CLOSURE REPORT
TEMPORARY ACCUMULATION AREA (TAA) 770
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

Environmental Remedial Action
Contract No. N62474-98-D-2076
Contract Task Order 0024

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Abbreviations and Acronyms

BNI	Bechtel National Inc.
BRAC	Base Realignment and Closure
CA LUFT	California Leaking Underground Fuel Tank
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CRDL	contract required detection limit
DO	delivery order
DSA	drum storage area
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HI	hazard index
HSP	Health and Safety Plan
IRP	Installation Restoration Program
IT	IT Corporation
JEG	Jacobs Engineering Group Inc.
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LDC	Laboratory Data Consultants
m/z	mass-to-change
MCAS	Marine Corps Air Station
MDL	method detection limit
mg/kg	milligram per kilogram
MS	matrix spike
MSD	matrix spike duplicate
NFA	no further action
OHM	OHM Remediation Services Corp.
PR	preliminary review
PRG	Preliminary Remediation Goal
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RDL	reporting detection limit
RFA	RCRA facility assessment
RPD	relative percent difference
RRF	relative response factor
SIM	selected ion monitoring
SVOC	semivolatile organic compound
SWDIV	Southwest Division Naval Facilities Engineering Command
SWMU	Solid Waste Management Unit
TAA	temporary accumulation area
TCL	target analyte compound
TPH	total petroleum hydrocarbons
VOC	volatile organic compound

Abbreviations and Acronyms (Cont.)

VSI	Visual Site Inspection
%D	percent difference
%R	percent recovery
µg/kg	micrograms per kilogram

1.0 Introduction

This closure report summarizes the confirmation soil sampling activities performed at Temporary Accumulation Area (TAA) 770, at the former Marine Corps Air Station (MCAS) El Toro (hereinafter referred to as the "Station"), California. IT Corporation (IT) performed the work for the Southwest Division Naval Facilities Engineering Command (SWDIV) under EFA West Contract No. N62474-98-D-2076, Contract Task Order (CTO) 24.

Soil Sampling activities were conducted in accordance with the Navy, Station, and Department of Toxic Substance Control (DTSC)-approved *Final Supplemental Work Plan, Closure of Various Temporary Accumulation Areas and RCRA Facility Assessment Sites, Marine Corps Air Station El Toro, California (OHM, 1997a)* and *approved Revised Addendum to the Draft Supplemental Work Plan, Marine Corps Air Station El Toro, California* (IT, 2002).

1.1 Site Location and Background

The Station is located approximately 45 miles southeast of the city of Los Angeles in Orange County, California, 1 mile north of the intersection of Interstate 5 (Santa Ana) and Interstate 405 (San Diego) freeways. The Station covers approximately 4,738 acres. The location of former TAA 770 on the Station is shown in Figure 1-1. Former TAA 770 is located in the southeast quadrant of the Station, northeast of Building 386, a former Vehicle Maintenance Shop.

The Station closed on July 1, 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). Former TAA 770 was designated as Solid Waste Management Unit (SWMU) 223 during the Resource Conservation and Recovery Act Facility Assessment (RFA). Former TAA 770 includes two units: an enclosed concrete slab with curb, approximately 12 feet wide by 17 feet long that was constructed in 1983 and a concrete slab with berm, sump, and access ramp, approximate dimensions 20 feet by 25 feet, that was constructed more recently.

Former TAA 770 is located within the investigation boundary of Installation Restoration Program (IRP) Site 24, the Volatile Organic Compound (VOC) Source Area. In 1994, during the soil gas survey of the Remedial Investigation of IRP Site 24, soil gas samples were collected near former TAA 770 and the adjacent wash rack, SWMU 110. SWMU 110 was in use from approximately 1983 through 1999.

Former TAA 770 is located within a parcel designated for future use as Open Space; Exposition Center area according to the Great Park Land Use Plan that was issued by the City of Irvine in June 2002. The Great Park Land Use Plan is provided in Appendix A.

The depth to groundwater in the vicinity of the former TAA 770 site is based on available water level data collected from the nearest groundwater monitoring well 21_UGMW37, located approximately 400 feet south of former TAA 770. Based on this data, the depth to the groundwater at former TAA 770 is approximately 85 feet below ground surface (CDM, 2002). Former TAA 770 was investigated as Solid Waste Management Unit (SWMU) 223 during the Resource Conservation and Recovery Act (RCRA) Facility Assessment.

1.2 Project Objectives

The objectives of this project were the following:

- Verify that all stored hazardous wastes, residues, and constituents that may pose a potential health risk have been removed from former TAA 770 in accordance with the MCAS El Toro Detailed Plan (IT, 2002).
- Perform verification soil sampling and analysis to obtain "closure status" of former TAA 770.

1.3 Regulatory Background and Cleanup Goals

The closure activities at TAAs 770 were completed in accordance with the appropriate federal and state requirements. TAA 770 is characterized as "*hazardous waste accumulation areas*" according to the Code of Federal Regulations (CFR), Title 40, Part 262.34, and the California Code of Regulations (CCR), Title 22, Section 66262.34. Because hazardous wastes have been stored at the site, closure of TAA770 is also subject to federal and state regulations for closure of less than 90 days hazardous waste management facilities (CFR 40, part 264, Subpart G; and CCR 22, Section 66264, Article 7, respectively).

The cleanup goals established for former TAA 770 are based on the following:

Soil

- United States Environmental Protection Agency (EPA) Region IX Preliminary Remediation Goals (PRGs) dated November 1, 2002 for residential land use for organic contaminants
- Background concentrations for metals contaminants (Bechtel National Inc. [BNI], 1996b)
- 5,000-milligrams per kilogram (mg/kg) concentration limit for total petroleum hydrocarbons (TPH)-purgeable
- 10,000-mg/kg concentration limit for TPH-extractable.

2.0 Previous Inspections and Site Background

The following section summarizes results from previous investigations and background history at the former TAA 770 site. Background information regarding former TAA 770 was obtained from the following documents:

- *Final RCRA Facility Assessment Report, Marine Corps Air Station El Toro, California (Jacobs Engineering Group Inc. [JEG] 1993).*
- *Final Addendum RCRA Facility Assessment Report, Marine Corps Air Station El Toro, California (BNI, 1996a).*
- *Storm Water Pollution Prevention Plan (SWPPP) for Marine Corps Air Station, El Toro, El Toro, California (IEM, 1997).*
- *Final, Marine Corps Air Station, El Toro, Hazardous Material/Hazardous Waste Management Plan (SAIC, 1994).*
- Marine Corps Air Station El Toro, El Toro, California, *Final Environmental Baseline Survey Report (JEG, 1995).*
- *Base Realignment and Closure Business Plan for Marine Corps Air Station, El Toro, California (SWDIV, 2002)*
- *Draft Final Site Closure Report, Vadose Zone Remediation, IRP Site 24, Volatile Organic Compounds Source Area, Former Marine Corps Air Station, El Toro (EarthTech, 2002).*
- Marine Corps Air Station El Toro, El Toro, *California, Installation Restoration Program, Remedial Investigation/Feasibility Study, Final Soil Gas Survey, Technical Memorandum Sites 24 and 25 (SWDIV, 1994).*
- MCAS El Toro, *Plant Account Records (SWDIV, 1997).*

2.1 Environmental Program Records

Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)

In 1991, JEG, as part of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), performed a Preliminary Review (PR) and a Visual Site Inspection (VSI) of the 307 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. During a field RFA visit in April 1991, JEG identified SWMU 223 (also known as TAA 770) as an inactive temporary hazardous waste storage area, to the northeast of Building 386.

Per JEG's VSI Evaluation form, SWMU 223 (TAA 770) is described as a 12-ft by 12-ft concrete storage surface surrounded by a concrete berm with a chain-link fence and aluminum roof. At the time of the visit, the Hazardous Waste Storage Area (HWSA) appeared as if it was being cleaned. All of the drums had been removed and placed on wood pallets outside the southwest corner of SWMU 223 (TAA 770). No significant stains or cracks were observed. Because the TAA was used as a HWSA in the past, SWMU 223 (TAA 770) was recommended for a sampling visit (JEG, 1993).

During a sampling visit in 1992, JEG advanced one soil boring (223A1) on the northwest side of SWMU 223 (TAA 770). Soil boring 223A1 was drilled using a hollow-stem auger rig to a depth of 62 feet below ground surface (below ground surface). A total of six soil samples were collected at 10-foot intervals to 60 feet below ground surface. Analysis of all six-soil samples indicated maximum concentrations of compounds detected above laboratory reporting limits as the following:

- bis(2-Ethylhexyl)phthalate at 850 µg/kg at 30 feet below ground surface (was not detected in 30 foot duplicate sample)
- Copper at 197 mg/kg at 20 feet below ground surface
- Lead at 68.9 mg/kg at 20 feet below ground surface.

Because the concentrations of detected compounds were below established cleanup goals for the site and/or below the contract required detection limit (CRDL) from the RFA, JEG recommended *"No Further Action (NFA)"* for SWMU 223 (TAA 770).

During the RFA, JEG also collected soil samples from 4 hand auger locations at SWMU 110, the Vehicle Washrack located west of former TAA 770. No VOCs or TPHs were detected above laboratory reporting limits from the soil boring (110H4) located approximately 10 feet southwest of former TAA 770 (JEG, 1993).

After review of the JEG RFA report, DTSC requested additional information about TAAs to determine the closure requirements. BNI performed visual assessments at 73 TAAs to provide additional information for a closure strategy for TAAs.

During the BNI VSI on December 1994, former TAA 770 was observed to be a 40-foot by 10-foot, concrete pad with berm. Three drums were observed on a rack on the concrete pad. Very minor spots on the concrete pad were observed during the site visit (BNI, 1996). BNI did

not recommend sampling for the TAA. Copies of the former TAA 770 VSI evaluation forms from the BNI Final RFA Addendum report and the JEG RFA report are included in Appendix B.

Storm Water Pollution Prevention Plan (SWPPP)

The Storm Water Pollution Prevention Plan (SWPPP) includes visual inspections of areas where hazardous materials and hazardous wastes were stored. The SWPPP indicated that Building 770 (TAA 770) was a building of concern to the quality of storm water discharges. Best Management Practices recommended in the SWPPP included Personnel education, and a SWPPP plan specific to former TAA 770. Building 770 was described as a Hazardous Waste Collection Facility. The SWPPP also includes a spill history table in Section 5, and this table does not identify historic spills at Building 770 (IEM, 1997). Excerpts from the SWPPP are included in Appendix C.

Hazardous Materials/Hazardous Waste Engineering Management Plan (HM/HWMP)

The Station's environmental compliance program management plans were acquired and reviewed in order to identify any locations at or near former TAA 770 that may have been designated for storage of hazardous wastes. The Hazardous Material/Hazardous Waste Management Plan (HM/HWMP)(SAIC, 1994) does not identify hazardous waste management activities at Building 770 or its vicinity. Extracts from the plan are presented in Appendix D.

Environmental Baseline Survey (EBS)

The EBS describes former TAA 770 as SAA 770. The EBS indicates that former TAA 770 was inactive at the time the EBS was prepared in 1995. The EBS identifies an environmental condition of area type 3 as: *areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action.* Extract from the EBS are presented in Appendix E.

Underground Storage Tanks (USTs)

UST 386A and UST 386C were located further southeast of Building 386, and south of former TAA 770. The Orange County Health Care Agency closed UST 386A and UST 386C in February 1998 and in January 2000, respectively (SWDIV, 2002).

Installation Restoration Program

Installation Restoration Program (IRP) Site 24 – the VOC Source Area – includes the vicinity of former TAA 770. Phase I and Phase II remedial investigations have been completed at IRP Site 24, and the remediation of the IRP Site 24 vadose zone has been substantially completed as of 2002 (Earth Tech, 2002). A copy of soil gas sample results from 24_SG87, located northeast of

former TAA 770, are presented in Appendix F. No analytes were detected above laboratory reporting limits in the soil gas sample collected from 24_SG87, therefore it is not listed in the table listing concentrations detected in soil gas (SWDIV, 1994).

MCAS, El Toro Plant Account Records

According to the MCAS, El Toro Plant Account Records, Building 770 was constructed in 1983, and is twelve feet by seventeen feet in size. A copy of the records for Building 770 are provided in Appendix G.

2.2 Site Inspection

Former TAA 770 was inspected by OHM/IT in 1999. Former TAA 770 was observed to be an inactive TAA, consisting of a concrete pad with concrete berm. The surface of the concrete pad was clean and intact without any major cracks. No evidence of a release was observed around the former TAA 770. A photo log of former TAA 770 is included in Appendix H. A copy of the Site Assessment Log is included as Appendix I.

During a site visit at various TAA sites on August 27, 2002, representatives from SWDIV, Station, IT and the DTSC visited former TAA 770 site and during the site visit no evidence of a release was observed on or adjacent to the concrete pad. Also, it was mutually agreed that one hand auger soil boring should be advanced in close proximity to the three foot deep TAA sump to collect two soil samples at a depth below the TAA sump: 42 inches and 60 inches below ground surface.

3.0 Field Activities

The following subsections describe the activities that were performed by IT at former TAA 770. Field activities were conducted in accordance with the approved *Final Supplemental Work Plan* (OHM, 1997a) and approved *Revised Addendum to the Draft Supplemental Work Plan, Marine Corps Air Station El Toro, California* (IT, 2002). Field activities conducted at former TAA 770 included confirmation soil sampling and land surveying activities.

3.1 Confirmation Soil Sampling

As agreed during the August 27, 2002 site visit, two confirmation soil samples were collected on November 12, 2002 from one hand-auger location, approximately 6 inches from the sump on the northwest side, at former TAA 770. A Site Plan with the hand auger location is provided on Figure 3-1

Soil samples were collected in standard stainless steel sleeves at two different depths: 42 and 60 inches below ground surface. Details on the analytical methods, data quality assessment, and laboratory analytical results and data validation are discussed in Section 4.

After completing the confirmation soil sampling at former TAA 770, the hand-auger soil boring location was surveyed by Cal Vada Surveying Inc., a California-licensed land surveyor. The surveyed locations was measured to ±0.01 foot horizontally and tied to the California State Plane Coordinate Systems, North American Datum 1983. The surveyed elevations were measured to ±0.01 foot vertically and tied to mean sea level datum. The land surveying data for former TAA 770 are presented as Appendix J.

4.0 Sampling Analytical Results and Data Quality Assessment

The objective of confirmation soil sampling and selected analytical methods were to provide analytical data to characterize the soil condition in the vicinity of former TAA 770. The sampling methodology, analytical methods, analytical results, and interpretation of confirmation soil sampling have been performed in accordance with the analytical strategy presented in the DTSC-approved *Final Supplemental Work Plan (OHM, 1997a) and are described in the following text and approved Revised Addendum to the Draft Supplemental Work Plan, Marine Corps Air Station El Toro, California* (IT, 2002) and are described in the following text.

The laboratory analyses were performed according to test methods specified in EPA Solid Waste-846 (Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, June 1997) and California Leaking Underground Fuel Tank (CA LUFT) Manual (State Water Resources Control Board, 1989). The test methods used for analyses were selected on the basis of their ability to detect the chemicals of potential concern with suitable detection limits to verify that no significant release of chemicals in surrounding soil at former TAA 770 and to provide data for assessment of risk to human health and the environment. A list of all the analytical methods that were performed for former TAA 770 is provided in Section 4.2.

All samples were analyzed by EMAX Laboratories, Inc., which is a state of California certified and Naval Facilities Engineering Services Center-approved analytical laboratory.

4.1 Field Sampling Summary

4.1.1 Confirmation Soil Sampling

The sampling strategy for former TAA 770 focused on two aspects of the site: possible releases on the surface of the TAA or possible releases into the soil surrounding the TAA. Soil samples were collected and analyzed for the constituents contained in the wastes that may have been stored at former TAA 770.

The sample location was selected based on a site visit discussion on August 27, 2002. A total of two confirmation soil samples (sample numbers 818655-B3113 and 818655-B3114) were collected at former TAA 770 from 1 hand auger boring (TAA770H1).

A hand auger was used to bore into the soil. Soil samples were collected at 42 and 60 inches below ground surface using a hammer-driven split core sampler that contained a stainless steel sleeve. Following the collection of the soil samples, the excess soil was placed back in the open

boreholes (no airborne volatile organic compounds (VOCs) were identified by the photoionization detector). The surface was then finished to match the existing ground surface.

4.1.2 Quality Control

Field quality assurance/quality control (QA/QC) samples were collected at the TAA site as follows:

- Equipment rinsate samples were collected at a frequency of 1 per day.
- Trip blank samples were collected at a frequency of 1 per sample cooler for coolers containing samples for volatile analysis.
- One equipment rinsate sample (sample number 818655-B3111) and one trip blank (sample number 818655-B3105) were collected on November 12, 2002.

EMAX Laboratories, Inc. performed the following laboratory QA/QC sample analysis:

- Laboratory control sample/sample duplicate analysis was performed at a frequency of 1 sample per batch.
- Laboratory matrix spike/spike duplicate sample analysis was performed at a frequency of 1 per 20 samples or per batch.
- Laboratory method blank analysis was performed at a frequency of 1 per batch.

4.1.3 Equipment Decontamination

Equipment used in the exclusion zone was decontaminated prior to removal from the site, as identified in the site specific Health and Safety Plan (HSP). The equipment used for collecting soil samples was decontaminated between each use. The hand auger assembly was washed in a typical three step procedure consisting of: decontaminating the equipment first using a brush in a bucket of Alconox™ detergent and water; then a second bucket of water for immediate rinse; and again in a third bucket of analyte-free water for the final rinse.

4.2 Analytical Methods

Analytical methods were selected to encompass all the chemicals of potential concern at former TAA 770. The following methods were performed to characterize samples collected from former TAA 770:

- Volatile organic compounds (VOCs) by EPA Method 5035/8260B
- Semivolatile organic compounds (SVOCs) by EPA Method 8270C

- Total petroleum hydrocarbons (TPH) as gasoline by EPA Method 5035 and CA LUFT 8015 Modified
- TPH as diesel by CA LUFT 8015 Modified (extraction)
- Pesticides EPA Method 8081A
- Metals by EPA Method 6010B/7000.

Additionally, the Selected Ion Monitoring (SIM) technique was used on the following seven semivolatile organic compounds in order to achieve detection limits lower than the Region 9 PRGs (EPA, 2002):

- Benzo(a)pyrene
- bis(2-Chloroethyl)ether
- Dibenzo(a,h)anthracene
- Hexachlorobenzene
- Indeno(1,2,3-cd)pyrene
- n-Nitrosodi-n-propylamine
- Pentachlorophenol.

SIM is a recognized gas chromatograph/mass spectrometer technique used to lower detection limits for organic compounds. As specified in EPA Method 8270B, semivolatile compounds are introduced into the gas chromatograph by direct injection. The components of the sample are separated by the gas chromatograph and detected by the mass spectrometer, which provides both qualitative and quantitative information.

For each component or compound separated by the gas chromatograph, the mass spectrometer produces a characteristic mass spectrum. The mass spectrometer ionizes the sample molecules and separates any resulting fragments by mass-to-charge (m/z) ratios. The fragmentation pattern is used to determine the structure of the original molecule. The intensity of one or more of the fragments is used to quantitate the identified compound.

Upon identification of a target compound by comparison of the acquired mass spectrum with the mass spectrum of a standard, EPA Method 8270B specifies a fragment or characteristic ion to use for quantitation of the analyte. Method 8270B requires that the mass spectrometer scan from 35 to 500 amu (m/z) every 1-second or less. In SIM, the entire mass range is not scanned. Typically, only a few m/z are monitored. As a result, the mass spectrometer is able to collect more data from a specific m/z, resulting in an improved signal-to-noise ratio, which in turn improves detection limits. There is, however, a practical limitation to the number of m/z that can

be monitored at one time so that the total scan time does not exceed 1 second. As a result, the number of compounds that can be measured in a single SIM analysis is limited.

4.3 Laboratory Analytical Results

This section provides summary and assessment of the analytical results from the sampling performed at former TAA 770. The analytical results for the confirmation soil samples at former TAA 770 with comparison to the standard background concentrations and PRGs are presented in Table 4-1. QC sample analytical data for former TAA 770 are presented in Table 4-2. The hard copies of the analytical results with QA/QC data obtained from EMAX Analytical Laboratory are included in Appendix K.

4.3.1 Soil Sample Analytical Results

- **Total Petroleum Hydrocarbons** – TPH as gasoline, and diesel were not detected above the laboratory reporting limits in any confirmation soil samples collected from former TAA 770.
- **Volatile Organic Compounds** – VOCs were not detected in any confirmation soil samples above laboratory reporting limits.
- **Pesticides** – Pesticide compounds were not detected above the laboratory reporting limits in any of the confirmation soil samples collected from former TAA 770.
- **Semivolatile Organic Compounds** – No SVOCs were detected above the laboratory reporting limits in the confirmation soil samples collected from former TAA 770.

To ensure that the laboratory reporting limits were lower than the residential PRGs, the following seven SVOCs were analyzed using the SIM technique:

- Benzo(a)pyrene
- bis(2-Chloroethyl)ether
- Dibenzo(a,h)anthracene
- Hexachlorobenzene
- Indeno(1,2,3-cd)pyrene
- n-Nitrosodi-n-propylamine
- Pentachlorophenol.

The IT criterion for acceptance of this SIM data was that the laboratory method detection limit (MDL) must be equal to or less than half of the PRG.

Metals – The following metals were reported above the reporting limit in the confirmation soil samples as presented in Table 4-1: aluminum, barium, beryllium, calcium, chromium, cobalt,

copper, magnesium, manganese, potassium, sodium, vanadium, and zinc. The reporting limits and positive results for several analytes exceeded the established background values. These results are flagged with a B in table 4-1.

4.3.2 QC Sample Analytical Results

One trip blank was collected for former TAA 770 (818655-B3105). The trip blank was analyzed for SVOCs, and no analytes were reported above the reporting limits.

One equipment rinsate sample (818655-B3111) was collected and analyzed for TPH, Pesticides, SVOCs, and Metals. None of the analytes were detected above the laboratory reporting limits for the equipment rinsate sample with the exception of sodium detected at a concentration of 4710 µg/L.

4.4 Data Quality Assessment

Former TAA 770 analytical data were reviewed and validated with respect to the QA/QC parameters specified in the work plan. The following were evaluated:

- EPA recommended holding times
- Cooler condition upon receipt by the laboratory
- Initial and continuing calibration standards
- Method blanks
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries
- Laboratory control samples (LCS) recoveries.

All samples were prepared and analyzed within EPA recommended holding times. The sample cooler was received intact and within the required temperature range of 4±2 degrees Celsius. Any sample results associated with QC parameters that were out of compliance with the Work Plan have been flagged and annotated in Tables 4-1 and 4-2. All data are useable as qualified.

4.5 Data Validation

Analytical data were reviewed and validated in accordance with the EPA *National Functional Guidelines for Organic and Inorganic Data Review* (EPA, 1994). Laboratory Data Consultants (LDC), an independent data validation company, performed Level III and Level IV validation on the data. A hard copy of the LDC report is provided in Appendix L.

Laboratory analytical data were subjected to a four-stage process of evaluation: completeness checks; verification of hard copy and electronic results; validation of the data; and final evaluation based on the professional judgment of the project chemist.

The data were qualified by LDC to indicate whether the data has been affected by any deviation from the analytical protocols established in the Final Supplemental Work Plan (OHM, 1997a). Unusable data was qualified with an "R" (rejected). All other results were either unqualified (no flag), nondetected ("U" flag), nondetected with uncertainty in the report detection limits ("UJ" flag), or detected with uncertainty in the reported concentration ("J" flag).

Summary – All data associated with former TAA 770 were usable and acceptable as qualified. Overall, precision and accuracy were met. The analytical results and associated qualifiers are summarized in Tables 4-1 and 4-2.

5.0 Risk Characterization and Hazard Index Calculation

This section briefly describes the approach used to estimate risk and summarizes the baseline screening level risk assessment results for former TAA 770. A screening level risk assessment for human health was conducted following the guidance provided in the EPA Region 9 PRGs Memorandum dated November 1, 2002 (EPA, 2002). The analytical results of IT confirmation soil boring (TAA770H1) and the RCRA Facility Assessment (RFA) angle boring (223A1) conducted at former TAA 770 were used to calculate risks.

5.1 Physical Characteristics

Based on the review of the RFA boring log (223A1), the subsurface lithology at former TAA 770 consists of primarily of silts, sands, and clays. These units appear typical of the channel and overbank deposits in comprising the Holocene deposits on the Tustin Plain. The groundwater is present at a depth of approximately 85 feet below ground surface (CDM, 2002).

5.2 Exposure Assessment

Former TAA 770 was used as a temporary hazardous waste storage area for storage of hazardous waste. Areas to the north and east of former TAA 770 are unpaved, the remaining surround areas are paved.

The Station officially closed on July 2, 1999 in accordance with the Base Closure and Realignment Act of 1993 (BRAC III). Former TAA 770 is located within a parcel designated for future use as Open Space; Exposition Center area according to the Great Park Land Use Plan that was issued by the City of Irvine in June 2002.

For screening purposes, the ingestion, dermal contact, and inhalation exposure pathways are assumed to be complete for former TAA 770, as if the area were unpaved. Should the screening fail, further evaluation of the exposure pathways would be required. A site conceptual model for former TAA 770 is shown on Figure 5-1.

Under an industrial and/or residential land use scenario at former TAA 770, workers or humans could be potentially exposed to surrounding soil by ingestion, dermal contact, or inhalation of dust or volatilized contaminants. These are the same exposure pathways evaluated by the EPA PRGs (EPA, 2002). Figure 5-2 presents the potential migration pathways at TAA 636A.

For the purposes of this risk screening evaluation, the residential scenario is used as the worst-case scenario. If the risk were acceptable for the residential land use scenario, the risk would also be acceptable for both the current and future land use scenarios.

5.3 Toxicity Assessment

The PRGs incorporate the toxicity values from the Integrated Risk Information System, the Health Effects Assessment Summary Tables, and the National Center for Environmental Assessment. Cancer PRGs incorporate cancer toxicity values and the non-cancer PRGs Incorporate the toxicity values for chronic health affects other than cancer (EPA, 2002). Both cancer risk and non-cancer hazards were evaluated in this screening risk assessment.

5.4 Risk Characterization

The PRGs are concentrations calculated using standard exposure factors that are protective of humans, including sensitive groups, over a lifetime. These PRG concentrations pose acceptable cancer risk or non-cancer hazard under the exposure scenarios evaluated. Generally, a cancer risk of 10^{-6} and a non-cancer hazard index (HI) of 1.0 or less are considered acceptable levels of exposure. Therefore, the PRG concentrations are calculated to the lower end of the acceptable cancer risk range of 10^{-6} and to a non-cancer hazard index of 1.0.

Cancer risk is calculated by dividing the site concentration by the PRG for each chemical. The ratios are added and the sum is then multiplied by 10^{-6}. The hazard index is calculated by dividing the site concentration by the PRG for each chemical and adding the resultant ratios.

Although maximum concentrations for chemicals detected at the site are used for this risk screening, comparisons are not made to maximum detected background concentrations. To maintain a conservative estimate of background risk, the 95th quintile background concentrations calculated for the Station (BNI, 1996b) are used to calculate background contributions to cancer risk.

At former TAA 770, the only detected carcinogen in soil was chromium, which was detected below background levels for the base. The summed cancer risk for soil under the potential future residential scenario after subtracting background is less than 10^{-6} (Table 5-1). The net cancer risk for the current industrial scenario after subtracting background is also less than 10^{-6} (Table 5-2).

Compounds that were detected at former TAA 770 that contribute to the non-cancer HI include aluminum, barium, beryllium, cobalt, copper, lead, manganese, vanadium and zinc. The

summed non-cancer hazard index for soil under the potential future residential scenario after subtracting background is less than 1.0 (Table 5-1). This is a conservative HI because it includes background contributions, assumes that maximum detected concentrations are representative of the entire site, and is summed across all toxicological endpoints.

Summary

The site-related incremental cancer risk and non-cancer hazard index at former TAA 770 is acceptable for the following reasons:

- The net carcinogenic risk is less than 10^{-6} for the residential scenario and the industrial scenario.
- The non-cancer hazard index for detected chemicals is less than 1.0 for the residential scenario and the industrial scenario.

The non-cancer hazard index for the potential future residential land use is less than 1.0 for individual target organs using average concentrations for the potential contributors to the HI.

6.0 Conclusions and Recommendations

The following conclusions are based upon existing background information, previous field investigations, and IT's confirmation soil sampling analytical results and screening level risk assessment calculations:

- Former TAA 770 was designated as SWMU 223 during the RFA. Former TAA 770 includes two units: an enclosed concrete slab with curb, approximately 12 feet wide by 17 feet long that was constructed in 1983; and a concrete slab with berm, sump, and access ramp, approximate dimensions 20 feet by 25 feet, that was constructed more recently.
- Former TAA 770 is located within the investigation boundary of IRP Site 24, the Volatile Organic Compound (VOC) Source Area.
- During a field RFA visit in April 1991, JEG identified SWMU 223 (also known as TAA 770) as a temporary hazardous waste storage area, to the northeast of Building 386. Because the TAA was used as a HWSA in the past, SWMU 223 (TAA 770) was recommended for a sampling visit (JEG, 1993).
- JEG advanced one angle soil boring (223A1) on the northwest side of SWMU 223 (TAA 770). Soil boring 223A1 was drilled using a hollow-stem auger rig to a depth of 62 feet below ground surface (below ground surface). Because the concentrations of detected compounds were below established cleanup goals for the site and/or below the contract required detection limit (CRDL) from the RFA, JEG recommended *"No Further Action (NFA)"* for SWMU 223 (TAA 770).
- In 1994, as part of the RFA, Bechtel National Inc. (BNI) visited former TAA 770, and observed a 400 square foot, concrete pad with roof at Building 770. Based on observations during their site visit, BNI did not recommend sampling at the TAA.
- Former TAA 770 was inspected by OHM/IT in 1999. No spills, stains, or major cracks were observed during the site visit. The concrete pad appeared to be in good condition.
- Representatives from SWDIV, Station, IT, and the DTSC visited former TAA 770 site on August 27, 2002 and discussed sampling strategy plans prior to field sampling activities.
- A total of two soil samples were collected from one hand-auger boring location (TAA770H1), approximately 6 inches from the sump corner on the northwest side as agreed during a site visit in August 2002. TPH as gasoline, and diesel, VOCs, pesticides, and SVOCs were not detected above the laboratory reporting limits in any confirmation soil samples collected from former TAA 770. Based on the review of analytical data, there was no indication of a significant release.

- At former TAA 770, the only detected carcinogen in soil was chromium, (maximum concentration was 14.9 mg/kg) which was detected below established background levels for Station (26.9 mg/kg). The detected carcinogens were evaluated to determine the risk associated with their presence. Compounds that were detected at former TAA 770 that contribute to the non-cancer HI include aluminum, barium, beryllium, cobalt, copper, lead, manganese, vanadium and zinc.
- The residential and industrial risk calculations for former TAA 770 resulted in a site-related net cancer risk less background risk of less than 10^{-6}. The residential and industrial non-cancer HI's less background risk was less than 1.0.

The objectives of this project are considered to be achieved, since former TAA 770 is no longer used for storage of hazardous waste. Confirmation soil sampling was conducted at former TAA 770 to verify that concentrations of contaminants were at or below acceptable background or health-risk based concentrations.

Based upon the absence of evidence of a significant release at former TAA 770, the screening risk calculations, it is recommended that former TAA 770 (SWMU 223) should be identified as "closed" in the next Base Realignment Closure Business Plan update.

7.0 References

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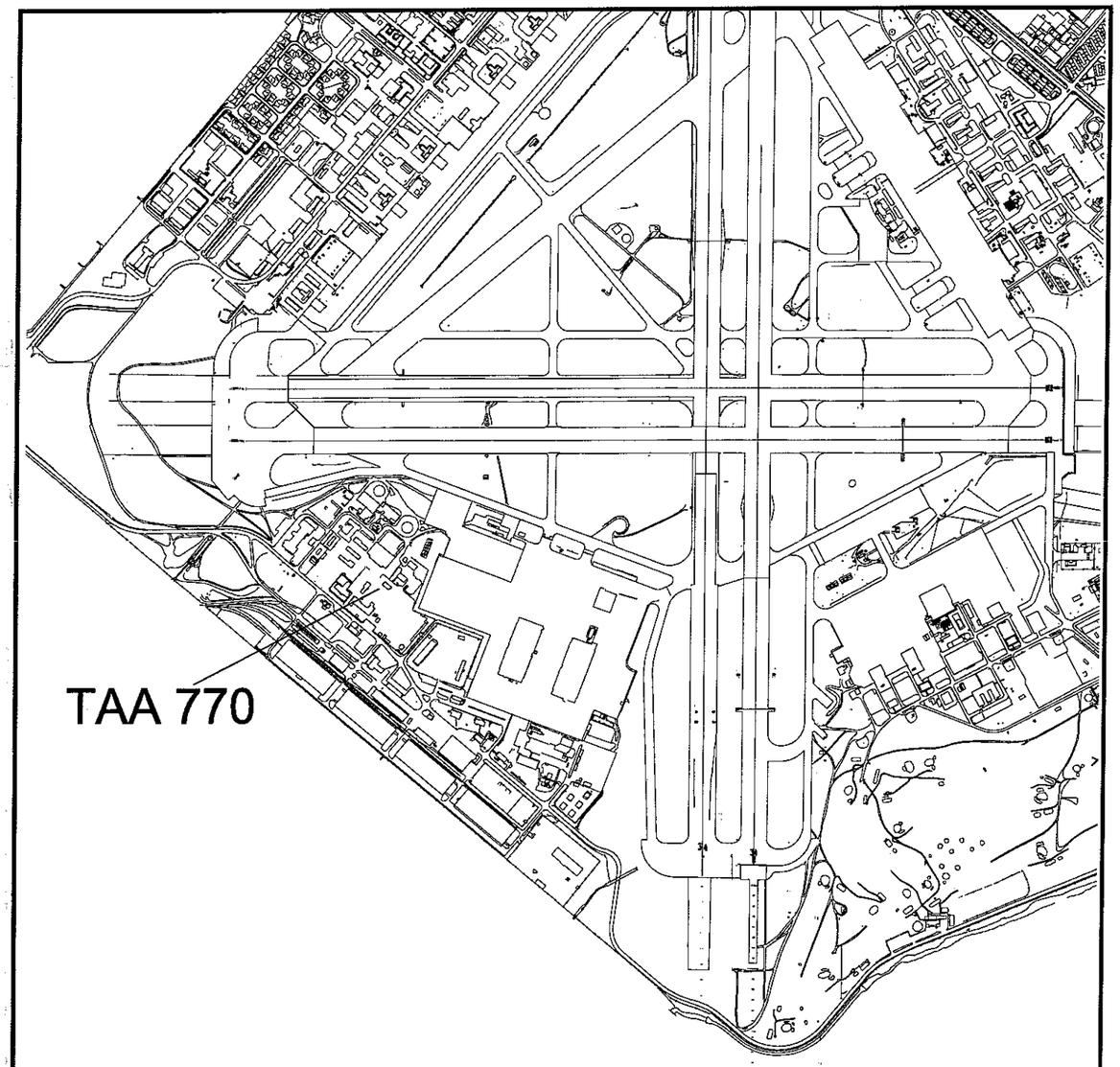
FIGURES



LEGEND

BUILDING

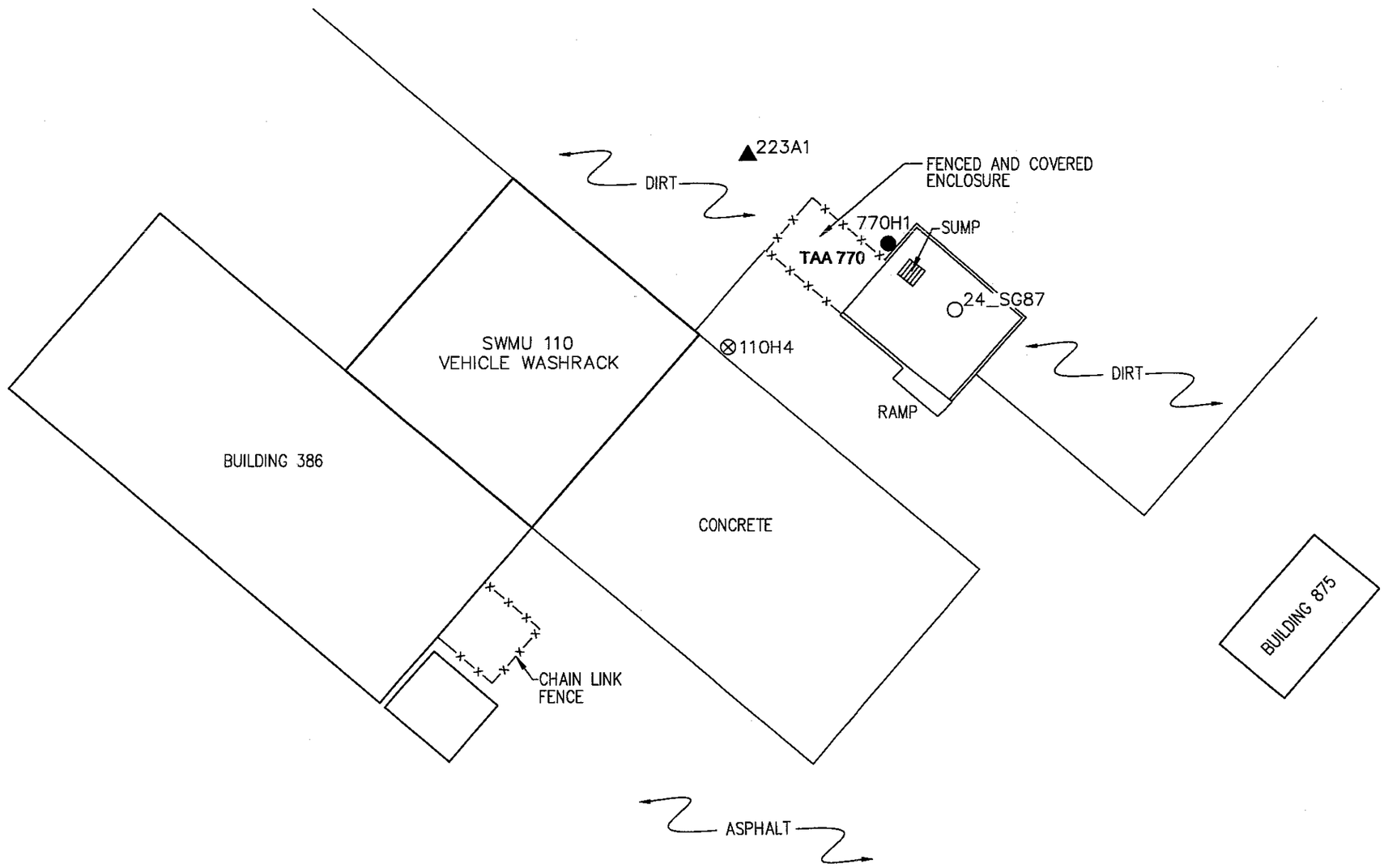
N

400 0 400800 Feet

IT CORPORATION
A Member of The IT Group

EFA West
Southwest Division
Naval Facilities Engineering Command
Contract NO. N62474-98-D2076

Figure 1-1
Vicinity Map
TAA 770
Marine Corps Air Station
El Toro, California



LEGEND

- ⊗ RFA 5' DEEP BORING
- ▲ RFA 60' LONG, ANGLE BORING
- ○ IRP SITE 24 SOIL GAS LOCATION
- ● SOIL SAMPLE LOCATION (IT, 2002)

N

GRAPHIC SCALE

0 10 20 40

(IN FEET)

EFA WEST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACT NO. N62474-98-D2076

FIGURE 3-1

SITE PLAN
TAA 770

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

DRAWING NUMBER 818655335
APPROVED BY
CHECKED BY
DRAWN BY MY 12-27-02

818655335.dwg

12/27/2002 3:40 PM

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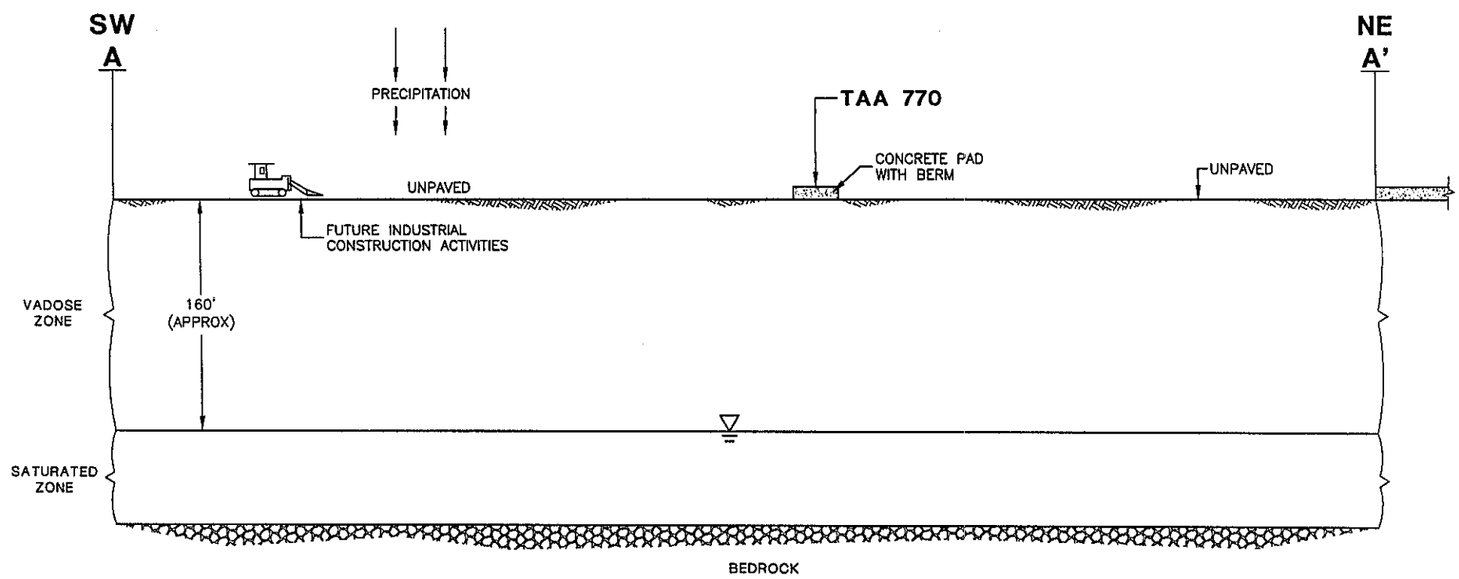
RP	12/16/02						



EXPLANATION:

RECEPTORS:

WORKERS

PATHWAYS:

GROUNDWATER

PRECIPITATION

REFERENCE:
103M2088.DWG

IT CORPORATION

EFA WEST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CTO 24

FIGURE 5-1

CONCEPTUAL SITE MODEL
TAA770

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

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DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER	818655-A41
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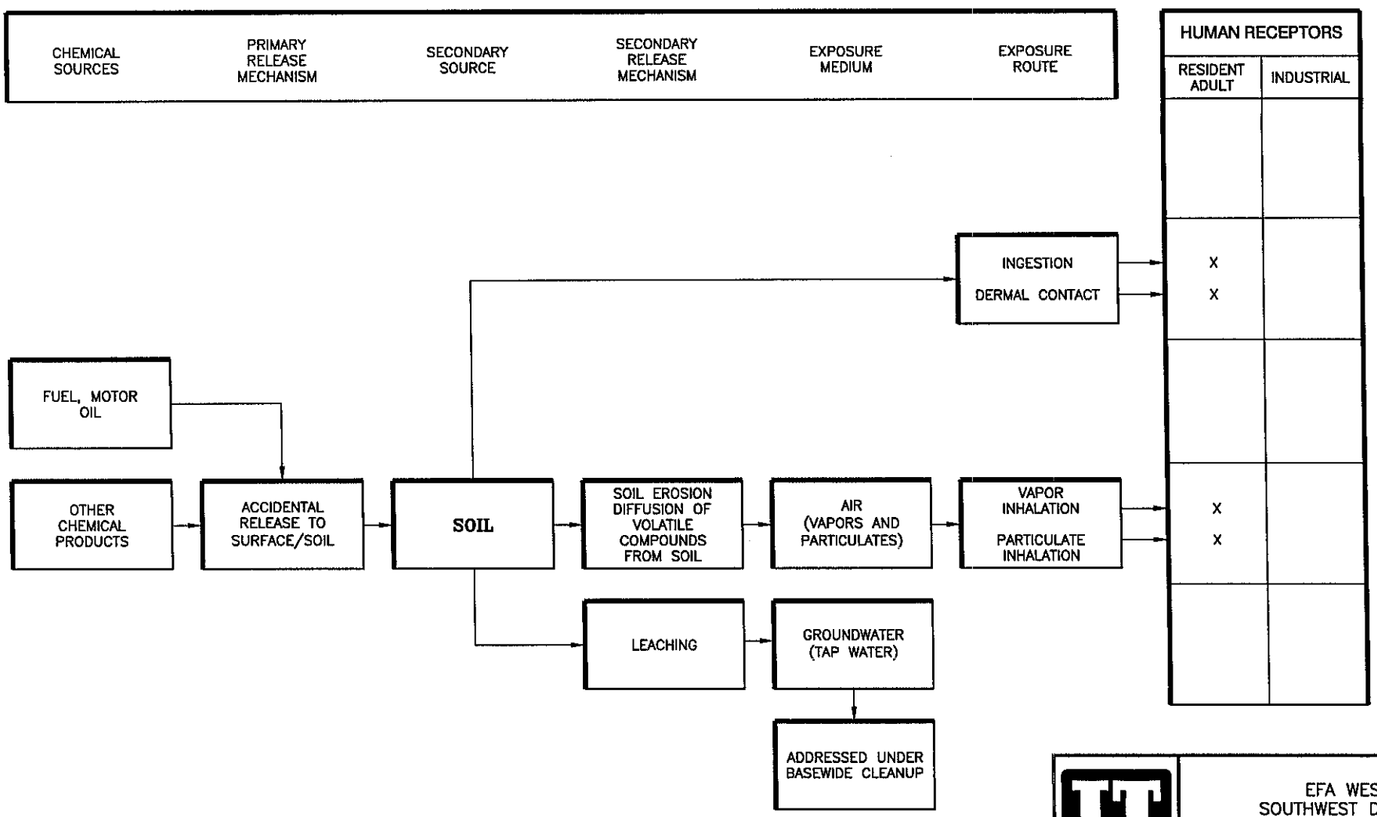


EXPLANATION:

X COMPLETE PATHWAY

REFERENCE:
103C2089.DXF

IT CORPORATION

EFA WEST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CTO 24

FIGURE 5-2
POTENTIAL MIGRATION PATHWAYS, EXPOSURE ROUTES AND RECEPTORS
TAA 770
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

TABLES

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — TAA770

Sample Identification					818655-B3113	818655-B3114
Location Code					TAA770	TAA770
Date Sampled					11/12/02	11/12/02
Depth (feet below ground surface)					3.5	5
	Unit	Background	PRG Residential	PRG Industrial		
TPH						
Diesel	mg/kg	NE	NE	NE	12 U	11 U
Gasoline	mg/kg	NE	NE	NE	9.6 U	9.7 U
PESTICIDES						
4,4'-DDD	mg/kg	36.1	2.4	9.9	.0047 U	.0045 U
4,4'-DDE	mg/kg	145	1.7	7.0	.0047 U	.0045 U
4,4'-DDT	mg/kg	236	1.7	7.0	.0047 U	.0045 U
Aldrin	mg/kg	NE	0.029	0.10	.0023 U	.0023 U
Alpha-BHC	mg/kg	NE	0.090	0.36	.0023 U	.0023 U
Alpha-Chlordane	mg/kg	2.24	NE	NE	.0023 U	.0023 U
Beta-BHC	mg/kg	NE	0.32	1.3	.0023 U	.0023 U
Delta-BHC	mg/kg	NE	NE	NE	.0023 U	.0023 U
Dieldrin	mg/kg	19.9	0.030	0.11	.0047 U	.0045 U
Endosulfan I	mg/kg	0.179	370	3700	.0047 U	.0045 U
Endosulfan II	mg/kg	2.22	NE	NE	.0047 U	.0045 U
Endosulfan Sulfate	mg/kg	3.1	NE	NE	.0047 U	.0045 U
Endrin	mg/kg	2.22	18	185	.0035 U	.0034 U
Endrin Aldehyde	mg/kg	2.22	NE	NE	.0047 U	.0045 U
Endrin Ketone	mg/kg	NE	NE	NE	.0035 U	.0034 U
Gamma-BHC	mg/kg	NE	0.44	1.74	.0023 U	.0023 U
Gamma-Chlordane	mg/kg	2.7	NE	NE	.0023 U	.0023 U
Heptachlor	mg/kg	NE	0.11	0.38	.0023 U	.0023 U
Heptachlor Epoxide	mg/kg	NE	0.053	0.19	.0023 U	.0023 U
Methoxychlor	mg/kg	NE	300	3100	.023 U	.023 U
Toxaphene	mg/kg	NE	0.44	1.6	.12 U	.11 U
PCBS						
PCB-1016	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1221	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1232	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1242	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1248	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1254	mg/kg	NE	NE	NE	.058 U	.056 U
PCB-1260	mg/kg	NE	NE	NE	.058 U	.056 U

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — TAA770

Sample Identification					818655-B3113	818655-B3114
Location Code					TAA770	TAA770
Date Sampled					11/12/02	11/12/02
Depth (feet below ground surface)					3.5	5
	Unit	Background	PRG Residential	PRG Industrial		
VOLATILES						
1,1,1-Trichloroethane	ug/kg	NE	1200000	1200000	5 U	4.8 U
1,1,2,2-Tetrachloroethane	ug/kg	NE	410	930	5 U	4.8 U
1,1,2-Trichloroethane	ug/kg	NE	730	1600	5 U	4.8 U
1,1-Dichloroethane	ug/kg	NE	510000<2800>	1700000	5 U	4.8 U
1,1-Dichloroethene	ug/kg	NE	120000	410000	5 U	4.8 U
1,2-Dichloroethane	ug/kg	NE	280	600	5 U	4.8 U
1,2-Dichloropropane	ug/kg	NE	340	740	5 U	4.8 U
2-Butanone	ug/kg	NE	NE	NE	50 U	48 U
2-Chloroethyl Vinyl Ether	ug/kg	NE	NE	NE	50 U	48 U
2-Hexanone	ug/kg	NE	NE	NE	50 U	48 U
4-Methyl-2-Pentanone	ug/kg	NE	NE	NE	50 U	48 U
Acetone	ug/kg	NE	1600000	6000000	50 U	48 U
Benzene	ug/kg	NE	600	1300	5 U	4.8 U
Bromodichloromethane	ug/kg	NE	820	1800	5 U	4.8 U
Bromoform	ug/kg	NE	62000	220000	5 U	4.8 U
Bromomethane	ug/kg	NE	3900	13000	5 U	4.8 U
Carbon Disulfide	ug/kg	NE	360000	720000	5 U	4.8 U
Carbon Tetrachloride	ug/kg	NE	250	550	5 U	4.8 U
Chlorobenzene	ug/kg	NE	150000	530000	5 U	4.8 U
Chloroethane	ug/kg	NE	3000	6500	5 U	4.8 U
Chloroform	ug/kg	NE	3600<940>	12000	5 U	4.8 U
Chloromethane	ug/kg	NE	1200	2600	5 U	4.8 U
Cis-1,2-Dichloroethene	ug/kg	NE	43000	150000	5 U	4.8 U
Cis-1,3-Dichloropropene	ug/kg	NE	780	1800	5 U	4.8 U
Dibromochloromethane	ug/kg	NE	1100	2600	5 U	4.8 U
Ethylbenzene	ug/kg	NE	8900	19000	5 U	4.8 U
Methyl Tert-Butyl Ether	ug/kg	NE	62000<17000>	160000	9.9 U	9.6 U
Methylene Chloride	ug/kg	NE	9100	21000	5 U	4.8 U
Styrene	ug/kg	NE	1700000	1700000	5 U	4.8 U
Tetrachloroethene	ug/kg	NE	1500	3400	5 U	4.8 U
Toluene	ug/kg	NE	520000	520000	5 U	4.8 U
Trans-1,2-Dichloroethene	ug/kg	NE	69000	230000	5 U	4.8 U

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — TAA770

Sample Identification					818655-B3113	818655-B3114
Location Code					TAA770	TAA770
Date Sampled					11/12/02	11/12/02
Depth (feet below ground surface)					3.5	5
	Unit	Background	PRG Residential	PRG Industrial		
Trans-1,3-Dichloropropene	ug/kg	NE	780	1800	5 U	4.8 U
Trichloroethene	ug/kg	NE	53	110	5 U	4.8 U
Vinyl Acetate	ug/kg	NE	420000	1400000	50 U	48 U
Vinyl Chloride	ug/kg	NE	79		5 U	4.8 U
Xylene, (Total)	ug/kg	NE	NE	NE	5 U	4.8 U
SEMI-VOLATILES						
1,2,4-Trichlorobenzene	ug/kg	NE	650000	3000000	380 U	370 U
1,2-Dichlorobenzene	ug/kg	NE	370000	370000	380 U	370 U
1,3-Dichlorobenzene	ug/kg	NE	16000	63000	380 U	370 U
1,4-Dichlorobenzene	ug/kg	NE	3400	7900	380 U	370 U
2,4,5-Trichlorophenol	ug/kg	NE	6100000	62000000	970 U	940 U
2,4,6-Trichlorophenol	ug/kg	NE	6100<6900>	62000	380 U	370 U
2,4-Dichlorophenol	ug/kg	NE	180000	1900000	380 U	370 U
2,4-Dimethylphenol	ug/kg	NE	1200000	12000000	380 U	370 U
2,4-Dinitrophenol	ug/kg	NE	120000	1200000	970 U	940 U
2,4-Dinitrotoluene	ug/kg	NE	120000	1200000	380 U	370 U
2,6-Dinitrotoluene	ug/kg	NE	61000	620000	380 U	370 U
2-Chloronaphthalene	ug/kg	NE	4900000	23000000	380 U	370 U
2-Chlorophenol	ug/kg	NE	63000	240000	380 U	370 U
2-Methylnaphthalene	ug/kg	NE	NE	NE	380 U	370 U
2-Methylphenol	ug/kg	NE	3000000	31000000	380 U	370 U
2-Nitroaniline	ug/kg	NE	1700	18000	970 U	940 U
2-Nitrophenol	ug/kg	NE	NE	NE	380 U	370 U
3,3'-Dichlorobenzidine	ug/kg	NE	1100	3800	380 U	370 U
3-Nitroaniline	ug/kg	NE	NE	NE	970 U	940 U
4,6-Dinitro-2-Methylphenol	ug/kg	NE	NE	NE	970 U	940 U
4-Bromophenyl Phenyl Ether	ug/kg	NE	NE	NE	380 U	370 U
4-Chloro-3-Methylphenol	ug/kg	NE	NE	NE	380 U	370 U
4-Chloroaniline	ug/kg	NE	240000	2500000	380 U	370 U
4-Chlorophenyl Phenyl Ether	ug/kg	NE	NE	NE	380 U	370 U
4-Methylphenol	ug/kg	NE	310000	3100000	380 U	370 U
4-Nitroaniline	ug/kg	NE	NE	NE	970 U	940 U
4-Nitrophenol	ug/kg	NE	NE	NE	970 U	940 U

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — TAA770

Sample Identification					818655-B3113	818655-B3114
Location Code					TAA770	TAA770
Date Sampled					11/12/02	11/12/02
Depth (feet below ground surface)					3.5	5
	Unit	Background	PRG Residential	PRG Industrial		
Acenaphthene	ug/kg	NE	3700000	29000000	380 U	370 U
Acenaphthylene	ug/kg	NE	NE	NE	380 U	370 U
Anthracene	ug/kg	NE	22000000	100000000	380 U	370 U
Benzo(a)Anthracene	ug/kg	NE	NE	NE	380 U	370 U
Benzo(a)Pyrene	ug/kg	NE	NE	NE	38 U	37 U
Benzo(b)Fluoranthene	ug/kg	NE	NE	NE	380 U	370 U
Benzo(ghi)Perylene	ug/kg	NE	NE	NE	380 U	370 U
Benzo(k)Fluoranthene	ug/kg	NE	NE	NE	380 U	370 U
Bis(2-Chloroethoxy)Methane	ug/kg	NE	NE	NE	380 U	370 U
Bis(2-Chloroethyl)Ether	ug/kg	NE	NE	NE	38 U	37 U
Bis(2-Chloroisopropyl)Ether	ug/kg	NE	NE	NE	380 U	370 U
Bis(2-Ethylhexyl)Phthalate	ug/kg	NE	NE	NE	380 U	370 U
Butyl Benzyl Phthalate	ug/kg	NE	12000000	100000000	380 U	370 U
Chrysene	ug/kg	31	62000<3900>	210000	380 U	370 U
Di-N-Butyl Phthalate	ug/kg	NE	NE	NE	380 U	370 U
Di-N-Octyl Phthalate	ug/kg	NE	NE	NE	380 U	370 U
Dibenzo(a,h)Anthracene	ug/kg	NE	NE	NE	38 U	37 U
Dibenzofuran	ug/kg	NE	290000	3100000	380 U	370 U
Diethyl Phthalate	ug/kg	NE	49000000	100000000	380 U	370 U
Dimethyl Phthalate	ug/kg	NE	100000000	100000000	380 U	370 U
Fluoranthene	ug/kg	45	2300000	22000000	380 U	370 U
Fluorene	ug/kg	NE	2700000	26000000	380 U	370 U
Hexachlorobenzene	ug/kg	NE	300	1100	87 U	85 U
Hexachlorobutadiene	ug/kg	NE	6200	22000	380 U	370 U
Hexachlorocyclopentadiene	ug/kg	NE	370000	3700000	380 U	370 U
Hexachloroethane	ug/kg	NE	35000	120000	380 U	370 U
Indeno(1,2,3-cd)Pyrene	ug/kg	NE	NE	NE	41 U	40 U
N-Nitroso-Di-N-Propylamine	ug/kg	NE	NE	NE	38 U	37 U
N-Nitrosodiphenylamine	ug/kg	NE	99000	350000	380 U	370 U
Naphthalene	ug/kg	NE	60000	190000	380 U	370 U
Nitrobenzene	ug/kg	NE	20000	100000	380 U	370 U
Pentachlorophenol	ug/kg	NE	3000	9000	230 U	230 U
Phenanthrene	ug/kg	18	NE	NE	380 U	370 U

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — TAA770

Sample Identification					818655-B3113	818655-B3114
Location Code					TAA770	TAA770
Date Sampled					11/12/02	11/12/02
Depth (feet below ground surface)					3.5	5
	Unit	Background	PRG Residential	PRG Industrial		
Phenol	ug/kg	NE	37000000	100000000	380 U	370 U
Pyrene	ug/kg	41	2300000	29000000	380 U	370 U
METALS						
Aluminum	mg/kg	14800	76000	100000	18400 B	14100
Antimony	mg/kg	3.06	31	410	3.67 J B	5.64 U
Arsenic	mg/kg	6.86	0.39	1.6	3.17 J XY	2.4 J XY
Barium	mg/kg	173	5400	67000	149	109
Beryllium	mg/kg	0.669	150	1900	.666	.501
Cadmium	mg/kg	2.35	37 <1.7>	450	.583 U	.564 U
Calcium	mg/kg	46000	NE	NE	3820	3220
Chromium	mg/kg	26.9	210	450	14.9	11.2
Cobalt	mg/kg	6.98	900	1900	7.5 B	6.32
Copper	mg/kg	10.5	3100	41000	9.24	7.11
Iron	mg/kg	18400	23000	100000	16900 J	13900 J
Lead	mg/kg	15.1	400 <150>	750	3.07 J	2.13 J
Magnesium	mg/kg	8370	NE	NE	7120	6080
Manganese	mg/kg	291	1800	19000	255	210
Mercury	mg/kg	0.22	NE	NE	.117 U	.113 U
Molybdenum	mg/kg	NE	390	5100	1.63 J	5.64 U
Nickel	mg/kg	15.3	1600	20000	8 J	5.73 J
Potassium	mg/kg	4890	NE	NE	4500	3380
Selenium	mg/kg	0.32	390	5100	1.02 J B	1.13 U
Silver	mg/kg	0.539	390	5100	2.33 U	2.26 U
Sodium	mg/kg	405	NE	NE	134	113
Thallium	mg/kg	0.42	5.2	67.0	1.17 U	1.13 U
Vanadium	mg/kg	71.8	550	7200	44.6	35.2
Zinc	mg/kg	77.9	23000	100000	58.8	42.7

Table 4-1
Summary of Analytical Results for Confirmation Soil Samples — SB Footer

Explanations :

B - result exceeds background
J - estimated value
M - modified
MCAS - Marine Corps Air Station
mg/kg - milligrams per kilogram
NE - not established
TPH - total petroleum hydrocarbons
U - not detected at or above the stated reporting limit
UJ - estimated reporting limit
X - result exceeds industrial PRGs
Y - result exceeds residential PRGs
µg/kg - micrograms per kilogram
<> - California preliminary remediation goal
* - Background level @ MCAS El Toro

Table 4-2
Summary of Analytical Results for QC Samples —TAA 770

Sample Identification Location Code Date Sampled	Unit	818655-B3111 Equipment Rinsate 11/12/02	818655-B3105 Trip Blank 11/12/02
TPH			
Diesel	mg/L	.094 U	NA
Gasoline	mg/L	.1 U	NA
PESTICIDES			
4,4'-DDD	ug/L	.19 U	NA
4,4'-DDE	ug/L	.19 U	NA
4,4'-DDT	ug/L	.19 U	NA
Aldrin	ug/L	.094 U	NA
Alpha-BHC	ug/L	.094 U	NA
Alpha-Chlordane	ug/L	.094 U	NA
Beta-BHC	ug/L	.094 U	NA
Delta-BHC	ug/L	.094 U	NA
Dieldrin	ug/L	.19 U	NA
Endosulfan I	ug/L	.094 U	NA
Endosulfan II	ug/L	.19 U	NA
Endosulfan Sulfate	ug/L	.19 U	NA
Endrin	ug/L	.094 U	NA
Endrin Aldehyde	ug/L	.19 U	NA
Endrin Ketone	ug/L	.094 U	NA
Gamma-BHC	ug/L	.094 U	NA
Gamma-Chlordane	ug/L	.094 U	NA
Heptachlor	ug/L	.094 U	NA
Heptachlor Epoxide	ug/L	.094 U	NA
Methoxychlor	ug/L	.94 U	NA
Toxaphene	ug/L	2.8 U	NA
PCBS			
PCB-1016	ug/L	.94 U	NA
PCB-1221	ug/L	.94 U	NA
PCB-1232	ug/L	.94 U	NA
PCB-1242	ug/L	.94 U	NA
PCB-1248	ug/L	.94 U	NA
PCB-1254	ug/L	.94 U	NA
PCB-1260	ug/L	.94 U	NA
VOLATILES			

Table 4-2
Summary of Analytical Results for QC Samples —TAA 770

Sample Identification Location Code Date Sampled	Unit	818655-B3111 Equipment Rinsate 11/12/02	818655-B3105 Trip Blank 11/12/02
1,1,1-Trichloroethane	ug/L	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	5 U	5 U
1,1,2-Trichloroethane	ug/L	5 U	5 U
1,1-Dichloroethane	ug/L	5 U	5 U
1,1-Dichloroethene	ug/L	5 U	5 U
1,2-Dichloroethane	ug/L	5 U	5 U
1,2-Dichloropropane	ug/L	5 U	5 U
2-Butanone	ug/L	50 U	50 U
2-Chloroethyl Vinyl Ether	ug/L	50 U	50 U
2-Hexanone	ug/L	50 U	50 U
4-Methyl-2-Pentanone	ug/L	50 U	50 U
Acetone	ug/L	50 U	50 U
Benzene	ug/L	5 U	5 U
Bromodichloromethane	ug/L	5 U	5 U
Bromoform	ug/L	5 U	5 U
Bromomethane	ug/L	5 U	5 U
Carbon Disulfide	ug/L	5 U	5 U
Carbon Tetrachloride	ug/L	5 U	5 U
Chlorobenzene	ug/L	5 U	5 U
Chloroethane	ug/L	5 U	5 U
Chloroform	ug/L	5 U	5 U
Chloromethane	ug/L	5 U	5 U
Cis-1,2-Dichloroethene	ug/L	5 U	5 U
Cis-1,3-Dichloropropene	ug/L	5 U	5 U
Dibromochloromethane	ug/L	5 U	5 U
Ethylbenzene	ug/L	5 U	5 U
Methyl Tert-Butyl Ether	ug/L	10 U	10 U
Methylene Chloride	ug/L	5 U	5 U
Styrene	ug/L	5 U	5 U
Tetrachloroethene	ug/L	5 U	5 U
Toluene	ug/L	5 U	5 U
Trans-1,2-Dichloroethene	ug/L	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	5 U	5 U
Trichloroethene	ug/L	5 U	5 U

Table 4-2
Summary of Analytical Results for QC Samples —TAA 770

Sample Identification Location Code Date Sampled		818655-B3111 Equipment Rinsate 11/12/02	818655-B3105 Trip Blank 11/12/02
	Unit		
Vinyl Acetate	ug/L	50 U	50 U
Vinyl Chloride	ug/L	5 U	5 U
Xylene, (Total)	ug/L	5 U	5 U
SEMI-VOLATILES			
1,2,4-Trichlorobenzene	ug/L	9.4 U	NA
1,2-Dichlorobenzene	ug/L	9.4 U	NA
1,3-Dichlorobenzene	ug/L	9.4 U	NA
1,4-Dichlorobenzene	ug/L	9.4 U	NA
2,4,5-Trichlorophenol	ug/L	24 U	NA
2,4,6-Trichlorophenol	ug/L	9.4 U	NA
2,4-Dichlorophenol	ug/L	9.4 U	NA
2,4-Dimethylphenol	ug/L	9.4 U	NA
2,4-Dinitrophenol	ug/L	24 U	NA
2,4-Dinitrotoluene	ug/L	9.4 U	NA
2,6-Dinitrotoluene	ug/L	9.4 U	NA
2-Chloronaphthalene	ug/L	9.4 U	NA
2-Chlorophenol	ug/L	9.4 U	NA
2-Methylnaphthalene	ug/L	9.4 U	NA
2-Methylphenol	ug/L	9.4 U	NA
2-Nitroaniline	ug/L	24 U	NA
2-Nitrophenol	ug/L	9.4 U	NA
3,3'-Dichlorobenzidine	ug/L	9.4 U	NA
3-Nitroaniline	ug/L	24 U	NA
4,6-Dinitro-2-Methylphenol	ug/L	24 U	NA
4-Bromophenyl Phenyl Ether	ug/L	9.4 U	NA
4-Chloro-3-Methylphenol	ug/L	9.4 U	NA
4-Chloroaniline	ug/L	9.4 U	NA
4-Chlorophenyl Phenyl Ether	ug/L	9.4 U	NA
4-Methylphenol	ug/L	9.4 U	NA
4-Nitroaniline	ug/L	24 U	NA
4-Nitrophenol	ug/L	24 U	NA
Acenaphthene	ug/L	9.4 U	NA
Acenaphthylene	ug/L	9.4 U	NA
Anthracene	ug/L	9.4 U	NA

Table 4-2
Summary of Analytical Results for QC Samples —TAA 770

Sample Identification Location Code Date Sampled	Unit	818655-B3111 Equipment Rinsate 11/12/02	818655-B3105 Trip Blank 11/12/02
Benzo(a)Anthracene	ug/L	9.4 U	NA
Benzo(a)Pyrene	ug/L	9.4 U	NA
Benzo(b)Fluoranthene	ug/L	9.4 U	NA
Benzo(ghi)Perylene	ug/L	9.4 U	NA
Benzo(k)Fluoranthene	ug/L	9.4 U	NA
Bis(2-Chloroethoxy)Methane	ug/L	9.4 U	NA
Bis(2-Chloroethyl)Ether	ug/L	9.4 U	NA
Bis(2-Chloroisopropyl)Ether	ug/L	9.4 U	NA
Bis(2-Ethylhexyl)Phthalate	ug/L	19 U	NA
Butyl Benzyl Phthalate	ug/L	9.4 U	NA
Chrysene	ug/L	9.4 U	NA
Di-N-Butyl Phthalate	ug/L	9.4 U	NA
Di-N-Octyl Phthalate	ug/L	9.4 U	NA
Dibenzo(a,h)Anthracene	ug/L	9.4 U	NA
Dibenzofuran	ug/L	9.4 U	NA
Diethyl Phthalate	ug/L	9.4 U	NA
Dimethyl Phthalate	ug/L	9.4 U	NA
Fluoranthene	ug/L	9.4 U	NA
Fluorene	ug/L	9.4 U	NA
Hexachlorobenzene	ug/L	9.4 U	NA
Hexachlorobutadiene	ug/L	9.4 U	NA
Hexachlorocyclopentadiene	ug/L	9.4 U	NA
Hexachloroethane	ug/L	9.4 U	NA
Indeno(1,2,3-Cd)Pyrene	ug/L	9.4 U	NA
N-Nitroso-Di-N-Propylamine	ug/L	9.4 U	NA
N-Nitrosodiphenylamine	ug/L	9.4 U	NA
Naphthalene	ug/L	9.4 U	NA
Nitrobenzene	ug/L	9.4 U	NA
Pentachlorophenol	ug/L	9.4 U	NA
Phenanthrene	ug/L	9.4 U	NA
Phenol	ug/L	9.4 U	NA
Pyrene	ug/L	9.4 U	NA
METALS			
Aluminum	ug/L	500 U	NA

Table 4-2
Summary of Analytical Results for QC Samples —TAA 770

Sample Identification		818655-B3111	818655-B3105
Location Code		Equipment Rinsate	Trip Blank
Date Sampled		11/12/02	11/12/02
	Unit		
Antimony	ug/L	500 U	NA
Arsenic	ug/L	5 U	NA
Barium	ug/L	100 U	NA
Beryllium	ug/L	10 U	NA
Cadmium	ug/L	5 U	NA
Calcium	ug/L	975 J	NA
Chromium	ug/L	50 U	NA
Cobalt	ug/L	50 U	NA
Copper	ug/L	50 U	NA
Iron	ug/L	32.1 J	NA
Lead	ug/L	5 U	NA
Magnesium	ug/L	928 J	NA
Manganese	ug/L	20 U	NA
Mercury	ug/L	.2 U	NA
Molybdenum	ug/L	100 U	NA
Nickel	ug/L	150 U	NA
Potassium	ug/L	5000 U	NA
Selenium	ug/L	5 U	NA
Silver	ug/L	50 U	NA
Sodium	ug/L	4710	NA
Thallium	ug/L	10 U	NA
Vanadium	ug/L	100 U	NA
Zinc	ug/L	20 U	NA

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

Table 5-1
Residential Risk Screening Worksheet for Soil
Former TAA 770

Detected Chemical	Maximum TAA 770 Soil Concentration (mg/kg)	MCAS El Toro Background Concentration[A] (mg/kg)	CANCER			NON-CANCER		
			Residential PRG[B] (mg/kg)	TAA 770 Maximum Ratio[C]	MCAS El Toro Background Ratio[D]	Residential PRG[E] (mg/kg)	TAA 770 Maximum Ratio[F]	MCAS El Toro Background Ratio[F]
METALS								
Aluminum	18400	14800	NE	NE	NE	7.6E+04	2.42E-01	1.95E-01
Barium	149	173	NE	NE	NE	5.4E+03	2.76E-02	3.20E-02
Beryllium	0.666	0.669	NE	NE	NE	1.5E+02	4.44E-03	4.46E-03
Chromium	14.9	26.9	2.1E+02	7.10E-02	7.10E-02	NE	NE	NE
Cobalt	7.5	6.98	NE	NE	NE	4.7E+03	1.60E-03	1.49E-03
Copper	197	10.5	NE	NE	NE	2.9E+03	6.79E-02	3.62E-03
Lead	68.9	15.1	NE	NE	NE	4.0E+02	1.72E-01	3.78E-02
Manganese	255	8370	NE	NE	NE	1.8E+03	1.42E-01	4.65E+00
Vanadium	44.6	71.8	NE	NE	NE	5.5E+02	8.11E-02	1.31E-01
Zinc	58.8	77.9	NE	NE	NE	2.3E+04	2.56E-03	3.39E-03
VOCs								
Bis(2-ethylhexyl)phthalate	0.85	NE	3.5E+01	2.43E-02	2.43E-02	NE	NE	NE
Subtotal sum of ratios				7.10E-02	7.10E-02		4.99E-01	5.06E+00
MCAS EL TORO BACKGROUND RISK RATIOS			**CANCER RISK**		**7.10E-08**	**NON-CANCER HAZARD INDEX**		**5.06**
TAA 770 SUMMED RISK			**CANCER RISK**	**7.10E-08**		**NON-CANCER HAZARD INDEX**	**0.50**	
TAA 770 RISK LESS BACKGROUND RISK (NET RISK)			**NET CANCER RISK**	**$<1 \times 10^{6}$**				

[A] MCAS El Toro Background upper threshold limit concentrations from Final Technical Memorandum Background and Reference Levels, Bechtel National, Inc. 1996.

[B] Residential soil PRG for cancer from the EPA Region 9, November, 2002 list.

[C] The Ratio is determined by dividing the Concentration by the respective PRG.

[D] Where the background concentration exceeds the maximum concentration the background ratio was defaulted to the maximum ratio.

[E] Residential soil PRG for non-cancer from the EPA Region 9, November, 2002 list.

[F] The Ratio is determined by dividing the Concentration by the respective PRG.No ratios were calcutated for chemicals detected below background levels.

mg/kg - Milligrams per kilogram.

NE - Not established/No entry.

PRG - Preliminary remediation goal.

Table 5-2
Industrial Risk Screening Worksheet for Soil
Former TAA 770

Detected Chemical	Maximum TAA 770 Soil Concentration (mg/kg)	MCAS El Toro Background Concentration[A] (mg/kg)	CANCER			NON-CANCER		
			Industrial PRG[B] (mg/kg)	TAA 770 Maximum Ratio[C]	MCAS El Toro Background Ratio[D]	Industrial PRG[E] (mg/kg)	TAA 770 Maximum Ratio[F]	MCAS El Toro Background Ratio[F]
METALS								
Aluminum	18400	14800	NE	NE	NE	7.6E+04	2.42E-01	1.95E-01
Barium	149	173	NE	NE	NE	5.4E+03	2.76E-02	3.20E-02
Beryllium	0.666	0.669	NE	NE	NE	1.9E+03	3.51E-04	3.52E-04
Chromium	14.9	26.9	4.5E+02	3.31E-02	3.31E-02	NE	NE	NE
Cobalt	7.5	6.98	NE	NE	NE	4.7E+03	1.60E-03	1.49E-03
Copper	197	10.5	NE	NE	NE	2.9E+03	6.79E-02	3.62E-03
Lead	68.9	15.1	NE	NE	NE	7.5E+02	9.19E-02	2.01E-02
Manganese	255	8370	NE	NE	NE	3.2E+04	7.97E-03	2.62E-01
Vanadium	44.6	71.8	NE	NE	NE	1.4E+04	3.19E-03	5.13E-03
Zinc	58.8	77.9	NE	NE	NE	1.0E+05	5.88E-04	7.79E-04
VOCs								
Bis(2-ethylhexyl)phthalate	850000	NE	1.2E+02	7.08E+03	7.08E+03	NE	NE	NE
Subtotal sum of ratios				3.31E-02	3.31E-02		2.01E-01	5.20E-01
MCAS EL TORO BACKGROUND RISK RATIOS			CANCER RISK		3.31E-08	NON-CANCER HAZARD INDEX		0.52
TAA 770 SUMMED RISK			CANCER RISK	3.31E-08		NON-CANCER HAZARD INDEX	0.20	
TAA 770 RISK LESS BACKGROUND RISK (NET RISK)			NET CANCER RISK	$<1 \times 10^{6}$				

[A] MCAS El Toro Background upper threshold limit concentrations from Final Technical Memorandum Background and Reference Levels, Bechtel National, Inc. 1996.

[B] Residential soil PRG for cancer from the EPA Region 9, November, 2002 list.

[C] The Ratio is determined by dividing the Concentration by the respective PRG.

[D] Where the background concentration exceeds the maximum concentration the background ratio was defaulted to the maximum ratio.

[E] Residential soil PRG for non-cancer from the EPA Region 9, November, 2002 list.

[F] The Ratio is determined by dividing the Concentration by the respective PRG.No ratios were calculated for chemicals detected below background levels.

mg/kg - Milligrams per kilogram.

NE - Not established/No entry.

PRG - Preliminary remediation goal.

APPENDIX A
GREAT PARK LAND USE PLAN

APPENDIX B
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.

Evaluation Form
SWMU/Area of Concern
Number 223

Name: Hazardous Waste Storage Area

Location: Southeast of Bldg. 386

Size: 204 sq ft

Date of Site Visit: 23 April 91

Period of Operation

Currently inactive

Evaluation Form
SWMU/Area of Concern
Number 223

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. This HWSA is located about 60 ft east of Building 386 near the southeast corner of a vehicle washrack (SWMU/AOC Number 110. It consists of a 12-ft by 12-ft concrete storage surface surrounded by a 6-in. concrete berm. A chain-link fence and aluminum roof protect the HWSA from unauthorized entry.

At the time of the site visit, the HWSA appeared as if it was being cleaned. All of the drums had been removed and placed on wood pallets outside the southwest corner of the HWSA. There was about 2 inches of water in the HWSA. No significant stains or cracks were observed.

Waste Characteristics

Waste oil
Hydraulic fluid
Antifreeze

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, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

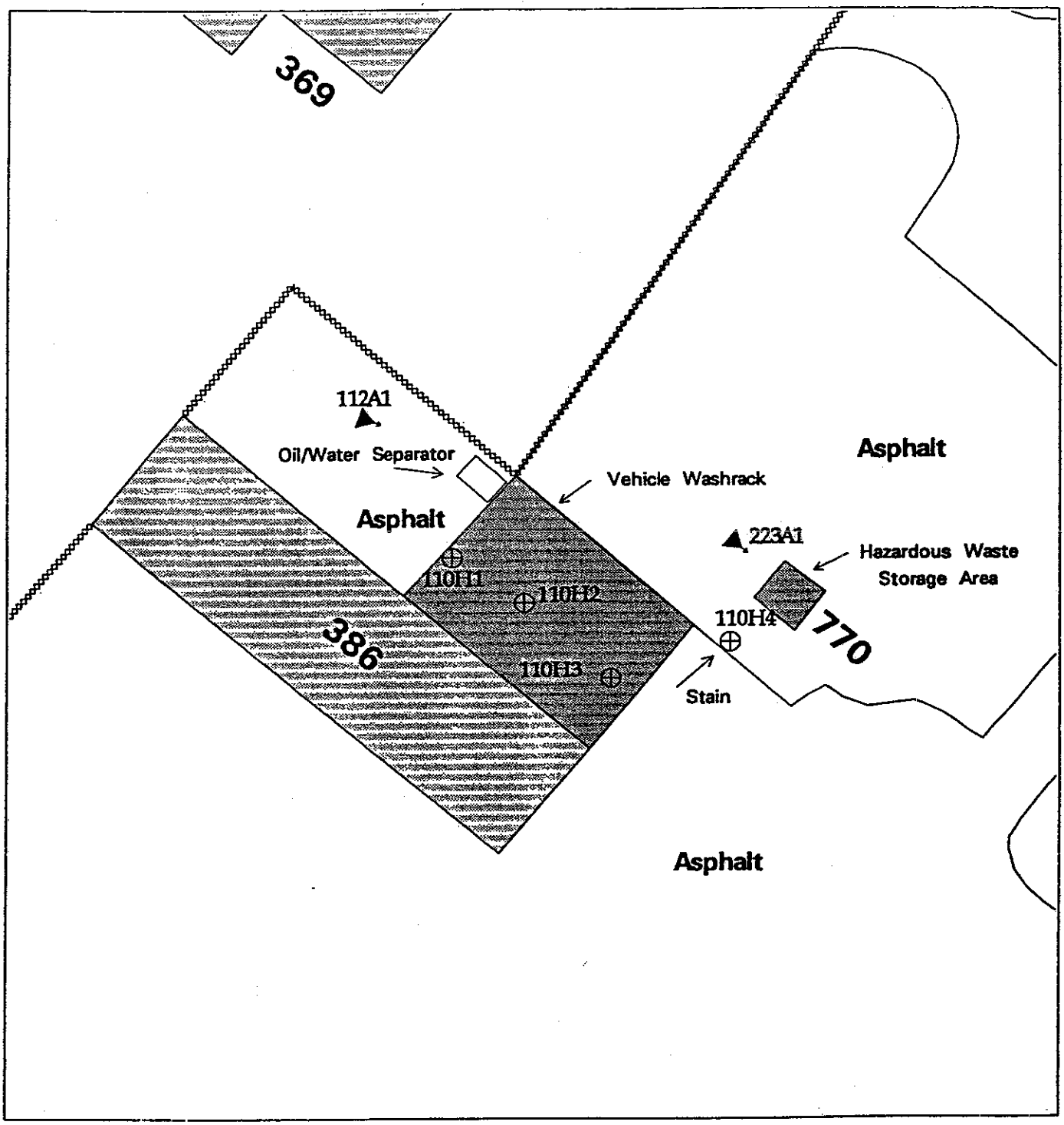


Figure 35 Sample Location Map

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:

110 - Vehicle Washrack

112 - Oil/Water Separator

223 - Hazardous Waste Storage Area

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						
223	Hazardous Waste Storage Area (35)	A1	10	ND	0.060	ND	Methylene Chloride-4 BJ * Acetone-5 BJ *	ND	ND	Copper-12.6 Lead-3.4	NFA	TPH/TFH < 100 ppm VOCs < CRDL SVOCs < ETM & PRG Pest/PCB < CRDL Metals < ETM & PRG CRDL - Contract Required Detection Limit
			20	ND	ND	ND	Methylene Chloride-5 J * Acetone-11 BJ * 2-Butanone-5 BJ *	ND	ND	Copper-197 Lead-68.9		
			30	75	ND	ND	Methylene Chloride-6 BJ * Acetone-6 BJ *	Bis(2-Ethylhexyl)phthalate-850	ND	Copper-15.8 Lead-7.5		
			30 (Duplicate)	85	ND	ND	Methylene Chloride-3 J * Acetone-9 BJ * 2-Butanone-3 BJ *	ND	ND	Copper-1.6 Lead-0.96		
			40	ND	ND	ND	Methylene Chloride-4 BJ * Acetone-4 BJ *	ND	ND	Copper-5.6 Lead-3.3		
			50	ND	ND	ND	Methylene Chloride-3 J * Acetone-11 BJ * 2-Butanone-4 BJ *	ND	ND	Copper-9.3 Lead-3.2		
			60	ND	ND	ND	Methylene Chloride-3 J * Acetone-14 B * 2-Butanone-4 BJ *	ND	ND	Copper-7.5 Lead-3.0		

CH2M HILL

PROJECT NUMBER	BORING NUMBER
LA070022.S0.10	223A-1 SHEET 1 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, 3-1/4" ID, 6-1/2" OD, GUS PECH BRAT-22

WATER LEVELS _____ START 10/23/92 FINISH 10/23/92 LOGGER K. HUCKRIEDE

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 08:30.
					SILTY SAND (SM), dark brown, moist, fine to medium grained.	
5.0					Color changed to light brown.	
10.0	10.0–12.0	1-MC	1.6	20-17-20-39	SILTY SAND (SM), brown, moist, dense, fine to medium grained.	Headspace reading on OVA similar to background between sleeves.
15.0						
20.0	20.0–22.0	2-MC	1.7	15-8-14-21	SANDY LEAN CLAY (CL), dark brown, moist, very stiff, fine grained.	Headspace reading similar on OVA to background, between sleeves.
25.0						
30.0	30.0–32.0	3-MC	1.5	39-31-36-35	POORLY GRADED SAND (SP), yellow brown, dry, dense, fine to medium grains, subrounded particles.	Headspace reading 0.4 ppm on OVA, between sleeves.
	32.0–34.0	3A-MC	1.6	20-23-23-39	Similar to 3-MC.	

Table 5-6
60-Foot Angle Borings
MCAS El Toro RFA

SWMU	TYPE	LOCATION/BUILDING	# OF BORINGS
144	Drum Storage Area	FMD PW Expend WIP Storage/Bulding 529	1
145	Underground Storage Tank	FMD PW Expend WIP Storage/Bulding 529	2
149	Drum Storage Area	VMFA-314/Building 605	1
160	Hazardous Waste Storage Area	MALS-11 Parachute/Surv Shop/Building 636	1
164	Washrack	Exchange Auto Repair/Building 651	2
171	Hazardous Waste Storage Area	MALS-11 Engine Test Cell/Building 658	1
172	Hazardous Waste Storage Area	MWSS-373 Bulk Refuelers/Building 671	1
186	Hazardous Waste Storage Area	MALS-11 GSE South/Building 673	1
187	Underground Storage Tank	Bee Canyon Wash O/W Separator/Building 674	1
188	Underground Storage Tank	Agua Chinon Canyon O/W Separator/Building 675	1
222	Hazardous Waste Storage Area	FMD HW Collection Facility/Building 769	1
223	Hazardous Waste Storage Area	FMD HW Collection Facility/Building 770	1
224	Hazardous Waste Storage Area	MWSG-37 HW Collection Facility/Building 771	1
225	Hazardous Waste Storage Area	FMD HW Collection Facility/Building 772	1
226	Hazardous Waste Storage Area	MAG-46 HW Collection Facility/Building 778	1
227	Hazardous Waste Storage Area	MAG-11 HW Collection Facility/Building 779	1
229	Hazardous Waste Storage Area	MWSS-373 Motor Pool HQ/Building 800	1
234	Hazardous Waste Storage Area	PMO Sentry Building/Building 856	1
241	Drum Storage Area	FMD Grounds Equipment Shed/Building 155, South	1
252	Hazardous Waste Storage Area	Building 698	1
255	Hazardous Waste Storage Area	VMFA-232/Building 606	1
263	Underground Storage Tank	Building 374	2
271	Hazardous Waste Storage Area	GSE North/Building 392	1
272	Hazardous Waste Storage Area	Building 31	1

TABLE 4-1
COMPREHENSIVE LIST OF SWMUs AND AREAS OF CONCERN
IDENTIFIED DURING THE PRELIMINARY REVIEW/VISUAL SITE INSPECTION
MCAS EL TORO RFA

SWMU	SMWU TYPE	SOURCE (1)	LOCATION/BUILDING	COMMENTS	DATE	SIZE	MATERIAL	CONTENTS
211	Oil/Water Separator	f	763	Active	1982	100 gal	Steel	
212	Underground Storage Tank	f	763	Active	1982	185 gal	Steel	Waste Oil
213	Vehicle Wash Rack	a	764					
214	Underground Storage Tank	f	764	Active	1982	185 gal	Steel	
215	Oil/Water Separator	f	764	Active	1982	100 gal	Steel	Waste Oil
216	Vehicle Wash Rack	a	765					
217	Underground Storage Tank	f	765	Active	1982	185 gal	Steel	
218	Oil/Water Separator	f	765	Active	1982	100 gal	Steel	Waste Oil
219	Vehicle Wash Rack	a	766					
220	Oil/Water Separator	f	766	Active	1982	100 gal	Steel	
221	Underground Storage Tank	f	766	Active	1982	185 gal	Steel	Waste Oil
222	Hazardous Waste Storage Area	d	769	Former permitted Haz Waste collection facility				
223	Hazardous Waste Storage Area	d	770	Former permitted Haz Waste collection facility				
224	Hazardous Waste Storage Area	d	771	Former permitted Haz Waste collection facility				
225	Hazardous Waste Storage Area	d	772	Former permitted Haz Waste collection facility				
226	Hazardous Waste Storage Area	d	778	Former permitted Haz Waste collection facility				
227	Hazardous Waste Storage Area	d	779	Former permitted Haz Waste collection facility				
228	Underground Storage Tank	f	779	Active	1988	1,000 gal	Fiberglass-Coated Steel	Fuel Slop
229	Hazardous Waste Storage Area	Active	800					
230	Underground Storage Tank	f	800	Active	1984	1,000 gal	Fiberglass	Waste Oil
231	Underground Storage Tank	f	800	Active	1984	1,000 gal	Fiberglass	Waste Oil
232	Underground Storage Tank	Active	800	Active	1984	1,500 gal	Concrete	
233	Oil/Water Separator	f	817					
234	Hazardous Waste Storage Area	Active	856					
235	Drum Storage Area	c	1519	Possible Duplicate of SWMU/AOC 27		300 sq ft		
236	Drum Storage Area	b	1663	RI/FS Site				
237	Drum Storage Area (2)	b	1700					
238	Drum Storage Area (2)	b	1727					
239	Drum Storage Area (2)	a	1798					
240	Drum Storage Area (2)	k	155					

Evaluation Form
SWMU/Area of Concern
Number 110

Name: Vehicle Washrack

Location: East of Building 386

Size: 3,200 sq ft

Date of Site Visit: 23 April 91

Period of Operation

Currently active

Evaluation Form
SWMU/Area of Concern
Number 110

Unit Characteristics

The washrack is located adjacent to the northeastern side of Building 386. It is surrounded by a small unpaved area to the northeast, a concrete parking area to the southeast, and an asphalt paved area on the northwest side of the wash area.

The washrack consists of a concrete wash surface surrounded by a 4-in. concrete berm. The washrack is graded so that all the water flows toward a drain situated in the center of the wash area. The drain leads to oil/water Separator 386-B. The wash pad is badly stained from vehicles being worked on inside the wash area. There are also several cracks in the wash pad where water could possible leak through to the soil beneath the washrack. A portion of the berm has been removed from the southwestern corner so that vehicles can easily be driven into the wash area. It is unlikely that any water would flow away from this area because it is upgradient from the drain. The southeastern corner of the berm is also badly cracked. There are several stains on the ground outside this corner.

A 500-gallon bowser is stored in the northeastern corner of the washrack. The bowser is used to store waste oil. The bowser is elevated about 3 ft, therefore it is possible for a spill to spread outside the washrack berm. Two drip pans, located next to the bowser, are used to drain oil filters before disposal. There are several dark stains on the washrack's surface next to the bowser and the drip pans.

A hydraulic lift is located next to the bowser. From the stains around the hydraulic lift, it is evident that the hydraulic lift is still used.

Waste Characteristics

Oily waste
Waste oil
Hydraulic fluid
Antifreeze

Possible Migration Pathways

Storm drain system
Oil/water separator
Soil

Evidence of Release

Stained wash pad and stained ground outside the washrack

Evaluation Form
SWMU/Area of Concern
Number 110

Exposure Potential

On-Station personnel

Recommendations

Based on the stains and cracks in the concrete, this washrack is recommended for a sampling visit.

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						
110	Vehicle Wash Rack (35)	H1	2	ND	NA	NA	Methylene Chloride-4 J * Acetone-4 BJ * Toluene-1 J *	NA	NA	NA	Repair cracks in pavement.	To prevent future migration of petroleum hydrocarbons. TPH/TFH < 1000 ppm VOCs < ETM & PRG
			5	ND	NA	NA	Methylene Chloride-3 J * 2-Butanone-2 J	NA	NA	NA		
		H2	2	680	NA	NA	Methylene Chloride-4 J * Acetone-4 BJ * Toluene-1 J *	NA	NA	NA		
			2 (Duplicate)	590	NA	NA	Methylene Chloride-4 J * Acetone-10 BJ * Toluene-4 J * 2-Butanone-3 J Ethylbenzene-5 J Xylene-62 PCE-11 J	NA	NA	NA		
			5	440	NA	NA	Methylene Chloride-20 BJ * Acetone-14 BJ * 2-Butanone-5 J Xylene-13 J	NA	NA	NA		
		H3	2	ND	NA	NA	Methylene Chloride-4 J * Acetone-7 BJ * Toluene-1 J *	NA	NA	NA		
			5	ND	NA	NA	Methylene Chloride-6 J * Toluene-1 J *	NA	NA	NA		
		H4	2	ND	NA	NA	Methylene Chloride-4 J * Acetone-5 BJ *	NA	NA	NA		
			5	ND	NA	NA	Methylene Chloride-4 J * Acetone-4 BJ * Toluene-1 J *	NA	NA	NA		

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 #: **223** Accumulation Area (AA) #: **770**
Location (bldg): **HWSA/Bldg. 770**
Site Contact: **Leta Suarez** Ext: **2772**
Permission for Access? ~~Y~~ N If yes, explain: **unlocked 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: **3 on rack** Outdoor
20 drums in area

CONDITION:

~~Stain(s)~~ ~~Odor(s)~~ ~~Crack(s)~~
Placards/Labels: Y ~~N~~ If Yes, list: **Hazwaste Wash Rack Sludge (label on 20 gal. drum).**

Observations: **Clean concrete pad. Roof over portion of pad. Drums on pallet over soil.**
Status: **Active area of drum storage as of 11-10-95.**

DIMENSIONS: (ESTIMATED SIZE OR AREA IN FT)

AA/SWMU: **40x10 ft.**
"Stain(s)" : **Very minor spots on open pad area.**
Any Restrictions To Access?: **Fence, roof and poles at one portion of pad.**

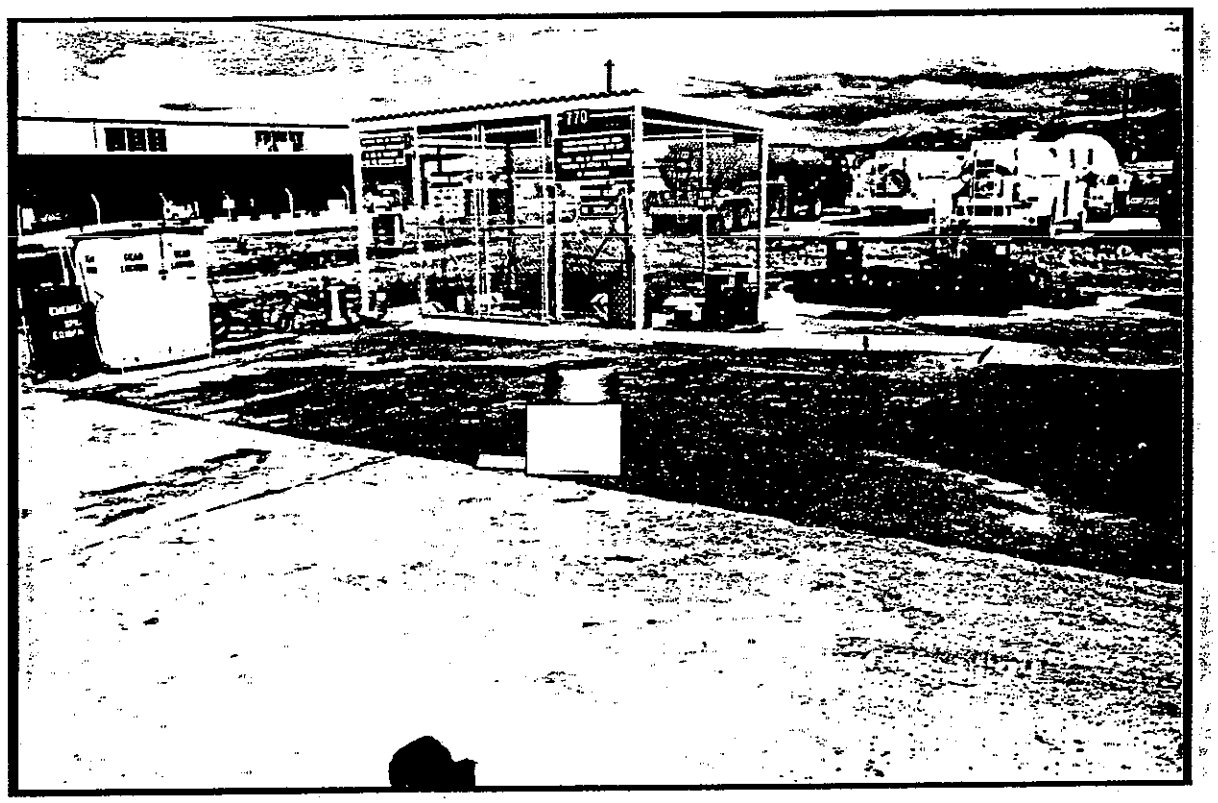
EVALUATION OF REMOVAL/DECONTAMINATION STRATEGY (CIRCLE AS APPROPRIATE)

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: 12/2/94/10:20
UPDATED: 11-10-95/11:15
SURVEILLANCE PERFORMED BY: Larry Bauman

PHOTO LOG



SWMU #: 223

PHOTO DATE: 12-14-94

APPENDIX C
EXCERPTS FROM SWPPP

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

FOR

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA

CONTRACT NO. N68711-96-D-2059
DELIVERY ORDER NO. 0002

VOLUME 1

DECEMBER, 1996
INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

TABLE 5-2
BASIN 1
SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
					Existing	29	Provide Regular Sweeping of Floor/Lot
					Rec	31	Reroute Discharge to Sanitary Sewer
759	01	Vehicle Washrack Utility Building	CSSD-14	Previous			No Additional BMPs are Recommended
760	01	Vehicle Washrack Utility Building	CSSD-14	Previous			No Additional BMPs are Recommended
769	01	HW Collection Facility	Environment	Concern	Rec	04	Spill Prevention, Control, Countermeasures Plans
					Rec	17	Cover Area with Roof
770	01	HW Collection Facility	Environment	Concern	Rec	01	Personnel Education
					Rec	04	Spill Prevention, Control, Countermeasures Plans
789	01	Sewage Monitoring Station	Installation	Limited			No Additional BMPs are Recommended
824	01	Crash Crew and Station Recovery	Station G-3	Limited			No Additional BMPs are Recommended
827	01	Supply Loading Ramp	Supply	Limited			No Additional BMPs are Recommended
853	01	Loading Ramp	Supply	Limited			No Additional BMPs are Recommended
859	01	Recreational Vehicle Dump Site	MWR-Rec	Previous			No Additional BMPs are Recommended

Building 769 - Hazardous Materials Collection Facility - Environment

This facility consists of an outdoor fenced compound with a bermed containment structure under a canopy which stored electrical equipment and insulating oil. A larger secondary containment structure contains additional electrical equipment (some with PCBs). This structure is neither covered nor fenced, however a sump is present. Five 55-gallon drums were observed on a pallet outside of the containment areas. Three of these drums were labeled "Mess Hall Garbage". A spill kit cleanup was present.

Recommended BMPs include developing a SPCCP specific to the facility. A canopy should be erected over the uncovered storage area and miscellaneous drum storage should be contained within the secondary containment areas.

Building 770 - Hazardous Materials Collection Facility - Environment

This facility is an outdoor material storage house for collecting chemicals. Potential pollutants included aerosol, carburetor and parts cleaner, aerosol spray paint, diesel fuel and hydraulic fluid. This area was fenced, covered and had a concrete berm secondary containment structure. A spill kit was present.

BMP recommendations are to develop a SPCCP for the facility and provide spill response training to personnel.

Building 875 - Weight Handling Equipment Shop - Station

This facility had an outdoor paint locker which was unsecured and contained numerous paint cans in deteriorating condition. There was no secondary containment of the paint locker.

Recommended BMPs include either the proper disposal of the paint cans and removal of the paint locker or securing the paint locker and providing secondary containment.

Building 897 – Aircraft Wash Rack

This is an aircraft wash rack that discharges to the sanitary sewer via diversion valves. An oil/water separator (#897) is present and appeared to be functioning properly.

TABLE 5-39
MCAS EL TORO
SPILL HISTORY

Date	Incident No.	Description
November 28, 1995	N/A	Approximately 2 quarts of hydraulic fluid were lost on the roadway and shoulder when a forklift's hydraulic line was inadvertently punctured. A drip pan was placed under the leaking line to contain the leak and contaminated soil was removed and drummed as hazardous waste.
September 18, 1995	N/A	A one gallon container of liquid scale dissolver spilled when it was dropped by warehouse personnel. The spill was diked and absorbed with ash. Spill contained to the warehouse floor.
September 12, 1995	N/A	Three quarts of hydraulic fluid spilled onto the concrete warehouse floor when a forklift's fork punctured the stored material during issuance. Spilled cleaned up with speedy dry absorbent. Spill contained to the warehouse floor.
July 21, 1995	N/A	Approximately 80 gallons of JP-5 fuel spilled when a fuel truck attempted to fuel an aircraft with an open fuel cell. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
July 20, 1995	N/A	Approximately 10 gallons of JP-5 fuel spilled when an aircraft vented it's tanks. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
June 29, 1995	N/A	Approximately 70 gallons of JP-5 fuel spilled from an aircraft fuel tank with a dysfunctional valve. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
November 1, 1994	N/A	Approximately 400 gallons of JP-5 fuel leaked from an F/A-18 aircraft. Three hundred gallons were recovered and 100 gallons were cleaned up with speedy dry absorbent. Spill contained to the flightline.
November 1, 1994	N/A	Approximately 250 gallons of JP-5 fuel leaked from an F/A-18 aircraft. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
September 1, 1994	N/A	Approximately 1 gallon of hydrochloric acid and another gallon of chlorine spilled when

TABLE 5-39
MCAS EL TORO
SPILL HISTORY

Date	Incident No.	Description
		their lines ruptured. Pumping through the line was stopped immediately and the spill was cleaned up with sodium bicarbonate. Spill contained to the flightline.
August 12, 1994	N/A	A small amount of paint stripper (methylene chloride) from a 5 gallon can spilled when the can overheated and blew its cap. The small amount evaporated before cleanup could occur.
July 14, 1994	249777	Approximately 25 gallons of transformer oil, possibly containing more than 55 ppm PCBs, spilled when the personnel handling the transformer overturned it. The initial responders laid down absorbent socks, mats pads and Lite-Dri absorbent around the spill and on the liquid. Workers then removed and drummed soil from the spill area as hazardous waste. Cleanup began immediately on 14 July 94 and was completed 15 July 94. Additional hazardous waste included the absorbent materials, personal protective gear rags and mops used to cleanup the spill.
April 26, 1994	N/A	Approximately 100 gallons of JP-5 fuel spilled when an aircraft vented its tanks. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
March 8, 1994	N/A	Approximately 20 gallons of JP-5 fuel spilled when an aircraft was refueling. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.
May 11, 1993	318	Caustic soap leaked from a container behind Bldg. 317.
March 1, 1993	146	Approximately one quart of methyl ethyl ketone spilled to the ground at Bldg. 306.
September 9, 1992	873	Unknown quantity of fumigant released into the soil at Strawberry Field.
August 16, 1992	788	Fire occurred at Bldg. 751 with a van containing Hg, Li, Cd, and Pb-acid batteries. This caused a chemical release into the atmosphere.

TABLE 5-39
MCAS EL TORO
SPILL HISTORY

Date	Incident No.	Description
June 1, 1992	560	Approximately 3,950 gallons of JP-5 spilled from a refueler. Fuel was contained and did not enter storm drains.
May 28, 1992	552	JP-5 smell coming from storm drain at Bldg. 368. Flow from drain diverted to oil/water separators.
March 5, 1992	228	Three quarts of Hg spilled at Bldg. 297. The spill was contained.
March 5, 1992	223	Tractor trailer spilled 15-20 gallons of diesel fuel into sanitary sewer. Sewer system was diked and covered.
February 5, 1992	121	One gallon of transformer oil containing PCBs spilled at Bldg. 439. The spill was contained.
January 17, 1992	053	Approximately 100 gallons of antifreeze spilled into ditch and then to Agua Chinon.
December 18, 1991	1092	Lithium battery exploded at Bldg. 17. The debris was contained with some off-gassing.
November 19, 1991	997	Approximately 10 Lithium Batteries leaking and off-gassing at Bldg. 673T3.
September 16, 1991	754	Contaminated oil spilled into sewer at Bldg 295.
July 12, 1991	580	Paint stripper spilled into ditch near Bldg. 800. The spill was diverted to oil/water separator.
May 23, 1991	453	Unknown white substance found at Officer's Club crystal room.

A reference to a major spill is contained in the May 1990 SPCCP written for the MCAS. The SPCC states that "one major unauthorized release has occurred in the last two years. In August

APPENDIX D
EXCERPTS FROM HM/HWMP

Final

Marine Corps Air Station El Toro Hazardous Material/Hazardous Waste Management Plan

August 1994

Prepared for:

Southwest Division Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Prepared by:

Science Applications International Corporation
Engineering Sciences Division
10260 Campus Point Drive
San Diego, CA 92121

Contract No. N68711-92-D-4658
Delivery Order No. 0004

Hazardous Waste Accumulation Point Summary		
Unit	Bldg #	Coordinates
Aero Club	10	R5
Armory	744	O2
Auto Hobby Shop	626	M3
CSSD-14	388	U8
Environmental Above Ground Storage Tank	n/a	U6
FMD Shops, Bldg 1601	370	T6
Fuels Division	314	U9
H&HS 38	22	R4
MACG-38 MWCS 38	HGR 5	R4
MAG-46	51	Q4
MAG-46 Fixed Wing	296	T9
MAG-46 Helo Mals-46	295	S8
MALS-11 Air Frames	130	M9
MALS-11 Avionics	856	Q12
MALS-11 Cryogenics (ALSS)	636	R12
MALS-11 GSE North	392	M9
MALS-11 Ordinance	673	P12
MALS-11 Power Plant	658	N10
MALS-11 Power Plant	634	N9
MALS-11 Supply	441	P12
Maytag Aircraft Corp	779	N10
MOD Team	115	N9
Motor Pool (G-4), Bldg 770	386	T7
MWHS-3	7	Q5
MWR Auto #1	651	O2
MWR Golf Course	390	P13
MWSS-Utilities	31	S4
MWSS-373 HQ	800	U10
MWSS-373 Refuelers	671	U9
SOMS HQ	289	N5
SOMS Maintenance	HGR 2	O4
SOMS Recovery		
Supply	320	U7
VMFA (AW)-121	462	R11
VMFA (AW) 225	698	N9
VMFA (AW)-242	461	R11
VMFAT-101	371	Q10
VMFA-323	606	N8
VMGR-352	297	T8
VFMA-314	605	N7

APPENDIX E
EXCERPTS FROM EBS

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
FINAL ENVIRONMENTAL BASELINE SURVEY REPORT

01 April 1995

Revision 0

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

THROUGH:
CONTRACT #N68711-89-D-9296
CTO #284
DOCUMENT CONTROL NO.
CLE-C01-01F284-S29004

WITH:
Jacobs Engineering Group Inc.
401 West A Street, Suite 1905
San Diego, California 92101

In association with:
International Technology Corporation
CH2M HILL

M. W. Arends 3/31/95

Mike Arends, P.E. — Date
CLEAN Project Manager
CH2M HILL, Inc.

Max Pan 3-31-95

Max Pan, P.E. — Date
CLEAN Technical Reviewer
IT Corporation

SCO100217CD.WP5\95\MA

Table 3-7
Less Than 90-Day Accumulation Area Inventory
MCAS El Toro EBS Report - April 1995

Database Tracking	Building Number	Status	SWMU/ AOC	Comments	AREA TYPE
SAA 441	441	Inactive	256	RFA recommended NFA	3
SAA 442	442	Inactive	126	Sampling Visit Not Recommended During PR/VSI	2
SAA 445	445	Inactive	127	Sampling Visit Not Recommended During PR/VSI	2
SAA 447	447	Inactive	130	RFA recommended NFA	3
SAA 456	456	Inactive	135	Sampling Visit Not Recommended During PR/VSI	2
SAA 461	461	Active	138	RFA recommended NFA (1)	2
SAA 462	462	Active	140	Sampling Visit Not Recommended During PR/VSI	2
SAA 529	529	Inactive	144	RFA recommended NFA	2
SAA 534	534	Inactive	146	Sampling Visit Not Recommended During PR/VSI	2
SAA 602	602	Inactive	147	RFA recommended NFA	3
SAA 605	605	Active	149	RFA recommended NFA	3
SAA 606	606	Active	255	RFA recommended NFA	2
SAA 626	626	Active	158	IRP Site 20 (1)	7
SAA 634	634	Active		Identified in 1994 SPCC Plan	7
SAA 636	636	Inactive	160	RFA recommended NFA	3
SAA 651	651	Active	165	Located within SWMU/AOC 164	3
SAA 658	658	Active	171	Shallow soil borings recommended	7
SAA 671	671	Active	172	RFA recommended NFA	2
SAA 672	672	Inactive	177	Sampling Visit Not Recommended During PR/VSI	2
SAA 673	673	Active	186	RFA recommended NFA	2
SAA 693	693	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 698	698	Active		Identified in 1994 SPCC Plan	7
SAA 744	744	Active		Identified in 1994 SPCC Plan	7
SAA 746	746	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 747	747	Actvie		Identified in Station's HW Open Drum Inspection Report	7
SAA 761	761	Inactive		Located at IRP Site 6 (2)	7
SAA 765	765	Inactive	266	Sampling Visit Not Recommended During PR/VSI	2
SAA 769	769	Inactive	222	RFA recommended NFA	2
SAA 770	770	Inactive	223	RFA recommended NFA	3
SAA 771	771	Inactive	224	RFA recommended NFA	2
SAA 772	772	Inactive	225	RFA recommended NFA	3
SAA 778	778	Inactive	226	RFA recommended NFA	3
SAA 779	779	Inactive	227	RFA recommended NFA	3
SAA 800	800	Active	229	RFA recommended NFA	2
SAA 831	831	Active		Identified in Station's HW Open Drum Inspection Report	7
SAA 856	856	Active	234	RFA recommended NFA	3
SAA 900	900	Active		Environmental Office accumulation area	7

Table 4-1
Definitions of BCP Area Types
MCAS El Toro EBS Report - April 1995

Area Type	Definition
1	Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
2	Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred).
3	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action.
4	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
5	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are underway, but all required remedial actions have not yet been taken.
6	Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented.
7	Areas that are unevaluated or require additional evaluation to assess whether a release will require remedial action.

Source: Department of Defense, BRAC Cleanup Plan (BCP) Guidebook.

Table 4-3
Summary of LOC Evaluations
(Sorted by Area Type)
MCAS El Toro EBS Report - April 1995

Database Tracking (1)	Site Number	Description	Area Type	Status	Comments
RFA 95	SWMU/AOC 95	Engine Test Cell-Bldg. 324	3	--	RFA recommended NFA
SAA 155B	SAA 155B	Less Than 90-Day Accumulation Area-Bldg. 155	3	Inactive	SWMU/AOC 241
SAA 155C	SAA 155C	Less Than 90-Day Accumulation Area-Bldg. 155	3	Inactive	SWMU/AOC 45
SAA 289	SAA 289	Less Than 90-Day Accumulation Area-Bldg. 289	3	Active	SWMU/AOC 70
SAA 297	SAA 297	Less Than 90-Day Accumulation Area-Bldg. 297	3	Active	SWMU/AOC 73
SAA 29A	SAA 29A	Less Than 90-Day Accumulation Area-Bldg. 29	3*	Inactive	SWMU/AOC 30
SAA 314	FSL 314	Less Than 90-Day Accumulation Area-Bldg. 314	3	Inactive	SWMU/AOC 269
SAA 31A	SAA 31A	Less Than 90-Day Accumulation Area-Bldg. 31	3	Active	SWMU/AOC 272
SAA 359B	SAA 359B	Less Than 90-Day Accumulation Area-Bldg. 359	3	Inactive	SWMU/AOC 99
SAA 371B	SAA 371B	Less Than 90-Day Accumulation Area-Bldg. 371	3	Inactive	SWMU/AOC 242
SAA 388A	SAA 388A	Less Than 90-Day Accumulation Area-Bldg. 388	3	Active	SWMU/AOC 116
SAA 390B	SAA 390B	Less Than 90-Day Accumulation Area-Bldg. 390	3	Inactive	SWMU/AOC 261
SAA 392A	SAA 392A	Less Than 90-Day Accumulation Area-Bldg. 392	3	Active	SWMU/AOC 124
SAA 392B	SAA 392B	Less Than 90-Day Accumulation Area-Bldg. 392	3	Inactive	SWMU/AOC 271
SAA 398	SAA 398	Less Than 90-Day Accumulation Area-Bldg. 398	3	Inactive	SWMU/AOC 252
SAA 441	SAA 441	Less Than 90-Day Accumulation Area-Bldg. 441	3	Inactive	SWMU/AOC 256
SAA 447	SAA 447	Less Than 90-Day Accumulation Area-Bldg. 447	3	Inactive	SWMU/AOC 130
SAA 602	SAA 602	Less Than 90-Day Accumulation Area-Bldg. 602	3	Inactive	SWMU/AOC 147
SAA 605	SAA 605	Less Than 90-Day Accumulation Area-Bldg. 605	3	Active	SWMU/AOC 149
SAA 636	SAA 636	Less Than 90-Day Accumulation Area-Bldg. 636	3	Inactive	SWMU/AOC 160
SAA 651	SAA 651	Less Than 90-Day Accumulation Area-Bldg. 651	3	Active	SWMU/AOC 165
SAA 770	SAA 770	Less Than 90-Day Accumulation Area-Bldg. 770	3	Inactive	SWMU/AOC 223
SAA 772	SAA 772	Less Than 90-Day Accumulation Area-Bldg. 772	3	Inactive	SWMU/AOC 225
SAA 778	SAA 778	Less Than 90-Day Accumulation Area-Bldg. 778	3	Inactive	SWMU/AOC 226
SAA 779	SAA 779	Less Than 90-Day Accumulation Area-Bldg. 779	3	Inactive	SWMU/AOC 227
SAA 856	SAA 856	Less Than 90-Day Accumulation Area-Bldg. 856	3	Active	SWMU/AOC 234
UST 114A	Tank 114A	1,500-gal Fuel Oil	3*	Removed	
UST 12	Tank 12	500-gal Diesel	3*	Removed (7)	
UST 13	Tank 13	500-gal Diesel	3*	Removed (7)	
UST 248	Tank 248	1,500-gal Fuel Oil	3*	Removed (8)	
UST 250	Tank 250	1,500-gal Fuel Oil	3*	Removed (8)	
UST 271C	Tank 271C	650-gal Fuel Oil	3*	Removed (8)	
UST 277	Tank 277	1,500-gal Fuel Oil	3*	Removed (8)	
UST 288	Tank 288	1,500-gal Fuel Oil	3*	Removed (8)	
UST 297A	Tank 297A	6,000-gal Diesel	3*	Removed (8)	
UST 306	Tank 306	500-gal Diesel	3*	Removed (7)	
UST 37	Tank 37	500-gal Diesel	3*	Removed (7)	

APPENDIX F
IRP 24 EXCERPTS

MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FINAL SOIL GAS SURVEY
TECHNICAL MEMORANDUM
SITES 24 AND 25

31 October 1994

Revision 0

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

THROUGH:
CONTRACT #N68711-89-D-9296
CTO #145
DOCUMENT CONTROL NO:
CLE-C01-01F-145-S2-0004

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

In association with:
International Technology Corporation
CH2M HILL

SCO100215CB.WP5\94\JL

Table 3-6
Concentrations Detected in Soil Gas
MCAS El Toro Soil Gas Survey Technical Memorandum

Concentration in ug/L

(1) Key to Full Parameter names in Legend.

Station_ID	Depth	Sample_ID	PCE	TCE	C12DCE	T12DCE	11DCA	11DCE	VC	111TCA	112TCA	TCTFA	CT	CHCL3	TPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
24_SG073	12	S145G1073			1.2														
24_SG073	20	S145G1373		20.6 FI				25.6 FI											
24_SG074	12	S145G1074		2.5	1.6														
24_SG074	20	S145G1374		2.6				3.5 FI											
24_SG075	12	S145G1075		2.7															
24_SG075	20	S145G1375		1									1.1						
24_SG075	20	S145G3027											1.4						
24_SG076	12	S145G1076						1.4											
24_SG077	12	S145G1077		1.6															
24_SG077	20	S145G1377		1.3 FI															
24_SG082	12	S145G1082											2.3						
24_SG091	15	S145G1091	2.9																
24_SG092	15	S145G1092	3																
24_SG093	12	S145G1093	1.3																
24_SG094	15	S145G1094	103.4 FI																
24_SG095	15	S145G3141	2.4																
24_SG097	15	S145G1097						1.7											
24_SG099	20	S145G1399						6.9											
24_SG100	15	S145G1100		3.9				19 FI					1.3						
24_SG102	15	S145G1102	1.1	6.8 FI				3.6 FI											
24_SG103	12	S145G1103	1	5 FI				2.8 FI											
24_SG103	20	S145G1403	1.2	6.1 FI				3.8 FI											
24_SG104	12	S145G1104		2.4															
24_SG104	20	S145G1404		5.3				1.6 FI											
24_SG105	12	S145G1105		5.4				1.4 FI											
24_SG105	20	S145G1405	1.3	15 FI				4.8 FI						1.8					
24_SG106	12	S145G1106	2.8	91.2 FI	15			7.1 FI					1.9						
24_SG106	20	S145G1406		13.9 FI	4.3			2.7 FI											
24_SG107	12	S145G1107		12.3	1.5														
24_SG107	20	S145G1407	2.3	21.5 FI	1.4			1.6 FI											
24_SG108	12	S145G1108	2.6 FI	67 FI				4.5 FI						4.9					1.6
24_SG108	20	S145G1408	3.8 FI	113.8 FI				9.1 FI			1.3		1.3	6.7					
24_SG109	12	S145G1109	4.1	51.4 FI				3.7 FI					1.1						
24_SG109	20	S145G1409		5.8	2.1														
24_SG110	12	S145G1110	1	122.6 FI	6.6		2.6	10.7 FI											
24_SG110	20	S145G1410		18 FI	1.7			1 FI											
24_SG111	12	S145G1111	1.7	31.3 FI				1.4 FI						2.2					

Table 2-1
Analytes for Soil Gas Analysis
MCAS El Toro Soil Gas Survey Technical Memorandum

Analytes	Modified EPA Method	Detection Limit Goal[a] (ug/L-v)
1,2-dichloroethylene (1,2-DCE)	8010	1.0
Trichloroethylene (TCE)	8010	1.0
Tetrachloroethylene (PCE)	8010	1.0
1,1,1-trichloroethane (1,1,1-TCA)	8010	1.0
1,1,2-trichloroethane (1,1,2-TCA)	8010	1.0
1,1-dichloroethane (1,1-DCA)	8010	1.0
Methylene Chloride (dichloromethane)	8010	1.0
1,1-dichloroethylene (1,1-DCE)	8010	1.0
carbon tetrachloride (CT)	8010	1.0
Chloroform (CF)	8010	1.0
1,2-dichloroethane (1,2-DCA)	8010	1.0
1,2-dichloropropane	8010	1.0
Vinyl chloride	8020	1.0
Freon 113	8020	1.0
Benzene	8020	1.0
Ethylbenzene	8020	1.0
Toluene	8020	1.0
Meta- and para-xylene	8020	1.0
Ortho-xylene	8020	1.0
Total Petroleum Hydrocarbons (TPH) - Diesel/Gasoline	GC/FID	Qualitative Fingerprint

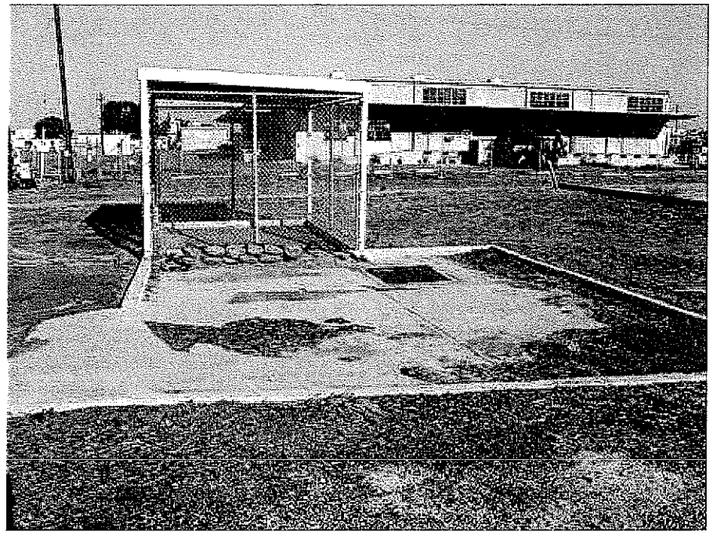
[a]Actual detection limits may be different depending on sample size, instrument performance, and matrix effects.

APPENDIX G
MCAS, EL TORO PLANT ACCOUNT RECORDS

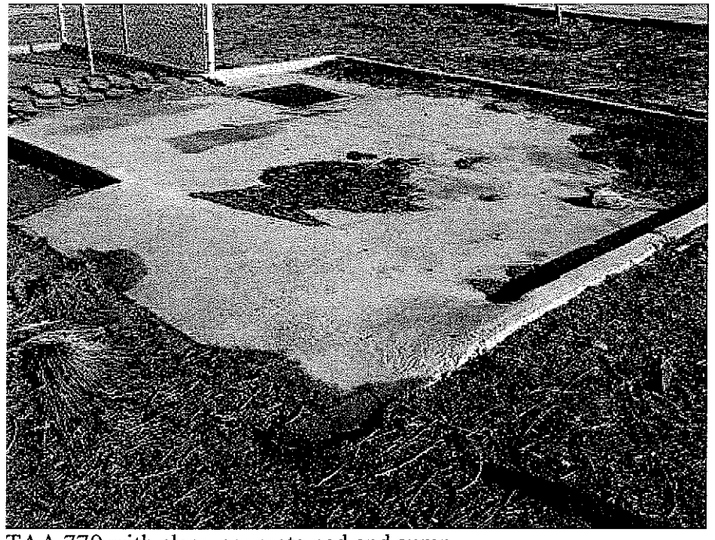
773	13210	ANTENNA (MARS)		19830822		0	0	0	0	$12,385	$17,153	1983	
774	13210	ANTENNA (MARS)		19830822		0	0	0	0	$12,384	$17,152	1983	
775	13210	ANTENNA (MARS)		19830822		0	0	0	0	$12,384	$17,152	1983	1983
776	13210	ANTENNA (MARS)		19830822		0	0	0	0	$12,384	$17,152	1983	
777	13210	ANTENNA (MARS)		19830822		0	0	0	0	$12,384	$17,152	1983	
744	14345	ARMORY	N6247480C9163	19830114	SF	10,789	153	100	15	$1,131,033	$1,527,340	1983	1990
748	73075	RESTROOM VAN COMPLEX	N6247480C9165	19830125	SF	560	20	20	11	$106,358	$145,594	1983	1984
749	73075	RESTROOMS	N6247480C9165	19830125	SF	560	28	20	11	$106,358	$145,594	1983	1984
750	73025	SENTRY BOOTH	N6247480C9165	19830125	SF	60	14	13	9	$27,273	$37,337	1983	1984
751	44130	STORAGE SHED	N6247480C9165	19830125	SF	126	14	9	8	$16,930	$23,178	1983	1984
	11665	MAG-11 VAN COMPLEX	N6247480C9165	19830125	SY	6,273	0	0	0	$389,036	$532,568	1983	1984
753	44130	PEST CONTROL FACLITY	N6247482C2834	19830511	SF	1,118	43	26	13	$71,631	$96,392	1984	1990
747	61010	PHOTO MAINT BLDG	N6247480C9329	19830409	SF	1,200	60	20	16	$346,816	$476,739	1983	1984
	11665	PHOTO VAN COMPLEX	N6247480C9329	19830409	SY	131	0	0	0	$2,160	$2,992	1983	
	11665	APU TEST STAND	N6247480C9167	19830822	SY	87	0	0	0	$1,200	$1,662	1983	
745	44112	WAREHOUSE	N6247480C9830	19830114	SF	23,693	201	121	27	$1,090,822	$1,501,512	1983	1986
782	74080	GOLF COURSE STRGE BLDG		19840201	SF	1,320	60	22	21	$32,281	$44,748	1983	1988
783	74003	EXCHANGE SERVICES/ADMIN	N6247481C8526	19840203	SF	21,720	147	89	33	$1,703,791	$2,298,414	1984	
769	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
770	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
771	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
772	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
778	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
779	83141	HAZ MATLS COL FAC	N6247483C5697	19830901	SF	204	17	12	10	$6,605	$9,145	1983	1984
784	61010	DRMO FIELD OFFICE LOT #2	N6247482C2828	19840515	SF	400	40	10	10	$5,500	$7,420	1984	
6604	71170	3146 A-F AKINS ST.	N62474818934	19831209	SF	13,320	90	74	26	$194,550	$270,114	1983	
6605	71170	3147 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6606	71170	3150 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6607	71170	3151 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6608	71170	3157 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6609	71170	3158 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6610	71170	3159 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6611	71170	3162 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6612	71170	3172 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6613	71170	3178 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6614	71170	3184 A-F AKINS ST	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6615	71170	3186 A-F AKINS ST.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6616	71170	15902 A-F BECKER CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6617	71170	15905 A-F BECKER CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6618	71170	15918 A-F BECKER CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6619	71170	15921 A-F BECKER CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6620	71170	15924 A-F BECKER CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6621	71170	15205 A-F GALLION CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6622	71170	15214 A-D GALLION CRT.	N6247481C8934	19831209	SF	6,688	74	45	26	$132,110	$182,972	1983	
6623	71170	15225 A-D GALLION CRT.	N6247481C8934	19831209	SF	6,688	74	45	26	$132,110	$182,972	1983	
6624	71170	15201 A-F JAMES CRT.	N6247481C8934	19841209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6625	71170	15210 A-F JAMES CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6626	71170	15221 A-D JAMES CRT.	N6247481C8934	19831209	SF	6,688	74	45	26	$132,110	$182,972	1983	
6627	71170	15904 A-F POLIQUIN CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6628	71170	15912 A-F POLIQUIN CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,861	$278,855	1983	
6629	71170	15913 A-F POLIQUIN CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,860	$278,854	1983	
6630	71170	15920 A-F POLIQUIN CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,860	$278,854	1983	
6631	71170	15207 A-F ROGERS CRT.	N6247481C8934	19831209	SF	13,320	90	74	26	$200,860	$278,854	1983	

FACILITY NUMBER	PRIMARY USE	FACILITY NAME	ACQUISITION NAME	ACQUISITION DATE	AREA UNIT MEASURE	TOTAL AREA	LENGTH	WIDTH	HEIGHT	GOVERNMENT COST	CURRENT PLANT VALUE	YEAR BUILT	YEAR IMPROVED
1	61010	SQDN HQ-TELEPHONE CENTER	NOY5421	19430301	SF	15,768	208	107	22	$92,096	$1,151,426	1943	1988
2	21105	NOSE HANGAR	NOY5421	19430601	SF	10,370	85	122	27	$60,039	$580,354	1943	1989
3	14140	COMM MNT SHOP	NOY5421	19430101	SF	1,560	39	40	14	$7,808	$106,204	1943	1977
4	14140	ELEC/COMM MAINT SHOP	NOY5421	19430101	SF	1,560	40	39	14	$33,964	$137,722	1943	1990
5	21451	AUTO/ORGANIZATIONAL SHOP	NOY5421	19430101	SF	10,370	85	122	27	$53,015	$551,077	1943	1983
6	73020	PROVOST MARSHAL OFFICE	NOY5421	19430301	SF	9,226	156	91	44	$267,076	$2,416,721	1943	1990
7	44112	STRG/OUT OF STORES MARCOR	NOY5421	19430301	SF	10,370	85	122	27	$97,190	$1,167,438	1943	1985
8	44112	STORAGE	NOY5421	19430301	SF	1,560	40	39	14	$7,036	$95,704	1943	1980
9	44112	STORAGE	NOY5421	19421201	SF	1,560	39	40	14	$16,310	$118,701	1942	1982
10	74075	COMM/ELEC SHOP	NOY5421	19430301	SF	10,370	122	85	27	$50,672	$519,208	1943	1983
11	61072	SQUADRON HEADQUARTERS	NOY5421	19430301	SF	3,960	108	80	11	$21,999	$299,230	1943	1977
12	61072	GROUP HQ	NOY5421	19430301	SF	3,960	108	80	11	$23,229	$303,563	1943	1985
13	61072	GROUP HQ	NOY5421	19430301	SF	3,960	108	80	11	$23,669	$306,486	1943	1986
14	61072	SQDRN HD	NOY5421	19430301	SF	3,960	108	80	11	$22,887	$306,425	1943	1984
15	21710	STOREHOUSE/ELECTRONICS MAINT	NOY5421	19430301	SF	6,240	160	39	13	$23,428	$312,107	1943	1990
16	44112	STORAGE GROUP	NOY5421	19430301	SF	6,240	160	39	13	$17,692	$240,647	1943	1977
17	21710	ELEC MAINT SHOP	NOY5421	19430301	SF	6,240	160	39	13	$26,018	$305,882	1943	1981
19	61072	ADMIN OFF	NOY5421	19431101	SF	6,240	160	39	13	$20,464	$272,593	1943	1981
20	21871	STRG/OUT OF STORES MARCOR	NOY5421	19430301	SF	6,240	160	39	13	$16,105	$219,060	1943	1977
21	44135	STORAGE	NOY5421	19430301	SF	640	32	20	13	$4,372	$60,522	1943	
22	21710	ELECNX/COMMS MAINT SHOP	NOY5421	19430601	SF	6,240	160	39	13	$34,386	$281,323	1943	1984
23	44112	STORAGE	NOY5421	19431001	SF	6,240	160	39	13	$25,404	$236,267	1943	1989
25	21820	CARPENTRY SHOP	NOY5421	19430301	SF	6,240	160	39	13	$55,404	$258,359	1943	1984
26	21820	STORAGE OUT OF STORES	NOY5421	19430601	SF	6,240	160	39	13	$14,665	$199,473	1943	
27	61077	PMO ADMIN STORAGE	NOY5421	19430301	SF	6,240	160	39	13	$30,583	$246,383	1943	1986
28	21820	COMMUNICATION SHOP	NOY5421	19430101	SF	6,240	160	39	13	$20,206	$240,818	1943	1979
29	61010	STORAGE	NOY5421	19431201	SF	6,240	160	39	13	$66,492	$536,110	1943	1990
31	21820	AUTO MAINT FAC	NOY5421	19430301	SF	6,240	160	39	13	$33,092	$228,853	1943	1986
32	72411	BOQ W/O MESS	NOY5421	19430201	SF	7,740	144	30	22	$55,386	$558,495	1943	1986
33	72411	BOQ W/O MESS	NOY5421	19430201	SF	7,740	144	30	22	$60,725	$570,751	1943	1988
34	72411	OFFICERS BARRACKS	NOY5421	19430201	SF	7,740	144	30	22	$55,426	$558,549	1943	1986
35	72411	UOPH W/O MESS	NOY5421	19430201	SF	7,740	144	30	22	$44,185	$545,005	1943	1990
38	61010	ADMIN OFFICE	NOY5421	19430201	SF	9,390	132	108	14	$69,708	$948,168	1943	
46	61010	ADMIN OFFICE	NOY5421	19430301	SF	2,280	114	20	11	$20,537	$266,135	1943	1985
47	21820	ENGINE MAINTENANCE SHOP	NOY5421	19430301	SF	2,980	69	31	26	$55,374	$759,079	1943	1985
48	61072	FIIU HEADQUARTERS	NOY5421	19430201	SF	5,148	132	39	14	$42,074	$401,692	1943	1986
49	44112	TRAINING BLDG/RESERVES		19430601	SF	21,956	165	168	27	$95,913	$1,025,869	1943	1983
50	17110	RESERVE TRAINING BLDG	NOY5421	19430601	SF	6,240	160	39	13	$20,766	$260,215	1943	1979
51	21451	RESERVE TRAINING BLDG	NOY5421	19430601	SF	6,240	160	39	15	$25,095	$344,328	1943	1977
52	44112	STOREHOUSE	NOY5421	19430601	SF	4,224	100	66	21	$19,727	$268,327	1943	
53	17110	GROUND SAFETY	NOY5421	19430601	SF	4,036	109	39	37	$18,881	$250,559	1943	1990
54	61040	LAW CENTER	NOY5421	19430301	SF	11,374	170	120	11	$298,101	$2,773,006	1943	1990
56	61072	TRNG/ELEC COMM/GRD SAFETY	NOY5421	19430301	SF	11,528	168	99	14	$133,343	$1,160,364	1943	1990
57	74089	BATHHOUSE	NOY5421	19430301	SF	9,310	111	70	17	$121,087	$1,549,313	1943	1988
58	61010	JOINT RECEPTION CENTER	NOY5421	19430301	SF	30,610	202	144	21	$422,673	$2,189,283	1943	1990
59	61010	ADMINISTRATIVE OFFICES	NOY5421	19430601	SF	5,696	140	46	10	$82,106	$1,116,806	1943	
60	61072	RESERVE SUPPORT UNIT	NOY5421	19431001	SF	5,376	168	32	9	$162,641	$511,066	1943	1988
156	84140	WATER PRESSURE TANK	NOY5421	19430101	SY	0	54	0	0	$7,000	$96,047	1943	
174	84140	STORAGE TANK GRND POT	NOY5421	19430115	SY	0	0	0	16	$50,100	$693,534	1943	
175	84140	STORAGE TANK GRND POT	NOY5421	19430115	SY	0	0	0	16	$50,100	$693,534	1943	
FT176	12430	AVGAS STORAGE TANK	NOY5421	19430601	SY	0	0	24	8	$5,420	$75,029	1943	

APPENDIX H
PHOTOLOG



View of TAA 770



TAA 770 with clean concrete pad and sump.

APPENDIX I
SITE ASSESSMENT LOG

SITE ASSESSMENT LOG

MCAS EL TORO
TEMPORARY ACCUMULATION AREA
818655, CTO 24

TAA SITE: __**770**_____RFA SITE:___N/A_____SWMU NO.___ 223_____

Date:_ _____

TAA area: *Concrete floor and berm appear in good condition with no stains or major cracks.*

Paved: **Concrete** or Asphalt, Condition of the Concrete/Asphalt: Good.
No Cracks and no stains on concrete surface.

Unpaved: NA

Is there any Drums or any types of Waste Stored: Yes/No, If Yes, Describe: *No waste or drums were stored at the time of VSI.*

Fenced: Yes/No/**Partially**, **Sump:** **Yes** / No, **Concrete Berm**: **Yes**/No, ___ inch, **Roof:** Yes/**No**

Describe other Structural details:

TAA Decontamination and/or Demolition Possible: Yes/No: *Not Required*

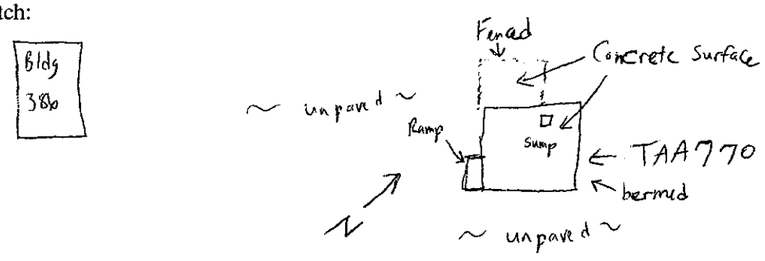
Site Setup Constrains: Equipment Operation, movement of Excavator or Backhoe: *N/A*

Nearest Building or Structure Distance: Building 386 is located 70 feet SW.

Any Underground Piping/Lines or Transformer Observed: *None*

Overhead Utility Lines/Poles: *None*

Draw Sketch:

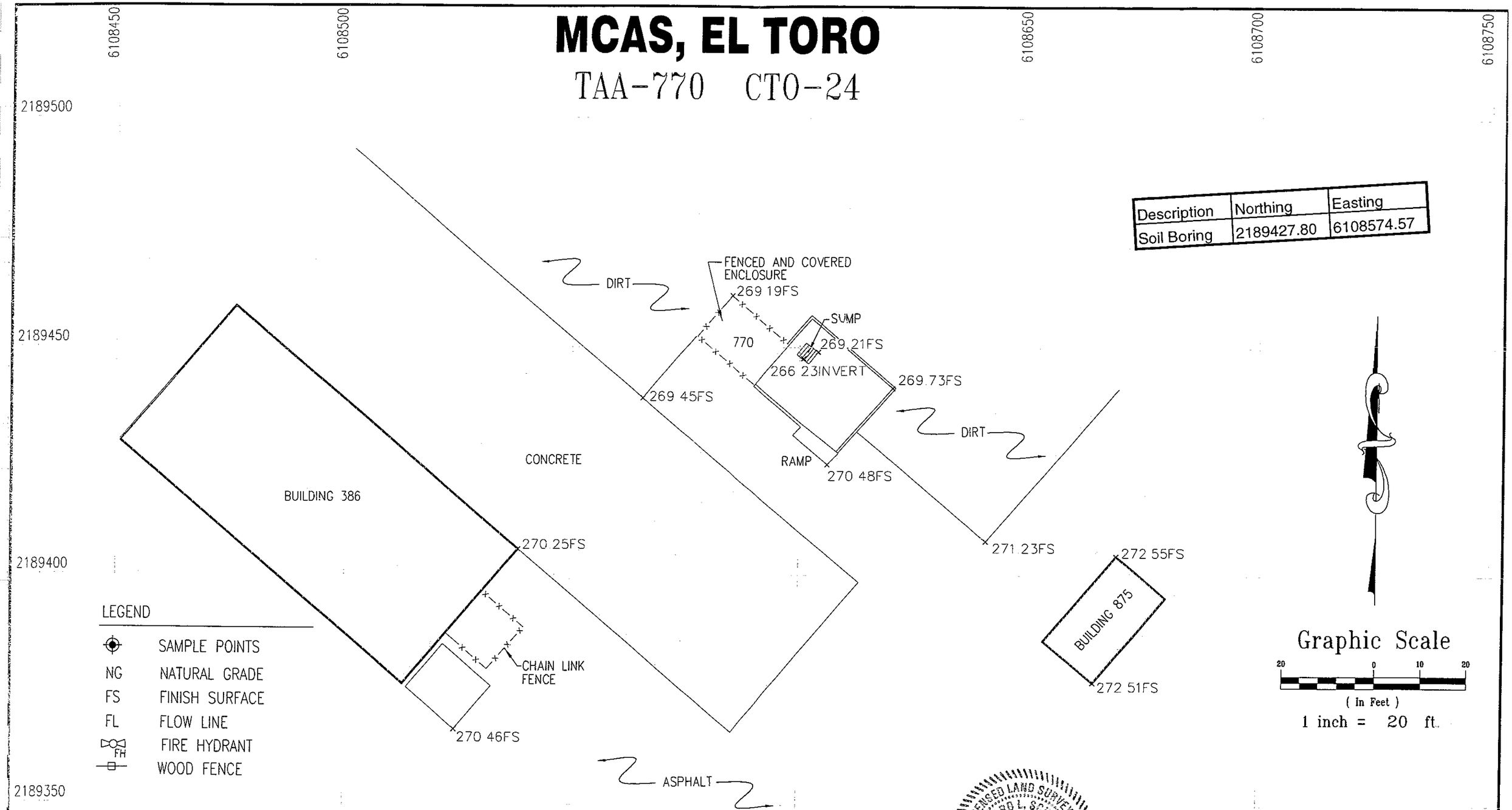


APPENDIX J
LAND SURVEY DATA

MCAS, EL TORO

TAA-770 CTO-24

Description	Northing	Easting
Soil Boring	2189427.80	6108574.57



CAL VADA SURVEYING, INC.
108 Business Center Dr, Corona, Ca 92880-1782
PHONE: (909) 280-9960 FAX: (909) 280-9746

JOB NO. 97102-TAA770

PREPARED FOR:
SHAW ENVIRONMENTAL & INFRASTRUCTURE, INC.
3347 MICHELSON DR., SUITE 200
IRVINE, CA 92612-1692
(949) 660-7576

LICENSED LAND SURVEYOR
EDWARD L. SCHENET
L.S. 4240
Exp. 6-30-04
STATE OF CALIFORNIA

DATE OF SURVEY: 10-03-2002

APPENDIX K
ANALYTICAL REPORT

the IT group

IT Corporation
2790 Mosside Blvd.
Monroeville, PA 15146-2792
(412)372-7701

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

A 14695

02-K106

FORM 0019 REV. 9-99

LAB COORDINATOR: Lynn Jefferson	LAB COORDINATOR'S PHONE: 949-660-7587	LAB COORDINATOR'S FAX: 949-475-5433	LABORATORY SERVICE ID: EMAX	LABORATORY CONTACT: Ye Myint	MAIL REPORT (COMPANY NAME): Shaw E+I
PROJECT NAME: MCAS El Toro	PROJECT LOCATION: MCAS El Toro	PROJECT NUMBER: 818655	LABORATORY PHONE: 310-618-8889	LABORATORY FAX: —	RECIPIENT NAME: Dwayne Ishida
PROJECT CONTACT: Chonanjay Rawal	PROJECT PHONE NUMBER: 949-660-7576	PROJECT FAX: 949-474-8309	LABORATORY ADDRESS: 1835 W. 205th st.		ADDRESS: 3347 Michelson Dr. #200
PROJECT ADDRESS: MCAS El Toro	CITY, STATE AND ZIP CODE: Santa Ana, CA	CLIENT: EFA West	CITY, STATE AND ZIP CODE: Torrance, CA 90501		CITY, STATE AND ZIP CODE: Irvine, CA 92612
PROJECT MANAGER: Chananjay Rawal	PROJECT MANAGER'S PHONE: 949-660-7576	PROJECT MANAGER'S FAX: 949-474-8309			

Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	8260B (VOCs)	SVOC + Sims (8270)	8015 (Gas)	8015 (Diesel)	8081 (Pesticides)	8082 (PCB)	6010 (metals)	Comments
818655-B3103	S	11/12	1010	4°C	2	3	5 day	x	x	x	x	x	x	x	No Sims. Only SVOC for 8270 Composite
818655-B3104	S		1100	4°C	2	3	5 day	x	x	x	x	x	x	x	No Sims only SVOC for 8270
818655-B3105	W		1000	4°C	3	3	5 day	x							
818655-B3106	S		1110	4°C	7	3	5 day	x	x	x	x	x	x	x	
818655-B3107	S		1115		7	3	5 day	x	x	x	x	x	x	x	
818655-B3108	S		1125		2	3	5 day	x	x	x	x	x	x	x	No Sims
818655-B3109	S		1140		7	4	5 day	x	x	x	x	x	x	x	
818655-B3110	S		1145		7	3	5 day	x	x	x	x	x	x	x	
818655-B3111	W		1315		10	3	5 day	x	x	x	x	x	x	x	No Sims
~~818655-B3112~~	S					3	5 day	x	x	x	x	x	x	x	Composite Samples B3103, B3104, B3108 into one sample for analysis

SAMPLES COLLECTED BY: Way-Ryan Jeffer

COURIER AND AIR BILL NUMBER: Courier

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Way-Ryan Jeffer	[signature]	11/12/02	3:30	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Project Information Section For Project Personnel Only Do Not Submit to Laboratory

Sample Point Location	G	C	F	QC
① TAA636-Drum		X		
② TAA651A Drum				
③ Trip Blank				
④ TAA651A 18" below Sump				
⑤ TAA651A 36" below Sump				
⑥ TAA955 Drum				
⑦ TAA31A ~~36"~~ 18" below Sump				
⑧ TAA31A ~~48"~~ 36" below Sump				
⑨ Equipment Rinsate				
⑩ Composite Samples				

Comments

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

the igroup

IT Corporation
2790 Mosside Blvd.
Monroeville, PA 15146-2792
(412)372-7701

CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

A 14696

FORM 0019 REV. 9-99

02-K106

LAB COORDINATOR: LINN JEFFERSON	LAB COORDINATOR'S PHONE: 949-660-7537	LAB COORDINATOR'S FAX: 949-475-5433	LABORATORY SERVICE ID: GMAX	LABORATORY CONTACT: YE MYINT	MAIL REPORT (COMPANY NAME): SHAW E+I
PROJECT NAME: MCAS EL TORO	PROJECT LOCATION: MCAS EL TORO	PROJECT NUMBER: 818655	LABORATORY PHONE: 410-618-8889	LABORATORY FAX:	RECIPIENT NAME: DWAYNE ISHIDA
PROJECT CONTACT: HANANJAY RAWAL	PROJECT PHONE NUMBER: 949-660-7576	PROJECT FAX: 949-474-8309	LABORATORY ADDRESS: 1835 W 205th ST.		ADDRESS: 3347 MICHELSON DR. #200
PROJECT ADDRESS: MCAS EL TORO	CITY, STATE AND ZIP CODE: SANTA ANA, CA	CLIENT: EFA WEST	CITY, STATE AND ZIP CODE: TORRANCE, CA 90501		CITY, STATE AND ZIP CODE: IRVINE, CA 92612
PROJECT MANAGER: HANANJAY RAWAL	PROJECT MANAGER'S PHONE: 949-660-7576	PROJECT MANAGER'S FAX: 949-474-8309			

Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 8260B (VOCS)	SVOC + 9mS (8270)	8015 (GAS)	8015 (DIESEL)	8081 (PESTICIDES)	8082 (PCB)	6010 (METALS)		Comments
818655-B3113	S	11/12/02	1230	4°C	7	3	5 DAY	X	X	X	X	X	X	X		
818655-B3114	S	11/12/02	1240	4°C	7	3	5 day	X	X	X	X	X	X	X		
818655-																

W.S. 11/12/02

SAMPLES COLLECTED BY: Way-Lynn Xfler

COURIER AND AIR BILL NUMBER: Courier

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Way-Lynn Xfler	Phil Hale	11-12-02	3:30	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Manilla - Project Data Manager

Project Information Section
For Project Personnel Only
Do Not Submit to Laboratory

Sample Point Location	Sample Type: G	C	F	QC
① TAA770 ~~36"~~ 18" below Sump	X			
② TAA770 ~~36"~~ 36" below Sump	X			

Comments

Sample Type: G - Grab, C - Composite, F - Field Sample, QC - Quality Control Sample

METHOD 5030B/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SHAW E&I
Project : EL TORO, CTO 0024
Batch No. : 02K106

Matrix : WATER
Instrument ID : GCT039

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SURR (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	VA39K16B	ND	98	1	NA	.1	.005	11/14/0207:12	11/14/0207:12	EK13031A	EK13025A	VA39K16	NA	11/14/02
LCS1W	VA39K16L	.594	128	1	NA	.1	.005	11/14/0206:04	11/14/0206:04	EK13029A	EK13025A	VA39K16	NA	11/14/02
LCD1W	VA39K16C	.557	123	1	NA	.1	.005	11/14/0206:38	11/14/0206:38	EK13030A	EK13025A	VA39K16	NA	11/14/02
818655-B3111	K106-09	ND	93	1	NA	.1	.005	11/14/0212:31	11/14/0212:31	EK13039A	EK13037A	VA39K16	11/12/02	11/12/02

RL : Reporting Limit

METHOD 5035/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SHAW E&I
Project : EL TORO, CTO 0024
Batch No. : 02K106

Matrix : SOIL
Instrument ID : GCT039

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	SURR (%)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	VM39K14B	ND	79	1	NA	10	.524	11/14/0200:25	11/14/0200:25	EK13019A	EK13013A	VM39K14	NA	11/14/02
LCS1S	VM39K14L	25.9	119	1	NA	10	.524	11/13/0223:17	11/13/0223:17	EK13017A	EK13013A	VM39K14	NA	11/13/02
LCD1S	VM39K14C	24	107	1	NA	10	.524	11/13/0223:51	11/13/0223:51	EK13018A	EK13013A	VM39K14	NA	11/13/02
818655-B3103(COMPOSITE)	K106-01	58	82	1	19.4	12	.65	11/14/0205:30	11/14/0205:30	EK13028A	EK13025A	VM39K14	11/12/02	11/12/02
818655-B3106	K106-04	ND	115	0.85	21.1	11	.56	11/14/0200:59	11/14/0200:59	EK13020A	EK13013A	VM39K14	11/12/02	11/12/02
818655-B3107	K106-05	ND	106	0.85	18.0	10	.54	11/14/0201:33	11/14/0201:33	EK13021A	EK13013A	VM39K14	11/12/02	11/12/02
818655-B3109	K106-07	ND	105	1.04	8.0	11	.59	11/14/0202:07	11/14/0202:07	EK13022A	EK13013A	VM39K14	11/12/02	11/12/02
818655-B3110	K106-08	ND	83	1.04	12.5	12	.62	11/14/0202:41	11/14/0202:41	EK13023A	EK13013A	VM39K14	11/12/02	11/12/02
818655-B3113	K106-10	ND	111	0.82	14.2	9.6	.5	11/14/0203:15	11/14/0203:15	EK13024A	EK13013A	VM39K14	11/12/02	11/12/02
818655-B3114	K106-11	ND	98	0.86	11.4	9.7	.51	11/14/0204:56	11/14/0204:56	EK13027A	EK13025A	VM39K14	11/12/02	11/12/02

RL : Reporting Limit
Metahnol Extraction: 11/13/02 17:30

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 5030B/M8015

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VA39K16B	VA39K16L	VA39K16C		
LAB FILE ID:	EK13031A	EK13029A	EK13030A		
DATE EXTRACTED:	11/14/0207:12	11/14/0206:04	11/14/0206:38	DATE COLLECTED:	NA
DATE ANALYZED:	11/14/0207:12	11/14/0206:04	11/14/0206:38	DATE RECEIVED:	11/14/02
PREP. BATCH:	VA39K16	VA39K16	VA39K16		
CALIB. REF:	EK13025A	EK13025A	EK13025A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Gasoline	ND	.55	.594	108	.55	.557	101	6	67-136	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	.02	.0255	128	.02	.0246	123	63-154

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 5035/M8015

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VM39K14B	VM39K14L	VM39K14C		
LAB FILE ID:	EK13019A	EK13017A	EK13018A		
DATE EXTRACTED:	11/14/0200:25	11/13/0223:17	11/13/0223:51	DATE COLLECTED:	NA
DATE ANALYZED:	11/14/0200:25	11/13/0223:17	11/13/0223:51	DATE RECEIVED:	11/13/02
PREP. BATCH:	VM39K14	VM39K14	VM39K14		
CALIB. REF:	EK13013A	EK13013A	EK13013A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Gasoline	ND	27.5	25.9	94	27.5	24	87	7	57-146	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	1	1.19	119	1	1.07	107	63-154

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SHAW E&I
Project : EL TORO, CTO 0024
Batch No. : 02K106

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSK018WB	ND	75	90	1	NA	.1	.1	11/15/0210:51	11/14/0212:30	TK13057A	TK13050A	DSK018W	NA	11/14/02
LCS1W	DSK018WL	4.63	69	101	1	NA	.1	.1	11/15/0211:40	11/14/0212:30	TK13058A	TK13050A	DSK018W	NA	11/14/02
LCD1W	DSK018WC	5.1	90	99	1	NA	.1	.1	11/15/0212:28	11/14/0212:30	TK13059A	TK13050A	DSK018W	NA	11/14/02
818655-B3111	K106-09	ND	81	97	.94	NA	.094	.094	11/15/0213:17	11/14/0212:30	TK13060A	TK13050A	DSK018W	11/12/02	11/12/02

RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

Parameter	H-C Range
Diesel	C10-C38

5004

CA LUFT/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SHAW E&I
Project : EL TORO, CTO 0024
Batch No. : 02K106

Matrix : SOIL
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Receiv DATETI
MBLK1S	DSK019SB	ND	91	98	1	NA	10	4	11/15/0201:06	11/14/0212:15	TK13045A	TK13037A	DSK019S	NA	11/14/
LCS1S	DSK019SL	563	101	102	1	NA	10	4	11/15/0201:54	11/14/0212:15	TK13046A	TK13037A	DSK019S	NA	11/14/
818655-B3103(COMPOSITE)	K106-01T	7600	DO	DO	10	19.4	120	50	11/15/0202:43	11/14/0212:15	TK13047A	TK13037A	DSK019S	11/12/02	11/12/
818655-B3106	K106-04	ND	87	95	1	21.1	13	5.1	11/15/0203:32	11/14/0212:15	TK13048A	TK13037A	DSK019S	11/12/02	11/12/
818655-B3107	K106-05	ND	84	90	1	18.0	12	4.9	11/15/0204:21	11/14/0212:15	TK13049A	TK13037A	DSK019S	11/12/02	11/12/
818655-B3109	K106-07	ND	85	88	1	8.0	11	4.3	11/15/0205:58	11/14/0212:15	TK13051A	TK13050A	DSK019S	11/12/02	11/12/
818655-B3110	K106-08	93	84	95	1	12.5	11	4.6	11/15/0206:47	11/14/0212:15	TK13052A	TK13050A	DSK019S	11/12/02	11/12/
818655-B3113	K106-10	ND	86	92	1	14.2	12	4.7	11/15/0207:36	11/14/0212:15	TK13053A	TK13050A	DSK019S	11/12/02	11/12/
818655-B3114	K106-11	ND	82	86	1	11.4	11	4.5	11/15/0208:24	11/14/0212:15	TK13054A	TK13050A	DSK019S	11/12/02	11/12/
818655-B3114MS	K106-11M	571	95	91	1	11.4	11.3	4.51	11/15/0209:13	11/14/0212:15	TK13055A	TK13050A	DSK019S	11/12/02	11/12/
818655-B3114MSD	K106-11S	602	99	95	1	11.4	11.3	4.51	11/15/0210:02	11/14/0212:15	TK13056A	TK13050A	DSK019S	11/12/02	11/12/

RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

Parameter	H-C Range
Diesel	C10-C38

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3520C/M8015

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	DSK018WB	DSK018WL	DSK018WC		
LAB FILE ID:	TK13057A	TK13058A	TK13059A		
DATE EXTRACTED:	11/14/0212:30	11/14/0212:30	11/14/0212:30	DATE COLLECTED:	NA
DATE ANALYZED:	11/15/0210:51	11/15/0211:40	11/15/0212:28	DATE RECEIVED:	11/14/02
PREP. BATCH:	DSK018W	DSK018W	DSK018W		
CALIB. REF:	TK13050A	TK13050A	TK13050A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	5	4.63	93	5	5.1	102	10	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1	.691	69	1	.901	90	50-150
Hexacosane	.25	.253	101	.25	.246	99	40-160

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: CA LUFT/M8015

MATRIX:	SOIL		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MBLK1S			
LAB SAMP ID:	DSK019SB	DSK019SL		
LAB FILE ID:	TK13045A	TK13046A		
DATE EXTRACTED:	11/14/0212:15	11/14/0212:15	DATE COLLECTED:	NA
DATE ANALYZED:	11/15/0201:06	11/15/0201:54	DATE RECEIVED:	11/14/02
PREP. BATCH:	DSK019S	DSK019S		
CALIB. REF:	TK13037A	TK13037A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Diesel	ND	500	563	113	65-135

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Bromobenzene	100	101	101	50-150
Hexacosane	25	25.5	102	30-160

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: CA LUFT/M8015

MATRIX:	SOIL			% MOISTURE:	11.4
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	818655-B3114				
LAB SAMP ID:	K106-11	K106-11M	K106-11S		
LAB FILE ID:	TK13054A	TK13055A	TK13056A		
DATE EXTRACTED:	11/14/0212:15	11/14/0212:15	11/14/0212:15	DATE COLLECTED:	11/12/02
DATE ANALYZED:	11/15/0208:24	11/15/0209:13	11/15/0210:02	DATE RECEIVED:	11/12/02
PREP. BATCH:	DSK019S	DSK019S	DSK019S		
CALIB. REF:	TK13050A	TK13050A	TK13050A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	563	571	102	563	602	108	5	65-135	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
Bromobenzene	113	108	95	113	111	99	45-165
Hexacosane	28.2	25.8	91	28.2	26.9	95	27-176

SW3520C/8081A
PESTICIDES

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 13:30
Sample ID:	818655-B3111	Date Analyzed:	11/16/02 04:46
Lab Samp ID:	K106-09	Dilution Factor:	.94
Lab File ID:	SK15035A	Matrix :	WATER
Ext Btch ID:	CPK016W	% Moisture :	NA
Calib. Ref.:	SK15029A	Instrument ID :	GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND)|ND	.094	.0094|.0094
GAMMA-BHC (LINDANE)	(ND)|ND	.094	.0094|.0094
BETA-BHC	(ND)|ND	.094	.0094|.0094
HEPTACHLOR	(ND)|ND	.094	.0094|.0094
DELTA-BHC	(ND)|ND	.094	.0094|.0094
ALDRIN	(ND)|ND	.094	.0094|.0094
HEPTACHLOR EPOXIDE	(ND)|ND	.094	.0094|.0094
GAMMA-CHLORDANE	(ND)|ND	.094	.0094|.0094
ALPHA-CHLORDANE	(ND)|ND	.094	.0094|.0094
ENDOSULFAN I	(ND)|ND	.094	.028|.028
4,4'-DDE	(ND)|ND	.19	.028|.028
DIELDRIN	(ND)|ND	.19	.094|.094
ENDRIN	(ND)|ND	.094	.0094|.0094
4,4'-DDD	(ND)|ND	.19	.028|.028
ENDOSULFAN II	(ND)|ND	.19	.0094|.0094
4,4'-DDT	(ND)|ND	.19	.019|.019
ENDRIN ALDEHYDE	(ND)|ND	.19	.0094|.0094
ENDOSULFAN SULFATE	(ND)|ND	.19	.0094|.0094
ENDRIN KETONE	(ND)|ND	.094	.0094|.0094
METHOXYCHLOR	(ND)|ND	.94	.094|.094
TOXAPHENE	(ND)|ND	2.8	1.2|1.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	64|(65)	45-125
DECACHLOROBIPHENYL	(107)|104	34-133

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

SW3550B/8081A
PESTICIDES

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	818655-B3113	Date Analyzed:	11/16/02 08:33
Lab Samp ID:	K106-10	Dilution Factor:	1
Lab File ID:	SK15044A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	14.2
Calib. Ref.:	SK15029A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ALPHA-BHC	(ND)|ND	.0023	.00023|.00023
GAMMA-BHC (LINDANE)	(ND)|ND	.0023	.00023|.00023
BETA-BHC	(ND)|ND	.0023	.00023|.00023
HEPTACHLOR	(ND)|ND	.0023	.0012|.0012
DELTA-BHC	(ND)|ND	.0023	.00023|.00023
ALDRIN	(ND)|ND	.0023	.00058|.00058
HEPTACHLOR EPOXIDE	(ND)|ND	.0023	.00023|.00023
GAMMA-CHLORDANE	(ND)|ND	.0023	.00023|.00023
ALPHA-CHLORDANE	(ND)|ND	.0023	.00023|.00023
ENDOSULFAN I	(ND)|ND	.0047	.0012|.0012
4,4'-DDE	(ND)|ND	.0047	.0012|.0012
DIELDRIN	(ND)|ND	.0047	.00058|.00058
ENDRIN	(ND)|ND	.0035	.0012|.0012
4,4'-DDD	(ND)|ND	.0047	.0012|.0012
ENDOSULFAN II	(ND)|ND	.0047	.00058|.00058
4,4'-DDT	(ND)|ND	.0047	.0012|.0012
ENDRIN ALDEHYDE	(ND)|ND	.0047	.00058|.00058
ENDOSULFAN SULFATE	(ND)|ND	.0047	.00058|.00058
ENDRIN KETONE	(ND)|ND	.0035	.0012|.0012
METHOXYCHLOR	(ND)|ND	.023	.0047|.0047
TOXAPHENE	(ND)|ND	.12	.0093|.0093

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	57|(60)	35-135
DECACHLOROBIPHENYL	(85)|85	25-143

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

SW3550B/8081A
PESTICIDES

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	818655-B3114	Date Analyzed:	11/16/02 08:58
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	SK15045A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	11.4
Calib. Ref.:	SK15029A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ALPHA-BHC	(ND) | ND	.0023	.00023 | .00023
GAMMA-BHC (LINDANE)	(ND) | ND	.0023	.00023 | .00023
BETA-BHC	(ND) | .0017J	.0023	.00023 | .00023
HEPTACHLOR	.0016J | (ND)	.0023	.0011 | .0011
DELTA-BHC	(ND) | .00034J	.0023	.00023 | .00023
ALDRIN	(ND) | ND	.0023	.00056 | .00056
HEPTACHLOR EPOXIDE	(ND) | ND	.0023	.00023 | .00023
GAMMA-CHLORDANE	(ND) | ND	.0023	.00023 | .00023
ALPHA-CHLORDANE	(ND) | ND	.0023	.00023 | .00023
ENDOSULFAN I	(ND) | ND	.0045	.0011 | .0011
4,4'-DDE	(ND) | ND	.0045	.0011 | .0011
DIELDRIN	(ND) | ND	.0045	.00056 | .00056
ENDRIN	(ND) | ND	.0034	.0011 | .0011
4,4'-DDD	(ND) | ND	.0045	.0011 | .0011
ENDOSULFAN II	(ND) | ND	.0045	.00056 | .00056
4,4'-DDT	(ND) | ND	.0045	.0011 | .0011
ENDRIN ALDEHYDE	(ND) | ND	.0045	.00056 | .00056
ENDOSULFAN SULFATE	(ND) | ND	.0045	.00056 | .00056
ENDRIN KETONE	(ND) | ND	.0034	.0011 | .0011
METHOXYCHLOR	(ND) | ND	.023	.0045 | .0045
TOXAPHENE	(ND) | ND	.11	.009 | .009

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	68 | (75)	35-135
DECACHLOROBIPHENYL	(86) | 86	25-143

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

SW3520C/8081A
PESTICIDES

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
Batch No.	: 02K106	Date Extracted:	11/14/02 13:30
Sample ID:	MBLK1W	Date Analyzed:	11/16/02 00:08
Lab Samp ID:	CPK016WB	Dilution Factor:	1
Lab File ID:	SK15024A	Matrix :	WATER
Ext Btch ID:	CPK016W	% Moisture :	NA
Calib. Ref.:	SK15003A	Instrument ID :	GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) | ND	.1	.01 | .01
GAMMA-BHC (LINDANE)	(ND) | ND	.1	.01 | .01
BETA-BHC	(ND) | ND	.1	.01 | .01
HEPTACHLOR	(ND) | ND	.1	.01 | .01
DELTA-BHC	(ND) | ND	.1	.01 | .01
ALDRIN	(ND) | ND	.1	.01 | .01
HEPTACHLOR EPOXIDE	(ND) | ND	.1	.01 | .01
GAMMA-CHLORDANE	(ND) | ND	.1	.01 | .01
ALPHA-CHLORDANE	(ND) | ND	.1	.01 | .01
ENDOSULFAN I	(ND) | ND	.1	.03 | .03
4,4'-DDE	(ND) | ND	.2	.03 | .03
DIELDRIN	(ND) | ND	.2	.1 | .1
ENDRIN	(ND) | ND	.1	.01 | .01
4,4'-DDD	(ND) | ND	.2	.03 | .03
ENDOSULFAN II	(ND) | ND	.2	.01 | .01
4,4'-DDT	(ND) | ND	.2	.02 | .02
ENDRIN ALDEHYDE	(ND) | ND	.2	.01 | .01
ENDOSULFAN SULFATE	(ND) | ND	.2	.01 | .01
ENDRIN KETONE	(ND) | ND	.1	.01 | .01
METHOXYCHLOR	(ND) | ND	1	.1 | .1
TOXAPHENE	(ND) | ND	3	1.2 | 1.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(87) | 84	45-125
DECACHLOROBIPHENYL	(105) | 102	34-133

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3520C/8081A

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPK016WB	CPK016WL	CPK016WC		
LAB FILE ID:	SK15024A	SK15025A	SK15026A		
DATE EXTRACTED:	11/14/0213:30	11/14/0213:30	11/14/0213:30	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0200:08	11/16/0200:33	11/16/0200:58	DATE RECEIVED:	11/14/02
PREP. BATCH:	CPK016W	CPK016W	CPK016W		
CALIB. REF:	SK15003A	SK15003A	SK15003A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)		SPIKE AMT (ug/L)	BS RSLT (ug/L)		BS % REC		SPIKE AMT (ug/L)	BSD RSLT (ug/L)		BSD % REC		RPD (%)		QC LIMIT (%)	MAX RPD (%)
alpha-BHC	(ND)	ND	.2	(.162)	.149	(81)	74*	.2	(.165)	.151	(82)	75	(2)	1	75-125	30
gamma-BHC (Lindane)	(ND)	ND	.2	(.171)	.159	(86)	79	.2	(.173)	.162	(86)	81	(1)	2	73-125	30
beta-BHC	(ND)	ND	.2	.183	(.184)	92	(92)	.2	(.187)	.186	(94)	93	(2)	1	51-125	30
Heptachlor	(ND)	ND	.2	.183	(.184)	92	(92)	.2	.185	(.19)	92	(95)	1	(3)	45-128	30
delta-BHC	(ND)	ND	.2	(.19)	.152	(95)	76	.2	(.194)	.149	(97)	74*	(2)	2	75-126	30
Aldrin	(ND)	ND	.2	(.187)	.171	(94)	86	.2	(.191)	.174	(96)	87	(2)	2	47-125	30
Heptachlor Epoxide	(ND)	ND	.2	(.192)	.173	(96)	86	.2	(.194)	.175	(97)	88	(1)	1	53-134	30
gamma-Chlordane	(ND)	ND	.2	(.19)	.181	(95)	90	.2	(.193)	.183	(96)	92	(2)	1	41-125	30
alpha-Chlordane	(ND)	ND	.2	(.197)	.181	(98)	90	.2	(.2)	.186	(100)	93	(2)	3	41-125	30
Endosulfan I	(ND)	ND	.2	(.255)	.187	(127)	94	.2	(.268)	.188	(134)	94	(5)	1	49-143	30
4,4'-DDE	(ND)	ND	.4	.373	(.387)	93	(97)	.4	.37	(.394)	92	(98)	1	(2)	45-139	30
Dieldrin	(ND)	ND	.4	(.369)	.346	(92)	86	.4	(.375)	.352	(94)	88	(2)	2	42-132	30
Endrin	(ND)	ND	.4	(.331)	.308	(83)	77	.4	(.337)	.311	(84)	78	(2)	1	43-134	30
4,4'-DDD	(ND)	ND	.4	(.42)	.383	(105)	96	.4	(.428)	.392	(107)	98	(2)	2	48-136	30
Endosulfan II	(ND)	ND	.4	(.427)	.401	(107)	100	.4	(.434)	.407	(108)	102	(2)	1	75-159	30
4,4'-DDT	(ND)	ND	.4	(.433)	.365	(108)	91	.4	(.439)	.373	(110)	93	(1)	2	34-143	30
Endrin Aldehyde	(ND)	ND	.4	(.459)	.416	(115)	104	.4	(.468)	.422	(117)	105	(2)	1	75-150	30
Endosulfan Sulfate	(ND)	ND	.4	(.428)	.385	(107)	96	.4	(.431)	.384	(108)	96	(1)	0	46-141	30
Endrin Ketone	(ND)	ND	.4	(.473)	.434	(118)	108	.4	(.481)	.44	(120)	110	(2)	1	75-150	30
Methoxychlor	(ND)	ND	2	(2.22)	2.01	(111)	100	2	(2.25)	2.03	(112)	102	(1)	1	73-142	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)		BS % REC		SPIKE AMT (ug/L)	BSD RSLT (ug/L)		BSD % REC		QC LIMIT (%)
Tetrachloro-m-xylene	.4	(.311)	.296	(77)	74	.4	(.314)	.299	(78)	74	45-125
Decachlorobiphenyl	.8	(.736)	.658	(92)	82	.8	(.743)	.664	(93)	83	34-133

5073

SW3550B/8081A
PESTICIDES

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	MBLK1S	Date Analyzed:	11/16/02 06:52
Lab Samp ID:	CPK017SB	Dilution Factor:	1
Lab File ID:	SK15040A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	NA
Calib. Ref.:	SK15029A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ALPHA-BHC	(ND) | ND	.002	.0002 | .0002
GAMMA-BHC (LINDANE)	(ND) | ND	.002	.0002 | .0002
BETA-BHC	(ND) | ND	.002	.0002 | .0002
HEPTACHLOR	(ND) | ND	.002	.001 | .001
DELTA-BHC	(ND) | ND	.002	.0002 | .0002
ALDRIN	(ND) | ND	.002	.0005 | .0005
HEPTACHLOR EPOXIDE	(ND) | ND	.002	.0002 | .0002
GAMMA-CHLORDANE	(ND) | ND	.002	.0002 | .0002
ALPHA-CHLORDANE	(ND) | ND	.002	.0002 | .0002
ENDOSULFAN I	(ND) | ND	.004	.001 | .001
4,4'-DDE	(ND) | ND	.004	.001 | .001
DIELDRIN	(ND) | ND	.004	.0005 | .0005
ENDRIN	(ND) | ND	.003	.001 | .001
4,4'-DDD	(ND) | ND	.004	.001 | .001
ENDOSULFAN II	(ND) | ND	.004	.0005 | .0005
4,4'-DDT	(ND) | ND	.004	.001 | .001
ENDRIN ALDEHYDE	(ND) | ND	.004	.0005 | .0005
ENDOSULFAN SULFATE	(ND) | ND	.004	.0005 | .0005
ENDRIN KETONE	(ND) | ND	.003	.001 | .001
METHOXYCHLOR	(ND) | ND	.02	.004 | .004
TOXAPHENE	(ND) | ND	.1	.008 | .008

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(77) | 77	35-135
DECACHLOROBIPHENYL	(95) | 93	25-143

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3550B/8081A

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: CPK017SB CPK017SL
LAB FILE ID: SK15040A SK15041A
DATE EXTRACTED: 11/14/0216:00 11/14/0216:00 DATE COLLECTED: NA
DATE ANALYZED: 11/16/0206:52 11/16/0207:17 DATE RECEIVED: 11/14/02
PREP. BATCH: CPK017S CPK017S
CALIB. REF: SK15029A SK15029A

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)		SPIKE AMT (mg/kg)	BS RSLT (mg/kg)		BS % REC		QC LIMIT (%)
alpha-BHC	(ND)	ND	.00667	(.00451)	.00449	(68)	67	65-135
gamma-BHC (Lindane)	(ND)	ND	.00667	(.00501)	.00476	(75)	71	63-130
beta-BHC	(ND)	ND	.00667	(.00555)	.00533	(83)	80	41-133
Heptachlor	(ND)	ND	.00667	(.00517)	.00495	(78)	74	35-138
delta-BHC	(ND)	ND	.00667	(.00557)	.00512	(84)	77	65-136
Aldrin	(ND)	ND	.00667	(.00554)	.00516	(83)	77	37-126
Heptachlor Epoxide	(ND)	ND	.00667	(.00572)	.00536	(86)	80	43-144
gamma-Chlordane	(ND)	ND	.00667	.00567	(.0057)	85	(85)	31-133
alpha-Chlordane	(ND)	ND	.00667	(.00588)	.00571	(88)	86	31-135
Endosulfan I	(ND)	ND	.00667	(.0068)	.00583	(102)	87	39-153
4,4'-DDE	(ND)	ND	.0133	.0123	(.0124)	92	(93)	35-149
Dieldrin	(ND)	ND	.0133	(.011)	.0109	(83)	82	32-142
Endrin	(ND)	ND	.0133	(.00918)	.00907	(69)	68	33-144
4,4'-DDD	(ND)	ND	.0133	(.0129)	.0124	(97)	93	38-146
Endosulfan II	(ND)	ND	.0133	(.0131)	.0127	(98)	95	65-169
4,4'-DDT	(ND)	ND	.0133	(.0127)	.0111	(95)	83	25-153
Endrin Aldehyde	(ND)	ND	.0133	(.0145)	.0136	(109)	102	65-160
Endosulfan Sulfate	(ND)	ND	.0133	(.0133)	.0125	(100)	94	36-151
Endrin Ketone	(ND)	ND	.0133	(.0145)	.0139	(109)	104	65-160
Methoxychlor	(ND)	ND	.0667	(.0671)	.0619	(101)	93	63-152

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)		BS % REC		QC LIMIT (%)
Tetrachloro-m-xylene	.0133	(.00937)	.00923	(70)	69	35-135
Decachlorobiphenyl	.0266	(.024)	.0221	(90)	83	25-143

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3550B/8081A

MATRIX: SOIL
% MOISTURE: 11.4

DILUTION FACTOR:	1	1	1
SAMPLE ID:	818655-B3114		
LAB SAMP ID:	K106-11	K106-11M	K106-11S
LAB FILE ID:	SK15045A	SK15046A	SK15047A
DATE EXTRACTED:	11/14/0216:00	11/14/0216:00	11/14/0216:00
DATE ANALYZED:	11/16/0208:58	11/16/0209:23	11/16/0209:48
PREP. BATCH:	CPK017S	CPK017S	CPK017S
CALIB. REF:	SK15029A	SK15029A	SK15029A

DATE COLLECTED: 11/12/02
DATE RECEIVED: 11/12/02

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)		SPIKE AMT (mg/kg)	MS RSLT (mg/kg)		MS % REC		SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)		MSD % REC		RPD (%)		QC LIMIT (%)	MAX RPD (%)
alpha-BHC	(ND)	ND	.00753	(.00337)	.00328	(45*)	44*	.00753	.00592	(.00624)	79	(83)	55*	(62*)	65-135	50
gamma-BHC (Lindane)	(ND)	ND	.00753	.00386	(.00396)	51*	(53*)	.00753	.00573	(.00624)	76	(83)	39	(45)	63-130	50
beta-BHC	(ND)	.0017J	.00753	.00707	(.00782)	94	(81)	.00753	.00627	(.00665)	83	(66)	12	(16)	41-133	50
Heptachlor	.0016J	(ND)	.00753	.0057	(.00721)	54	(96)	.00753	.00601	(.007)	59	(93)	5	(3)	35-138	50
delta-BHC	(ND)	.00034J	.00753	.00469	(.00595)	62*	(75)	.00753	(.00662)	.00586	(88)	73	(34)	2	65-136	50
Aldrin	(ND)	ND	.00753	.00355	(.00689)	47	(92)	.00753	.00673	(.00714)	89	(95)	62*	(4)	37-126	50
Heptachlor Epoxide	(ND)	ND	.00753	.00354	(.00493)	47	(65)	.00753	(.0064)	.00637	(85)	85	58*	(25)	43-144	50
gamma-Chlordane	(ND)	ND	.00753	.00359	(.00454)	48	(60)	.00753	.00635	(.00647)	84	(86)	56*	(35)	31-133	50
alpha-Chlordane	(ND)	ND	.00753	.00357	(.00362)	47	(48)	.00753	(.00651)	.00649	(86)	86	(58*)	57*	31-135	50
Endosulfan I	(ND)	ND	.00753	.00316J	(.00366J)	42	(49)	.00753	.00617	(.00671)	82	(89)	65*	(59*)	39-153	50
4,4'-DDE	(ND)	ND	.015	(.00868)	.00769	(58)	51	.015	(.0148)	.014	(98)	93	(52*)	58*	35-149	50
Dieldrin	(ND)	ND	.015	.00596	(.00706)	40	(47)	.015	.0119	(.0123)	79	(82)	67*	(54*)	32-142	50
Endrin	(ND)	ND	.015	(.00629)	.00606	(42)	40	.015	.0103	(.0107)	68	(71)	(48)	55*	33-144	50
4,4'-DDD	(ND)	ND	.015	(.0107)	.00743	(71)	49	.015	.0138	(.014)	92	(93)	(25)	61*	38-146	50
Endosulfan II	(ND)	ND	.015	(.00932)	.00774	(62*)	51*	.015	.0135	(.0138)	90	(92)	(37)	56*	65-169	50
4,4'-DDT	(ND)	ND	.015	.00939	(.0133)	62	(88)	.015	(.0138)	.0127	(92)	84	(38)	5	25-153	50
Endrin Aldehyde	(ND)	ND	.015	.00903	(.0137)	60*	(91)	.015	(.0148)	.0148	(98)	98	(48)	8	65-160	50
Endosulfan Sulfate	(ND)	ND	.015	(.0168)	.00959	(112)	64	.015	(.0149)	.0145	(99)	96	(12)	41	36-151	50
Endrin Ketone	(ND)	ND	.015	(.0118)	.008	(78)	53*	.015	(.015)	.015	(100)	100	(24)	61*	65-160	50
Methoxychlor	(ND)	ND	.0752	(.0431)	.0417	(57*)	55*	.0752	(.074)	.0714	(98)	95	(53*)	53*	63-152	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)		MS % REC		SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)		MSD % REC		QC LIMIT (%)
Tetrachloro-m-xylene	.015	.00991	(.0103)	66	(68)	.015	.0117	(.0119)	78	(79)	35-135
Decachlorobiphenyl	.030	(.0195)	.0195	(65)	65	.030	(.0259)	.0244	(86)	81	25-143

5076

SW3520C/8082
PCBs

Client : SHAW E&I	Date Collected: 11/12/02
Project : EL TORO, CTO 0024	Date Received: 11/12/02
Batch No. : 02K106	Date Extracted: 11/14/02 13:30
Sample ID: 818655-B3111	Date Analyzed: 11/16/02 04:46
Lab Samp ID: K106-09	Dilution Factor: .94
Lab File ID: SK15035A	Matrix : WATER
Ext Btch ID: CPK016W	% Moisture : NA
Calib. Ref.: SK15032A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND)|ND	.94	.24|.24
PCB-1221	(ND)|ND	.94	.24|.24
PCB-1232	(ND)|ND	.94	.24|.24
PCB-1242	(ND)|ND	.94	.24|.24
PCB-1248	(ND)|ND	.94	.24|.24
PCB-1254	(ND)|ND	.94	.24|.24
PCB-1260	(ND)|ND	.94	.24|.24

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	69|(70)	45-125
DECACHLOROBIPHENYL	(119)|109	34-133

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit

SW3550B/8082
PCBs

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	818655-B3113	Date Analyzed:	11/16/02 08:33
Lab Samp ID:	K106-10	Dilution Factor:	1
Lab File ID:	SK15044A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	14.2
Calib. Ref.:	SK15032A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
PCB-1016	(ND)|ND	.058	.019|.019
PCB-1221	(ND)|ND	.058	.019|.019
PCB-1232	(ND)|ND	.058	.019|.019
PCB-1242	(ND)|ND	.058	.019|.019
PCB-1248	(ND)|ND	.058	.019|.019
PCB-1254	(ND)|ND	.058	.019|.019
PCB-1260	(ND)|ND	.058	.019|.019

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	62|(66)	35-135
DECACHLOROBIPHENYL	(94)|89	25-143

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit

SW3550B/8082
PCBs

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	818655-B3114	Date Analyzed:	11/16/02 08:58
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	SK15045A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	11.4
Calib. Ref.:	SK15032A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
PCB-1016	(ND)|ND	.056	.019|.019
PCB-1221	(ND)|ND	.056	.019|.019
PCB-1232	(ND)|ND	.056	.019|.019
PCB-1242	(ND)|ND	.056	.019|.019
PCB-1248	(ND)|ND	.056	.019|.019
PCB-1254	(ND)|ND	.056	.019|.019
PCB-1260	(ND)|ND	.056	.019|.019

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	73|(81)	35-135
DECACHLOROBIPHENYL	(101)|90	25-143

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit

SW3520C/8082
PCBs

Client : SHAW E&I	Date Collected: NA
Project : EL TORO, CTO 0024	Date Received: 11/14/02
Batch No. : 02K106	Date Extracted: 11/14/02 13:30
Sample ID: MBLK1W	Date Analyzed: 11/16/02 00:08
Lab Samp ID: CPK016WB	Dilution Factor: 1
Lab File ID: SK15024A	Matrix : WATER
Ext Btch ID: CPK016W	% Moisture : NA
Calib. Ref.: SK15006A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) | ND	1	.25 | .25
PCB-1221	(ND) | ND	1	.25 | .25
PCB-1232	(ND) | ND	1	.25 | .25
PCB-1242	(ND) | ND	1	.25 | .25
PCB-1248	(ND) | ND	1	.25 | .25
PCB-1254	(ND) | ND	1	.25 | .25
PCB-1260	(ND) | ND	1	.25 | .25

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(94) | 91	45-125
DECACHLOROBIPHENYL	(117) | 106	34-133

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3520C/8082

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPK016WB	60K016WL	60K016WC		
LAB FILE ID:	SK15024A	SK15033A	SK15034A		
DATE EXTRACTED:	11/14/0213:30	11/14/0213:30	11/14/0213:30	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0200:08	11/16/0203:55	11/16/0204:20	DATE RECEIVED:	11/14/02
PREP. BATCH:	CPK016W	CPK016W	CPK016W		
CALIB. REF:	SK15006A	SK15032A	SK15032A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
PCB-1016	(ND)|ND	5	(4.9)|4.67	(98)|93	5	(4.95)|4.83	(99)|97	(1)|3	54-143	30
PCB-1260	(ND)|ND	5	(5.86)|5.12	(117)|102	5	(5.95)|5.22	(119)|104	(2)|2	63-154	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	.2	(.209)|.192	(104)|96	.2	(.212)|.195	(106)|98	45-125
Decachlorobiphenyl	.2	(.241)|.22	(120)|110	.2	(.242)|.221	(121)|111	34-133

SW3550B/8082
PCBs

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
Batch No.	: 02K106	Date Extracted:	11/14/02 16:00
Sample ID:	MBLK1S	Date Analyzed:	11/16/02 06:52
Lab Samp ID:	CPK017SB	Dilution Factor:	1
Lab File ID:	SK15040A	Matrix :	SOIL
Ext Btch ID:	CPK017S	% Moisture :	NA
Calib. Ref.:	SK15032A	Instrument ID :	GCT008

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
PCB-1016	(ND) | ND	.05	.017 | .017
PCB-1221	(ND) | ND	.05	.017 | .017
PCB-1232	(ND) | ND	.05	.017 | .017
PCB-1242	(ND) | ND	.05	.017 | .017
PCB-1248	(ND) | ND	.05	.017 | .017
PCB-1254	(ND) | ND	.05	.017 | .017
PCB-1260	(ND) | ND	.05	.017 | .017

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	83 | (84)	35-135
DECACHLOROBIPHENYL	(105) | 97	25-143

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3550B/8082

MATRIX:	SOIL		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MBLK1S			
LAB SAMP ID:	CPK017SB	60K017SL		
LAB FILE ID:	SK15040A	SK15042A		
DATE EXTRACTED:	11/14/0216:00	11/14/0216:00	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0206:52	11/16/0207:42	DATE RECEIVED:	11/14/02
PREP. BATCH:	CPK017S	CPK017S		
CALIB. REF:	SK15032A	SK15032A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
PCB-1016	(ND)|ND	.167	(.182)|.153	(109)|92	27-165
PCB-1260	(ND)|ND	.167	(.19)|.172	(114)|103	36-176

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Tetrachloro-m-xylene	.0133	(.0125)|.0125	93|(94)	35-135
Decachlorobiphenyl	.0133	(.0151)|.0135	(113)|101	25-143

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW3550B/8082

MATRIX: SOIL % MOISTURE: 11.4

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	818655-B3114				
LAB SAMP ID:	K106-11	K106-11M	K106-11S		
LAB FILE ID:	SK15045A	SK15048A	SK15049A		
DATE EXTRACTED:	11/14/0216:00	11/14/0216:00	11/14/0216:00	DATE COLLECTED:	11/12/02
DATE ANALYZED:	11/16/0208:58	11/16/0210:13	11/16/0210:39	DATE RECEIVED:	11/12/02
PREP. BATCH:	CPK017S	CPK017S	CPK017S		
CALIB. REF:	SK15032A	SK15032A	SK15032A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
PCB-1016	(ND)|ND	.188	.127|(.134)	67|(71)	.188	(.163)|.16	(87)|85	(25)|18	27-165	50
PCB-1260	(ND)|ND	.188	(.164)|.136	(87)|72	.188	(.196)|.179	(104)|95	(18)|27	36-176	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	SPIKE AMT (mg/kg)	MSD RSLT (mg/kg)	MSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	.015	.0135|(.0142)	89|(95)	.015	.0124|(.0133)	83|(88)	35-135
Decachlorobiphenyl	.015	(.023)|.0207	153*|(138)	.015	(.0163)|.015	(108)|99	25-143

* : Outside of QC limits

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : SHAW E&I	Date Collected: 11/12/02
Project : EL TORO, CTO 0024	Date Received: 11/12/02
Batch No. : 02K106	Date Extracted: 11/16/02 20:03
Sample ID: 818655-B3105	Date Analyzed: 11/16/02 20:03
Lab Samp ID: K106-03	Dilution Factor: 1
Lab File ID: RKW353	Matrix : WATER
Ext Btch ID: V006K38	% Moisture : NA
Calib. Ref.: RKW094	Instrument ID : T-006

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	2
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	2.5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	113	86-118
BROMOFLUOROBENZENE	93	86-115
TOLUENE-D8	102	88-110

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/16/02 20:39
Sample ID:	818655-B3111	Date Analyzed:	11/16/02 20:39
Lab Samp ID:	K106-09	Dilution Factor:	1
Lab File ID:	RKW354	Matrix :	WATER
Ext Btch ID:	V006K38	% Moisture :	NA
Calib. Ref.:	RKW094	Instrument ID :	T-006

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	2
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	2.5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	111	86-118
BROMOFLUOROBENZENE	98	86-115
TOLUENE-D8	102	88-110

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/18/02 17:57
Sample ID:	818655-B3113	Date Analyzed:	11/18/02 17:57
Lab Samp ID:	K106-10	Dilution Factor:	.85
Lab File ID:	RKW377	Matrix :	SOIL
Ext Btch ID:	V006K40	% Moisture :	14.2
Calib. Ref.:	RKW094	Instrument ID :	T-006

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	3
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	9.9	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	119	70-130
BROMOFLUOROBENZENE	99	70-130
TOLUENE-D8	96	70-130

Preservation Date: 11/13/02 16:25

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/18/02 18:33
Sample ID:	818655-B3114	Date Analyzed:	11/18/02 18:33
Lab Samp ID:	K106-11	Dilution Factor:	.85
Lab File ID:	RKW378	Matrix :	SOIL
Ext Btch ID:	V006K40	% Moisture :	11.4
Calib. Ref.:	RKW094	Instrument ID :	T-006

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
2-BUTANONE (MEK)	ND	48	4.8
2-HEXANONE	ND	48	4.8
2-CHLOROETHYLVINYLETHER	ND	48	1.9
4-METHYL-2-PENTANONE (MIBK)	ND	48	4.8
ACETONE	ND	48	4.8
BENZENE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	4.8	2.9
CARBON DISULFIDE	ND	4.8	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	2.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	4.8	4.8
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
XYLENE,TOTAL	ND	4.8	2.9
METHYLENE CHLORIDE	ND	4.8	1.9
MTBE	ND	9.6	1.9
STYRENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
TETRACHLOROETHENE	ND	4.8	1.9
VINYL ACETATE	ND	48	1.9
VINYL CHLORIDE	ND	4.8	1.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	121	70-130
BROMOFLUOROBENZENE	91	70-130
TOLUENE-D8	93	70-130

Preservation Date: 11/13/02 16:25

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : SHAW E&I	Date Collected: NA
Project : EL TORO, CTO 0024	Date Received: 11/16/02
Batch No. : 02K106	Date Extracted: 11/16/02 18:15
Sample ID: MBLK1W	Date Analyzed: 11/16/02 18:15
Lab Samp ID: V006K38Q	Dilution Factor: 1
Lab File ID: RKW350	Matrix : WATER
Ext Btch ID: V006K38	% Moisture : NA
Calib. Ref.: RKW094	Instrument ID : T-006

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	2
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	2.5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	115	86-118
BROMOFLUOROBENZENE	89	86-115
TOLUENE-D8	100	88-110

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V006K38Q	V006K38L	V006K38C		
LAB FILE ID:	RKW350	RKW347	RKW348		
DATE EXTRACTED:	11/16/0218:15	11/16/0216:27	11/16/0217:02	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0218:15	11/16/0216:27	11/16/0217:02	DATE RECEIVED:	11/16/02
PREP. BATCH:	V006K38	V006K38	V006K38		
CALIB. REF:	RKW094	RKW094	RKW094		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	22.1	111	20	20	100	10	75-125	20
Benzene	ND	20	21	105	20	19.1	95	10	75-125	20
Chlorobenzene	ND	20	22.3	112	20	20.1	101	10	75-125	20
Toluene	ND	20	21.2	106	20	19.5	97	9	74-125	20
Trichloroethene	ND	20	21	105	20	19.8	99	6	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	54.3	109	50	51.3	103	86-118
Bromofluorobenzene	50	46.1	92	50	45.4	91	86-115
Toluene-d8	50	48.4	97	50	50.3	101	88-110

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/18/02
Batch No.	: 02K106	Date Extracted:	11/18/02 14:20
Sample ID:	MBLK1S	Date Analyzed:	11/18/02 14:20
Lab Samp ID:	V006K40B	Dilution Factor:	1
Lab File ID:	RKW371	Matrix :	SOIL
Ext Btch ID:	V006K40	% Moisture :	NA
Calib. Ref.:	RKW094	Instrument ID :	T-006

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	3
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	115	70-130
BROMOFLUOROBENZENE	92	70-130
TOLUENE-D8	96	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW 5035/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	V006K40B	V006K40L	V006K40C		
LAB FILE ID:	RKW371	RKW369	RKW370		
DATE EXTRACTED:	11/18/0214:20	11/18/0213:08	11/18/0213:44	DATE COLLECTED:	NA
DATE ANALYZED:	11/18/0214:20	11/18/0213:08	11/18/0213:44	DATE RECEIVED:	11/18/02
PREP. BATCH:	V006K40	V006K40	V006K40		
CALIB. REF:	RKW094	RKW094	RKW094		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	23.2	116	20	22.1	110	5	65-135	30
Benzene	ND	20	22.5	113	20	20.9	104	8	65-135	30
Chlorobenzene	ND	20	23.8	119	20	22.4	112	6	65-135	30
Toluene	ND	20	22.6	113	20	22.2	111	2	64-135	30
Trichloroethene	ND	20	23.5	118	20	21.7	109	8	61-135	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	57.9	116	50	61	122	70-130
Bromofluorobenzene	50	45.7	91	50	46.6	93	70-130
Toluene-d8	50	46.5	93	50	46.3	93	70-130

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : SHAW E&I	Date Collected: NA
Project : EL TORO, CTO 0024	Date Received: 11/18/02
Batch No. : 02K106	Date Extracted: 11/18/02 14:56
Sample ID: MBLK2S	Date Analyzed: 11/18/02 14:56
Lab Samp ID: VPK009SB	Dilution Factor: 1.0
Lab File ID: RKW372	Matrix : SOIL
Ext Btch ID: V006K40	% Moisture : NA
Calib. Ref.: RKW094	Instrument ID : T-006

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	3
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	115	70-130
BROMOFLUOROBENZENE	92	70-130
TOLUENE-D8	98	70-130

Preservation Date: 11/13/02 16:25

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : SHAW E&I	Date Collected: NA
Project : EL TORO, CTO 0024	Date Received: 11/19/02
Batch No. : 02K106	Date Extracted: 11/19/02 04:08
Sample ID: MBLK3S	Date Analyzed: 11/19/02 04:08
Lab Samp ID: V006K42B	Dilution Factor: 1
Lab File ID: RKW391	Matrix : SOIL
Ext Btch ID: V006K42	% Moisture : NA
Calib. Ref.: RKW094	Instrument ID : T-006

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
2-BUTANONE (MEK)	ND	50	5
2-HEXANONE	ND	50	5
2-CHLOROETHYLVINYLETHER	ND	50	2
4-METHYL-2-PENTANONE (MIBK)	ND	50	5
ACETONE	ND	50	5
BENZENE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	5	3
CARBON DISULFIDE	ND	5	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	3
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	5
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
XYLENE,TOTAL	ND	5	3
METHYLENE CHLORIDE	ND	5	2
MTBE	ND	10	2
STYRENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TETRACHLOROETHENE	ND	5	2
VINYL ACETATE	ND	50	2
VINYL CHLORIDE	ND	5	2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	118	70-130
BROMOFLUOROBENZENE	95	70-130
TOLUENE-D8	95	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW 5030B/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK3S				
LAB SAMP ID:	V006K42B	V006K42L	V006K42C		
LAB FILE ID:	RKW391	RKW389	RKW390		
DATE EXTRACTED:	11/19/0204:08	11/19/0202:56	11/19/0203:32	DATE COLLECTED:	NA
DATE ANALYZED:	11/19/0204:08	11/19/0202:56	11/19/0203:32	DATE RECEIVED:	11/19/02
PREP. BATCH:	V006K42	V006K42	V006K42		
CALIB. REF:	RKW094	RKW094	RKW094		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	17.7	89	20	17.6	88	1	65-135	30
Benzene	ND	20	17.6	88	20	18.1	90	3	65-135	30
Chlorobenzene	ND	20	18.8	94	20	19.9	99	6	65-135	30
Toluene	ND	20	18	90	20	18.5	93	3	64-135	30
Trichloroethene	ND	20	17.3	87	20	18.6	93	7	61-135	30

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	57.5	115	50	58	116	70-130
Bromofluorobenzene	50	47.2	94	50	45.9	92	70-130
Toluene-d8	50	46.8	94	50	48.1	96	70-130

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/15/02 11:00
Sample ID:	818655-B3111	Date Analyzed:	11/16/02 13:18
Lab Samp ID:	K106-09	Dilution Factor:	.94
Lab File ID:	RKX076	Matrix :	WATER
Ext.Btch ID:	SVK022W	% Moisture :	NA
Calib. Ref.:	RJX007	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	24	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	24	9.4
2,4-DINITROTOLUENE	ND	9.4	4.7
2,6-DINITROTOLUENE	ND	9.4	4.7
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	24	9.4
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	24	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	24	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	9.4	4.7
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	24	4.7
4-NITROPHENOL	ND	24	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	9.4	4.7
DIMETHYLPHTHALATE	ND	9.4	4.7
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	9.4	4.7
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	9.4	9.4
PHENANTHRENE	ND	9.4	4.7
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	109	25-134
2-FLUOROBIPHENYL	86	43-125
2-FLUOROPHENOL	78	25-125
NITROBENZENE-D5	81	32-125
PHENOL-D5	80	25-125
TERPHENYL-D14	103	42-126

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3550B/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	818655-B3113	Date Analyzed:	11/16/02 16:32
Lab Samp ID:	K106-10	Dilution Factor:	1
Lab File ID:	RKX082	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	14.2
Calib. Ref.:	RJX007	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,2,4-TRICHLOROBENZENE	ND	380	190
1,2-DICHLOROBENZENE	ND	380	190
1,3-DICHLOROBENZENE	ND	380	190
1,4-DICHLOROBENZENE	ND	380	190
2,4,5-TRICHLOROPHENOL	ND	970	190
2,4,6-TRICHLOROPHENOL	ND	380	190
2,4-DICHLOROPHENOL	ND	380	190
2,4-DIMETHYLPHENOL	ND	380	190
2,4-DINITROPHENOL	ND	970	190
2,4-DINITROTOLUENE	ND	380	190
2,6-DINITROTOLUENE	ND	380	190
2-CHLORONAPHTHALENE	ND	380	190
2-CHLOROPHENOL	ND	380	190
2-METHYLNAPHTHALENE	ND	380	190
2-METHYLPHENOL	ND	380	190
2-NITROANILINE	ND	970	190
2-NITROPHENOL	ND	380	190
3,3'-DICHLOROBENZIDINE	ND	380	190
3-NITROANILINE	ND	970	190
4,6-DINITRO-2-METHYLPHENOL	ND	970	190
4-BROMOPHENYL-PHENYL ETHER	ND	380	190
4-CHLORO-3-METHYLPHENOL	ND	380	190
4-CHLOROANILINE	ND	380	190
4-CHLOROPHENYL-PHENYL ETHER	ND	380	190
4-METHYLPHENOL (1)	ND	380	190
4-NITROANILINE	ND	970	190
4-NITROPHENOL	ND	970	190
ACENAPHTHENE	ND	380	190
ACENAPHTHYLENE	ND	380	190
ANTHRACENE	ND	380	190
BENZO(A)ANTHRACENE	ND	380	190
BENZO(B)FLUORANTHENE	ND	380	190
BENZO(K)FLUORANTHENE	ND	380	190
BENZO(G,H,I)PERYLENE	ND	380	190
BIS(2-CHLOROETHOXY)METHANE	ND	380	190
BIS(2-CHLOROISOPROPYL)ETHER	ND	380	190
BIS(2-ETHYLHEXYL)PHTHALATE	ND	380	190
BUTYLBENZYLPHTHALATE	ND	380	190
CHRYSENE	ND	380	190
DI-N-BUTYLPHTHALATE	ND	380	190
DI-N-OCTYLPHTHALATE	ND	380	190
DIBENZOFURAN	ND	380	190
DIETHYLPHTHALATE	ND	380	190
DIMETHYLPHTHALATE	ND	380	190
FLUORANTHENE	ND	380	190
FLUORENE	ND	380	190
HEXACHLOROBUTADIENE	ND	380	190
HEXACHLOROCYCLOPENTADIENE	ND	380	190
HEXACHLOROETHANE	ND	380	190
N-NITROSODIPHENYLAMINE (2)	ND	380	190
NAPHTHALENE	ND	380	190
NITROBENZENE	ND	380	190
PENTACHLOROPHENOL	ND	230	190
PHENANTHRENE	ND	380	190
PHENOL	ND	380	190
PYRENE	ND	380	190

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	98	25-144
2-FLUOROBIPHENYL	84	34-135
2-FLUOROPHENOL	76	25-135
NITROBENZENE-D5	75	25-135
PHENOL-D5	83	25-135
TERPHENYL-D14	92	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3550B/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	818655-B3114	Date Analyzed:	11/16/02 16:00
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	RKX081	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	11.4
Calib. Ref.:	RJX007	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,2,4-TRICHLOROBENZENE	ND	370	190
1,2-DICHLOROBENZENE	ND	370	190
1,3-DICHLOROBENZENE	ND	370	190
1,4-DICHLOROBENZENE	ND	370	190
2,4,5-TRICHLOROPHENOL	ND	940	190
2,4,6-TRICHLOROPHENOL	ND	370	190
2,4-DICHLOROPHENOL	ND	370	190
2,4-DIMETHYLPHENOL	ND	370	190
2,4-DINITROPHENOL	ND	940	190
2,4-DINITROTOLUENE	ND	370	190
2,6-DINITROTOLUENE	ND	370	190
2-CHLORONAPHTHALENE	ND	370	190
2-CHLOROPHENOL	ND	370	190
2-METHYLNAPHTHALENE	ND	370	190
2-METHYLPHENOL	ND	370	190
2-NITROANILINE	ND	940	190
2-NITROPHENOL	ND	370	190
3,3'-DICHLOROBENZIDINE	ND	370	190
3-NITROANILINE	ND	940	190
4,6-DINITRO-2-METHYLPHENOL	ND	940	190
4-BROMOPHENYL-PHENYL ETHER	ND	370	190
4-CHLORO-3-METHYLPHENOL	ND	370	190
4-CHLOROANILINE	ND	370	190
4-CHLOROPHENYL-PHENYL ETHER	ND	370	190
4-METHYLPHENOL (1)	ND	370	190
4-NITROANILINE	ND	940	190
4-NITROPHENOL	ND	940	190
ACENAPHTHENE	ND	370	190
ACENAPHTHYLENE	ND	370	190
ANTHRACENE	ND	370	190
BENZO(A)ANTHRACENE	ND	370	190
BENZO(B)FLUORANTHENE	ND	370	190
BENZO(K)FLUORANTHENE	ND	370	190
BENZO(G,H,I)PERYLENE	ND	370	190
BIS(2-CHLOROETHOXY)METHANE	ND	370	190
BIS(2-CHLOROISOPROPYL)ETHER	ND	370	190
BIS(2-ETHYLHEXYL)PHTHALATE	ND	370	190
BUTYLBENZYLPHTHALATE	ND	370	190
CHRYSENE	ND	370	190
DI-N-BUTYLPHTHALATE	ND	370	190
DI-N-OCTYLPHTHALATE	ND	370	190
DIBENZOFURAN	ND	370	190
DIETHYLPHTHALATE	ND	370	190
DIMETHYLPHTHALATE	ND	370	190
FLUORANTHENE	ND	370	190
FLUORENE	ND	370	190
HEXACHLOROBUTADIENE	ND	370	190
HEXACHLOROCYCLOPENTADIENE	ND	370	190
HEXACHLOROETHANE	ND	370	190
N-NITROSODIPHENYLAMINE (2)	ND	370	190
NAPHTHALENE	ND	370	190
NITROBENZENE	ND	370	190
PENTACHLOROPHENOL	ND	230	190
PHENANTHRENE	ND	370	190
PHENOL	ND	370	190
PYRENE	ND	370	190

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	92	25-144
2-FLUOROBIPHENYL	79	34-135
2-FLUOROPHENOL	72	25-135
NITROBENZENE-D5	73	25-135
PHENOL-D5	78	25-135
TERPHENYL-D14	81	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	NA
Batch No.	: 02K106	Date Extracted:	11/15/02 11:00
Sample ID:	MBLK1W	Date Analyzed:	11/16/02 11:41
Lab Samp ID:	SVK022WB	Dilution Factor:	1
Lab File ID:	RKX073	Matrix :	WATER
Ext Btch ID:	SVK022W	% Moisture :	NA
Calib. Ref.:	RJX007	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	10	5
1,2-DICHLOROBENZENE	ND	10	5
1,3-DICHLOROBENZENE	ND	10	5
1,4-DICHLOROBENZENE	ND	10	5
2,4,5-TRICHLOROPHENOL	ND	25	5
2,4,6-TRICHLOROPHENOL	ND	10	5
2,4-DICHLOROPHENOL	ND	10	5
2,4-DIMETHYLPHENOL	ND	10	5
2,4-DINITROPHENOL	ND	25	10
2,4-DINITROTOLUENE	ND	10	5
2,6-DINITROTOLUENE	ND	10	5
2-CHLORONAPHTHALENE	ND	10	5
2-CHLOROPHENOL	ND	10	5
2-METHYLNAPHTHALENE	ND	10	5
2-METHYLPHENOL	ND	10	5
2-NITROANILINE	ND	25	10
2-NITROPHENOL	ND	10	5
3,3'-DICHLOROBENZIDINE	ND	10	5
3-NITROANILINE	ND	25	5
4,6-DINITRO-2-METHYLPHENOL	ND	25	10
4-BROMOPHENYL-PHENYL ETHER	ND	10	5
4-CHLORO-3-METHYLPHENOL	ND	10	5
4-CHLOROANILINE	ND	10	5
4-CHLOROPHENYL-PHENYL ETHER	ND	10	5
4-METHYLPHENOL (1)	ND	10	5
4-NITROANILINE	ND	25	5
4-NITROPHENOL	ND	25	5
ACENAPHTHENE	ND	10	5
ACENAPHTHYLENE	ND	10	5
ANTHRACENE	ND	10	5
BENZO(A)ANTHRACENE	ND	10	5
BENZO(A)PYRENE	ND	10	5
BENZO(B)FLUORANTHENE	ND	10	5
BENZO(K)FLUORANTHENE	ND	10	5
BENZO(G,H,I)PERYLENE	ND	10	5
BIS(2-CHLOROETHOXY)METHANE	ND	10	5
BIS(2-CHLOROETHYL)ETHER	ND	10	5
BIS(2-CHLOROISOPROPYL)ETHER	ND	10	5
BIS(2-ETHYLHEXYL)PHTHALATE	ND	20	10
BUTYLBENZYLPHTHALATE	ND	10	5
CHRYSENE	ND	10	5
DI-N-BUTYLPHTHALATE	ND	10	5
DI-N-OCTYLPHTHALATE	ND	10	5
DIBENZO(A,H)ANTHRACENE	ND	10	5
DIBENZOFURAN	ND	10	5
DIETHYLPHTHALATE	ND	10	5
DIMETHYLPHTHALATE	ND	10	5
FLUORANTHENE	ND	10	5
FLUORENE	ND	10	5
HEXACHLOROBENZENE	ND	10	5
HEXACHLOROBUTADIENE	ND	10	5
HEXACHLOROCYCLOPENTADIENE	ND	10	5
HEXACHLOROETHANE	ND	10	5
INDENO(1,2,3-CD)PYRENE	ND	10	5
N-NITROSO-DI-N-PROPYLAMINE	ND	10	5
N-NITROSODIPHENYLAMINE (2)	ND	10	5
NAPHTHALENE	ND	10	5
NITROBENZENE	ND	10	5
PENTACHLOROPHENOL	ND	10	10
PHENANTHRENE	ND	10	5
PHENOL	ND	10	5
PYRENE	ND	10	5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	101	25-134
2-FLUOROBIPHENYL	80	43-125
2-FLUOROPHENOL	72	25-125
NITROBENZENE-D5	76	32-125
PHENOL-D5	77	25-125
TERPHENYL-D14	95	42-126

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3520B/8270B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVK022WB	SVK022WL	SVK022WC		
LAB FILE ID:	RKX073	RKX074	RKX075		
DATE EXTRACTED:	11/15/0211:00	11/15/0211:00	11/15/0211:00	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0211:41	11/16/0212:13	11/16/0212:46	DATE RECEIVED:	NA
PREP. BATCH:	SVK022W	SVK022W	SVK022W		
CALIB. REF:	RJX007	RJX007	RJX007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,2,4-Trichlorobenzene	ND	100	74.9	75	100	72.1	72	4	44-142	20
1,4-Dichlorobenzene	ND	100	71.5	71	100	69.7	70	2	30-125	20
2,4-Dinitrotoluene	ND	100	97.2	97	100	93.9	94	3	39-139	20
2-Chlorophenol	ND	150	113	76	150	110	73	3	41-125	20
4-Chloro-3-Methylphenol	ND	150	123	82	150	121	81	2	44-125	20
4-Nitrophenol	ND	150	90	60	150	90.4	60	1	25-131	20
Acenaphthene	ND	100	90.2	90	100	90	90	0	49-125	20
N-Nitroso-di-n-propylamine	ND	100	87.6	88	100	89.5	89	2	37-125	20
Pentachlorophenol	ND	150	130	87	150	131	88	1	28-136	20
Phenol	ND	150	103	69	150	104	69	1	25-125	20
Pyrene	ND	100	95.2	95	100	91.2	91	4	47-136	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	150	166	111	150	156	104	25-134
2-Fluorobiphenyl	100	81.1	81	100	79.6	80	43-125
2-Fluorophenol	150	107	71	150	99.8	67	25-125
Nitrobenzene-d5	100	79.2	79	100	73.4	73	32-125
Phenol-d5	150	113	76	150	110	73	25-125
Terphenyl-d14	100	96.1	96	100	91	91	42-126

SW 3550B/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	NA
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	MBLK1S	Date Analyzed:	11/16/02 13:50
Lab Samp ID:	SVK023SB	Dilution Factor:	1
Lab File ID:	RKX077	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	NA
Calib. Ref.:	RJX007	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,2,4-TRICHLOROBENZENE	ND	330	170
1,2-DICHLOROBENZENE	ND	330	170
1,3-DICHLOROBENZENE	ND	330	170
1,4-DICHLOROBENZENE	ND	330	170
2,4,5-TRICHLOROPHENOL	ND	830	170
2,4,6-TRICHLOROPHENOL	ND	330	170
2,4-DICHLOROPHENOL	ND	330	170
2,4-DIMETHYLPHENOL	ND	330	170
2,4-DINITROPHENOL	ND	830	170
2,4-DINITROTOLUENE	ND	330	170
2,6-DINITROTOLUENE	ND	330	170
2-CHLORONAPHTHALENE	ND	330	170
2-CHLOROPHENOL	ND	330	170
2-METHYLNAPHTHALENE	ND	330	170
2-METHYLPHENOL	ND	330	170
2-NITROANILINE	ND	830	170
2-NITROPHENOL	ND	330	170
3,3'-DICHLOROBENZIDINE	ND	330	170
3-NITROANILINE	ND	830	170
4,6-DINITRO-2-METHYLPHENOL	ND	830	170
4-BROMOPHENYL-PHENYL ETHER	ND	330	170
4-CHLORO-3-METHYLPHENOL	ND	330	170
4-CHLOROANILINE	ND	330	170
4-CHLOROPHENYL-PHENYL ETHER	ND	330	170
4-METHYLPHENOL (1)	ND	330	170
4-NITROANILINE	ND	830	170
4-NITROPHENOL	ND	830	170
ACENAPHTHENE	ND	330	170
ACENAPHTHYLENE	ND	330	170
ANTHRACENE	ND	330	170
BENZO(A)ANTHRACENE	ND	330	170
BENZO(B)FLUORANTHENE	ND	330	170
BENZO(K)FLUORANTHENE	ND	330	170
BENZO(G,H,I)PERYLENE	ND	330	170
BIS(2-CHLOROETHOXY)METHANE	ND	330	170
BIS(2-CHLOROISOPROPYL)ETHER	ND	330	170
BIS(2-ETHYLHEXYL)PHTHALATE	ND	330	170
BUTYLBENZYLPHTHALATE	ND	330	170
CHRYSENE	ND	330	170
DI-N-BUTYLPHTHALATE	ND	330	170
DI-N-OCTYLPHTHALATE	ND	330	170
DIBENZOFURAN	ND	330	170
DIETHYLPHTHALATE	ND	330	170
DIMETHYLPHTHALATE	ND	330	170
FLUORANTHENE	ND	330	170
FLUORENE	ND	330	170
HEXACHLOROBUTADIENE	ND	330	170
HEXACHLOROCYCLOPENTADIENE	ND	330	170
HEXACHLOROETHANE	ND	330	170
N-NITROSODIPHENYLAMINE (2)	ND	330	170
NAPHTHALENE	ND	330	170
NITROBENZENE	ND	330	170
PENTACHLOROPHENOL	ND	200	170
PHENANTHRENE	ND	330	170
PHENOL	ND	330	170
PYRENE	ND	330	170

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	101	25-144
2-FLUOROBIPHENYL	90	34-135
2-FLUOROPHENOL	78	25-135
NITROBENZENE-D5	85	25-135
PHENOL-D5	83	25-135
TERPHENYL-D14	99	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3550A/8270B

MATRIX:	SOIL		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MBLK1S			
LAB SAMP ID:	SVK023SB	SVK023SL		
LAB FILE ID:	RKX077	RKX078		
DATE EXTRACTED:	11/14/0215:45	11/14/0215:45	DATE COLLECTED:	NA
DATE ANALYZED:	11/16/0213:50	11/16/0214:23	DATE RECEIVED:	NA
PREP. BATCH:	SVK023S	SVK023S		
CALIB. REF:	RJX007	RJX007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	QC LIMIT (%)
1,2,4-Trichlorobenzene	ND	3330	2690	81	34-152
1,4-Dichlorobenzene	ND	3330	2680	80	25-135
2,4-Dinitrotoluene	ND	3330	2920	88	29-149
2-Chlorophenol	ND	5000	3940	79	31-135
4-Chloro-3-Methylphenol	ND	5000	3960	79	34-135
4-Nitrophenol	ND	5000	2690	54	25-141
Acenaphthene	ND	3330	2990	90	39-135
Pentachlorophenol	ND	5000	3760	75	38-146
Phenol	ND	5000	3780	76	25-135
Pyrene	ND	3330	3040	91	37-146

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	QC LIMIT (%)
2,4,6-Tribromophenol	5000	4440	89	25-144
2-Fluorobiphenyl	3330	2490	75	34-135
2-Fluorophenol	5000	3610	72	25-135
Nitrobenzene-d5	3330	2410	72	25-135
Phenol-d5	5000	3710	74	25-135
Terphenyl-d14	3330	2730	82	32-136

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3550A/8270B

MATRIX:	SOIL			% MOISTURE:	11.4
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	818655-B3114				
LAB SAMP ID:	K106-11	K106-11M	K106-11S		
LAB FILE ID:	RKX081	RKX079	RKX080		
DATE EXTRACTED:	11/14/0215:45	11/14/0215:45	11/14/0215:45	DATE COLLECTED:	11/12/02
DATE ANALYZED:	11/16/0216:00	11/16/0214:55	11/16/0215:28	DATE RECEIVED:	11/12/02
PREP. BATCH:	SVK023S	SVK023S	SVK023S		
CALIB. REF:	RJX007	RJX007	RJX007		

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX (%
1,2,4-Trichlorobenzene	ND	3760	2860	76	3760	2720	72	5	34-152	
1,4-Dichlorobenzene	ND	3760	2770	74	3760	2620	70	6	25-135	
2,4-Dinitrotoluene	ND	3760	3190	85	3760	3070	82	4	29-149	
2-Chlorophenol	ND	5640	4240	75	5640	3980	71	6	31-135	
4-Chloro-3-Methylphenol	ND	5640	4360	77	5640	4290	76	2	34-135	
4-Nitrophenol	ND	5640	3020	53	5640	3060	54	1	25-141	
Acenaphthene	ND	3760	3250	86	3760	3210	86	1	39-135	
Pentachlorophenol	ND	5640	4330	77	5640	4240	75	2	38-146	
Phenol	ND	5640	4010	71	5640	3850	68	4	25-135	
Pyrene	ND	3760	3240	86	3760	3040	81	6	37-146	

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	5640	5140	91	5640	5830	103	25-144
2-Fluorobiphenyl	3760	2920	78	3760	3080	82	34-135
2-Fluorophenol	5640	3990	71	5640	4340	77	25-135
Nitrobenzene-d5	3760	2640	70	3760	2930	78	25-135
Phenol-d5	5640	4140	73	5640	4490	80	25-135
Terphenyl-d14	3760	3060	81	3760	3310	88	32-136

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS/SIM

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	818655-B3113	Date Analyzed:	11/18/02 20:04
Lab Samp ID:	K106-10	Dilution Factor:	1
Lab File ID:	RKZ190	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	14.2
Calib. Ref.:	RJZ052	Instrument ID :	T-048

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
BENZO(A)PYRENE	ND	38	12
BIS(2-CHLOROETHYL)ETHER	ND	38	17
DIBENZO(A,H)ANTHRACENE	ND	38	12
HEXACHLOROBENZENE	ND	87	12
INDENO(1,2,3-CD)PYRENE	ND	41	12
N-NITROSO-DI-N-PROPYLAMINE	ND	38	12

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	120	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS/SIM

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	818655-B3114	Date Analyzed:	11/18/02 20:34
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	RKZ191	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	11.4
Calib. Ref.:	RJZ052	Instrument ID :	T-048

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
BENZO(A)PYRENE	ND	37	11
BIS(2-CHLOROETHYL)ETHER	ND	37	17
DIBENZO(A,H)ANTHRACENE	ND	37	11
HEXACHLOROBENZENE	ND	85	11
INDENO(1,2,3-CD)PYRENE	ND	40	11
N-NITROSO-DI-N-PROPYLAMINE	ND	37	11

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	116	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3550B/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS/SIM

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	NA
Batch No.	: 02K106	Date Extracted:	11/14/02 15:45
Sample ID:	MBLK1S	Date Analyzed:	11/18/02 17:04
Lab Samp ID:	SVK023SB	Dilution Factor:	1
Lab File ID:	RKZ184	Matrix :	SOIL
Ext Btch ID:	SVK023S	% Moisture :	NA
Calib. Ref.:	RJZ052	Instrument ID :	T-048

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
BENZO(A)PYRENE	ND	33	10
BIS(2-CHLOROETHYL)ETHER	ND	33	15
DIBENZO(A,H)ANTHRACENE	ND	33	10
HEXACHLOROBENZENE	ND	75	10
INDENO(1,2,3-CD)PYRENE	ND	35	10
N-NITROSO-DI-N-PROPYLAMINE	ND	33	10

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	125	32-136

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW 3550B/8270C SIM

MATRIX:	SOIL		% MOISTURE:	NA
DILUTION FACTOR:	1	2		
SAMPLE ID:	MBLK1S			
LAB SAMP ID:	SVK023SB	SVK023SL		
LAB FILE ID:	RKZ184	RKZ185		
DATE EXTRACTED:	11/14/0215:45	11/14/0215:45	DATE COLLECTED:	NA
DATE ANALYZED:	11/18/0217:04	11/18/0217:34	DATE RECEIVED:	NA
PREP. BATCH:	SVK023S	SVK023S		
CALIB. REF:	RJZ052	RJZ052		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	QC LIMIT (%)
n-Nitroso-di-n-propylamine	ND	3330	3450	104	27-135

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	QC LIMIT (%)
Terphenyl-d14	3330	3930	118	32-136

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: SW 3550B/8270C SIM

MATRIX:	SOIL			% MOISTURE:	11.4
DILUTION FACTOR:	1	2	2		
SAMPLE ID:	818655-B3114				
LAB SAMP ID:	K106-11	K106-11M	K106-11S		
LAB FILE ID:	RKZ191	RKZ186	RKZ187		
DATE EXTRACTED:	11/14/0215:45	11/14/0215:45	11/14/0215:45	DATE COLLECTED:	11/12/02
DATE ANALYZED:	11/18/0220:34	11/18/0218:04	11/18/0218:34	DATE RECEIVED:	11/12/02
PREP. BATCH:	SVK023S	SVK023S	SVK023S		
CALIB. REF:	RJZ052	RJZ052	RJZ052		

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX (%
n-Nitroso-di-n-propylamine	ND	3760	3810	101	3760	3360	89	12	27-135	

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT (%)
Terphenyl-d14	3760	4110	109	3760	4450	118	32-136

METHOD 3010A/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 14:10
Sample ID:	818655-B3111	Date Analyzed:	11/18/02 16:46
Lab Samp ID:	K106-09	Dilution Factor:	1
Lab File ID:	I07K034024	Matrix :	WATER
Ext Btch ID:	IPK046W	% Moisture :	NA
Calib. Ref.:	I07K034014	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	500	61
Antimony	ND	500	40
Barium	ND	100	2
Beryllium	ND	10	1.0
Cadmium	ND	5	2
Calcium	975J	1000	32
Chromium	ND	50	6
Cobalt	ND	50	11
Copper	ND	50	5
Iron	32.1J	1000	25
Magnesium	928J	1000	54
Manganese	ND	20	3
Molybdenum	ND	100	7
Nickel	ND	150	10
Potassium	ND	5000	750
Silver	ND	50	11
Sodium	4710	1000	70
Vanadium	ND	100	5
Zinc	ND	20	5

RL: Reporting Limit

METHOD 3010A/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 14:10
Sample ID:	818655-B3111	Date Analyzed:	11/15/02 14:43
Lab Samp ID:	K106-09	Dilution Factor:	1
Lab File ID:	I31K025023	Matrix :	WATER
Ext Btch ID:	IPK046W	% Moisture :	NA
Calib. Ref.:	I31K025014	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5	4
Lead	ND	5	2
Selenium	ND	5	5
Thallium	ND	10	6

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client : SHAW E&I	Date Collected: 11/12/02
Project : EL TORO, CTO 0024	Date Received: 11/12/02
SDG NO. : 02K106	Date Extracted: 11/14/02 16:30
Sample ID: 818655-B3113	Date Analyzed: 11/18/02 18:06
Lab Samp ID: K106-10	Dilution Factor: 1
Lab File ID: I07K034039	Matrix : SOIL
Ext Btch ID: IPK048S	% Moisture : 14.2
Calib. Ref.: I07K034037	Instrument ID : EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	18400	58.3	5.22
Antimony	3.67J	5.83	2.45
Barium	149	1.17	.145
Beryllium	.666	.233	.138
Cadmium	ND	.583	.422
Calcium	3820	117	7.92
Chromium	14.9	2.33	.716
Cobalt	7.5	1.17	.805
Copper	9.24	2.33	.55
Iron	16900	23.3	1.78
Magnesium	7120	117	9.32
Manganese	255	2.33	.219
Molybdenum	1.63J	5.83	.86
Nickel	8	2.33	.641
Potassium	4500	117	83.4
Silver	ND	2.33	.732
Sodium	134	117	8.17
Vanadium	44.6	2.33	.51
Zinc	58.8	1.17	.336

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 16:30
Sample ID:	818655-B3113	Date Analyzed:	11/15/02 16:07
Lab Samp ID:	K106-10	Dilution Factor:	1
Lab File ID:	I31K025040	Matrix :	SOIL
Ext Btch ID:	IPK048S	% Moisture :	14.2
Calib. Ref.:	I31K025038	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	3.17	1.17	.245
Lead	3.07	1.17	.203
Selenium	1.02J	1.17	.332
Thallium	ND	1.17	.355

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 16:30
Sample ID:	818655-B3114	Date Analyzed:	11/18/02 18:11
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	I07K034040	Matrix :	SOIL
Ext Btch ID:	IPK048S	% Moisture :	11.4
Calib. Ref.:	I07K034037	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	14100	56.4	5.06
Antimony	ND	5.64	2.37
Barium	109	1.13	.14
Beryllium	.501	.226	.133
Cadmium	ND	.564	.409
Calcium	3220	113	7.67
Chromium	11.2	2.26	.693
Cobalt	6.32	1.13	.78
Copper	7.11	2.26	.533
Iron	13900	22.6	1.72
Magnesium	6080	113	9.02
Manganese	210	2.26	.212
Molybdenum	ND	5.64	.833
Nickel	5.73	2.26	.621
Potassium	3380	113	80.8
Silver	ND	2.26	.709
Sodium	113	113	7.91
Vanadium	35.2	2.26	.494
Zinc	42.7	1.13	.325

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	11/12/02
Project	: EL TORO, CTO 0024	Date Received:	11/12/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 16:30
Sample ID:	818655-B3114	Date Analyzed:	11/15/02 16:12
Lab Samp ID:	K106-11	Dilution Factor:	1
Lab File ID:	I31K025041	Matrix :	SOIL
Ext Btch ID:	IPK048S	% Moisture :	11.4
Calib. Ref.:	I31K025038	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.4	1.13	.237
Lead	2.13	1.13	.196
Selenium	ND	1.13	.322
Thallium	ND	1.13	.344

RL: Reporting Limit

METHOD 3010A/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 14:10
Sample ID:	MBLK1W	Date Analyzed:	11/18/02 16:04
Lab Samp ID:	IPK046WB	Dilution Factor:	1
Lab File ID:	I07K034016	Matrix :	WATER
Ext Btch ID:	IPK046W	% Moisture :	NA
Calib. Ref.:	I07K034014	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	500	61
Antimony	ND	500	40
Barium	ND	100	2
Beryllium	ND	10	1.0
Cadmium	ND	5	2
Calcium	ND	1000	32
Chromium	ND	50	6
Cobalt	ND	50	11
Copper	ND	50	5
Iron	ND	1000	25
Magnesium	ND	1000	54
Manganese	ND	20	3
Molybdenum	ND	100	7
Nickel	ND	150	10
Potassium	ND	5000	750
Silver	ND	50	11
Sodium	ND	1000	70
Vanadium	ND	100	5
Zinc	ND	20	5

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3010A/6010B

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IPK046WB	IPK046WL	IPK046WC		
LAB FILE ID:	I07K034016	I07K034017	I07K034018		
DATIME EXTRCTD:	11/14/0214:10	11/14/0214:10	11/14/0214:10	DATE COLLECTED:	NA
DATIME ANALYZD:	11/18/0216:04	11/18/0216:10	11/18/0216:15	DATE RECEIVED:	11/14/02
PREP. BATCH:	IPK046W	IPK046W	IPK046W		
CALIB. REF:	I07K034014	I07K034014	I07K034014		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	10000	9940	99	10000	9880	99	1	80-120	15
Antimony	ND	5000	4700	94	5000	4710	94	0	80-120	15
Barium	ND	1000	916	92	1000	911	91	1	80-120	15
Beryllium	ND	1000	992	99	1000	985	98	1	80-120	15
Cadmium	ND	1000	1000	100	1000	996	100	1	80-120	15
Calcium	ND	50000	48300	97	50000	48000	96	1	80-120	15
Chromium	ND	1000	966	97	1000	956	96	1	80-120	15
Cobalt	ND	1000	962	96	1000	957	96	0	80-120	15
Copper	ND	1000	996	100	1000	992	99	0	80-120	15
Iron	ND	10000	9650	97	10000	9590	96	1	80-120	15
Magnesium	ND	50000	49200	98	50000	49400	99	0	80-120	15
Manganese	ND	1000	966	97	1000	959	96	1	80-120	15
Molybdenum	ND	1000	912	91	1000	909	91	0	80-120	15
Nickel	ND	1000	958	96	1000	952	95	1	80-120	15
Potassium	ND	50000	49500	99	50000	49300	99	0	80-120	15
Silver	ND	1000	1010	101	1000	1000	100	0	80-120	15
Sodium	ND	50000	49500	99	50000	49200	98	0	80-120	15
Vanadium	ND	1000	978	98	1000	973	97	1	80-120	15
Zinc	ND	1000	1020	102	1000	1010	101	1	80-120	15

METHOD 3010A/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 14:10
Sample ID:	MBLK1W	Date Analyzed:	11/15/02 14:10
Lab Samp ID:	IPK046WB	Dilution Factor:	1
Lab File ID:	I31K025016	Matrix :	WATER
Ext Btch ID:	IPK046W	% Moisture :	NA
Calib. Ref.:	I31K025014	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5	4
Lead	ND	5	2
Selenium	ND	5	5
Thallium	ND	10	6

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3010A/6010B

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IPK046WB	IPK046WL	IPK046WC		
LAB FILE ID:	I31K025016	I31K025017	I31K025018		
DATIME EXTRCTD:	11/14/0214:10	11/14/0214:10	11/14/0214:10	DATE COLLECTED:	NA
DATIME ANALYZD:	11/15/0214:10	11/15/0214:14	11/15/0214:19	DATE RECEIVED:	11/14/02
PREP. BATCH:	IPK046W	IPK046W	IPK046W		
CALIB. REF:	I31K025014	I31K025014	I31K025014		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	1000	1010	101	1000	1020	102	0	80-120	15
Lead	ND	1000	920	92	1000	922	92	0	80-120	15
Selenium	ND	1000	1060	106	1000	1060	106	0	80-120	15
Thallium	ND	1000	921	92	1000	928	93	1	80-120	15

METHOD 3050B/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 16:30
Sample ID:	MBLK1S	Date Analyzed:	11/18/02 17:01
Lab Samp ID:	IPK048SB	Dilution Factor:	1
Lab File ID:	I07K034027	Matrix :	SOIL
Ext Btch ID:	IPK048S	% Moisture :	NA
Calib. Ref.:	I07K034025	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	50	4.48
Antimony	ND	5	2.1
Barium	ND	1	.124
Beryllium	ND	.2	.118
Cadmium	ND	.5	.362
Calcium	ND	100	6.8
Chromium	ND	2	.614
Cobalt	ND	1	.691
Copper	ND	2	.472
Iron	ND	20	1.53
Magnesium	ND	100	7.99
Manganese	ND	2	.188
Molybdenum	ND	5	.738
Nickel	ND	2	.55
Potassium	ND	100	71.6
Silver	ND	2	.628
Sodium	ND	100	7.01
Vanadium	ND	2	.438
Zinc	ND	1	.288

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	IPK048SB	IPK048SL	IPK048SC		
LAB FILE ID:	I07K034027	I07K034028	I07K034029		
DATIME EXTRCTD:	11/14/0216:30	11/14/0216:30	11/14/0216:30	DATE COLLECTED:	NA
DATIME ANALYZD:	11/18/0217:01	11/18/0217:07	11/18/0217:12	DATE RECEIVED:	11/14/02
PREP. BATCH:	IPK048S	IPK048S	IPK048S		
CALIB. REF:	I07K034025	I07K034025	I07K034025		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	1000	908	91	1000	895	89	2	80-120	25
Antimony	ND	500	430	86	500	423	85	2	80-120	25
Barium	ND	100	86.1	86	100	84.2	84	2	80-120	25
Beryllium	ND	100	92.6	93	100	91.1	91	2	80-120	25
Cadmium	ND	100	86.7	87	100	86.4	86	0	80-120	25
Calcium	ND	5000	4370	87	5000	4350	87	1	80-120	25
Chromium	ND	100	88.6	89	100	87.6	88	1	80-120	25
Cobalt	ND	100	86.9	87	100	86.6	87	0	80-120	25
Copper	ND	100	91.1	91	100	89.4	89	2	80-120	25
Iron	ND	1000	886	89	1000	875	88	1	80-120	25
Magnesium	ND	5000	4450	89	5000	4470	89	0	80-120	25
Manganese	ND	100	88.1	88	100	87.2	87	1	80-120	25
Molybdenum	ND	100	85.9	86	100	85.3	85	1	80-120	25
Nickel	ND	100	86.3	86	100	85.9	86	0	80-120	25
Potassium	ND	5000	4470	89	5000	4420	88	1	80-120	25
Silver	ND	100	88.2	88	100	87.2	87	1	80-120	25
Sodium	ND	5000	4530	91	5000	4450	89	2	80-120	25
Vanadium	ND	100	90.5	90	100	89.5	89	1	80-120	25
Zinc	ND	100	88	88	100	87.5	88	1	80-120	25

METHOD 3050B/6010B
METALS BY ICP

Client	: SHAW E&I	Date Collected:	NA
Project	: EL TORO, CTO 0024	Date Received:	11/14/02
SDG NO.	: 02K106	Date Extracted:	11/14/02 16:30
Sample ID:	MBLK1S	Date Analyzed:	11/15/02 15:07
Lab Samp ID:	IPK048SB	Dilution Factor:	1
Lab File ID:	I31K025028	Matrix :	SOIL
Ext Btch ID:	IPK048S	% Moisture :	NA
Calib. Ref.:	I31K025026	Instrument ID :	EMAXTI31

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	ND	1	.21
Lead	ND	1	.174
Selenium	ND	1	.285
Thallium	ND	1	.305

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	IPK048SB	IPK048SL	IPK048SC		
LAB FILE ID:	I31K025028	I31K025029	I31K025030		
DATIME EXTRCTD:	11/14/0216:30	11/14/0216:30	11/14/0216:30	DATE COLLECTED:	NA
DATIME ANALYZD:	11/15/0215:07	11/15/0215:12	11/15/0215:17	DATE RECEIVED:	11/14/02
PREP. BATCH:	IPK048S	IPK048S	IPK048S		
CALIB. REF:	I31K025026	I31K025026	I31K025026		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	100	93.5	94	100	94.1	94	1	80-120	25
Lead	ND	100	87.6	88	100	87.8	88	0	80-120	25
Selenium	ND	100	93.4	93	100	92.9	93	0	80-120	25
Thallium	ND	100	86.8	87	100	87	87	0	80-120	25

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3010A/6010B

==========

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 5
SAMPLE ID: MN3002 MN3002DL
EMAX SAMP ID: K054-02 K054-02T
LAB FILE ID: I07K034020 I07K034021
DATE EXTRACTED: 11/14/0214:10 11/14/0214:10 DATE COLLECTED: 11/06/02
DATE ANALYZED: 11/18/0216:25 11/18/0216:30 DATE RECEIVED: 11/07/02
PREP. BATCH: IPK046W IPK046W
CALIB. REF: I07K034014 I07K034014

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Aluminum	177J	ND	NA	10
Antimony	ND	ND	0	10
Barium	65.5J	64.7J	NA	10
Beryllium	ND	ND	0	10
Cadmium	ND	ND	0	10
Calcium	28800	28600	1	10
Chromium	ND	ND	0	10
Cobalt	ND	ND	0	10
Copper	ND	ND	0	10
Iron	471J	474J	NA	10
Magnesium	40700	39600	3	10
Manganese	1630	1610	1	10
Molybdenum	ND	ND	0	10
Nickel	ND	ND	0	10
Potassium	7250	6860J	NA	10
Silver	ND	ND	0	10
Sodium	14900	13400	10	10
Vanadium	ND	ND	0	10
Zinc	ND	ND	0	10

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3010A/6010B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	5		
SAMPLE ID:	MN3002	MN3002DL		
EMAX SAMP ID:	K054-02	K054-02T		
LAB FILE ID:	I31K025020	I31K025021		
DATE EXTRACTED:	11/14/0214:10	11/14/0214:10	DATE COLLECTED:	11/06/02
DATE ANALYZED:	11/15/0214:29	11/15/0214:34	DATE RECEIVED:	11/07/02
PREP. BATCH:	IPK046W	IPK046W		
CALIB. REF:	I31K025014	I31K025014		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	10
Lead	ND	ND	0	10
Selenium	ND	ND	0	10
Thallium	ND	ND	0	10

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3050B/6010B

==========

MATRIX: SOIL % MOISTURE: 19.4
DILUTION FACTOR: 1 5
SAMPLE ID: 818655-B3103 818655-B3103DL
EMAX SAMP ID: K106-01 K106-01T
LAB FILE ID: I07K034031 I07K034032
DATE EXTRACTED: 11/14/0216:30 11/14/0216:30 DATE COLLECTED: 11/12/02
DATE ANALYZED: 11/18/0217:22 11/18/0217:29 DATE RECEIVED: 11/12/02
PREP. BATCH: IPK048S IPK048S
CALIB. REF: I07K034025 I07K034025

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	7920	7990	1	10
Antimony	10.6	ND	NA	10
Barium	196	197	1	10
Beryllium	.328	ND	NA	10
Cadmium	6.03	6	0	10
Calcium	15100	15700	4	10
Chromium	50.5	52.9	5	10
Cobalt	7.85	7.23	8	10
Copper	159	161	1	10
Iron	28500	30500	7	10
Magnesium	3590	3670	2	10
Manganese	242	254	5	10
Molybdenum	10.6	10.6J	NA	10
Nickel	27.1	30.7	13*	10
Potassium	3460	3270	5	10
Silver	ND	ND	0	10
Sodium	2940	2940	0	10
Vanadium	26.1	27.4	5	10
Zinc	2000	2130	6	10

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
BATCH NO.: 02K106
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL		% MOISTURE:	19.4
DILUTION FACTOR:	1	5		
SAMPLE ID:	818655-B3103	818655-B3103DL		
EMAX SAMP ID:	K106-01	K106-01T		
LAB FILE ID:	I31K025032	I31K025033		
DATE EXTRACTED:	11/14/0216:30	11/14/0216:30	DATE COLLECTED:	11/12/02
DATE ANALYZED:	11/15/0215:27	11/15/0215:34	DATE RECEIVED:	11/12/02
PREP. BATCH:	IPK048S	IPK048S		
CALIB. REF:	I31K025026	I31K025026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Arsenic	6.98	7.81	12*	10
Lead	1430	1480	4	10
Selenium	1.29	2.81J	NA	10
Thallium	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3010A/6010B

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MN3002			
CONTROL NO.:	K054-02	K054-02A		
LAB FILE ID:	I07K034020	I07K034019		
DATIME EXTRCTD:	11/14/0214:10	11/14/0214:10	DATE COLLECTED:	11/06/02
DATIME ANALYZD:	11/18/0216:25	11/18/0216:20	DATE RECEIVED:	11/07/02
PREP. BATCH:	IPK046W	IPK046W		
CALIB. REF:	I07K034014	I07K034014		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Aluminum	177J	10000	9180	90	75-125
Antimony	ND	5000	4240	85	75-125
Barium	65.5J	1000	898	83	75-125
Beryllium	ND	1000	903	90	75-125
Cadmium	ND	1000	893	89	75-125
Calcium	28800	50000	70900	84	75-125
Chromium	ND	1000	885	89	75-125
Cobalt	ND	1000	860	86	75-125
Copper	ND	1000	892	89	75-125
Iron	471J	10000	9110	86	75-125
Magnesium	40700	50000	83400	85	75-125
Manganese	1630	1000	2400	77	75-125
Molybdenum	ND	1000	837	84	75-125
Nickel	ND	1000	863	86	75-125
Potassium	7250	50000	51800	89	75-125
Silver	ND	1000	897	90	75-125
Sodium	14900	50000	58400	87	75-125
Vanadium	ND	1000	880	88	75-125
Zinc	ND	1000	904	90	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3010A/6010B

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MN3002			
CONTROL NO.:	K054-02	K054-02A		
LAB FILE ID:	I31K025020	I31K025019		
DATIME EXTRCTD:	11/14/0214:10	11/14/0214:10	DATE COLLECTED:	11/06/02
DATIME ANALYZD:	11/15/0214:29	11/15/0214:24	DATE RECEIVED:	11/07/02
PREP. BATCH:	IPK046W	IPK046W		
CALIB. REF:	I31K025014	I31K025014		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Arsenic	ND	1000	950	95	75-125
Lead	ND	1000	881	88	75-125
Selenium	ND	1000	981	98	75-125
Thallium	ND	1000	884	88	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL		% MOISTURE:	19.4
DILTN FACTR:	1	1		
SAMPLE ID:	818655-B3103(COMPOSITE)			
CONTROL NO.:	K106-01	K106-01A		
LAB FILE ID:	I07K034031	I07K039017		
DATIME EXTRCTD:	11/14/0216:30	11/14/0216:30	DATE COLLECTED:	11/12/02
DATIME ANALYZD:	11/18/0217:22	11/20/0219:27	DATE RECEIVED:	11/12/02
PREP. BATCH:	IPK048S	IPK048S		
CALIB. REF:	I07K034025	I07K039015		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	7920	1240	9340	114	75-125
Antimony	10.6	620	512	81	75-125
Barium	196	124	306	89	75-125
Beryllium	.328	124	112	90	75-125
Cadmium	6.03	124	111	84	75-125
Calcium	15100	6200	20800	93	75-125
Chromium	50.5	124	158	86	75-125
Cobalt	7.85	124	109	81	75-125
Copper	159	124	273	92	75-125
Iron	28500	1240	30400	148*	75-125
Magnesium	3590	6200	9120	89	75-125
Manganese	242	124	349	86	75-125
Molybdenum	10.6	124	112	82	75-125
Nickel	27.1	124	128	81	75-125
Potassium	3460	6200	9200	93	75-125
Silver	ND	124	106	86	75-125
Sodium	2940	6200	8600	91	75-125
Vanadium	26.1	124	134	87	75-125
Zinc	2000	124	2120	91	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: SHAW E&I
PROJECT: EL TORO, CTO 0024
SDG NO.: 02K106
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL		% MOISTURE:	19.4
DILTN FACTR:	1	1		
SAMPLE ID:	818655-B3103			
CONTROL NO.:	K106-01	K106-01A		
LAB FILE ID:	I31K025032	I31K025031		
DATIME EXTRCTD:	11/14/0216:30	11/14/0216:30	DATE COLLECTED:	11/12/02
DATIME ANALYZD:	11/15/0215:27	11/15/0215:22	DATE RECEIVED:	11/12/02
PREP. BATCH:	IPK048S	IPK048S		
CALIB. REF:	I31K025026	I31K025026		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Arsenic	6.98	124	119	90	75-125
Lead	1430	124	1470	29*	75-125
Selenium	1.29	124	113	90	75-125
Thallium	ND	124	102	82	75-125

APPENDIX L
LDC REPORT

The DV Group, Inc.

DATA VALIDATION REPORT

Project / Site Name:	MCAS El Toro, CTO #24
Project No.:	818655
Data Reviewer:	S. Obleas, The Data Validation Group, Inc.
Review Date:	December 12, 2002
Matrix:	6 Soils / 2 Waters
Parameters:	M8015 Gasoline and Diesel; Volatiles 8260B; Semivolatiles 8270C; Semivolatiles-SIM 8270C; PCBs 8082; Pesticides 8081A; Mercury 7470/7471A; Metals 6010B
Validation Level:	EPA Level III
Laboratory:	EMAX Analytical Lab Inc.
Sample Delivery Group (SDG) No.:	02K106
Sample Nos.:	818655-B3105 (Trip Blank), 818655-B3106, 818655-B3107, 818655-B3109, 818655-B3110, 818655-B3111 (Rinsate), 818655-B3113 (TAA 770), 818655-B3114 (TAA 770)
Collection Date(s):	November 12, 2002
Comments:	Field duplicates: not performed. Trip Blank: 818655-B3105 Equipment rinsate: 818655-B3111

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (1999) and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (1994). In addition, the Data Validation Services Statement of Work for MCAS El Toro was used along with other EPA methods.

S.R. Obleas, President

S.R. Obleas, President

DATA VALIDATION REQUIREMENTS

Level IV or Full validation includes all parameters listed below. Level III or Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

* Holding times
  GC/MS instrument performance check
* Initial and continuing calibrations
* Blanks
* Surrogate recovery
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Internal standard performance
  Target compound identification
  Tentatively identified compounds
  Compound quantitation
  Reported detection limits
  System performance
* Overall assessment of data for the SDG

CLP Inorganic Parameters

* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike
* Laboratory control sample/blank spike
* Field duplicates
* Matrix duplicates
  ICP interference check sample
  GFAA quality control
* ICP serial dilution
  Sample result verification
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

* Method compliance
* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
* Surrogate recovery
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS

U Indicates the compound or analyte was analyzed for but no detected at or above the stated limit.

J Indicates an estimated value

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore, qualification was not required

CURSORY DATA VALIDATION SUMMARY TABLE

Analysis	Holding Times	Surrogates	MS/MSD	LCS	Blanks	Calibration	Internal Standards	Field Duplicates	Other
Method M8015 **Gasoline**	√	√	N/A	√	√	√	N/A	N/A	√
Method M8015 **Diesel**	√	√	√	√	√	√	N/A	N/A	√
Method 8260B **Volatiles**	√	√	N/A	√	√	√	√	N/A	√
Method 8270C **Semivolatiles**	√	√	√	√	√	√	√	N/A	√
Method 8270C **Semivolatiles-SIM**	√	√	√	√	√	√	√	N/A	√
Method 8082 **PCBs**	√	√	√	√	√	√	N/A	N/A	√
Method 8081A **Pesticides**	√	√	**Pg. 5**	√	√	**Pg. 5**	N/A	N/A	**Pg. 6**
Method 7470A/7471A **Mercury**	√	N/A	√	√	√	√	N/A	N/A	√
Method 6010B **Metals**	√	N/A	**Pg. 7, 8**	√	**Pg. 7**	√	N/A	N/A	**Pg. 8**

Notes:

√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.

N/A indicates the parameter is not applicable to an analysis.

If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.

The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

DATA ASSESSMENT

GASOLINE (Method M8015)

I. Cursory criteria met.

DIESEL (Method M8015)

I. Cursory criteria met.

VOLATILES (Method 8260B)

I. Cursory criteria met.

SEMIVOLATILES (Method 8270C)

I. Cursory criteria met.

SEMIVOLATILES-SIM (Method 8270C)

I. Cursory criteria met.

PCBS (Method 8082)

I. Cursory criteria met.

PESTICIDES (Method 8081A)

I. Matrix spike

A. The following did not meet QC limits for soil sample 818655-B3114. Qualifications to the data were not made.

Compound	QC limits	MS%R	MSD%R	RPD
alpha-BHC	65-135 / 50	45 *	79	55 *
gamma-BHC	63-130 / 50	51 *	76	39
delta-BHC	65-136 / 50	62 *	88	35
Aldrin	37-126 / 50	47	89	62 *
Heptachlor epoxide	43-144 / 50	47	85	58 *
gamma-Chlordane	31-133 / 50	48	84	55 *
alpha-Chlordane	31-135 / 50	47	87	60 *
Endosulfan I	39-153 / 50	42	82	65 *
4,4'-DDE	35-149 / 50	58	98	51 *
Dieldrin	32-142 / 50	40	79	66 *
Endosulfan II	65-169 / 50	62 *	90	37
Endrin aldehyde	65-160 / 50	60 *	98	48
Methoxychlor	63-152 / 50	57 *	98	53 *

II. Calibrations

A. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJ).

- Heptachlor, Endrin, 4,4'-DDT, Methoxychlor in samples 818655-B3106, 818655-B3109, and 818655-B3110.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
11/16/02 1311	Heptachlor	-21
RTX-CLPEST	Endrin	-35
	4,4'-DDT	-26
	Methoxychlor	-22
11/16/02 1311	Heptachlor	-25
RTX-CLPESTII	Endrin	-31
	4,4'-DDT	-36
	Methoxychlor	-27

III. Compound Identification

A. Due to confirmation problems, the following results are considered nondetected (UJ).

- alpha-BHC in samples 818655-B3106 and 818655-B3110.

The result reported was detected below the RL, and a percent difference (%D) greater than 50% was noted in the analyte concentration between the quantitation column and the confirmation column. The %Ds are listed below.

Sample ID	Compound	%D	Reported Conc.	Modified Final Conc.
818655-B3106	alpha-BHC	69	0.00076 J	0.0025 UJ
818655-B3110	alpha-BHC	224	0.0011 J	0.0023 UJ

MERCURY (Method 7470A/7471A)

I. **Cursory criteria met.**

METALS (Method 6010B)

I. **Blank Contamination**

A Due to calibration and method blank contamination, the following results are considered nondetected (U).

- Iron in sample 818655-B3111.
- Selenium in samples 818655-B3106, 818655-B3107, 818655-B3110, and 818655-B3113.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, units
Iron	ICB	18.8 ug/L; 1.88 mg/Kg
Selenium	CCB2	5.84 ug/L; 0.584 mg/Kg

Detected results less than 5x the maximum blank contamination were qualified.

B Due to equipment rinsate blank contamination, the following results are considered nondetected (U).

- Sodium in samples 818655-B3106, 818655-B3107, 818655-B3109, 818655-B3110, 818655-B3113, and 818655-B3114.

The following analytes were detected in the associated field, trip, and equipment rinsate blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, units
Sodium	818655-B3111 (equipment rinsate)	4710 ug/L; 471 mg/Kg

Detected results less than 5x the maximum blank contamination were qualified.

II. **Analytical Spike**

A. Due to accuracy problems, the following detected results are qualified as estimated (J).

- Lead in samples 818655-B3106, 818655-B3107, 818655-B3109, 818655-B3110, 818655-B3113, and 818655-B3114

The recoveries outside the QC limits are listed below.

Sample ID	Analyte	%R	QC Limits
818655-B3103	Lead	29 0	75 - 125%

Spike recoveries less than 74% indicate that detects may be biased low and false nondetects may have been reported.

B. Due to accuracy problems, the following detected results are qualified as estimated (J)

- Iron in samples 818655-B3106, 818655-B3107, 818655-B3109, 818655-B3110, 818655-B3113, and 818655-B3114.

The recoveries outside the QC limits are listed below.

Sample ID	Analyte	%R	QC Limits
818655-B3103	Iron	148	75 - 125%

Spike recoveries above 125% indicate that detected results may be biased high.

III. Serial Dilution

A. Due to serial dilution problems, the following detected results are qualified as estimated (J).

- Arsenic and Nickel in samples 818655-B3106, 818655-B3107, 818655-B3109, 818655-B3110, 818655-B3113, and 818655-B3114.

The percent difference between the original sample result and the dilution result was outside the QC limits of 10% for analyte concentrations as shown below.

Sample ID	Analyte	%D
818655-B3103	Arsenic	12
	Nickel	13

MCAS El Toro, CTO 24
Gasoline – Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Gasoline – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Diesel – Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Diesel – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG

MCAS El Toro, CTO 24
Volatiles – Data Qualification Summary -- SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Volatiles – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Semivolatiles – Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Semivolatiles – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Semivolatiles-SIM – Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG

MCAS El Toro, CTO 24
Semivolatiles-SIM – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
PCBs – Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
PCBs – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Pesticides – Data Qualification Summary -- SDG 02K106

Continuing Calibration qualifications

Sample	Compound	Qualification	Protocol / Advisory
818655-B3106	Heptachlor	UJ	Protocol
	Endrin	UJ	Protocol
	4,4'-DDT	UJ	Protocol
	Methoxychlor	UJ	Protocol
818655-B3109	Heptachlor	UJ	Protocol
	Endrin	UJ	Protocol
	4,4'-DDT	UJ	Protocol
	Methoxychlor	UJ	Protocol
818655-B3110	Heptachlor	UJ	Protocol
	Endrin	UJ	Protocol
	4,4'-DDT	UJ	Protocol
	Methoxychlor	UJ	Protocol

Compound Identification qualifications

Sample	Compound	Modified Final Conc.	Qualification	Protocol / Advisory
818655-B3106	alpha-BHC	0.0025	UJ	Protocol
818655-B3110	alpha-BHC	0.0023	UJ	Protocol

MCAS El Toro, CTO 24
Pesticides -- Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Mercury – Data Qualification Summary -- SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Mercury – Laboratory Blank Data Qualification Summary – SDG 02K106

No Sample Data Qualified in this SDG.

MCAS El Toro, CTO 24
Metals – Data Qualification Summary – SDG 02K106

Analytical Spike qualifications

Sample	Compound	Qualification	Protocol / Advisory
818655-B3106	Iron	J	Protocol
	Lead	J	Protocol
818655-B3107	Iron	J	Protocol
	Lead	J	Protocol
818655-B3109	Iron	J	Protocol
	Lead	J	Protocol
818655-B3110	Iron	J	Protocol
	Lead	J	Protocol
818655-B3113	Iron	J	Protocol
	Lead	J	Protocol
818655-B3114	Iron	J	Protocol
	Lead	J	Protocol

Serial Dilution qualifications

Sample	Compound	Qualification	Protocol / Advisory
818655-B3106	Arsenic	J	Protocol
	Nickel	J	Protocol
818655-B3107	Arsenic	J	Protocol
	Nickel	J	Protocol
818655-B3109	Arsenic	J	Protocol
	Nickel	J	Protocol
818655-B3110	Arsenic	J	Protocol
	Nickel	J	Protocol
818655-B3113	Arsenic	J	Protocol
	Nickel	J	Protocol
818655-B3114	Arsenic	J	Protocol
	Nickel	J	Protocol

MCAS El Toro, CTO 24
Metals – Laboratory Blank Data Qualification Summary – SDG 02K106

Laboratory Blank qualifications

Compound	Associated Samples	Qualification	Protocol / Advisory
Iron	818655-B3111	U	Advisory
Selenium	818655-B3106	U	Advisory
	818655-B3107	U	Advisory
	818655-B3110	U	Advisory
	818655-B3113	U	Advisory

Equipment rinsate qualifications

Compound	Associated Samples	Qualification	Protocol / Advisory
Sodium	818655-B3106	U	Advisory
	818655-B3107	U	Advisory
	818655-B3109	U	Advisory
	818655-B3110	U	Advisory
	818655-B3113	U	Advisory
	818655-B3114	U	Advisory

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to continuing calibration problems in the Pesticide analysis, the following were qualified as estimated: Heptachlor, Endrin, 4,4'-DDT and Methoxychlor for three samples. alpha-BHC was qualified as estimated for two samples due to high percent difference between the primary and secondary columns.

B. Due to calibration blank contamination in the Metals analysis, the following were considered nondetected: Iron for one sample; Selenium for four samples. Due to equipment rinsate contamination, the following were considered nondetected: Sodium for six samples. Due to accuracy problems, Iron and Lead were qualified as estimated for six samples. Arsenic and Nickel were qualified as estimated for six samples due to serial dilution problems.

C. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.