in the SAP (Appendix A). Locations of confirmation soil samples for each site are shown in Figure 2-1 through Figure 2-3. Soil confirmation sampling procedures, analytical methods, and field documentation procedures are also outlined in the SAP (Appendix A). Confirmation sample points and the limits of the excavations for all three sites will be land surveyed prior to backfill.

6.7 Site Restoration

The remedial excavations will be backfilled with clean fill. The backfill will be placed in loose, 1-foot lifts. Non-self-compacting material will be compacted by mechanical equipment to a

minimum compaction of 90 percent, as determined by American Society for Testing and Materials (ASTM) Method D 1557.

7.0 REPORTING

At the conclusion of field activities, RMA will prepare separate closure reports for all three sites; former TAAs 771, 130C and MSC-P1, Unit 2. These reports will document field activities at each site, including soil characterization, volumes of soil excavated and disposed of, final confirmation sampling results, previous soil sampling data, screening level risk assessment calculations, land survey data and conclusions and recommendations in support of site closure.

8.0 REFERENCES

Bechtel, see Bechtel National, Inc

Bechtel National, Inc., 1996, *Final Addendum to the RCRA Facility Assessment, San Diego, California, May*

Department of Toxic Substance Control (DTSC) *Letter Comments on Closure Report, Miscellaneous Sites of Concern (MSC) P1, Former Pesticide Storage Areas, Former MCAS El Toro, California* dated July 18, 2002.

EPA, see U.S. Environmental Protection Agency.

IT Corporation, *Closure Report, MSC P1, Former Pesticide Storage Areas, Building 1687 and 493,* Marine Corps Air Station El Toro, California, January 2002.

Jacobs Engineering Group Inc., 1993, *Final Resource Conservation and Recovery Act (RCRA) Facility Assessment Report, Marine Corps Air Station El Toro, California*, 16 July.

Naval Facilities Engineering Service Center, 1999, *Navy Installation Restoration Chemical Data Quality Manual*, September.

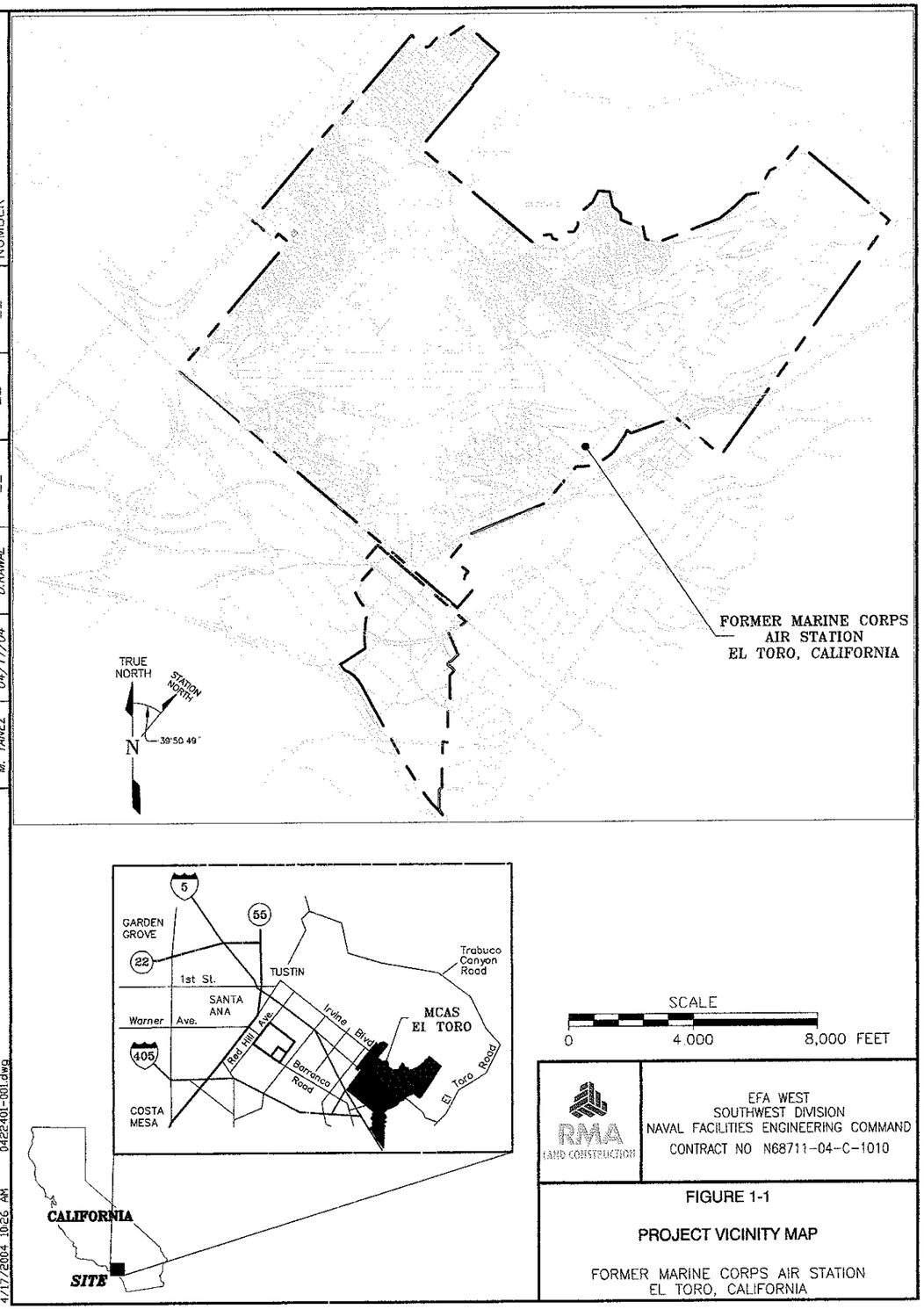
NFESC, see Naval Facilities Engineering Service Center.

Naval Facilities Engineering Service Center, 1999. *Navy Installation Restoration Chemical Data Quality Manual*

Shaw Environmental Inc., *Status Summary Report, Former TAA 130C site and Former TAA 771 Site*, Former Marine Corps Air Station, El Toro, California. October 2003.

U.S. Environmental Protection Agency, 2002, *Region IX Preliminary Remediation Goals,* http://www.epa.gov/region09/waste/sfund/prg/index.htm, prepared by Stanford J. Smucker, Ph.D., Regional Toxicologist, EPA Region IX, San Francisco, CA, October 01.

FIGURES



DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
M. YANEZ 04/17/04	D.RAWAL --	-- --	0422401-001

RMA LAND CONSTRUCTION

EFA WEST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACT NO N68711-04-C-1010

FIGURE 1-1

PROJECT VICINITY MAP

FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

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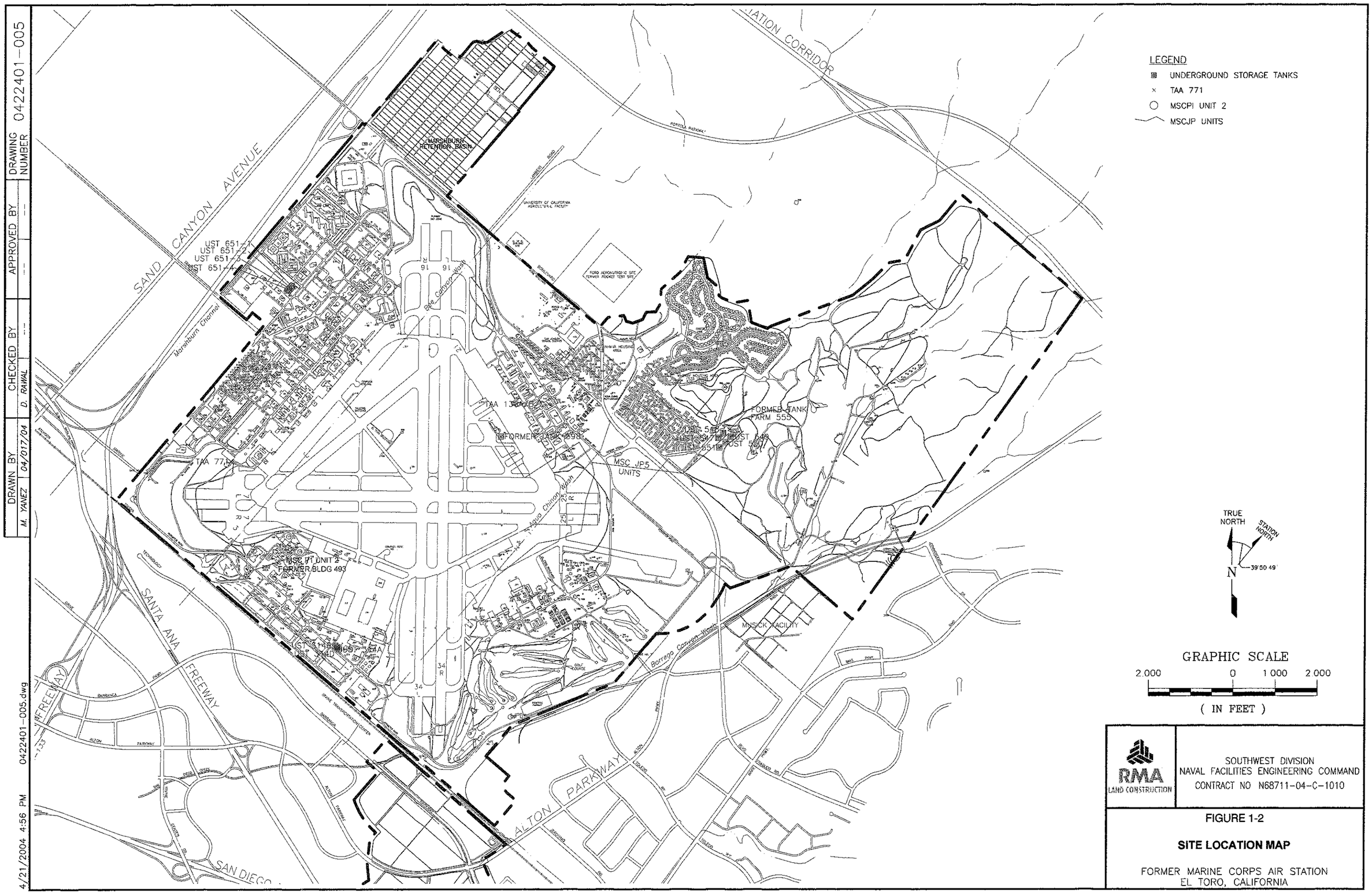

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M. YANEZ 04/017/04	D. RAWAL --	-- --	0422401-005

4/21/2004 4:56 PM 0422401-005.dwg

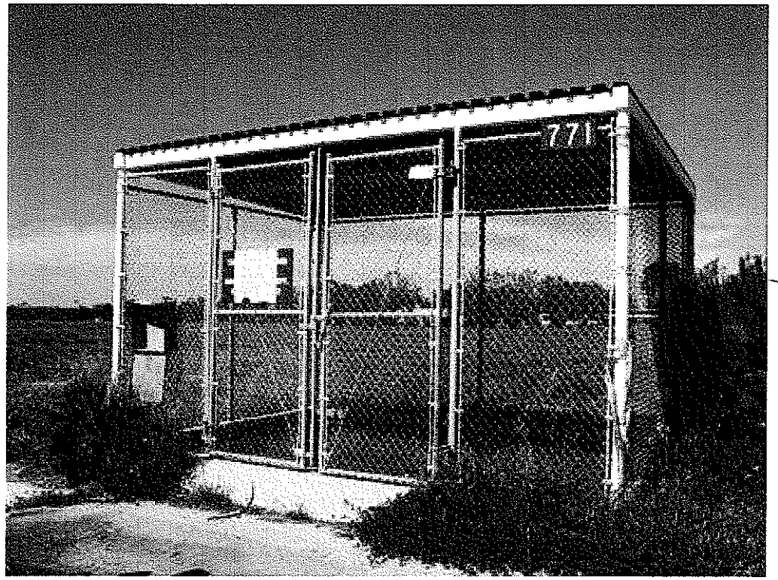
RMA LAND CONSTRUCTION

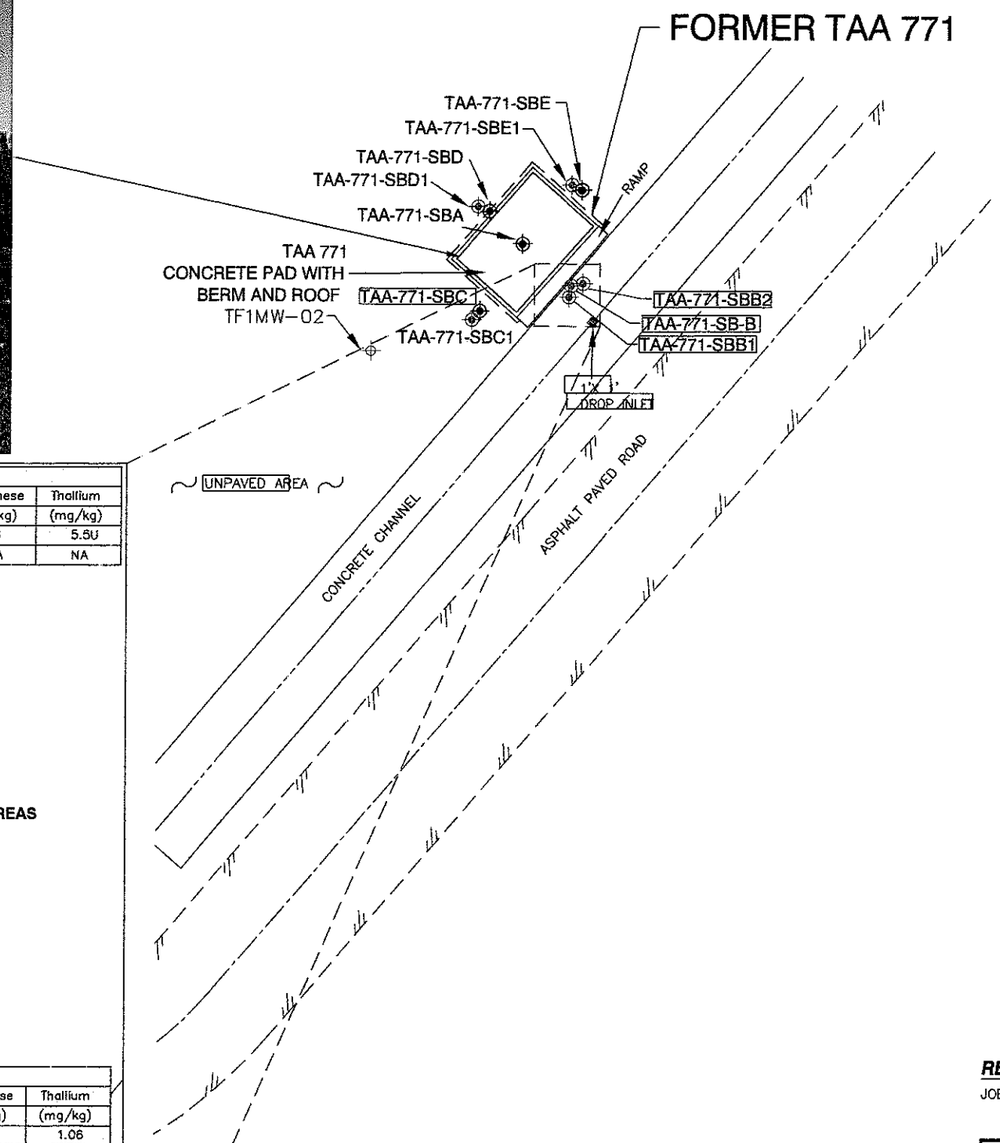
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACT NO N68711-04-C-1010

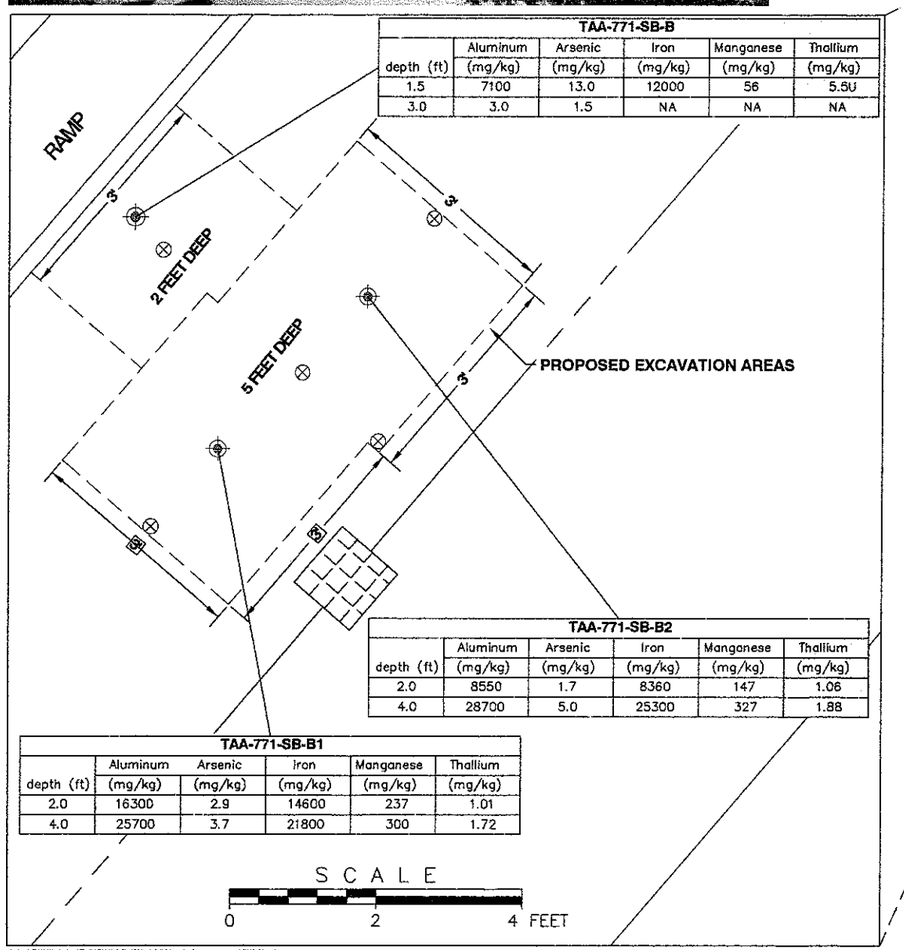
FIGURE 1-2

SITE LOCATION MAP

FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA







TAA-771-SB-B					
depth (ft)	Aluminum (mg/kg)	Arsenic (mg/kg)	Iron (mg/kg)	Manganese (mg/kg)	Thallium (mg/kg)
1.5	7100	13.0	12000	56	5.5U
3.0	3.0	1.5	NA	NA	NA

TAA-771-SB-B2					
depth (ft)	Aluminum (mg/kg)	Arsenic (mg/kg)	Iron (mg/kg)	Manganese (mg/kg)	Thallium (mg/kg)
2.0	8550	1.7	8360	147	1.06
4.0	28700	5.0	25300	327	1.88

TAA-771-SB-B1					
depth (ft)	Aluminum (mg/kg)	Arsenic (mg/kg)	Iron (mg/kg)	Manganese (mg/kg)	Thallium (mg/kg)
2.0	16300	2.9	14600	237	1.01
4.0	25700	3.7	21800	300	1.72

N

EXPLANATION:

- GROUNDWATER MONITORING WELL
- SHAW 1997 CONFIRMATION SAMPLE LOCATION
- SHAW 2003 CONFIRMATION SAMPLE LOCATION
- PROPOSED EXCAVATION CONFIRMATION SOIL SAMPLE LOCATION
- CENTERLINE OF STREET
- EDGE OF PAVEMENT
- CENTER OF CONCRETE CHANNEL
- PROPOSED EXCAVATION
- DROP INLET

SCALE
0 20 40 FEET

REFERENCE:
JOB NO 97102-07C DWG BY CALVADA SURVEYING INC.

RMA LAND CONSTRUCTION

SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACT NO N68711-04-C-1010

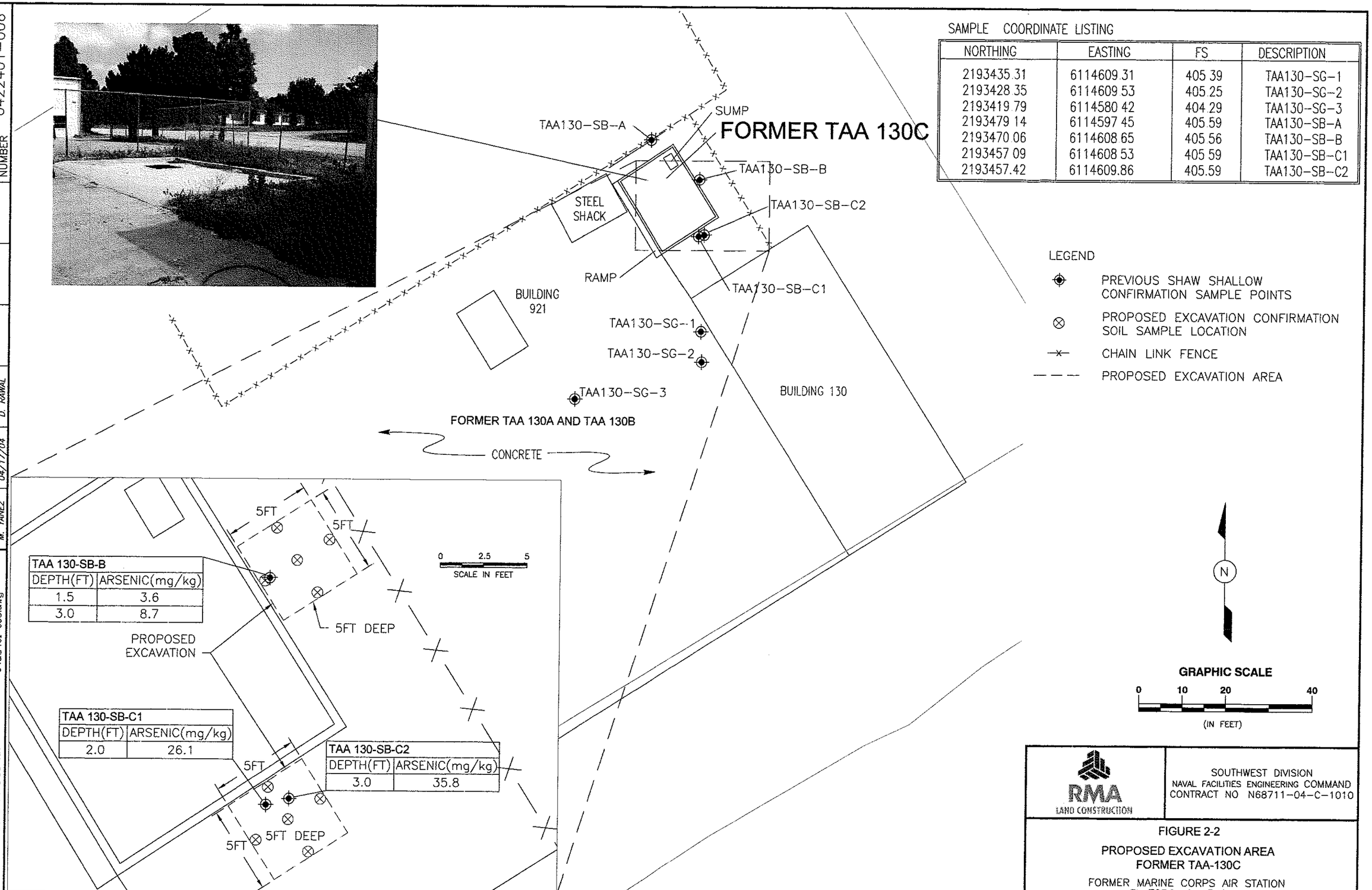
FIGURE 2-1
PROPOSED EXCAVATION AREA
FORMER TAA-771

FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

DRAWING NUMBER 0422401-007
APPROVED BY --
CHECKED BY D. RAWAL
DRAWN BY M. YANEZ 4/17/04
0422401-007.dwg 4/23/2004 8:32 AM

SAMPLE COORDINATE LISTING

NORTHING	EASTING	FS	DESCRIPTION
2193435.31	6114609.31	405.39	TAA130-SG-1
2193428.35	6114609.53	405.25	TAA130-SG-2
2193419.79	6114580.42	404.29	TAA130-SG-3
2193479.14	6114597.45	405.59	TAA130-SB-A
2193470.06	6114608.65	405.56	TAA130-SB-B
2193457.09	6114608.53	405.59	TAA130-SB-C1
2193457.42	6114609.86	405.59	TAA130-SB-C2



TAA 130-SB-B	
DEPTH(FT)	ARSENIC(mg/kg)
1.5	3.6
3.0	8.7

TAA 130-SB-C1	
DEPTH(FT)	ARSENIC(mg/kg)
2.0	26.1

TAA 130-SB-C2	
DEPTH(FT)	ARSENIC(mg/kg)
3.0	35.8

FIGURE 2-2

PROPOSED EXCAVATION AREA
FORMER TAA-130C

FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
M. YANEZ 04/17/04	D. RAWAL --	-- --	0422401-008

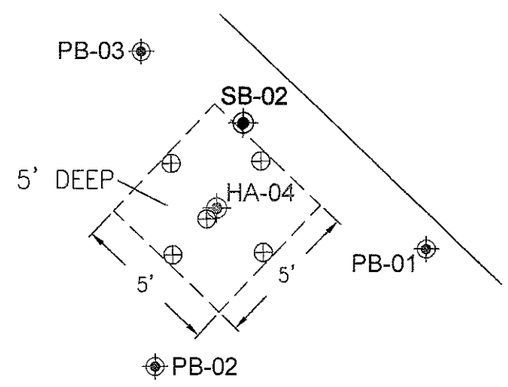
4/23/2004 8:30 AM 0422401-008.dwg

Sample Location

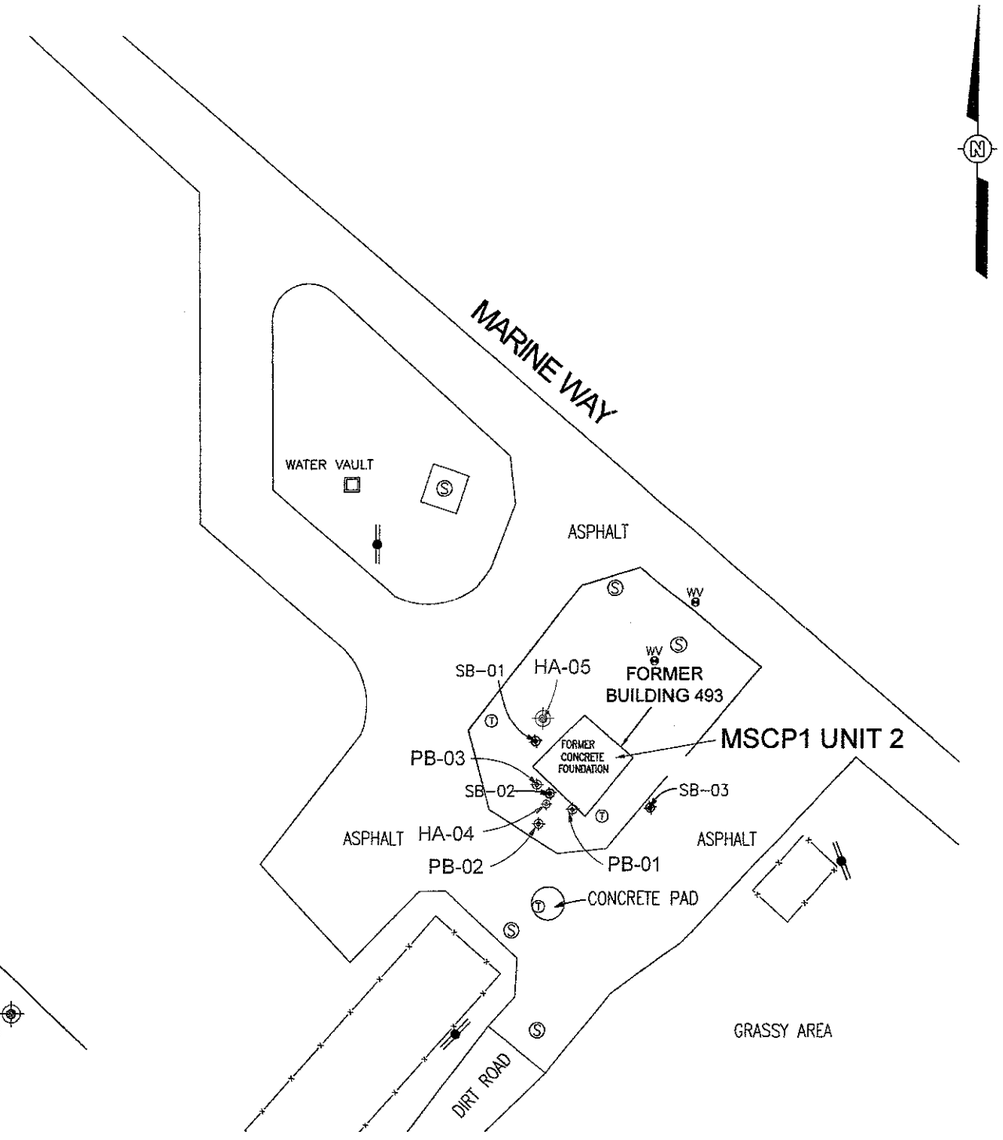
Boring Number	Location: Northing (NAD 83)	Easting (NAD 83)	Elevation (ft msl)
HA03	2189715.16	6107394.03	254.07
HA04	2189554.11	6107533.06	255.32
HA05	2189577.37	6107532.04	255.42
PB01	2189552.72	6107540.23	255.28
PB02	2189548.73	6107530.97	255.13
PB03	2189559.42	6107530.44	255.36

EXPLANATION:

- PREVIOUS OHM PESTICIDE SAMPLE LOCATION
- OHM HAND AUGER SAMPLE LOCATION
- OHM SAMPLE LOCATION (PREVIOUS)
- SEWER MANHOLE
- TELEPHONE MANHOLE
- POWER POLE
- CHAIN LINK FENCE
- WV WATER VALVE
- EDGE OF PAVEMENT
- PROPOSED EXCAVATION CONFIRMATION SOIL SAMPLE LOCATION
- PROPOSED EXCAVATION AREA



PROPOSED EXCAVATION
SCALE: 1"=5'



SCALE
0 40 80 FEET

RMA LAND CONSTRUCTION

SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACT NO. N68711-04-C-1010

FIGURE 2-3
PROPOSED EXCAVATION AREA
MSC P1 UNIT 2 FORMER PESTICIDE STORAGE AREA FORMER BUILDING 493
FORMER MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

ATTACHMENT 1

RFA BACKGROUND INFORMATION

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
FINAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY ASSESSMENT REPORT

PREPARED BY:
Southwest Division, Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

THROUGH:
CONTRACT #N68711-89-D-9296
CTO #193
DOCUMENT CONTROL NO:
CLE-C01-01F193-S2-0001

WITH:
Jacobs Engineering Group, Inc
3655 Nobel Drive, Suite 200
San Diego, California 92122

In association with:
International Technology Corporation
CH2M HILL

M. W. Arends 7/16/93
Mike Arends, P.E. Date
CLEAN Project Manager
CH2M HILL, Inc.

Raoul Portillo 15 July 1993
Raoul Portillo Date
CLEAN Technical Reviewer
Jacobs Engineering Group Inc.

1002073B.SCO\93\MA

Evaluation Form
SWMU/Area of Concern
Number 224

Unit Characteristics

This Hazardous Waste Storage Area (HWSA) is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use Historically, these six HWSAs have had drums stored outside of the storage area.

The HWSA consists of a concrete storage area surrounded by a 6-in. concrete berm. A chain-link fence and aluminum roof enclose the storage area. At the time of the visit, the inside of the bermed area was covered with about 2 inches of ponding water.

The HWSA was not in use and appeared to have been inactive for a long time. No significant stains or cracks were observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release during the site visit and hazardous waste was not currently stored in the area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

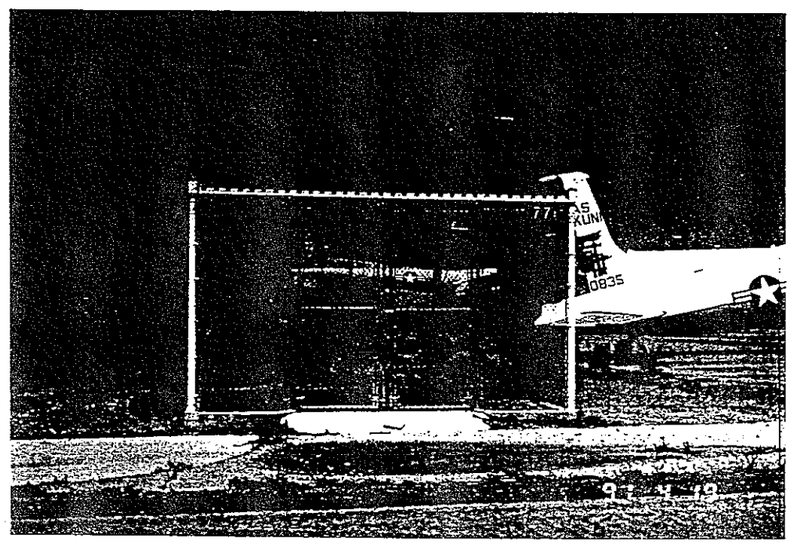
Evaluation Form
SWMU/Area of Concern
Number 224

Name: Hazardous Waste Storage Area 771

Location: Adjacent to the Historical Aircraft display

Size: 180 sq ft

Date of Site Visit: 19 April 91



Period of Operation

Currently inactive

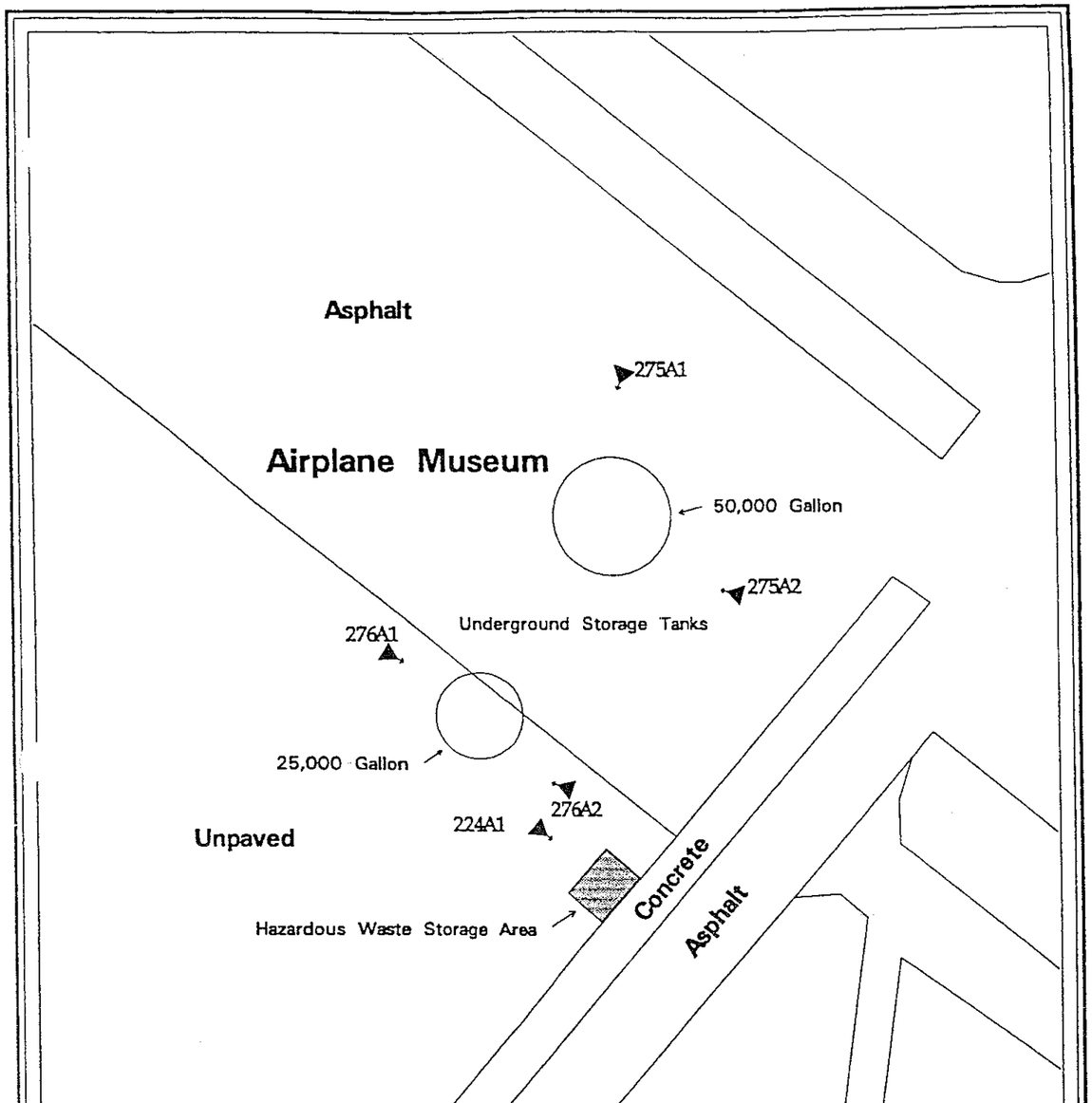


Figure 66 Sample Location Map

Boring Location and Number:

- 123H4 5' Deep Boring
- 123B4 25' Deep Boring
- 123A4 60' Long, Angle Boring

Features:

- Building
- Concrete
- Fence
- Railroad

Scale

0 20 40 80 Feet

SWMU/AOC Number and Type:

224 - Hazardous Waste Storage Area
275 - Underground Storage Tank
276 - Underground Storage Tank

MCAS El Toro
RCRA Facility Assessment

MCAS EL TORO RCRA FACILITY ASSESSMENT – SAMPLING VISIT RESULTS

SWMU/AOC NUMBER	SWMU/AOC TYPE (FIGURE)	BORING NUMBER	SAMPLE DEPTH (FEET)	ANALYTICAL TEST RESULTS							RECOMMENDATIONS	
				TPH (mg/kg)	TFH (mg/kg)		VOCs (ug/kg)	SVOCs (ug/kg)	PESTICIDES/PCBs (ug/kg)	METALS (mg/kg)	Action	Rationale
					Gasoline	Diesel						
224	Hazardous Waste Storage Area (66)	A1	10	ND	ND	ND	Methylene Chloride-5 BJ * Toluene-1 J	Di-n-butylphthalate-29 BJ *	ND	NAB	NFA	TPH/TFH < 100 ppm VOCs < CRDL SVOCs < CRDL Pest/PCB < CRDL Metals < BGT CRDL - Contract Required Detection Limit BGT - Background Threshold Value
			20	ND	ND	ND	Methylene Chloride-6 BJ * Toluene-3 J	Diethylphthalate-39 BJ * Di-n-butylphthalate-46 BJ *	ND	NAB		
			30	ND	ND	ND	Methylene Chloride-4 BJ * Toluene-1 J	Diethylphthalate-39 BJ * Di-n-butylphthalate-35 BJ *	ND	NAB		
			30 (Duplicate)	ND	ND	ND	Methylene Chloride-11 BJ * Toluene-2 J	Di-n-butylphthalate-31 BJ * Bis(2-Ethylhexyl)phthalate-58 J	ND	NAB		
			40	ND	ND	ND	Methylene Chloride-9 BJ * Toluene-2 J	Di-n-butylphthalate-40 BJ *	ND	NAB		
			50	ND	ND	ND	Methylene Chloride-9 BJ * Toluene-2 J	Di-n-butylphthalate-25 BJ *	ND	NAB		
			60	ND	ND	ND	Methylene Chloride-14 B * Toluene-4 J	Diethylphthalate-46 BJ * Di-n-butylphthalate-51 BJ *	ND	NAB		

CH2M HILL

PROJECT NUMBER	BORING NUMBER
LA070022 SC 10	224A-1 SHEET OF

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

ELEVATION _____ DRILLING CONTRACTOR BEYLIK DRILLING, INC. LA HABRA CALIFORNIA

DRILLING METHOD AND EQUIPMENT HSA, 4-1/4 ID, 8 OD, FAILING F-10

WATER LEVELS NOT ENCOUNTERED START 10/28/92 FINISH 10/28/92 LOGGER B. HARDESTY

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE TYPE AND NUMBER	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION (SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY SOIL STRUCTURE MINERALOGY)	COMMENTS (DEPTH OF CASING, DRILLING RATE DRILLING FLUID LOSS TESTS AND INSTRUMENTATION)
						Start drilling at 11:25
5.0						
10.0	10.0					
	12.0	1-MC	1.4	6-11-12-14	SANDY LEAN CLAY (CL) grayish brown moist stiff to very stiff fine to coarse sand	HNu=0 ppm OVA=0 ppm
15.0						
20.0	20.0					
	22.0	2-MC	0.8	6-9-11-17	LEAN CLAY (CL) grayish brown moist, very stiff trace to little fine to medium sand	HNu=0 ppm OVA=0 ppm
	24.0	2A-MC	1.0	11-12-17-17	Similar to 2-MC	HNu=0 ppm OVA=0 ppm
25.0						
30.0	30.0					
	32.0	3-MC	1.9	14-17-18-20	SANDY LEAN CLAY (CL) grayish brown moist, very stiff fine to coarse sand	HNu=0 ppm OVA=0 ppm
	34.0	3A-MC	1.5	12-18-20-20	32-33 LEAN CLAY WITH SAND (CL) grayish brown moist very stiff fine to medium sand. 33-34 LEAN CLAY (CL), grayish brown moist very stiff fine to medium sand	HNu=0 ppm OVA=0 ppm
35.0						

CH2M HILL

PROJECT NUMBER	BORING NUMBER
LA070022 S0 10	224A-1 SHEET 2 OF 2

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

ELEVATION _____ DRILLING CONTRACTOR BEYLIK DRILLING, INC., LA HABRA, CALIFORNIA

DRILLING METHOD AND EQUIPMENT HSA, 4-1/4 ID, 8 OD, FAILING F-10

WATER LEVELS NOT ENCOUNTERED START 10/28/92 FINISH 10/28/92 LOGGER B. HARCESTY

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE TYPE AND NUMBER	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
40.0	40.0					
	42.0	4-MC	1.4	14-17-27-42	40-40.5 LEAN CLAY (CL), grayish brown moist, very stiff fine to medium sand 40.5-42 POORLY GRADED SAND WITH CLAY (SP-SC), grayish brown moist dense fine to medium grained	HNu=0 ppm OVA=0.4 ppm
45.0						
50.0	50.0					
	52.0	5-MC	1.75	20-20-28-35	LEAN CLAY WITH SAND (CL), grayish brown moist hard fine to coarse sand	HNu=0 ppm OVA=0.4 ppm
55.0						
60.0	60.0					
	62.0	6-MC	1.5	10-10-26-34	LEAN CLAY (CL), grayish brown moist hard trace silt trace fine sand	HNu=0 ppm OVA=2.0 ppm
					Total Depth at 62.0 Feet	
65.0						
70.0						

Southwest Division
Naval Facilities Engineering Command
Contracts Department
1220 Pacific Highway, Room 135
San Diego, CA 92132-5187

Contract No. N68711-92-D-4670

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY

CLEAN II

FINAL ADDENDUM TO THE RCRA FACILITY ASSESSMENT MCAS EL TORO, CALIFORNIA (VOLUME 6 OF THE FINAL RFA REPORT)

CTO-0065/0170

May 1996

Prepared by:

BECHTEL NATIONAL, INC.
401 West A Street, Suite 1000
San Diego, CA 92101

Signature: _____ Date: 31 May 1996
Jacques Lord, CTO Leader

ACCUMULATION AREA EVALUATION CHECKLIST

(CIRCLE AS APPROPRIATE AND FILL IN COMPLETELY)

JOB 22214 CTO-0065
NAVY CLEAN II MCAS EL TORO RFA CONFIRMATION ACTIVITIES

GENERAL DESCRIPTION:

SWMU #: **224** Accumulation Area (AA) #: **771**
Location (bldg): **HWSA/Bldg. 771**
Site Contact: **Leta Suarez** Ext: **2772**
Permission for Access? (Y) ~~N~~ If yes, explain: **locked fence around berm.**
Type of Wastes Observed **None**

TYPE: (CIRCLE AS APPROPRIATE)

~~Locker~~ ~~Cabinet~~ (Pad) (Concrete)/~~Soil/Asphalt~~ floor
(Berm) (Fence) Fence Type: **Cyclone** ~~Indoor~~
(Pallets) ~~Drum(s)~~ ~~No. of Drums:~~ (Outdoor)

CONDITION:

~~Stain(s)~~ ~~Odor(s)~~ ~~Crack(s)~~
Placards/Labels: ~~Y~~ (N) If Yes, list:

Observations: **Clean concrete pad. Roof over pad. Vacant.**
Status: **No change, inactive as of 11-10-95.**

DIMENSIONS: (ESTIMATED SIZE OR AREA IN FT)

AA/SWMU: **15x10 ft.**
"Stain(s)" : **None.**
Any Restrictions To Access?: **Fence, roof and poles.**

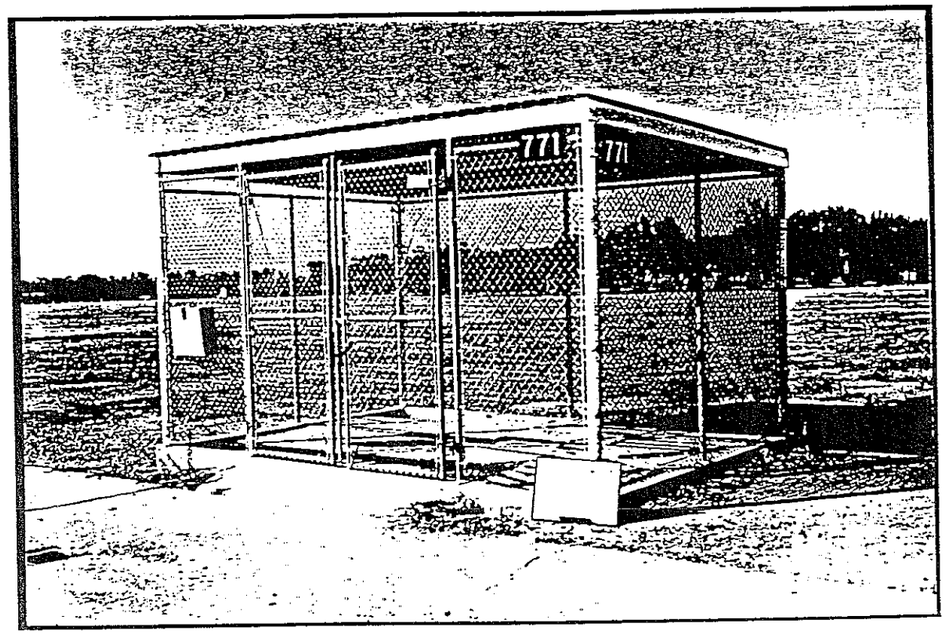
EVALUATION OF REMOVAL/DECONTAMINATION STRATEGY (CIRCLE AS APPROPRIATE)

~~Yes~~	(No)	Potential for release evident based on this surveillance
(Yes)	~~No~~	Potential for simple removal
Yes	(No)	Potential for decontamination activities prior to removal
Yes	(No)	Potential for sampling (describe:)
Yes	No	Potential for removal after additional assessment activities

SKETCH: (MAKE A SKETCH or ATTACH PHOTO(S) OF RELEVANT ACCESS, OBJECTS, WORK SPACE, ETC., AS APPROPRIATE, ON REVERSE OF THIS FORM)

DATE/TIME OF SURVEILLANCE: 12/6/94/11:40
UPDATED: 11-10-95
SURVEILLANCE PERFORMED BY: Larry Bauman

PHOTO LOG



SWMU #: 224

PHOTO DATE: 12-15-94

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA

INSTALLATION RESTORATION PROGRAM
DRAFT RESOURCE CONSERVATION
AND RECOVERY ACT (RCRA)
FACILITY ASSESSMENT REPORT

VOLUME III

16 July 1993

10020667 SCO\93\MA

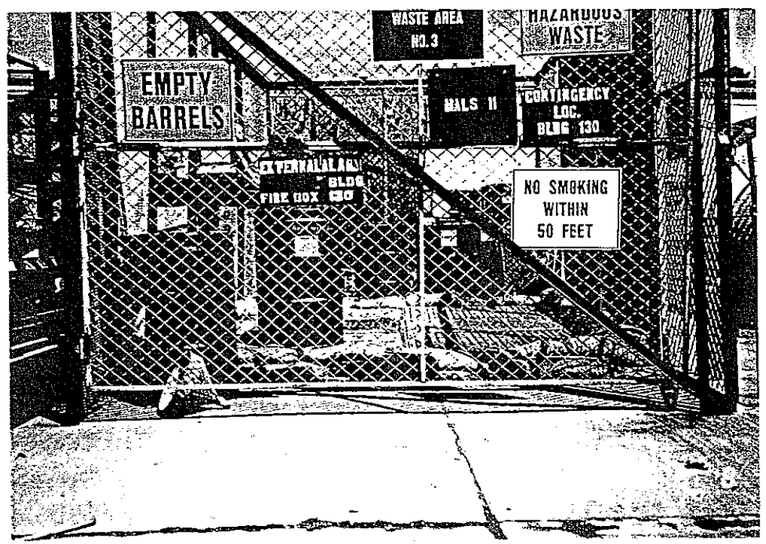
Evaluation Form
SWMU/Area of Concern
Number 42

Name: Drum Storage Area

Location: Near Building 130

Size: Approximately 100 sq ft

Date of Site Visit: 7 May 1991



Period of Operation

Currently active

Evaluation Form
SWMU/Area of Concern
Number 42

Unit Characteristics

Building 130 serves as an aircraft corrosion control facility. Aircraft parts are stripped of old paint and repainted at this facility. The DSA is located approximately 40 ft west of Building 130. The ground surface on the western side of Building 130 is concrete paved. The DSA consists of a plastic lining surrounded by a sandbag berm approximate 1 to 2 ft in height. The storage area measures approximately 10 x 10 ft in size. A chain link fence surrounds the entire storage area. The DSA is located atop a concrete surface. At the time of the VSI, one drum containing dirty rags was stored within the bermed area. Four empty drums and a drum containing Dry-Sweep, for possible spills, were stored outside the bermed area. The DSA appeared in relatively good condition. No rips or stains were observed on the plastic lining.

A solvent tank, two waste storage drums, and four product drums of chromium were observed during the VSI on the western side of Building 130. These are discussed in Evaluation Form SWMU/Area of Concern Numbers 293, 294, and 295, respectively.

Waste Characteristics

Oily rags

Possible Migration Pathways

Storm drain system

Evidence of Release

None observed

Recommendations

Since the DSA is located on concrete that is neither stained nor cracked, no further action is recommended

ATTACHMENT 2

OHM AND SHAW ANALYTICAL DATA TABLES

Table 5
Summary of Analytical Results for Confirmation Soil Samples — Former TAA 771, MCAS El Toro, California

Sample Identification				818655-3398	818655-3399	818655-3400	818655-3401	818655-3250	818655-3251	818655-3252
Location Code				TAA771-SB-B1	TAA771-SB-B1	TAA771-SB-B2	TAA771-SB-B2	TAA771-SB-C1	TAA771-SB-D1	TAA771-SB-E1
Date Sampled				07/02/03	07/02/03	07/02/03	07/02/03	03/31/03	03/31/03	03/31/03
Depth (feet below ground surface)				2	4	2	4	3.0	3	3
	Unit	Background[3]	Residential PRG[4]							
TPH (EPA 8015M)										
Diesel	mg/kg	NE	NE	11 U	12 U	11 U	12 U	12 U	12 U	10 U
Gasoline	mg/kg	NE	NE	9.3 U	10 U	10 U	11 U	11 U	12 U	9.1 U
PESTICIDES (EPA 8081)										
4,4'-DDD	mg/kg	0.0361	2.4	.0045 U	.0047 U	.0042 U	.0047 U	.0048 U	.0049 U	.0041 U
4,4'-DDE	mg/kg	0.145	1.7	.0045 U	.0047 U	.0042 U	.0047 U	.0048 U	.0049 U	.0041 U
4,4'-DDT	mg/kg	0.236	1.7	.0045 U	.0047 U	.0042 U	.0047 U	.0048 U	.0049 U	.0041 U
Aldrin	mg/kg	NE	0.029	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Alpha-BHC	mg/kg	NE	0.090	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Alpha-chlordane	mg/kg	0.00224	1.6	.0022 U	.0023 U B	.0021 U	.0024 U B	.0024 U B	.0025 U B	.0021 U
Beta-BHC	mg/kg	NE	0.32	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Delta-BHC	mg/kg	NE	NE	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Dieldrin	mg/kg	0.0199	0.030	.0045 U	.0047 U	.0042 U	.0047 U	.0048 U	.0049 U	.0041 U
Endosulfan I	mg/kg	0.000179	370	.0045 U B	.0047 U B	.0042 U B	.0047 U B	.0048 U B	.0049 U B	.0041 U B
Endosulfan II	mg/kg	0.00222	370	.0045 U B	.0047 U B	.0042 U B	.0047 U B	.0048 U B	.0049 U B	.0041 U B
Endosulfan Sulfate	mg/kg	0.0031	NE	.0045 U B	.0047 U B	.0042 U B	.0047 U B	.0048 U B	.0049 U B	.0041 U B
Endrin	mg/kg	0.00222	18	.0034 U B	.0035 U B	.0032 U B	.0035 U B	.0036 U B	.0037 U B	.0031 U B
Endrin Aldehyde	mg/kg	0.00222	NE	.0045 U B	.0047 U B	.0042 U B	.0047 U B	.0048 U B	.0049 U B	.0041 U B
Endrin Ketone	mg/kg	NE	NE	.0034 U	.0035 U	.0032 U	.0035 U	.0036 U	.0037 U	.0031 U
gamma-BHC	mg/kg	NE	0.44	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
gamma-Chlordane	mg/kg	0.0027	1.6	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Heptachlor	mg/kg	NE	0.11	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Heptachlor Epoxide	mg/kg	NE	0.053	.0022 U	.0023 U	.0021 U	.0024 U	.0024 U	.0025 U	.0021 U
Methoxychlor	mg/kg	NE	300	.022 U	.023 U	.021 U	.024 U	.024 U	.025 U	.021 U
Toxaphene	mg/kg	NE	0.44	.11 U	.12 U	.11 U	.12 U	.12 U	.12 U	.1 U
VOLATILES (EPA 8260B)										
1,1,1-Trichloroethane	µg/kg	NE	1200000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,1,2,2-Tetrachloroethane	µg/kg	NE	410	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,1,2-Trichloroethane	µg/kg	NE	730	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,1-Dichloroethane	µg/kg	NE	510000 <2800>	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,1-Dichloroethene	µg/kg	NE	120000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,2-Dichloroethane	µg/kg	NE	280	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
1,2-Dichloropropane	µg/kg	NE	340	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
2-Butanone	µg/kg	NE	7300000	49 U	53 U	49 U	52 U	55 U	59 U	48 U
2-Chloroethyl Vinyl Ether	µg/kg	NE	NE	49 U	53 U	49 U	52 U	55 U	59 U	48 U
2-Hexanone	µg/kg	NE	NE	49 U	53 U	49 U	52 U	55 U	59 U	48 U
4-Methyl-2-Pentanone	µg/kg	NE	790000	49 U	53 U	49 U	52 U	55 U	59 U	48 U
Acetone	µg/kg	NE	1600000	26 J	37 J	14 J	29 J	55 U	59 U	48 U
Benzene	µg/kg	NE	600	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Bromodichloromethane	µg/kg	NE	820	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Bromoform	µg/kg	NE	62000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 UJ	5.9 U	4.8 U

Table 5
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Sample Identification				818655-3398	818655-3399	818655-3400	818655-3401	818655-3250	818655-3251	818655-3252
Location Code				TAA771-SB-B1	TAA771-SB-B1	TAA771-SB-B2	TAA771-SB-B2	TAA771-SB-C1	TAA771-SB-D1	TAA771-SB-E1
Date Sampled				07/02/03	07/02/03	07/02/03	07/02/03	03/31/03	03/31/03	03/31/03
Depth (feet below ground surface)				2	4	2	4	3.0	3	3
	Unit	Background[1]	Residential PRG[4]							
Bromomethane	µg/kg	NE	3900	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Carbon Disulfide	µg/kg	NE	360000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Carbon Tetrachloride	µg/kg	NE	250	4.9 U	5.3 U	4.9 U	5.2 U	5.5 UJ	5.9 UJ	4.8 UJ
Chlorobenzene	µg/kg	NE	150000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Chloroethane	µg/kg	NE	3000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Chloroform	µg/kg	NE	3600 <940>	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Chloromethane	µg/kg	NE	1200	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
cis-1,2-Dichloroethene	µg/kg	NE	43000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
cis-1,3-Dichloropropene	µg/kg	NE	NE	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Dibromochloromethane	µg/kg	NE	1100	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Ethylbenzene	µg/kg	NE	8900	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Methyl tert-butyl ether (MTBE)	µg/kg	NE	62000 <17000>	9.8 U	11 U	9.9 U	10 U	11 U	12 U	9.6 U
Methylene Chloride	µg/kg	NE	9100	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Styrene	µg/kg	NE	1700000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Tetrachloroethene	µg/kg	NE	1500	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Toluene	µg/kg	NE	520000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
trans-1,2-Dichloroethene	µg/kg	NE	69000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
trans-1,3-Dichloropropene	µg/kg	NE	780	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Trichloroethene	µg/kg	NE	53	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Vinyl Acetate	µg/kg	NE	430000	49 U	53 U	49 U	52 U	55 U	59 U	48 U
Vinyl Chloride	µg/kg	NE	79	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
Xylene, (Total)	µg/kg	NE	270000	4.9 U	5.3 U	4.9 U	5.2 U	5.5 U	5.9 U	4.8 U
SEMI-VOLATILES (EPA 8270C)										
1,2,4-Trichlorobenzene	µg/kg	NE	650000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
1,2-Dichlorobenzene	µg/kg	NE	370000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
1,3-Dichlorobenzene	µg/kg	NE	16000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
1,4-Dichlorobenzene	µg/kg	NE	3400	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2,4,5-Trichlorophenol	µg/kg	NE	6100000	930 U	970 U	880 U	980 U	1000 U	1000 U	860 U
2,4,6-Trichlorophenol	µg/kg	NE	6100 <6900>	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2,4-Dichlorophenol	µg/kg	NE	180000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2,4-Dimethylphenol	µg/kg	NE	1200000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2,4-Dinitrophenol	µg/kg	NE	120000	930 U	970 U	880 U	980 U	1000 UJ	1000 UJ	860 UJ
2,4-Dinitrotoluene	µg/kg	NE	120000	370 U	390 U	350 U	390 U	400 UJ	410 UJ	340 UJ
2,6-Dinitrotoluene	µg/kg	NE	61000	370 U	390 U	350 U	390 U	400 UJ	410 UJ	340 UJ
2-Chloronaphthalene	µg/kg	NE	4900000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2-Chlorophenol	µg/kg	NE	63000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2-Methylnaphthalene	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2-Methylphenol	µg/kg	NE	3000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
2-Nitroaniline	µg/kg	NE	1700	930 U	970 U	880 U	980 U	1000 U	1000 U	860 U
2-Nitrophenol	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
3,3'-Dichlorobenzidine	µg/kg	NE	1100	370 U	390 U	350 U	390 U	400 U	410 U	340 U

Table 5
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Sample Identification				818655-3398	818655-3399	818655-3400	818655-3401	818655-3250	818655-3251	818655-3252
Location Code				TAA771-SB-B1	TAA771-SB-B1	TAA771-SB-B2	TAA771-SB-B2	TAA771-SB-C1	TAA771-SB-D1	TAA771-SB-E1
Date Sampled				07/02/03	07/02/03	07/02/03	07/02/03	03/31/03	03/31/03	03/31/03
Depth (feet below ground surface)				2	4	2	4	3.0	3	3
	Unit	Background[1]	Residential PRG[2]							
3-Nitroaniline	µg/kg	NE	NE	930 U	970 U	880 U	980 U	1000 U	1000 U	860 U
4,6-Dinitro-2-Methylphenol	µg/kg	NE	NE	930 U	970 U	880 U	980 U	1000 UJ	1000 UJ	860 UJ
4-Bromophenyl Phenyl Ether	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
4-Chloro-3-Methylphenol	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
4-Chloroaniline	µg/kg	NE	240000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
4-Chlorophenyl Phenyl Ether	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
4-Methylphenol	µg/kg	NE	310000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
4-Nitroaniline	µg/kg	NE	NE	930 U	970 U	880 U	980 U	1000 U	1000 U	860 U
4-Nitrophenol	µg/kg	NE	NE	930 U	970 U	880 U	980 U	1000 U	1000 U	860 U
Acenaphthene	µg/kg	NE	3700000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Acenaphthylene	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Anthracene	µg/kg	NE	22000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Benzo(a)anthracene	µg/kg	22	620	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Benzo(a)pyrene	µg/kg	27	62	37 U B	39 U B	35 U B	39 U B	40 U B	41 U B	34 U B
Benzo(b)fluoranthene	µg/kg	28	620	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Benzo(ghi)perylene	µg/kg	29	NE	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Benzo(k)fluoranthene	µg/kg	24	6200 <380>	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Bis(2-Chloroethoxy)Methane	µg/kg	NE	NE	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Bis(2-Chloroethyl)Ether	µg/kg	NE	210	37 U	39 U	35 U	39 U	40 U	41 U	34 U
Bis(2-Chloroisopropyl)Ether	µg/kg	NE	2900	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Bis(2-Ethylhexyl)Phthalate	µg/kg	NE	35000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Butyl Benzyl Phthalate	µg/kg	NE	12000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Chrysene	µg/kg	31	62000 <3800>	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Di-n-Butyl Phthalate	µg/kg	NE	6100000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Di-n-Octyl Phthalate	µg/kg	NE	2400000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Dibenzo(a,h)Anthracene	µg/kg	8	62	37 U B	39 U B	35 U B	39 U B	40 U B	41 U B	34 U B
Dibenzofuran	µg/kg	NE	290000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Diethyl Phthalate	µg/kg	NE	49000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Dimethyl Phthalate	µg/kg	NE	100000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Fluoranthene	µg/kg	45	2300000	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Fluorene	µg/kg	NE	2700000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Hexachlorobenzene	µg/kg	NE	300	84 U	88 U	80 U	88 U	90 U	92 U	77 U
Hexachlorobutadiene	µg/kg	NE	6200	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Hexachlorocyclopentadiene	µg/kg	NE	370000	370 U	390 U	350 U	390 U	400 UJ	410 UJ	340 UJ
Hexachloroethane	µg/kg	NE	35000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Indeno(1,2,3-CD)Pyrene	µg/kg	21	620	39 U B	41 U B	37 U B	41 U B	42 U B	43 U B	36 U B
n-Nitroso-Di-N-Propylamine	µg/kg	NE	69	37 U	39 U	35 U	39 U	40 U	41 U	34 U
n-Nitrosodiphenylamine	µg/kg	NE	99000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Naphthalene	µg/kg	NE	56000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Nitrobenzene	µg/kg	NE	20000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Pentachlorophenol	µg/kg	NE	3000	220 U	230 U	210 U	240 U	240 U	250 U	210 U

Table 5
Summary of Analytical Results for Confirmation Soil Samples — Former TAA 771, MCAS El Toro, California

Sample Identification				818655-3398	818655-3399	818655-3400	818655-3401	818655-3250	818655-3251	818655-3252
Location Code				TAA771-SB-B1	TAA771-SB-B1	TAA771-SB-B2	TAA771-SB-B2	TAA771-SB-C1	TAA771-SB-D1	TAA771-SB-E1
Date Sampled				07/02/03	07/02/03	07/02/03	07/02/03	03/31/03	03/31/03	03/31/03
Depth (feet below ground surface)				2	4	2	4	3.0	3	3
	Unit	Background[1]	Residential PRG[2]							
Phenanthrene	µg/kg	18	NE	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
Phenol	µg/kg	NE	37000000	370 U	390 U	350 U	390 U	400 U	410 U	340 U
Pyrene	µg/kg	41	2300000	370 U B	390 U B	350 U B	390 U B	400 U B	410 U B	340 U B
METALS (EPA 6010B)										
Aluminum	mg/kg	14800	76000	16300 J B	25700 B	8550	28700 B	20400 J B	27200 B	6420
Antimony	mg/kg	3.06	31	3.67 U B	2.48 U	3.32 U B	5.89 U B	6 UJ B	6.15 U B	5.16 U B
Arsenic	mg/kg	6.86	0.39	2.92 Y	3.68 Y	1.65 Y	5.04 Y	4.34 Y	3.86 Y	3.2 Y
Barium	mg/kg	173	5400	156	164	80.9	184 B	169	173 B	134
Beryllium	mg/kg	0.669	150	.577	.86 B	.324	1.03 B	.811 B	.857 B	.3
Cadmium	mg/kg	2.35	37 <1.7>	.517 J	.534 J	.531 U	.509 J	.466 J	.705	0.516 U
Calcium	mg/kg	46000	NE	10800	7250	6230	6320	7130	6190	6760
Chromium	mg/kg	26.9	210	12.9	19.5	7.52	25.3	18.2	19	6.33
Cobalt	mg/kg	6.98	900	6.17	9.04 B	3.64	10.4 B	9.14 B	9.56 B	2.59
Copper	mg/kg	10.5	3100	6.81	10.2	3.87	11.8 B	11.2 J B	12.7 B	4.54
Iron	mg/kg	18400	23000	14600 J	21800 B	6350	25300 B Y	22600 J B	23100 B Y	7190
Lead	mg/kg	15.1	400 <150>	2.67	3.71	1.64	4.1	4.87	4.48	2.09
Magnesium	mg/kg	8370	NE	6470	10700 B	3700	11600 B	9920 B	10800 B	3190
Manganese	mg/kg	291	1800	237	300 B	147	327 B	331 J B	345 B	146
Mercury	mg/kg	0.22	NE	.112 U	.117 U	.106 U	.118 U	.12 U	.123 U	.103 U
Molybdenum	mg/kg	NE	390	5.59 U	5.87 U	5.31 U	5.89 U	.988 U	6.15 U	5.16 U
Nickel	mg/kg	15.3	1600	7.34	11.2	4.19	14.8	10.7 J	10	3.64
Potassium	mg/kg	4890	NE	3670	5340 B	2090	6740 B	6190 B	7000 B	1580
Selenium	mg/kg	0.32	390	1.12 U B	1.17 U B	1.06 U B	1.18 U B	.59 J B	.68 J B	1.03 U B
Silver	mg/kg	0.539	390	2.23 U B	2.35 U B	2.12 U B	2.36 U B	2.4 U B	2.46 U B	2.06 U B
Sodium	mg/kg	405	NE	160 U	213	140 U	398	277	184	116
Thallium	mg/kg	0.42	5.2	1.01 J B	1.72 B	1.06 U B	1.88 B	.793 J B	1.16 J B	1.03 U B
Vanadium	mg/kg	71.8	550	42.2	60.6	23.9	82.3 B	58.6	60.5	23.1
Zinc	mg/kg	77.9	23000	41.3 J	60.2	23.2	73.6	61.1 J	66.9	20.4

[1] *Bechtel National, Inc., 1996, Draft Report Anthropogenic PAH Reference-Level Study Marine Corps Air Station, El Toro, California, May.*
Bechtel National, Inc., 1996, Final Technical Memorandum Background and Reference Levels Remedial Investigations, Marine Corps Air Station, El Toro, California, October.
[2] *EPA Region IX, 2002, Preliminary Remedial Goals (PRG), October.*

B - result exceeds background
J - estimated value
M - modified
MCAS - Marine Corps Air Station
mg/kg - milligrams per kilogram
NE - not established
PRG - preliminary remedial goals
TPH - total petroleum hydrocarbons
U - not detected at or above the stated reporting limit
UJ - estimated reporting limit
Y - result exceeds residential PRGs
µg/kg - micrograms per kilogram
< > - California Modified preliminary remedial goal
( ) - laboratory method detection limit

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
TPH (EPA 8015M)				
Diesel	mg/L	.095 U	NA	.094 U
Gasoline	mg/L	.1 U	NA	.0098 J
Pesticides (EPA 8081)				
4,4'-DDD	µg/L	.19 U	NA	.19 U
4,4'-DDE	µg/L	.19 U	NA	.19 U
4,4'-DDT	µg/L	.19 U	NA	.19 U
Aldrin	µg/L	.094 U	NA	.094 U
alpha-BHC	µg/L	.094 U	NA	.094 U
alpha-Chlordane	µg/L	.094 U	NA	.094 U
beta-BHC	µg/L	.094 U	NA	.094 U
delta-BHC	µg/L	.094 U	NA	.094 U
Drieldrin	µg/L	.19 U	NA	.19 U
Endosulfan I	µg/L	.094 U	NA	.094 U
Endosulfan II	µg/L	.19 U	NA	.19 U
Endosulfan Sulfate	µg/L	.19 U	NA	.19 U
Endrin	µg/L	.094 U	NA	.094 U
Endrin Aldehyde	µg/L	.19 U	NA	.19 U
Endrin Ketone	µg/L	.094 U	NA	.094 U
gamma-BHC	µg/L	.094 U	NA	.094 U
gamma-Chlordane	µg/L	.094 U	NA	.094 UJ
Heptachlor	µg/L	.094 U	NA	.094 U
Heptachlor Epoxide	µg/L	.094 U	NA	.094 U
Methoxychlor	µg/L	.94 U	NA	.94 U
Toxaphene	µg/L	2.8 U	NA	2.8 U
VOLATILES (EPA 8260B)				
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U
2-Butanone	µg/L	50 U	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U	50 U
2-Hexanone	µg/L	50 U	50 U	50 U
4-Methyl-2-pentanone	µg/L	50 U	50 U	50 U
Acetone	µg/L	50 U	50 U	50 U
Benzene	µg/L	5 U	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U
Bromoform	µg/L	5 U	5 U	5 U
Bromomethane	µg/L	5 U	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U
Chloroethane	µg/L	5 U	5 U	5 U
Chloroform	µg/L	5 U	5 U	5 U
Chloromethane	µg/L	5 U	5 U	5 U
Cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U
Cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U
Methyl tert-butyl ether	µg/L	10 U	10 U	10 U
Methylene chloride	µg/L	5 U	5 U	5 U
Styrene	µg/L	5 U	5 U	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
Toluene	µg/L	5 U	5 U	5 U
Trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U
Trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U
Trichloroethene	µg/L	5 U	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U	5 U
Xylene, (total)	µg/L	5 U	5 U	5 U
SEMI-VOLATILES (EPA 8270C)				
1,2,4-Trichlorobenzene	µg/L	9.6 U	NA	9.4 U
1,2-Dichlorobenzene	µg/L	9.6 U	NA	9.4 U
1,3-Dichlorobenzene	µg/L	9.6 U	NA	9.4 U
1,4-Dichlorobenzene	µg/L	9.6 U	NA	9.4 U
2,4,5-Trichlorophenol	µg/L	24 U	NA	24 U
2,4,6-Trichlorophenol	µg/L	9.6 U	NA	9.4 U
2,4-Dichlorophenol	µg/L	9.6 U	NA	9.4 U
2,4-Dimethylphenol	µg/L	9.6 U	NA	9.4 U
2,4-Dinitrophenol	µg/L	24 U	NA	24 U
2,4-Dinitrotoluene	µg/L	9.6 U	NA	9.4 U
2,6-Dinitrotoluene	µg/L	9.6 U	NA	9.4 U
2-Chloronaphthalene	µg/L	9.6 U	NA	9.4 U
2-Chlorophenol	µg/L	9.6 U	NA	9.4 U
2-Methylnaphthalene	µg/L	9.6 U	NA	9.4 U
2-Methylphenol	µg/L	9.6 U	NA	9.4 U
2-Nitroaniline	µg/L	24 U	NA	24 U
2-Nitrophenol	µg/L	9.6 U	NA	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.6 U	NA	9.4 U
3-Nitroaniline	µg/L	24 U	NA	24 U
4,6-Dinitro-2-Methylphenol	µg/L	24 U	NA	24 U

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
4-Bromophenyl Phenyl Ether	µg/L	9.6 U	NA	9.4 U
4-Chloro-3-Methylphenol	µg/L	9.6 U	NA	9.4 U
4-Chloroaniline	µg/L	9.6 U	NA	9.4 U
4-Chlorophenyl Phenyl Ether	µg/L	9.6 U	NA	9.4 U
4-Methylphenol	µg/L	9.6 U	NA	9.4 U
4-Nitroaniline	µg/L	24 U	NA	24 U
4-Nitrophenol	µg/L	24 U	NA	24 U
Acenaphthene	µg/L	9.6 U	NA	9.4 U
Acenaphthylene	µg/L	9.6 U	NA	9.4 U
Anthracene	µg/L	9.6 U	NA	9.4 U
Benzo(A)Anthracene	µg/L	9.6 U	NA	9.4 U
Benzo(A)Pyrene	µg/L	9.6 U	NA	9.4 U
Benzo(B)Fluoranthene	µg/L	9.6 U	NA	9.4 U
Benzo(Ghi)Perylene	µg/L	9.6 U	NA	9.4 U
Benzo(K)Fluoranthene	µg/L	9.6 U	NA	9.4 U
Bis(2-Chloroethoxy)Methane	µg/L	9.6 U	NA	9.4 U
Bis(2-Chloroethyl)Ether	µg/L	9.6 U	NA	9.4 U
Bis(2-Chloroisopropyl)Ether	µg/L	9.6 U	NA	9.4 U
Bis(2-Ethylhexyl)Phthalate	µg/L	19 U	NA	19 U
Butyl Benzyl Phthalate	µg/L	9.6 U	NA	9.4 U
Chrysene	µg/L	9.6 U	NA	9.4 U
Di-N-Butyl Phthalate	µg/L	9.6 U	NA	9.4 U
Di-N-Octyl Phthalate	µg/L	9.6 U	NA	9.4 U
Dibenzo(a,h)Anthracene	µg/L	9.6 U	NA	9.4 U
Dibenzofuran	µg/L	9.6 U	NA	9.4 U
Diethyl Phthalate	µg/L	9.6 U	NA	9.4 U
Dimethyl Phthalate	µg/L	9.6 U	NA	9.4 U
Fluoranthene	µg/L	9.6 U	NA	9.4 U

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
Fluorene	µg/L	9.6 U	NA	9.4 U
Hexachlorobenzene	µg/L	9.6 U	NA	9.4 U
Hexachlorobutadiene	µg/L	9.6 U	NA	9.4 U
Hexachlorocyclopentadiene	µg/L	9.6 U	NA	9.4 U
Hexachloroethane	µg/L	9.6 U	NA	9.4 U
Indeno(1,2,3-Cd)Pyrene	µg/L	9.6 U	NA	9.4 U
N-Nitroso-Di-N-Propylamine	µg/L	9.6 U	NA	9.4 U
N-Nitrosodiphenylamine	µg/L	9.6 U	NA	9.4 U
Naphthalene	µg/L	9.6 U	NA	9.4 U
Nitrobenzene	µg/L	9.6 U	NA	9.4 U
Pentachlorophenol	µg/L	9.6 U	NA	9.4 U
Phenanthrene	µg/L	9.6 U	NA	9.4 U
Phenol	µg/L	9.6 U	NA	9.4 U
Pyrene	µg/L	9.6 U	NA	9.4 U
METALS (EPA 6010B)				
Aluminum	µg/L	500 U	NA	500 U
Antimony	µg/L	500 U	NA	500 U
Arsenic	µg/L	5 U	NA	5 U
Barium	µg/L	100 U	NA	100 U
Beryllium	µg/L	10 U	NA	10 U
Cadmium	µg/L	5 U	NA	5 U
Calcium	µg/L	58.2 J	NA	1000 U
Chromium	µg/L	50 U	NA	50 U
Cobalt	µg/L	50 U	NA	50 U
Copper	µg/L	50 U	NA	50 U
Iron	µg/L	31.9 J	NA	1000 U
Lead	µg/L	5 U	NA	5 U
Magnesium	µg/L	1000 U	NA	1000 U

Table 6
Summary of Analytical Results for Field QC Samples — TAA 771, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3253 Equipment Rinsate 03/31/03	818655-3246 Trip Blank 03/31/03	818655-3402 Equipment Rinsate 07/02/03
	Unit			
Manganese	µg/L	20 U	NA	20 U
Mercury	µg/L	.2 U	NA	.2 U
Molybdenum	µg/L	100 U	NA	100 U
Nickel	µg/L	150 U	NA	150 U
Potassium	µg/L	5000 U	NA	5000 U
Selenium	µg/L	5 U	NA	5 U
Silver	µg/L	50 U	NA	50 U
Sodium	µg/L	227 J	NA	1000 U
Thallium	µg/L	10 U	NA	10 U
Vanadium	µg/L	100 U	NA	100 U
Zinc	µg/L	20 U	NA	5.97 J

J - estimated value
M - modified
MCAS - Marine Corps Air Station
mg/L - milligrams per liter
NA - not analyzed
QC - quality control
TPH - total petroleum hydrocarbons
U - not detected at or above the stated reporting limit
UJ - estimated reporting limit
µg/L - micrograms per liter

Table 1
Analytical Results for Soil Samples --- Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled Depth (feet below ground surface)				818655-3390 TAA130C-SB-B 06/23/03 1.5	818655-3391 TAA130C-SB-B 06/23/03 3	818655-3392 TAA130C-SB-C1 06/23/03 2	818655-3393 TAA130C-SB-C2 06/23/03 3	818655-3394 TAA130C-SB-A 06/23/03 4	818655-3395 TAA130C-SB-A 06/23/03 5.5
	Unit	Background[1]	Residential PRG[2]						
TPH (EPA 8015M)									
Diesel	mg/kg	NE	NE	11 U	11 U	11 U	11 U	10 U	11 U
Gasoline	mg/kg	NE	NE	12 U	11 U	10 U	11 U	9.7 U	10 U
PESTICIDES (EPA 8081A)									
4,4'-DDD	mg/kg	0.0361	2.4	0.0044 U	.0046 U	.16 J B	.0029 J	.0042 U	.0043 U
4,4'-DDE	mg/kg	0.145	1.7	0.0044 U	.0046 UJ	.029 J	.0081	.0042 U	.0043 U
4,4'-DDT	mg/kg	0.236	1.7	0.0025 J	.0046 UJ	1.1 B	.011	.0042 U	.0043 U
Aldrin	mg/kg	NE	0.029	0.0022 U	.0023 U	.0022 U	.0022 U	.0021 U	.0021 U
Alpha-BHC	mg/kg	NE	0.090	0.0022 U	.0023 U	.0022 U	.0022 UJ	.00064 J	.0021 U
Alpha-Chlordane	mg/kg	0.00224	1.6	0.0022 U	.0023 UJ B	.0024 B	.0022 U	.0021 U	.0021 U
Beta-BHC	mg/kg	NE	0.32	0.0022 U	.0023 U	.0022 U	.0022 U	.0021 U	.0021 U
Delta-BHC	mg/kg	NE	NE	0.0022 U	.0023 U	.0022 UJ	.0022 U	.0021 U	.0021 U
Dieldrin	mg/kg	0.0199	0.030	0.0044 UJ	.0046 U	.0043 UJ	.0043 U	.0042 U	.0043 U
Endosulfan I	mg/kg	0.000179	370	0.0044 U B	.0046 U B	.0043 UJ B	.0043 U B	.0042 U B	.0043 U B
Endosulfan II	mg/kg	0.00222	370	0.0044 U B	.0046 UJ B	.0043 U B	.0043 UJ B	.0042 U B	.0043 U B
Endosulfan Sulfate	mg/kg	0.0031	NE	0.0044 U B	.0046 UJ B	.0043 U B	.0043 U B	.0042 U B	.0043 U B
Endrin	mg/kg	0.00222	18	0.0033 U B	.0034 U B	.0033 U B	.0033 U B	.0031 U B	.0032 U B
Endrin Aldehyde	mg/kg	0.00222	NE	0.0044 U B	.0046 U B	.0043 U B	.0043 U B	.0042 U B	.0043 U B
Endrin Ketone	mg/kg	NE	NE	0.0033 U	.0034 UJ	.0033 U	.0033 U	.0031 U	.0032 U
Gamma-BHC	mg/kg	NE	0.44	0.0022 U	.0023 U	.0022 UJ	.0022 U	.0021 U	.0021 U
Gamma-Chlordane	mg/kg	0.0027	1.6	0.0022 U	.0023 UJ	.0022 UJ	.0022 UJ	.0021 U	.0021 U
Heptachlor	mg/kg	NE	0.11	0.0022 U	.0023 U	.0022 U	.0022 U	.0021 U	.0021 U
Heptachlor Epoxide	mg/kg	NE	0.053	0.0022 U	.00043 J	.0062	.0022 U	.0021 U	.0021 U
Methoxychlor	mg/kg	NE	300	0.022 U	.023 U	.022 U	.022 U	.021 U	.021 U
Toxaphene	mg/kg	NE	0.44	0.11 U	.11 U	.11 U	.11 U	.1 U	.11 U
VOLATILES (EPA 8260B)									
1,1,1-Trichloroethane	µg/kg	NE	1200000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,1,2,2-Tetrachloroethane	µg/kg	NE	410	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,1,2-Trichloroethane	µg/kg	NE	730	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,1-Dichloroethane	µg/kg	NE	510000 <2800>	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,1-Dichloroethene	µg/kg	NE	120000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,2-Dichloroethane	µg/kg	NE	280	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
1,2-Dichloropropane	µg/kg	NE	340	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
2-Butanone	µg/kg	NE	7300000	78 U	57 U	51 U	53 U	49 U	52 U
2-Chloroethyl Vinyl Ether	µg/kg	NE	NE	78 U	57 U	51 U	53 U	49 U	52 U
2-Hexanone	µg/kg	NE	NE	78 U	57 U	51 U	53 U	49 U	52 U
4-Methyl-2-Pentanone	µg/kg	NE	790000	78 U	57 U	51 U	53 U	49 U	52 U
Acetone	µg/kg	NE	1600000	28 J	16 J	40 J	40 J	17 J	29 J

Table 1
Analytical Results for Soil Samples — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled Depth (feet below ground surface)				818655-3390 TAA130C-SB-B 06/23/03 1.5	818655-3391 TAA130C-SB-B 06/23/03 3	818655-3392 TAA130C-SB-C1 06/23/03 2	818655-3393 TAA130C-SB-C2 06/23/03 3	818655-3394 TAA130C-SB-A 06/23/03 4	818655-3395 TAA130C-SB-A 06/23/03 5.5
	Unit	Background[1]	Residential PRG[2]						
Benzene	µg/kg	NE	600	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Bromodichloromethane	µg/kg	NE	820	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Bromoform	µg/kg	NE	62000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Bromomethane	µg/kg	NE	3900	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Carbon Disulfide	µg/kg	NE	360000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Carbon Tetrachloride	µg/kg	NE	250	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Chlorobenzene	µg/kg	NE	150000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Chloroethane	µg/kg	NE	3000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Chloroform	µg/kg	NE	3600 <940>	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Chloromethane	µg/kg	NE	1200	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Cis-1,2-Dichloroethene	µg/kg	NE	43000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Cis-1,3-Dichloropropene	µg/kg	NE	780	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Dibromochloromethane	µg/kg	NE	1100	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Ethylbenzene	µg/kg	NE	8900	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Methyl Tert-Butyl Ether	µg/kg	NE	62000 <17000>	16 U	11 U	10 U	11 U	9.8 U	10 U
Methylene Chloride	µg/kg	NE	9100	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Styrene	µg/kg	NE	1700000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Tetrachloroethene	µg/kg	NE	1500	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Toluene	µg/kg	NE	520000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Trans-1,2-Dichloroethene	µg/kg	NE	69000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Trans-1,3-Dichloropropene	µg/kg	NE	780	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Trichloroethene	µg/kg	NE	53	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Vinyl Acetate	µg/kg	NE	430000	78 U	57 U	51 U	53 U	49 U	52 U
Vinyl Chloride	µg/kg	NE	79	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
Xylene, (Total)	µg/kg	NE	270000	7.8 U	5.7 U	5.1 U	5.3 U	4.9 U	5.2 U
SEMI-VOLATILES (EPA 8270C)									
1,2,4-Trichlorobenzene	µg/kg	NE	650000	370 U	380 U	360 U	360 U	340 U	350 U
1,2-Dichlorobenzene	µg/kg	NE	370000	370 U	380 U	360 U	360 U	340 U	350 U
1,3-Dichlorobenzene	µg/kg	NE	16000	370 U	380 U	360 U	360 U	340 U	350 U
1,4-Dichlorobenzene	µg/kg	NE	3400	370 U	380 U	360 U	360 U	340 U	350 U
2,4,5-Trichlorophenol	µg/kg	NE	6100000	920 U	950 U	900 U	900 U	870 U	880 U
2,4,6-Trichlorophenol	µg/kg	NE	6100 <6900>	370 U	380 U	360 U	360 U	340 U	350 U
2,4-Dichlorophenol	µg/kg	NE	180000	370 U	380 U	360 U	360 U	340 U	350 U
2,4-Dimethylphenol	µg/kg	NE	1200000	370 U	380 U	360 U	360 U	340 U	350 U
2,4-Dinitrophenol	µg/kg	NE	120000	920 U	950 U	900 U	900 U	870 U	880 U
2,4-Dinitrotoluene	µg/kg	NE	120000	370 U	380 U	360 U	360 U	340 U	350 U
2,6-Dinitrotoluene	µg/kg	NE	61000	370 U	380 U	360 U	360 U	340 U	350 U
2-Chloronaphthalene	µg/kg	NE	4900000	370 U	380 U	360 U	360 U	340 U	350 U

Table 1
Analytical Results for Soil Samples — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled Depth (feet below ground surface)				818655-3390 TAA130C-SB-B 06/23/03 1.5	818655-3391 TAA130C-SB-B 06/23/03 3	818655-3392 TAA130C-SB-C1 06/23/03 2	818655-3393 TAA130C-SB-C2 06/23/03 3	818655-3394 TAA130C-SB-A 06/23/03 4	818655-3395 TAA130C-SB-A 06/23/03 5.5
	Unit	Background[1]	Residential PRG[2]						
2-Chlorophenol	µg/kg	NE	63000	370 U	380 U	360 U	360 U	340 U	350 U
2-Methylnaphthalene	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
2-Methylphenol	µg/kg	NE	3000000	370 U	380 U	360 U	360 U	340 U	350 U
2-Nitroaniline	µg/kg	NE	1700	920 U	950 U	900 U	900 U	870 U	880 U
2-Nitrophenol	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
3,3'-Dichlorobenzidine	µg/kg	NE	1100	370 U	380 U	360 U	360 U	340 U	350 U
3-Nitroaniline	µg/kg	NE	NE	920 U	950 U	900 U	900 U	870 U	880 U
4,6-Dinitro-2-Methylphenol	µg/kg	NE	NE	920 U	950 U	900 U	900 U	870 U	880 U
4-Bromophenyl Phenyl Ether	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
4-Chloro-3-Methylphenol	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
4-Chloroaniline	µg/kg	NE	240000	370 U	380 U	360 U	360 U	340 U	350 U
4-Chlorophenyl Phenyl Ether	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
4-Methylphenol	µg/kg	NE	310000	370 U	380 U	360 U	360 U	340 U	350 U
4-Nitroaniline	µg/kg	NE	NE	920 U	950 U	900 U	900 U	870 U	880 U
4-Nitrophenol	µg/kg	NE	NE	920 U	950 U	900 U	900 U	870 U	880 U
Acenaphthene	µg/kg	NE	3700000	370 U	380 U	360 U	360 U	340 U	350 U
Acenaphthylene	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
Anthracene	µg/kg	NE	22000000	370 U	380 U	360 U	360 U	340 U	350 U
Benzo(A)Anthracene	µg/kg	22	620	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Benzo(B)Fluoranthene	µg/kg	28	620	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Benzo(Ghi)Perylene	µg/kg	29	NE	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Benzo(K)Fluoranthene	µg/kg	24	6200 <380>	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Bis(2-Chloroethoxy)Methane	µg/kg	NE	NE	370 U	380 U	360 U	360 U	340 U	350 U
Bis(2-Chloroisopropyl)Ether	µg/kg	NE	2900	370 U	380 U	360 U	360 U	340 U	350 U
Bis(2-Ethylhexyl)Phthalate	µg/kg	NE	35000	370 U	380 U	360 U	360 U	340 U	350 U
Butyl Benzyl Phthalate	µg/kg	NE	12000000	370 U	380 U	360 U	360 U	340 U	350 U
Chrysene	µg/kg	31	62000 <3800>	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Di-N-Butyl Phthalate	µg/kg	NE	6100000	370 U	380 U	360 U	360 U	340 U	350 U
Di-N-Octyl Phthalate	µg/kg	NE	2400000	370 U	380 U	360 U	360 U	340 U	350 U
Dibenzofuran	µg/kg	NE	290000	370 U	380 U	360 U	360 U	340 U	350 U
Diethyl Phthalate	µg/kg	NE	49000000	370 U	380 U	360 U	360 U	340 U	350 U
Dimethyl Phthalate	µg/kg	NE	100000000	370 U	380 U	360 U	360 U	340 U	350 U
Fluoranthene	µg/kg	45	2300000	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Fluorene	µg/kg	NE	2700000	370 U	380 U	360 U	360 U	340 U	350 U
Hexachlorobutadiene	µg/kg	NE	6200	370 U	380 U	360 U	360 U	340 U	350 U
Hexachlorocyclopentadiene	µg/kg	NE	370000	370 U	380 U	360 U	360 U	340 U	350 U
Hexachloroethane	µg/kg	NE	35000	370 U	380 U	360 U	360 U	340 U	350 U
N-Nitrosodiphenylamine	µg/kg	NE	99000	370 U	380 U	360 U	360 U	340 U	350 U

Table 1
Analytical Results for Soil Samples — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled Depth (feet below ground surface)				818655-3390 TAA130C-SB-B 06/23/03 1.5	818655-3391 TAA130C-SB-B 06/23/03 3	818655-3392 TAA130C-SB-C1 06/23/03 2	818655-3393 TAA130C-SB-C2 06/23/03 3	818655-3394 TAA130C-SB-A 06/23/03 4	818655-3395 TAA130C-SB-A 06/23/03 5.5
	Unit	Background[1]	Residential PRG[2]						
Naphthalene	µg/kg	NE	56000	370 U	380 U	360 U	360 U	340 U	350 U
Nitrobenzene	µg/kg	NE	20000	370 U	380 U	360 U	360 U	340 U	350 U
Pentachlorophenol	µg/kg	NE	3000	220 U	230 U	220 U	220 U	210 U	210 U
Phenanthrene	µg/kg	18	NE	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
Phenol	µg/kg	NE	37000000	370 U	380 U	360 U	360 U	340 U	350 U
Pyrene	µg/kg	41	2300000	370 U B	380 U B	360 U B	360 U B	340 U B	350 U B
SVOA-SIM (EPA 8270-SIM)									
Benzo(A)Pyrene	µg/kg	27	62	37 U B	38 U B	36 U B	36 U B	34 U B	35 U B
Bis(2-Chloroethyl)Ether	µg/kg	NE	210	37 U	38 U	36 U	36 U	34 U	35 U
Dibenzo(A,H)Anthracene	µg/kg	8	62	37 U B	38 U B	36 U B	36 U B	34 U B	35 U B
Hexachlorobenzene	µg/kg	NE	300	83 UJ	86 UJ	81 UJ	82 UJ	78 UJ	80 UJ
Indeno(1,2,3-Cd)Pyrene	µg/kg	21	620	16 J	40 U B	38 U B	38 U B	36 U B	37 U B
N-Nitroso-Di-N-Propylamine	µg/kg	NE	69	37 UJ	38 UJ	36 UJ	36 UJ	34 UJ	35 UJ
METALS (EPA 6010B/7471A)									
Aluminum	mg/kg	14800	76000	18300 J B	17000 B	12600	12100	7060	8740
Antimony	mg/kg	3.06	31	3.87 J B	2.75 J	3.03 J	4.91 J B	2.35 J	2.48 J
Arsenic	mg/kg	6.86	0.39	3.6 Y	8.7 B Y	26.1 B Y	35.8 B Y	1.48 Y	1.3 Y
Barium	mg/kg	173	5400	124	125	113	127	68.1	58.5
Beryllium	mg/kg	0.669	150	0.62	.591	.459	.485	.285	.327
Cadmium	mg/kg	2.35	37 <1,7>	0.554 U	.606	.916	.404 J	.521 U	.531 U
Calcium	mg/kg	46000	NE	7340	8280	7100	5290	3050	2480
Chromium	mg/kg	26.9	210	13.7 J	19.8	32 B	20.7	4.95	6.19
Cobalt	mg/kg	6.98	900	7.66 J B	7.19 B	5.75	5.91	3.7	4.27
Copper	mg/kg	10.5	3100	7.16	8.53	7.73	8.82	3.21	4.58
Iron	mg/kg	18400	23000	16500 J	15600	11800	11500	7180	8820
Lead	mg/kg	15.1	400 <150>	5.85 J	18.4 B	55.3 B	20.5 B	1.48	1.72
Magnesium	mg/kg	8370	NE	7260	6890	4830	4650	2990	3450
Manganese	mg/kg	291	1800	253	243	198	245	144	175
Mercury	mg/kg	0.22	NE	0.111 U	.114 U	.0633 J	.109 U	.104 U	.106 U
Molybdenum	mg/kg	NE	390	5.54 U	5.72 U	5.43 U	5.43 U	5.21 U	5.31 U
Nickel	mg/kg	15.3	1600	5.8	6.45	4.8	3.92	2.55	2.69
Potassium	mg/kg	4890	NE	4520	4200	3110	2940	1940	2680
Selenium	mg/kg	0.32	390	1.11 U B	1.14 U B	1.09 U B	1.09 U B	1.04 U B	1.06 U B
Silver	mg/kg	0.539	390	2.22 U B	2.29 U B	2.17 U B	2.17 U B	2.09 U B	2.13 U B
Sodium	mg/kg	405	NE	202	172	119	186	71.5 J	77.7 J
Thallium	mg/kg	0.42	5.2	1.11 U B	.38 U	1.09 U B	.574 U B	1.04 U B	1.06 U B
Vanadium	mg/kg	71.8	550	38.1	37.4	29.5	26.6	17.3	21
Zinc	mg/kg	77.9	23000	47.7 J	62.9	128 B	1380 B	21.1	25.5

Table 1
Analytical Results for Soil Samples — Former TAA130C, MCAS El Toro, California

[1] *Bechtel National, Inc., 1996, Draft Report Anthropogenic PAH Reference-Level Study, Marine Corps Air Station, El Toro, California, May.*
Bechtel National, Inc., 1996, Final Technical Memorandum Background and Reference Levels Remedial Investigations, Marine Corps Air Station, El Toro, California, October.
[2] *EPA Region IX, 2002, Preliminary Remedial Goals (PRG), October.*

B - result exceeds background
J - estimated value
M - modified
MCAS - Marine Corps Air Station
mg/kg - milligrams per kilogram
NE - not established
PRG - preliminary remedial goals
SIM - selected ion monitoring
TPH - total petroleum hydrocarbons
U - not detected at or above the stated reporting limit
UJ - estimated reporting limit
Y - result exceeds residential PRGs
µg/kg - micrograms per kilogram
< > - California Modified preliminary remedial goal

Table 2
Analytical Results for Field QC Sample — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3396 Equipment Rinsate 06/23/03
	Unit	
TPH (EPA 8015M)		
Diesel	mg/L	.094 U
Gasoline	mg/L	.1 U
PESTICIDES (EPA 8081A)		
4,4'-DDD	µg/L	.19 U
4,4'-DDE	µg/L	.19 U
4,4'-DDT	µg/L	.19 U
Aldrin	µg/L	.094 U
Alpha-BHC	µg/L	.094 U
Alpha-Chlordane	µg/L	.094 U
Beta-BHC	µg/L	.094 UJ
Delta-BHC	µg/L	.094 U
Dieldrin	µg/L	.19 U
Endosulfan I	µg/L	.094 U
Endosulfan II	µg/L	.19 U
Endosulfan Sulfate	µg/L	.19 U
Endrin	µg/L	.094 U
Endrin Aldehyde	µg/L	.19 U
Endrin Ketone	µg/L	.094 U
Gamma-BHC	µg/L	.094 U
Gamma-Chlordane	µg/L	.094 U
Heptachlor	µg/L	.094 U
Heptachlor Epoxide	µg/L	.094 U
Methoxychlor	µg/L	.94 U
Toxaphene	µg/L	2.8 U
VOLATILES (EPA 8260B)		
1,1,1-Trichloroethane	µg/L	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U
1,1,2-Trichloroethane	µg/L	5 U
1,1-Dichloroethane	µg/L	5 U
1,1-Dichloroethene	µg/L	5 U
1,2-Dichloroethane	µg/L	5 U
1,2-Dichloropropane	µg/L	5 U
2-Butanone	µg/L	50 U

Table 2
Analytical Results for Field QC Sample — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3396 Equipment Rinsate 06/23/03
	Unit	
2-Chloroethyl vinyl ether	µg/L	50 U
2-Hexanone	µg/L	50 U
4-Methyl-2-pentanone	µg/L	50 U
Acetone	µg/L	50 U
Benzene	µg/L	5 U
Bromodichloromethane	µg/L	5 U
Bromoform	µg/L	5 UJ
Bromomethane	µg/L	5 UJ
Carbon disulfide	µg/L	5 U
Carbon tetrachloride	µg/L	5 U
Chlorobenzene	µg/L	5 U
Chloroethane	µg/L	5 U
Chloroform	µg/L	5 U
Chloromethane	µg/L	5 U
Cis-1,2-Dichloroethene	µg/L	5 U
Cis-1,3-Dichloropropene	µg/L	5 U
Dibromochloromethane	µg/L	5 U
Ethylbenzene	µg/L	5 U
Methyl tert-butyl ether	µg/L	10 U
Methylene chloride	µg/L	5 U
Styrene	µg/L	5 U
Tetrachloroethene	µg/L	5 U
Toluene	µg/L	5 U
Trans-1,2-Dichloroethene	µg/L	5 U
Trans-1,3-Dichloropropene	µg/L	5 U
Trichloroethene	µg/L	5 U
Vinyl acetate	µg/L	50 U
Vinyl chloride	µg/L	5 U
Xylene, (total)	µg/L	5 U
SEMI-VOLATILES (EPA 8270C)		
1,2,4-Trichlorobenzene	µg/L	9.5 U
1,2-Dichlorobenzene	µg/L	9.5 U
1,3-Dichlorobenzene	µg/L	9.5 U
1,4-Dichlorobenzene	µg/L	9.5 U

Table 2
Analytical Results for Field QC Sample — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3396 Equipment Rinsate 06/23/03
	Unit	
2,4,5-Trichlorophenol	µg/L	24 U
2,4,6-Trichlorophenol	µg/L	9.5 U
2,4-Dichlorophenol	µg/L	9.5 U
2,4-Dimethylphenol	µg/L	9.5 U
2,4-Dinitrophenol	µg/L	24 U
2,4-Dinitrotoluene	µg/L	9.5 U
2,6-Dinitrotoluene	µg/L	9.5 U
2-Chloronaphthalene	µg/L	9.5 U
2-Chlorophenol	µg/L	9.5 U
2-Methylnaphthalene	µg/L	9.5 U
2-Methylphenol	µg/L	9.5 U
2-Nitroaniline	µg/L	24 U
2-Nitrophenol	µg/L	9.5 U
3,3'-Dichlorobenzidine	µg/L	9.5 U
3-Nitroaniline	µg/L	24 U
4,6-Dinitro-2-Methylphenol	µg/L	24 U
4-Bromophenyl Phenyl Ether	µg/L	9.5 U
4-Chloro-3-Methylphenol	µg/L	9.5 U
4-Chloroaniline	µg/L	9.5 U
4-Chlorophenyl Phenyl Ether	µg/L	9.5 U
4-Methylphenol	µg/L	9.5 U
4-Nitroaniline	µg/L	24 U
4-Nitrophenol	µg/L	24 U
Acenaphthene	µg/L	9.5 U
Acenaphthylene	µg/L	9.5 U
Anthracene	µg/L	9.5 U
Benzo(A)Anthracene	µg/L	9.5 U
Benzo(A)Pyrene	µg/L	9.5 U
Benzo(B)Fluoranthene	µg/L	9.5 U
Benzo(Ghi)Perylene	µg/L	9.5 U
Benzo(K)Fluoranthene	µg/L	9.5 U
Bis(2-Chloroethoxy)Methane	µg/L	9.5 U
Bis(2-Chloroethyl)Ether	µg/L	9.5 U
Bis(2-Chloroisopropyl)Ether	µg/L	9.5 U

Table 2
Analytical Results for Field QC Sample — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3396 Equipment Rinsate 06/23/03
	Unit	
Bis(2-Ethylhexyl)Phthalate	µg/L	19 U
Butyl Benzyl Phthalate	µg/L	9.5 U
Chrysene	µg/L	9.5 U
Di-N-Butyl Phthalate	µg/L	9.5 U
Di-N-Octyl Phthalate	µg/L	9.5 U
Dibenzo(A,H)Anthracene	µg/L	9.5 U
Dibenzoturan	µg/L	9.5 U
Diethyl Phthalate	µg/L	9.5 U
Dimethyl Phthalate	µg/L	9.5 U
Fluoranthene	µg/L	9.5 U
Fluorene	µg/L	9.5 U
Hexachlorobenzene	µg/L	9.5 U
Hexachlorobutadiene	µg/L	9.5 U
Hexachlorocyclopentadiene	µg/L	9.5 U
Hexachloroethane	µg/L	9.5 U
Indeno(1,2,3-Cd)Pyrene	µg/L	9.5 U
N-Nitroso-Di-N-Propylamine	µg/L	9.5 U
N-Nitrosodiphenylamine	µg/L	9.5 U
Naphthalene	µg/L	9.5 U
Nitrobenzene	µg/L	9.5 U
Pentachlorophenol	µg/L	9.5 U
Phenanthrene	µg/L	9.5 U
Phenol	µg/L	9.5 U
Pyrene	µg/L	9.5 U
METALS (EPA 6010B/7470A)		
Aluminum	µg/L	500 U
Antimony	µg/L	500 U
Arsenic	µg/L	5 U
Barium	µg/L	100 U
Beryllium	µg/L	10 U
Cadmium	µg/L	5 U
Calcium	µg/L	32.7 J
Chromium	µg/L	50 U
Cobalt	µg/L	50 U

Table 2
Analytical Results for Field QC Sample — Former TAA130C, MCAS El Toro, California

Sample Identification Location Code Date Sampled		818655-3396 Equipment Rinsate 06/23/03
	Unit	
Copper	µg/L	50 U
Iron	µg/L	1000 U
Lead	µg/L	5 U
Magnesium	µg/L	1000 U
Manganese	µg/L	20 U
Mercury	µg/L	.2 U
Molybdenum	µg/L	100 U
Nickel	µg/L	150 U
Potassium	µg/L	789 U
Selenium	µg/L	5 U
Silver	µg/L	50 U
Sodium	µg/L	92.8 J
Thallium	µg/L	10 U
Vanadium	µg/L	100 U
Zinc	µg/L	8.74 U

J - estimated value
MCAS - Marine Corps Air Station
mg/L - milligrams per liter
QC - quality control
TPH - total petroleum hydrocarbons
U - not detected at or above the stated reporting limit
UJ - estimated reporting limit
µg/L - micrograms per liter

Table 4-3
Summary of 1999 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification / Location Code / Date Sampled / Depth (feet below ground surface)	Unit	Background	PRG Residential	PRG Industrial	20242-897 BLDG-493-HA01 06/08/99 1.0	20242-898 BLDG-493-HA02 06/08/99 1.0	20242-899 BLDG-493-HA03 06/08/99 1.0	20242-900 (Dup) BLDG-493-HA03 06/08/99 1.5	2024 BLDG-4 06/(5
EPA 8081									
4,4'-DDD	mg/kg	0.0361	2.4	17	.019 J	.0046	.035	.11 B	.044
4,4'-DDE	mg/kg	0.145	1.7	12	.0099 J	.0059	.36 B	.845 B	.053
4,4'-DDT	mg/kg	0.236	1.7	12	.139 J	.04	.14	.512 B	.298
Aldrin	mg/kg	NE	0.029	0.15	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
alpha-BHC	mg/kg	NE	0.09	0.59	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
beta-BHC	mg/kg	NE	0.32	2.1	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
Chlordane	mg/kg	NE	1.6	11	.057 UJ	.056 U	.27 U	.54 U	.28
Delta-BHC	mg/kg	NE	NE	NE	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
Dieldrin	mg/kg	0.0199	0.03	0.15	.001 J	.0005 J	.02 B	.03 B Y	.011
Endosulfan I	mg/kg	0.000179	370	5300	.0011 UJ B	.0011 U B	.01 B	.022 B	.0057
Endosulfan II	mg/kg	0.00222	370	5300	.0023 UJ B	.0023 U B	.011 U B	.022 U B	.011
Endosulfan sulfate	mg/kg	0.0031	NE	NE	.0057 UJ B	.0056 U B	.027 U B	.054 U B	.028
Endrin	mg/kg	0.00222	18	260	.0007 J	.0023 U B	.01 B	.051 B	.011
Endrin aldehyde	mg/kg	0.00222	NE	NE	.002 J	.001 J	.006 J B	.03 B	.011
Endrin ketone	mg/kg	NE	NE	NE	.0023 UJ	.0023 U	.011 U	.022 U	.011
gamma-BHC	mg/kg	NE	0.44	2.9	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
Heptachlor	mg/kg	NE	0.11	0.55	.0011 UJ	.0011 U	.0054 U	.011 U	.002
Heptachlor epoxide	mg/kg	NE	0.053	0.27	.0011 UJ	.0011 U	.0054 U	.011 U	.0057
Methoxychlor	mg/kg	NE	310	4400	.002 J	.002 J	.013 J	.045 J	.057
Toxaphene	mg/kg	NE	0.44	2.2	.11 UJ	.11 U	.54 U Y	1.1 U Y	.57
EPA 8150									
2,4,5-T	µg/kg	NE	610000	88000000	11 U	11 U	11 U	11 U	11
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	11 U	11 U	11 U	11 U	11
2,4-D	µg/kg	NE	690000	12000000	11 UJ	11 U	11 U	11 U	30
2,4-DB	µg/kg	NE	490000	700000	11 U	11 U	11 U	11 U	11
Dalapon	µg/kg	NE	1800000	26000000	23 U	23 U	22 U	22 U	23
Dicamba	µg/kg	NE	1800000	26000000	11 U	11 U	11 U	11 U	11
Dichlorprop	µg/kg	NE	NE	NE	11 U	11 U	11 U	11 U	11
Dinoseb	µg/kg	NE	61000	880000	23 U	23 U	22 U	22 U	23
MCPA	mg/kg	NE	31	440	2.3 U	2.3 U	2.2 U	2.2 U	2.3
MCPP	mg/kg	NE	61	880	2.3 U	2.3 U	2.2 U	2.2 U	2.3

Table 4-3
Summary of 1999 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification					42-876		20242-878		20242-879		20242-882		20242-883 (Dup)	
Location Code					493-PB01		BLDG-493-PB01		BLDG-493-PB01		BLDG-493-PB01		BLDG-493-PB01	
Date Sampled					07/99		06/07/99		06/07/99		06/07/99		06/07/99	
Depth (feet below ground surface)					i.0		10.0		15.0		30.0		30.5	
	Unit	Background	PRG Residential	PRG Industrial										
EPA 8081														
4,4'-DDD	mg/kg	0.0361	2.4	17		B	.0024 U		.0024 U		.0023 U		.0024 U	
4,4'-DDE	mg/kg	0.145	1.7	12			.0024 U		.0024 U		.0023 U		.0024 U	
4,4'-DDT	mg/kg	0.236	1.7	12		B	.0024 U		.0024 U		.0023 U		.0024 U	
Aldrin	mg/kg	NE	0.029	0.15	U		.0012 U		.0012 U		.0012 U		.0012 U	
alpha-BHC	mg/kg	NE	0.09	0.59	U		.0012 U		.0012 U		.0012 U		.0012 U	
beta-BHC	mg/kg	NE	0.32	2.1	U		.0012 U		.0012 U		.0012 U		.0012 U	
Chlordane	mg/kg	NE	1.6	11	U		.06 U		.061 U		.058 U		.059 U	
Delta-BHC	mg/kg	NE	NE	NE	U		.0012 U		.0012 U		.0012 U		.0012 U	
Dieldrin	mg/kg	0.0199	0.03	0.15	U		.0024 U		.0024 U		.0023 U		.0024 U	
Endosulfan I	mg/kg	0.000179	370	5300	U	B	.0012 U	B	.0012 U	B	.0012 U	B	.0012 U	B
Endosulfan II	mg/kg	0.00222	370	5300	U	B	.0024 U	B	.0024 U	B	.0023 U	B	.0024 U	B
Endosulfan sulfate	mg/kg	0.0031	NE	NE	U	B	.006 U	B	.0061 U	B	.0058 U	B	.0059 U	B
Endrin	mg/kg	0.00222	18	260	U	B	.0024 U	B	.0024 U	B	.0023 U	B	.0024 U	B
Endrin aldehyde	mg/kg	0.00222	NE	NE	U	B	.0024 UJ	B	.0024 U	B	.0023 U	B	.0024 U	B
Endrin ketone	mg/kg	NE	NE	NE	U		.0024 U		.0024 U		.0023 U		.0024 U	
gamma-BHC	mg/kg	NE	0.44	2.9	U		.0012 U		.0012 U		.0012 U		.0012 U	
Heptachlor	mg/kg	NE	0.11	0.55	J		.0012 U		.0012 U		.0012 U		.0012 U	
Heptachlor epoxide	mg/kg	NE	0.053	0.27	U		.0012 U		.0012 U		.0012 U		.0012 U	
Methoxychlor	mg/kg	NE	310	4400	U		.003 J		.012 U		.012 U		.012 U	
Toxaphene	mg/kg	NE	0.44	2.2	U	Y	.12 U		.12 U		.12 U		.12 U	
EPA 8150														
2,4,5-T	µg/kg	NE	610000	88000000	U		12 U		12 U		12 U		12 U	
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	U		12 U		12 U		12 U		12 U	
2,4-D	µg/kg	NE	690000	12000000			12 U		12 U		12 U		12 U	
2,4-DB	µg/kg	NE	490000	700000	U		12 U		12 U		12 U		12 U	
Dalapon	µg/kg	NE	1800000	26000000	U		24 U		24 U		23 U		24 U	
Dicamba	µg/kg	NE	1800000	26000000	U		12 U		12 U		12 U		12 U	
Dichlorprop	µg/kg	NE	NE	NE	U		12 U		12 U		12 U		12 U	
Dinoseb	µg/kg	NE	61000	880000	U		24 U		24 U		23 U		24 U	
MCPA	mg/kg	NE	31	440	U		2.4 U		2.4 U		2.3 U		2.4 U	
MCPP	mg/kg	NE	61	880	U		2.4 U		2.4 U		2.3 U		2.4 U	

Table 4-3
Summary of 1999 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification Location Code Date Sampled Depth (feet below ground surface)					20242-884 BLDG-493-PB02 06/07/99 5.0	20242-886 BLDG-493-PB02 06/07/99 15.0	20242-887 (Dup) BLDG-493-PB02 06/07/99 15.5	20242-890 BLDG-493-PB02 06/07/99 30.0	2024 BLDG- 06/(
	Unit	Background	PRG Residential	PRG Industrial					
EPA 8081									
4,4'-DDD	mg/kg	0.0361	2.4	17	.0023 U	.0021 U	.0022 U	.0023 U	.26
4,4'-DDE	mg/kg	0.145	1.7	12	.0007 J	.0021 U	.0022 U	.0023 U	.24
4,4'-DDT	mg/kg	0.236	1.7	12	.0023 U	.0021 U	.0022 U	.0023 U	1.57
Aldrin	mg/kg	NE	0.029	0.15	.0012 U	.0011 U	.0011 U	.0011 U	.023
alpha-BHC	mg/kg	NE	0.09	0.59	.0012 U	.0011 U	.0011 U	.0011 U	.023
beta-BHC	mg/kg	NE	0.32	2.1	.0012 U	.0011 U	.0011 U	.0011 U	.023
Chlordane	mg/kg	NE	1.6	11	.058 U	.053 U	.055 U	.057 U	1.1
Delta-BHC	mg/kg	NE	NE	NE	.0012 U	.0011 U	.0011 U	.0011 U	.023
Dieldrin	mg/kg	0.0199	0.03	0.15	.0023 U	.0021 U	.0022 U	.0023 U	.046
Endosulfan I	mg/kg	0.000179	370	5300	.0012 U B	.0011 U B	.0011 U B	.0011 U B	.023
Endosulfan II	mg/kg	0.00222	370	5300	.0023 U B	.0021 U	.0022 U	.0023 U B	.046
Endosulfan sulfate	mg/kg	0.0031	NE	NE	.0058 U B	.0053 U B	.0055 U B	.0057 U B	.11
Endrin	mg/kg	0.00222	18	260	.0023 U B	.0021 U	.0022 U	.0023 U B	.046
Endrin aldehyde	mg/kg	0.00222	NE	NE	.0023 U B	.0021 U	.0022 U	.0023 U B	.046
Endrin ketone	mg/kg	NE	NE	NE	.0023 U	.0021 U	.0022 U	.0023 U	.046
gamma-BHC	mg/kg	NE	0.44	2.9	.0012 U	.0011 U	.0011 U	.0011 U	.023
Heptachlor	mg/kg	NE	0.11	0.55	.0012 U	.0011 U	.0011 U	.0011 U	.023
Heptachlor epoxide	mg/kg	NE	0.053	0.27	.0012 U	.0011 U	.0011 U	.0011 U	.023
Methoxychlor	mg/kg	NE	310	4400	.012 U	.011 U	.011 U	.011 U	.23
Toxaphene	mg/kg	NE	0.44	2.2	.12 U	.11 U	.11 U	.11 U	2.3
EPA 8150									
2,4,5-T	µg/kg	NE	610000	88000000	12 U	11 U	11 U	11 U	11
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	12 U	11 U	11 U	11 U	11
2,4-D	µg/kg	NE	690000	12000000	12 U	11 U	11 U	11 U	11
2,4-DB	µg/kg	NE	490000	700000	12 U	11 U	11 U	11 U	11
Dalapon	µg/kg	NE	1800000	26000000	23 U	21 U	22 U	23 U	23
Dicamba	µg/kg	NE	1800000	26000000	12 U	11 U	11 U	11 U	11
Dichlorprop	µg/kg	NE	NE	NE	12 U	11 U	11 U	11 U	11
Dinoseb	µg/kg	NE	61000	880000	23 U	21 U	22 U	23 U	23
MCPA	mg/kg	NE	31	440	2.3 U	2.1 U	2.2 U	2.3 U	2.3
MCPP	mg/kg	NE	61	880	2.3 U	2.1 U	2.2 U	2.3 U	2.3

Table 4-3
Summary of 1999 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification					12-891		20242-892		20242-893		20242-896	
Location Code					493-PB03		BLDG-493-PB03		BLDG-493-PB03		BLDG-493-PB03	
Date Sampled					07/99		06/07/99		06/07/99		06/07/99	
Depth (feet below ground surface)					5.0		10.0		15.0		30.0	
	Unit	Background	PRG Residential	PRG Industrial								
EPA 8081												
4,4'-DDD	mg/kg	0.0361	2.4	17		B	.0022 U		.0023 U		.0023 U	
4,4'-DDE	mg/kg	0.145	1.7	12		B	.0022 U		.0023 U		.0023 U	
4,4'-DDT	mg/kg	0.236	1.7	12		B	.0022 U		.0023 U		.0023 U	
Aldrin	mg/kg	NE	0.029	0.15	U		.0011 U		.0011 U		.0012 U	
alpha-BHC	mg/kg	NE	0.09	0.59	U		.0011 U		.0011 U		.0012 U	
beta-BHC	mg/kg	NE	0.32	2.1	U		.0011 U		.0011 U		.0012 U	
Chlordane	mg/kg	NE	1.6	11	U		.055 U		.057 U		.058 U	
Delta-BHC	mg/kg	NE	NE	NE	U		.0011 U		.0011 U		.0012 U	
Dieldrin	mg/kg	0.0199	0.03	0.15	U	B Y	.0022 U		.0023 U		.0023 U	
Endosulfan I	mg/kg	0.000179	370	5300	U	B	.0011 U	B	.0011 U	B	.0012 U	B
Endosulfan II	mg/kg	0.00222	370	5300	U	B	.0022 U		.0023 U	B	.0023 U	B
Endosulfan sulfate	mg/kg	0.0031	NE	NE	U	B	.0055 U	B	.0057 U	B	.0058 U	B
Endrin	mg/kg	0.00222	18	260	U	B	.0022 U		.0023 U	B	.0023 U	B
Endrin aldehyde	mg/kg	0.00222	NE	NE	U	B	.0022 UJ		.0023 U	B	.0023 U	B
Endrin ketone	mg/kg	NE	NE	NE	U		.0022 U		.0023 U		.0023 U	
gamma-BHC	mg/kg	NE	0.44	2.9	U		.0011 U		.0011 U		.0012 U	
Heptachlor	mg/kg	NE	0.11	0.55	U		.0011 U		.0011 U		.0012 U	
Heptachlor epoxide	mg/kg	NE	0.053	0.27	U		.0011 U		.0011 U		.0012 U	
Methoxychlor	mg/kg	NE	310	4400	U		.003 J		.011 U		.012 U	
Toxaphene	mg/kg	NE	0.44	2.2	U	Y X	.11 U		.11 U		.12 U	
EPA 8150												
2,4,5-T	µg/kg	NE	610000	88000000	U		11 U		11 U		12 U	
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	U		11 U		11 U		12 U	
2,4-D	µg/kg	NE	690000	12000000	U		11 U		11 U		12 U	
2,4-DB	µg/kg	NE	490000	700000	U		11 U		11 U		12 U	
Dalapon	µg/kg	NE	1800000	26000000	U		22 U		23 U		23 U	
Dicamba	µg/kg	NE	1800000	26000000	U		11 U		11 U		12 U	
Dichlorprop	µg/kg	NE	NE	NE	U		11 U		11 U		12 U	
Dinoseb	µg/kg	NE	61000	880000	U		22 U		23 U		23 U	
MCPA	mg/kg	NE	31	440	U		2.2 U		2.3 U		2.3 U	
MCPP	mg/kg	NE	61	880	U		2.2 U		2.3 U		2.3 U	

Table 4-3
Summary of 1999 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

B - result exceeds established background limits
EPA - United States Environmental Protection Agency
HA - hand auger
J - estimated
MDL - method detection limit
NE - not established
OHM - OHM Remediation Services Corp.
PB - pesticide borings
PRG - Preliminary Remediation Goal, EPA Region IX, October 1999
RL - reporting limit
U - not detected above or equal to the stated reporting limit
UJ - not detected above or equal to the stated reporting limit. The sample detection limit is an estimated value.
ug/kg - micrograms per kilograms
X - result exceeds industrial PRGs
Y - result exceeds residential PRGs
** If the analyte had been detected bewteen the MDL and RL the actual value would have been reported and flagged with a "J" qualifier. For the samples in question, the laboratory did not detect analyte concentrations between the MDL and the RL. As a result, the samples are qualified as non-detect ("U").*

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification Location Code Date Sampled Depth (feet below ground surface)					20242-1138 BLDG-493-HA04 09/20/00 1.0	20242-1139 BLDG-493-HA04 09/20/00 3.0	20242-1140 BLDG-493-HA04 09/20/00 5.0	20242-1141 BLDG-493-HA04 09/20/00 7.0
	Unit	Background	PRG Residential	PRG Industrial				
EPA 8081/8082								
4,4'-DDD	mg/kg	0.0361	2.4	17	18 J B Y X	.05 U B	.051 U B	.051 U B
4,4'-DDE	mg/kg	0.145	1.7	12	3.3 J B Y	.03 U	.03 U	.03 U
4,4'-DDT	mg/kg	0.236	1.7	12	27 J B Y X	.043 U	.043 U	.044 U
Aldrin	mg/kg	NE	0.029	0.15	0.023 J	.026 U	.027 U	.027 U
alpha-BHC	mg/kg	NE	0.09	0.59	0.21 U Y	.022 U	.023 U	.023 U
alpha-Chlordane	mg/kg	0.00224	1.6	11	0.15 J B	.018 U B	.018 U B	.018 U B
beta-BHC	mg/kg	NE	0.32	2.1	0.37 U Y	.039 U	.04 U	.04 U
Delta-BHC	mg/kg	NE	NE	NE	0.12 U	.013 U	.013 U	.013 U
Dieldrin	mg/kg	0.0199	0.03	0.15	0.06 J B Y	.041 U B Y	.042 U B Y	.042 U B Y
Endosulfan I	mg/kg	0.000179	370	5300	0.14 J B	.025 U B	.025 U B	.025 U B
Endosulfan II	mg/kg	0.00222	370	5300	0.27 U B	.028 U B	.029 U B	.029 U B
Endosulfan sulfate	mg/kg	0.0031	NE	NE	0.4 U B	.043 U B	.043 U B	.044 U B
Endrin	mg/kg	0.00222	18	260	0.4 U B	.043 U B	.043 U B	.044 U B
Endrin aldehyde	mg/kg	0.00222	NE	NE	0.033 J B	.019 U B	.019 U B	.019 U B
gamma-BHC	mg/kg	NE	0.44	2.9	0.22 U	.024 U	.024 U	.024 U
gamma-Chlordane	mg/kg	0.0027	1.6	11	12 U B Y X	.018 U B	.018 U B	.018 U B
Heptachlor	mg/kg	NE	0.11	0.55	0.21 J Y	.024 U	.024 U	.024 U
Heptachlor epoxide	mg/kg	NE	0.053	0.27	0.23 U Y	.025 U	.025 U	.025 U
Methoxychlor	mg/kg	NE	310	4400	0.63 U	.067 U	.069 U	.069 U
Toxaphene	mg/kg	NE	0.44	2.2	0.16 U	.83 U Y	.85 U Y	.85 U Y
Dicofol	mg/kg	NE	1.1	5.6	.39	.0098 U	.01 U	.01 U
EPA 8141								
Diazinon	µg/kg	NE	55000	790000	1100 UJ	120 UJ	120 UJ	120 UJ
Malathion	µg/kg	NE	1200000	18000000	1100 U	10 J	120 U	120 U
EPA 8151								
2,4,5-T	µg/kg	NE	610000	88000000	110 U	120 U	120 U	120 U
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	110 U	120 U	120 U	120 U
2,4-D	µg/kg	NE	690000	12000000	53	12 U	12 U	12 U
2,4-DB	µg/kg	NE	490000	700000	11 U	12 U	12 U	12 U
Dalapon	µg/kg	NE	1800000	26000000	4400 U	4700 U	4800 U	4800 U
Dicamba	µg/kg	NE	1800000	26000000	220 U	240 U	240 U	240 U
Dichlorprop	µg/kg	NE	NE	NE	550 U	590 U	600 U	600 U

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification Location Code Date Sampled Depth (feet below ground surface)					20242-1138 BLDG-493-HA04 09/20/00 1.0	20242-1139 BLDG-493-HA04 09/20/00 3.0	20242-1140 BLDG-493-HA04 09/20/00 5.0	20242-1141 BLDG-493-HA04 09/20/00 7.0
	Unit	Background	PRG Residential	PRG Industrial				
Dinoseb	µg/kg	NE	61000	880000	55 U	59 U	60 U	60 U
MCPA	mg/kg	NE	31	440	1.1 U	1.2 U	1.2 U	1.2 U
MCPP	mg/kg	NE	61	880	1.1 U	1.2 U	1.2 U	1.2 U
EPA 8270								
Strychnine	µg/kg	NE	18000	260000	15000 U	790 UJ	810 U	810 U

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification Location Code Date Sampled Depth (feet below ground surface)					20242-1142 BLDG-493-HA04 09/20/00 9.0	20242-1143 BLDG-493-HA05 09/20/00 1.0	20242-1144 BLDG-493-HA05 09/20/00 3.0	20242-1145 BLDG-493-HA05 09/20/00 5.0
	Unit	Background	PRG Residential	PRG Industrial				
EPA 8081/8082								
4,4'-DDD	mg/kg	0.0361	2.4	17	.055 U B	.23 U B	0.44 J B	.047 U B
4,4'-DDE	mg/kg	0.145	1.7	12	.033 U	.024 J	.18 J B	.028 U
4,4'-DDT	mg/kg	0.236	1.7	12	.047 U	.1 J	2 B Y	.04 U
Aldrin	mg/kg	NE	0.029	0.15	.029 U Y	.12 U Y	0.5 U Y X	.025 U
alpha-BHC	mg/kg	NE	0.09	0.59	.025 U	.11 U Y	0.43 U Y X	.021 U
alpha-Chlordane	mg/kg	0.00224	1.6	11	.02 U B	.083 U B	0.34 U B	.017 U B
beta-BHC	mg/kg	NE	0.32	2.1	.043 U	.18 U	0.75 U Y	.037 U
Delta-BHC	mg/kg	NE	NE	NE	.014 U	.061 U	0.25 U	.012 U
Dieldrin	mg/kg	0.0199	0.03	0.15	.046 U B Y	.19 U B Y X	0.79 U B Y X	.039 U B Y
Endosulfan I	mg/kg	0.000179	370	5300	.027 U B	.12 U B	0.48 U B	.024 U B
Endosulfan II	mg/kg	0.00222	370	5300	.031 U B	.13 U B	0.54 U B	.027 U B
Endosulfan sulfate	mg/kg	0.0031	NE	NE	.047 U B	.2 U B	0.82 U B	.04 U B
Endrin	mg/kg	0.00222	18	260	.047 U B	.2 U B	0.014 J B	.04 U B
Endrin aldehyde	mg/kg	0.00222	NE	NE	.021 U B	.089 U B	0.36 U B	.018 U B
gamma-BHC	mg/kg	NE	0.44	2.9	.026 U	.11 U	0.45 U Y	.022 U
gamma-Chlordane	mg/kg	0.0027	1.6	11	.02 U B	.0045 J B	0.34 U B	.017 U B
Heptachlor	mg/kg	NE	0.11	0.55	.026 U	.11 U Y	0.45 U Y X	.022 U
Heptachlor epoxide	mg/kg	NE	0.053	0.27	.027 U	.12 U Y	0.48 U Y X	.024 U
Methoxychlor	mg/kg	NE	310	4400	.075 U	.32 U	1.3 U	.064 U
Toxaphene	mg/kg	NE	0.44	2.2	.92 U Y	3.9 U Y X	16 U Y X	.79 U Y
Dicofol	mg/kg	NE	1.1	5.6	.011 U	.0025 J	.032	.0093 U
EPA 8141								
Diazinon	µg/kg	NE	55000	790000	130 UJ	110 UJ	110 UJ	110 UJ
Malathion	µg/kg	NE	1200000	18000000	130 U	110 U	110 U	110 U
EPA 8151								
2,4,5-T	µg/kg	NE	610000	88000000	130 U	110 U	110 U	110 U
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	130 U	110 U	110 U	110 U
2,4-D	µg/kg	NE	690000	12000000	13 U	11 U	11 U	6.1 J
2,4-DB	µg/kg	NE	490000	700000	13 U	11 U	11 U	11 U
Dalapon	µg/kg	NE	1800000	26000000	5200 U	4400 U	4500 U	4500 U
Dicamba	µg/kg	NE	1800000	26000000	260 U	220 U	230 U	220 U
Dichlorprop	µg/kg	NE	NE	NE	650 U	560 U	570 U	560 U

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification					20242-1142	20242-1143	20242-1144	20242-1145
Location Code					BLDG-493-HA04	BLDG-493-HA05	BLDG-493-HA05	BLDG-493-HA05
Date Sampled					09/20/00	09/20/00	09/20/00	09/20/00
Depth (feet below ground surface)					9.0	1.0	3.0	5.0
	Unit	Background	PRG Residential	PRG Industrial				
Dinoseb	µg/kg	NE	61000	880000	65 U Y	56 U	57 U	56 U
MCPA	mg/kg	NE	31	440	1300 U	1.1 U	1.1 U	1.1 U
MCPP	mg/kg	NE	61	880	1300 U	1.1 U	1.1 U	1.1 U
EPA 8270								
Strychnine	µg/kg	NE	18000	260000	880 U	1500 U	760 U	750 U

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

Sample Identification Location Code Date Sampled Depth (feet below ground surface)					20242-1146 BLDG-493-HA05 09/20/00 7.0		20242-1147 BLDG-493-HA05 09/20/00 9.0	
	Unit	Background	PRG Residential	PRG industrial				
EPA 8081/8082								
4,4'-DDD	mg/kg	0.0361	2.4	17	.053 U	B	.054 U	B
4,4'-DDE	mg/kg	0.145	1.7	12	.031 U		.012 J	
4,4'-DDT	mg/kg	0.236	1.7	12	.045 U		.02 J	
Aldrin	mg/kg	NE	0.029	0.15	.028 U		.028 U	
alpha-BHC	mg/kg	NE	0.09	0.59	.024 U		.024 U	
alpha-Chlordane	mg/kg	0.00224	1.6	11	.019 U	B	.019 U	B
beta-BHC	mg/kg	NE	0.32	2.1	.041 U		.042 U	
Delta-BHC	mg/kg	NE	NE	NE	.014 U		.014 U	
Dieldrin	mg/kg	0.0199	0.03	0.15	.044 U	B Y	.045 U	B Y
Endosulfan I	mg/kg	0.000179	370	5300	.026 U	B	.027 U	B
Endosulfan II	mg/kg	0.00222	370	5300	.03 U	B	.031 U	B
Endosulfan sulfate	mg/kg	0.0031	NE	NE	.045 U	B	.046 U	B
Endrin	mg/kg	0.00222	18	260	.045 U	B	.046 U	B
Endrin aldehyde	mg/kg	0.00222	NE	NE	.02 U	B	.02 U	B
gamma-BHC	mg/kg	NE	0.44	2.9	.025 U		.026 U	
gamma-Chlordane	mg/kg	0.0027	1.6	11	.019 U	B	.00093 J	
Heptachlor	mg/kg	NE	0.11	0.55	.025 U		.026 U	
Heptachlor epoxide	mg/kg	NE	0.053	0.27	.026 U		.027 U	
Methoxychlor	mg/kg	NE	310	4400	.072 U		.073 U	
Toxaphene	mg/kg	NE	0.44	2.2	.88 U	Y	.89 U	Y
Dicofol	mg/kg	NE	1.1	5.6	.01 U		.011 U	
EPA 8141								
Diazinon	µg/kg	NE	55000	790000	130 UJ		130 UJ	
Malathion	µg/kg	NE	1200000	18000000	130 U		130 U	
EPA 8151								
2,4,5-T	µg/kg	NE	610000	88000000	130 U		130 U	
2,4,5-TP (Silvex)	µg/kg	NE	490000	7000000	130 U		130 U	
2,4-D	µg/kg	NE	690000	12000000	13 U		13 U	
2,4-DB	µg/kg	NE	490000	700000	13 U		13 U	
Dalapon	µg/kg	NE	1800000	26000000	5000 U		5100 U	
Dicamba	µg/kg	NE	1800000	26000000	250 U		260 U	
Dichlorprop	µg/kg	NE	NE	NE	630 U		640 U	

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

		Sample Identification			20242-1146	20242-1147
		Location Code			BLDG-493-HA05	BLDG-493-HA05
		Date Sampled			09/20/00	09/20/00
		Depth (feet below ground surface)			7.0	9.0
	Unit	Background	PRG Residential	PRG Industrial		
Dinoseb	µg/kg	NE	61000	880000	63 U Y	64 U Y
MCPA	mg/kg	NE	31	440	1.3 U	1.3 U
MCPP	mg/kg	NE	61	880	1.3 U	1.3 U
EPA 8270						
Strychnine	µg/kg	NE	18000	260000	840 U	850 U

Table 4-4
Summary of 2000 Analytical Results for Soil Samples — Pesticide Storage Area (Bldg. 493) - MSC P1

B - result exceeds established background limits
EPA - United States Environmental Protection Agency
J - estimated
M - Modified
MDL - method detection limit
mg/kg - milligrams per kilogram
NA - not analyzed
NE - not established
OHM - OHM Remediation Services Corp.
PRG - Preliminary Remediation Goal, EPA Region IX, October 1999
RL - reporting limit
U - not detected above or equal to the stated reporting limit. If the analyte had been detected bewteen the MDL and RL the actual value would have been reported and flagged with a "J" qualifier. For the samples in question, the laboratory did not detect analyte concentrations between the MDL and the RL. As a result, the samples are qualified as non-detect ("U").
µg/kg - micrograms per kilogram
UJ - the sample detection limit is an estimated value
X - result exceeds industrial PRGs
Y - result exceeds residential PRGs