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MCAS EL TORO
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Services Corp.
1202 Kettner Boulevard
San Diego, California 92101

# Temporary Accumulation Area 658
# Marine Corps Air Station
# El Toro, California

**SWDIV Contract No. N68711-93-D-1459**
**Delivery Order No. 0070 – Revision 0**
**OHM Project No. 18609 – Document Control No. SW5982**
**December 22, 1999**

# Closure Report

Appendix A - JEG RFA Background Information; Appendix B - BNI VSI Evaluation Report;
Appendix C - Site Photograph; Appendix D - Site Assessment Log; Appendix E - Land Survey Data;
Appendix F - Laboratory Analytical Results for TAA Effluent Treated Water;
Appendix G - Laboratory Analytical Reports; Appendix H - LDC Data Validation Report;
Appendix I - Tentative Reuse Parcel Location of TAA 658

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# Closure Report

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*Marine Corps Air Station*
*El Toro, California*

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# Table of Contents


*List of Figures* ..... *iii*

*List of Tables* ..... *iii*

*Abbreviations and Acronyms* ..... *iv*

*Section 1 Introduction* ..... *1-1*

1.1 Site Location and Background ..... 1-1
1.2 Project Objectives ..... 1-1
1.3 Regulatory Background and Cleanup Goals ..... 1-2
1.4 Project Scope of Work ..... 1-2

*Section 2 Previous Investigations and Site Background* ..... *2-1*

2.1 RCRA Facility Assessment ..... 2-1

*Section 3 Field Activities* ..... *3-1*

3.1 Preparatory Work ..... 3-1
3.2 Site Decontamination ..... 3-1
3.3 Confirmation Soil Sampling ..... 3-2
3.4 Land Surveying ..... 3-3
3.5 Waste Management ..... 3-3

*Section 4 Sampling Analytical Results and Data Quality Assessment* ..... *4-1*

4.1 Field Sampling Summary ..... 4-1
4.1.1 Confirmation Soil Sampling ..... 4-1
4.1.2 Rinsate Water Sampling ..... 4-2
4.1.3 Quality Control ..... 4-2
4.1.4 Equipment Decontamination ..... 4-3
4.2 Analytical Methods ..... 4-3
4.3 Laboratory Analytical Results ..... 4-4
4.3.1 Soil Sample Analytical Results ..... 4-4
4.3.2 Rinsate Sample Analytical Results ..... 4-6
4.4 Data Quality Assessment ..... 4-6
4.5 Data Validation ..... 4-6
4.5.1 Analytical Quality Control Program ..... 4-7
4.3.3 QC Sample Analytical Results 4-6

*Section 5 Risk Characterization and Hazard Index Calculation* ..... *5-1*

5.1 Physical Characteristics of TAA 658 ..... 5-1
5.2 Exposure Assessment ..... 5-1
5.3 Toxicity Assessment ..... 5-2
5.4 Risk Characterization ..... 5-2

*Section 6 Conclusions and Recommendations* ..... *6-1*

# *Table of Contents (Cont.)*

*Section 7 References* ..... *7-1*

*Appendix A* *JEG RFA Background Information*

*Appendix B* *BNI VSI Evaluation Report*

*Appendix C* *Site Photographs*

*Appendix D* *Site Assessment Log*

*Appendix E* *Land Survey Data*

*Appendix F* *Laboratory Analytical Results for TAA Effluent Treated Water*

*Appendix G* *Laboratory Analytical Reports*

*Appendix H* *LDC Data Validation Report*

*Appendix I* *Tentative Reuse Parcel Location of TAA 658*

# *List of Figures*


Figure 1-1 Facility Location Map
Figure 1-2 Location Map
Figure 3-1 TAA 658 – Site Plan
Figure 5-1 Conceptual Site Model – TAA 658
Figure 5-2 Potential Migration Pathways, Exposure Routes and Receptors – TAA 658


# *List of Tables*


Table 4-1 Sample Collection Summary Log – TAA 658
Table 4-2 Summary of Analytical Results for Confirmation Soil Samples – TAA 658
Table 4-3 Summary of Analytical Results for QC Samples - TAA 658
Table 4-4 Summary of Analytical Results for Rinse Water Samples – TAA 658
Table 5-1 Residential Risk Screening Worksheet for Soil - TAA 658

# *Abbreviations and Acronyms*

| | |
|---|---|
| BEHP | bis(2-ethylhexyl) phthalate |
| bgs | below ground surface |
| BNI | Bechtel National Inc. |
| BRAC | Base Realignment and Closure |
| CA LUFT | California Leaking Underground Fuel Tank |
| CCR | California Code of Regulations |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CQC | Contractor Quality Control |
| CTF | central treatment facility |
| DHS | California Department of Health Services |
| DO | delivery order |
| DTSC | Department of Toxic Substances Control |
| EPA | United States Environmental Protection Agency |
| HSO | Health and Safety Officer |
| HSP | Health and Safety Plan |
| IRP | Installation Restoration Program |
| 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 |
| OHM | OHM Remediation Services Corp. |
| OU | Operable Unit |
| PAH | polynuclear aromatic hydrocarbon |
| PPE | personal protective equipment |
| PRG | Preliminary Remediation Goal |
| QA | quality assurance |
| QC | quality control |
| RCRA | Resource Conservation and Recovery Act |
| RDL | reporting detection limit |
| RI | Remedial Investigation |
| RPD | relative percent difference |
| RRF | relative response factor |
| RWQCB | Regional Water Quality Control Board |
| SIM | selected ion monitoring |
| SVOC | semi-volatile organic compound |
| SWDIV | Southwest Division Naval Facilities Engineering Command |

# *Abbreviations and Acronyms (Cont.)*

| | |
|---|---|
| SWMU | Solid Waste Management Unit |
| TAA | temporary accumulation area |
| TAL | target analyte list |
| TPH | total petroleum hydrocarbons |
| VOA | volatile organic analysis |
| VOC | volatile organic compound |
| VSI | Visual Site Inspection |
| %D | percent difference |
| µg/kg | micrograms per kilogram |

# Section 1
# Introduction

This Closure Report summarizes the sampling and decontamination activities performed at the Temporary Accumulation Area (TAA) 658 Site at the Marine Corps Air Station (MCAS) El Toro (hereinafter referred to as the "Station"), California. OHM Remediation Services Corp (OHM) performed the work for the Southwest Division Naval Facilities Engineering Command (SWDIV) under Remedial Action Contract No. N68711-93-D-1459, Delivery Order (DO) 0070.

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

## 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. Approximately 800 acres of the Station property are currently designated for agricultural outlease. Agricultural outleased lands are located at the corners of the Station, and are used for plant nursery and crop production (MCAS El Toro, 1998). The location of the Station is shown in Figure 1-1.

TAA 658, a temporary, less than 90-day, Hazardous Waste Storage Area (HWSA) is located in the northeastern quadrant of the Station, west of the Agua Chinon Wash. The TAA 658 is located south of Building 658, former Engine Test Cell (Figure 1-2) near North Marine Way.

The depth to groundwater in the vicinity of the TAA 658 site is based on available water level data collected from the nearest groundwater monitoring well 04_DBMW40. The location of this well is shown in Figure 1-2. Based on this data, the depth to the groundwater at TAA 658 is approximately 208 feet below ground surface (bgs) (OHM, 1997b).

## 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 TAA 658 in accordance with the MCAS El Toro Detailed Plan (OHM, 1995).
- Perform verification soil sampling and analysis to obtain "closure status" of TAA 658.

Based on a classification in the Draft Supplemental Work Plan, TAA 658 was considered to be a Type 1 facility (i.e., bermed TAA with containment sump). Project operations at Type 1 facilities were defined as decontamination of the interior portion of the structure and soil sampling. (OHM, 1997a).

## *1.3 Regulatory Background and Cleanup Goals*

The closure activities at TAA 658 were completed in accordance with the appropriate federal and state requirements. TAA 658 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 TAA 658 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 TAA 658 are based on the following:

**Soil**

- United States Environmental Protection Agency (EPA) Region IX Preliminary Remediation Goals (PRGs) dated October 1, 1999 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

## *1.4 Project Scope of Work*

The Scope of Work at TAA 658 consisted of the following tasks:

- collection and laboratory analysis of confirmation samples, including soil samples obtained from beneath and adjacent to the TAA structure.
- turning over salvageable and recyclable materials to the Station's Defense Reutilization and Marketing Office for recycling.
- disposal of solid wastes generated during field sampling activities.
- preparation of a Closure Report to describe and document the work performed.

# *Section 2*
# *Previous Investigations and Site Background*

The following section summarizes results from previous investigations and background history at the TAA 658 site. Background information regarding TAA 658 was obtained from the following documents:

1. *Final RCRA Facility Assessment Report, Marine Corps Air Station El Toro, California (Jacobs Engineering Group Inc., [JEG] 1993)*
2. *Final Addendum RCRA Facility Assessment Report, Marine Corps Air Station El Toro, California (BNI, 1996a)*
3. *Final Base Realignment and Closure Cleanup Plan, March 1998, Marine Corps Air Station El Toro, California (MCAS El Toro, 1999)*

## *2.1 RCRA Facility Assessment*

In 1991, JEG, as part of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), performed the initial Preliminary Review (PR) and a Visual Site Inspection (VSI) of the 307 Solid Waste Management Units (SWMUs) within the Station. JEG also conducted a site visit to observe the current conditions of the SWMUs and/or TAA, and performed limited sampling. JEG identified SWMU 171 (also known as TAA 658) as a temporary HWSA south of Building 658, former Engine Test Cell during their field RFA visit in April 1991.

Per JEG VSI Evaluation form, SWMU 171 (TAA 658) was a temporary less than 90-day HWSA consisting of a concrete pad with berm, aluminum roof and a sump. During the field VSI, JEG team observed some dark discoloration around the sump drain but no significant cracks in the concrete pad or berms. Also, JEG team observed some stained area of soil near the northwestern corner of the HWSA. Therefore, as part of the VSI evaluation process recommended *"Sampling Visit"* for SWMU 171 (TAA 658).

During the sampling visit, JEG advanced one angle soil boring (171A1) to a depth of 60 feet bgs in close proximity of SWMU 171 and collected six soil samples. Analysis of all six-soil samples did not indicate significant presence of TPH, VOCs, pesticide and PCB compounds. However, SVOCs such as pyrene, benzo(a)pyrene, chrysene, and phenanthrene were reported in 10-foot sample with "J" qualifier (means estimated).

Although these compounds concentrations were below laboratory detection limits, but since these compounds were reported in 10-foot sample, JEG on a judgmental basis recommended *"Further Action of Additional Shallow Borings"* at SWMU 171 (TAA 658) to assess the potential presence of SVOCs in shallow soil. Copies of the VSI form, figure and analytical results table from the JEG RFA report are included in Appendix A, JEG RFA Background Information.

After review of the JEG RFA report, DTSC requested additional information about TAAs to determine the closure requirements. BNI performed the visual assessment of 73 TAA sites to provide more specific information for a closure strategy for TAAs. In November 1995, BNI visited SWMU 171 (TAA 658).

During the BNI team field VSI at TAA 658 in November 1995, TAA was empty, vacant and the concrete pad had some oil stains. No soil sampling was performed by BNI. Copies of TAA 658 VSI evaluation forms from the BNI Final RFA Addendum report are included in Appendix B, BNI VSI Evaluation Report.

# Section 3
# Field Activities

The following subsections describe the activities that were performed by OHM at TAA 658. Field activities were conducted in accordance with the approved *Final Supplemental Work Plan* (OHM, 1997a)

Field activities conducted at TAA 658 included a site inspection, preconstruction meeting, a geophysical survey, decontamination and confirmation soil sampling, and waste management. Photograph of the TAA 658 is presented in Appendix C, Site Photographs.

## 3.1 Preparatory Work

OHM performed a site visit at TAA 658 in January 1997 and October 13, 1997 before performing any field activities. The TAA 658 was observed to be an inactive TAA, consisting of a vacant concrete pad with a berm, roof and a sump. No evidence of a release or stains was observed around the TAA 658. A copy of the Site Assessment Log is included as Appendix D.

OHM subcontractor, Geovision, conducted a geophysical survey on January 18, 1997 to identify and locate buried utilities, pipes, and other subsurface anomalies in the vicinity of TAA 658. OHM also notified Underground Service Alert of the intent to hand-auger seven locations up to 3 feet bgs.

OHM, in coordination with the Station's Resident Officer in Charge of Construction (ROICC), conducted a preconstruction meeting. The meeting addressed the Station's regulations for contractors, the construction schedule, health and safety coordination, construction quality control (QC), and tenant notifications.

## 3.2 Site Decontamination

Decontamination activities at TAA 658 began on August 11, 1998 and included site preparation and concrete floor decontamination as specified in the Supplemental Work Plan (OHM, 1997a).

The following construction management activities were implemented at the TAA 658 site:

- OHM notified Station ROICC of the decontamination area.
- OHM Health and Safety Officer (HSO) implemented site security, health and safety procedures, and dust control activities. The work area was divided into exclusion or hot zone; a contamination reduction zone; and a support zone. The OHM Project Engineer performed a visual inspection for evidence of contamination inside and adjacent to the TAA 658 site.

- OHM field crew prepared the TAA for decontamination. Preparation included initial scraping, vacuuming, and sweeping.

The following decontamination methods were selected to minimize the generation of air emissions and the quantity of decontamination water. The decontamination methods included the following:

- vacuuming of solid materials from floor
- mechanical scrubbing of floor and hand scrubbing of berms
- cold and hot water pressure washing

Vacuuming techniques included the physical removal of dust and other solid dirt particles from the pad surface. Dust and other dirt particles collected as a result of this activity were placed in a 55-gallon steel drum for later disposal. Vacuuming was performed using high-efficiency particle filter vacuums. Visible stains on the berms and floor were wire-brushed or scraped to remove loose particles and stained coatings.

A pressure washer was used to wash down the berms and floor of TAA 658. After completion of two wash cycles, the concrete pad floor was rinsed and pumped out, then a third and final rinse of the pad was performed in a similar manner as described above. After the third rinse, rinse water was allowed to collect in the sump and then a plastic sample bottle was immersed in the sump to collect the rinse water sample.

Decontamination wastewater was then collected from the pad floor using a trailer-mounted portable skid unit (equipped with vacuum pump and 1,500-gallon steel storage tank). Wastewater was then transferred to the 2,500-gallon polyethylene storage tank located at the Station's central treatment facility (CTF) compound near Installation Restoration Program (IRP) Site 3 at the cross section of North Marine Way and Desert Storm Road.

## *3.3 Confirmation Soil Sampling*

Confirmation soil samples were collected from five hand auger locations at TAA 658 to verify if any spillage occurred during handling of hazardous material drums and the lateral and/or vertical extent of contamination beneath concrete/asphalt paved area. A total of 10 soil samples were collected from five hand auger boring locations (SB-A, SB-B, SB-C, SB-D, and SB-E). Soil sample locations were selected, based on a visual inspection performed during the site visit on October 13, 1997.

Soil samples were collected in standard stainless steel sleeves at two different depths: 18 and 36 inches bgs. Details on the sampling strategy and analytical methods are discussed in Section 4. The locations of the OHM hand-auger borings at TAA 658 are shown on Figure 3-1, Site Plan.

## 3.4 Land Surveying

After completing the confirmation soil sampling at TAA 658, the hand auger soil boring locations were surveyed by Cal Vada Surveying Inc., a California-licensed land surveyor. The surveyed locations were 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 TAA 658 are presented as Appendix E.

## 3.5 Waste Management

Waste generated during the decontamination activities and confirmation soil sampling at the TAA 658 site included the following:

- one bag (55-gallon drum liners) of Personal Protective Equipment (PPE).
- 0.2 cubic yards of debris (e.g., rocks, rust, solid soils, etc) from concrete floor.
- approximately 250 gallons of decontamination wash water stored on-site at the CTF in a closed-top polyethylene storage tank, specifically marked "TAA Water."

All generated wastes have been disposed of in accordance with applicable State and Federal regulations. Based on the results and review of analytical data, OHM disposed of the wastes as follows:

- The bags of PPE was disposed off-site at Bowerman Canyon non-hazardous Class III landfill, based on the results of the sump/floor debris samples.
- 0.2 cubic yards of floor debris, disposed off-site at Bowerman Canyon non-hazardous Class III landfill, based on the confirmation soil sample analytical results.

Wastewater generated from decontamination activities was treated through the Station's CERCLA Carbon Adsorption Treatment System (operated and maintained by OHM) located at the CTF, following the determination that the constituents were within the normal range for treatment. Treated effluent water was sampled and based on the review of the analytical results, transferred to the Station's Golf Course holding tank for reuse (JEG 1991). A copy of the analytical result of the treated water is included in Appendix F, Laboratory Analytical Results for TAA Effluent Treated Water.

# Section 4
# Sampling Analytical Results and Data Quality Assessment

The objective of the sampling and analysis is to provide analytical data to document the successful decontamination of TAA 658 and to characterize the soil condition adjacent to and beneath TAA 658. 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 Draft Supplemental Work Plan (OHM, 1997a) 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 the successful decontamination of TAA 658 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 TAA 658 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 TAA 658 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 TAA 658.

Sample locations were selected based on visual inspection performed during a site visit, which included any areas where there was evidence of spills, contamination of concrete, or visual signs of secondary containment structure deterioration (cracks in berms). However, no cracks or visual indications of spills were observed at TAA 658. A total of 10 confirmation soil samples (sample numbers 18609-968 through 18609-977) were collected at TAA 658 from 5 hand auger borings (SBA, SBB, SBC, SBD, and SBE). The locations of all the hand auger borings are shown in Figure 3-1.

A concrete-coring machine was used to open a 6-inch diameter hole in the concrete/asphalt, and then a hand auger was used to bore into the soil under the concrete to approximately 18 inches. An undisturbed soil sample was collected at 18 and 36 inches bgs 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 borehole (no VOCs were identified by the photoionization detector). Concrete (ready mix) was poured into the open hole in the bottom of the sump to seal the opening. The surface was then finished with a trowel to match the existing surface of the asphalt. The Sample Collection Summary Log for TAA 658 is presented in Table 4-1.

### *4.1.2 Rinsate Water Sampling*

Samples collected from large porous (concrete) surfaces using wipe techniques were not considered to be representative by DTSC. Therefore, samples of the rinsate water were collected to provide an indicator of the effectiveness of the decontamination. Rinsate samples were collected to determine the concentrations of any constituents that might be present in any washwater coming in contact with the floors and sump following the wash process.

The fire hydrant located on North Marine Way near IRP Site 3 within the CTF compound was used as the source water for washing and rinsing the concrete pad floor at TAA 658. Two samples (sample numbers 18609-960 and 18609-962) were collected from the source water and the rinsate (sample number 18609-961) from the third rinse of the floor surface was collected in the sump.

### *4.1.3 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.
- Source blank was collected at a frequency of 1 per source.

One equipment rinsate (sample number 18609-967), one trip blank (sample number 18609-959), and two source water samples (sample numbers 18609-960 and 18609-962) were collected for the TAA site.

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

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

### *4.1.4 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 water for the final rinse.

## *4.2 Analytical Methods*

Analytical methods were selected to encompass all the chemicals of potential concern at TAA 658. The following methods were performed to characterize samples collected from TAA 658:

- Volatile organic compounds (VOCs) by EPA Method 8260A
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270B
- Total Petroleum Hydrocarbons (TPH) as Gasoline by CA LUFT 8015 Modified
- TPH as Diesel by CA LUFT 8015 Modified
- Polychlorinated Biphenyls (PCBs) and Pesticides by EPA method 8081
- Metals by EPA Method 6010A and 7000 series
- Total Cyanide by EPA Method 9010
- pH by EPA Method 9045/150.1

Additionally, the Selected Ion Monitoring (SIM) technique was used on the following seven semi-volatile organic compounds in order to achieve detection limits lower than the Region IX PRGs (U.S.EPA, October 1999):

- benzo(a)pyrene
- dibenzo(a,h)anthracene
- hexachlorobenzene
- indeno(1,2,3-cd)pyrene
- n-nitrosodi-n-propylamine
- pentachlorophenol
- bis(2-chloroethyl)ether

SIM is a recognized gas chromatograph/mass spectrometer technique used to lower detection limits for organic compounds. As specified in EPA Method 8270B, semi-volatile 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 TAA 658. The analytical results for the confirmation soil samples at TAA 658 with comparison to the background concentrations and PRGs are presented in Table 4-2, Summary of Analytical Results for Confirmation Soil Samples – TAA 658. QC sample analytical data for TAA 658 are presented in Table 4-3, Summary of Analytical Results for QC Samples – TAA 658. Rinse and source water analytical data for TAA 658 are presented in Table 4-4, Summary of Analytical Results for Rinse Water Samples – TAA 658. The hard copies of the analytical results with QA/QC data obtained from VOC Analytical Laboratory are included in Appendix G, Laboratory Analytical Results.

### *4.3.1 Soil Sample Analytical Results*

**Volatile Organic Compounds (VOCs)** — VOCs were not detected above the laboratory reporting limits for all confirmation soil samples collected from TAA 658.

**Semi-Volatile Organic Compounds (SVOCs)** — No SVOCs were detected above the laboratory reporting limits in all confirmation soil samples collected from TAA 658. However, the reporting limit for hexachlorobenzene exceeded the residential PRG for all confirmation soil samples, and the reporting limits for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perlyene, benzo(k)fluoranthene, chrysene, dibenz(a.h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene exceeded the background level concentrations.

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

- benzo(a)pyrene

- dibenzo(a,h)anthracene
- hexachlorobenzene
- indeno(1,2,3-cd)pyrene
- n-nitrosodi-n-propylamine
- pentachlorophenol
- bis(2-chloroethyl)ether

The OHM criterion for acceptance of this SIM data was that the laboratory MDL must be equal to or less than half of the PRG.

**Total Petroleum Hydrocarbons (TPH)** — TPH as gasoline, and diesel was not detected above the laboratory reporting limits for all confirmation soil samples collected from TAA 658.

**PCBs/Pesticides** — PCB/pesticide compounds were not detected above the laboratory reporting limits for all confirmation soil samples collected from TAA 658 except for 4,4'-DDE and 4,4'-DDT detected at 2.04J ug/kg and 1.61J ug/kg, respectively, for sample number 18609-968. Additionally, the reporting limits for alpha-chlordane, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin aldehyde, and gamma-chlordane exceeded the established background concentrations for all of the confirmation soil samples.

**Metals** — Various metal results for the confirmation soil samples were above the established background levels as noted by the "B" qualifier in Table 4 – 2, Summary of Analytical Results for Confirmation Soil Samples.

The following table illustrates the metal results that are above residential or industrial PRGs:

| Sample Number | Sample Location | Concentrations Exceeding Residential PRGs | Concentrations Exceeding Industrial PRGs |
|---|---|---|---|
| 18609-968 | TAA658-SBA | Arsenic (2.72 mg/kg) | Arsenic (2.72 mg/kg) |
| | | Thallium (5.71 U mg/kg) | N/A |
| 18609-970 | TAA658-SBB | Arsenic (2.7 mg/kg) | Arsenic (2.7 mg/kg) |
| | | Thallium (5.69 U mg/kg) | N/A |
| 18609-972 | TAA658-SBC | Arsenic (2.41 mg/kg) | N/A |
| | | Thallium (5.66 U mg/kg) | N/A |
| 18609-974 | TAA658-SBD | Arsenic (2.25 mg/kg) | N/A |
| | | Thallium (5.75 U mg/kg) | N/A |
| 18609-976 | TAA658-SBE | Arsenic (2.08 mg/kg) | N/A |

*mg/kg – milligrams per kilogram*
*N/A – not applicable*
*U – not detected*

**Total Cyanide** — Total cyanide was not detected above the laboratory reporting limits for all confirmation soil samples collected from TAA 658.

### *4.3.2 Rinsate Sample Analytical Results*

Two source blank samples (18609-960 and 18609-962) and one rinse water sample (18609-961) were collected at TAA 658. The samples were analyzed for VOCs, SVOCs, TPH, PCBs/Pesticides, Metals, total cyanide, and pH. Analytes detected in the rinse water are
consistent with the analytes present in the source blank sample. Various organic analytes and metals are present in both the rinse and/or the source water sample. Analytes were detected at levels expected in fire hydrant water.

### *4.3.3 QC Sample Analytical Results*

One trip blank was collected for TAA 658 (18609-959). The trip blank was analyzed for TPH as Gasoline and VOCs, and all analytes were not detected

One equipment rinsate sample (18609-967) was collected and analyzed for VOCs, SVOCs, TPH, PCBs/Pesticides, Metals, cyanide, and pH. All analytes detected were less than the reporting limits except for TPH as diesel, which was detected at 1.91 mg/L.

## *4.4 Data Quality Assessment*

The TAA 658 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 4-2 through 4-4. All data are useable as qualified.

## *4.5 Data Validation*

This section addresses the validity and quality of the data collected from TAA 658. Analytical data were reviewed and validated in accordance with the EPA *National Functional Guidelines for Organic and Inorganic Data Review* (U.S.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 H, Data Validation Reports.

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 Draft 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).

### *4.5.1 Analytical Quality Control Program*

This section provides a description of the field and laboratory QC sample results, which were used to evaluate the precision, accuracy, representativeness, completeness, and comparability.

**Precision** — Precision was evaluated based on the QC results submitted from the field and from the laboratory. The calculated relative percent difference (RPD) of MS/MSDs, laboratory control sample/laboratory control sample duplicates (LCS/LCSDs), and the field duplicate pair provided information on the precision of sampling and analytical procedures. RPDs for duplicate samples were not calculable when one or both results were not detected. The precision results for all the samples were within the required limits.

- The RPD for the MS/MSD for SVOC analysis were out of QC limits; therefore, the spiked analytes for sample 18609-970 were flagged as estimated with "UJ" since the analyte was not detected in this sample.
- The RPD for the LCS/LCSD for SVOC analysis were out of QC limits; therefore, the spiked analytes for samples 18609-960, 18609-961, and 18609-962 were flagged as estimated with "UJ" since the analyte was not detected in this sample.

**Accuracy** — Evaluation of the percent recovery (%R) of spiked analytes in MS/MSD samples, LCS/LCSDs, and surrogates provide information on accuracy. In addition, the initial and continuing calibration results provided information on analytical accuracy. The accuracy results for all samples were within the required limits with the following exceptions:

- The %R for surrogates for SVOC analysis were out of QC limits; therefore, the base/neutral analytes for sample 18609-967 were flagged as estimated with "UJ" since the analytes were not detected in this sample.
- The %R for the LCS for pentachlorophenol and 4-nitrophenol were out of QC limits; therefore, samples 18609-968 and 18609-972 were flagged as estimated with "UJ" since the analytes were not detected in those samples.

- The %R for the MS/MSD for dieldrin and endrin were out of QC limits; therefore, sample 18609-968 was flagged as estimated with "UJ" since the analytes were not detected in this sample.
- The %R for the LCS for gamma-BHC was out of QC limits; therefore, sample 18609-967 was flagged as estimated with "UJ" since the analyte was not detected in this sample.
- The %R for the MS for antimony, barium, calcium, and manganese was out of QC limits; therefore, sample 18609-972 was flagged as estimated with "J" for those analytes except antimony which was flagged with "UJ" since this analyte was not detected in this sample.
- The percent difference (%D) for the serial dilution for metals analysis was out of QC limits for calcium, iron, and zinc; therefore, samples 18609-968, 18609-970, 18609-972, 18609-974, and 18609-976 were flagged as estimated with "J" since the analytes were detected in those samples.
- The continuing calibration %D for pentachlorophenol and di-n-octylphthalate were out of QC limits; therefore, sample 18609-961 was flagged as estimated with "UJ" since the analytes were not detected in this sample.
- The %R for surrogates for SVOC analysis were out of QC limits; therefore, the base/neutral analytes for sample 18609-961 were flagged as estimated with "UJ" since the analytes were not detected in this sample.
- The %R for the LCS for gamma-BHC was out of QC limits; therefore, samples 18609-960, 18609-961, and 18609-962 were flagged as estimated with "UJ" since the analyte was not detected in those samples.

**Representativeness** — Representativeness was assessed through the evaluation of method blank and trip blank samples. Target analytes were not detected in the method and trip blank samples with the following exception:

- Methylene chloride was detected in the method blank; therefore, samples 18609-967 through 18609-973, 18609-975, and 18609-976 were changed to the reporting limit and flagged with a "U" for not detected.
- Arsenic was detected in the method blank; therefore, samples 18609-972, 18609-974, and 18609-976 were flagged as estimated with "J" since the analyte was detected in those samples.
- Methylene chloride was detected in the method blank; therefore, samples 18609-959 through 18609-962 were changed to the reporting limit and flagged with a "U" for not detected.
- Zinc was detected in the method blank; therefore, sample 18609-961 was flagged as estimated with "J" since the analyte was detected in this sample.

**Completeness** — Completeness was evaluated in two criteria. The first criteria was assuring that all analytical requests were met, samples were received in the proper condition, and all analytes were performed within the technical holding times. The second criterion was evaluating the analytical completeness by calculating the percent of acceptable analytes. The completeness parameters are:

- the completeness goal for holding times is 100 percent
- the goal for sample collection and analysis frequency of duplicate and MS/MSD samples was 10 and 5 percent, respectively
- the percent analytical completeness goal was 90 percent

All samples were extracted and analyzed within the appropriate holding times. No duplicate samples were collected. The percent analytical completeness goal is based on a project-wide sampling program and cannot be assessed on a site-by-site basis.

**Comparability** — To ensure comparability, sampling was performed using standardized procedures. Laboratory procedures follow EPA analytical methods and the CA LUFT Manual guidelines. All soil samples were reported on a dry weight basis. The data were then evaluated for comparability of reporting detection limits (RDLs) and associated dilution factors. RDLs were elevated when samples required dilution to quantify target compounds within the linear range of the instrument or when there was sample matrix interference.

All reporting limits were achieved for VOCs, SVOCs, TPH, PCBs/Pesticides, Metals, total cyanide, and pH by the laboratory.

**Summary** — All data associated with TAA 658 were usable and acceptable as qualified. Overall precision and accuracy were met. The analytical results and associated qualifiers are summarized in Tables 4-2 through 4-4.

# Section 5
# 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 TAA 658. A screening level risk assessment for human health was conducted following the guidance provided in the EPA Region IX PRGs Memorandum (U.S. EPA, 1999). The results of confirmation soil sampling conducted at the TAA were used to calculate risks.

## 5.1 Physical Characteristics of TAA 658

Based on the review of the boring log of the groundwater monitoring well 04_DBMW40, the subsurface lithology at TAA 658 consists of primarily of silty sand with interbedded silts, sands, and clays. These sediments have moderate-to-high porosity and moderate to low permeability. The groundwater is present at a depth of approximately 208 feet bgs. (OHM 1997b).

## 5.2 Exposure Assessment

The TAA 658 was used as a temporary HWSA for storage of hazardous waste drums. The surrounding area to TAA 658 is paved. The land use scenario is currently considered to be industrial.

The Station officially closed on July 2, 1999 in accordance with the Base Closure and Realignment Act of 1993 (BRAC III). The TAA 658 is located within a parcel designated for *Research and Development Light Industrial* according to *the El Toro Community Reuse Plan, 1997 Working Draft,* (County of Orange 1997) as shown in Figure 1 of Appendix I. Also, TAA 658 is located within or near an area designated as an *Aviation Support* according to *The Preferred Land Use Plan, Concept B* as published by the County of Orange in September 1999, as shown in Figure 2 of Appendix I.

There is limited exposure to soil because there the TAA 658 area is concrete paved and surrounding area is asphalt and concrete paved. The concrete and asphalt cover is expected to remain until the future land use as aviation support. However, for screening purposes, the ingestion, dermal contact, and inhalation exposure pathways are assumed to be complete as if there were no cover. Should the screening fail, further evaluation of the exposure pathways would be required. Site conceptual model for TAA 658 is shown on Figure 5-1.

Under an industrial and/or residential land use scenario at TAA 658, 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 (U.S. EPA, 1999). Figure 5-2 presents the potential migration pathways at TAA 658.

For the purposes of this risk screening evaluation, the residential scenario is used as the worst case scenario. The current industrial use or future use as aviation support would have lower exposures and the risk would be less. If the risk is 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 noncancer PRGs incorporate the toxicity values for chronic health effects other than cancer (EPA, 1999). Both cancer risk and noncancer 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 $10^{-6}$ to $10^{-4}$ and a non-cancer hazard index of 1 or less are considered acceptable levels of exposure. The PRG concentrations are calculated to at a cancer risk level of $1x10^{-6}$ and a non-cancer hazard index of 1.

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

At TAA 658, the detected carcinogens in soil include 4,4'-DDE, 4,4'-DDT, arsenic, and chromium. All were detected below Station's background concentrations. The summed cancer risk for soil under the potential future residential scenario after subtracting background is less than $10^{-6}$ as shown in Table 5-1, Residential Risk Screening Worksheet for soil – TAA 658. The cancer risk under the industrial scenario would be even less, therefore industrial risk was not calculated since the residential scenario presents the worst-case scenario.

No contributors to non-cancer hazard for soil were detected above the Station background concentrations. The non-cancer hazard is less than 1.0 under the potential future residential scenario (Table 5-1). The non-cancer hazard under the industrial scenario would be even less and was not calculated since the residential scenario presents the worst-case scenario.

A rinse water sample was collected from the concrete pad floor after decontamination activities at TAA 658. Rinse water sample analytes were compared to source water

concentrations. The rinse water was determined to be within the range of source water concentrations.

## Summary

The site-related incremental cancer risk and non-cancer hazard index at TAA 658 is acceptable for the following reasons:

- The net carcinogenic risk is less than $10^{-6}$ for the residential and industrial scenarios.
- The non-cancer hazard index for detected chemicals is less than 1.0 for the residential and industrial scenarios.
- No detected concentrations were greater than the Station's background concentrations.

# *Section 6*
# *Conclusions and Recommendations*

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

- The TAA 658 (SWMU 171), a temporary HWSA was identified by JEG during the RFA PR/VSI field visit in May 1991. JEG observed the TAA 658 was not in use and no significant stains or cracks on the concrete pad or berm. An area of stained soil was observed near the northwestern corner of HWSA in the surrounding soil. Therefore, as part of the VSI evaluation process JEG recommended *"Sampling Visit"* for TAA 658.

- During the sampling visit, JEG advanced one angle soil boring (171A1) to a depth of 60 feet bgs in close proximity of TAA 658 and collected six samples. Analysis of all six-soil samples did not indicate significant presence of TPH, VOCs, pesticide and PCB compounds. However, SVOCs such as pyrene, benzo(a)pyrene, chrysene, and phenanthrene were reported in 10-foot sample with "J" qualifier (means estimated). Although these compounds concentrations were below laboratory detection limits, JEG on a judgmental basis recommended *"Further Action of Additional Shallow Borings"* at SWMU 171 (TAA 658) to assess the potential presence of SVOCs in shallow soil.

- BNI visited TAA 658 in November 1995 and found inactive, vacant concrete pad. Oil stains were observed on the concrete pad. No soil sampling was performed by BNI at the TAA 658 site.

- OHM observed vacant TAA 658 during the site visits conducted in January 1996 and October 13, 1997. No visible stains or evidence of spills were observed at the TAA 658 site.

- OHM collected 10 confirmation soil samples from five shallow hand augur borings at TAA 658. Based on the review of analytical data, no indications of hazardous contaminants (i.e., previous spills) were found in the soil under or around TAA 658. Therefore, the temporary use of the DSA did not impact the concrete pad and soil beneath or around the TAA 658.

- TPH, VOCs, SVOCs, pesticides, and most of the metal compounds from all 10-confirmation soil samples collected at 1.5 and 3 feet bgs were not detected above the laboratory reporting limits. Arsenic and chromium (only carcinogens) were detected in the soil above the laboratory reporting limits. Also, 4,4'-DDE and 4,4'-DDT were reported at 2.04J and 1.61J ug/kg respectively with "J" (means estimated value) lab qualifier. All these compounds were analyzed to determine the risk associated with their presence.

- The various metal compounds detected in the rinsate sample were consistent in identity and concentration with the metals and levels measured in the source water.

Alkali metals, iron, zinc, THMs and BEHP are commonly found in chlorinated potable water supplies such as the source water used for the decontamination of TAA 658.

- The residential and risk calculations for TAA 658 resulted in a site-related cancer risk (less background risk) of less than $10^{-6}$ and a site-related residential noncancer HI of less than 1.0. Both of which are generally accepted levels of exposure.

The objectives of this project are considered to be achieved, since TAA 658 is no longer used for storage of hazardous wastes. Decontamination activities (vacuuming, scrubbing, and pressure washing) were performed at TAA 658 to remove any possible contamination, and confirmation soil sampling was conducted at the TAA 658 site to verify that concentrations of contaminants were at or below acceptable background or health-risk based concentrations.

Based on the information provided, closure goals were achieved with respect to soil and rinsate water for TAA 658; therefore, TAA 658 (also known as SWMU 171) should be identified as "closed."

# Section 7
# References


Bechtel National, Incorporated, 1996, *Final Addendum RCRA Facility Assessment Report*, Marine Corps Air Station El Toro, California (BNI, 1996a).

Bechtel National, Inc, 1996, *Final Technical Memorandum Background and Reference Levels Remedial Investigations, Marine Corps Air Station El Toro, California,* October 1996b.

Bechtel National, Incorporated, 1997, *Draft Final Phase II Remedial Investigation Report, Operable Unit 2A-Site 24, Marine Corps Air Station, El Toro*, California, [Navy Contract N68711-92-D-4670, CTO 73, BNI 1997).

BNI. See Bechtel National, Inc.

County of Orange, 1997, *Alternative A, El Toro Community Reuse Plan, 1997 Working Map, Land Uses/Conveyances, Gross Acres,* [Prepared by P&D Consultants for the County of Orange, March 1997].

County of Orange, 1999, *The Airport and Open Space Plan Concept B,* September 1999.

Jacobs Engineering Group Inc., 1991, *Final Waste Management Plan, MCAS El Toro,* CLE-C01-0lF145-B4-000l, 14 December.

Jacobs Engineering Group Inc., 1993, *Final RCRA Facility Assessment Report; Marine Corps Air Station El Toro, California,* 1993.

JEG, see Jacobs Engineering Group Inc.

Marine Corps Air Station El Toro, California, 1998, *Final Base Realignment and Closure Cleanup Plan,* March.

OHM Remediation Services Corp, 1995, *Detailed Plan for RCRA Clean Closure of Building 673-T3 MCAS El Toro and Building 248 MCAS Tustin,* June.

OHM Remediation Services Corp, 1997a, *Draft Supplemental Work Plan Closure of Various Temporary Accumulation Areas and RCRA Facility Assessment Sites*, Marine Corps Air Station El Toro, Santa Ana, California, March.

OHM Remediation Services Corp. 1997b, Technical Memorandum Groundwater Monitoring Report, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station El Toro, Santa Ana, California, November.

OHM, see OHM Remediation Services Corp.

RCRA Part B Permit for MCAS El Toro, California, June 1992.

Southwest Naval Facilities Engineering Command, 1998, *Letter Communication from Lynn Marie Hornecker, SWDIV, RPM to Tayseer Mahmoud, DTSC on Decontamination, Remediation, and Closure of Various RFA Sites, Marine Corps Air Station, El Toro,* 7 February.

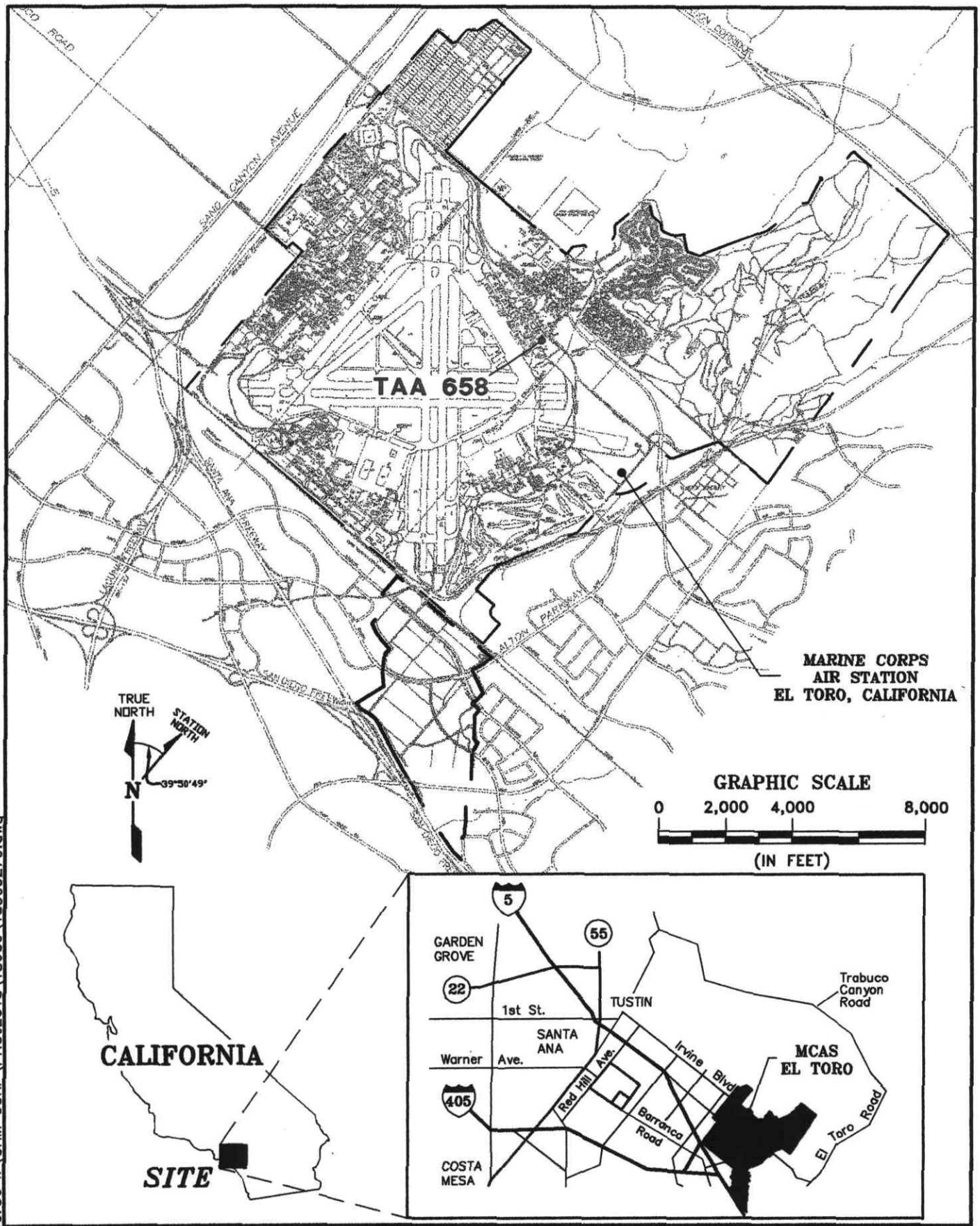
State of California, Water Resources Control Board, 1989, *Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure.*

SWDIV, see Southwest Naval Facilities Engineering Command.

U.S. Environmental Protection Agency. 1994. *National Functional Guidelines for Organic and Inorganic Data Review,* December.

U.S. Environmental Protection Agency, 1999, Region IX Preliminary Remediation Goals (PRGs) 1998, memorandum from Stanford J. Smucker to the PRG Table Mailing List, 1 October.

# *Figures*

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| | CHECKED BY DR | DATE 12/20/99 | | | | | |
| | APPROVED BY | DATE | | | | | |
| CONTRACT NAME SWDIV | PROJECT MANAGER W Sellel | DATE 12/21/99 | MARINE CORPS AIR STATION EL TORO, CALIFORNIA | | | | |
| AUTOCAD FILE No. 18609279.DWG | PLOT SCALE 1=1 | SHEET 1 | OF 1 | SCALE 1"=4,000' | DOCUMENT CONTROL No. SW5982 | OHM PROJECT No. 18609 | FIGURE No. FIG 1-1 | REVISION 0 |

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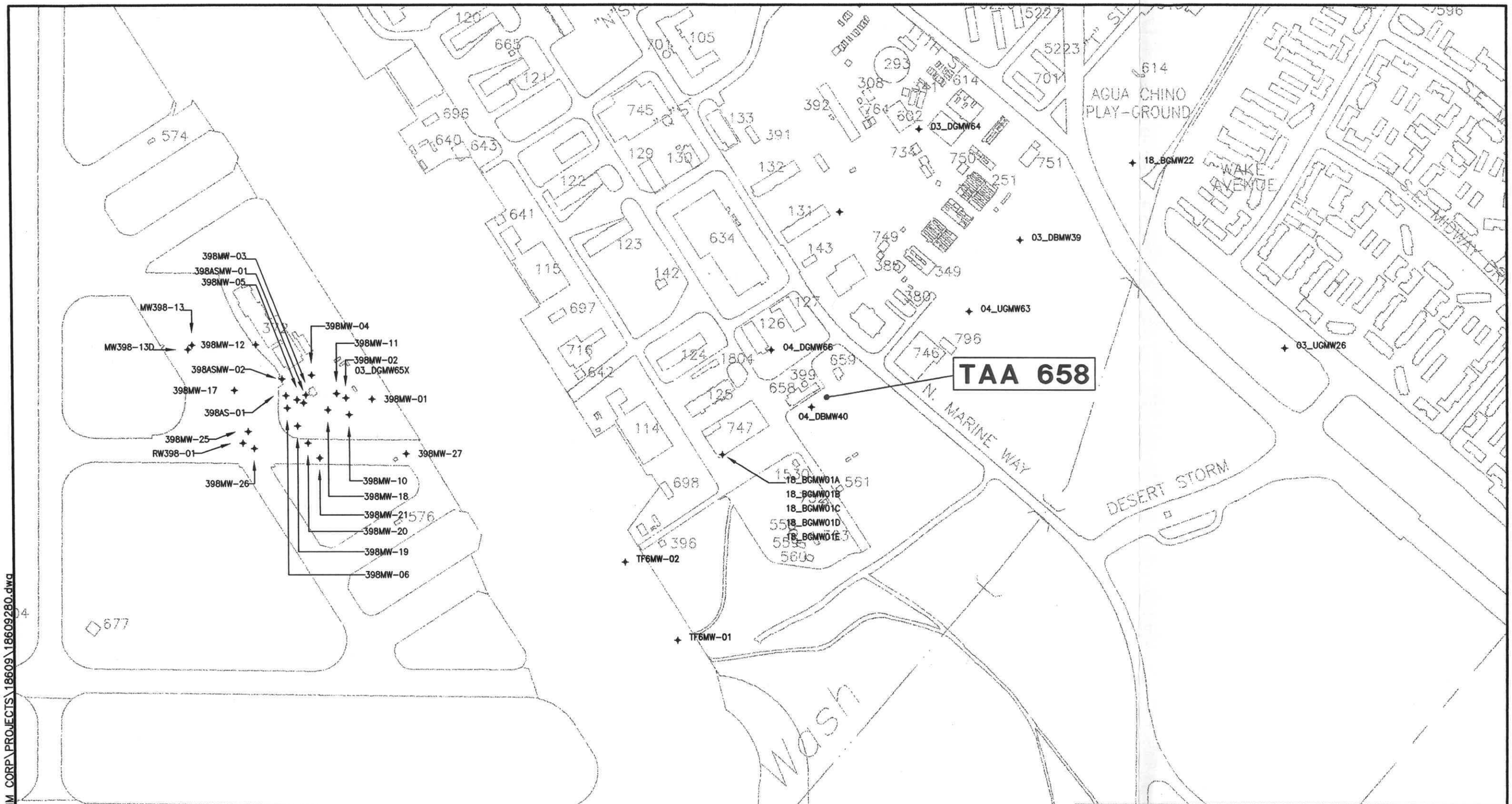


**EXPLANATION:**

✦ GROUNDWATER MONITORING WELL

TRUE NORTH
STATION NORTH
N
39°50'49"

**GRAPHIC SCALE**

0 150 300 600

(IN FEET)

| REVISIONS | | | |
|---|---|---|---|
| REV. No. | DESCRIPTION | DATE | APPROVED |
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| CONTRACT NAME | SWDIV |
| DRAWN BY | R. PIRMORADIAN |
| DATE | 12/21/99 |
| CHECKED BY | DR |
| DATE | 12/21/99 |
| APPROVED BY | |
| DATE | |
| PROJECT MANAGER | |
| DATE | 12/21/99 |
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| OF | 1 |
| DOCUMENT CONTROL No. | SW5982 |
| OHM PROJECT No. | 18609 |
| DRAWING No. | FIG 1-2 |

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

LOCATION MAP
TAA 658

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

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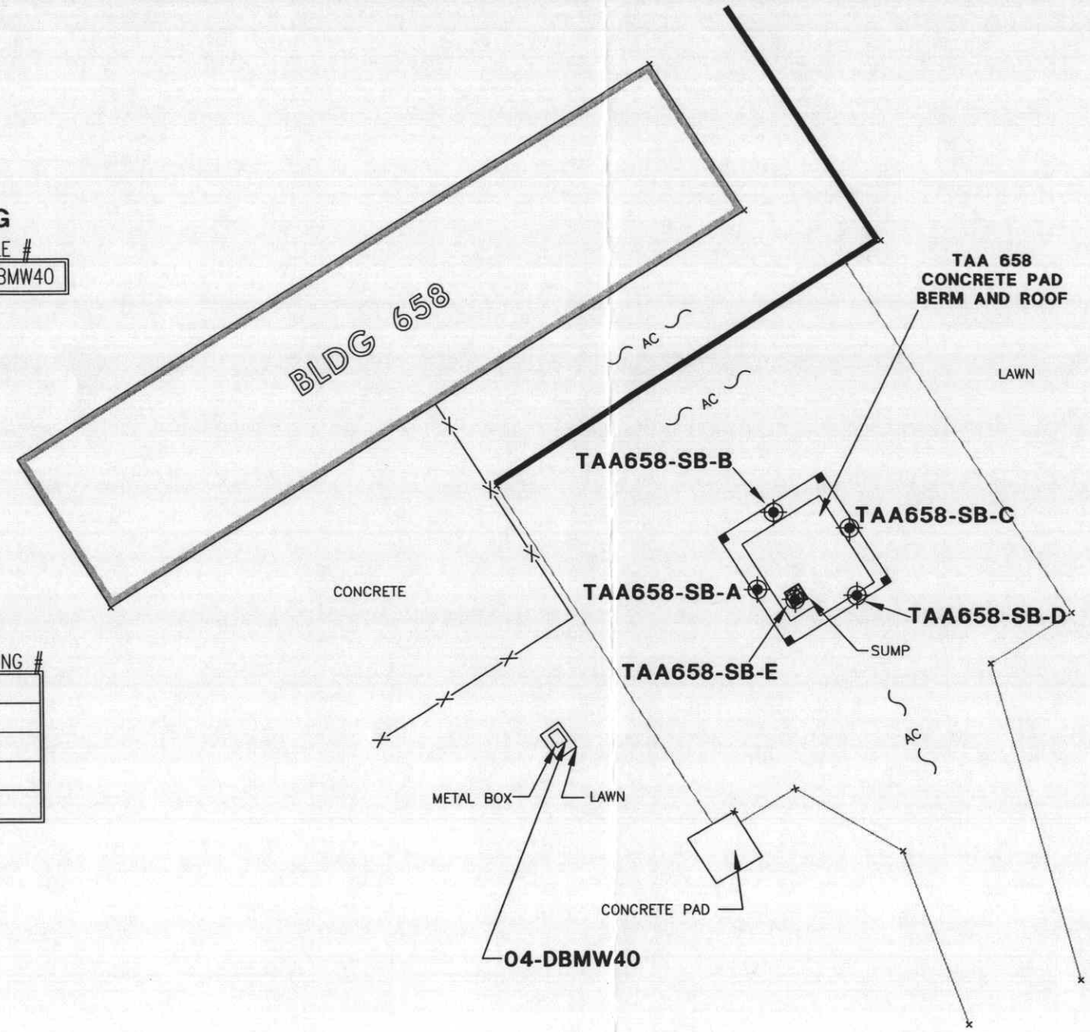
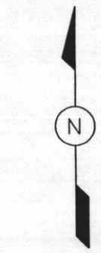
## SAMPLE COORDINATE LISTING

| NORTHING | EASTING | ELEV. | SAMPLE # |
|---|---|---|---|
| 2192621.6589 | 6115012.9968 | 400.01 | 04-DBMW40 |

## BORE HOLES

| NORTHING | EASTING | ELEV. | SOIL BORING # |
|---|---|---|---|
| 2192640.7910 | 6116051.2516 | 401.14 | SB-D |
| 2192649.6666 | 6115050.3348 | 401.38 | SB-C |
| 2192651.7372 | 6115040.4049 | 401.35 | SB-B |
| 2192641.5641 | 6115038.2088 | 401.13 | SB-A |
| 2192640.2565 | 6115043.1872 | 400.02 | SB-E |




**EXPLANATION:**

- SAMPLE LOCATION
- BUILDING LINE
- EDGE OF PAVEMENT
- BLOCK WALL
- CHAINLINK FENCE

**GRAPHIC SCALE**

0 10 20 40

(IN FEET)

| REVISIONS | | | |
|---|---|---|---|
| REV. No. | DESCRIPTION | DATE | APPROVED |
| 01 | 97102-62.DWG BY CALVADA SURVEYING INC. | 9/18/98 | |

CONTRACT NAME: SWDIV

DRAWN BY: R. PIRMORADIAN — DATE: 12/21/99

CHECKED BY: DR — DATE: 12/21/99

APPROVED BY — DATE

PROJECT MANAGER: W Sullivan — DATE: 12/21/99

AUTOCAD FILE No.: 18609278.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

SITE PLAN
TAA 658

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

| SCALE | SHEET | OF | DOCUMENT CONTROL No. | OHM PROJECT No. | DRAWING No. |
|---|---|---|---|---|---|
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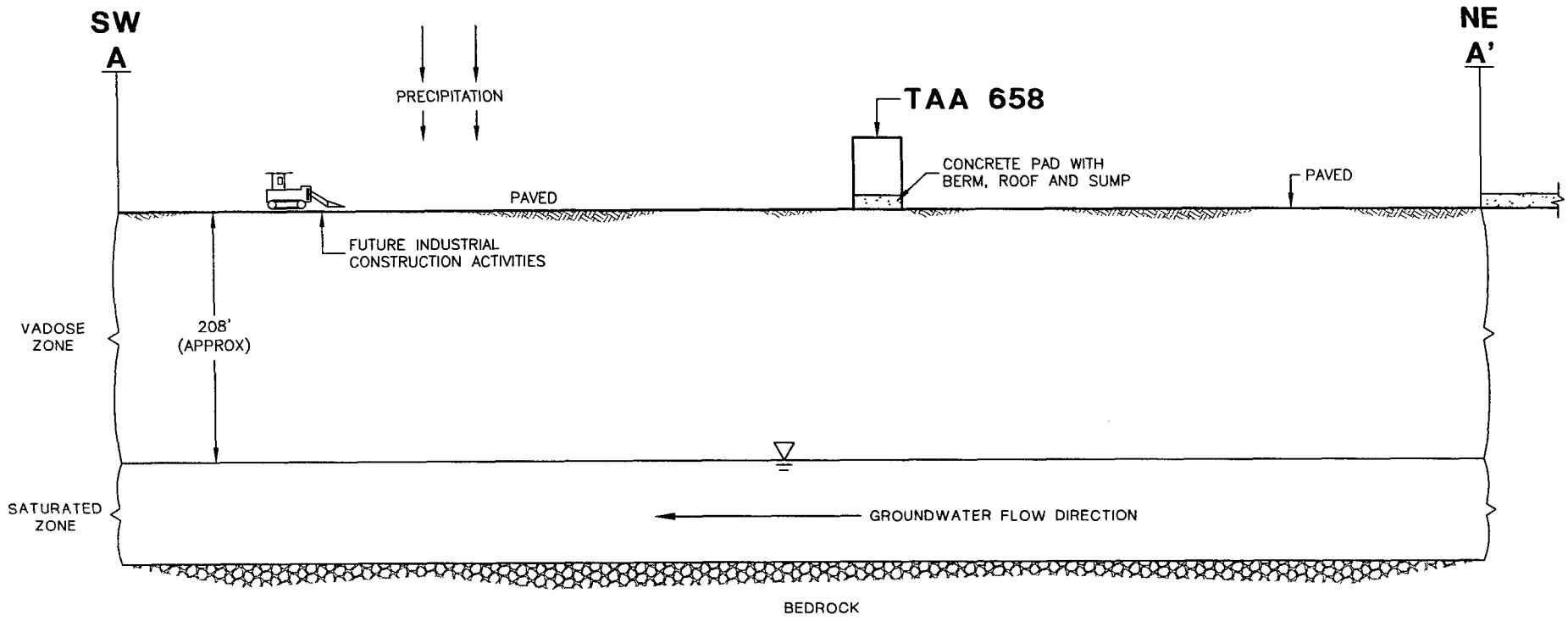



**EXPLANATION:**

RECEPTORS:

WORKERS

PATHWAYS:

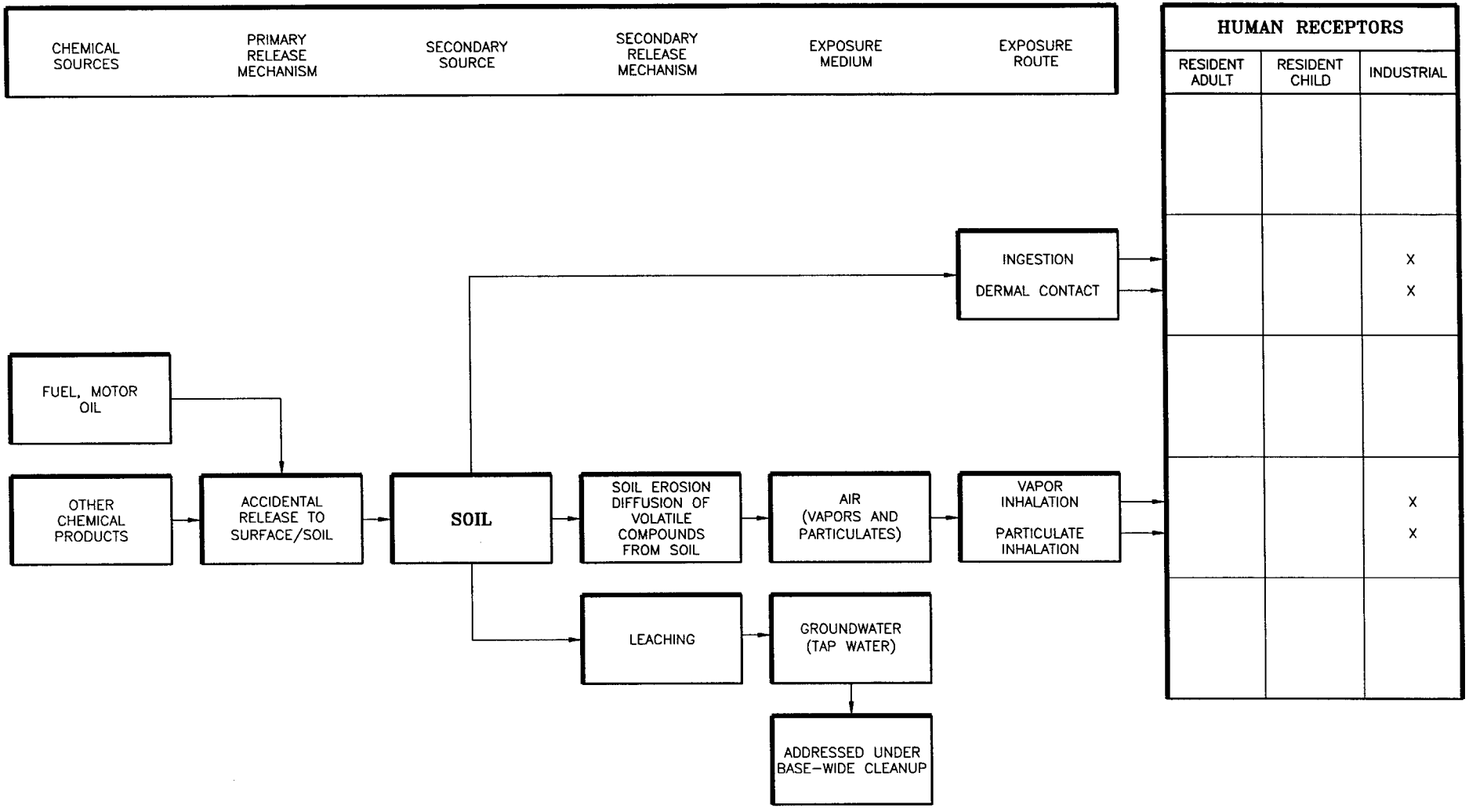
GROUNDWATER

PRECIPITATION

REFERENCE:
103M2088.DWG

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA | | | DRAWN BY R. PIRMORADIAN | | DATE 12/21/99 | CONCEPTUAL SITE MODEL TAA 658 | |
| | | | CHECKED BY DR | | DATE 12/21/99 | | |
| | | | APPROVED BY | | DATE | | |
| CONTRACT NAME SWDIV | | | PROJECT MANAGER W Schell | | DATE 12/21/99 | MARINE CORPS AIR STATION EL TORO, CALIFORNIA | |
| AUTOCAD FILE No. 18609284.DWG | PLOT SCALE 1=1 | SHEET 1 | OF 1 | SCALE NONE | DOCUMENT CONTROL No. SW5982 | OHM PROJECT No. 18609 | FIGURE No. FIG 5-1 |

Dec 21, 1999 – 16:47:51 I:\OHM CORP\PROJECTS\18609\18609285.dwg




EXPLANATION:

X COMPLETE PATHWAY

REFERENCE:
103C2089.DXF

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA | DRAWN BY R. PIRMORADIAN | DATE 12/21/99 | POTENTIAL MIGRATION PATHWAYS EXPOSURE ROUTES AND RECEPTORS TAA 658 | | | | |
| | CHECKED BY DR | DATE 12/21/99 | | | | | |
| | APPROVED BY | DATE | | | | | |
| CONTRACT NAME SWDIV | PROJECT MANAGER W Sellil | DATE 12/21/99 | MARINE CORPS AIR STATION EL TORO, CALIFORNIA | | | | |
| AUTOCAD FILE No. 18609285.DWG | PLOT SCALE 1=1 | SHEET 1 | OF 1 | SCALE NONE | DOCUMENT CONTROL No. SW5982 | OHM PROJECT No. 18609 | FIGURE No. FIG 5-2 |

# *Tables*

## Table 4 - 1
## Sample Collection Summary Log — TAA 658

| Field Sample Identification | Sample Location | Sample Depth | Date Sampled | TPH AS GASOLINE | TPH AS DIESEL | EPA 8260A | EPA 8270B | EPA 8081 | EPA 6010A | EPA 7471A/ 7470A | EPA 9010 | EPA 9045/150.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18609-959 | Trip Blank | - | 08/11/98 | X | | X | | | | | | |
| 18609-960 | Source Blank#1 | - | 08/11/98 | X | X | X | X | | X | X | X | X |
| 18609-961 | TAA658-Rinse | - | 08/11/98 | X | X | X | X | | X | X | X | X |
| 18609-962 | Source Blank#2 | - | 08/11/98 | X | X | X | X | | X | X | X | X |
| 18609-967 | Equipment Rinsate | - | 08/14/98 | X | X | X | X | | X | X | | |
| 18609-968 | TAA658-SBA | 1.5 | 08/14/98 | X | X | X | X | X | X | X | X | X |
| 18609-969 | TAA658-SBA | 3.0 | 08/14/98 | | | X | | | | | | |
| 18609-970 | TAA658-SBB | 1.5 | 08/14/98 | X | X | X | X | X | X | X | X | X |
| 18609-971 | TAA658-SBB | 3.0 | 08/14/98 | | | X | | | | | | |
| 18609-972 | TAA658-SBC | 1.5 | 08/14/98 | X | X | X | X | X | X | X | X | X |
| 18609-973 | TAA658-SBC | 3.0 | 08/14/98 | | | X | | | | | | |
| 18609-974 | TAA658-SBD | 1.5 | 08/14/98 | X | X | X | X | X | X | X | X | X |
| 18609-975 | TAA658-SBD | 3.0 | 08/14/98 | | | X | | | | | | |
| 18609-976 | TAA658-SBE | 1.5 | 08/14/98 | X | X | X | X | X | X | X | X | X |
| 18609-977 | TAA658-SBE | 3.0 | 08/14/98 | | | X | | | | | | |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| **CA LUFT 8015M** | | | | | | | | | |
| TPH as Diesel | mg/kg | NE | NE | NE | 11.4 U | NA | 11.4 U | NA | 11.3 U |
| TPH as Gasoline | mg/kg | NE | NE | NE | 1.14 U | NA | 1.14 U | NA | 1.13 U |
| **EPA 8081** | | | | | | | | | |
| 4,4'-DDD | µg/kg | 36.1 | 2400 | 17000 | 3.43 U | NA | 3.42 U | NA | 3.39 U |
| 4,4'-DDE | µg/kg | 145 | 1700 | 12000 | 2.04 J | NA | 3.42 U | NA | 3.39 U |
| 4,4'-DDT | µg/kg | 236 | 1700 | 12000 | 1.61 J | NA | 3.42 U | NA | 3.39 U |
| Aldrin | µg/kg | NE | 29 | 150 | 17.1 U | NA | 17.1 U | NA | 17 U |
| alpha-BHC | µg/kg | NE | 90 | 590 | 1.71 U | NA | 1.71 U | NA | 1.7 U |
| alpha-Chlordane | µg/kg | 2.24 | 1600 | 11000 | 17.1 U B | NA | 17.1 U B | NA | 17 U B |
| Aroclor-1016 | µg/kg | NE | 3900 | 29000 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Aroclor-1221 | µg/kg | NE | 220 | 1000 | 75.4 U | NA | 75.2 U | NA | 74.6 U |
| Aroclor-1232 | µg/kg | NE | 220 | 1000 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Aroclor-1242 | µg/kg | NE | 220 | 1000 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Aroclor-1248 | µg/kg | NE | 220 | 1000 | 75.4 U | NA | 75.2 U | NA | 74.6 U |
| Aroclor-1254 | µg/kg | NE | 220 | 1000 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Aroclor-1260 | µg/kg | NE | 220 | 1000 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Beta-BHC | µg/kg | NE | 320 | 2100 | 17.1 U | NA | 17.1 U | NA | 17 U |
| Delta-BHC | µg/kg | NE | NE | NE | 17.1 U | NA | 17.1 U | NA | 17 U |
| Dieldrin | µg/kg | 19.9 | 30 | 150 | 3.43 UJ | NA | 3.42 U | NA | 3.39 U |
| Endosulfan I | µg/kg | 0.179 | 370000 | 5300000 | 1.71 U B | NA | 1.71 U B | NA | 1.7 U B |
| Endosulfan II | µg/kg | 2.22 | 370000 | 5300000 | 3.43 U B | NA | 3.42 U B | NA | 3.39 U B |
| Endosulfan sulfate | µg/kg | 3.1 | NE | NE | 3.43 U B | NA | 3.42 U B | NA | 3.39 U B |
| Endrin | µg/kg | 2.22 | 18000 | 260000 | 3.43 UJ B | NA | 3.42 U B | NA | 3.39 U B |
| Endrin aldehyde | µg/kg | 2.22 | NE | NE | 3.43 U B | NA | 3.42 U B | NA | 3.39 U B |
| Endrin ketone | µg/kg | NE | NE | NE | 3.43 U | NA | 3.42 U | NA | 3.39 U |
| gamma-BHC | µg/kg | NE | 440 | 2900 | 17.1 U | NA | 17.1 U | NA | 17 U |
| gamma-Chlordane | µg/kg | 2.7 | 1600 | 11000 | 17.1 U B | NA | 17.1 U B | NA | 17 U B |
| Heptachlor | µg/kg | NE | 110 | 550 | 2.29 U | NA | 2.28 U | NA | 2.26 U |
| Heptachlor epoxide | µg/kg | NE | 53 | 270 | 2.29 U | NA | 2.28 U | NA | 2.26 U |
| Methoxychlor | µg/kg | NE | 310000 | 4400000 | 17.1 U | NA | 17.1 U | NA | 17 U |
| Toxaphene | µg/kg | NE | 440 | 2200 | 194 U | NA | 194 U | NA | 192 U |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| **EPA 8260A** | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| 1,1,1-Trichloroethane | µg/kg | NE | 770000 | 1400000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,1,2,2-Tetrachloroethane | µg/kg | NE | 380 | 900 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,1,2-Trichloroethane | µg/kg | NE | 840 | 1900 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,1-Dichloroethane | µg/kg | NE | 590000 | 2100000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,1-Dichloroethene | µg/kg | NE | 54 | 120 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,2-Dichloroethane | µg/kg | NE | 350 | 760 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 1,2-Dichloropropane | µg/kg | NE | 350 | 770 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| 2-Butanone (MEK) | µg/kg | NE | 7300000 | 28000000 | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| 2-Chloroethyl vinyl ether | µg/kg | NE | NE | NE | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| 2-Hexanone | µg/kg | NE | NE | NE | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| 4-Methyl-2-pentanone (MIBK) | µg/kg | NE | 790000 | 2900000 | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| Acetone | µg/kg | NE | 1600000 | 6200000 | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| Benzene | µg/kg | NE | 670 | 1500 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Bromodichloromethane | µg/kg | NE | 1000 | 2400 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Bromoform | µg/kg | NE | 62000 | 310000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Bromomethane | µg/kg | NE | 3900 | 13000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Carbon disulfide | µg/kg | NE | 360000 | 720000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Carbon tetrachloride | µg/kg | NE | 240 | 530 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Chlorobenzene | µg/kg | NE | 150000 | 540000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Chloroethane | µg/kg | NE | 3000 | 6500 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Chloroform | µg/kg | NE | 240 | 520 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Chloromethane | µg/kg | NE | 1200 | 2700 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| cis-1,2-Dichloroethene | µg/kg | NE | 43000 | 150000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| cis-1,3-Dichloropropene | µg/kg | NE | 82 | 180 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Dibromochloromethane | µg/kg | NE | 1100 | 2700 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Ethylbenzene | µg/kg | NE | 230000 | 230000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Methyl tert-butyl ether (MTBE) | µg/kg | NE | NE | NE | 11.4 U | 10.9 U | 11.4 U | 11 U | 11.3 U |
| Methylene chloride | µg/kg | NE | 8900 | 21000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Styrene | µg/kg | NE | 1700000 | 1700000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Tetrachloroethene | µg/kg | NE | 5700 | 19000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Toluene | µg/kg | NE | 520000 | 520000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| | Unit | Background | PRG Residential | PRG Industrial | | | | | |
| trans-1,2-Dichloroethene | µg/kg | NE | 63000 | 210000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| trans-1,3-Dichloropropene | µg/kg | NE | 82 | 180 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Trichloroethene | µg/kg | NE | 2800 | 6100 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Vinyl acetate | µg/kg | NE | 430000 | 1400000 | 57.1 U | 54.6 U | 56.9 U | 55.2 U | 56.6 U |
| Vinyl chloride | µg/kg | NE | 22 | 49 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| Xylenes (total) | µg/kg | NE | 210000 | 210000 | 5.71 U | 5.46 U | 5.69 U | 5.52 U | 5.66 U |
| **EPA 8270B** | | | | | | | | | |
| 1,2,4-Trichlorobenzene | µg/kg | NE | 650000 | 3000000 | 377 U | NA | 376 UJ | NA | 373 U |
| 1,2-Dichlorobenzene | µg/kg | NE | 370000 | 370000 | 377 U | NA | 376 U | NA | 373 U |
| 1,3-Dichlorobenzene | µg/kg | NE | 13000 | 52000 | 377 U | NA | 376 U | NA | 373 U |
| 1,4-Dichlorobenzene | µg/kg | NE | 3400 | 8100 | 377 U | NA | 376 UJ | NA | 373 U |
| 2,4,5-Trichlorophenol | µg/kg | NE | 6100000 | 88000000 | 949 U | NA | 945 U | NA | 939 U |
| 2,4,6-Trichlorophenol | µg/kg | NE | 44000 | 220000 | 377 U | NA | 376 U | NA | 373 U |
| 2,4-Dichlorophenol | µg/kg | NE | 180000 | 2600000 | 377 U | NA | 376 U | NA | 373 U |
| 2,4-Dimethylphenol | µg/kg | NE | 1200000 | 18000000 | 377 U | NA | 376 U | NA | 373 U |
| 2,4-Dinitrophenol | µg/kg | NE | 120000 | 1800000 | 949 U | NA | 945 U | NA | 939 U |
| 2,4-Dinitrotoluene | µg/kg | NE | 120000 | 1800000 | 377 U | NA | 376 U | NA | 373 U |
| 2,6-Dinitrotoluene | µg/kg | NE | 61000 | 880000 | 377 U | NA | 376 U | NA | 373 U |
| 2-Chloronaphthalene | µg/kg | NE | 4900000 | 27000000 | 377 U | NA | 376 U | NA | 373 U |
| 2-Chlorophenol | µg/kg | NE | 63000 | 240000 | 377 U | NA | 376 UJ | NA | 373 U |
| 2-Methyl-4,6-dinitrophenol | µg/kg | NE | NE | NE | 949 U | NA | 945 U | NA | 939 U |
| 2-Methylnaphthalene | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| 2-Methylphenol | µg/kg | NE | 3100000 | 44000000 | 377 U | NA | 376 U | NA | 373 U |
| 2-Nitroaniline | µg/kg | NE | 3500 | 50000 | 949 U | NA | 945 U | NA | 939 U |
| 2-Nitrophenol | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| 3,3'-Dichlorobenzidine | µg/kg | NE | 1100 | 5500 | 377 U | NA | 376 U | NA | 373 U |
| 3-Methyl-4-chlorophenol | µg/kg | NE | NE | NE | 377 U | NA | 376 UJ | NA | 373 U |
| 3-Nitroaniline | µg/kg | NE | NE | NE | 949 U | NA | 945 U | NA | 939 U |
| 4-Bromophenyl phenyl ether | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| 4-Chloroaniline | µg/kg | NE | 240000 | 3500000 | 377 U | NA | 376 U | NA | 373 U |
| 4-Chlorophenyl phenyl ether | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| 4-Methylphenol | µg/kg | NE | 310000 | 4400000 | 377 U | NA | 376 U | NA | 373 U |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| | Unit | Background | PRG Residential | PRG Industrial | | | | | |
| 4-Nitroaniline | µg/kg | NE | NE | NE | 949 U | NA | 945 U | NA | 939 U |
| 4-Nitrophenol | µg/kg | NE | 490000 | 7000000 | 949 UJ | NA | 945 UJ | NA | 939 UJ |
| Acenaphthene | µg/kg | NE | 3700000 | 38000000 | 377 U | NA | 376 UJ | NA | 373 U |
| Acenaphthylene | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| Anthracene | µg/kg | NE | 22000000 | 100000000 | 377 U | NA | 376 U | NA | 373 U |
| Benzo[a]anthracene | µg/kg | 22 | 620 | 2900 | 377 U B | NA | 376 U B | NA | 373 U B |
| Benzo[a]pyrene | µg/kg | 27 | 62 | 290 | 37.7 U B | NA | 37.6 U B | NA | 37.3 U B |
| Benzo[b]fluoranthene | µg/kg | 28 | 620 | 2900 | 377 U B | NA | 376 U B | NA | 373 U B |
| Benzo[ghi]perylene | µg/kg | 29 | NE | NE | 377 U B | NA | 376 U B | NA | 373 U B |
| Benzo[k]fluoranthene | µg/kg | 24 | 6200 | 29000 | 377 U B | NA | 376 U B | NA | 373 U B |
| Bis (2-chloroethoxy)methane | µg/kg | NE | NE | NE | 377 U | NA | 376 U | NA | 373 U |
| Bis (2-chloroethyl)ether | µg/kg | NE | 210 | 620 | 37.7 U | NA | 37.6 U | NA | 37.6 U |
| Bis (2-chloroisopropyl)ether | µg/kg | NE | 2900 | 8100 | 377 U | NA | 376 U | NA | 373 U |
| Bis (2-ethylhexyl)phthalate | µg/kg | NE | 35000 | 180000 | 377 U | NA | 376 U | NA | 373 U |
| Butyl benzyl phthalate | µg/kg | NE | 12000000 | 100000000 | 377 U | NA | 376 U | NA | 373 U |
| Chrysene | µg/kg | 31 | 6100 | 290000 | 377 U B | NA | 376 U B | NA | 373 U B |
| Di-n-butyl phthalate | µg/kg | NE | 6100000 | 88000000 | 377 U | NA | 376 U | NA | 373 U |
| Di-n-octyl phthalate | µg/kg | NE | 1200000 | 10000000 | 377 U | NA | 376 U | NA | 373 U |
| Dibenz[a,h]anthracene | µg/kg | 8 | 62 | 290 | 37.7 U B | NA | 37.6 U B | NA | 37.3 U B |
| Dibenzofuran | µg/kg | NE | 290000 | 5100000 | 377 U | NA | 376 U | NA | 373 U |
| Diethyl phthalate | µg/kg | NE | 49000000 | 100000000 | 377 U | NA | 376 U | NA | 373 U |
| Dimethyl phthalate | µg/kg | NE | 100000000 | 100000000 | 377 U | NA | 376 U | NA | 373 U |
| Fluoranthene | µg/kg | 45 | 2300000 | 30000000 | 377 U B | NA | 376 U B | NA | 373 U B |
| Fluorene | µg/kg | NE | 2600000 | 33000000 | 377 U | NA | 376 U | NA | 373 U |
| Hexachlorobenzene | µg/kg | NE | 300 | 1500 | 37.7 U | NA | 37.6 U | NA | 37.3 U |
| Hexachlorobutadiene | µg/kg | NE | 6200 | 32000 | 377 U | NA | 376 U | NA | 373 U |
| Hexachlorocyclopentadiene | µg/kg | NE | 420000 | 5900000 | 377 U | NA | 376 U | NA | 373 U |
| Hexachloroethane | µg/kg | NE | 35000 | 180000 | 377 U | NA | 376 U | NA | 373 U |
| Indeno[1,2,3-cd]pyrene | µg/kg | 21 | 620 | 2900 | 37.7 U B | NA | 37.6 U B | NA | 37.3 U B |
| N-Nitrosodi-n-propylamine | µg/kg | NE | 69 | 350 | 37.7 U | NA | 37.6 UJ | NA | 37.3 U |
| N-Nitrosodiphenylamine | µg/kg | NE | 99000 | 500000 | 377 U | NA | 376 U | NA | 373 U |
| Naphthalene | µg/kg | NE | 56000 | 190000 | 377 U | NA | 376 U | NA | 373 U |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| Nitrobenzene | µg/kg | NE | 20000 | 110000 | 377 U | NA | 376 U | NA | 373 U |
| Pentachlorophenol | µg/kg | NE | 3000 | 11000 | 37.7 UJ | NA | 37.6 U | NA | 37.3 UJ |
| Phenanthrene | µg/kg | 18 | NE | NE | 377 U B | NA | 376 U B | NA | 373 U B |
| Phenol | µg/kg | NE | 37000000 | 100000000 | 377 U | NA | 376 UJ | NA | 373 U |
| Pyrene | µg/kg | 41 | 2300000 | 54000000 | 377 U B | NA | 376 U B | NA | 373 U B |
| **EPA 6010A** | | | | | | | | | |
| Aluminum | mg/kg | 14800 | 76000 | 100000 | 8830 | NA | 9930 | NA | 8410 |
| Antimony | mg/kg | 3.06 | 31 | 820 | 11.4 U B | NA | 11.4 U B | NA | 11.3 UJ B |
| Arsenic | mg/kg | 6.86 | 0.39 | 2.7 | 2.72 YX | NA | 2.7 YX | NA | 2.41 J Y |
| Barium | mg/kg | 173 | 5400 | 100000 | 106 | NA | 139 | NA | 112 J |
| Beryllium | mg/kg | 0.669 | 150 | 2200 | .329 | NA | .374 | NA | .332 |
| Cadmium | mg/kg | 2.35 | 9.0 | 810 | 2.29 U | NA | 2.28 U | NA | 2.26 U |
| Calcium | mg/kg | 46000 | NE | NE | 6890 J | NA | 6890 J | NA | 7860 J |
| Chromium | mg/kg | 26.9 | 210 | 450 | 8.52 | NA | 9.13 | NA | 8.36 |
| Cobalt | mg/kg | 6.98 | 4700 | 100000 | 3.97 | NA | 4.56 | NA | 3.77 |
| Copper | mg/kg | 10.5 | 2900 | 76000 | 30.1 B | NA | 22.2 B | NA | 15.7 B |
| Iron | mg/kg | 18400 | 23000 | 100000 | 12300 J | NA | 13000 J | NA | 11100 J |
| Lead | mg/kg | 15.1 | 400 | 1000 | 7.34 | NA | 2.89 | NA | 2.94 |
| Magnesium | mg/kg | 8370 | NE | NE | 4870 | NA | 5200 | NA | 4760 |
| Manganese | mg/kg | 291 | 1800 | 32000 | 204 | NA | 218 | NA | 206 J |
| Molybdenum | mg/kg | NE | 390 | 10000 | 5.71 U | NA | 5.69 U | NA | 5.66 U |
| Nickel | mg/kg | 15.3 | 150 | 41000 | 5.28 | NA | 7.42 | NA | 5.19 |
| Potassium | mg/kg | 4890 | NE | NE | 3260 | NA | 3460 | NA | 2900 |
| Selenium | mg/kg | 0.32 | 390 | 10000 | .571 U B | NA | .569 U B | NA | .566 U B |
| Silver | mg/kg | 0.539 | 390 | 10000 | 2.28 U B | NA | 2.28 U B | NA | 2.26 U B |
| Sodium | mg/kg | 405 | NE | NE | 161 | NA | 169 | NA | 113 U |
| Thallium | mg/kg | 0.42 | 5.5 | 140 | 5.71 U BY | NA | 5.69 U BY | NA | 5.66 U B Y |
| Vanadium | mg/kg | 71.8 | 550 | 14000 | 25.5 | NA | 29.5 | NA | 25.5 |
| Zinc | mg/kg | 77.9 | 23000 | 100000 | 58.3 J | NA | 46.3 J | NA | 39.1 J |
| **EPA 7471A** | | | | | | | | | |
| Mercury | mg/kg | 0.22 | 23 | 610 | .11 U | NA | .11 U | NA | .11 U |

## Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-968 | 18609-969 | 18609-970 | 18609-971 | 18609-972 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBA | TAA658-SBA | TAA658-SBB | TAA658-SBB | TAA658-SBC |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 |
| | Unit | Background | PRG Residential | PRG Industrial | | | | | |
| **EPA 9010** | | | | | | | | | |
| Cyanide | mg/kg | NE | 310 | 4400 | .57 U | NA | .57 U | NA | .57 U |
| **EPA 9045** | | | | | | | | | |
| pH | pH units | NE | NE | NE | 8.10 | NA | 8.16 | NA | 8.24 |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| **CA LUFT 8015M** | | | | | | | | | |
| TPH as Diesel | mg/kg | NE | NE | NE | NA | 11.5 U | NA | 10.8 U | NA |
| TPH as Gasoline | mg/kg | NE | NE | NE | NA | 1.15 U | NA | 1.08 U | NA |
| **EPA 8081** | | | | | | | | | |
| 4,4'-DDD | µg/kg | 36.1 | 2400 | 17000 | NA | 3.45 U | NA | 3.24 U | NA |
| 4,4'-DDE | µg/kg | 145 | 1700 | 12000 | NA | 3.45 U | NA | 3.24 U | NA |
| 4,4'-DDT | µg/kg | 236 | 1700 | 12000 | NA | 3.45 U | NA | 3.24 U | NA |
| Aldrin | µg/kg | NE | 29 | 150 | NA | 17.2 U | NA | 16.2 U | NA |
| alpha-BHC | µg/kg | NE | 90 | 590 | NA | 1.72 U | NA | 1.62 U | NA |
| alpha-Chlordane | µg/kg | 2.24 | 1600 | 11000 | NA | 17.2 U B | NA | 16.2 U B | NA |
| Aroclor-1016 | µg/kg | NE | 3900 | 29000 | NA | 37.9 U | NA | 35.6 U | NA |
| Aroclor-1221 | µg/kg | NE | 220 | 1000 | NA | 75.8 U | NA | 71.2 U | NA |
| Aroclor-1232 | µg/kg | NE | 220 | 1000 | NA | 37.9 U | NA | 35.6 U | NA |
| Aroclor-1242 | µg/kg | NE | 220 | 1000 | NA | 37.9 U | NA | 35.6 U | NA |
| Aroclor-1248 | µg/kg | NE | 220 | 1000 | NA | 75.8 U | NA | 71.2 U | NA |
| Aroclor-1254 | µg/kg | NE | 220 | 1000 | NA | 37.9 U | NA | 35.6 U | NA |
| Aroclor-1260 | µg/kg | NE | 220 | 1000 | NA | 37.9 U | NA | 35.6 U | NA |
| Beta-BHC | µg/kg | NE | 320 | 2100 | NA | 17.2 U | NA | 16.2 U | NA |
| Delta-BHC | µg/kg | NE | NE | NE | NA | 17.2 U | NA | 16.2 U | NA |
| Dieldrin | µg/kg | 19.9 | 30 | 150 | NA | 3.45 U | NA | 3.24 U | NA |
| Endosulfan I | µg/kg | 0.179 | 370000 | 5300000 | NA | 1.72 U B | NA | 1.62 U B | NA |
| Endosulfan II | µg/kg | 2.22 | 370000 | 5300000 | NA | 3.45 U B | NA | 3.24 U B | NA |
| Endosulfan sulfate | µg/kg | 3.1 | NE | NE | NA | 3.45 U B | NA | 3.24 U B | NA |
| Endrin | µg/kg | 2.22 | 18000 | 260000 | NA | 3.45 U B | NA | 3.24 U B | NA |
| Endrin aldehyde | µg/kg | 2.22 | NE | NE | NA | 3.45 U B | NA | 3.24 U B | NA |
| Endrin ketone | µg/kg | NE | NE | NE | NA | 3.45 U | NA | 3.24 U | NA |
| gamma-BHC | µg/kg | NE | 440 | 2900 | NA | 17.2 U | NA | 16.2 U | NA |
| gamma-Chlordane | µg/kg | 2.7 | 1600 | 11000 | NA | 17.2 U B | NA | 16.2 U B | NA |
| Heptachlor | µg/kg | NE | 110 | 550 | NA | 2.3 U | NA | 2.16 U | NA |
| Heptachlor epoxide | µg/kg | NE | 53 | 270 | NA | 2.3 U | NA | 2.16 U | NA |
| Methoxychlor | µg/kg | NE | 310000 | 4400000 | NA | 17.2 U | NA | 16.2 U | NA |
| Toxaphene | µg/kg | NE | 440 | 2200 | NA | 195 U | NA | 183 U | NA |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | Unit | Background | PRG Residential | PRG Industrial | | | | | |
| **EPA 8260A** | | | | | | | | | |
| 1,1,1-Trichloroethane | µg/kg | NE | 770000 | 1400000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,1,2,2-Tetrachloroethane | µg/kg | NE | 380 | 900 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,1,2-Trichloroethane | µg/kg | NE | 840 | 1900 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,1-Dichloroethane | µg/kg | NE | 590000 | 2100000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,1-Dichloroethene | µg/kg | NE | 54 | 120 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,2-Dichloroethane | µg/kg | NE | 350 | 760 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 1,2-Dichloropropane | µg/kg | NE | 350 | 770 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| 2-Butanone (MEK) | µg/kg | NE | 7300000 | 28000000 | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| 2-Chloroethyl vinyl ether | µg/kg | NE | NE | NE | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| 2-Hexanone | µg/kg | NE | NE | NE | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| 4-Methyl-2-pentanone (MIBK) | µg/kg | NE | 790000 | 2900000 | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| Acetone | µg/kg | NE | 1600000 | 6200000 | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| Benzene | µg/kg | NE | 670 | 1500 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Bromodichloromethane | µg/kg | NE | 1000 | 2400 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Bromoform | µg/kg | NE | 62000 | 310000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Bromomethane | µg/kg | NE | 3900 | 13000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Carbon disulfide | µg/kg | NE | 360000 | 720000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Carbon tetrachloride | µg/kg | NE | 240 | 530 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Chlorobenzene | µg/kg | NE | 150000 | 540000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Chloroethane | µg/kg | NE | 3000 | 6500 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Chloroform | µg/kg | NE | 240 | 520 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Chloromethane | µg/kg | NE | 1200 | 2700 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| cis-1,2-Dichloroethene | µg/kg | NE | 43000 | 150000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| cis-1,3-Dichloropropene | µg/kg | NE | 82 | 180 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Dibromochloromethane | µg/kg | NE | 1100 | 2700 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Ethylbenzene | µg/kg | NE | 230000 | 230000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Methyl tert-butyl ether (MTBE) | µg/kg | NE | NE | NE | 10.3 U | 11.5 U | 11.5 U | 10.8 U | 13.8 U |
| Methylene chloride | µg/kg | NE | 8900 | 21000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Styrene | µg/kg | NE | 1700000 | 1700000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Tetrachloroethene | µg/kg | NE | 5700 | 19000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Toluene | µg/kg | NE | 520000 | 520000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| trans-1,2-Dichloroethene | µg/kg | NE | 63000 | 210000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| trans-1,3-Dichloropropene | µg/kg | NE | 82 | 180 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Trichloroethene | µg/kg | NE | 2800 | 6100 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Vinyl acetate | µg/kg | NE | 430000 | 1400000 | 51.3 U | 57.5 U | 57.7 U | 53.9 U | 68.9 U |
| Vinyl chloride | µg/kg | NE | 22 | 49 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| Xylenes (total) | µg/kg | NE | 210000 | 210000 | 5.13 U | 5.75 U | 5.77 U | 5.39 U | 6.89 U |
| **EPA 8270B** | | | | | | | | | |
| 1,2,4-Trichlorobenzene | µg/kg | NE | 650000 | 3000000 | NA | 379 U | NA | 356 U | NA |
| 1,2-Dichlorobenzene | µg/kg | NE | 370000 | 370000 | NA | 379 U | NA | 356 U | NA |
| 1,3-Dichlorobenzene | µg/kg | NE | 13000 | 52000 | NA | 379 U | NA | 356 U | NA |
| 1,4-Dichlorobenzene | µg/kg | NE | 3400 | 8100 | NA | 379 U | NA | 356 U | NA |
| 2,4,5-Trichlorophenol | µg/kg | NE | 6100000 | 88000000 | NA | 954 U | NA | 895 U | NA |
| 2,4,6-Trichlorophenol | µg/kg | NE | 44000 | 220000 | NA | 379 U | NA | 356 U | NA |
| 2,4-Dichlorophenol | µg/kg | NE | 180000 | 2600000 | NA | 379 U | NA | 356 U | NA |
| 2,4-Dimethylphenol | µg/kg | NE | 1200000 | 18000000 | NA | 379 U | NA | 356 U | NA |
| 2,4-Dinitrophenol | µg/kg | NE | 120000 | 1800000 | NA | 954 U | NA | 895 U | NA |
| 2,4-Dinitrotoluene | µg/kg | NE | 120000 | 1800000 | NA | 379 U | NA | 356 U | NA |
| 2,6-Dinitrotoluene | µg/kg | NE | 61000 | 880000 | NA | 379 U | NA | 356 U | NA |
| 2-Chloronaphthalene | µg/kg | NE | 4900000 | 27000000 | NA | 379 U | NA | 356 U | NA |
| 2-Chlorophenol | µg/kg | NE | 63000 | 240000 | NA | 379 U | NA | 356 U | NA |
| 2-Methyl-4,6-dinitrophenol | µg/kg | NE | NE | NE | NA | 954 U | NA | 895 U | NA |
| 2-Methylnaphthalene | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| 2-Methylphenol | µg/kg | NE | 3100000 | 44000000 | NA | 379 U | NA | 356 U | NA |
| 2-Nitroaniline | µg/kg | NE | 3500 | 50000 | NA | 954 U | NA | 895 U | NA |
| 2-Nitrophenol | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| 3,3'-Dichlorobenzidine | µg/kg | NE | 1100 | 5500 | NA | 379 U | NA | 356 U | NA |
| 3-Methyl-4-chlorophenol | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| 3-Nitroaniline | µg/kg | NE | NE | NE | NA | 954 U | NA | 895 U | NA |
| 4-Bromophenyl phenyl ether | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| 4-Chloroaniline | µg/kg | NE | 240000 | 3500000 | NA | 379 U | NA | 356 U | NA |
| 4-Chlorophenyl phenyl ether | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| 4-Methylphenol | µg/kg | NE | 310000 | 4400000 | NA | 379 U | NA | 356 U | NA |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | Unit | Background | PRG Residential | PRG Industrial | | | | | |
| 4-Nitroaniline | µg/kg | NE | NE | NE | NA | 954 U | NA | 895 U | NA |
| 4-Nitrophenol | µg/kg | NE | 490000 | 7000000 | NA | 954 U | NA | 895 U | NA |
| Acenaphthene | µg/kg | NE | 3700000 | 38000000 | NA | 379 U | NA | 356 U | NA |
| Acenaphthylene | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| Anthracene | µg/kg | NE | 22000000 | 100000000 | NA | 379 U | NA | 356 U | NA |
| Benzo[a]anthracene | µg/kg | 22 | 620 | 2900 | NA | 379 U B | NA | 356 U B | NA |
| Benzo[a]pyrene | µg/kg | 27 | 62 | 290 | NA | 37.9 U B | NA | 35.6 U B | NA |
| Benzo[b]fluoranthene | µg/kg | 28 | 620 | 2900 | NA | 379 U B | NA | 356 U B | NA |
| Benzo[ghi]perylene | µg/kg | 29 | NE | NE | NA | 379 U B | NA | 356 U B | NA |
| Benzo[k]fluoranthene | µg/kg | 24 | 6200 | 29000 | NA | 379 U B | NA | 356 U B | NA |
| Bis (2-chloroethoxy)methane | µg/kg | NE | NE | NE | NA | 379 U | NA | 356 U | NA |
| Bis (2-chloroethyl)ether | µg/kg | NE | 210 | 620 | NA | 37.9 U | NA | 35.6 U | NA |
| Bis (2-chloroisopropyl)ether | µg/kg | NE | 2900 | 8100 | NA | 379 U | NA | 356 U | NA |
| Bis (2-ethylhexyl)phthalate | µg/kg | NE | 35000 | 180000 | NA | 379 U | NA | 356 U | NA |
| Butyl benzyl phthalate | µg/kg | NE | 12000000 | 100000000 | NA | 379 U | NA | 356 U | NA |
| Chrysene | µg/kg | 31 | 6100 | 290000 | NA | 379 U B | NA | 356 U B | NA |
| Di-n-butyl phthalate | µg/kg | NE | 6100000 | 88000000 | NA | 379 U | NA | 356 U | NA |
| Di-n-octyl phthalate | µg/kg | NE | 1200000 | 10000000 | NA | 379 U | NA | 356 U | NA |
| Dibenz[a,h]anthracene | µg/kg | 8 | 62 | 290 | NA | 37.9 U B | NA | 35.6 U B | NA |
| Dibenzofuran | µg/kg | NE | 290000 | 5100000 | NA | 379 U | NA | 356 U | NA |
| Diethyl phthalate | µg/kg | NE | 49000000 | 100000000 | NA | 379 U | NA | 356 U | NA |
| Dimethyl phthalate | µg/kg | NE | 100000000 | 100000000 | NA | 379 U | NA | 356 U | NA |
| Fluoranthene | µg/kg | 45 | 2300000 | 30000000 | NA | 379 U B | NA | 356 U B | NA |
| Fluorene | µg/kg | NE | 2600000 | 33000000 | NA | 379 U | NA | 356 U | NA |
| Hexachlorobenzene | µg/kg | NE | 300 | 1500 | NA | 37.9 U | NA | 35.6 U | NA |
| Hexachlorobutadiene | µg/kg | NE | 6200 | 32000 | NA | 379 U | NA | 356 U | NA |
| Hexachlorocyclopentadiene | µg/kg | NE | 420000 | 5900000 | NA | 379 U | NA | 356 U | NA |
| Hexachloroethane | µg/kg | NE | 35000 | 180000 | NA | 379 U | NA | 356 U | NA |
| Indeno[1,2,3-cd]pyrene | µg/kg | 21 | 620 | 2900 | NA | 37.9 U B | NA | 35.6 U B | NA |
| N-Nitrosodi-n-propylamine | µg/kg | NE | 69 | 350 | NA | 37.9 U | NA | 35.6 U | NA |
| N-Nitrosodiphenylamine | µg/kg | NE | 99000 | 500000 | NA | 379 U | NA | 356 U | NA |
| Naphthalene | µg/kg | NE | 56000 | 190000 | NA | 379 U | NA | 356 U | NA |

# Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| OHM Sample Number | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| Date Collected | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| Sample Depth (feet below ground surface) | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| Nitrobenzene | µg/kg | NE | 20000 | 110000 | NA | 379 U | NA | 356 U | NA |
| Pentachlorophenol | µg/kg | NE | 3000 | 11000 | NA | 37.9 U | NA | 35.6 U | NA |
| Phenanthrene | µg/kg | 18 | NE | NE | NA | 379 U B | NA | 356 U B | NA |
| Phenol | µg/kg | NE | 37000000 | 100000000 | NA | 379 U | NA | 356 U | NA |
| Pyrene | µg/kg | 41 | 2300000 | 54000000 | NA | 379 U B | NA | 356 U B | NA |
| **EPA 6010A** | | | | | | | | | |
| Aluminum | mg/kg | 14800 | 76000 | 100000 | NA | 8180 | NA | 7840 | NA |
| Antimony | mg/kg | 3.06 | 31 | 820 | NA | 11.5 U B | NA | 10.8 U B | NA |
| Arsenic | mg/kg | 6.86 | 0.39 | 2.7 | NA | 2.25 J Y | NA | 2.08 J Y | NA |
| Barium | mg/kg | 173 | 5400 | 100000 | NA | 115 | NA | 101 | NA |
| Beryllium | mg/kg | 0.669 | 150 | 2200 | NA | .309 | NA | .305 | NA |
| Cadmium | mg/kg | 2.35 | 9.0 | 810 | NA | 2.3 U | NA | 2.16 U | NA |
| Calcium | mg/kg | 46000 | NE | NE | NA | 9620 J | NA | 4890 J | NA |
| Chromium | mg/kg | 26.9 | 210 | 450 | NA | 7.63 | NA | 7.03 | NA |
| Cobalt | mg/kg | 6.98 | 4700 | 100000 | NA | 3.39 | NA | 3.33 | NA |
| Copper | mg/kg | 10.5 | 2900 | 76000 | NA | 11.6 B | NA | 16.6 B | NA |
| Iron | mg/kg | 18400 | 23000 | 100000 | NA | 10800 J | NA | 11100 J | NA |
| Lead | mg/kg | 15.1 | 400 | 1000 | NA | 3.16 | NA | 3.23 | NA |
| Magnesium | mg/kg | 8370 | NE | NE | NA | 4760 | NA | 4430 | NA |
| Manganese | mg/kg | 291 | 1800 | 32000 | NA | 192 | NA | 200 | NA |
| Molybdenum | mg/kg | NE | 390 | 10000 | NA | 5.75 U | NA | 5.39 U | NA |
| Nickel | mg/kg | 15.3 | 150 | 41000 | NA | 4.93 | NA | 3.56 | NA |
| Potassium | mg/kg | 4890 | NE | NE | NA | 2820 | NA | 3220 | NA |
| Selenium | mg/kg | 0.32 | 390 | 10000 | NA | .575 U B | NA | .539 U B | NA |
| Silver | mg/kg | 0.539 | 390 | 10000 | NA | 2.3 U B | NA | 2.16 U B | NA |
| Sodium | mg/kg | 405 | NE | NE | NA | 133 | NA | 153 | NA |
| Thallium | mg/kg | 0.42 | 5.5 | 140 | NA | 5.75 U B Y | NA | 5.39 U B | NA |
| Vanadium | mg/kg | 71.8 | 550 | 14000 | NA | 23.9 | NA | 23.7 | NA |
| Zinc | mg/kg | 77.9 | 23000 | 100000 | NA | 37.2 J | NA | 39.9 J | NA |
| **EPA 7471A** | | | | | | | | | |
| Mercury | mg/kg | 0.22 | 23 | 610 | NA | .11 U | NA | .11 U | NA |

## Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **OHM Sample Number** | | | | | 18609-973 | 18609-974 | 18609-975 | 18609-976 | 18609-977 |
| **Sample Location** | | | | | TAA658-SBC | TAA658-SBD | TAA658-SBD | TAA658-SBE | TAA658-SBE |
| **Date Collected** | | | | | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 | 08/14/98 |
| **Sample Depth (feet below ground surface)** | | | | | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 |
| | **Unit** | **Background** | **PRG Residential** | **PRG Industrial** | | | | | |
| **EPA 9010** | | | | | | | | | |
| Cyanide | mg/kg | NE | 310 | 4400 | NA | .57 U | NA | .54 U | NA |
| **EPA 9045** | | | | | | | | | |
| pH | pH units | NE | NE | NE | NA | 8.26 | NA | 8.57 | NA |

## Table 4 - 2
## Summary of Analytical Results for Confirmation Soil Samples — TAA 658

Explanation:
B - result exceeds established background limits
CA LUFT - California Leaking Underground Fuel Tank
EPA - United States Environmental Protection Agency
J - estimated
M - Modified
mg/kg - milligrams per kilogram
NA - not analyzed
NE - not established
OHM - OHM Remediation Services Corp.
PRG - Preliminary Remediation Goal, EPA Region IX, October 1999
SB - soil boring
TAA - temporary accumulation area
TPH - total petroleum hydrocarbons
U - not detected above or equal to the stated reporting limit
X - result exceeds industrial PRGs
Y - result exceeds residential PRGs
µg/kg - micrograms per kilogram

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| **CA LUFT 8015M** | | | |
| TPH as Diesel | mg/L | NA | 1.91 |
| TPH as Gasoline | mg/L | .1 U | .22 |
| **EPA 8081** | | | |
| 4,4'-DDD | µg/L | NA | .5 U |
| 4,4'-DDE | µg/L | NA | .58 U |
| 4,4'-DDT | µg/L | NA | .1 U |
| Aldrin | µg/L | NA | .06 U |
| alpha-BHC | µg/L | NA | .03 U |
| alpha-Chlordane | µg/L | NA | .03 U |
| Aroclor-1016 | µg/L | NA | 1 U |
| Aroclor-1221 | µg/L | NA | 2 U |
| Aroclor-1232 | µg/L | NA | 1 U |
| Aroclor-1242 | µg/L | NA | 1 U |
| Aroclor-1248 | µg/L | NA | 1 U |
| Aroclor-1254 | µg/L | NA | 1 U |
| Aroclor-1260 | µg/L | NA | 1 U |
| Beta-BHC | µg/L | NA | .03 U |
| Delta-BHC | µg/L | NA | .03 U |
| Dieldrin | µg/L | NA | .03 U |
| Endosulfan I | µg/L | NA | .03 U |
| Endosulfan II | µg/L | NA | .2 U |
| Endosulfan sulfate | µg/L | NA | .1 U |
| Endrin | µg/L | NA | .1 U |
| Endrin aldehyde | µg/L | NA | .1 U |
| Endrin ketone | µg/L | NA | .1 U |
| gamma-BHC | µg/L | NA | .06 UJ |
| gamma-Chlordane | µg/L | NA | .03 U |
| Heptachlor | µg/L | NA | .03 U |
| Heptachlor epoxide | µg/L | NA | .03 U |
| Methoxychlor | µg/L | NA | .5 U |
| Toxaphene | µg/L | NA | .5 U |

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| **EPA 8260A** | | | |
| 1,1,1-Trichloroethane | µg/L | 5 U | 50 U |
| 1,1,2,2-Tetrachloroethane | µg/L | 5 U | 50 U |
| 1,1,2-Trichloroethane | µg/L | 5 U | 50 U |
| 1,1-Dichloroethane | µg/L | 5 U | 50 U |
| 1,1-Dichloroethene | µg/L | 5 U | 50 U |
| 1,2-Dichloroethane | µg/L | 5 U | 50 U |
| 1,2-Dichloropropane | µg/L | 5 U | 50 U |
| 2-Butanone (MEK) | µg/L | 50 U | 491 J |
| 2-Chloroethyl vinyl ether | µg/L | 50 U | 500 U |
| 2-Hexanone | µg/L | 50 U | 162 J |
| 4-Methyl-2-pentanone (MIBK) | µg/L | 50 U | 500 U |
| Acetone | µg/L | 50 U | 652 |
| Benzene | µg/L | 5 U | 50 U |
| Bromodichloromethane | µg/L | 5 U | 50 U |
| Bromoform | µg/L | 5 U | 50 U |
| Bromomethane | µg/L | 5 U | 50 U |
| Carbon disulfide | µg/L | 5 U | 50 U |
| Carbon tetrachloride | µg/L | 5 U | 50 U |
| Chlorobenzene | µg/L | 5 U | 50 U |
| Chloroethane | µg/L | 5 U | 50 U |
| Chloroform | µg/L | 5 U | 50 U |
| Chloromethane | µg/L | 5 U | 50 U |
| cis-1,2-Dichloroethene | µg/L | 5 U | 50 U |
| cis-1,3-Dichloropropene | µg/L | 5 U | 50 U |
| Dibromochloromethane | µg/L | 5 U | 50 U |
| Ethylbenzene | µg/L | 5 U | 50 U |
| Methyl tert-butyl ether (MTBE) | µg/L | 10 U | 100 U |
| Methylene chloride | µg/L | 5 U | 50 U |
| Styrene | µg/L | 5 U | 50 U |
| Tetrachloroethene | µg/L | 5 U | 50 U |
| Toluene | µg/L | 5 U | 50 U |

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| trans-1,2-Dichloroethene | µg/L | 5 U | 50 U |
| trans-1,3-Dichloropropene | µg/L | 5 U | 50 U |
| Trichloroethene | µg/L | 5 U | 50 U |
| Vinyl acetate | µg/L | 50 U | 500 U |
| Vinyl chloride | µg/L | 5 U | 50 U |
| Xylenes (total) | µg/L | 5 U | 50 U |
| **EPA 8270B** | | | |
| 1,2,4-Trichlorobenzene | µg/L | NA | 10 UJ |
| 1,2-Dichlorobenzene | µg/L | NA | 10 UJ |
| 1,3-Dichlorobenzene | µg/L | NA | 10 UJ |
| 1,4-Dichlorobenzene | µg/L | NA | 10 UJ |
| 2,4,5-Trichlorophenol | µg/L | NA | 25 U |
| 2,4,6-Trichlorophenol | µg/L | NA | 10 U |
| 2,4-Dichlorophenol | µg/L | NA | 10 U |
| 2,4-Dimethylphenol | µg/L | NA | 10 U |
| 2,4-Dinitrophenol | µg/L | NA | 25 U |
| 2,4-Dinitrotoluene | µg/L | NA | 10 UJ |
| 2,6-Dinitrotoluene | µg/L | NA | 10 UJ |
| 2-Chloronaphthalene | µg/L | NA | 10 UJ |
| 2-Chlorophenol | µg/L | NA | 10 U |
| 2-Methyl-4,6-dinitrophenol | µg/L | NA | 25 U |
| 2-Methylnaphthalene | µg/L | NA | 10 UJ |
| 2-Methylphenol | µg/L | NA | 10 U |
| 2-Nitroaniline | µg/L | NA | 25 UJ |
| 2-Nitrophenol | µg/L | NA | 10 U |
| 3,3'-Dichlorobenzidine | µg/L | NA | 10 UJ |
| 3-Methyl-4-chlorophenol | µg/L | NA | 10 U |
| 3-Nitroaniline | µg/L | NA | 25 UJ |
| 4-Bromophenyl phenyl ether | µg/L | NA | 10 UJ |
| 4-Chloroaniline | µg/L | NA | 10 UJ |
| 4-Chlorophenyl phenyl ether | µg/L | NA | 10 UJ |
| 4-Methylphenol | µg/L | NA | 10 U |

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| 4-Nitroaniline | µg/L | NA | 25 J |
| 4-Nitrophenol | µg/L | NA | 25 U |
| Acenaphthene | µg/L | NA | 10 UJ |
| Acenaphthylene | µg/L | NA | 10 UJ |
| Anthracene | µg/L | NA | 10 UJ |
| Benzo[a]anthracene | µg/L | NA | 10 UJ |
| Benzo[a]pyrene | µg/L | NA | 10 UJ |
| Benzo[b]fluoranthene | µg/L | NA | 10 UJ |
| Benzo[ghi]perylene | µg/L | NA | 10 UJ |
| Benzo[k]fluoranthene | µg/L | NA | 10 UJ |
| Bis (2-chloroethoxy)methane | µg/L | NA | 10 UJ |
| Bis (2-chloroethyl)ether | µg/L | NA | 10 UJ |
| Bis (2-chloroisopropyl)ether | µg/L | NA | 10 UJ |
| Bis (2-ethylhexyl)phthalate | µg/L | NA | 10 UJ |
| Butyl benzyl phthalate | µg/L | NA | 10 UJ |
| Chrysene | µg/L | NA | 10 UJ |
| Di-n-butyl phthalate | µg/L | NA | 10 UJ |
| Di-n-octyl phthalate | µg/L | NA | 10 UJ |
| Dibenz[a,h]anthracene | µg/L | NA | 10 UJ |
| Dibenzofuran | µg/L | NA | 10 UJ |
| Diethyl phthalate | µg/L | NA | 10 UJ |
| Dimethyl phthalate | µg/L | NA | 10 UJ |
| Fluoranthene | µg/L | NA | 10 UJ |
| Fluorene | µg/L | NA | 10 UJ |
| Hexachlorobenzene | µg/L | NA | 10 UJ |
| Hexachlorobutadiene | µg/L | NA | 10 UJ |
| Hexachlorocyclopentadiene | µg/L | NA | 10 UJ |
| Hexachloroethane | µg/L | NA | 10 UJ |
| Indeno[1,2,3-cd]pyrene | µg/L | NA | 10 UJ |
| N-Nitrosodi-n-propylamine | µg/L | NA | 10 UJ |
| N-Nitrosodiphenylamine | µg/L | NA | 10 UJ |
| Naphthalene | µg/L | NA | 10 UJ |

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| Nitrobenzene | µg/L | NA | 10 UJ |
| Pentachlorophenol | µg/L | NA | 10 U |
| Phenanthrene | µg/L | NA | 10 UJ |
| Phenol | µg/L | NA | 10 U |
| Pyrene | µg/L | NA | 10 UJ |
| **EPA 6010A** | | | |
| Aluminum | µg/L | NA | 500 U |
| Antimony | µg/L | NA | 500 U |
| Arsenic | µg/L | NA | 5 U |
| Barium | µg/L | NA | 100 U |
| Beryllium | µg/L | NA | 10 U |
| Cadmium | µg/L | NA | 5 U |
| Calcium | µg/L | NA | 1000 U |
| Chromium | µg/L | NA | 50 U |
| Cobalt | µg/L | NA | 50 U |
| Copper | µg/L | NA | 50 U |
| Iron | µg/L | NA | 50 U |
| Lead | µg/L | NA | 5 U |
| Magnesium | µg/L | NA | 1000 U |
| Manganese | µg/L | NA | 20 U |
| Molybdenum | µg/L | NA | 100 U |
| Nickel | µg/L | NA | 150 U |
| Potassium | µg/L | NA | 5000 U |
| Selenium | µg/L | NA | 5 U |
| Silver | µg/L | NA | 50 U |
| Sodium | µg/L | NA | 1000 U |
| Thallium | µg/L | NA | 50 U |
| Vanadium | µg/L | NA | 100 U |
| Zinc | µg/L | NA | 20 U |
| **EPA 7470A** | | | |
| Mercury | µg/L | NA | .2 U |

## Table 4 - 3
## Summary of Analytical Results for QC Samples — TAA 658

| OHM Sample Number | | 18609-959 | 18609-967 |
|---|---|---|---|
| Sample Location | | Trip Blank | Equipment Rinsate |
| Date Collected | | 08/11/98 | 08/14/98 |
| | Unit | | |
| **EPA 9010** | | | |
| Cyanide | mg/L | NA | .01 U |
| **EPA 150.1** | | | |
| pH | pH units | NA | 5.56 |

Explanation:

CA LUFT - California Leaking Underground Fuel Tank
EPA - United States Environmental Protection Agency
J - estimated
M - Modified
mg/L - milligrams per liter
NA - not analyzed
OHM - OHM Remediation Services Corp.
TAA - temporary accumulation area
TPH - total petroleum hydrocarbons
U - not detected above or equal to the stated reporting limit
µg/L - micrograms per liter

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| OHM Sample Number | | 18609-960 | 18609-961 | 18609-962 |
|---|---|---|---|---|
| Sample Location | | Source Blank#1 | TAA658-Rinse | Source Blank#2 |
| Date Collected | | 08/11/98 | 08/11/98 | 08/11/98 |
| | Unit | | | |
| **CA LUFT 8015M** | | | | |
| TPH as Diesel | mg/L | .1 U | .1 U | .1 U |
| TPH as Gasoline | mg/L | .1 U | .1 U | .125 |
| **EPA 8081** | | | | |
| 4,4'-DDD | µg/L | .5 U | .5 U | .5 U |
| 4,4'-DDE | µg/L | .58 U | .58 U | .58 U |
| 4,4'-DDT | µg/L | .1 U | .1 U | .1 U |
| Aldrin | µg/L | .06 U | .06 U | .06 U |
| alpha-BHC | µg/L | .03 U | .03 U | .03 U |
| alpha-Chlordane | µg/L | .03 U | .03 U | .03 U |
| Aroclor-1016 | µg/L | 1 U | 1 U | 1 U |
| Aroclor-1221 | µg/L | 2 U | 2 U | 2 U |
| Aroclor-1232 | µg/L | 1 U | 1 U | 1 U |
| Aroclor-1242 | µg/L | 1 U | 1 U | 1 U |
| Aroclor-1248 | µg/L | 1 U | 1 U | 1 U |
| Aroclor-1254 | µg/L | 1 U | 1 U | 1 U |
| Aroclor-1260 | µg/L | 1 U | 1 U | 1 U |
| Beta-BHC | µg/L | .03 U | .03 U | .03 U |
| Delta-BHC | µg/L | .03 U | .03 U | .03 U |
| Dieldrin | µg/L | .03 U | .03 U | .03 U |
| Endosulfan I | µg/L | .03 U | .03 U | .03 U |
| Endosulfan II | µg/L | .2 U | .2 U | .2 U |
| Endosulfan sulfate | µg/L | .1 U | .1 U | .1 U |
| Endrin | µg/L | .1 U | .1 U | .1 U |
| Endrin aldehyde | µg/L | .1 U | .1 U | .1 U |
| Endrin ketone | µg/L | .1 U | .1 U | .1 U |
| gamma-BHC | µg/L | .06 UJ | .06 UJ | .06 UJ |
| gamma-Chlordane | µg/L | .03 U | .03 U | .03 U |
| Heptachlor | µg/L | .03 U | .03 U | .03 U |
| Heptachlor epoxide | µg/L | .03 U | .03 U | .03 U |
| Methoxychlor | µg/L | .5 U | .5 U | .5 U |
| Toxaphene | µg/L | .5 U | .5 U | .5 U |

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| OHM Sample Number | | 18609-960 | 18609-961 | 18609-962 |
|---|---|---|---|---|
| Sample Location | | Source Blank#1 | TAA658-Rinse | Source Blank#2 |
| Date Collected | | 08/11/98 | 08/11/98 | 08/11/98 |
| | Unit | | | |
| **EPA 8260A** | | | | |
| 1,1,1-Trichloroethane | µg/L | 5 U | 5 U | 5 U |
| 1,1,2,2-Tetrachloroethane | µg/L | 5 U | 5 U | 5 U |
| 1,1,2-Trichloroethane | µg/L | 5 U | 5 U | 5 U |
| 1,1-Dichloroethane | µg/L | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | µg/L | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | µg/L | 5 U | 5 U | 5 U |
| 1,2-Dichloropropane | µg/L | 5 U | 5 U | 5 U |
| 2-Butanone (MEK) | µg/L | 50 U | 50 U | 50 U |
| 2-Chloroethyl vinyl ether | µg/L | 50 U | 50 U | 50 U |
| 2-Hexanone | µg/L | 50 U | 50 U | 50 U |
| 4-Methyl-2-pentanone (MIBK) | µg/L | 50 U | 50 U | 50 U |
| Acetone | µg/L | 50 U | 50 U | 50 U |
| Benzene | µg/L | 5 U | 5 U | 5 U |
| Bromodichloromethane | µg/L | 5 U | 6.36 | 7.94 |
| Bromoform | µg/L | 5 U | 5 U | 5 U |
| Bromomethane | µg/L | 5 U | 5 U | 5 U |
| Carbon disulfide | µg/L | 5 U | 5 U | 5 U |
| Carbon tetrachloride | µg/L | 5 U | 5 U | 5 U |
| Chlorobenzene | µg/L | 5 U | 5 U | 5 U |
| Chloroethane | µg/L | 5 U | 5 U | 5 U |
| Chloroform | µg/L | 5 U | 10.1 | 13.4 |
| Chloromethane | µg/L | 5 U | 5 U | 5 U |
| cis-1,2-Dichloroethene | µg/L | 5 U | 5 U | 5 U |
| cis-1,3-Dichloropropene | µg/L | 5 U | 5 U | 5 U |
| Dibromochloromethane | µg/L | 5 U | 3.71 J | 4.37 J |
| Ethylbenzene | µg/L | 5 U | 5 U | 5 U |
| Methyl tert-butyl ether (MTBE) | µg/L | 10 U | 10 U | 10 U |
| Methylene chloride | µg/L | 5 U | 5 U | 5 U |
| Styrene | µg/L | 5 U | 5 U | 5 U |
| Tetrachloroethene | µg/L | 5 U | 5 U | 5 U |
| Toluene | µg/L | 5 U | 5 U | 5 U |
| trans-1,2-Dichloroethene | µg/L | 5 U | 5 U | 5 U |

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| OHM Sample Number<br>Sample Location<br>Date Collected | Unit | 18609-960<br>Source Blank#1<br>08/11/98 | 18609-961<br>TAA658-Rinse<br>08/11/98 | 18609-962<br>Source Blank#2<br>08/11/98 |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | µg/L | 5 U | 5 U | 5 U |
| Trichloroethene | µg/L | 5 U | 5 U | 5 U |
| Vinyl acetate | µg/L | 50 U | 50 U | 50 U |
| Vinyl chloride | µg/L | 5 U | 5 U | 5 U |
| Xylenes (total) | µg/L | 5 U | 5 U | 5 U |
| **EPA 8270B** | | | | |
| 1,2,4-Trichlorobenzene | µg/L | 10 UJ | 10 UJ | 10 UJ |
| 1,2-Dichlorobenzene | µg/L | 10 U | 10 UJ | 10 U |
| 1,3-Dichlorobenzene | µg/L | 10 U | 10 UJ | 10 U |
| 1,4-Dichlorobenzene | µg/L | 10 U | 10 UJ | 10 U |
| 2,4,5-Trichlorophenol | µg/L | 25 U | 25 U | 25 U |
| 2,4,6-Trichlorophenol | µg/L | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | µg/L | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | µg/L | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | µg/L | 25 U | 25 U | 25 U |
| 2,4-Dinitrotoluene | µg/L | 10 UJ | 10 UJ | 10 UJ |
| 2,6-Dinitrotoluene | µg/L | 10 U | 10 UJ | 10 U |
| 2-Chloronaphthalene | µg/L | 10 U | 10 UJ | 10 U |
| 2-Chlorophenol | µg/L | 10 U | 10 U | 10 U |
| 2-Methyl-4,6-dinitrophenol | µg/L | 25 U | 25 U | 25 U |
| 2-Methylnaphthalene | µg/L | 10 U | 10 UJ | 10 U |
| 2-Methylphenol | µg/L | 10 U | 10 U | 10 U |
| 2-Nitroaniline | µg/L | 25 U | 25 UJ | 25 U |
| 2-Nitrophenol | µg/L | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | µg/L | 10 U | 10 UJ | 10 U |
| 3-Methyl-4-chlorophenol | µg/L | 10 UJ | 10 UJ | 10 UJ |
| 3-Nitroaniline | µg/L | 25 U | 25 UJ | 25 U |
| 4-Bromophenyl phenyl ether | µg/L | 10 U | 10 UJ | 10 U |
| 4-Chloroaniline | µg/L | 10 U | 10 UJ | 10 U |
| 4-Chlorophenyl phenyl ether | µg/L | 10 U | 10 UJ | 10 U |
| 4-Methylphenol | µg/L | 10 U | 10 U | 10 U |
| 4-Nitroaniline | µg/L | 25 U | 25 UJ | 25 U |
| 4-Nitrophenol | µg/L | 25 UJ | 25 UJ | 25 UJ |

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| OHM Sample Number | | 18609-960 | 18609-961 | 18609-962 |
|---|---|---|---|---|
| Sample Location | | Source Blank#1 | TAA658-Rinse | Source Blank#2 |
| Date Collected | | 08/11/98 | 08/11/98 | 08/11/98 |
| | Unit | | | |
| Acenaphthene | µg/L | 10 UJ | 10 UJ | 10 UJ |
| Acenaphthylene | µg/L | 10 U | 10 U | 10 UJ |
| Anthracene | µg/L | 10 U | 10 U | 10 UJ |
| Benzo[a]anthracene | µg/L | 10 U | 10 U | 10 UJ |
| Benzo[a]pyrene | µg/L | 10 U | 10 U | 10 UJ |
| Benzo[b]fluoranthene | µg/L | 10 U | 10 U | 10 UJ |
| Benzo[ghi]perylene | µg/L | 10 U | 10 U | 10 UJ |
| Benzo[k]fluoranthene | µg/L | 10 U | 10 U | 10 UJ |
| Bis (2-chloroethoxy)methane | µg/L | 10 U | 10 U | 10 UJ |
| Bis (2-chloroethyl)ether | µg/L | 10 U | 10 U | 10 UJ |
| Bis (2-chloroisopropyl)ether | µg/L | 10 U | 10 U | 10 UJ |
| Bis (2-ethylhexyl)phthalate | µg/L | 10 U | 10 U | 10 UJ |
| Butyl benzyl phthalate | µg/L | 10 U | 10 U | 10 UJ |
| Chrysene | µg/L | 10 U | 10 U | 10 UJ |
| Di-n-butyl phthalate | µg/L | 10 U | 10 U | 10 UJ |
| Di-n-octyl phthalate | µg/L | 10 U | 10 UJ | 10 UJ |
| Dibenz[a,h]anthracene | µg/L | 10 U | 10 U | 10 UJ |
| Dibenzofuran | µg/L | 10 U | 10 U | 10 UJ |
| Diethyl phthalate | µg/L | 10 U | 10 U | 10 UJ |
| Dimethyl phthalate | µg/L | 10 U | 10 U | 10 UJ |
| Fluoranthene | µg/L | 10 U | 10 U | 10 UJ |
| Fluorene | µg/L | 10 U | 10 U | 10 UJ |
| Hexachlorobenzene | µg/L | 10 U | 10 U | 10 UJ |
| Hexachlorobutadiene | µg/L | 10 U | 10 U | 10 UJ |
| Hexachlorocyclopentadiene | µg/L | 10 U | 10 U | 10 UJ |
| Hexachloroethane | µg/L | 10 U | 10 U | 10 UJ |
| Indeno[1,2,3-cd]pyrene | µg/L | 10 U | 10 U | 10 UJ |
| N-Nitrosodi-n-propylamine | µg/L | 10 UJ | 10 UJ | 10 UJ |
| N-Nitrosodiphenylamine | µg/L | 10 U | 10 U | 10 UJ |
| Naphthalene | µg/L | 10 U | 10 U | 10 UJ |
| Nitrobenzene | µg/L | 10 U | 10 U | 10 UJ |
| Pentachlorophenol | µg/L | 10 U | 10 U | 10 UJ |
| Phenanthrene | µg/L | 10 UJ | 10 UJ | 10 UJ |

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| OHM Sample Number | | 18609-960 | 18609-961 | 18609-962 |
|---|---|---|---|---|
| Sample Location | | Source Blank#1 | TAA658-Rinse | Source Blank#2 |
| Date Collected | | 08/11/98 | 08/11/98 | 08/11/98 |
| | Unit | | | |
| Phenol | µg/L | 10 U | 10 U | 10 U |
| Pyrene | µg/L | 10 U | 10 U | 10 UJ |
| **EPA 6010A** | | | | |
| Aluminum | µg/L | 500 U | 500 U | 500 U |
| Antimony | µg/L | 500 U | 500 U | 500 U |
| Arsenic | µg/L | 5 U | 5 U | 5 U |
| Barium | µg/L | 100 U | 100 U | 100 U |
| Beryllium | µg/L | 10 U | 10 U | 10 U |
| Cadmium | µg/L | 5 U | 5 U | 5 U |
| Calcium | µg/L | 62700 | 36600 | 32900 |
| Chromium | µg/L | 50 U | 50 U | 50 U |
| Cobalt | µg/L | 50 U | 50 U | 50 U |
| Copper | µg/L | 50 U | 50 U | 50 U |
| Iron | µg/L | 50 U | 50 U | 50 U |
| Lead | µg/L | 5 U | 5 U | 5 U |
| Magnesium | µg/L | 24300 | 9570 | 8940 |
| Manganese | µg/L | 20 U | 20 U | 20 U |
| Molybdenum | µg/L | 100 U | 100 U | 100 U |
| Nickel | µg/L | 150 U | 150 U | 150 U |
| Potassium | µg/L | 5000 U | 5000 U | 5000 U |
| Selenium | µg/L | 5 U | 5 U | 5 U |
| Silver | µg/L | 50 U | 50 U | 50 U |
| Sodium | µg/L | 87100 | 67100 | 59500 |
| Thallium | µg/L | 50 U | 50 U | 50 U |
| Vanadium | µg/L | 100 U | 100 U | 100 U |
| Zinc | µg/L | 20 U | 21.6 J | 20 U |
| **EPA 7470A** | | | | |
| Mercury | µg/L | .2 U | .2 U | .2 U |
| **EPA 9010** | | | | |
| Cyanide | mg/L | .01 U | .01 U | .01 U |

## Table 4 - 4
## Summary of Analytical Results for Rinse Water Samples — TAA 658

| **OHM Sample Number** | | 18609-960 | 18609-961 | 18609-962 |
|---|---|---|---|---|
| **Sample Location** | | Source Blank#1 | TAA658-Rinse | Source Blank#2 |
| **Date Collected** | | 08/11/98 | 08/11/98 | 08/11/98 |
| | **Unit** | | | |
| **EPA 9045** | | | | |
| pH | pH units | 7.65 | 6.35 | 7.98 |

Explanation:

CA LUFT - California Leaking Underground Fuel Tank
EPA - United States Environmental Protection Agency
J - estimated
M - Modified
mg/L - milligrams per liter
OHM - OHM Remediation Services Corp.
TAA - temporary accumulation area
TPH - total petroleum hydrocarbons
U - not detected above or equal to the stated reporting limit
µg/L - micrograms per liter

## Table 5-1
## Residential Risk Screening Worksheet for Soil - TAA 658

| Detected Chemical | Maximum TAA 658 Soil Concentration (mg/kg) | MCAS El Toro Background Concentration[A] (mg/kg) | CANCER | | | NON-CANCER | | |
|---|---|---|---|---|---|---|---|---|
| | | | Residential PRG[B] (mg/kg) | TAA 658 Maximum Ratio[C] | MCAS El Toro Background Ratio[D] | Residential PRG[E] (mg/kg) | TAA 658 Maximum Ratio[F] | MCAS El Toro Background Ratio[F] |
| **ORGANICS** | | | | | | | | |
| 4,4'-DDE | 0.002 | 0.145 | 1.7E+00 | 1.18E-03 | 1.18E-03 | NE | NE | NE |
| 4,4'-DDT | 0.0016 | 0.236 | 1.7E+00 | 9.41E-04 | 9.41E-04 | 3.5E+01 | NE | NE |
| **METALS** | | | | | | | | |
| Aluminum | 9,930 | 14,800 | NE | NE | NE | 7.5E+04 | NE | NE |
| Arsenic | 2.72 | 6.86 | 3.8E-01 | 7.16E+00 | 7.16E+00 | 2.1E+01 | NE | NE |
| Barium | 139 | 173 | NE | NE | NE | 5.3E+03 | NE | NE |
| Beryllium | 0.374 | 0.669 | NE | NE | NE | 1.5E+02 | NE | NE |
| Chromium | 9.13 | 26.9 | 2.1E+02 | 4.35E-02 | 4.35E-02 | NE | NE | NE |
| Cobalt | 4.56 | 6.98 | NE | NE | NE | 3.3E+03 | NE | NE |
| Copper | 30.1 | 10.5 | NE | NE | NE | 2.8E+03 | 1.08E-02 | 3.75E-03 |
| Lead | 7.34 | 15.1 | NE | NE | NE | 4.0E+02 | NE | NE |
| Manganese | 218 | 291 | NE | NE | NE | 3.1E+03 | NE | NE |
| Nickel | 7.42 | 15.3 | NE | NE | NE | 1.5E+03 | NE | NE |
| Vanadium | 29.5 | 71.8 | NE | NE | NE | 5.2E+02 | NE | NE |
| Zinc | 58.3 | 77.9 | NE | NE | NE | 2.2E+04 | NE | NE |
| Subtotal sum of ratios | | | | 7.20E+00 | 7.20E+00 | | 1.08E-02 | 3.75E-03 |
| **MCAS EL TORO BACKGROUND RISK RATIOS** | | | **CANCER RISK** | | **7.20E-06** | **NON-CANCER HAZARD INDEX** | | **3.75E-03** |
| **TAA 658 SUMMED RISK** | | | **CANCER RISK** | **7.20E-06** | | **NON-CANCER HAZARD INDEX** | **1.08E-02** | |
| **TAA 658 RISK LESS BACKGROUND RISK (NET RISK)** | | | **NET CANCER RISK** | **<1 x $10^{-6}$** | | | | |

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

[B] Residential soil PRG for cancer from the EPA Region 9, October 1, 1999 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, October 1, 1999 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*
# *JEG 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.

15 July 1993

Raoul Portillo — Date
CLEAN Technical Reviewer
Jacobs Engineering Group Inc.

**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 |
|---|---|---|---|---|---|---|---|---|
| 151 | Oil/Water Separator | f | 605 | Active | 1984 | 100 gal | Steel | |
| 152 | Aircraft Wash Area | a | 606 | | | | | |
| 153 | Drum Storage Area | a | 606 | Possible Duplicate of SWMU/AOC 255 | | | | |
| 154 | Oil/Water Separator | f | 606 | Duplicate of SWMU/AOC 163 | 1965 | 100 gal | Concrete | |
| 155 | Vehicle Wash Rack | a | 616 | Duplicate of SWMU/AOC 195 | | | | |
| 156 | Underground Storage Tank | f | 625 | Active, RI/FS Site | 1967 | 500 gal | Cath. Prot. Steel | Waste Oil |
| 157 | Vehicle Wash Rack | a | 626 | RI/FS Site | | | | |
| 158 | Drum Storage Area | a,b | 626 | RI/FS Site | | | | |
| 159 | Oil/Water Separator | f | 626 | Active, RI/FS Site | 1967 | | Concrete | |
| 160 | Hazardous Waste Storage Area | Active | 636 | | | | | |
| 161 | Hazardous Waste Storage Area | Active | 641 | Duplicate of SWMU/AOC 39 | | | | |
| 162 | Underground Storage Tank | f | 643 | Active | 1982 | 185 gal | Cath. Prot. Steel | Waste Oil |
| 163 | Oil/Water Separator | f | 643 | Active | 1982 | 100 gal | Concrete | |
| 164 | Vehicle Wash Rack | a | 651 | | | | | |
| 165 | Drum Storage Area | a | 651 | Located within SWMU/AOC 164 | | | | |
| 166 | Underground Storage Tank | f | 651 | Active | 1971 | 500 gal | Steel | Product Oil |
| 167 | Underground Storage Tank | f | 651 | Active | 1971 | 500 gal | Steel | Product Oil |
| 168 | Underground Storage Tank | f | 651 | Active | 1971 | 500 gal | Steel | Waste Oil |
| 169 | Underground Storage Tank | f | 651 | | 1971 | 500 gal | Concrete | |
| 170 | Drum Storage Area (2) | a,b | 655 | | | | | |
| 171 | Hazardous Waste Storage Area | Active, a | 658 | | | | | |
| 172 | Hazardous Waste Storage Area | Active | 671 | | | | | |
| 173 | Oil/Water Separator | f | 671 | | | | | |
| 174 | Underground Storage Tank (2) | f | 672 | Active | Unknown | 500 gal | Steel | Waste JP-5 |
| 175 | Underground Storage Tank | f | 672 | Active | 1982 | 100 gal | Steel | |
| 176 | Underground Storage Tank | f | 672 | Active | 1982 | 1,000 gal | Steel | Waste Oil |
| 177 | Drum Storage Area | c | 672 | | | 360 gal | | |
| 178 | Vehicle Wash Rack | a | 673 | | | | | |
| 179 | Oil/Water Separator | f | 673 | Active | 1982 | 100 gal | Steel | |
| 180 | Underground Storage Tank | f | 673 | Active | 1982 | 300 gal | Steel | Waste Oil |

# Evaluation Form
# SWMU/Area of Concern
# Number 171

## Unit Characteristics

An HWSA is located approximately 35 ft south of Building 658. The HWSA consists of a concrete storage pad and a concrete berm with an aluminum roof. A sump is located in the southwestern corner of the concrete pad. The concrete pad has dark discoloration around the sump drain. No significant cracks in the concrete pad or berm were observed.

The HWSA is bordered by unpaved soil on all sides. An area of stained soil was observed near the northeastern corner of the HWSA. Also evidence of stressed vegetation was observed on the southern side of the HWSA.

## Waste Characteristics

Waste oil
JP-5

## Possible Migration Pathways

Soil

## Evidence of Release

Stained soil near HWSA

## Exposure Potential

On-Station personnel

## Recommendations

A release of waste to the soil surrounding this HWSA was observed during the site inspection. A sampling visit is recommended for this HWSA.

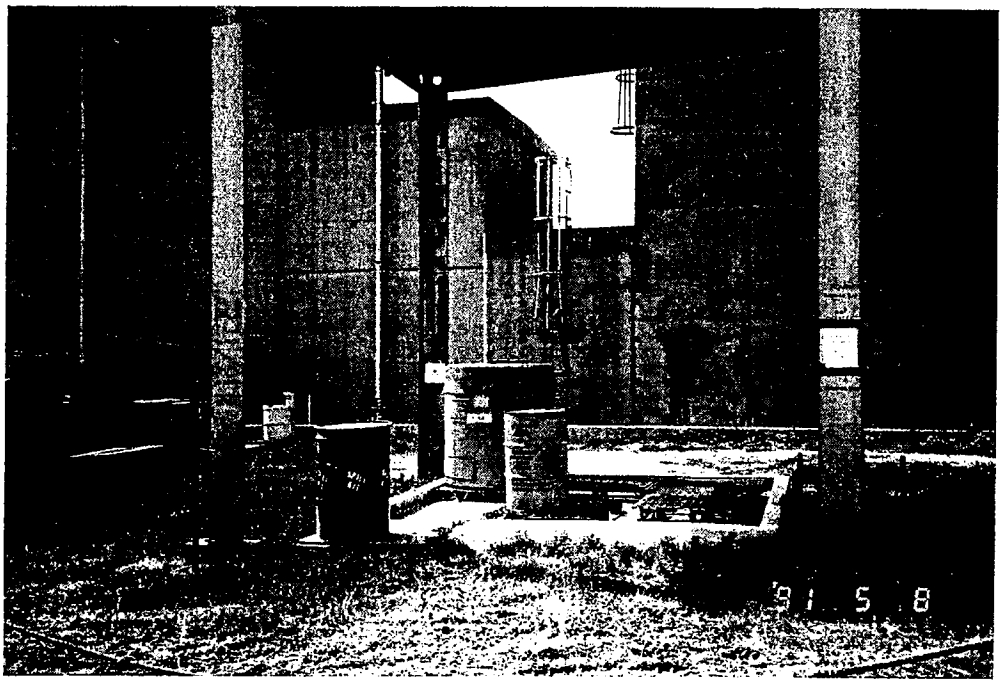
# Evaluation Form
# SWMU/Area of Concern
# Number 171

Name: Hazardous Waste Storage Area

Location: South of Building 658

Size: Approximately 144 sq ft

Date of Site Visit: 08 May 1991

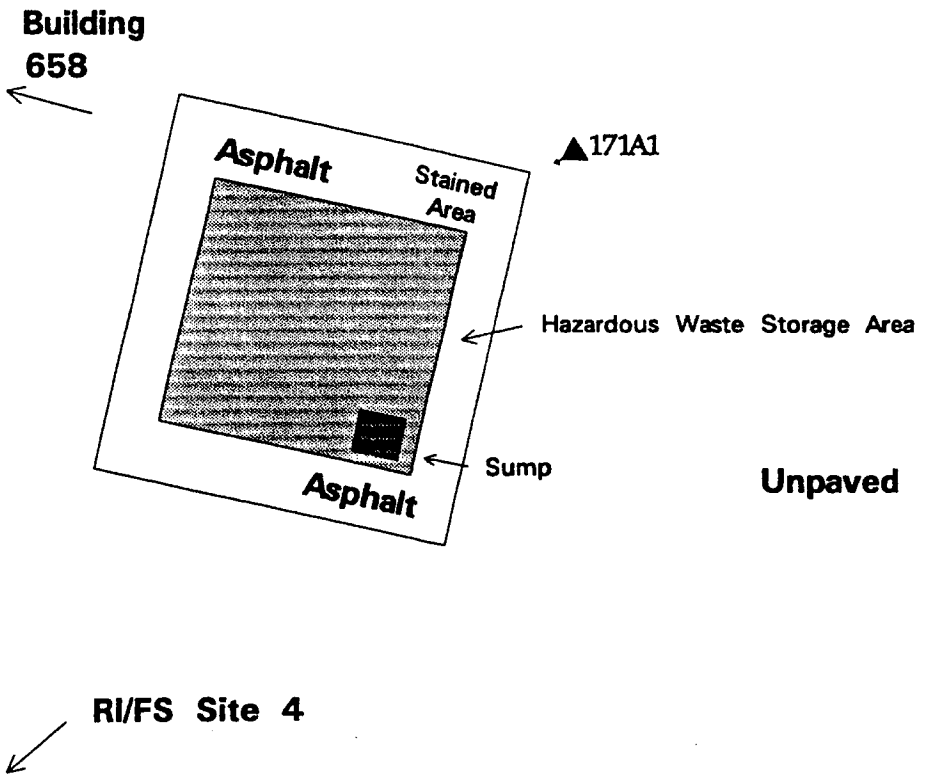



Period of Operation

Currently active

## 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 | | | | | | |
| 171 | Hazardous Waste Storage Area (52) | A1 | 10 | ND | ND | ND | Methylene Chloride-7 BJ * | Diethylphthalate-20 BJ *<br>Di-n-butylphthalate-35 BJ *<br>2-Methylnaphthalene-34 J<br>Phenanthrene-51 J<br>Pyrene-45 J<br>Chrysene-62 J<br>Benzo(a)Pyrene-72 J<br>Bis(2-Ethylhexyl)phthalate-710 B | 4,4-DDE-7 J | Barium-90.5 | Shallow soil borings. | Potential for SVOCs in shallow soil.<br><br>TPH/TFH < 100 ppm<br>VOCs < CRDL<br>SVOCs < ETM & PRG<br>Pest/PCBs < CRDL<br>Metals < ETM & PRG<br><br>CRDL - Contract Required Detection Limit |
| | | | 20 | ND | ND | ND | Methylene Chloride-9 BJ * | Diethylphthalate-67 BJ *<br>Di-n-butylphthalate-20 BJ * | ND | Barium-67.5 | | |
| | | | 30 | ND | ND | ND | Methylene Chloride-14 B *<br>Acetone-9 BJ * | Di-n-butylphthalate-24 BJ *<br>Bis(2-Ethylhexyl)phthalate-49 BJ * | ND | Barium-128 | | |
| | | | 30 (Duplicate) | ND | ND | ND | Methylene Chloride-7 BJ *<br>Acetone-7 J * | Diethylphthalate-180 BJ *<br>Bis(2-Ethylhexyl)phthalate-10000 | ND | Barium-794 | | |
| | | | 40 | ND | ND | ND | Methylene Chloride-11 BJ *<br>Acetone-9 BJ * | Diethylphthalate-75 BJ *<br>Bis(2-Ethylhexyl)phthalate-1700<br>Di-n-butylphthalate-33 J | ND | Barium-132 | | |
| | | | 50 | 34.9 | ND | ND | Methylene Chloride-8 BJ *<br>Acetone-7 J * | Diethylphthalate-46 BJ *<br>Bis(2-Ethylhexyl)phthalate-37 J | ND | Barium-111 | | |
| | | | 60 | ND | ND | ND | Methylene Chloride-5 BJ *<br>Toluene-2 J | Diethylphthalate-20 BJ *<br>Di-n-butylphthalate-20 BJ *<br>Bis(2-Ethylhexyl)phthalate-40 BJ * | ND | Barium-98.2 | | |




# Figure 52 Sample Location Map

SWMU/AOC Number and Type:
171 - Hazardous Waste Storage Area

Boring Location and Number:

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

Features:

- Building
- Concrete
- Fence
- Railroad

Scale

0 10 20 40 Feet

MCAS El Toro
RCRA Facility Assessment

CH2M HILL

| PROJECT NUMBER | BORING NUMBER |
|---|---|
| LA070022.S0.10 | 171A-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, INGERSOL-RAND TH-10

WATER LEVELS _____ START 10/12/92 FINISH 10/12/92 LOGGER A. GIMURTU

| 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 |
|---|---|---|---|---|---|---|
| | | | | | Surficial material consisting of 2 inches of bituminous pavement and 2 inches of gravel subgrade. | Start drilling 13:15. |
| 5.0 | | | | | | |
| 10.0 | 10.0–12.0 | 1-MC | 1.6 | 17-14-14-19 | SILTY SAND (SM), moist, brown, medium dense, fine grained. | Sample headspace 0 ppm OVA and HNu at 11.0 and 10.5 feet. |
| 15.0 | | | | | | |
| 20.0 | 20.0–22.0 | 2-MC | 1.8 | 17-20-24-24 | WELL GRADED SAND (SW), light brown to gray, moist, medium dense. | Sample headspace 0 ppm on OVA at 20.5 and 21.0 feet. |
| 25.0 | | | | | | |
| 30.0 | 30.0–32.0 | 3-MC | 1.8 | 20-14-13-23 | SANDY SILT (ML), brown, moist, very stiff, 35% fine grained sand. | Sample headspace 5 ppm on OVA at 30.5 and 31.0 feet. |
| | 32.0–34.0 | 3A-MC | 1.8 | 12-14-25-40 | Similar to 3-MC, hard. | |

CH2M HILL

| PROJECT NUMBER | BORING NUMBER |
|---|---|
| LA070022.S0.10 | 171A-1 SHEET 2 OF 2 |

# SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO

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

DRILLING METHOD AND EQUIPMENT HSA, 3-1/4" ID, 6-1/2" OD, INGERSOL-RAND TH-10

WATER LEVELS _____ START 10/12/92 FINISH 10/12/92 LOGGER A. GIMURTU

| DEPTH BELOW SURFACE (FT) | SAMPLE INTERVAL | SAMPLE TYPE AND NUMBER | SAMPLE RECOVERY (FT) | STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N) | SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY | COMMENTS: DEPTH OF CASING, DRILLING RATE DRILLING FLUID LOSS TESTS AND INSTRUMENTATION |
|---|---|---|---|---|---|---|
| 40.0 | 40.0 | | | | | |
| | 42.0 | 4-MC | 1.4 | 11-14-20-21 | Similar to 3-MC, very stiff with more clay. | Sample headspace 5 ppm on OVA at 40.5 and 41.0 feet. |
| | 44.0 | 4A-MC | 0.0 | 12-22-25-30 | Similar to 4-MC, hard. | |
| 45.0 | | | | | | |
| 50.0 | 50.0 | | | | | |
| | 52.0 | 5-MC | 1.7 | 12-17-38-50 | Similar to 4-MC, interbedded with layers of sandy, silty, and clayey materials. | Sample headspace 0 ppm on OVA at 50.5 and 51.0 feet. |
| | 54.0 | 5A-MC | 1.7 | 10-45-36-50 | Similar to 5-MC. | |
| 55.0 | | | | | | |
| 60.0 | 60.0 | | | | | |
| | 62.0 | 6-MC | 2.0 | 17-38-43-50 | Similar to 5A-MC. | Sample headspace 0 ppm on OVA at 60.5 and 61.0 feet. |
| | | | | | Total Depth at 62.0 Feet. | |
| 65.0 | | | | | | |

**Table 6-15**
**Recommendations for SWMUs/AOCs**
**MCAS El Toro RFA**

| SWMU No. | SWMU/AOC Type | Recommendation (FA/NFA) | Description of Further Action | Rationale for Further Action |
|---|---|---|---|---|
| 160 | Hazardous Waste Storage Area | NFA | -- | -- |
| 162 | Underground Storage Tank | NFA | -- | -- |
| 164 | Vehicle Wash Rack | NFA | -- | -- |
| 171 | Hazardous Waste Storage Area | FA | Shallow soil borings | Potential for SVOCs in surface soil |
| 172 | Hazardous Waste Storage Area | NFA | -- | -- |
| 173 | Oil/Water Separator | FA | Additional boring(s) | Petroleum hydrocarbon contamination, unknown extent |
| 175 | Oil/Water Separator | FA | Additional boring(s) | Petroleum hydrocarbon contamination, unknown extent |
| 176 | Underground Storage Tank | FA | Additional boring(s) | Petroleum hydrocarbon contamination, unknown extent |
| 179 | Oil/Water Separator | NFA | -- | -- |
| 181 | Landfarming Area | NFA | -- | -- |
| 186 | Hazardous Waste Storage Area | NFA | -- | -- |
| 187 | Underground Storage Tank | NFA | -- | -- |
| 188 | Underground Storage Tank | NFA | -- | -- |
| 193 | Oil/Water Separator | NFA | -- | -- |
| 194 | Former Incinerator Site | FA | Additional boring(s) | Petroleum hydrocarbon contamination, unknown extent |
| 195 | Vehicle Wash Rack | NFA | -- | -- |
| 196 | Oil/Water Separator | NFA | -- | -- |
| 198 | Vehicle Wash Rack | FA | Repair cracks in pavement | Prevent future migration of petroleum hydrocarbons |
| 199 | Oil/Water Separator | FA | Leak test/ inspection of separator | Moderate petroleum hydrocarbon contamination at 15-foot dept |
| 201 | Vehicle Wash Rack | FA | Repair cracks in pavement | Prevent future migration of petroleum hydrocarbons |
| 202 | Underground Storage Tank | NFA | -- | -- |
| 204 | Vehicle Wash Rack | FA | Repair cracks in pavement | Prevent future migration of petroleum hydrocarbons |
| 205 | Oil/Water Separator | NFA | -- | -- |
| 208 | Oil/Water Separator | NFA | -- | -- |
| 211 | Oil/Water Separator | NFA | -- | -- |
| 213 | Vehicle Wash Rack | FA | Repair cracks in pavement | Prevent future migration of petroleum hydrocarbons |
| 214 | Underground Storage Tank | NFA | -- | -- |
| 220 | Oil/Water Separator | NFA | -- | -- |
| 222 | Hazardous Waste Storage Area | NFA | -- | -- |
| 223 | Hazardous Waste Storage Area | NFA | -- | -- |

Based on the above evaluations, 119 SWMUs/AOCS are eliminated from further consideration with respect to TPH and volatile organics. Therefore, 21 SWMUs/AOCs are recommended for further action based on TPH and volatile organics. Other than the nine SWMUs/AOCs described above, the following twelve SWMUs/AOCs are recommended for further action primarily based on TPH > 1,000 mg/kg: SWMU/AOC Numbers 33, 46, 145, 173, 175, 176, 194, 201, 204, 280, 298, and 300. A summary of all of the SWMU/AOC evaluations and recommendations (including these for TPH and volatile organics) is included in Section 6.4.

### 6.3.2 Semivolatile Organic Compounds

Semivolatile organics analysis was performed at a total of 52 SWMUs/AOCs. Analytical results for semivolatile organics are evaluated according to the rationale presented below. Table 6-7 provides a summary of the evaluation results for the SWMUs/AOCs analyzed for semivolatile organics.

- SWMUs/AOCs with all samples below detection limits (including estimated values below the detection limits ["J" flags]), or concentrations less than laboratory method blank criteria are recommended for no further consideration. Forty (40) SWMUs/AOCs meet this criteria. Of these, however, one SWMU/AOC (SWMU/AOC 39) has been recommended for further action on a judgmental basis. An evaluation of this site is provided below:

SWMU/AOC 39 - Hazardous Waste Storage Area

Polynuclear aromatic hydrocarbons (PNAs) (e.g., pyrene, chrysene, and fluoranthene) were present in the 10-foot sample only at angle boring 1. Although these compounds were below detection limits (i.e., they are estimated values), the presence of these relatively immobile compounds in the 10-foot sample may indicate the presence of elevated PNA concentrations in shallow soil. It is recommended that additional soil sampling be performed to assess the potential presence of SVOCs in shallow soil at SWMU/AOC 39.

- Sample concentrations above detection limits are then compared to the ETM and PRG values. Table 6-8 presents the ETM and PRG values for the SVOCs detected in the samples. Eleven of the twelve remaining SWMUs/AOCs have samples less than the ETM and PRG values and are recommended for no further consideration. These 11 SWMUs/AOCs include the following:

| | |
|---|---|
| 11 | 171 |
| 70 | 223 |
| 90 | 226 |
| 99 | 271 |
| 149 | 300 |
| 160 | |

Of these 11 SWMUs/AOCs, however, one SWMU/AOC (SWMU/AOC 171) has been recommended for further action on a judgmental basis. An evaluation of

**Table 6-7**
**Summary of Evaluation Results for Semivolatile Organics**

| Analyses | Evaluation Rationale | | |
|---|---|---|---|
| Semivolatile Organics (52 SWMUs/AOCs) | All samples < CRDLs (including estimated values below detection limits ["J" flags]) | Sample(s) > CRDLs but below ETM and PRG values | Sample(s) > ETM and/or PRG values |
| Recommendations: | NFC (1) | NFC (2) | FA (3) (Based on case-by-case evaluation) |
| **SWMU/AOC Type** | **Number of SWMUs/AOCs** | | |
| Engine Test Cells | 1 | 0 | 1 |
| Washes | 3 | 1 | 0 |
| HWSAs/DSAs | 32 | 8 | 0 |
| Others | 4 | 2 | 0 |
| **Totals:** | 40 | 11 | 1 |

NOTES:

(1) SWMU/AOC 39 recommended for Further Action based on case-by-case evaluation.
(2) SWMU/AOC 171 recommended for Further Action based on case-by-case evaluation.
(3) SWMU/AOC 131 recommended for Further Action based on case-by-case evaluation.
CRDL = Contract Required Detection Limit
NFC = No Further Consideration

**Table 6-8**
**ETM and PRG Values for Semivolatile Organic Compounds**
**MCAS El Toro RFA**

| Compounds | ETM Values (ug/kg) | PRG Values (ug/kg) |
|---|---|---|
| Anthracene | --- | 1,900 |
| Benzo(a)anthracene | 160,760 (1) | 2,900 |
| Benzo(a)pyrene | 736,560 (1) | 290 |
| Benzo(b)fluoranthene | 906,170 (1) | 2,900 |
| Benzo(g,h,i)perylene | --- | --- |
| Benzo(k)fluoranthene | 5,587,400 (1) | 2,900 |
| Bis(2-Ethylhexyl)phthalate | 150,740 | 120,000 |
| Butylbenzylphthalate | 4,427,720 (1) | 16,000,000 |
| Carbazole | --- | 85,000 |
| 4-Chloroaniline | --- | 310,000 |
| Chrysene | 75,370 (1) | 290,000 |
| Di-n-Butylphthalate | --- | 7,800,000 |
| Di-n-Octylphthalate | --- | 1,600,000 |
| Dibenz(a,h)anthracene | 1,104,840 (1) | 290 |
| Diethylphthalate | 4,417,230 (1) | 63,000,000 |
| Dimethylphthalate | --- | 780,000,000 |
| Fluoranthene | --- | 3,100,000 |
| Indeno(1,2,3-cd)pyrene | 1,473,130 (1) | 2,900 |
| 2-Methylnaphthalene | --- | --- |
| Naphthalene | 185,020 | 80,000 |
| Phenanthrene | --- | --- |
| Phenol | 569 | 47,000,000 |
| Pyrene | --- | 2,300,000 |

NOTES:

(1) ETM based on proposed Federal MCL.

ETM - El Toro Model values, based on the leaching pathway evaluation model.
PRG - U.S. Environmental Protection Agency
Preliminary Remedial Goals, Residential Soil Values.

this site is provided below:

SWMO/AOC 171 - Hazardous Waste Storage Area

PNAs (e.g., pyrene, benzo(a)pyrene, chrysene, and phenanthrene) were present in the 10-foot sample only at angle boring A1. Although these compounds were below detection limits (i.e., they are estimated concentrations), the presence of these relatively immobile compounds in the 10-foot sample may indicate the presence of elevated PNA concentrations in shallow soil. It is recommended that additional soil sampling be performed to assess the potential presence of SVOCs in shallow soil at SWMU/AOC 171.

- SWMUs/AOCs with samples above ETM and/or PRG values are evaluated on a case-by-case basis. Recommendations for these SWMUs/AOCs are based on site- and compound-specific characteristics.

Only one SWMU/AOC (SWMU/AOC 131, an inactive engine test cell) has SVOCs above ETM and/or PRG values. An evaluation of this site is provided below:

SWMU/AOC 131 - Engine Test Cell

Four hand auger borings were drilled at separate areas at this site. All samples from HA2, HA3, and HA4 had values below detection limits. At HA1, various PNAs were detected in the 2-foot sample only. All of the compounds

detected were below the ETM values, where applicable. One compound, benzo(a)pyrene, was above the PRG value of 290 ug/kg for the original (670 ug/kg) and duplicate (780 ug/kg) samples at the 2-foot depth. The sample collected at the 5-foot depth from this boring was below detection limits.

HA1 is located in an unpaved area. Some soil staining in the area was observed during the VSI. Additional shallow soil sampling in the area of the soil staining is recommended.

Based on the above evaluations, 51 SWMUs/AOCs are eliminated from further consideration based on semivolatile organics analyses. Two SWMUs/AOCs (Numbers 39 and 171) are recommended for further action on a judgemental basis. One SWMU/AOC (Number 131) is recommended for further consideration because an SVOC concentration exceeded a PRG value.

### 6.3.3 Pesticides/PCBs

Pesticides/PCBs analyses were performed at a total of 54 SWMUs/AOCs. Table 6-9 provides a summary of the evaluation results for the SWMUs/AOCs analyzed for pesticides/PCBs. Analytical results for pesticides/PCBs are evaluated according to the following rationale:

- SWMUs/AOCs with all samples below the detection limits (including estimated values below the detection limits ["J" flags]) are recommended for no further consideration. Forty-two SWMUs/AOCs meet this criteria. Of these, however,

# *Appendix B*
# *BNI VSI Evaluation Report*

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 #: **171** Accumulation Area (AA) #: **658**
Location (bldg): **HWSA/Bldg. 658**
Site Contact: **Leta Suarez** Ext: **2772**
Permission for Access? ~~Y~~ N If yes, explain:
Type of Wastes Observed: **None**

**TYPE:** (CIRCLE AS APPROPRIATE)

~~Locker~~ ~~Cabinet~~ ~~Pad~~ Concrete/~~Soil/Asphalt~~ floor
Berm ~~Fence~~ ~~Fence Type:~~ Indoor
Pallets Drum(s) No. of Drums: **2** ~~Outdoor~~

**CONDITION:**

Stain(s) ~~Odor(s)~~ ~~Crack(s)~~
Placards/Labels: Y ~~N~~ If Yes, list: **Engine oil**
**Hydraulic Fluid**
Observations: **Oil stained floor, separated metal building attached to 688.**
Status: **Closed as of 8/10/95; no materials onsite as of 11-10-95.**

**DIMENSIONS:** (ESTIMATED SIZE OR AREA IN FT)

AA/SWMU: **4'x12' ft.**
"Stain(s)": **Oil**
Any Restrictions To Access?: **Fence, building.**

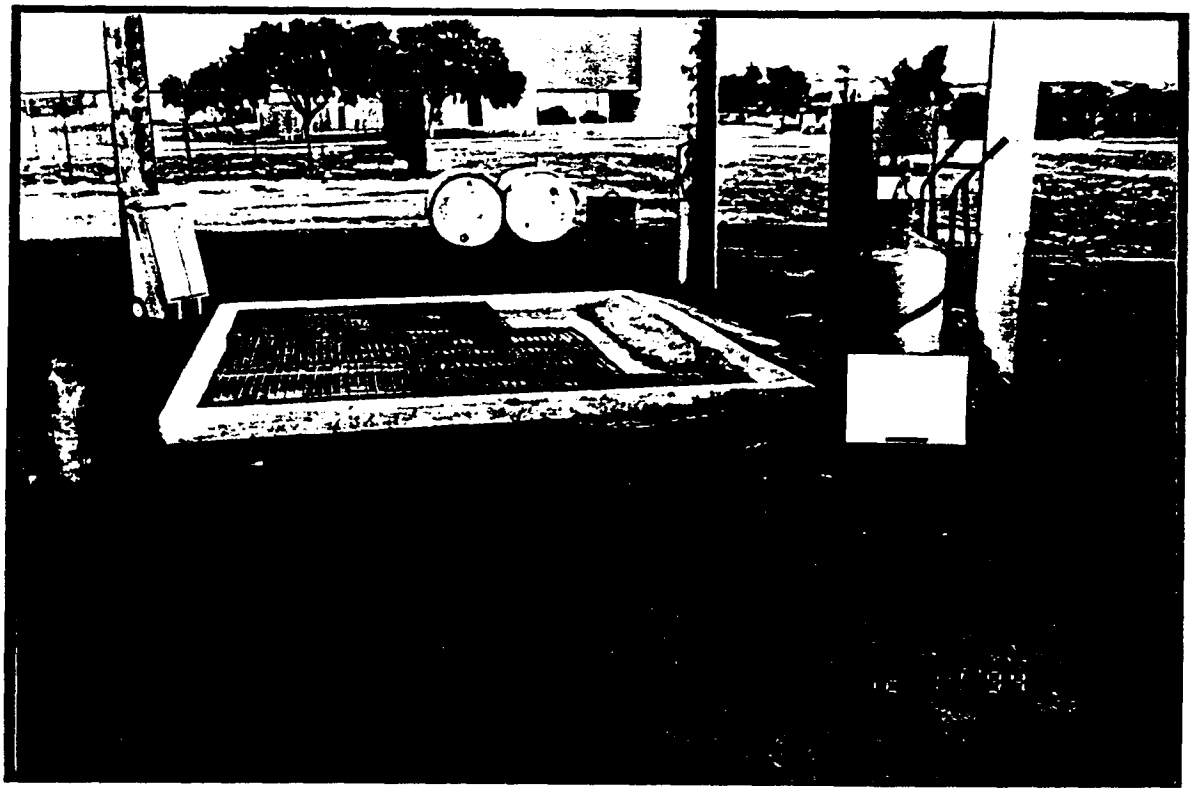
**EVALUATION OF REMOVAL/DECONTAMINATION STRATEGY** (CIRCLE AS APPROPRIATE)

| | | |
|---|---|---|
| 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: 12-7-/94/9:05**
**UPDATED: 11-10-95**
**SURVEILLANCE PERFORMED BY: Larry Bauman**

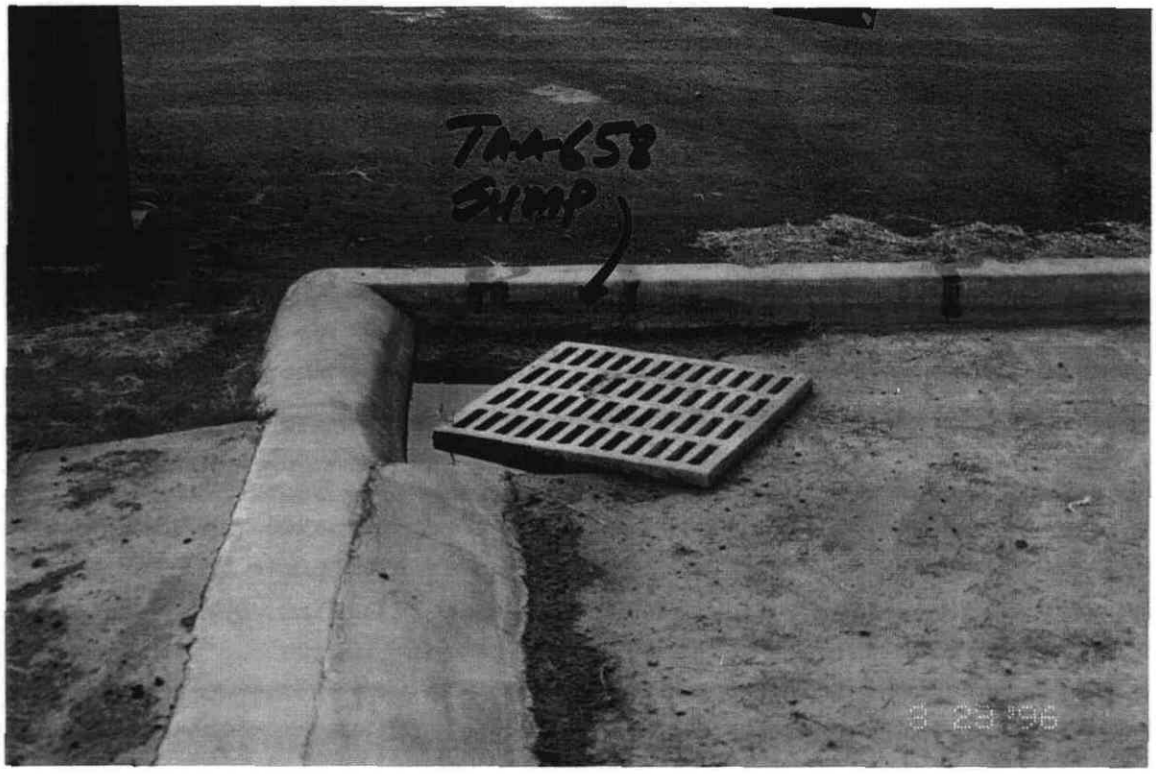
# PHOTO LOG



**SWMU #: 171**

**PHOTO DATE: 12-14-94**

# *Appendix C*
# *Site Photographs*




1 & 2. Location of TAA 658 site, well 04_DBMW40 and condition of the sump.

# *Appendix D*
# *Site Assessment Log*

# SITE ASSESSMENT LOG

**MCAS EL TORO**

***TEMPORARY ACCUMULATION AREA & RFA SITE***

**18609, D.O. 70**

TAA SITE: 658 RFA SITE: — SWMU NO. 171

**Field Observations by:** D. Rawal, Jay Neelan. **Date:** 1/18/97

**TAA area** (Paved) or Unpaved TAA 658, Surrounding area paved with asphalt. TAA 658 is inactive. No drums waste are stored.

**Paved:** (Concrete) or Asphalt, Condition of the Concrete/Asphalt: Minor Cracks, Stains, etc. Good & Sound, no cracks in the berms or paved area pad.

**Unpaved**: Open on the Ground or Inside the Building N/A

Is there any Drums or any types of Waste Stored: Yes/No, If Yes, Describe: No drums stored, TAA vacant some oil, rust stains but very minor will come out after decontamination activities. Hot & cold pressure wash required.

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

Describe other Structural details: TAA 658 is a typical TAA with berm, Roof and a sump. No stains on the pad, no cracks on the berm or pad. Very sound. looks unused.

TAA Decontamination and/or Demolition Possible: (Yes)/No No demolition required.

Sump was full of rain water.

Site Setup Constrains: Equipment Operation, movement of Excavator or Backhoe None

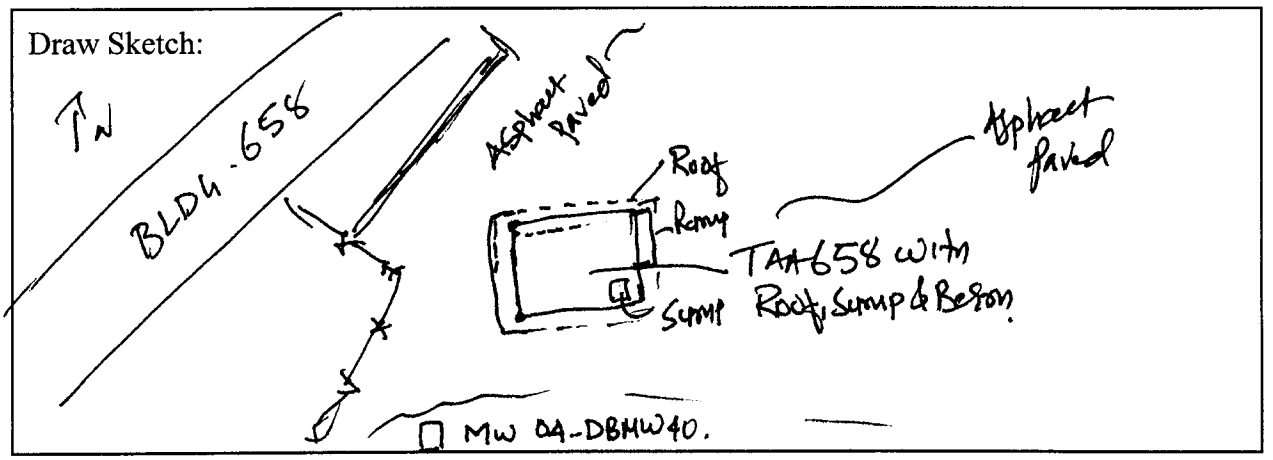
Nearest Building or Structure Distance: Bldg 658 Appx 40ft North of TAA 658.

Any Underground Piping/Lines, or Transformer Observed: None

Overhead Utility Lines/Poles: None

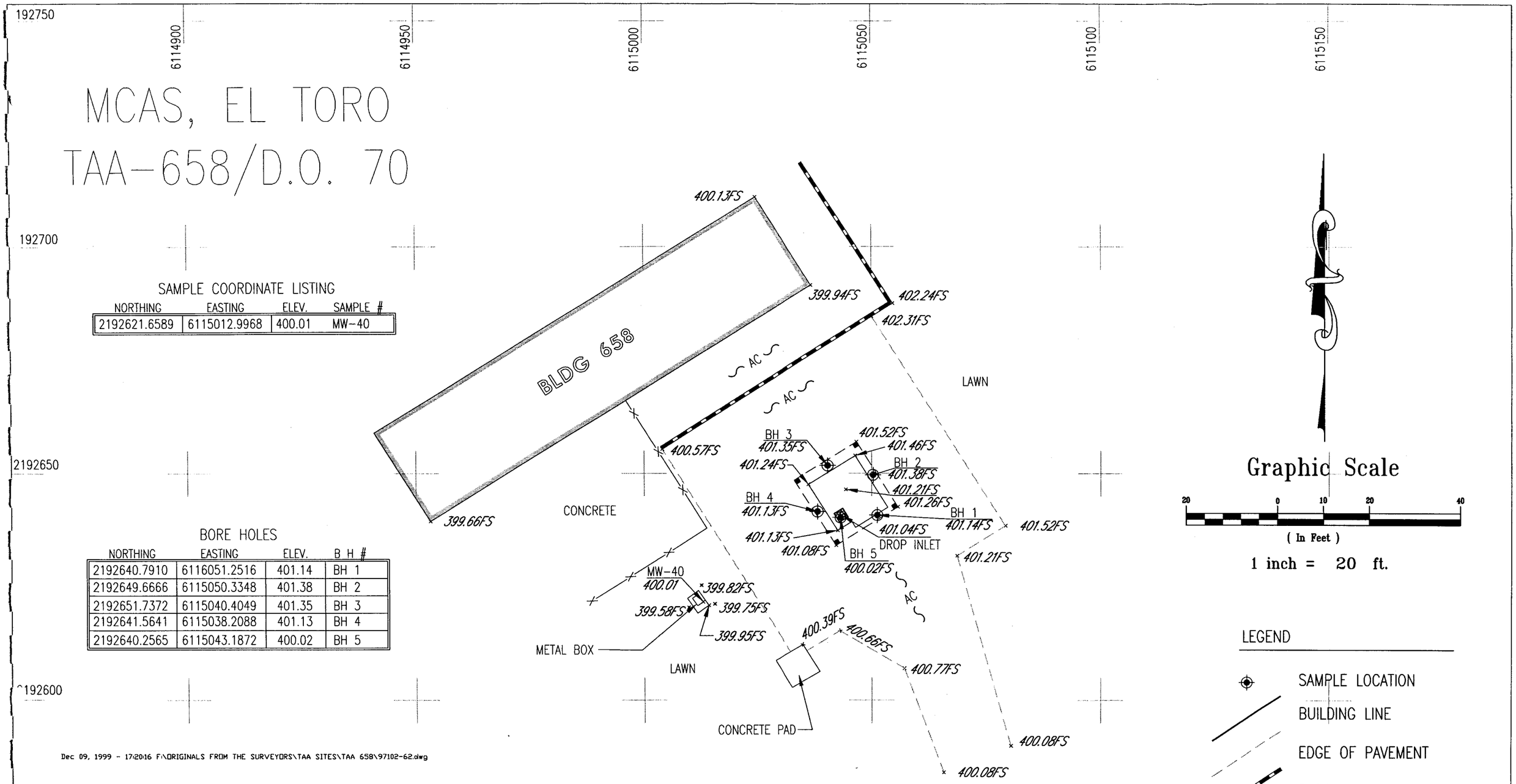
Photograph Roll No. 6D Please attach all the Photographs to this sheet.

Draw Sketch:



# *Appendix E*
# *Land Survey Data*

# MCAS, EL TORO
# TAA-658/D.O. 70




SAMPLE COORDINATE LISTING

| NORTHING | EASTING | ELEV. | SAMPLE # |
|---|---|---|---|
| 2192621.6589 | 6115012.9968 | 400.01 | MW-40 |

BORE HOLES

| NORTHING | EASTING | ELEV. | B H # |
|---|---|---|---|
| 2192640.7910 | 6116051.2516 | 401.14 | BH 1 |
| 2192649.6666 | 6115050.3348 | 401.38 | BH 2 |
| 2192651.7372 | 6115040.4049 | 401.35 | BH 3 |
| 2192641.5641 | 6115038.2088 | 401.13 | BH 4 |
| 2192640.2565 | 6115043.1872 | 400.02 | BH 5 |

Graphic Scale

20 0 10 20 40

( In Feet )

1 inch = 20 ft.

LEGEND

- SAMPLE LOCATION
- BUILDING LINE
- EDGE OF PAVEMENT
- BLOCK WALL
- CHAINLINK FENCE
- FS FINISH SURFACE

Dec 09, 1999 - 17:20:16 F:\ORIGINALS FROM THE SURVEYORS\TAA SITES\TAA 658\97102-62.dwg


**CAL VADA SURVEYING, INC.**

108 BUSINESS CENTER DR. CORONA, CA 91720
1 800 CALVADA PHONE: (909) 280-9960 FAX: (909) 280-9746
WEB SITE http://www.calvada.com


JOB NO. 97102-62

PREPARED FOR:
OHM REMEDIATION SERVICES, CORP.
2031 MAIN ST., IRVINE, CA 921714
(714) 263-1146

DATE OF SURVEY: 9-18-98

# *Appendix F*
# *Laboratory Analytical Results for TAA Effluent Treated Water*

COMPLETED

**OHM Remediation Services Corp**
*Subsidiary of OHM Corporation*
*U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526*

# CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY
213552
FORM 0019 REV 2 97

| | | | | | |
|---|---|---|---|---|---|
| OHM LAB COORDINATOR: Dwayne Ishida | LAB COORDINATOR'S PHONE: (714) 263-1146 | LAB COORDINATOR'S FAX: (714) 263-1147 | LABORATORY SERVICE ID: 9802777 | LABORATORY CONTACT: Rad Wang | MAIL REPORT (COMPANY NAME): OHM Remediation |
| PROJECT NAME: TAA Rinse Water | PROJECT LOCATION: El Toro MCAS | PROJECT NUMBER: 18609 | LABORATORY PHONE: | LABORATORY FAX: | RECIPIENT NAME: Mary Schneider |
| PROJECT CONTACT: D. Ishida | PROJECT PHONE NUMBER: 263-1146 | PROJECT FAX: 263-1147 | LABORATORY ADDRESS: | | ADDRESS: 30212031 Main st. |
| PROJECT ADDRESS: El Toro, MCAS | CITY, STATE AND ZIPCODE: El Toro, CA. | CLIENT: SWDIV | CITY, STATE, AND ZIPCODE: Chino, CA. | | CITY, STATE, AND ZIPCODE: Irvine, CA 92714 |
| PROJECT MANAGER: Bill Sedlak | PROJECT MANAGER'S PHONE: 263-1146 | PROJECT MANAGER'S FAX: 263-1147 | | | |

APCL

| Item | Sample Identifier | Matrix | Date | Time | Preserved | # of Cont | QC Level | T.A.T. | Analyses: TPH-Purgeable | TPH-Extractable | 8260 - VOC | 8270 - SVOC/PAH | 9010 - Cyanide | 9045 - pH | 6010/7000 - Metals | 8081 - Pest/PCBs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18609-895 | W | 5/6/98 | 0900 | 4°C iced | 10 | C | 5 day | X | X | X | X | X | X | X | X | |
| 2 | 18609-896 | W | 5/7/98 | 0830 | HCL | 2 | C | 5 day | X | | X | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

NB 5/7/98

| SAMPLES COLLECTED BY | COURIER AND AIR BILL NUMBER | | | COOLER TEMPERATURE UPON RECEIPT |
|---|---|---|---|---|
| RELINQUISHED BY: Marsha Bannick | RECEIVED BY: [signature] | DATE: 5/7/98 | TIME: 1470 | SAMPLE'S CONDITION UPON RECEIPT |

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - 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. TAA Rinse Water | X | | | |
| 2. Trip Blank | X | | | X |

Comments

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

Applied P & Ch Laboratory

# Organic Analysis Results for Method M8015V

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | Prep. Method: | 5030 | Instrument ID: | GC: N |
| Anal. Method: | M8015V | Prep. Date: | 05/08/98 | Anal. Date: | 05/08/98 |
| Batch No: | 98G2191 | Prep. No: | – | Anal. Time: | 17:00 |
| Data File Name: | 2777.001 | Sample Amount: | 5 mL | Dilution Factor: | 1 |
| Methanol Vol. | – | | | | |
| Test Level: | Low | Sparge Size: | 5 mL | Heated Purge: (Y/N) | N |

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 1 | GASOLINE | 8006-61-9 | mg/L | 0.05 | <0.05 | U |

| Surrogates | | Control Limit, % | Surro. Rec.% |
|---|---|---|---|
| 1 4-BROMO-FLUOROBENZENE (BFB) | 460-00-4 | 71-134 | 92 |
| # of out-of-control | | | 0 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

72256

Applied P & Ch Laboratory

# Organic Analysis Results for Method M8015E

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | Prep. Method: | 3510 | Instrument ID: | GC: H |
| Anal. Method: | M8015E | Prep. Date: | 05/08/98 | Anal. Date: | 05/09/98 |
| Batch No: | 98G2255 | Prep. No: | 1 of 1 | Anal. Time: | 04:30 |
| Data File Name: | 2777.001 | Sample Amount: | 1000 mL | Dilution Factor: | 1 |
| Extract Vol. | 1.0 mL | | | | |

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 1 | TPH AS DIESEL | 68334-30-5 | mg/L | 0.5 | 0.4 | J |
| 2 | TPH AS MOTOR OIL | TBD-0002 | mg/L | 0.5 | <0.5 | U |

| Surrogates | | | Control Limit, % | Surro. Rec.% |
|---|---|---|---|---|
| 1 | OCTACOSANE, $C_{28}$ | 630-02-4 | 50-149 | 67 |
| # of out-of-control | | | | 0 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

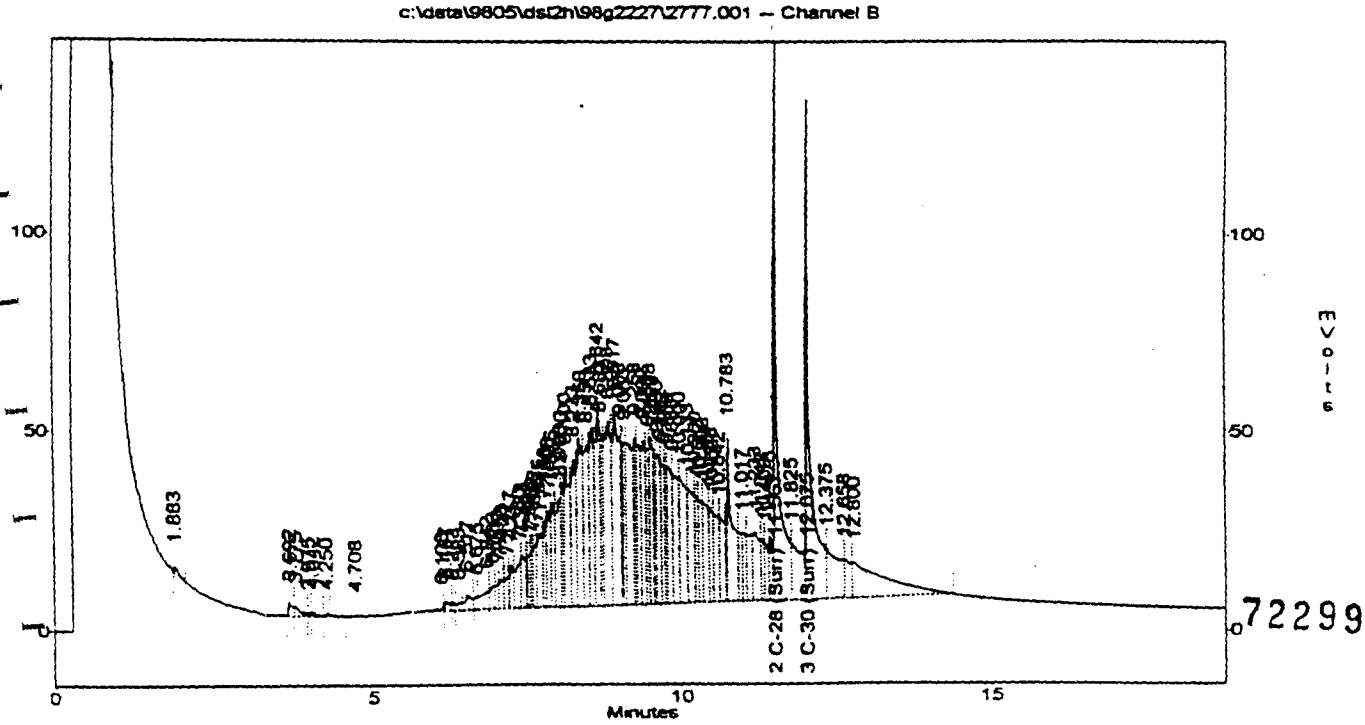
72298

Applied P & Ch Lab
Total Extractable Petroleum Hydrocarbon Analysis by GC-FID
Instrument ID: GC-H, Column: DB-1 (0.32mm x 15m x 0.25 um), 1ul

File : c:\data\9805\dsl2h\98g2227\2777.001
Method : c:\ezchrom\methods\dsl2-032.h00
Sample ID : 2771-1 f=0.001
Vial : 19
Volume : 1
Acquired : May 09, 1998 04:30:09
Printed : May 11, 1998 15:29:28
User : System

Channel B Results

| Name | Time | Area | Conc (ppm) |
|---|---|---|---|
| 2 C-28 (Surr) | 11.57 | 568707 | 33.572 |
| 3 C-30 (Surr) | 12.07 | 559380 | 34.213 |
| 1 DIESEL | | 6128528 | 406.124 |
| 4 MOTOR OIL | | 0 | 0.000 |




72299

Applied P & Ch Laboratory

# Organic Analysis Results for Method 8260

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | - |
| Sample Type: | Field Sample | Prep. Method: | 5030 | Instrument ID: | GC/MS: G |
| Anal. Method: | 8260 | Prep. Date: | 05/10/98 | Anal. Date: | 05/10/98 |
| Batch No: | 98G2263 | Prep. No: | - | Anal. Time: | 02:27 |
| Data File Name: | 2777-01 | Sample Amount: | 25 mL | Dilution Factor: | 1 |
| Methanol Vol. | - | | | | |
| Test Level: | Low | Sparge Size: | 25 mL | Heated Purge: (Y/N) | N |

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 1 | BENZENE | 71-43-2 | µg/L | 5 | < 5 | U |
| 2 | BROMOBENZENE | 108-86-1 | µg/L | 5 | < 5 | U |
| 3 | BROMOCHLOROMETHANE | 74-97-5 | µg/L | 5 | < 5 | U |
| 4 | BROMODICHLOROMETHANE | 75-27-4 | µg/L | 5 | < 5 | U |
| 5 | BROMOFORM | 75-25-2 | µg/L | 5 | < 5 | U |
| 6 | BROMOMETHANE | 74-83-9 | µg/L | 5 | < 5 | U |
| 7 | N-BUTYLBENZENE | 104-51-8 | µg/L | 5 | < 5 | U |
| 8 | SEC-BUTYLBENZENE | 135-98-8 | µg/L | 5 | < 5 | U |
| 9 | TERT-BUTYLBENZENE | 98-06-6 | µg/L | 5 | < 5 | U |
| 10 | CARBON TETRACHLORIDE | 56-23-5 | µg/L | 5 | < 5 | U |
| 11 | CHLOROBENZENE | 108-90-7 | µg/L | 5 | < 5 | U |
| 12 | DIBROMOCHLOROMETHANE | 124-48-1 | µg/L | 5 | < 5 | U |
| 13 | CHLOROETHANE | 75-00-3 | µg/L | 5 | < 5 | U |
| 14 | CHLOROFORM | 67-66-3 | µg/L | 5 | < 5 | U |
| 15 | CHLOROMETHANE | 74-87-3 | µg/L | 5 | < 5 | U |
| 16 | 2-CHLOROTOLUENE | 95-49-8 | µg/L | 5 | < 5 | U |
| 17 | 4-CHLOROTOLUENE | 106-43-4 | µg/L | 5 | < 5 | U |
| 18 | 1,2-DIBROMO-3-CHLOROPROPANE (DB | 96-12-8 | µg/L | 5 | < 5 | U |
| 19 | 1,2-DIBROMOETHANE (EDB) | 106-93-4 | µg/L | 5 | < 5 | U |
| 20 | DIBROMOMETHANE | 74-95-3 | µg/L | 5 | < 5 | U |
| 21 | 1,2-DICHLOROBENZENE | 95-50-1 | µg/L | 5 | < 5 | U |
| 22 | 1,3-DICHLOROBENZENE | 541-73-1 | µg/L | 5 | < 5 | U |
| 23 | 1,4-DICHLOROBENZENE | 106-46-7 | µg/L | 5 | < 5 | U |
| 24 | DICHLORODIFLUOROMETHANE | 75-71-8 | µg/L | 5 | < 5 | U |
| 25 | 1,1-DICHLOROETHANE | 75-34-3 | µg/L | 5 | < 5 | U |
| 26 | 1,2-DICHLOROETHANE | 107-06-2 | µg/L | 5 | < 5 | U |
| 27 | 1,1-DICHLOROETHENE | 75-35-4 | µg/L | 5 | < 5 | U |
| 28 | CIS-1,2-DICHLOROETHENE | 156-59-2 | µg/L | 5 | < 5 | U |
| 29 | TRANS-1,2-DICHLOROETHENE | 156-60-5 | µg/L | 5 | < 5 | U |
| 30 | 1,2-DICHLOROPROPANE | 78-87-5 | µg/L | 5 | < 5 | U |
| 31 | 1,3-DICHLOROPROPANE | 142-28-9 | µg/L | 5 | < 5 | U |
| 32 | 2,2-DICHLOROPROPANE | 594-20-7 | µg/L | 5 | < 5 | U |
| 33 | 1,1-DICHLOROPROPENE | 563-58-6 | µg/L | 5 | < 5 | U |
| 34 | CIS-1,3-DICHLOROPROPENE | 10061-01-5 | µg/L | 5 | < 5 | U |
| 35 | TRANS-1,3-DICHLOROPROPENE | 10061-02-6 | µg/L | 5 | < 5 | U |
| 36 | ETHYLBENZENE | 100-41-4 | µg/L | 5 | < 5 | U |
| 37 | HEXACHLOROBUTADIENE | 87-68-3 | µg/L | 5 | < 5 | U |
| 38 | ISOPROPYLBENZENE (CUMENE) | 98-82-8 | µg/L | 5 | < 5 | U |
| 39 | P-ISOPROPYLTOLUENE | 99-87-6 | µg/L | 5 | < 5 | U |

72112

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 40 | METHYLENE CHLORIDE | 75-09-2 | µg/L | 5 | < 5 | U |
| 41 | NAPHTHALENE | 91-20-3 | µg/L | 5 | < 5 | U |
| 42 | N-PROPYLBENZENE | 103-65-1 | µg/L | 5 | < 5 | U |
| 43 | STYRENE | 100-42-5 | µg/L | 5 | < 5 | U |
| 44 | 1,1,1,2-TETRACHLOROETHANE | 630-20-6 | µg/L | 5 | < 5 | U |
| 45 | 1,1,2,2-TETRACHLOROETHANE | 79-34-5 | µg/L | 5 | < 5 | U |
| 46 | TETRACHLOROETHENE | 127-18-4 | µg/L | 5 | < 5 | U |
| 47 | TOLUENE | 108-88-3 | µg/L | 5 | < 5 | U |
| 48 | 1,2,3-TRICHLOROBENZENE | 87-61-6 | µg/L | 5 | < 5 | U |
| 49 | 1,2,4-TRICHLOROBENZENE | 120-82-1 | µg/L | 5 | < 5 | U |
| 50 | 1,1,1-TRICHLOROETHANE | 71-55-6 | µg/L | 5 | < 5 | U |
| 51 | 1,1,2-TRICHLOROETHANE | 79-00-5 | µg/L | 5 | < 5 | U |
| 52 | TRICHLOROETHENE | 79-01-6 | µg/L | 5 | < 5 | U |
| 53 | TRICHLOROFLUOROMETHANE | 75-69-4 | µg/L | 5 | < 5 | U |
| 54 | 1,2,3-TRICHLOROPROPANE | 96-18-4 | µg/L | 5 | < 5 | U |
| 55 | 1,2,4-TRIMETHYLBENZENE | 95-63-6 | µg/L | 5 | < 5 | U |
| 56 | 1,3,5-TRIMETHYLBENZENE | 108-67-8 | µg/L | 5 | < 5 | U |
| 57 | VINYL CHLORIDE | 75-01-4 | µg/L | 5 | < 5 | U |
| 58 | O-XYLENE | 95-47-6 | µg/L | 5 | < 5 | U |
| 59 | M/P-XYLENE | 108-38-3 | µg/L | 5 | < 5 | U |
| 60 | XYLENES (TOTAL) | 1330-20-7 | µg/L | 5 | < 5 | U |

| Surrogates | | | Control Limit, % | Surro. Rec.% |
|---|---|---|---|---|
| 1 | 4-BROMO-FLUOROBENZENE (BFB) | 460-00-4 | 86-114 | 103 |
| 2 | DIBROMOFLUOROMETHANE | 1868-53-7 | 86-117 | 101 |
| 3 | 1,2-DICHLOROETHANE-D4 | 17060-07-0 | 80-119 | 101 |
| 4 | TOLUENE-D8 | 2037-26-5 | 88-109 | 105 |
| # of out-of-control | | | | 0 |

| Internal Standard | | | Control Limit, % | IS Rec.% |
|---|---|---|---|---|
| 1 | CHLOROBENZENE-D5 | 3114-55-4 | 50-200 | 87 |
| 2 | 1,4-DICHLOROBENZENE-D4 | 3855-82-1 | 50-200 | 92 |
| 3 | FLUOROBENZENE | 462-06-6 | 50-200 | 95 |
| # of out-of-control | | | | 0 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

72113

Applied P & Ch Laboratory

# Organic Analysis Results for Method 8270

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | Prep. Method: | 3510 | Instrument ID: | GC/MS: D |
| Anal. Method: | 8270 | Prep. Date: | 05/11/98 | Anal. Date: | 05/11/98 |
| Batch No: | 98G2274 | Prep. No: | 1 of 1 | Anal. Time: | 22:52 |
| Data File Name: | 2777-01 | Sample Amount: | 1000 mL | Dilution Factor: | 1 |
| Extract Vol. | 1.0 mL | | | | |

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 1 | ACENAPHTHENE | 83-32-9 | µg/L | 10 | <10 | U |
| 2 | ACENAPHTHYLENE | 208-96-8 | µg/L | 10 | <10 | U |
| 3 | ACETOPHENONE | 98-86-2 | µg/L | 10 | <10 | U |
| 4 | 4-AMINOBIPHENYL | 92-67-1 | µg/L | 10 | <10 | U |
| 5 | ANILINE | 62-53-3 | µg/L | 10 | <10 | U |
| 6 | ANTHRACENE | 120-12-7 | µg/L | 10 | <10 | U |
| 7 | BENZO[A]ANTHRACENE | 56-55-3 | µg/L | 10 | <10 | U |
| 8 | BENZIDINE | 92-87-5 | µg/L | 20 | <20 | U |
| 9 | BENZO[A]PYRENE | 50-32-8 | µg/L | 10 | <10 | U |
| 10 | BENZO[B]FLUORANTHENE | 205-99-2 | µg/L | 10 | <10 | U |
| 11 | BENZO[G,H,I]PERYLENE | 191-24-2 | µg/L | 10 | <10 | U |
| 12 | BENZO[K]FLUORANTHENE | 207-08-9 | µg/L | 10 | <10 | U |
| 13 | BENZOIC ACID | 65-85-0 | µg/L | 50 | <50 | U |
| 14 | BENZYL ALCOHOL | 100-51-6 | µg/L | 20 | <20 | U |
| 15 | BIS(2-CHLOROETHOXY)METHANE | 111-91-1 | µg/L | 10 | <10 | U |
| 16 | BIS(2-CHLOROETHYL)ETHER | 111-44-4 | µg/L | 10 | <10 | U |
| 17 | BIS(2-CHLOROISOPROPYL)ETHER | 108-60-1 | µg/L | 10 | <10 | U |
| 18 | BIS(2-ETHYLHEXYL)PHTHALATE | 117-81-7 | µg/L | 10 | 4 | J |
| 19 | 4-BROMOPHENYL PHENYL ETHER | 101-55-3 | µg/L | 10 | <10 | U |
| 20 | BUTYL BENZYL PHTHALATE | 85-68-7 | µg/L | 10 | <10 | U |
| 21 | 3-METHYL-4-CHLOROPHENOL | 59-50-7 | µg/L | 20 | <20 | U |
| 22 | 4-CHLOROANILINE | 106-47-8 | µg/L | 20 | <20 | U |
| 23 | 1-CHLORONAPHTHALENE | 90-13-1 | µg/L | 10 | <10 | U |
| 24 | 2-CHLORONAPHTHALENE | 91-58-7 | µg/L | 10 | <10 | U |
| 25 | 2-CHLOROPHENOL | 95-57-8 | µg/L | 10 | <10 | U |
| 26 | 4-CHLOROPHENYL PHENYL ETHER | 7005-72-3 | µg/L | 10 | <10 | U |
| 27 | CHRYSENE | 218-01-9 | µg/L | 10 | <10 | U |
| 28 | DI-N-BUTYLPHTHALATE | 84-74-2 | µg/L | 10 | <10 | U |
| 29 | DI-N-OCTYLPHTHALATE | 117-84-0 | µg/L | 10 | <10 | U |
| 30 | DIBENZ[A,H]ANTHRACENE | 53-70-3 | µg/L | 10 | <10 | U |
| 31 | DIBENZ(A,J)ACRIDINE | 224-42-0 | µg/L | 10 | <10 | U |
| 32 | DIBENZOFURAN | 132-64-9 | µg/L | 10 | <10 | U |
| 33 | 1,2-DICHLOROBENZENE | 95-50-1 | µg/L | 10 | <10 | U |
| 34 | 1,3-DICHLOROBENZENE | 541-73-1 | µg/L | 10 | <10 | U |
| 35 | 1,4-DICHLOROBENZENE | 106-46-7 | µg/L | 10 | <10 | U |
| 36 | 3,3'-DICHLOROBENZIDINE | 91-94-1 | µg/L | 10 | <10 | U |
| 37 | 2,4-DICHLOROPHENOL | 120-83-2 | µg/L | 10 | <10 | U |
| 38 | 2,6-DICHLOROPHENOL | 87-65-0 | µg/L | 10 | <10 | U |
| 39 | DIETHYL PHTHALATE | 84-66-2 | µg/L | 10 | <10 | U |
| 40 | DIMETHYL PHTHALATE | 131-11-3 | µg/L | 10 | <10 | U |

72152

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 41 | P-DIMETHYLAMINOAZOBENZENE | 60-11-7 | µg/L | 10 | < 10 | U |
| 42 | 7,12-DIMETHYLBENZ(A)ANTHRACENE | 57-97-6 | µg/L | 10 | < 10 | U |
| 43 | 2,4-DIMETHYLPHENOL | 105-67-9 | µg/L | 10 | < 10 | U |
| 44 | Å-DIMETHYLPHENYLAMINE | 122-09-8 | µg/L | 50 | < 50 | U |
| 45 | 2-METHYL-4,6-DINITROPHENOL | 534-52-1 | µg/L | 50 | < 50 | U |
| 46 | 2,4-DINITROPHENOL | 51-28-5 | µg/L | 50 | < 50 | U |
| 47 | 2,4-DINITROTOLUENE | 121-14-2 | µg/L | 10 | < 10 | U |
| 48 | 2,6-DINITROTOLUENE | 606-20-2 | µg/L | 10 | < 10 | U |
| 49 | DIPHENYLAMINE | 122-39-4 | µg/L | 10 | < 10 | U |
| 50 | 1,2-DIPHENYLHYDRAZINE | 122-66-7 | µg/L | 10 | < 10 | U |
| 51 | ETHYL METHANESULFONATE | 62-50-0 | µg/L | 10 | < 10 | U |
| 52 | FLUORANTHENE | 206-44-0 | µg/L | 10 | < 10 | U |
| 53 | FLUORENE | 86-73-7 | µg/L | 10 | < 10 | U |
| 54 | HEXACHLOROBENZENE | 118-74-1 | µg/L | 10 | < 10 | U |
| 55 | HEXACHLOROBUTADIENE | 87-68-3 | µg/L | 10 | < 10 | U |
| 56 | HEXACHLOROCYCLOPENTADIENE | 77-47-4 | µg/L | 10 | < 10 | U |
| 57 | HEXACHLOROETHANE | 67-72-1 | µg/L | 10 | < 10 | U |
| 58 | INDENO[1,2,3-CD]PYRENE | 193-39-5 | µg/L | 10 | < 10 | U |
| 59 | ISOPHORONE | 78-59-1 | µg/L | 10 | < 10 | U |
| 60 | METHYL METHANESULFONATE | 66-27-3 | µg/L | 10 | < 10 | U |
| 61 | 3-METHYLCHOLANTHRENE | 56-49-5 | µg/L | 10 | < 10 | U |
| 62 | 2-METHYLNAPHTHALENE | 91-57-6 | µg/L | 10 | < 10 | U |
| 63 | 4-METHYLPHENOL | 106-44-5 | µg/L | 10 | < 10 | U |
| 64 | 2-METHYLPHENOL | 95-48-7 | µg/L | 10 | < 10 | U |
| 65 | NAPHTHALENE | 91-20-3 | µg/L | 10 | < 10 | U |
| 66 | 1-NAPHTHYLAMINE | 134-32-7 | µg/L | 10 | < 10 | U |
| 67 | 2-NAPHTHYLAMINE | 91-59-8 | µg/L | 10 | < 10 | U |
| 68 | 2-NITROANILINE | 88-74-4 | µg/L | 50 | < 50 | U |
| 69 | 3-NITROANILINE | 99-09-2 | µg/L | 50 | < 50 | U |
| 70 | 4-NITROANILINE | 100-01-6 | µg/L | 50 | < 50 | U |
| 71 | NITROBENZENE | 98-95-3 | µg/L | 10 | < 10 | U |
| 72 | 2-NITROPHENOL | 88-75-5 | µg/L | 10 | < 10 | U |
| 73 | 4-NITROPHENOL | 100-02-7 | µg/L | 50 | < 50 | U |
| 74 | N-NITROSODI-N-PROPYLAMINE | 621-64-7 | µg/L | 10 | < 10 | U |
| 75 | N-NITROSO-DI-N-BUTYLAMINE | 924-16-3 | µg/L | 10 | < 10 | U |
| 76 | N-NITROSODIMETHYLAMINE | 62-75-9 | µg/L | 10 | < 10 | U |
| 77 | N-NITROSODIPHENYLAMINE | 86-30-6 | µg/L | 10 | < 10 | U |
| 78 | N-NITROSOPIPERIDINE | 100-75-4 | µg/L | 10 | < 10 | U |
| 79 | PENTACHLOROBENZENE | 608-93-5 | µg/L | 50 | < 50 | U |
| 80 | PENTACHLOROPHENOL | 87-86-5 | µg/L | 50 | < 50 | U |
| 81 | PHENACETIN | 62-44-2 | µg/L | 10 | < 10 | U |
| 82 | PHENANTHRENE | 85-01-8 | µg/L | 10 | < 10 | U |
| 83 | PHENOL | 108-95-2 | µg/L | 10 | < 10 | U |
| 84 | 2-PICOLINE | 109-06-8 | µg/L | 20 | < 20 | U |
| 85 | PRONAMIDE | 23950-58-5 | µg/L | 10 | < 10 | U |
| 86 | PYRENE | 129-00-0 | µg/L | 10 | < 10 | U |
| 87 | 1,2,4,5-TETRACHLOROBENZENE | 95-94-3 | µg/L | 10 | < 10 | U |
| 88 | 2,3,4,6-TETRACHLOROEPHENOL | 58-90-2 | µg/L | 10 | < 10 | U |
| 89 | 1,2,4-TRICHLOROBENZENE | 120-82-1 | µg/L | 10 | < 10 | U |
| 90 | 2,4,5-TRICHLOROPHENOL | 95-95-4 | µg/L | 10 | < 10 | U |

72153

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 91 | 2,4,6-TRICHLOROPHENOL | 88-06-2 | µg/L | 10 | <10 | U |

| Surrogates | | | Control Limit, % | Surro. Rec.% |
|---|---|---|---|---|
| 1 | 2-FLUOROBIPHENYL | 321-60-8 | 43-115 | 53 |
| 2 | 2-FLUOROPHENOL | 367-12-4 | 21- 99 | 38 |
| 3 | NITROBENZENE-D5 | 4165-60-0 | 35-113 | 56 |
| 4 | PHENOL-D5 | 4165-62-2 | 10- 93 | 30 |
| 5 | TERPHENYL-D14 | 1718-51-0 | 33-140 | 72 |
| 6 | 2,4,6-TRIBROMOPHENOL | 118-79-6 | 10-122 | 55 |
| # of out-of-control | | | | 0 |

| Internal Standard | | | Control Limit, % | IS Rec.% |
|---|---|---|---|---|
| 1 | ACENAPHTHENE-D10 | 15067-26-2 | 50-200 | 68 |
| 2 | CHRYSENE-D12 | 1719-03-5 | 50-200 | 57 |
| 3 | 1,4-DICHLOROBENZENE-D4 | 3855-82-1 | 50-200 | 69 |
| 4 | NAPHTHALENE-D8 | 1146-65-2 | 50-200 | 73 |
| 5 | PERYLENE-D12 | 1520-96-3 | 50-200 | 52 |
| 6 | PHENANTHRENE-D10 | 1517-22-2 | 50-200 | 58 |
| # of out-of-control | | | | 0 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

72154

Applied P & Ch Laboratory

# Wet Analysis Results for Method 335.2

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Anal. Method | 335.2 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |

Component Name: CYANIDE
CAS No: 5952-50-0

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 98-2777-1 | 18609-895 | Water | 05/07/98 | 05/07/98 | 05/11/98 | 98W2915 | mg/L | 0.05 | <0.05 | U |
| 98W2915-MB-01 | 98W2915-MB-01 | Water | 05/11/98 | 05/11/98 | 05/11/98 | 98W2915 | mg/L | 0.05 | <0.05 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

72392

Applied P & Ch Laboratory

# Wet Analysis Results for Method 9040

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Anal. Method | 9040 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |

**Component Name: PH**
**CAS No: 9999-90**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 98-2777-1 | 18609-895 | Water | 05/07/98 | 05/07/98 | 05/08/98 | 98W2869 | pH unit | 0.01 | 8.15 | |
| 98W2869-MB-01 | 98W2869-MB-01 | Water | 05/08/98 | 05/08/98 | 05/08/98 | 98W2869 | pH unit | 0.01 | 6.56 | |

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

72393

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | - |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTIMONY | 7440-36-0 | µg/L | 10 | <1.9 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| ARSENIC | 7440-38-2 | µg/L | 5 | <1.1 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| BARIUM | 7440-39-3 | µg/L | 10 | 35.2 | | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| BERYLLIUM | 7440-41-7 | µg/L | 2 | <0.1 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| CADMIUM | 7440-43-9 | µg/L | 2 | 0.38 | B | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| CHROMIUM | 7440-47-3 | µg/L | 5 | 0.70 | B | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| COBALT | 7440-48-4 | µg/L | 5 | <0.3 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| COPPER | 7440-50-8 | µg/L | 10 | 13.8 | | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| LEAD | 7439-92-1 | µg/L | 5 | <0.7 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| MERCURY | 7439-97-6 | µg/L | 0.5 | <0.13 | U | CV | | 98M1453D | 05/11/98 | 05/11/98 | 1 | 7470 |
| MOLYBDENUM | 7439-98-7 | µg/L | 5 | 9.3 | | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| NICKEL | 7440-02-0 | µg/L | 5 | 2.9 | B | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| SELENIUM | 7782-49-2 | µg/L | 10 | <1.5 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| SILVER | 7440-22-4 | µg/L | 10 | <1.1 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| THALLIUM | 7440-28-0 | µg/L | 10 | 2.2 | B | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| VANADIUM | 7440-62-2 | µg/L | 10 | <0.91 | U | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |
| ZINC | 7440-66-6 | µg/L | 5 | 30.4 | | P | | 98M1447M | 05/08/98 | 05/08/98 | 1 | 6010 |

Not Detected is shown as IDL moisture-corrected if applicable

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

72345

Applied P & Ch Laboratory

# Organic Analysis Results for Method 8080

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | OHM Remediation Services (Irvine) | Project No: | 18609 | Collection Date: | 05/07/98 |
| Project ID: | TAA Rinse Water | Service ID: | 982777 | Collected by: | M.B. |
| | | Lab Sample ID: | 98-2777-1 | Received Date: | 05/07/98 |
| Sample ID: | 18609-895 | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | Prep. Method: | 3510 | Instrument ID: | GC: R |
| Anal. Method: | 8080 | Prep. Date: | 05/08/98 | Anal. Date: | 05/09/98 |
| Batch No: | 98G2249 | Prep. No: | 1 of 1 | Anal. Time: | 06:35 |
| Data File Name: | 2777.001 | Sample Amount: | 1000 mL | Dilution Factor: | 1 |
| Extract Vol. | 1.0 mL | | | | |

| # | Component Name | CAS No | Unit | RL | Result | Qualifier |
|---|---|---|---|---|---|---|
| 1 | ALDRIN | 309-00-2 | µg/L | 0.05 | <0.05 | U |
| 2 | BETA-BHC | 319-85-7 | µg/L | 0.05 | <0.05 | U |
| 3 | ALPHA-BHC | 319-84-6 | µg/L | 0.05 | <0.05 | U |
| 4 | DELTA-BHC | 319-86-8 | µg/L | 0.05 | <0.05 | U |
| 5 | GAMMA-BHC | 58-89-9 | µg/L | 0.05 | <0.05 | U |
| 6 | 4,4'-DDD | 72-54-8 | µg/L | 0.1 | <0.1 | U |
| 7 | 4,4'-DDE | 72-55-9 | µg/L | 0.1 | <0.1 | U |
| 8 | 4,4'-DDT | 50-29-3 | µg/L | 0.1 | <0.1 | U |
| 9 | DIELDRIN | 60-57-1 | µg/L | 0.1 | <0.1 | U |
| 10 | ENDOSULFAN I | 959-98-8 | µg/L | 0.05 | <0.05 | U |
| 11 | ENDOSULFAN II | 33213-65-9 | µg/L | 0.1 | <0.1 | U |
| 12 | ENDOSULFAN SULFATE | 1031-07-8 | µg/L | 0.5 | <0.5 | U |
| 13 | ENDRIN | 72-20-8 | µg/L | 0.1 | <0.1 | U |
| 14 | ENDRIN ALDEHYDE | 7421-93-4 | µg/L | 0.1 | <0.1 | U |
| 15 | ENDRIN KETONE | 53494-70-5 | µg/L | 0.1 | <0.1 | U |
| 16 | HEPTACHLOR | 76-44-8 | µg/L | 0.05 | <0.05 | U |
| 17 | HEPTACHLOR EPOXIDE | 1024-57-3 | µg/L | 0.05 | <0.05 | U |
| 18 | METHOXYCHLOR | 72-43-5 | µg/L | 2 | <2 | U |
| 19 | CHLORDANE | 57-74-9 | µg/L | 2 | <2 | U |
| 20 | TOXAPHENE | 8001-35-2 | µg/L | 5 | <5 | U |
| 21 | AROCLOR-1016 | 12674-11-2 | µg/L | 2 | <2 | U |
| 22 | AROCLOR-1221 | 11104-28-2 | µg/L | 5 | <5 | U |
| 23 | AROCLOR-1232 | 11141-16-5 | µg/L | 2 | <2 | U |
| 24 | AROCLOR-1242 | 53469-21-9 | µg/L | 2 | <2 | U |
| 25 | AROCLOR-1248 | 12672-29-6 | µg/L | 2 | <2 | U |
| 26 | AROCLOR-1254 | 11097-69-1 | µg/L | 1 | <1 | U |
| 27 | AROCLOR-1260 | 11096-82-5 | µg/L | 1 | <1 | U |

| Surrogates | | | Control Limit, % | Surro. Rec.% |
|---|---|---|---|---|
| 1 | DECACHLOROBIPHENYL (DCB) | 2051-24-3 | 30-145 | 78 |
| 2 | 2,4,5,6-TETRACHLORO-M-XYLENE | 877-09-8 | 34-144 | 76 |
| # of out-of-control | | | | 0 |

| Internal Standard | | | Control Limit, % | IS Rec.% |
|---|---|---|---|---|
| 1 | DIBUTYLCHLORENDATE (DBC) | 1770-80-5 | 50-200 | 79 |
| # of out-of-control | | | | 0 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

72195

# *Appendix G*
# *Laboratory Analytical Reports*

COMPLETED, 8/14

**OHM Remediation Services Corp.**
*Subsidiary of OHM Corporation*
*U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526*

# CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY
217201
FORM 0019 REV. 2-97

| | | | | | |
|---|---|---|---|---|---|
| OHM's LAB COORDINATOR: Dwayne Ishida | LAB COORDINATOR'S PHONE: (714) 263-1146 | LAB COORDINATOR'S FAX: (714) 475-5433 | LABORATORY SERVICE ID: 98H064 | LABORATORY CONTACT: Cecilia Chavez | MAIL REPORT (COMPANY NAME): OHM |
| PROJECT NAME: TAA 658 | PROJECT LOCATION: MCAS El Toro | PROJECT NUMBER: 18609 | LABORATORY PHONE: (310) 678-8889 | LABORATORY FAX | RECIPIENT NAME: Mary Schneider |
| PROJECT CONTACT: Dwayne Ishida | PROJECT PHONE NUMBER: (714) 451-1667 | PROJECT FAX: 451-1672 | LABORATORY ADDRESS | | ADDRESS: 2031 Main St. |
| PROJECT ADDRESS: MCAS El Toro | CITY, STATE AND ZIPCODE: Santa Ana, CA | CLIENT: SWDIV | CITY, STATE AND ZIPCODE: Torrance, CA 90503 | | CITY, STATE, AND ZIPCODE: Irvine, CA 92614 |
| PROJECT MANAGER: Bill Sedlak | PROJECT MANAGER'S PHONE: 263-1146 | PROJECT MANAGER'S FAX: 263-1147 | | | |

EMAX

| Item | Sample Identifier | Matrix | Date | Time | Preserved | # of Cont. | QC Level | T.A.T. | TPH-Purg | TPH-Ext | 8260 | 8270 | 8081 pest/PCB | Cyanide | pH | 7.2 Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18609-967 | W | 8/14/98 | 1030 | various | 11 | III | 5d | X | X | X | X | X | X | X | X | |
| 2 | 18609-968 | S | | 0900 | 4°C | 1 | | | X | X | X | X | X | X | X | X | Sample from area. |
| 3 | 18609-969 | | | 0915 | | | | | Admit | X | X | | | | | | |
| 4 | 18609-~~96~~ 970 | | 8/14/98 | 0925 | | | | | X | X | X | X | X | X | X | X | |
| 5 | 18609-971 | | | 0930 | | | | | Admit | X | X | | | | | | |
| 6 | 18609-972 | | | 0944 | | | | | X | X | X | X | X | X | X | X | |
| 7 | 18609-973 | | | 0950 | | | | | | | X | | | | | | |
| 8 | 18609-974 | | | 1000 | | | IV | | X | X | X | X | X | X | X | X | |
| 9 | 18609-975 | | | 1017 | | | III | | | | X | | | | | | |
| 10 | 18609-976 | | | 1027 | | | III | | X | X | X | X | X | X | X | X | |

SAMPLES COLLECTED BY: D. Ishida
COURIER AND AIR BILL NUMBER: EMAX
COOLER TEMPERATURE UPON RECEIPT:

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | SAMPLE'S CONDITION UPON RECEIPT |
|---|---|---|---|---|
| [signature] | [signature] | 8/14/98 | [illegible] | |

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

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

TAA658-

| Sample Point Location | G | C | F | QC |
|---|---|---|---|---|
| 1 Rinsate | | | | X |
| 2 658 SBA @ 1.5' | | | X | |
| 3 SBA @ 3.0' | | | X | |
| 4 SBB @ 1.5' | | | X | |
| 5 SBB @ 3.0' | | | X | |
| 6 SBC @ 1.5' | | | X | |
| 7 SBC @ 3.0' | | | X | |
| 8 SBD @ 1.5' | | | X | |
| 9 SBD @ 3.0' | | | X | |
| 10 SBE @ 1.5' | | | X | |

Comments

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

COMPLETED (8/14/98)

**OHM Remediation Services Corp.**
*Subsidiary of OHM Corporation*
*U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526*

# CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY

217202

FORM 0019 REV. 2-97

| | | | | | |
|---|---|---|---|---|---|
| OHM's LAB COORDINATOR: Dwayne Ishida | LAB COORDINATOR'S PHONE: (714) 263-1146 | LAB COORDINATOR'S FAX: ~~26~~ 475-5433 | LABORATORY SERVICE ID: 98H064 | LABORATORY CONTACT: Cecilia Chavez | MAIL REPORT (COMPANY NAME): OHM |
| PROJECT NAME: TAA 658 | PROJECT LOCATION: MCAS El Toro | PROJECT NUMBER: 18609 | LABORATORY PHONE: (310) 618-8889 | LABORATORY FAX: | RECIPIENT NAME: Mary Schneider |
| PROJECT CONTACT: Dwayne Ishida | PROJECT PHONE NUMBER: (714) 451-1667 | PROJECT FAX: 451-1672 | LABORATORY ADDRESS: | | ADDRESS: 2031 Main St. |
| PROJECT ADDRESS: MCAS El Toro | CITY, STATE AND ZIPCODE: Santa Ana, CA | CLIENT: SWDIV | CITY, STATE, AND ZIPCODE: Torrance, CA 90503 | | CITY, STATE, AND ZIPCODE: Irvine, CA 92614 |
| PROJECT MANAGER: Bill Sedlak | PROJECT MANAGER'S PHONE: 263-1146 | PROJECT MANAGER'S FAX: 263-1147 | | | |

| Item | Sample Identifier | Matrix | Date | Time | Preserved | # of Cont. | QC Level | T.A.T. | Analyses: TPH-gas/BTEX | TPH-ext | 8260 | 8270 | 8081 pest/PCB | cyanide | pH | TTZ Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18609-977 | S | 8/14/98 | 1035 | 4°C | 1 | III | 5d | X | X | X | X | X | X | X | X | Sample from above. |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

EMAX

SAMPLES COLLECTED BY: D. Ishida

COURIER AND AIR BILL NUMBER: EMAX

COOLER TEMPERATURE UPON RECEIPT:

| RELINQUISHED BY | RECEIVED BY | DATE | TIME | SAMPLE'S CONDITION UPON RECEIPT |
|---|---|---|---|---|
| | | 8/14/98 | | |

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - 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 TAA658-SBE @ 3.0' | | | X | |

Comments

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

**OHM Remediation Services Corp.**
*Subsidiary of OHM Corporation*
*U.S. Route 224 East • Findlay, Ohio 45840 • (419) 423-3526*

# CHAIN-OF-CUSTODY RECORD

PROJECT DATA MANAGER'S COPY
217005
FORM 0019 REV. 2-97

TAA 658

| OHM's LAB COORDINATOR | LAB COORDINATOR'S PHONE | LAB COORDINATOR'S FAX | LABORATORY SERVICE ID | LABORATORY CONTACT | MAIL REPORT (COMPANY NAME) |
|---|---|---|---|---|---|
| WAYNE ISHIDA | 714-263-1146 | 714-263-1147 | 98 H040 | CECILIA CHAVEZ | OHM |
| PROJECT NAME: TAA 658 | PROJECT LOCATION: MCAS EL TORO | PROJECT NUMBER: 18609 | LABORATORY PHONE: 310-618-8888 | LABORATORY FAX | RECIPIENT NAME: MARY SCHNEIDER |
| PROJECT CONTACT: WAYNE ISHIDA | PROJECT PHONE NUMBER: 714-263-1146 | PROJECT FAX: 714-263-1147 | LABORATORY ADDRESS: 620 MAPLE AVE | | ADDRESS: 2031 MAIN STREET |
| PROJECT ADDRESS: MCAS EL TORO | CITY, STATE AND ZIPCODE: SANTA ANA, CA. | CLIENT: LYNN HERNECKER-SWDIV | CITY, STATE AND ZIPCODE: TORRANCE, CA 90503 | | CITY, STATE, AND ZIPCODE: IRVINE CA. |
| PROJECT MANAGER: BILL SEDMAK | PROJECT MANAGER'S PHONE: 714-263-1146 | PROJECT MANAGER'S FAX: 714-263-1147 | | | |

| Sample Identifier | Matrix | Date 1998 | Time | Preserved | # of Cont. | QC Level | T.A.T. | GAS/TPH-PVOC/BTEX | TPH-EXTRACTABLE | VOC-8260 | SVOC-8270 | PEST/PCB-8080 | CYANIDE-9010 | PH-9045 | METALS-6010/7000 | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18609-959 | W | 8-11 | 0700 | HCL | 2 | C | 5DAY | X | | X | | | | | | METALS = FILTERED IN FIELD |
| 18609-960 | W | 8-11 | 0945 | 4°C | 11 | C | 5DAY | X | X | X | X | X | X | X | X | |
| 18609-961 | W | 8-11 | 1350 | 4°C | 11 | C | 5DAY | X | X | X | X | X | X | X | X | |
| 18609-962 | W | 8-11 | 1400 | 4°C | 11 | C | 5DAY | X | X | X | X | X | X | X | X | |
| 18609-963 | S | 8-11 | 1345 | 4°C | 2 | C | 5DAY | X | X | X | X | X | X | X | X | |

EMAX

| SAMPLES COLLECTED BY: | COURIER AND AIR BILL NUMBER: | COOLER TEMPERATURE UPON RECEIPT: |
|---|---|---|
| RELINQUISHED BY | RECEIVED BY | DATE / TIME / SAMPLE'S CONDITION UPON RECEIPT |
| | | 8-11-98 / 1945 |

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

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

TAA 658

| Sample Point Location | Sample Type G | C | F | QC |
|---|---|---|---|---|
| 1. TRIP BLANK | X | | | X |
| 2. ~~SOURCE BLANK #1~~ TAA 658 source water #1 | X | | | X |
| 3. ~~TAA RINSE WATER~~ | X | | | |
| 4. ~~SOURCE BLANK #2~~ TAA 658 source water #2 | X | | | X |
| 5. ~~SOIL FROM SUMP~~ TAA 658 sump soil | X | | | |
| TAA 658 Rinse | | | | |

Comments

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

METHOD 5030A/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H064
Matrix : WATER

Date Collected : 08/14/98
DaTime Received: 08/14/98
Instrument ID : GCT039

| SAMPLE ID | CONTROL NO | RESULTS (mg/L) | SURR (%) | DLF | MOIST | RL (mg/L) | MDL (mg/L) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | VAH1039B | ND | 92 | 1 | NA | .1 | .018 | 08/14/9815:04 | 08/14/9815:04 | EH14-4 | EH14-2 | VAH1039 |
| LCS1W | VAH1039L | 1.11 | 99 | 1 | NA | .1 | .018 | 08/14/9815:38 | 08/14/9815:38 | EH14-5 | EH14-2 | VAH1039 |
| LCD1W | VAH1039C | 1.11 | 97 | 1 | NA | .1 | .018 | 08/14/9816:12 | 08/14/9816:12 | EH14-6 | EH14-2 | VAH1039 |
| 18609-967 | H064-01 | .22 | 91 | 1 | NA | .1 | .018 | 08/14/9820:42 | 08/14/9820:42 | EH14-14 | EH14-2 | VAH1039 |

RL : Reporting Limit

METHOD 5030A/M8015

TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H064
Matrix : SOIL

Date Collected : 08/14/98
DaTime Received: 08/14/98
Instrument ID : GCT039

| SAMPLE ID | CONTROL NO | RESULTS (mg/kg) | SURR (%) | DLF | MOIST | RL (mg/kg) | MDL (mg/kg) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | VAH1039B | ND | 92 | 1 | NA | 1 | .088 | 08/14/9815:04 | 08/14/9815:04 | EH14-4 | EH14-2 | VAH1039 |
| LCS1S | VAH1039L | 5.57 | 99 | 1 | NA | 1 | .088 | 08/14/9815:38 | 08/14/9815:38 | EH14-5 | EH14-2 | VAH1039 |
| LCD1S | VAH1039C | 5.54 | 97 | 1 | NA | 1 | .088 | 08/14/9816:12 | 08/14/9816:12 | EH14-6 | EH14-2 | VAH1039 |
| 18609-968 | H064-02 | ND | 85 | 1 | 12.5 | 1.14 | .101 | 08/15/9801:43 | 08/15/9801:43 | EH14-23 | EH14-17 | VAH1039 |
| 18609-970 | H064-04 | ND | 85 | 1 | 12.2 | 1.14 | .1 | 08/15/9802:16 | 08/15/9802:16 | EH14-24 | EH14-17 | VAH1039 |
| 18609-972 | H064-06 | ND | 87 | 1 | 11.6 | 1.13 | .0995 | 08/15/9802:50 | 08/15/9802:50 | EH14-25 | EH14-17 | VAH1039 |
| 18609-974 | H064-08 | ND | 82 | 1 | 13.0 | 1.15 | .101 | 08/15/9803:24 | 08/15/9803:24 | EH14-26 | EH14-17 | VAH1039 |
| 18609-976 | H064-10 | ND | 82 | 1 | 7.3 | 1.08 | .0949 | 08/15/9803:57 | 08/15/9803:57 | EH14-27 | EH14-17 | VAH1039 |

RL : Reporting Limit

METHOD M8015

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H064
Matrix : SOIL

Date Collected : 08/14/98
DaTime Received: 08/14/98
Instrument ID : GCT015

| SAMPLE ID | CONTROL NO | RESULTS (mg/kg) | RANGE H-C | SURR1 (%) | SURR2 (%) | DLF | MOIST | RL (mg/kg) | MDL (mg/kg) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | DSH025SB | ND | N.A. | 96 | 125 | 1 | NA | 10 | 6 | 08/15/9819:04 | 08/14/9817:00 | NH10-206 | NH10-203 | DSH025S |
| LCS1S | DSH026SL | 497 | C10-C24 | 87 | 122 | 1 | NA | 10 | 6 | 08/16/9801:40 | 08/14/9817:00 | NH10-218 | NH10-216 | DSH025S |
| LCD1S | DSH026SC | 496 | C10-C24 | 134 | 120 | 1 | NA | 10 | 6 | 08/16/9802:13 | 08/14/9817:00 | NH10-219 | NH10-216 | DSH025S |
| 18609-968 | H064-02 | ND | N.A. | 91 | 120 | 1 | 12.5 | 11.4 | 6.86 | 08/16/9803:20 | 08/14/9817:00 | NH10-221 | NH10-216 | DSH025S |
| 18609-970 | H064-04 | ND | N.A. | 92 | 120 | 1 | 12.2 | 11.4 | 6.83 | 08/16/9803:53 | 08/14/9817:00 | NH10-222 | NH10-216 | DSH025S |
| 18609-972 | H064-06 | ND | N.A. | 92 | 122 | 1 | 11.6 | 11.3 | 6.79 | 08/16/9804:27 | 08/14/9817:00 | NH10-223 | NH10-216 | DSH025S |
| 18609-974 | H064-08 | ND | N.A. | 92 | 123 | 1 | 13.0 | 11.5 | 6.9 | 08/16/9805:00 | 08/14/9817:00 | NH10-224 | NH10-216 | DSH025S |
| 18609-976 | H064-10 | ND | N.A. | 92 | 122 | 1 | 7.3 | 10.8 | 6.47 | 08/16/9805:34 | 08/14/9817:00 | NH10-225 | NH10-216 | DSH025S |
| 18609-976MS | H064-10M | 518 | C10-C24 | 123 | 122 | 1 | 7.3 | 10.8 | 6.47 | 08/16/9806:07 | 08/14/9817:00 | NH10-226 | NH10-216 | DSH025S |
| 18609-976MSD | H064-10S | 538 | C10-C24 | 121 | 122 | 1 | 7.3 | 10.8 | 6.47 | 08/16/9806:40 | 08/14/9817:00 | NH10-227 | NH10-216 | DSH025S |

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145
SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
E : Value exceed the upper level of the initial calibration
D : Value from dilution

METHOD M8015

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H064
Matrix : WATER

Date Collected : 08/14/98
DaTime Received: 08/14/98
Instrument ID : GCT015

| SAMPLE ID | CONTROL NO | RESULTS (mg/L) | RANGE H-C | SURR1 (%) | SURR2 (%) | DLF | MOIST | RL (mg/L) | MDL (mg/L) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | DSH024WB | ND | N.A. | 82 | 125 | 1 | NA | .1 | 0.04 | 08/17/9812:11 | 08/14/9817:00 | NH17-6 | NH17-3 | DSH024W |
| LCS1W | DSH024WL | 4.81 | C6-C20 | 108 | 121 | 1 | NA | .1 | 0.04 | 08/17/9812:44 | 08/14/9817:00 | NH17-7 | NH17-3 | DSH024W |
| LCD1W | DSH024WC | 4.78 | C6-C20 | 114 | 130 | 1 | NA | .1 | 0.04 | 08/17/9813:17 | 08/14/9817:00 | NH17-8 | NH17-3 | DSH024W |
| MBLK1S | TX005SB | ND | N.A. | 80 | 128 | 1 | NA | .1 | 0.04 | 08/17/9815:35 | 08/14/9817:00 | NH17-12 | NH17-3 | DSH024W |
| 18609-967 | H064-01 | 1.91 | C6-C20 | 107 | 126 | 1 | NA | .1 | 0.04 | 08/17/9813:49 | 08/14/9817:00 | NH17-9 | NH17-3 | DSH024W |

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145
SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
E : Value exceed the upper level of the initial calibration
D : Value from dilution

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/18/98 05:20 |
| Sample ID | : 18609-967 | DaTime Analyzd : | 08/18/98 05:20 |
| Lab Cnt NO.: | H064-01 | Dilutn Factor : | 1 |
| Lab File ID: | RHV304 | Matrix : | WATER |
| Ext Btch ID: | VOH1901B | % Moisture : | NA |
| Calib. Ref.: | RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| 1,1,2-Trichloroethane | ND | 5 | .515 |
| 1,1-Dichloroethane | ND | 5 | 1.21 |
| 1,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| 1,2-Dichloropropane | ND | 5 | .533 |
| 2-Butanone | 462E | 50 | 7.87 |
| 2-Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | 176 | 50 | 1.01 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.02 |
| Acetone | 730E | 50 | 10.3 |
| Benzene | ND | 5 | .849 |
| Bromodichloromethane | ND | 5 | .334 |
| Bromoform | ND | 5 | .293 |
| Bromomethane | ND | 5 | 1.53 |
| Carbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| Chlorobenzene | ND | 5 | .68 |
| Chloroethane | ND | 5 | 2.[illegible] |
| Chloroform | ND | 5 | .854 |
| Chloromethane | ND | 5 | 1.69 |
| cis-1,2-Dichloroethene | ND | 5 | .973 |
| cis-1,3-Dichloropropene | ND | 5 | .474 |
| Dibromochloromethane | ND | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| Methyl tert-butyl ether (MTBE) | 3.68J | 10 | .955 |
| Methylene Chloride | 3.53JB | 5 | 1.76 |
| Styrene | ND | 5 | .583 |
| Tetrachloroethene | ND | 5 | 1.22 |
| Toluene | ND | 5 | .922 |
| trans-1,2-Dichloroethene | ND | 5 | 1.52 |
| trans-1,3-Dichloropropene | ND | 5 | .449 |
| Trichloroethene | ND | 5 | .9 |
| Vinyl Acetate | ND | 50 | 6.17 |
| Vinyl Chloride | ND | 5 | 1.68 |
| Xylenes | ND | 5 | 2.41 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | 62-139 |
| Toluene-d8 | 99 | 75-125 |
| Bromofluorobenzene | 100 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/19/98 21:13 |
| ample ID | : 18609-967DL | DaTime Analyzd : | 08/19/98 21:13 |
| ab Cnt NO. | : H064-01T | Dilutn Factor : | 10 |
| Lab File ID | : RHV382 | Matrix : | WATER |
| xt Btch ID | : VOH1901B | % Moisture : | NA |
| alib. Ref. | : RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 50 | 11.3 |
| 1,1,2,2-Tetrachloroethane | ND | 50 | 4.88 |
| ,1,2-Trichloroethane | ND | 50 | 5.15 |
| ,1-Dichloroethane | ND | 50 | 12.1 |
| 1,1-Dichloroethene | ND | 50 | 19.6 |
| 1,2-Dichloroethane | ND | 50 | 5.83 |
| ,2-Dichloropropane | ND | 50 | 5.33 |
| -Butanone | 491JD | 500 | 78.7 |
| 2-Chloroethylvinylether | ND | 500 | 8.28 |
| 2-Hexanone | 162JD | 500 | 10.1 |
| -Methyl-2-Pentanone | ND | 500 | 10.2 |
| cetone | 652D | 500 | 103 |
| Benzene | ND | 50 | 8.49 |
| Bromodichloromethane | ND | 50 | 3.34 |
| Bromoform | ND | 50 | 2.93 |
| Bromomethane | ND | 50 | 15.3 |
| Carbon Disulfide | ND | 50 | 13.1 |
| Carbon Tetrachloride | ND | 50 | 12.8 |
| lorobenzene | ND | 50 | 6.84 |
| hloroethane | ND | 50 | 29 |
| Chloroform | ND | 50 | 8.54 |
| Chloromethane | ND | 50 | 16.9 |
| cis-1,2-Dichloroethene | ND | 50 | 9.73 |
| cis-1,3-Dichloropropene | ND | 50 | 4.74 |
| Dibromochloromethane | ND | 50 | 2.92 |
| Ethylbenzene | ND | 50 | 7.2 |
| Methyl tert-butyl ether (MTBE) | ND | 100 | 9.55 |
| Methylene Chloride | 26.2JBD | 50 | 17.6 |
| Styrene | ND | 50 | 5.83 |
| Tetrachloroethene | ND | 50 | 12.2 |
| Toluene | ND | 50 | 9.22 |
| trans-1,2-Dichloroethene | ND | 50 | 15.2 |
| trans-1,3-Dichloropropene | ND | 50 | 4.49 |
| Trichloroethene | ND | 50 | 9 |
| Vinyl Acetate | ND | 500 | 61.7 |
| Vinyl Chloride | ND | 50 | 16.8 |
| Xylenes | ND | 50 | 24.1 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | 62-139 |
| Toluene-d8 | 97 | 75-125 |
| Bromofluorobenzene | 99 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/18/98 05:48 |
| Sample ID | : 18609-968 | DaTime Analyzd : | 08/18/98 05:48 |
| Lab Cnt NO. | : H064-02 | Dilutn Factor : | 1 |
| Lab File ID | : RHV305 | Matrix : | SOIL |
| Ext Btch ID | : VOH1901B | % Moisture : | 12.5 |
| Calib. Ref. | : RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.71 | .378 |
| 1,1,2,2-Tetrachloroethane | ND | 5.71 | .378 |
| 1,1,2-Trichloroethane | ND | 5.71 | .266 |
| 1,1-Dichloroethane | ND | 5.71 | .346 |
| 1,1-Dichloroethene | ND | 5.71 | .615 |
| 1,2-Dichloroethane | ND | 5.71 | .373 |
| 1,2-Dichloropropane | ND | 5.71 | .43 |
| 2-Butanone | ND | 57.1 | 5.85 |
| 2-Chloroethylvinylether | ND | 57.1 | .194 |
| 2-Hexanone | ND | 57.1 | 1.43 |
| 4-Methyl-2-Pentanone | ND | 57.1 | 1.3 |
| Acetone | ND | 57.1 | 4.67 |
| Benzene | ND | 5.71 | .283 |
| Bromodichloromethane | ND | 5.71 | .296 |
| Bromoform | ND | 5.71 | .319 |
| Bromomethane | ND | 5.71 | .73 |
| Carbon Disulfide | ND | 5.71 | .144 |
| Carbon Tetrachloride | ND | 5.71 | .904 |
| Chlorobenzene | ND | 5.71 | .22[illegible] |
| Chloroethane | ND | 5.71 | 2.0[illegible] |
| Chloroform | ND | 5.71 | .485 |
| Chloromethane | ND | 5.71 | 2.35 |
| cis-1,2-Dichloroethene | ND | 5.71 | .333 |
| cis-1,3-Dichloropropene | ND | 5.71 | .254 |
| Dibromochloromethane | ND | 5.71 | .0903 |
| Ethylbenzene | ND | 5.71 | .448 |
| Methyl tert-butyl ether (MTBE) | ND | 11.4 | .424 |
| Methylene Chloride | 5.4JB | 5.71 | .467 |
| Styrene | ND | 5.71 | .501 |
| Tetrachloroethene | ND | 5.71 | .278 |
| Toluene | ND | 5.71 | .359 |
| trans-1,2-Dichloroethene | ND | 5.71 | .329 |
| trans-1,3-Dichloropropene | ND | 5.71 | .761 |
| Trichloroethene | ND | 5.71 | .291 |
| Vinyl Acetate | ND | 57.1 | .818 |
| Vinyl Chloride | ND | 5.71 | 1.15 |
| Xylenes | ND | 5.71 | 1.24 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 147 | 52-149 |
| Toluene-d8 | 119 | 65-135 |
| Bromofluorobenzene | 114 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/18/98 06:15 |
| Sample ID | : 18609-969 | DaTime Analyzd : | 08/18/98 06:15 |
| Lab Cnt NO.: | H064-03 | Dilutn Factor : | 1 |
| Lab File ID: | RHV306 | Matrix : | SOIL |
| Ext Btch ID: | VOH1901B | % Moisture : | 8.4 |
| Calib. Ref.: | RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.46 | .361 |
| 1,1,2,2-Tetrachloroethane | ND | 5.46 | .361 |
| 1,1,2-Trichloroethane | ND | 5.46 | .254 |
| 1,1-Dichloroethane | ND | 5.46 | .331 |
| 1,1-Dichloroethene | ND | 5.46 | .587 |
| 1,2-Dichloroethane | ND | 5.46 | .356 |
| 1,2-Dichloropropane | ND | 5.46 | .41 |
| 2-Butanone | ND | 54.6 | 5.59 |
| 2-Chloroethylvinylether | ND | 54.6 | .186 |
| 2-Hexanone | ND | 54.6 | 1.36 |
| 4-Methyl-2-Pentanone | ND | 54.6 | 1.24 |
| Acetone | ND | 54.6 | 4.46 |
| Benzene | ND | 5.46 | .271 |
| Bromodichloromethane | ND | 5.46 | .283 |
| Bromoform | ND | 5.46 | .305 |
| Bromomethane | ND | 5.46 | .698 |
| Carbon Disulfide | ND | 5.46 | .138 |
| Carbon Tetrachloride | ND | 5.46 | .864 |
| Chlorobenzene | ND | 5.46 | .215 |
| Chloroethane | ND | 5.46 | 1.94 |
| Chloroform | ND | 5.46 | .463 |
| Chloromethane | ND | 5.46 | 2.25 |
| cis-1,2-Dichloroethene | ND | 5.46 | .318 |
| cis-1,3-Dichloropropene | ND | 5.46 | .242 |
| Dibromochloromethane | ND | 5.46 | .0862 |
| Ethylbenzene | ND | 5.46 | .428 |
| Methyl tert-butyl ether (MTBE) | ND | 10.9 | .405 |
| Methylene Chloride | 4.46JB | 5.46 | .447 |
| Styrene | ND | 5.46 | .478 |
| Tetrachloroethene | ND | 5.46 | .265 |
| Toluene | ND | 5.46 | .343 |
| trans-1,2-Dichloroethene | ND | 5.46 | .314 |
| trans-1,3-Dichloropropene | ND | 5.46 | .727 |
| Trichloroethene | ND | 5.46 | .278 |
| Vinyl Acetate | ND | 54.6 | .782 |
| Vinyl Chloride | ND | 5.46 | 1.1 |
| Xylenes | ND | 5.46 | 1.19 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | 52-149 |
| Toluene-d8 | 99 | 65-135 |
| Bromofluorobenzene | 95 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/18/98 06:42 |
| Sample ID | : 18609-970 | DaTime Analyzd : | 08/18/98 06:42 |
| Lab Cnt NO. | : H064-04 | Dilutn Factor : | 1 |
| Lab File ID | : RHV307 | Matrix : | SOIL |
| Ext Btch ID | : VOH1901B | % Moisture : | 12.2 |
| Calib. Ref. | : RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.69 | .377 |
| 1,1,2,2-Tetrachloroethane | ND | 5.69 | .377 |
| 1,1,2-Trichloroethane | ND | 5.69 | .265 |
| 1,1-Dichloroethane | ND | 5.69 | .345 |
| 1,1-Dichloroethene | ND | 5.69 | .613 |
| 1,2-Dichloroethane | ND | 5.69 | .371 |
| 1,2-Dichloropropane | ND | 5.69 | .428 |
| 2-Butanone | ND | 56.9 | 5.83 |
| 2-Chloroethylvinylether | ND | 56.9 | .194 |
| 2-Hexanone | ND | 56.9 | 1.42 |
| 4-Methyl-2-Pentanone | ND | 56.9 | 1.29 |
| Acetone | ND | 56.9 | 4.66 |
| Benzene | ND | 5.69 | .282 |
| Bromodichloromethane | ND | 5.69 | .295 |
| Bromoform | ND | 5.69 | .318 |
| Bromomethane | ND | 5.69 | .728 |
| Carbon Disulfide | ND | 5.69 | .144 |
| Carbon Tetrachloride | ND | 5.69 | .901 |
| Chlorobenzene | ND | 5.69 | .224 |
| Chloroethane | ND | 5.69 | 2.02 |
| Chloroform | ND | 5.69 | .483 |
| Chloromethane | ND | 5.69 | 2.34 |
| cis-1,2-Dichloroethene | ND | 5.69 | .331 |
| cis-1,3-Dichloropropene | ND | 5.69 | .253 |
| Dibromochloromethane | ND | 5.69 | .09 |
| Ethylbenzene | ND | 5.69 | .446 |
| Methyl tert-butyl ether (MTBE) | ND | 11.4 | .423 |
| Methylene Chloride | 5.08JB | 5.69 | .466 |
| Styrene | ND | 5.69 | .499 |
| Tetrachloroethene | ND | 5.69 | .277 |
| Toluene | ND | 5.69 | .358 |
| trans-1,2-Dichloroethene | ND | 5.69 | .328 |
| trans-1,3-Dichloropropene | ND | 5.69 | .759 |
| Trichloroethene | ND | 5.69 | .29 |
| Vinyl Acetate | ND | 56.9 | .815 |
| Vinyl Chloride | ND | 5.69 | 1.15 |
| Xylenes | ND | 5.69 | 1.24 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 114 | 52-149 |
| Toluene-d8 | 101 | 65-135 |
| Bromofluorobenzene | 97 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/18/98 07:09 |
| Sample ID | : 18609-971 | DaTime Analyzd : | 08/18/98 07:09 |
| Lab Cnt NO. | : H064-05 | Dilutn Factor : | 1 |
| Lab File ID | : RHV308 | Matrix : | SOIL |
| Ext Btch ID | : VOH1901B | % Moisture : | 9.4 |
| Calib. Ref. | : RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.52 | .365 |
| 1,1,2,2-Tetrachloroethane | ND | 5.52 | .365 |
| 1,1,2-Trichloroethane | ND | 5.52 | .257 |
| 1,1-Dichloroethane | ND | 5.52 | .334 |
| 1,1-Dichloroethene | ND | 5.52 | .594 |
| 1,2-Dichloroethane | ND | 5.52 | .36 |
| 1,2-Dichloropropane | ND | 5.52 | .415 |
| 2-Butanone | ND | 55.2 | 5.65 |
| 2-Chloroethylvinylether | ND | 55.2 | .188 |
| 2-Hexanone | ND | 55.2 | 1.38 |
| 4-Methyl-2-Pentanone | ND | 55.2 | 1.25 |
| Acetone | ND | 55.2 | 4.51 |
| Benzene | ND | 5.52 | .274 |
| Bromodichloromethane | ND | 5.52 | .286 |
| Bromoform | ND | 5.52 | .308 |
| Bromomethane | ND | 5.52 | .705 |
| Carbon Disulfide | ND | 5.52 | .139 |
| Carbon Tetrachloride | ND | 5.52 | .873 |
| Chlorobenzene | ND | 5.52 | .217 |
| Chloroethane | ND | 5.52 | 1.96 |
| Chloroform | ND | 5.52 | .468 |
| Chloromethane | ND | 5.52 | 2.27 |
| cis-1,2-Dichloroethene | ND | 5.52 | .321 |
| cis-1,3-Dichloropropene | ND | 5.52 | .245 |
| Dibromochloromethane | ND | 5.52 | .0872 |
| Ethylbenzene | ND | 5.52 | .433 |
| Methyl tert-butyl ether (MTBE) | ND | 11 | .409 |
| Methylene Chloride | 4.4JB | 5.52 | .451 |
| Styrene | ND | 5.52 | .483 |
| Tetrachloroethene | ND | 5.52 | .268 |
| Toluene | ND | 5.52 | .347 |
| trans-1,2-Dichloroethene | ND | 5.52 | .318 |
| trans-1,3-Dichloropropene | ND | 5.52 | .735 |
| Trichloroethene | ND | 5.52 | .281 |
| Vinyl Acetate | ND | 55.2 | .79 |
| Vinyl Chloride | ND | 5.52 | 1.11 |
| Xylenes | ND | 5.52 | 1.2 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | 52-149 |
| Toluene-d8 | 105 | 65-135 |
| Bromofluorobenzene | 104 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
: Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/19/98 21:40 |
| Sample ID | : 18609-972 | DaTime Analyzd : | 08/19/98 21:40 |
| Lab Cnt NO. | : H064-06 | Dilutn Factor : | 1 |
| Lab File ID | : RHV383 | Matrix : | SOIL |
| Ext Btch ID | : VOH2201B | % Moisture : | 11.6 |
| Calib. Ref. | : RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.66 | .374 |
| 1,1,2,2-Tetrachloroethane | ND | 5.66 | .374 |
| 1,1,2-Trichloroethane | ND | 5.66 | .264 |
| 1,1-Dichloroethane | ND | 5.66 | .343 |
| 1,1-Dichloroethene | ND | 5.66 | .609 |
| 1,2-Dichloroethane | ND | 5.66 | .369 |
| 1,2-Dichloropropane | ND | 5.66 | .425 |
| 2-Butanone | ND | 56.6 | 5.79 |
| 2-Chloroethylvinylether | ND | 56.6 | .192 |
| 2-Hexanone | ND | 56.6 | 1.41 |
| 4-Methyl-2-Pentanone | ND | 56.6 | 1.29 |
| Acetone | ND | 56.6 | 4.63 |
| Benzene | ND | 5.66 | .281 |
| Bromodichloromethane | ND | 5.66 | .293 |
| Bromoform | ND | 5.66 | .316 |
| Bromomethane | ND | 5.66 | .723 |
| Carbon Disulfide | ND | 5.66 | .143 |
| Carbon Tetrachloride | ND | 5.66 | .895 |
| Chlorobenzene | ND | 5.66 | .22[illegible] |
| Chloroethane | ND | 5.66 | 2.0[illegible] |
| Chloroform | ND | 5.66 | .48 |
| Chloromethane | ND | 5.66 | 2.33 |
| cis-1,2-Dichloroethene | ND | 5.66 | .329 |
| cis-1,3-Dichloropropene | ND | 5.66 | .251 |
| Dibromochloromethane | ND | 5.66 | .0894 |
| Ethylbenzene | ND | 5.66 | .443 |
| Methyl tert-butyl ether (MTBE) | ND | 11.3 | .42 |
| Methylene Chloride | 3.62JB | 5.66 | .463 |
| Styrene | ND | 5.66 | .495 |
| Tetrachloroethene | ND | 5.66 | .275 |
| Toluene | ND | 5.66 | .355 |
| trans-1,2-Dichloroethene | ND | 5.66 | .326 |
| trans-1,3-Dichloropropene | ND | 5.66 | .753 |
| Trichloroethene | ND | 5.66 | .288 |
| Vinyl Acetate | ND | 56.6 | .81 |
| Vinyl Chloride | ND | 5.66 | 1.14 |
| Xylenes | ND | 5.66 | 1.23 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 135 | 52-149 |
| Toluene-d8 | 110 | 65-135 |
| Bromofluorobenzene | 111 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/19/98 22:08 |
| Sample ID | : 18609-973 | DaTime Analyzd : | 08/19/98 22:08 |
| Lab Cnt NO. | : H064-07 | Dilutn Factor : | 1 |
| Lab File ID | : RHV384 | Matrix : | SOIL |
| Ext Btch ID | : VOH2201B | % Moisture : | 2.5 |
| Calib. Ref. | : RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.13 | .339 |
| 1,1,2,2-Tetrachloroethane | ND | 5.13 | .339 |
| 1,1,2-Trichloroethane | ND | 5.13 | .239 |
| 1,1-Dichloroethane | ND | 5.13 | .311 |
| 1,1-Dichloroethene | ND | 5.13 | .552 |
| 1,2-Dichloroethane | ND | 5.13 | .334 |
| 1,2-Dichloropropane | ND | 5.13 | .386 |
| 2-Butanone | ND | 51.3 | 5.25 |
| 2-Chloroethylvinylether | ND | 51.3 | .174 |
| 2-Hexanone | ND | 51.3 | 1.28 |
| 4-Methyl-2-Pentanone | ND | 51.3 | 1.17 |
| Acetone | ND | 51.3 | 4.19 |
| Benzene | ND | 5.13 | .254 |
| Bromodichloromethane | ND | 5.13 | .266 |
| Bromoform | ND | 5.13 | .286 |
| Bromomethane | ND | 5.13 | .655 |
| Carbon Disulfide | ND | 5.13 | .129 |
| Carbon Tetrachloride | ND | 5.13 | .811 |
| Chlorobenzene | ND | 5.13 | .202 |
| Chloroethane | ND | 5.13 | 1.82 |
| Chloroform | ND | 5.13 | .435 |
| Chloromethane | ND | 5.13 | 2.11 |
| cis-1,2-Dichloroethene | ND | 5.13 | .298 |
| cis-1,3-Dichloropropene | ND | 5.13 | .228 |
| Dibromochloromethane | ND | 5.13 | .081 |
| Ethylbenzene | ND | 5.13 | .402 |
| Methyl tert-butyl ether (MTBE) | ND | 10.3 | .381 |
| Methylene Chloride | 3JB | 5.13 | .419 |
| Styrene | ND | 5.13 | .449 |
| Tetrachloroethene | ND | 5.13 | .249 |
| Toluene | ND | 5.13 | .322 |
| trans-1,2-Dichloroethene | ND | 5.13 | .295 |
| trans-1,3-Dichloropropene | ND | 5.13 | .683 |
| Trichloroethene | ND | 5.13 | .262 |
| Vinyl Acetate | ND | 51.3 | .734 |
| Vinyl Chloride | ND | 5.13 | 1.04 |
| Xylenes | ND | 5.13 | 1.12 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 143 | 52-149 |
| Toluene-d8 | 105 | 65-135 |
| Bromofluorobenzene | 103 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
: Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/21/98 22:26 |
| Sample ID | : 18609-974 | DaTime Analyzd : | 08/21/98 22:26 |
| Lab Cnt NO.: | H064-08 | Dilutn Factor : | 1 |
| Lab File ID: | RHV425 | Matrix : | SOIL |
| Ext Btch ID: | VOH2401B | % Moisture : | 13.0 |
| Calib. Ref.: | RHV421 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.75 | .38 |
| 1,1,2,2-Tetrachloroethane | ND | 5.75 | .38 |
| 1,1,2-Trichloroethane | ND | 5.75 | .268 |
| 1,1-Dichloroethane | ND | 5.75 | .348 |
| 1,1-Dichloroethene | ND | 5.75 | .618 |
| 1,2-Dichloroethane | ND | 5.75 | .375 |
| 1,2-Dichloropropane | ND | 5.75 | .432 |
| 2-Butanone | ND | 57.5 | 5.89 |
| 2-Chloroethylvinylether | ND | 57.5 | .195 |
| 2-Hexanone | ND | 57.5 | 1.43 |
| 4-Methyl-2-Pentanone | ND | 57.5 | 1.31 |
| Acetone | ND | 57.5 | 4.7 |
| Benzene | ND | 5.75 | .285 |
| Bromodichloromethane | ND | 5.75 | .298 |
| Bromoform | ND | 5.75 | .321 |
| Bromomethane | ND | 5.75 | .734 |
| Carbon Disulfide | ND | 5.75 | .145 |
| Carbon Tetrachloride | ND | 5.75 | .909 |
| Chlorobenzene | ND | 5.75 | .226 |
| Chloroethane | ND | 5.75 | 2.04 |
| Chloroform | ND | 5.75 | .487 |
| Chloromethane | ND | 5.75 | 2.36 |
| cis-1,2-Dichloroethene | ND | 5.75 | .334 |
| cis-1,3-Dichloropropene | ND | 5.75 | .255 |
| Dibromochloromethane | ND | 5.75 | .0908 |
| Ethylbenzene | ND | 5.75 | .451 |
| Methyl tert-butyl ether (MTBE) | ND | 11.5 | .426 |
| Methylene Chloride | ND | 5.75 | .47 |
| Styrene | ND | 5.75 | .503 |
| Tetrachloroethene | ND | 5.75 | .279 |
| Toluene | ND | 5.75 | .361 |
| trans-1,2-Dichloroethene | ND | 5.75 | .331 |
| trans-1,3-Dichloropropene | ND | 5.75 | .766 |
| Trichloroethene | ND | 5.75 | .293 |
| Vinyl Acetate | ND | 57.5 | .823 |
| Vinyl Chloride | ND | 5.75 | 1.16 |
| Xylenes | ND | 5.75 | 1.25 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | 52-149 |
| Toluene-d8 | 97 | 65-135 |
| Bromofluorobenzene | 94 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/19/98 23:02 |
| ample ID | : 18609-975 | DaTime Analyzd : | 08/19/98 23:02 |
| ab Cnt NO.: | H064-09 | Dilutn Factor : | 1 |
| Lab File ID: | RHV386 | Matrix : | SOIL |
| Ext Btch ID: | VOH2201B | % Moisture : | 13.4 |
| alib. Ref.: | RHV371 | Instrument ID : | T-001 |

| ARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| I,1,1-Trichloroethane | ND | 5.77 | .382 |
| 1,1,2,2-Tetrachloroethane | ND | 5.77 | .382 |
| ,1,2-Trichloroethane | ND | 5.77 | .269 |
| ,1-Dichloroethane | ND | 5.77 | .35 |
| 1,1-Dichloroethene | ND | 5.77 | .621 |
| 1,2-Dichloroethane | ND | 5.77 | .376 |
| ,2-Dichloropropane | ND | 5.77 | .434 |
| -Butanone | ND | 57.7 | 5.91 |
| 2-Chloroethylvinylether | ND | 57.7 | .196 |
| 2-Hexanone | ND | 57.7 | 1.44 |
| -Methyl-2-Pentanone | ND | 57.7 | 1.31 |
| cetone | ND | 57.7 | 4.72 |
| Benzene | ND | 5.77 | .286 |
| Bromodichloromethane | ND | 5.77 | .299 |
| romoform | ND | 5.77 | .322 |
| romomethane | ND | 5.77 | .738 |
| Carbon Disulfide | ND | 5.77 | .145 |
| Carbon Tetrachloride | ND | 5.77 | .913 |
| lorobenzene | ND | 5.77 | .227 |
| loroethane | ND | 5.77 | 2.05 |
| Chloroform | ND | 5.77 | .49 |
| Chloromethane | ND | 5.77 | 2.38 |
| is-1,2-Dichloroethene | ND | 5.77 | .336 |
| is-1,3-Dichloropropene | ND | 5.77 | .256 |
| Dibromochloromethane | ND | 5.77 | .0912 |
| Ethylbenzene | ND | 5.77 | .453 |
| ethyl tert-butyl ether (MTBE) | ND | 11.5 | .428 |
| ethylene Chloride | 2.94JB | 5.77 | .472 |
| Styrene | ND | 5.77 | .506 |
| Tetrachloroethene | ND | 5.77 | .281 |
| oluene | ND | 5.77 | .363 |
| rans-1,2-Dichloroethene | ND | 5.77 | .333 |
| trans-1,3-Dichloropropene | ND | 5.77 | .769 |
| Trichloroethene | ND | 5.77 | .294 |
| inyl Acetate | ND | 57.7 | .827 |
| inyl Chloride | ND | 5.77 | 1.17 |
| Xylenes | ND | 5.77 | 1.26 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | 52-149 |
| oluene-d8 | 99 | 65-135 |
| romofluorobenzene | 98 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
: An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
: Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/19/98 23:29 |
| Sample ID | : 18609-976 | DaTime Analyzd : | 08/19/98 23:29 |
| Lab Cnt NO. | : H064-10 | Dilutn Factor : | 1 |
| Lab File ID | : RHV387 | Matrix : | SOIL |
| Ext Btch ID | : VOH2201B | % Moisture : | 7.3 |
| Calib. Ref. | : RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.39 | .357 |
| 1,1,2,2-Tetrachloroethane | ND | 5.39 | .357 |
| 1,1,2-Trichloroethane | ND | 5.39 | .251 |
| 1,1-Dichloroethane | ND | 5.39 | .327 |
| 1,1-Dichloroethene | ND | 5.39 | .58 |
| 1,2-Dichloroethane | ND | 5.39 | .352 |
| 1,2-Dichloropropane | ND | 5.39 | .406 |
| 2-Butanone | ND | 53.9 | 5.52 |
| 2-Chloroethylvinylether | ND | 53.9 | .183 |
| 2-Hexanone | ND | 53.9 | 1.35 |
| 4-Methyl-2-Pentanone | ND | 53.9 | 1.23 |
| Acetone | ND | 53.9 | 4.41 |
| Benzene | ND | 5.39 | .268 |
| Bromodichloromethane | ND | 5.39 | .279 |
| Bromoform | ND | 5.39 | .301 |
| Bromomethane | ND | 5.39 | .689 |
| Carbon Disulfide | ND | 5.39 | .136 |
| Carbon Tetrachloride | ND | 5.39 | .853 |
| Chlorobenzene | ND | 5.39 | .21 |
| Chloroethane | ND | 5.39 | 1.9 |
| Chloroform | ND | 5.39 | .457 |
| Chloromethane | ND | 5.39 | 2.22 |
| cis-1,2-Dichloroethene | ND | 5.39 | .314 |
| cis-1,3-Dichloropropene | ND | 5.39 | .239 |
| Dibromochloromethane | ND | 5.39 | .0852 |
| Ethylbenzene | ND | 5.39 | .423 |
| Methyl tert-butyl ether (MTBE) | ND | 10.8 | .4 |
| Methylene Chloride | 3.78JB | 5.39 | .441 |
| Styrene | ND | 5.39 | .472 |
| Tetrachloroethene | ND | 5.39 | .262 |
| Toluene | ND | 5.39 | .339 |
| trans-1,2-Dichloroethene | ND | 5.39 | .311 |
| trans-1,3-Dichloropropene | ND | 5.39 | .718 |
| Trichloroethene | ND | 5.39 | .275 |
| Vinyl Acetate | ND | 53.9 | .772 |
| Vinyl Chloride | ND | 5.39 | 1.09 |
| Xylenes | ND | 5.39 | 1.17 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | 52-149 |
| Toluene-d8 | 98 | 65-135 |
| Bromofluorobenzene | 90 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| tch No. | : 98H064 | DaTime Extrctd : | 08/21/98 22:57 |
| ample ID | : 18609-977 | DaTime Analyzd : | 08/21/98 22:57 |
| ab Cnt NO. | : H064-11 | Dilutn Factor : | 1 |
| Lab File ID | : RHV426 | Matrix : | SOIL |
| Ext Btch ID | : VOH2401B | % Moisture : | 27.4 |
| alib. Ref. | : RHV421 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.89 | .456 |
| 1,1,2,2-Tetrachloroethane | ND | 6.89 | .456 |
| ,1,2-Trichloroethane | ND | 6.89 | .321 |
| ,1-Dichloroethane | ND | 6.89 | .417 |
| 1,1-Dichloroethene | ND | 6.89 | .741 |
| 1,2-Dichloroethane | ND | 6.89 | .449 |
| ,2-Dichloropropane | ND | 6.89 | .518 |
| -Butanone | ND | 68.9 | 7.05 |
| 2-Chloroethylvinylether | ND | 68.9 | .234 |
| 2-Hexanone | ND | 68.9 | 1.72 |
| -Methyl-2-Pentanone | ND | 68.9 | 1.57 |
| cetone | ND | 68.9 | 5.63 |
| Benzene | ND | 6.89 | .342 |
| Bromodichloromethane | ND | 6.89 | .357 |
| romoform | ND | 6.89 | .384 |
| romomethane | ND | 6.89 | .88 |
| Carbon Disulfide | ND | 6.89 | .174 |
| Carbon Tetrachloride | ND | 6.89 | 1.09 |
| lorobenzene | ND | 6.89 | .271 |
| loroethane | ND | 6.89 | 2.45 |
| Chloroform | ND | 6.89 | .584 |
| Chloromethane | ND | 6.89 | 2.83 |
| is-1,2-Dichloroethene | ND | 6.89 | .401 |
| is-1,3-Dichloropropene | ND | 6.89 | .306 |
| Dibromochloromethane | ND | 6.89 | .109 |
| Ethylbenzene | ND | 6.89 | .54 |
| ethyl tert-butyl ether (MTBE) | ND | 13.8 | .511 |
| ethylene Chloride | ND | 6.89 | .563 |
| Styrene | ND | 6.89 | .603 |
| Tetrachloroethene | ND | 6.89 | .335 |
| oluene | ND | 6.89 | .433 |
| rans-1,2-Dichloroethene | ND | 6.89 | .397 |
| trans-1,3-Dichloropropene | ND | 6.89 | .917 |
| Trichloroethene | ND | 6.89 | .351 |
| inyl Acetate | ND | 68.9 | .986 |
| inyl Chloride | ND | 6.89 | 1.39 |
| Xylenes | ND | 6.89 | 1.5 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 52-149 |
| oluene-d8 | 98 | 65-135 |
| romofluorobenzene | 95 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
: An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
: Value from dilution analysis

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/14/98 18:00 |
| Sample ID | : 18609-967 | DaTime Analyzd : | 08/20/98 00:15 |
| Lab Cnt NO.: | H064-01 | Dilutn Factor : | 1 |
| Lab File ID: | RHS168 | Matrix : | WATER |
| Ext Btch ID: | SVH014W | % Moisture : | NA |
| Calib. Ref.: | RHS157 | Instrument ID : | T-004 |

| PARAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 10 | .86 |
| 1,2-Dichlorobenzene | ND | 10 | .51 |
| 1,3-Dichlorobenzene | ND | 10 | .8 |
| 1,4-Dichlorobenzene | ND | 10 | 1.12 |
| 2,2'-oxybis(1-Chloropropane) | ND | 10 | 4.82 |
| 2,4,5-Trichlorophenol | ND | 25 | 2.73 |
| 2,4,6-Trichlorophenol | ND | 10 | 2.64 |
| 2,4-Dichlorophenol | ND | 10 | 2.43 |
| 2,4-Dimethylphenol | ND | 10 | 1.4 |
| 2,4-Dinitrophenol | ND | 25 | 4.92 |
| 2,4-Dinitrotoluene | ND | 10 | 2.47 |
| 2,6-Dinitrotoluene | ND | 10 | 1.67 |
| 2-Chloronaphthalene | ND | 10 | .87 |
| 2-Chlorophenol | ND | 10 | 2.23 |
| 2-Methylnaphthalene | ND | 10 | 1.03 |
| 2-Methylphenol | ND | 10 | 1.53 |
| 2-Nitroaniline | ND | 25 | 3.11 |
| 2-Nitrophenol | ND | 10 | 2.99 |
| 3,3'-Dichlorobenzidine | ND | 10 | 4.38 |
| 3-Nitroaniline | ND | 25 | 1.62 |
| 4,6-Dinitro-2-methylphenol | ND | 25 | 3.17 |
| 4-Bromophenyl-phenylether | ND | 10 | .56 |
| 4-Chloro-3-methylphenol | ND | 10 | 3.09 |
| 4-Chloroaniline | ND | 10 | 2.92 |
| 4-Chlorophenyl-phenylether | ND | 10 | 1.99 |
| 4-Methylphenol (2) | ND | 10 | 2.15 |
| 4-Nitroaniline | ND | 25 | 3.58 |
| 4-Nitrophenol | ND | 25 | 6.03 |
| Acenaphthene | ND | 10 | 1.04 |
| Acenaphthylene | ND | 10 | .77 |
| Anthracene | ND | 10 | 1.05 |
| Benzo(a)anthracene | ND | 10 | 1.04 |
| Benzo(a)pyrene | ND | 10 | 1.27 |
| Benzo(b)fluoranthene | ND | 10 | 3.14 |
| Benzo(g,h,i)perylene | ND | 10 | .52 |
| Benzo(k)fluoranthene | ND | 10 | 3.69 |
| bis(2-Chloroethoxy)methane | ND | 10 | 2.14 |
| bis(2-Chloroethyl)ether | ND | 10 | 2.61 |
| bis(2-Ethylhexyl)phthalate | ND | 10 | 1.46 |
| Butylbenzylphthalate | ND | 10 | 1.68 |
| Chrysene | ND | 10 | 1.46 |
| Di-n-butylphthalate | ND | 10 | 2.3 |
| Di-n-octylphthalate | ND | 10 | .89 |
| Dibenzo(a,h)anthracene | ND | 10 | 1.36 |
| Dibenzofuran | ND | 10 | .92 |
| Diethylphthalate | ND | 10 | .98 |
| Dimethylphthalate | ND | 10 | 1.07 |
| Fluoranthene | ND | 10 | 1.17 |
| Fluorene | ND | 10 | 2.36 |
| Hexachlorobenzene | ND | 10 | 1.23 |
| Hexachlorobutadiene | ND | 10 | .84 |
| Hexachlorocyclopentadiene | ND | 10 | 8.88 |
| Hexachloroethane | ND | 10 | 1.95 |
| Indeno(1,2,3-cd)pyrene | ND | 10 | 1.17 |
| N-Nitroso-di-n-propylamine | ND | 10 | 1.34 |
| N-Nitrosodiphenylamine (1) | ND | 10 | 1.59 |
| Naphthalene | ND | 10 | 1.3 |
| Nitrobenzene | ND | 10 | 1.39 |
| Pentachlorophenol | ND | 10 | 2.94 |
| Phenanthrene | ND | 10 | .66 |
| Phenol | ND | 10 | 2.43 |
| Pyrene | ND | 10 | .39 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Fluorophenol | 24* | 25-125 |
| Phenol-d5 | 30 | 25-125 |
| Nitrobenzene-d5 | 28* | 32-125 |
| 2-Fluorobiphenyl | 33* | 43-125 |
| 2,4,6-Tribromophenol | 49 | 25-134 |
| Terphenyl-d14 | 72 | 42-126 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/27/98 09:30 |
| ple ID | : 18609-968 | DaTime Analyzd : | 08/30/98 21:19 |
| o Cnt NO. | : H064-02 | Dilutn Factor : | 1 |
| ab File ID | : RHB527 | Matrix : | SOIL |
| xt Btch ID | : SVH024S | % Moisture : | 12.5 |
| alib. Ref. | : RHB516 | Instrument ID : | T-003 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| ,2,4-Trichlorobenzene | ND | 377 | 155 |
| 1,2-Dichlorobenzene | ND | 377 | 147 |
| 1,3-Dichlorobenzene | ND | 377 | 143 |
| 1,4-Dichlorobenzene | ND | 377 | 133 |
| ,2'-oxybis(1-Chloropropane) | ND | 377 | 171 |
| ,4,5-Trichlorophenol | ND | 949 | 92.6 |
| 2,4,6-Trichlorophenol | ND | 377 | 135 |
| 2,4-Dichlorophenol | ND | 377 | 176 |
| 2,4-Dimethylphenol | ND | 377 | 131 |
| ,4-Dinitrophenol | ND | 949 | 185 |
| ,4-Dinitrotoluene | ND | 377 | 68.3 |
| ,6-Dinitrotoluene | ND | 377 | 84.6 |
| 2-Chloronaphthalene | ND | 377 | 152 |
| 2-Chlorophenol | ND | 377 | 139 |
| 2-Methylnaphthalene | ND | 377 | 165 |
| -Methylphenol | ND | 377 | 157 |
| -Nitroaniline | ND | 949 | 101 |
| 2-Nitrophenol | ND | 377 | 172 |
| 3,3'-Dichlorobenzidine | ND | 377 | 83.9 |
| 3-Nitroaniline | ND | 949 | 99.5 |
| ,6-Dinitro-2-methylphenol | ND | 949 | 129 |
| -Bromophenyl-phenylether | ND | 377 | 88.7 |
| -Chloro-3-methylphenol | ND | 377 | 125 |
| 4-Chloroaniline | ND | 377 | 137 |
| 4-Chlorophenyl-phenylether | ND | 377 | 93.6 |
| -Methylphenol (2) | ND | 377 | 159 |
| -Nitroaniline | ND | 949 | 80.1 |
| -Nitrophenol | ND | 949 | 174 |
| Acenaphthene | ND | 377 | 119 |
| Acenaphthylene | ND | 377 | 117 |
| nthracene | ND | 377 | 76.5 |
| zo(a)anthracene | ND | 377 | 78.4 |
| zo(a)pyrene | ND | 286 | 42.3 |
| enzo(b)fluoranthene | ND | 377 | 72.9 |
| Benzo(g,h,i)perylene | ND | 377 | 47.4 |
| Benzo(k)fluoranthene | ND | 377 | 78.1 |
| is(2-Chloroethoxy)methane | ND | 377 | 171 |
| is(2-Chloroethyl)ether | ND | 57.1 | 156 |
| is(2-Ethylhexyl)phthalate | ND | 377 | 97.7 |
| Butylbenzylphthalate | ND | 377 | 86.5 |
| Chrysene | ND | 377 | 103 |
| i-n-butylphthalate | ND | 377 | 91.1 |
| i-n-octylphthalate | ND | 377 | 57.1 |
| ibenzo(a,h)anthracene | ND | 286 | 36 |
| Dibenzofuran | ND | 377 | 118 |
| Diethylphthalate | ND | 377 | 62.3 |
| Dimethylphthalate | ND | 377 | 68.5 |
| luoranthene | ND | 377 | 88.5 |
| luorene | ND | 377 | 84.6 |
| exachlorobenzene | ND | 377 | 103 |
| Hexachlorobutadiene | ND | 377 | 160 |
| Hexachlorocyclopentadiene | ND | 377 | 203 |
| exachloroethane | ND | 377 | 144 |
| ndeno(1,2,3-cd)pyrene | ND | 377 | 47.4 |
| -Nitroso-di-n-propylamine | ND | 286 | 161 |
| N-Nitrosodiphenylamine (1) | ND | 377 | 82.2 |
| Naphthalene | ND | 377 | 154 |
| Nitrobenzene | ND | 377 | 153 |
| entachlorophenol | ND | 377 | 92 |
| henanthrene | ND | 377 | 76 |
| henol | ND | 377 | 183 |
| Pyrene | ND | 377 | 103 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Fluorophenol | 46 | 25-135 |
| Phenol-d5 | 54 | 25-135 |
| Nitrobenzene-d5 | 55 | 25-135 |
| 2-Fluorobiphenyl | 68 | 34-135 |
| ,4,6-Tribromophenol | 45 | 25-144 |
| erphenyl-d14 | 78 | 32-136 |

: Project Reporting Limit
: Cannot be separated from Diphenylamine
2) : Cannot be separated from 3-Methylphenol

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : 18609-970 | DaTime Analyzd : | 08/25/98 00:21 |
| Lab Cnt NO.: | H064-04 | Dilutn Factor : | 1 |
| Lab File ID: | RHS268 | Matrix : | SOIL |
| Ext Btch ID: | SVH015S | % Moisture : | 12.2 |
| Calib. Ref.: | RHS264 | Instrument ID : | T-004 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 376 | 155 |
| 1,2-Dichlorobenzene | ND | 376 | 146 |
| 1,3-Dichlorobenzene | ND | 376 | 142 |
| 1,4-Dichlorobenzene | ND | 376 | 133 |
| 2,2'-oxybis(1-Chloropropane) | ND | 376 | 170 |
| 2,4,5-Trichlorophenol | ND | 945 | 92.3 |
| 2,4,6-Trichlorophenol | ND | 376 | 135 |
| 2,4-Dichlorophenol | ND | 376 | 175 |
| 2,4-Dimethylphenol | ND | 376 | 131 |
| 2,4-Dinitrophenol | ND | 945 | 184 |
| 2,4-Dinitrotoluene | ND | 376 | 68.1 |
| 2,6-Dinitrotoluene | ND | 376 | 84.3 |
| 2-Chloronaphthalene | ND | 376 | 151 |
| 2-Chlorophenol | ND | 376 | 138 |
| 2-Methylnaphthalene | ND | 376 | 164 |
| 2-Methylphenol | ND | 376 | 157 |
| 2-Nitroaniline | ND | 945 | 101 |
| 2-Nitrophenol | ND | 376 | 171 |
| 3,3'-Dichlorobenzidine | ND | 376 | 83.6 |
| 3-Nitroaniline | ND | 945 | 99.2 |
| 4,6-Dinitro-2-methylphenol | ND | 945 | 128 |
| 4-Bromophenyl-phenylether | ND | 376 | 88.4 |
| 4-Chloro-3-methylphenol | ND | 376 | 125 |
| 4-Chloroaniline | ND | 376 | 137 |
| 4-Chlorophenyl-phenylether | ND | 376 | 93.3 |
| 4-Methylphenol (2) | ND | 376 | 159 |
| 4-Nitroaniline | ND | 945 | 79.8 |
| 4-Nitrophenol | ND | 945 | 173 |
| Acenaphthene | ND | 376 | 118 |
| Acenaphthylene | ND | 376 | 117 |
| Anthracene | ND | 376 | 76.2 |
| Benzo(a)anthracene | ND | 376 | 78.1 |
| Benzo(a)pyrene | ND | 285 | 42.1 |
| Benzo(b)fluoranthene | ND | 376 | 72.7 |
| Benzo(g,h,i)perylene | ND | 376 | 47.3 |
| Benzo(k)fluoranthene | ND | 376 | 77.8 |
| bis(2-Chloroethoxy)methane | ND | 376 | 170 |
| bis(2-Chloroethyl)ether | ND | 56.9 | 155 |
| bis(2-Ethylhexyl)phthalate | ND | 376 | 97.4 |
| Butylbenzylphthalate | ND | 376 | 86.2 |
| Chrysene | ND | 376 | 103 |
| Di-n-butylphthalate | ND | 376 | 90.8 |
| Di-n-octylphthalate | ND | 376 | 56.9 |
| Dibenzo(a,h)anthracene | ND | 285 | 35.9 |
| Dibenzofuran | ND | 376 | 118 |
| Diethylphthalate | ND | 376 | 62.1 |
| Dimethylphthalate | ND | 376 | 68.2 |
| Fluoranthene | ND | 376 | 88.2 |
| Fluorene | ND | 376 | 84.3 |
| Hexachlorobenzene | ND | 376 | 103 |
| Hexachlorobutadiene | ND | 376 | 160 |
| Hexachlorocyclopentadiene | ND | 376 | 202 |
| Hexachloroethane | ND | 376 | 144 |
| Indeno(1,2,3-cd)pyrene | ND | 376 | 47.3 |
| N-Nitroso-di-n-propylamine | ND | 285 | 161 |
| N-Nitrosodiphenylamine (1) | ND | 376 | 81.9 |
| Naphthalene | ND | 376 | 154 |
| Nitrobenzene | ND | 376 | 152 |
| Pentachlorophenol | ND | 376 | 91.7 |
| Phenanthrene | ND | 376 | 75.7 |
| Phenol | ND | 376 | 182 |
| Pyrene | ND | 376 | 103 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Fluorophenol | 58 | 25-135 |
| Phenol-d5 | 60 | 25-135 |
| Nitrobenzene-d5 | 62 | 25-135 |
| 2-Fluorobiphenyl | 67 | 34-135 |
| 2,4,6-Tribromophenol | 61 | 25-144 |
| Terphenyl-d14 | 79 | 32-136 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| ient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| rch No. | : 98H064 | DaTime Extrctd : | 08/27/98 09:30 |
| ple ID | : 18609-972 | DaTime Analyzd : | 08/30/98 22:11 |
| Cnt NO.: | H064-06 | Dilutn Factor : | 1 |
| ab File ID: | RHB528 | Matrix : | SOIL |
| t Btch ID: | SVH024S | % Moisture : | 11.6 |
| alib. Ref.: | RHB516 | Instrument ID : | T-003 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| ,2,4-Trichlorobenzene | ND | 373 | 154 |
| 1,2-Dichlorobenzene | ND | 373 | 145 |
| 1,3-Dichlorobenzene | ND | 373 | 141 |
| ,4-Dichlorobenzene | ND | 373 | 132 |
| ,2'-oxybis(1-Chloropropane) | ND | 373 | 169 |
| ,4,5-Trichlorophenol | ND | 939 | 91.6 |
| 2,4,6-Trichlorophenol | ND | 373 | 134 |
| 2,4-Dichlorophenol | ND | 373 | 174 |
| ,4-Dimethylphenol | ND | 373 | 130 |
| ,4-Dinitrophenol | ND | 939 | 183 |
| ,4-Dinitrotoluene | ND | 373 | 67.6 |
| ,6-Dinitrotoluene | ND | 373 | 83.7 |
| 2-Chloronaphthalene | ND | 373 | 150 |
| 2-Chlorophenol | ND | 373 | 137 |
| -Methylnaphthalene | ND | 373 | 163 |
| -Methylphenol | ND | 373 | 156 |
| -Nitroaniline | ND | 939 | 100 |
| 2-Nitrophenol | ND | 373 | 170 |
| 3,3'-Dichlorobenzidine | ND | 373 | 83 |
| 3-Nitroaniline | ND | 939 | 98.5 |
| ,6-Dinitro-2-methylphenol | ND | 939 | 127 |
| -Bromophenyl-phenylether | ND | 373 | 87.8 |
| -Chloro-3-methylphenol | ND | 373 | 124 |
| 4-Chloroaniline | ND | 373 | 136 |
| 4-Chlorophenyl-phenylether | ND | 373 | 92.6 |
| -Methylphenol (2) | ND | 373 | 158 |
| -Nitroaniline | ND | 939 | 79.3 |
| -Nitrophenol | ND | 939 | 172 |
| Acenaphthene | ND | 373 | 117 |
| Acenaphthylene | ND | 373 | 116 |
| nthracene | ND | 373 | 75.7 |
| zo(a)anthracene | ND | 373 | 77.6 |
| zo(a)pyrene | ND | 283 | 41.9 |
| enzo(b)fluoranthene | ND | 373 | 72.2 |
| Benzo(g,h,i)perylene | ND | 373 | 46.9 |
| Benzo(k)fluoranthene | ND | 373 | 77.3 |
| is(2-Chloroethoxy)methane | ND | 373 | 169 |
| is(2-Chloroethyl)ether | ND | 56.6 | 154 |
| is(2-Ethylhexyl)phthalate | ND | 373 | 96.7 |
| Butylbenzylphthalate | ND | 373 | 85.6 |
| Chrysene | ND | 373 | 102 |
| i-n-butylphthalate | ND | 373 | 90.2 |
| i-n-octylphthalate | ND | 373 | 56.6 |
| ibenzo(a,h)anthracene | ND | 283 | 35.6 |
| ibenzofuran | ND | 373 | 117 |
| Diethylphthalate | ND | 373 | 61.7 |
| Dimethylphthalate | ND | 373 | 67.8 |
| luoranthene | ND | 373 | 87.6 |
| luorene | ND | 373 | 83.7 |
| exachlorobenzene | ND | 373 | 102 |
| Hexachlorobutadiene | ND | 373 | 159 |
| Hexachlorocyclopentadiene | ND | 373 | 201 |
| exachloroethane | ND | 373 | 143 |
| indeno(1,2,3-cd)pyrene | ND | 373 | 46.9 |
| -Nitroso-di-n-propylamine | ND | 283 | 160 |
| N-Nitrosodiphenylamine (1) | ND | 373 | 81.3 |
| Naphthalene | ND | 373 | 153 |
| Nitrobenzene | ND | 373 | 151 |
| entachlorophenol | ND | 373 | 91.1 |
| henanthrene | ND | 373 | 75.2 |
| henol | ND | 373 | 181 |
| Pyrene | ND | 373 | 102 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Fluorophenol | 45 | 25-135 |
| Phenol-d5 | 48 | 25-135 |
| Nitrobenzene-d5 | 55 | 25-135 |
| 2-Fluorobiphenyl | 68 | 34-135 |
| 2,4,6-Tribromophenol | 44 | 25-144 |
| erphenyl-d14 | 75 | 32-136 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : 18609-974 | DaTime Analyzd : | 08/25/98 03:47 |
| Lab Cnt NO.: | H064-08 | Dilutn Factor : | 1 |
| Lab File ID: | RHS272 | Matrix : | SOIL |
| Ext Btch ID: | SVH015S | % Moisture : | 13.0 |
| Calib. Ref.: | RHS264 | Instrument ID : | T-004 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 379 | 156 |
| 1,2-Dichlorobenzene | ND | 379 | 148 |
| 1,3-Dichlorobenzene | ND | 379 | 144 |
| 1,4-Dichlorobenzene | ND | 379 | 134 |
| 2,2'-oxybis(1-Chloropropane) | ND | 379 | 172 |
| 2,4,5-Trichlorophenol | ND | 954 | 93.1 |
| 2,4,6-Trichlorophenol | ND | 379 | 136 |
| 2,4-Dichlorophenol | ND | 379 | 177 |
| 2,4-Dimethylphenol | ND | 379 | 132 |
| 2,4-Dinitrophenol | ND | 954 | 186 |
| 2,4-Dinitrotoluene | ND | 379 | 68.7 |
| 2,6-Dinitrotoluene | ND | 379 | 85.1 |
| 2-Chloronaphthalene | ND | 379 | 153 |
| 2-Chlorophenol | ND | 379 | 140 |
| 2-Methylnaphthalene | ND | 379 | 166 |
| 2-Methylphenol | ND | 379 | 158 |
| 2-Nitroaniline | ND | 954 | 102 |
| 2-Nitrophenol | ND | 379 | 173 |
| 3,3'-Dichlorobenzidine | ND | 379 | 84.4 |
| 3-Nitroaniline | ND | 954 | 100 |
| 4,6-Dinitro-2-methylphenol | ND | 954 | 129 |
| 4-Bromophenyl-phenylether | ND | 379 | 89.2 |
| 4-Chloro-3-methylphenol | ND | 379 | 126 |
| 4-Chloroaniline | ND | 379 | 138 |
| 4-Chlorophenyl-phenylether | ND | 379 | 94.1 |
| 4-Methylphenol (2) | ND | 379 | 160 |
| 4-Nitroaniline | ND | 954 | 80.6 |
| 4-Nitrophenol | ND | 954 | 175 |
| Acenaphthene | ND | 379 | 119 |
| Acenaphthylene | ND | 379 | 118 |
| Anthracene | ND | 379 | 76.9 |
| Benzo(a)anthracene | ND | 379 | 78.9 |
| Benzo(a)pyrene | ND | 287 | 42.5 |
| Benzo(b)fluoranthene | ND | 379 | 73.3 |
| Benzo(g,h,i)perylene | ND | 379 | 47.7 |
| Benzo(k)fluoranthene | ND | 379 | 78.5 |
| bis(2-Chloroethoxy)methane | ND | 379 | 172 |
| bis(2-Chloroethyl)ether | ND | 57.5 | 157 |
| bis(2-Ethylhexyl)phthalate | ND | 379 | 98.3 |
| Butylbenzylphthalate | ND | 379 | 87 |
| Chrysene | ND | 379 | 104 |
| Di-n-butylphthalate | ND | 379 | 91.6 |
| Di-n-octylphthalate | ND | 379 | 57.5 |
| Dibenzo(a,h)anthracene | ND | 287 | 36.2 |
| Dibenzofuran | ND | 379 | 119 |
| Diethylphthalate | ND | 379 | 62.6 |
| Dimethylphthalate | ND | 379 | 68.9 |
| Fluoranthene | ND | 379 | 89 |
| Fluorene | ND | 379 | 85.1 |
| Hexachlorobenzene | ND | 379 | 104 |
| Hexachlorobutadiene | ND | 379 | 161 |
| Hexachlorocyclopentadiene | ND | 379 | 204 |
| Hexachloroethane | ND | 379 | 145 |
| Indeno(1,2,3-cd)pyrene | ND | 379 | 47.7 |
| N-Nitroso-di-n-propylamine | ND | 287 | 162 |
| N-Nitrosodiphenylamine (1) | ND | 379 | 82.6 |
| Naphthalene | ND | 379 | 155 |
| Nitrobenzene | ND | 379 | 154 |
| Pentachlorophenol | ND | 379 | 92.5 |
| Phenanthrene | ND | 379 | 76.4 |
| Phenol | ND | 379 | 184 |
| Pyrene | ND | 379 | 104 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Fluorophenol | 27 | 25-135 |
| Phenol-d5 | 31 | 25-135 |
| Nitrobenzene-d5 | 37 | 25-135 |
| 2-Fluorobiphenyl | 46 | 34-135 |
| 2,4,6-Tribromophenol | 25 | 25-144 |
| Terphenyl-d14 | 74 | 32-136 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| nple ID | : 18609-976 | DaTime Analyzd : | 08/25/98 04:39 |
| Cnt NO. | : H064-10 | Dilutn Factor : | 1 |
| ab File ID | : RHS273 | Matrix : | SOIL |
| xt Btch ID | : SVH015S | % Moisture : | 7.3 |
| alib. Ref. | : RHS264 | Instrument ID : | T-004 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| ,2,4-Trichlorobenzene | ND | 356 | 147 |
| 1,2-Dichlorobenzene | ND | 356 | 139 |
| 1,3-Dichlorobenzene | ND | 356 | 135 |
| 1,4-Dichlorobenzene | ND | 356 | 126 |
| ,2'-oxybis(1-Chloropropane) | ND | 356 | 161 |
| ,4,5-Trichlorophenol | ND | 895 | 87.4 |
| ,4,6-Trichlorophenol | ND | 356 | 128 |
| 2,4-Dichlorophenol | ND | 356 | 166 |
| 2,4-Dimethylphenol | ND | 356 | 124 |
| ,4-Dinitrophenol | ND | 895 | 175 |
| ,4-Dinitrotoluene | ND | 356 | 64.5 |
| ,6-Dinitrotoluene | ND | 356 | 79.8 |
| 2-Chloronaphthalene | ND | 356 | 143 |
| 2-Chlorophenol | ND | 356 | 131 |
| 2-Methylnaphthalene | ND | 356 | 156 |
| -Methylphenol | ND | 356 | 149 |
| -Nitroaniline | ND | 895 | 95.8 |
| -Nitrophenol | ND | 356 | 162 |
| 3,3'-Dichlorobenzidine | ND | 356 | 79.2 |
| 3-Nitroaniline | ND | 895 | 94 |
| ,6-Dinitro-2-methylphenol | ND | 895 | 121 |
| -Bromophenyl-phenylether | ND | 356 | 83.7 |
| -Chloro-3-methylphenol | ND | 356 | 118 |
| 4-Chloroaniline | ND | 356 | 130 |
| 4-Chlorophenyl-phenylether | ND | 356 | 88.3 |
| -Methylphenol (2) | ND | 356 | 150 |
| -Nitroaniline | ND | 895 | 75.6 |
| -Nitrophenol | ND | 895 | 164 |
| cenaphthene | ND | 356 | 112 |
| Acenaphthylene | ND | 356 | 111 |
| Anthracene | ND | 356 | 72.2 |
| nzo(a)anthracene | ND | 356 | 74 |
| zo(a)pyrene | ND | 270 | 39.9 |
| nzo(b)fluoranthene | ND | 356 | 68.8 |
| Benzo(g,h,i)perylene | ND | 356 | 44.8 |
| Benzo(k)fluoranthene | ND | 356 | 73.7 |
| is(2-Chloroethoxy)methane | ND | 356 | 161 |
| is(2-Chloroethyl)ether | ND | 53.9 | 147 |
| is(2-Ethylhexyl)phthalate | ND | 356 | 92.2 |
| utylbenzylphthalate | ND | 356 | 81.7 |
| Chrysene | ND | 356 | 97.2 |
| Di-n-butylphthalate | ND | 356 | 86 |
| i-n-octylphthalate | ND | 356 | 53.9 |
| ibenzo(a,h)anthracene | ND | 270 | 34 |
| ibenzofuran | ND | 356 | 112 |
| Diethylphthalate | ND | 356 | 58.8 |
| Dimethylphthalate | ND | 356 | 64.6 |
| luoranthene | ND | 356 | 83.5 |
| luorene | ND | 356 | 79.8 |
| exachlorobenzene | ND | 356 | 97.6 |
| Hexachlorobutadiene | ND | 356 | 151 |
| Hexachlorocyclopentadiene | ND | 356 | 192 |
| Hexachloroethane | ND | 356 | 136 |
| ndeno(1,2,3-cd)pyrene | ND | 356 | 44.8 |
| -Nitroso-di-n-propylamine | ND | 270 | 152 |
| -Nitrosodiphenylamine (1) | ND | 356 | 77.6 |
| Naphthalene | ND | 356 | 146 |
| Nitrobenzene | ND | 356 | 144 |
| entachlorophenol | ND | 356 | 86.8 |
| henanthrene | ND | 356 | 71.7 |
| henol | ND | 356 | 172 |
| Pyrene | ND | 356 | 97.2 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Fluorophenol | 60 | 25-135 |
| henol-d5 | 65 | 25-135 |
| Nitrobenzene-d5 | 66 | 25-135 |
| 2-Fluorobiphenyl | 74 | 34-135 |
| ,4,6-Tribromophenol | 69 | 25-144 |
| erphenyl-d14 | 80 | 32-136 |

: Project Reporting Limit
: Cannot be separated from Diphenylamine
: Cannot be separated from 3-Methylphenol

METHOD 3550A/8270B SIM
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/27/98 09:30 |
| Sample ID | : 18609-968 | DaTime Analyzd : | 08/31/98 19:07 |
| Lab Cnt NO. | : H064-02 | Dilutn Factor : | 1 |
| Lab File ID | : RHB532 | Matrix : | SOIL |
| Ext Btch ID | : SVH024S | % Moisture : | 12.5 |
| Calib. Ref. | : RHB530 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| Benzo(a)pyrene | ND | 37.7 | 7.71 |
| bis(2-Chloroethyl)ether | ND | 37.7 | 7.3 |
| Dibenzo(a,h)anthracene | ND | 37.7 | 10.7 |
| Hexachlorobenzene | ND | 37.7 | 16.1 |
| Indeno(1,2,3-cd)pyrene | ND | 37.7 | 7.43 |
| n-Nitroso-di-n-propylamine | ND | 37.7 | 4.82 |
| Pentachlorophenol | ND | 37.7 | 9.91 |

METHOD 3550A/8270B SIM
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : 18609-970 | DaTime Analyzd : | 08/31/98 20:47 |
| Lab Cnt NO. | : H064-04 | Dilutn Factor : | 1 |
| Lab File ID | : RHB534 | Matrix : | SOIL |
| Ext Btch ID | : SVH015S | % Moisture : | 12.2 |
| Calib. Ref. | : RHB530 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| Benzo(a)pyrene | ND | 37.6 | 7.69 |
| bis(2-Chloroethyl)ether | ND | 37.6 | 7.28 |
| Dibenzo(a,h)anthracene | ND | 37.6 | 10.6 |
| Hexachlorobenzene | ND | 37.6 | 16.1 |
| Indeno(1,2,3-cd)pyrene | ND | 37.6 | 7.4 |
| n-Nitroso-di-n-propylamine | ND | 37.6 | 4.81 |
| Pentachlorophenol | ND | 37.6 | 9.87 |

METHOD 3550A/8270B SIM
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/27/98 09:30 |
| Sample ID | : 18609-972 | DaTime Analyzd : | 08/31/98 19:57 |
| Lab Cnt NO. | : H064-06 | Dilutn Factor : | 1 |
| Lab File ID | : RHB533 | Matrix : | SOIL |
| Ext Btch ID | : SVH024S | % Moisture : | 11.6 |
| Calib. Ref. | : RHB530 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| Benzo(a)pyrene | ND | 37.3 | 7.64 |
| bis(2-Chloroethyl)ether | ND | 37.3 | 7.23 |
| Dibenzo(a,h)anthracene | ND | 37.3 | 10.5 |
| Hexachlorobenzene | ND | 37.3 | 16 |
| Indeno(1,2,3-cd)pyrene | ND | 37.3 | 7.35 |
| n-Nitroso-di-n-propylamine | ND | 37.3 | 4.77 |
| Pentachlorophenol | ND | 37.3 | 9.81 |

METHOD 3550A/8270B SIM
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Btch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : 18609-974 | DaTime Analyzd : | 08/26/98 23:13 |
| Lab Cnt NO. | : H064-08 | Dilutn Factor : | 1 |
| Lab File ID | : RHB423 | Matrix : | SOIL |
| Ext Btch ID | : SVH015S | % Moisture : | 13.0 |
| Calib. Ref. | : RHB416 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| Benzo(a)pyrene | ND | 37.9 | 7.76 |
| bis(2-Chloroethyl)ether | ND | 37.9 | 7.34 |
| Dibenzo(a,h)anthracene | ND | 37.9 | 10.7 |
| Hexachlorobenzene | ND | 37.9 | 16.2 |
| Indeno(1,2,3-cd)pyrene | ND | 37.9 | 7.47 |
| n-Nitroso-di-n-propylamine | ND | 37.9 | 4.85 |
| Pentachlorophenol | ND | 37.9 | 9.97 |

METHOD 3550A/8270B SIM
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : 18609-976 | DaTime Analyzd : | 08/27/98 00:02 |
| Lab Cnt NO. | : H064-10 | Dilutn Factor : | 1 |
| Lab File ID | : RHB424 | Matrix : | SOIL |
| Ext Btch ID | : SVH015S | % Moisture : | 7.3 |
| Calib. Ref. | : RHB416 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| Benzo(a)pyrene | ND | 35.6 | 7.28 |
| bis(2-Chloroethyl)ether | ND | 35.6 | 6.89 |
| Dibenzo(a,h)anthracene | ND | 35.6 | 10.1 |
| Hexachlorobenzene | ND | 35.6 | 15.2 |
| Indeno(1,2,3-cd)pyrene | ND | 35.6 | 7.01 |
| n-Nitroso-di-n-propylamine | ND | 35.6 | 4.55 |
| Pentachlorophenol | ND | 35.6 | 9.35 |

METHOD 3520B/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| ıient | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| ch No. | : 98H064 | Date Extracted: | 08/14/98 17:00 |
| ample ID: | 18609-967 | Date Analyzed: | 08/15/98 20:05 |
| ab Samp ID: | H064-01 | Dilution Factor: | 1 |
| ab File ID: | SH15018A | Matrix : | WATER |
| Ext Btch ID: | CPH021W | % Moisture : | NA |
| alib. Ref.: | SH15003A | Instrument ID : | GCT008 |

| ARAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ALPHA-BHC | (ND)\|ND | .03 | .015\|.02 |
| BETA-BHC | .0365\|(ND) | .03 | .013\|.021 |
| ELTA-BHC | (ND)\|ND | .03 | .018\|.025 |
| AMMA-BHC (LINDANE) | (ND)\|ND | .06 | .015\|.032 |
| ALPHA-CHLORDANE | (ND)\|ND | .03 | .013\|.012 |
| AMMA-CHLORDANE | (ND)\|ND | .03 | .012\|.011 |
| ,4'-DDD | (ND)\|ND | .5 | .02\|.047 |
| ,4'-DDE | (ND)\|ND | .58 | .022\|.02 |
| 4,4'-DDT | (ND)\|ND | .1 | .025\|.027 |
| DRIN | (ND)\|ND | .06 | .031\|.018 |
| IELDRIN | (ND)\|ND | .03 | .022\|.021 |
| ENDOSULFAN I | (ND)\|ND | .03 | .011\|.012 |
| ENDOSULFAN II | (ND)\|ND | .2 | .016\|.117 |
| NDOSULFAN SULFATE | (ND)\|ND | .1 | .033\|.02 |
| NDRIN | (ND)\|ND | .1 | .021\|.025 |
| ENDRIN ALDEHYDE | (ND)\|ND | .1 | .018\|.023 |
| NDRIN KETONE | (ND)\|ND | .1 | .024\|.024 |
| TACHLOR | (ND)\|ND | .03 | .019\|.02 |
| EPTACHLOR EPOXIDE | (ND)\|ND | .03 | .012\|.013 |
| METHOXYCHLOR | (ND)\|ND | .5 | .12\|.117 |
| OXAPHENE | (ND)\|ND | .5 | .588\|.572 |
| CB-1016 | (ND)\|ND | 1 | .834\|.603 |
| PCB-1221 | (ND)\|ND | 2 | 1.12\|.831 |
| PCB-1232 | (ND)\|ND | 1 | .388\|.574 |
| CB-1242 | (ND)\|ND | 1 | .465\|.249 |
| CB-1248 | (ND)\|ND | 1 | .432\|.354 |
| PCB-1254 | (ND)\|ND | 1 | .299\|.495 |
| PCB-1260 | (ND)\|ND | 1 | .387\|.342 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| ECACHLOROBIPHENYL | 128\|(127) | 34-133 |
| ETRACHLORO-M-XYLENE | (57)\|76 | 45-125 |

PRL: Project Reporting Limit
eft of | is result from the first column. Right of | is result from the
econd column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/17/98 11:00 |
| Sample ID: | 18609-968 | Date Analyzed: | 08/20/98 15:24 |
| Lab Samp ID: | H064-02 | Dilution Factor: | 1 |
| Lab File ID: | SH20010A | Matrix : | SOIL |
| Ext Btch ID: | CPH023S | % Moisture : | 12.5 |
| Calib. Ref.: | SH20003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | ND | 1.71 | .459 | .389 |
| BETA-BHC | (ND) | ND | 17.1 | .36 | .465 |
| DELTA-BHC | (ND) | ND | 17.1 | .293 | .198 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 17.1 | .416 | .446 |
| ALPHA-CHLORDANE | (ND) | ND | 17.1 | .254 | .239 |
| GAMMA-CHLORDANE | (ND) | ND | 17.1 | .273 | .219 |
| 4,4'-DDD | (ND) | ND | 3.43 | .336 | .339 |
| 4,4'-DDE | (2.04J) | 1.5J | 3.43 | .472 | .846 |
| 4,4'-DDT | (1.61J) | 1.52J | 3.43 | .688 | .443 |
| ALDRIN | (ND) | ND | 17.1 | .542 | .485 |
| DIELDRIN | (ND) | ND | 3.43 | .513 | .528 |
| ENDOSULFAN I | (ND) | ND | 1.71 | .328 | .25 |
| ENDOSULFAN II | (ND) | ND | 3.43 | .27 | .245 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.43 | .373 | .394 |
| ENDRIN | (ND) | ND | 3.43 | .509 | .486 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.43 | .258 | .255 |
| ENDRIN KETONE | (ND) | ND | 3.43 | .227 | .149 |
| HEPTACHLOR | (ND) | ND | 2.29 | .45 | .391 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.29 | .254 | .224 |
| METHOXYCHLOR | (ND) | ND | 17.1 | 1.37 | 2.37 |
| TOXAPHENE | (ND) | ND | 194 | 13.5 | 12.1 |
| PCB-1016 | (ND) | ND | 37.7 | 10.3 | 8.2 |
| PCB-1221 | (ND) | ND | 75.4 | 9.14 | 42.3 |
| PCB-1232 | (ND) | ND | 37.7 | 10.3 | 15 |
| PCB-1242 | (ND) | ND | 37.7 | .000 | 36.3 |
| PCB-1248 | (ND) | ND | 75.4 | 3.43 | 44.4 |
| PCB-1254 | (ND) | ND | 37.7 | 8 | 6.88 |
| PCB-1260 | (ND) | ND | 37.7 | 10.3 | 10.2 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 111 | (109) | 25-143 |
| TETRACHLORO-M-XYLENE | 80 | (80) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/17/98 11:00 |
| ample ID: | 18609-970 | Date Analyzed: | 08/20/98 17:37 |
| Lab Samp ID: | H064-04 | Dilution Factor: | 1 |
| Lab File ID: | SH20015A | Matrix : | SOIL |
| Ext Btch ID: | CPH023S | % Moisture : | 12.2 |
| Calib. Ref.: | SH20003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | ND | 1.71 | .458 | .387 |
| BETA-BHC | (ND) | ND | 17.1 | .359 | .464 |
| DELTA-BHC | (ND) | ND | 17.1 | .292 | .197 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 17.1 | .415 | .444 |
| ALPHA-CHLORDANE | (ND) | ND | 17.1 | .253 | .238 |
| GAMMA-CHLORDANE | (ND) | ND | 17.1 | .272 | .219 |
| 4,4'-DDD | (ND) | ND | 3.42 | .335 | .338 |
| 4,4'-DDE | (ND) | ND | 3.42 | .47 | .843 |
| 4,4'-DDT | (ND) | ND | 3.42 | .686 | .442 |
| ALDRIN | (ND) | ND | 17.1 | .54 | .483 |
| DIELDRIN | (ND) | ND | 3.42 | .511 | .526 |
| ENDOSULFAN I | (ND) | ND | 1.71 | .327 | .249 |
| ENDOSULFAN II | (ND) | ND | 3.42 | .269 | .244 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.42 | .371 | .393 |
| ENDRIN | (ND) | ND | 3.42 | .507 | .484 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.42 | .257 | .254 |
| ENDRIN KETONE | (ND) | ND | 3.42 | .227 | .148 |
| HEPTACHLOR | (ND) | ND | 2.28 | .449 | .39 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.28 | .253 | .223 |
| METHOXYCHLOR | (ND) | ND | 17.1 | 1.37 | 2.37 |
| TOXAPHENE | (ND) | ND | 194 | 13.5 | 12 |
| PCB-1016 | (ND) | ND | 37.6 | 10.3 | 8.17 |
| PCB-1221 | (ND) | ND | 75.2 | 9.11 | 42.2 |
| PCB-1232 | (ND) | ND | 37.6 | 10.3 | 15 |
| PCB-1242 | (ND) | ND | 37.6 | .000 | 36.2 |
| PCB-1248 | (ND) | ND | 75.2 | 3.42 | 44.2 |
| PCB-1254 | (ND) | ND | 37.6 | 7.97 | 6.86 |
| PCB-1260 | (ND) | ND | 37.6 | 10.3 | 10.2 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 112 | (106) | 25-143 |
| TETRACHLORO-M-XYLENE | 39 | (35) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/17/98 11:00 |
| Sample ID: | 18609-972 | Date Analyzed: | 08/20/98 18:04 |
| Lab Samp ID: | H064-06 | Dilution Factor: | 1 |
| Lab File ID: | SH20016A | Matrix : | SOIL |
| Ext Btch ID: | CPH023S | % Moisture : | 11.6 |
| Calib. Ref.: | SH20003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | ND | 1.7 | .455 | .385 |
| BETA-BHC | (ND) | ND | 17 | .356 | .46 |
| DELTA-BHC | (ND) | ND | 17 | .29 | .196 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 17 | .412 | .441 |
| ALPHA-CHLORDANE | (ND) | ND | 17 | .251 | .236 |
| GAMMA-CHLORDANE | (ND) | ND | 17 | .27 | .217 |
| 4,4'-DDD | (ND) | ND | 3.39 | .333 | .336 |
| 4,4'-DDE | (ND) | ND | 3.39 | .467 | .837 |
| 4,4'-DDT | (ND) | ND | 3.39 | .681 | .439 |
| ALDRIN | (ND) | ND | 17 | .536 | .48 |
| DIELDRIN | (ND) | ND | 3.39 | .508 | .523 |
| ENDOSULFAN I | (ND) | ND | 1.7 | .325 | .248 |
| ENDOSULFAN II | (ND) | ND | 3.39 | .267 | .242 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.39 | .369 | .39 |
| ENDRIN | (ND) | ND | 3.39 | .503 | .481 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.39 | .256 | .252 |
| ENDRIN KETONE | (ND) | ND | 3.39 | .225 | .147 |
| HEPTACHLOR | (ND) | ND | 2.26 | .446 | .387 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.26 | .251 | .222 |
| METHOXYCHLOR | (ND) | ND | 17 | 1.36 | 2.35 |
| TOXAPHENE | (ND) | ND | 192 | 13.4 | 11.9 |
| PCB-1016 | (ND) | ND | 37.3 | 10.2 | 8.11 |
| PCB-1221 | (ND) | ND | 74.6 | 9.05 | 41.9 |
| PCB-1232 | (ND) | ND | 37.3 | 10.2 | 14.9 |
| PCB-1242 | (ND) | ND | 37.3 | .000 | 35.9 |
| PCB-1248 | (ND) | ND | 74.6 | 3.39 | 43.9 |
| PCB-1254 | (ND) | ND | 37.3 | 7.92 | 6.81 |
| PCB-1260 | (ND) | ND | 37.3 | 10.2 | 10.1 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 108 | (104) | 25-143 |
| TETRACHLORO-M-XYLENE | 68 | (68) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

RE SED REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/17/98 11:00 |
| Sample ID | : 18609-974 | Date Analyzed: | 08/20/98 18:30 |
| Lab Samp ID | : H064-08 | Dilution Factor: | 1 |
| Lab File ID | : SH20017A | Matrix : | SOIL |
| Ext Btch ID | : CPH023S | % Moisture : | 13.0 |
| Calib. Ref. | : SH20003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | ND | 1.72 | .462 | .391 |
| BETA-BHC | (ND) | ND | 17.2 | .362 | .468 |
| DELTA-BHC | (ND) | ND | 17.2 | .294 | .199 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 17.2 | .418 | .448 |
| ALPHA-CHLORDANE | (ND) | ND | 17.2 | .255 | .24 |
| GAMMA-CHLORDANE | (ND) | ND | 17.2 | .275 | .221 |
| 4,4'-DDD | (ND) | ND | 3.45 | .338 | .341 |
| 4,4'-DDE | (ND) | ND | 3.45 | .475 | .851 |
| 4,4'-DDT | (ND) | ND | 3.45 | .692 | .446 |
| ALDRIN | (ND) | ND | 17.2 | .545 | .487 |
| DIELDRIN | (ND) | ND | 3.45 | .516 | .531 |
| ENDOSULFAN I | (ND) | ND | 1.72 | .33 | .252 |
| ENDOSULFAN II | (ND) | ND | 3.45 | .271 | .246 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.45 | .375 | .397 |
| ENDRIN | (ND) | ND | 3.45 | .511 | .489 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.45 | .26 | .256 |
| ENDRIN KETONE | (ND) | ND | 3.45 | .229 | .149 |
| HEPTACHLOR | (ND) | ND | 2.3 | .453 | .393 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.3 | .255 | .225 |
| METHOXYCHLOR | (ND) | ND | 17.2 | 1.38 | 2.39 |
| TOXAPHENE | (ND) | ND | 195 | 13.6 | 12.1 |
| PCB-1016 | (ND) | ND | 37.9 | 10.3 | 8.24 |
| PCB-1221 | (ND) | ND | 75.8 | 9.2 | 42.6 |
| PCB-1232 | (ND) | ND | 37.9 | 10.3 | 15.1 |
| PCB-1242 | (ND) | ND | 37.9 | .000 | 36.5 |
| PCB-1248 | (ND) | ND | 75.8 | 3.45 | 44.6 |
| PCB-1254 | (ND) | ND | 37.9 | 8.05 | 6.92 |
| PCB-1260 | (ND) | ND | 37.9 | 10.3 | 10.2 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 111 | (111) | 25-143 |
| TETRACHLORO-M-XYLENE | 81 | (79) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/17/98 11:00 |
| Sample ID: | 18609-976 | Date Analyzed: | 08/20/98 18:57 |
| Lab Samp ID: | H064-10 | Dilution Factor: | 1 |
| Lab File ID: | SH20018A | Matrix : | SOIL |
| Ext Btch ID: | CPH023S | % Moisture : | 7.3 |
| Calib. Ref.: | SH20003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | ND | 1.62 | .434 | .367 |
| BETA-BHC | (ND) | ND | 16.2 | .34 | .439 |
| DELTA-BHC | (ND) | ND | 16.2 | .276 | .187 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 16.2 | .393 | .421 |
| ALPHA-CHLORDANE | (ND) | ND | 16.2 | .239 | .225 |
| GAMMA-CHLORDANE | (ND) | ND | 16.2 | .258 | .207 |
| 4,4'-DDD | (ND) | ND | 3.24 | .317 | .32 |
| 4,4'-DDE | (ND) | ND | 3.24 | .446 | .798 |
| 4,4'-DDT | (ND) | ND | 3.24 | .649 | .419 |
| ALDRIN | (ND) | ND | 16.2 | .511 | .457 |
| DIELDRIN | (ND) | ND | 3.24 | .484 | .498 |
| ENDOSULFAN I | (ND) | ND | 1.62 | .31 | .236 |
| ENDOSULFAN II | (ND) | ND | 3.24 | .255 | .231 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.24 | .352 | .372 |
| ENDRIN | (ND) | ND | 3.24 | .48 | .458 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.24 | .244 | .241 |
| ENDRIN KETONE | (ND) | ND | 3.24 | .215 | .14 |
| HEPTACHLOR | (ND) | ND | 2.16 | .425 | .369 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.16 | .239 | .211 |
| METHOXYCHLOR | (ND) | ND | 16.2 | 1.3 | 2.24 |
| TOXAPHENE | (ND) | ND | 183 | 12.8 | 11.4 |
| PCB-1016 | (ND) | ND | 35.6 | 9.71 | 7.74 |
| PCB-1221 | (ND) | ND | 71.2 | 8.63 | 40 |
| PCB-1232 | (ND) | ND | 35.6 | 9.71 | 14.2 |
| PCB-1242 | (ND) | ND | 35.6 | .000 | 34.3 |
| PCB-1248 | (ND) | ND | 71.2 | 3.24 | 41.9 |
| PCB-1254 | (ND) | ND | 35.6 | 7.55 | 6.5 |
| PCB-1260 | (ND) | ND | 35.6 | 9.71 | 9.62 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 116 | (110) | 25-143 |
| TETRACHLORO-M-XYLENE | 69 | (69) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3010A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| G NO. | : 98H064 | Date Extracted: | 08/17/98 16:15 |
| mple ID: | 18609-967 | Date Analyzed: | 08/18/98 16:44 |
| ab Samp ID: | H064-01 | Dilution Factor: | 1 |
| ab File ID: | I07H024016 | Matrix : | WATER |
| xt Btch ID: | IPH022W | % Moisture : | NA |
| Calib. Ref.: | I07H024011 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| luminum | ND | 500 | 25.6 |
| ntimony | ND | 500 | 39.8 |
| Barium | ND | 100 | 1.41 |
| Beryllium | ND | 10 | .12 |
| admium | ND | 5 | 2.06 |
| alcium | ND | 1000 | 9.61 |
| Chromium | ND | 50 | 4.77 |
| Cobalt | ND | 50 | 6.64 |
| opper | ND | 50 | 6.47 |
| ron | ND | 50 | 4.96 |
| agnesium | ND | 1000 | 28.9 |
| Manganese | ND | 20 | .64 |
| olybdenum | ND | 100 | 9.37 |
| ickel | ND | 150 | 3.93 |
| otassium | ND | 5000 | 2960 |
| Silver | ND | 50 | 4.69 |
| odium | ND | 1000 | 38.2 |
| anadium | ND | 100 | 4.7 |
| inc | ND | 20 | 2.47 |

RL: Reporting Limit

METHOD 3010A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/17/98 16:15 |
| Sample ID: | 18609-967 | Date Analyzed: | 08/29/98 20:54 |
| Lab Samp ID: | H064-01 | Dilution Factor: | 1 |
| Lab File ID: | I31H042019 | Matrix : | WATER |
| Ext Btch ID: | IPH022W | % Moisture : | NA |
| Calib. Ref.: | I31H042014 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Arsenic | ND | 5 | 4.37 |
| Lead | ND | 5 | 1.42 |
| Selenium | ND | 5 | 4.21 |
| Thallium | ND | 50 | 3.31 |

RL: Reporting Limit

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| ient | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| G NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| ple ID: | 18609-968 | Date Analyzed: | 08/19/98 02:38 |
| ab Samp ID: | H064-02 | Dilution Factor: | 1 |
| ab File ID: | I07H025038 | Matrix : | SOIL |
| xt Btch ID: | IPH027S | % Moisture : | 12.5 |
| Calib. Ref.: | I07H025030 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| luminum | 8830 | 57.1 | 7.13 |
| ntimony | ND | 11.4 | 4.09 |
| Barium | 106 | 1.14 | .149 |
| Beryllium | .329 | .229 | .0229 |
| admium | ND | 2.29 | .08 |
| alcium | 6890 | 114 | 2.27 |
| hromium | 8.52 | 1.14 | .686 |
| Cobalt | 3.97 | 2.29 | .697 |
| opper | 30.1 | 1.14 | .846 |
| ron | 12300 | 5.71 | .823 |
| agnesium | 4870 | 114 | 6.01 |
| Manganese | 204 | 2.29 | .137 |
| olybdenum | ND | 5.71 | .743 |
| ickel | 5.28 | 2.29 | .526 |
| otassium | 3260 | 571 | 222 |
| Silver | ND | 2.28 | 1.61 |
| odium | 161 | 114 | 7.3 |
| anadium | 25.5 | 1.14 | .949 |
| inc | 58.3 | 2.29 | .297 |

RL: Reporting Limit

REPORT

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID: | 18609-968 | Date Analyzed: | 08/29/98 21:25 |
| Lab Samp ID: | H064-02 | Dilution Factor: | 1 |
| Lab File ID: | I31H042023 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 12.5 |
| Calib. Ref.: | I31H042014 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.72 | 1.14 | .586 |
| Lead | 7.34 | .571 | .302 |
| Selenium | ND | .571 | .518 |
| Thallium | ND | 5.71 | .533 |

RL: Reporting Limit

REPORT

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| mple ID | : 18609-970 | Date Analyzed: | 08/19/98 02:42 |
| Lab Samp ID | : H064-04 | Dilution Factor: | 1 |
| .ab File ID | : I07H025039 | Matrix : | SOIL |
| Ext Btch ID | : IPH027S | % Moisture : | 12.2 |
| Calib. Ref. | : I07H025030 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 9930 | 56.9 | 7.11 |
| Antimony | ND | 11.4 | 4.08 |
| Barium | 139 | 1.14 | .148 |
| Beryllium | .374 | .228 | .0228 |
| Cadmium | ND | 2.28 | .0797 |
| Calcium | 6890 | 114 | 2.27 |
| Chromium | 9.13 | 1.14 | .683 |
| Cobalt | 4.56 | 2.28 | .695 |
| Copper | 22.2 | 1.14 | .843 |
| .ron | 13000 | 5.69 | .82 |
| Magnesium | 5200 | 114 | 5.99 |
| Manganese | 218 | 2.28 | .137 |
| Molybdenum | ND | 5.69 | .74 |
| .ickel | 7.42 | 2.28 | .524 |
| Potassium | 3460 | 569 | 221 |
| Silver | ND | 2.28 | 1.61 |
| Sodium | 169 | 114 | 7.28 |
| Vanadium | 29.5 | 1.14 | .945 |
| Zinc | 46.3 | 2.28 | .296 |

RL: Reporting Limit

REVISED REPORT

7008

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID: | 18609-970 | Date Analyzed: | 08/29/98 21:45 |
| Lab Samp ID: | H064-04 | Dilution Factor: | 1 |
| Lab File ID: | I31H042026 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 12.2 |
| Calib. Ref.: | I31H042024 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.7 | 1.14 | .584 |
| Lead | 2.89 | .569 | .301 |
| Selenium | ND | .569 | .516 |
| Thallium | ND | 5.69 | .531 |

RL: Reporting Limit

RE ISED REPORT

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| DG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID | : 18609-972 | Date Analyzed: | 08/19/98 03:15 |
| Lab Samp ID | : H064-06 | Dilution Factor: | 1 |
| Lab File ID | : I07H025044 | Matrix : | SOIL |
| Ext Btch ID | : IPH027S | % Moisture : | 11.6 |
| Calib. Ref. | : I07H025042 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 8410 | 56.6 | 7.06 |
| Antimony | ND | 11.3 | 4.05 |
| Barium | 112 | 1.13 | .147 |
| Beryllium | .332 | .226 | .0226 |
| Cadmium | ND | 2.26 | .0792 |
| Calcium | 7860 | 113 | 2.25 |
| Chromium | 8.36 | 1.13 | .679 |
| Cobalt | 3.77 | 2.26 | .69 |
| Copper | 15.7 | 1.13 | .837 |
| Iron | 11100 | 5.66 | .814 |
| Magnesium | 4760 | 113 | 5.95 |
| Manganese | 206 | 2.26 | .136 |
| Molybdenum | ND | 5.66 | .735 |
| Nickel | 5.19 | 2.26 | .52 |
| Potassium | 2900 | 566 | 219 |
| Silver | ND | 2.26 | 1.6 |
| Sodium | ND | 113 | 7.23 |
| Vanadium | 25.5 | 1.13 | .939 |
| Zinc | 39.1 | 2.26 | .294 |

RL: Reporting Limit

REVISED REPORT

7010

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID: | 18609-972 | Date Analyzed: | 08/29/98 21:58 |
| Lab Samp ID: | H064-06 | Dilution Factor: | 1 |
| Lab File ID: | I31H042029 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 11.6 |
| Calib. Ref.: | I31H042024 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.41 | 1.13 | .58 |
| Lead | 2.94 | .566 | .299 |
| Selenium | ND | .566 | .512 |
| Thallium | ND | 5.66 | .527 |

RL: Reporting Limit

RE ISED REPORT

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| OHM NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID | : 18609-974 | Date Analyzed: | 08/19/98 03:26 |
| Lab Samp ID | : H064-08 | Dilution Factor: | 1 |
| Lab File ID | : I07H025046 | Matrix : | SOIL |
| Lab Btch ID | : IPH027S | % Moisture : | 13.0 |
| Calib. Ref. | : I07H025042 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 8180 | 57.5 | 7.17 |
| Antimony | ND | 11.5 | 4.11 |
| Barium | 115 | 1.15 | .149 |
| Beryllium | .309 | .23 | .023 |
| Cadmium | ND | 2.3 | .0805 |
| Calcium | 9620 | 115 | 2.29 |
| Chromium | 7.63 | 1.15 | .69 |
| Cobalt | 3.39 | 2.3 | .701 |
| Copper | 11.6 | 1.15 | .851 |
| Iron | 10800 | 5.75 | .828 |
| Magnesium | 4760 | 115 | 6.05 |
| Manganese | 192 | 2.3 | .138 |
| Molybdenum | ND | 5.75 | .747 |
| Nickel | 4.93 | 2.3 | .529 |
| Potassium | 2820 | 575 | 223 |
| Silver | ND | 2.3 | 1.62 |
| Sodium | 133 | 115 | 7.34 |
| Vanadium | 23.9 | 1.15 | .954 |
| Zinc | 37.2 | 2.3 | .299 |

RL: Reporting Limit

REVISED REPORT

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID: | 18609-974 | Date Analyzed: | 08/29/98 21:50 |
| Lab Samp ID: | H064-08 | Dilution Factor: | 1 |
| Lab File ID: | I31H042027 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 13.0 |
| Calib. Ref.: | I31H042024 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.25 | 1.15 | .59 |
| Lead | 3.16 | .575 | .303 |
| Selenium | ND | .575 | .521 |
| Thallium | ND | 5.75 | .536 |

RL: Reporting Limit

REVISED REPORT

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| `G NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| ..mple ID: | 18609-976 | Date Analyzed: | 08/19/98 03:30 |
| Lab Samp ID: | H064-10 | Dilution Factor: | 1 |
| Lab File ID: | I07H025047 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 7.3 |
| Calib. Ref.: | I07H025042 | Instrument ID : | EMAXTI07 |

| ARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 7840 | 53.9 | 6.73 |
| Antimony | ND | 10.8 | 3.86 |
| Barium | 101 | 1.08 | .14 |
| Beryllium | .305 | .216 | .0216 |
| Cadmium | ND | 2.16 | .0755 |
| Calcium | 4890 | 108 | 2.15 |
| Chromium | 7.03 | 1.08 | .647 |
| Cobalt | 3.33 | 2.16 | .658 |
| Copper | 16.6 | 1.08 | .798 |
| Iron | 11100 | 5.39 | .777 |
| Magnesium | 4430 | 108 | 5.67 |
| Manganese | 200 | 2.16 | .129 |
| Molybdenum | ND | 5.39 | .701 |
| Nickel | 3.56 | 2.16 | .496 |
| Potassium | 3220 | 539 | 209 |
| Silver | ND | 2.16 | 1.52 |
| Sodium | 153 | 108 | 6.89 |
| Vanadium | 23.7 | 1.08 | .895 |
| Zinc | 39.9 | 2.16 | .28 |

RL: Reporting Limit

REVISED REPORT

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/14/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/14/98 |
| SDG NO. | : 98H064 | Date Extracted: | 08/18/98 11:45 |
| Sample ID: | 18609-976 | Date Analyzed: | 08/29/98 21:54 |
| Lab Samp ID: | H064-10 | Dilution Factor: | 1 |
| Lab File ID: | I31H042028 | Matrix : | SOIL |
| Ext Btch ID: | IPH027S | % Moisture : | 7.3 |
| Calib. Ref.: | I31H042024 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.08 | 1.08 | .553 |
| Lead | 3.23 | .539 | .285 |
| Selenium | ND | .539 | .489 |
| Thallium | ND | 5.39 | .503 |

RL: Reporting Limit

REVISED REPORT

7015

METHOD 7470A
MERCURY BY COLD VAPOR

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | 08/19/98 10:00 |
| MATRIX: | WATER | INSTRUMENT ID: | TI03 |
| CAL REF: | M98H018-31 | PREP BATCH: | HGH020W |

| SAMPLE ID | CONTROL NO | RESULT (ug/L) | DILUTION FACTOR | RL (ug/L) | MDL (ug/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-967 | H064-01 | ND | 1 | .2 | .18 | 08/19/98 18:22 |
| MBLK1W | HGH020WB | ND | 1 | .2 | .18 | 08/19/98 17:08 |

RL: Reporting Limit
CAL REF: M98H018-7, for HGH020WB

METHOD 7471A
MERCURY BY COLD VAPOR

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | 08/18/98 10:00 |
| MATRIX: | SOIL | INSTRUMENT ID: | TI03 |
| CAL REF: | M98H016-7 | PREP BATCH: | HGH018S |

| SAMPLE ID | CONTROL NO | RESULT (mg/kg) | DL FACTOR | MOIST (%) | RL (mg/kg) | MDL (mg/kg) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|---|
| 18609-968 | H064-02 | ND | 1 | 12.5 | .11 | .032 | 08/18/98 18:32 |
| 18609-970 | H064-04 | ND | 1 | 12.2 | .11 | .032 | 08/18/98 18:41 |
| 18609-972 | H064-06 | ND | 1 | 11.6 | .11 | .032 | 08/18/98 18:44 |
| 18609-974 | H064-08 | ND | 1 | 13.0 | .11 | .032 | 08/18/98 18:47 |
| 18609-976 | H064-10 | ND | 1 | 7.3 | .11 | .03 | 08/18/98 18:50 |
| MBLK1S | HGH018SB | ND | 1 | NA | .1 | .028 | 08/18/98 18:23 |

RL: Reporting Limit

METHOD 9010A
TOTAL CYANIDE

| | | | |
|---|---|---|---|
| .IENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | 08/17/98 10:00 |
| MATRIX: | WATER | INSTRUMENT ID: | TI05 |
| CAL REF: | CNH008-29 | PREP BATCH: | CNH008W |

| SAMPLE ID | CONTROL NO | RESULT (mg/L) | DILUTION FACTOR | RL (mg/L) | MDL (mg/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-967 | H064-01 | ND | 1 | .01 | .0018 | 08/18/98 12:34 |
| MBLK1W | CNH008WB | ND | 1 | .01 | .0018 | 08/18/98 12:18 |

RL: Reporting Limit
CAL REF: CNH008-9, for CNh008WB

METHOD 9010A
TOTAL CYANIDE

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | 08/17/98 10:00 |
| MATRIX: | SOIL | INSTRUMENT ID: | TI05 |
| CAL REF: | CNH009-21 | PREP BATCH: | CNH009S |

| SAMPLE ID | CONTROL NO | RESULT (mg/kg) | DL FACTOR | MOIST (%) | RL (mg/kg) | MDL (mg/kg) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|---|
| 18609-968 | H064-02 | ND | 1 | 12.5 | .57 | .13 | 08/18/98 12:37 |
| 18609-970 | H064-04 | ND | 1 | 12.2 | .57 | .13 | 08/18/98 12:38 |
| 18609-972 | H064-06 | ND | 1 | 11.6 | .57 | .12 | 08/18/98 12:39 |
| 18609-974 | H064-08 | ND | 1 | 13.0 | .57 | .13 | 08/18/98 12:42 |
| 18609-976 | H064-10 | ND | 1 | 7.3 | .54 | .12 | 08/18/98 13:43 |
| 18609-976 | H064-10D | ND | 1 | 7.3 | .54 | .12 | 08/18/98 12:44 |
| MBLK1S | CNH009SB | ND | 1 | NA | .5 | .11 | 08/18/98 12:35 |

RL: Reporting Limit
CAL REF: CNH009-33, for H064-08, 10 and 10D

METHOD 150.1
PH

| | | | |
|---|---|---|---|
| LIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | NA |
| MATRIX: | WATER | INSTRUMENT ID: | T129 |
| CAL REF: | NA | PREP BATCH: | PHH006W |

| SAMPLE ID | CONTROL NO | RESULT (pH unit) | DILUTION FACTOR | RL (pH unit) | MDL (pH unit) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-967 | H064-01 | 5.56 | 1 | .1 | NA | 08/17/98 10:00 |
| 18609-967 | H064-01D | 5.59 | 1 | .1 | NA | 08/17/98 10:40 |

RL: Reporting Limit

METHOD 9040A
PH

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/14/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/14/98 |
| BATCH NO.: | 98H064 | DATE EXTRACTED: | NA |
| MATRIX: | SOIL | INSTRUMENT ID: | T129 |
| CAL REF: | NA | PREP BATCH: | PHH007S |

| SAMPLE ID | CONTROL NO | RESULT (pH unit) | DILUTION FACTOR | RL (pH unit) | MDL (pH unit) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-968 | H064-02 | 8.10 | 1 | .1 | NA | 08/17/98 10:50 |
| 18609-970 | H064-04 | 8.16 | 1 | .1 | NA | 08/17/98 10:55 |
| 18609-972 | H064-06 | 8.24 | 1 | .1 | NA | 08/17/98 11:00 |
| 18609-974 | H064-08 | 8.26 | 1 | .1 | NA | 08/17/98 11:05 |
| 18609-976 | H064-10 | 8.57 | 1 | .1 | NA | 08/17/98 11:10 |
| 18609-976 | H064-10D | 8.59 | 1 | .1 | NA | 08/17/98 11:15 |

RL: Reporting Limit

METHOD 5030A/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H040

Matrix : SOIL
Instrument ID : GCT039
St Intgrtd time: 1.1 MIN

| 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 | VAH0839B | ND | 91 | 1 | NA | 1 | .088 | 08/12/9814:09 | 08/12/9814:09 | EH12-4 | EH12-2 | VAH0839 | NA | 08/12/98 |
| LCS1S | VAH0839L | 5.83 | 98 | 1 | NA | 1 | .088 | 08/12/9814:43 | 08/12/9814:43 | EH12-5 | EH12-2 | VAH0839 | NA | 08/12/98 |
| LCD1S | VAH0839C | 6.09 | 98 | 1 | NA | 1 | .088 | 08/12/9815:17 | 08/12/9815:17 | EH12-6 | EH12-2 | VAH0839 | NA | 08/12/98 |
| 18609-963 | H040-05 | 1.79+ | 80 | 1 | 17.9 | 1.22 | .107 | 08/13/9802:35 | 08/13/9802:35 | EH12-26 | EH12-17 | VAH0839 | 08/11/98 | 08/11/98 |

RL : Reporting Limit
\+ Not of typical gasoline pattern, quantitated as gasoline.

4004

METHOD 5030A/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H040

Matrix : WATER
Instrument ID : GCT039
St Intgrtd time: 1.1 MIN

| 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 | VAH0839B | ND | 91 | 1 | NA | .1 | .018 | 08/12/9814:09 | 08/12/9814:09 | EH12-4 | EH12-2 | VAH0839 | NA | 08/12/98 |
| LCS1W | VAH0839L | 1.17 | 98 | 1 | NA | .1 | .018 | 08/12/9814:43 | 08/12/9814:43 | EH12-5 | EH12-2 | VAH0839 | NA | 08/12/98 |
| LCD1W | VAH0839C | 1.22 | 98 | 1 | NA | .1 | .018 | 08/12/9815:17 | 08/12/9815:17 | EH12-6 | EH12-2 | VAH0839 | NA | 08/12/98 |
| 18609-959 | H040-01 | ND | 86 | 1 | NA | .1 | .018 | 08/13/9800:19 | 08/13/9800:19 | EH12-22 | EH12-17 | VAH0839 | 08/11/98 | 08/11/98 |
| 18609-960 | H040-02 | ND | 90 | 1 | NA | .1 | .018 | 08/13/9800:53 | 08/13/9800:53 | EH12-23 | EH12-17 | VAH0839 | 08/11/98 | 08/11/98 |
| 18609-961 | H040-03 | ND | 88 | 1 | NA | .1 | .018 | 08/13/9801:27 | 08/13/9801:27 | EH12-24 | EH12-17 | VAH0839 | 08/11/98 | 08/11/98 |
| 18609-962 | H040-04 | .125+ | 89 | 1 | NA | .1 | .018 | 08/13/9802:01 | 08/13/9802:01 | EH12-25 | EH12-17 | VAH0839 | 08/11/98 | 08/11/98 |

RL : *Reporting Limit*
\+ Heavier hydrocarbons, not of typical gasoline pattern but calibrated as gasoline.

METHOD M8015

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H040
Matrix : SOIL

Date Collected : 08/11/98
DaTime Received: 08/11/98
Instrument ID : GCT015

| SAMPLE ID | CONTROL NO | RESULTS (mg/kg) | RANGE H-C | SURR1 (%) | SURR2 (%) | DLF | MOIST | RL (mg/kg) | MDL (mg/kg) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | DSH014SB | ND | N.A. | 109 | 130 | 1 | NA | 10 | 6 | 08/11/9821:50 | 08/11/9818:30 | NH10-54 | NH10-49 | DSH014S |
| LCS1S | DSH015SL | 467 | C10-C24 | 108 | 130 | 1 | NA | 10 | 6 | 08/12/9809:51 | 08/11/9818:30 | NH10-76 | NH10-75 | DSH014S |
| LCD1S | DSH015SC | 492 | C10-C24 | 107 | 130 | 1 | NA | 10 | 6 | 08/12/9810:23 | 08/11/9818:30 | NH10-77 | NH10-75 | DSH014S |
| 18609-963 | H040-05 | 21200 | C10-C34 | DO | DO | 10 | 17.9 | 122 | 73.1 | 08/12/9820:57 | 08/11/9818:30 | NH10-92 | NH10-88 | DSH014S |
| 19784-449MS | H038-03M | 540 | C12-C20 | 104 | 127 | 1 | 8.0 | 10.9 | .907 | 08/12/9812:01 | 08/11/9818:30 | NH10-80 | NH10-75 | DSH014S |
| 19784-449MSD | H038-03S | 528 | C12-C20 | 110 | 131 | 1 | 8.0 | 10.9 | .907 | 08/12/9812:35 | 08/11/9818:30 | NH10-81 | NH10-75 | DSH014S |
| 19784-450 | H038-04 | 13.6 | C11-C18 | 105 | 126 | 1 | 10.1 | 11.1 | .928 | 08/12/9813:08 | 08/11/9818:30 | NH10-82 | NH10-75 | DSH014S |

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145
SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
E : Value exceed the upper level of the initial calibration
D : Value from dilution

Sample 98h040-05 was mixed fuel pattern. Sample was quantitated against diesel calibration.

METHOD M8015

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H040
Matrix : WATER

Date Collected : 08/11/98
DaTime Received: 08/11/98
Instrument ID : GCT015

| SAMPLE ID | CONTROL NO | RESULTS (mg/L) | RANGE H-C | SURR1 (%) | SURR2 (%) | DLF | MOIST | RL (mg/L) | MDL (mg/L) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | DSH016WB | ND | N.A. | 83 | 123 | 1 | NA | .1 | 0.04 | 08/14/9814:51 | 08/12/9810:00 | NH10-155 | NH10-148 | DSH016W |
| LCS1W | DSH016WL | 4.16 | C10-C24 | 85 | 125 | 1 | NA | .1 | 0.04 | 08/14/9821:21 | 08/12/9810:00 | NH10-167 | NH10-159 | DSH016W |
| LCD1W | DSH016WC | 4.52 | C10-C24 | 94 | 126 | 1 | NA | .1 | 0.04 | 08/14/9821:54 | 08/12/9810:00 | NH10-168 | NH10-159 | DSH016W |
| 18609-960 | H040-02 | ND | N.A. | 65 | 112 | 1 | NA | .1 | 0.04 | 08/15/9801:10 | 08/12/9810:00 | NH10-174 | NH10-169 | DSH016W |
| 18609-961 | H040-03 | ND | N.A. | 70 | 102 | 1 | NA | .1 | 0.04 | 08/15/9801:44 | 08/12/9810:00 | NH10-175 | NH10-169 | DSH016W |
| 18609-962 | H040-04 | ND | N.A. | 69 | 112 | 1 | NA | .1 | 0.04 | 08/15/9802:17 | 08/12/9810:00 | NH10-176 | NH10-169 | DSH016W |

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145
SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
E : Value exceed the upper level of the initial calibration
D : Value from dilution

5105

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| tch No. | : 98H040 | DaTime Extrctd : | 08/12/98 20:58 |
| ample ID | : 18609-959 | DaTime Analyzd : | 08/12/98 20:58 |
| ab Cnt NO. | : H040-01 | Dilutn Factor : | 1 |
| ab File ID | : RHV195 | Matrix : | WATER |
| Ext Btch ID | : VOH1201B | % Moisture : | NA |
| alib. Ref. | : RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| ,1,2-Trichloroethane | ND | 5 | .515 |
| ,1-Dichloroethane | ND | 5 | 1.21 |
| 1,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| 1,2-Dichloropropane | ND | 5 | .533 |
| 2-Butanone | ND | 50 | 7.87 |
| 2-Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | ND | 50 | 1.01 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.02 |
| Acetone | ND | 50 | 10.3 |
| Benzene | ND | 5 | .849 |
| Bromodichloromethane | ND | 5 | .334 |
| Bromoform | ND | 5 | .293 |
| Bromomethane | ND | 5 | 1.53 |
| Carbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| hlorobenzene | ND | 5 | .684 |
| aloroethane | ND | 5 | 2.9 |
| Chloroform | ND | 5 | .854 |
| Chloromethane | ND | 5 | 1.69 |
| cis-1,2-Dichloroethene | ND | 5 | .973 |
| cis-1,3-Dichloropropene | ND | 5 | .474 |
| Dibromochloromethane | ND | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .955 |
| Methylene Chloride | 1.81JB | 5 | 1.76 |
| Styrene | ND | 5 | .583 |
| Tetrachloroethene | ND | 5 | 1.22 |
| Toluene | ND | 5 | .922 |
| trans-1,2-Dichloroethene | ND | 5 | 1.52 |
| trans-1,3-Dichloropropene | ND | 5 | .449 |
| Trichloroethene | ND | 5 | .9 |
| Vinyl Acetate | ND | 50 | 6.17 |
| Vinyl Chloride | ND | 5 | 1.68 |
| Xylenes | ND | 5 | 2.41 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | 62-139 |
| Toluene-d8 | 91 | 75-125 |
| Bromofluorobenzene | 96 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| Batch No. | : 98H040 | DaTime Extrctd : | 08/12/98 21:25 |
| Sample ID | : 18609-960 | DaTime Analyzd : | 08/12/98 21:25 |
| Lab Cnt NO.: | H040-02 | Dilutn Factor : | 1 |
| Lab File ID: | RHV196 | Matrix : | WATER |
| Ext Btch ID: | VOH1201B | % Moisture : | NA |
| Calib. Ref.: | RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| 1,1,2-Trichloroethane | ND | 5 | .515 |
| 1,1-Dichloroethane | ND | 5 | 1.21 |
| 1,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| 1,2-Dichloropropane | ND | 5 | .533 |
| 2-Butanone | ND | 50 | 7.87 |
| 2-Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | ND | 50 | 1.01 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.02 |
| Acetone | ND | 50 | 10.3 |
| Benzene | ND | 5 | .849 |
| Bromodichloromethane | ND | 5 | .334 |
| Bromoform | ND | 5 | .293 |
| Bromomethane | ND | 5 | 1.53 |
| Carbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| Chlorobenzene | ND | 5 | .684 |
| Chloroethane | ND | 5 | 2.9 |
| Chloroform | ND | 5 | .854 |
| Chloromethane | ND | 5 | 1.69 |
| cis-1,2-Dichloroethene | ND | 5 | .973 |
| cis-1,3-Dichloropropene | ND | 5 | .474 |
| Dibromochloromethane | ND | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .955 |
| Methylene Chloride | 1.93JB | 5 | 1.76 |
| Styrene | ND | 5 | .583 |
| Tetrachloroethene | ND | 5 | 1.22 |
| Toluene | ND | 5 | .922 |
| trans-1,2-Dichloroethene | ND | 5 | 1.52 |
| trans-1,3-Dichloropropene | ND | 5 | .449 |
| Trichloroethene | ND | 5 | .9 |
| Vinyl Acetate | ND | 50 | 6.17 |
| Vinyl Chloride | ND | 5 | 1.68 |
| Xylenes | ND | 5 | 2.41 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 89 | 62-139 |
| Toluene-d8 | 95 | 75-125 |
| Bromofluorobenzene | 97 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| tch No. | : 98H040 | DaTime Extrctd : | 08/12/98 21:52 |
| ample ID | : 18609-961 | DaTime Analyzd : | 08/12/98 21:52 |
| ab Cnt NO. | : H040-03 | Dilutn Factor : | 1 |
| ab File ID | : RHV197 | Matrix : | WATER |
| Ext Btch ID | : VOH1201B | % Moisture : | NA |
| Calib. Ref. | : RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| ,1,2-Trichloroethane | ND | 5 | .515 |
| ,1-Dichloroethane | ND | 5 | 1.21 |
| ,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| ,2-Dichloropropane | ND | 5 | .533 |
| -Butanone | ND | 50 | 7.87 |
| -Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | ND | 50 | 1.01 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.02 |
| cetone | ND | 50 | 10.3 |
| enzene | ND | 5 | .849 |
| Bromodichloromethane | 6.36 | 5 | .334 |
| romoform | ND | 5 | .293 |
| romomethane | ND | 5 | 1.53 |
| arbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| hlorobenzene | ND | 5 | .684 |
| loroethane | ND | 5 | 2.9 |
| hloroform | 10.1 | 5 | .854 |
| Chloromethane | ND | 5 | 1.69 |
| is-1,2-Dichloroethene | ND | 5 | .973 |
| is-1,3-Dichloropropene | ND | 5 | .474 |
| ibromochloromethane | 3.71J | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| ethyl tert-butyl ether (MTBE) | ND | 10 | .955 |
| ethylene Chloride | ND | 5 | 1.76 |
| tyrene | ND | 5 | .583 |
| Tetrachloroethene | ND | 5 | 1.22 |
| oluene | ND | 5 | .922 |
| rans-1,2-Dichloroethene | ND | 5 | 1.52 |
| rans-1,3-Dichloropropene | ND | 5 | .449 |
| Trichloroethene | ND | 5 | .9 |
| inyl Acetate | ND | 50 | 6.17 |
| inyl Chloride | ND | 5 | 1.68 |
| ylenes | ND | 5 | 2.41 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| ,2-Dichloroethane-d4 | 94 | 62-139 |
| Toluene-d8 | 97 | 75-125 |
| romofluorobenzene | 99 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
: An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
: Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| Batch No. | : 98H040 | DaTime Extrctd : | 08/12/98 22:20 |
| Sample ID | : 18609-962 | DaTime Analyzd : | 08/12/98 22:20 |
| Lab Cnt NO. | : H040-04 | Dilutn Factor : | 1 |
| Lab File ID | : RHV198 | Matrix : | WATER |
| Ext Btch ID | : VOH1201B | % Moisture : | NA |
| Calib. Ref. | : RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| 1,1,2-Trichloroethane | ND | 5 | .515 |
| 1,1-Dichloroethane | ND | 5 | 1.21 |
| 1,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| 1,2-Dichloropropane | ND | 5 | .533 |
| 2-Butanone | ND | 50 | 7.87 |
| 2-Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | ND | 50 | 1.01 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.02 |
| Acetone | ND | 50 | 10.3 |
| Benzene | ND | 5 | .849 |
| Bromodichloromethane | 7.94 | 5 | .334 |
| Bromoform | ND | 5 | .293 |
| Bromomethane | ND | 5 | 1.53 |
| Carbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| Chlorobenzene | ND | 5 | .684 |
| Chloroethane | ND | 5 | 2.[illegible] |
| Chloroform | 13.4 | 5 | .85[illegible] |
| Chloromethane | ND | 5 | 1.69 |
| cis-1,2-Dichloroethene | ND | 5 | .973 |
| cis-1,3-Dichloropropene | ND | 5 | .474 |
| Dibromochloromethane | 4.37J | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .955 |
| Methylene Chloride | 1.95JB | 5 | 1.76 |
| Styrene | ND | 5 | .583 |
| Tetrachloroethene | ND | 5 | 1.22 |
| Toluene | ND | 5 | .922 |
| trans-1,2-Dichloroethene | ND | 5 | 1.52 |
| trans-1,3-Dichloropropene | ND | 5 | .449 |
| Trichloroethene | ND | 5 | .9[illegible] |
| Vinyl Acetate | ND | 50 | 6.17 |
| Vinyl Chloride | ND | 5 | 1.68 |
| Xylenes | ND | 5 | 2.41 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | 62-139 |
| Toluene-d8 | 96 | 75-125 |
| Bromofluorobenzene | 100 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| Btch No. | : 98H040 | DaTime Extrctd : | 08/12/98 22:47 |
| Sample ID | : 18609-963 | DaTime Analyzd : | 08/12/98 22:47 |
| Lab Cnt NO.: | H040-05 | Dilutn Factor : | 1 |
| Lab File ID: | RHV199 | Matrix : | SOIL |
| Ext Btch ID: | VOH1201B | % Moisture : | 17.9 |
| Calib. Ref.: | RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.09 | .403 |
| 1,1,2,2-Tetrachloroethane | ND | 6.09 | .403 |
| 1,1,2-Trichloroethane | ND | 6.09 | .284 |
| 1,1-Dichloroethane | ND | 6.09 | .369 |
| 1,1-Dichloroethene | ND | 6.09 | .655 |
| 1,2-Dichloroethane | ND | 6.09 | .397 |
| 1,2-Dichloropropane | ND | 6.09 | .458 |
| 2-Butanone | ND | 60.9 | 6.24 |
| 2-Chloroethylvinylether | ND | 60.9 | .207 |
| 2-Hexanone | ND | 60.9 | 1.52 |
| 4-Methyl-2-Pentanone | ND | 60.9 | 1.38 |
| Acetone | 108 | 60.9 | 4.98 |
| Benzene | ND | 6.09 | .302 |
| Bromodichloromethane | ND | 6.09 | .315 |
| Bromoform | ND | 6.09 | .34 |
| Bromomethane | ND | 6.09 | .778 |
| Carbon Disulfide | ND | 6.09 | .153 |
| Carbon Tetrachloride | ND | 6.09 | .963 |
| Chlorobenzene | ND | 6.09 | .24 |
| Chloroethane | ND | 6.09 | 2.16 |
| Chloroform | ND | 6.09 | .516 |
| Chloromethane | ND | 6.09 | 2.51 |
| cis-1,2-Dichloroethene | ND | 6.09 | .354 |
| cis-1,3-Dichloropropene | ND | 6.09 | .27 |
| Dibromochloromethane | ND | 6.09 | .0962 |
| Ethylbenzene | ND | 6.09 | .477 |
| Methyl tert-butyl ether (MTBE) | ND | 12.2 | .452 |
| Methylene Chloride | ND | 6.09 | .498 |
| Styrene | ND | 6.09 | .533 |
| Tetrachloroethene | ND | 6.09 | .296 |
| Toluene | ND | 6.09 | .382 |
| trans-1,2-Dichloroethene | ND | 6.09 | .351 |
| trans-1,3-Dichloropropene | ND | 6.09 | .811 |
| Trichloroethene | ND | 6.09 | .311 |
| Vinyl Acetate | ND | 60.9 | .872 |
| Vinyl Chloride | ND | 6.09 | 1.23 |
| Xylenes | ND | 6.09 | 1.33 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 123 | 52-149 |
| Toluene-d8 | 130 | 65-135 |
| Bromofluorobenzene | 119 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
: Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/11/98 |
| Batch No. | : 98H040 | DaTime Extrctd : | 08/12/98 23:14 |
| Sample ID | : 18609-963DL | DaTime Analyzd : | 08/12/98 23:14 |
| Lab Cnt NO. | : H040-05T | Dilutn Factor : | 5 |
| Lab File ID | : RHV200 | Matrix : | SOIL |
| Ext Btch ID | : VOH1201B | % Moisture : | 17.9 |
| Calib. Ref. | : RHV177 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 30.5 | 2.02 |
| 1,1,2,2-Tetrachloroethane | ND | 30.5 | 2.02 |
| 1,1,2-Trichloroethane | ND | 30.5 | 1.42 |
| 1,1-Dichloroethane | ND | 30.5 | 1.85 |
| 1,1-Dichloroethene | ND | 30.5 | 3.28 |
| 1,2-Dichloroethane | ND | 30.5 | 1.99 |
| 1,2-Dichloropropane | ND | 30.5 | 2.29 |
| 2-Butanone | ND | 305 | 31.2 |
| 2-Chloroethylvinylether | ND | 305 | 1.04 |
| 2-Hexanone | ND | 305 | 7.59 |
| 4-Methyl-2-Pentanone | ND | 305 | 6.92 |
| Acetone | 183J | 305 | 24.9 |
| Benzene | ND | 30.5 | 1.51 |
| Bromodichloromethane | ND | 30.5 | 1.58 |
| Bromoform | ND | 30.5 | 1.7 |
| Bromomethane | ND | 30.5 | 3.89 |
| Carbon Disulfide | ND | 30.5 | .767 |
| Carbon Tetrachloride | ND | 30.5 | 4.82 |
| Chlorobenzene | ND | 30.5 | 1.2 |
| Chloroethane | ND | 30.5 | 10.8 |
| Chloroform | ND | 30.5 | 2.58 |
| Chloromethane | ND | 30.5 | 12.5 |
| cis-1,2-Dichloroethene | ND | 30.5 | 1.77 |
| cis-1,3-Dichloropropene | ND | 30.5 | 1.35 |
| Dibromochloromethane | ND | 30.5 | .481 |
| Ethylbenzene | ND | 30.5 | 2.39 |
| Methyl tert-butyl ether (MTBE) | ND | 60.9 | 2.26 |
| Methylene Chloride | ND | 30.5 | 2.49 |
| Styrene | ND | 30.5 | 2.67 |
| Tetrachloroethene | ND | 30.5 | 1.48 |
| Toluene | ND | 30.5 | 1.91 |
| trans-1,2-Dichloroethene | ND | 30.5 | 1.75 |
| trans-1,3-Dichloropropene | ND | 30.5 | 4.06 |
| Trichloroethene | ND | 30.5 | 1.55 |
| Vinyl Acetate | ND | 305 | 4.36 |
| Vinyl Chloride | ND | 30.5 | 6.15 |
| Xylenes | ND | 30.5 | 6.63 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | 52-149 |
| Toluene-d8 | 106 | 65-135 |
| Bromofluorobenzene | 97 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

2009

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/11/98 20:00 |
| Sample ID: | 18609-960 | Date Analyzed: | 08/19/98 18:14 |
| Lab Samp ID: | H040-02 | Dilution Factor: | 1 |
| File ID: | RHS161 | Matrix | : WATER |
| Btch ID: | SVH011W | % Moisture | : NA |
| Calib. Ref.: | RHS157 | Instrument ID | : T-004 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | ND | 10 | .86 |
| 1,2-DICHLOROBENZENE | ND | 10 | .51 |
| 1,3-DICHLOROBENZENE | ND | 10 | .8 |
| 1,4-DICHLOROBENZENE | ND | 10 | 1.12 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 10 | 4.82 |
| 2,4,5-TRICHLOROPHENOL | ND | 25 | 2.73 |
| 2,4,6-TRICHLOROPHENOL | ND | 10 | 2.64 |
| 2,4-DICHLOROPHENOL | ND | 10 | 2.43 |
| 2,4-DIMETHYLPHENOL | ND | 10 | 1.4 |
| 2,4-DINITROPHENOL | ND | 25 | 4.92 |
| 2,4-DINITROTOLUENE | ND | 10 | 2.47 |
| 2,6-DINITROTOLUENE | ND | 10 | 1.67 |
| 2-CHLORONAPHTHALENE | ND | 10 | .87 |
| 2-CHLOROPHENOL | ND | 10 | 2.23 |
| 2-METHYLNAPHTHALENE | ND | 10 | 1.03 |
| 2-METHYLPHENOL | ND | 10 | 1.53 |
| 2-NITROANILINE | ND | 25 | 3.11 |
| 2-NITROPHENOL | ND | 10 | 2.99 |
| 3,3'-DICHLOROBENZIDINE | ND | 10 | 4.38 |
| 3-NITROANILINE | ND | 25 | 1.62 |
| 4,6-DINITRO-2-METHYLPHENOL | ND | 25 | 3.17 |
| 4-BROMOPHENYL-PHENYLETHER | ND | 10 | .56 |
| 4-CHLORO-3-METHYLPHENOL | ND | 10 | 3.09 |
| 4-CHLOROANILINE | ND | 10 | 2.92 |
| 4-CHLOROPHENYL-PHENYLETHER | ND | 10 | 1.99 |
| 4-METHYLPHENOL (2) | ND | 10 | 2.15 |
| 4-NITROANILINE | ND | 25 | 3.58 |
| 4-NITROPHENOL | ND | 25 | 6.03 |
| ACENAPHTHENE | ND | 10 | 1.04 |
| ACENAPHTHYLENE | ND | 10 | .77 |
| ANTHRACENE | ND | 10 | 1.05 |
| BENZO(A)ANTHRACENE | ND | 10 | 1.04 |
| BENZO(A)PYRENE | ND | 10 | 1.27 |
| BENZO(B)FLUORANTHENE | ND | 10 | 3.14 |
| BENZO(G,H,I)PERYLENE | ND | 10 | .52 |
| BENZO(K)FLUORANTHENE | ND | 10 | 3.69 |
| BIS(2-CHLOROETHOXY)METHANE | ND | 10 | 2.14 |
| BIS(2-CHLOROETHYL)ETHER | ND | 10 | 2.61 |
| BIS(2-ETHYLHEXYL)PHTHALATE | ND | 10 | 1.46 |
| BUTYLBENZYLPHTHALATE | ND | 10 | 1.68 |
| CHRYSENE | ND | 10 | 1.46 |
| DI-N-BUTYLPHTHALATE | ND | 10 | 2.3 |
| DI-N-OCTYLPHTHALATE | ND | 10 | .89 |
| DIBENZO(A,H)ANTHRACENE | ND | 10 | 1.36 |
| DIBENZOFURAN | ND | 10 | .92 |
| DIETHYLPHTHALATE | ND | 10 | .98 |
| DIMETHYLPHTHALATE | ND | 10 | 1.07 |
| FLUORANTHENE | ND | 10 | 1.17 |
| FLUORENE | ND | 10 | 2.36 |
| HEXACHLOROBENZENE | ND | 10 | 1.23 |
| HEXACHLOROBUTADIENE | ND | 10 | .84 |
| HEXACHLOROCYCLOPENTADIENE | ND | 10 | 8.88 |
| HEXACHLOROETHANE | ND | 10 | 1.95 |
| INDENO(1,2,3-CD)PYRENE | ND | 10 | 1.17 |
| N-NITROSO-DI-N-PROPYLAMINE | ND | 10 | 1.34 |
| N-NITROSODIPHENYLAMINE (1) | ND | 10 | 1.59 |
| NAPHTHALENE | ND | 10 | 1.3 |
| NITROBENZENE | ND | 10 | 1.39 |
| PENTACHLOROPHENOL | ND | 10 | 2.94 |
| PHENANTHRENE | ND | 10 | .66 |
| PHENOL | ND | 10 | 2.43 |
| PYRENE | ND | 10 | .39 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-FLUOROPHENOL | 31 | 25-125 |
| PHENOL-D5 | 39 | 25-125 |
| NITROBENZENE-D5 | 39 | 32-125 |
| 2-FLUOROBIPHENYL | 45 | 43-125 |
| 2,4,6-TRIBROMOPHENOL | 43 | 25-134 |
| TERPHENYL-D14 | 63 | 42-126 |

PRL : Project Reporting Limit
(1) : Cannot be separated from Diphenylamine
: Cannot be separated from 3-Methylphenol

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/11/98 20:00 |
| Sample ID: | 18609-961 | Date Analyzed: | 08/17/98 15:34 |
| Lab Samp ID: | H040-03 | Dilution Factor: | 1 |
| Lab File ID: | RHS135 | Matrix : | WATER |
| Ext Btch ID: | SVH011W | % Moisture : | NA |
| Calib. Ref.: | RHS157 | Instrument ID : | T-004 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | ND | 10 | .86 |
| 1,2-DICHLOROBENZENE | ND | 10 | .51 |
| 1,3-DICHLOROBENZENE | ND | 10 | .8 |
| 1,4-DICHLOROBENZENE | ND | 10 | 1.12 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 10 | 4.82 |
| 2,4,5-TRICHLOROPHENOL | ND | 25 | 2.73 |
| 2,4,6-TRICHLOROPHENOL | ND | 10 | 2.64 |
| 2,4-DICHLOROPHENOL | ND | 10 | 2.43 |
| 2,4-DIMETHYLPHENOL | ND | 10 | 1.4 |
| 2,4-DINITROPHENOL | ND | 25 | 4.92 |
| 2,4-DINITROTOLUENE | ND | 10 | 2.47 |
| 2,6-DINITROTOLUENE | ND | 10 | 1.67 |
| 2-CHLORONAPHTHALENE | ND | 10 | .87 |
| 2-CHLOROPHENOL | ND | 10 | 2.23 |
| 2-METHYLNAPHTHALENE | ND | 10 | 1.03 |
| 2-METHYLPHENOL | ND | 10 | 1.53 |
| 2-NITROANILINE | ND | 25 | 3.11 |
| 2-NITROPHENOL | ND | 10 | 2.99 |
| 3,3'-DICHLOROBENZIDINE | ND | 10 | 4.38 |
| 3-NITROANILINE | ND | 25 | 1.62 |
| 4,6-DINITRO-2-METHYLPHENOL | ND | 25 | 3.17 |
| 4-BROMOPHENYL-PHENYLETHER | ND | 10 | .56 |
| 4-CHLORO-3-METHYLPHENOL | ND | 10 | 3.09 |
| 4-CHLOROANILINE | ND | 10 | 2.92 |
| 4-CHLOROPHENYL-PHENYLETHER | ND | 10 | 1.99 |
| 4-METHYLPHENOL (2) | ND | 10 | 2.15 |
| 4-NITROANILINE | ND | 25 | 3.58 |
| 4-NITROPHENOL | ND | 25 | 6.03 |
| ACENAPHTHENE | ND | 10 | 1.04 |
| ACENAPHTHYLENE | ND | 10 | .77 |
| ANTHRACENE | ND | 10 | 1.05 |
| BENZO(A)ANTHRACENE | ND | 10 | 1.04 |
| BENZO(A)PYRENE | ND | 10 | 1.27 |
| BENZO(B)FLUORANTHENE | ND | 10 | 3.14 |
| BENZO(G,H,I)PERYLENE | ND | 10 | .52 |
| BENZO(K)FLUORANTHENE | ND | 10 | 3.69 |
| BIS(2-CHLOROETHOXY)METHANE | ND | 10 | 2.14 |
| BIS(2-CHLOROETHYL)ETHER | ND | 10 | 2.61 |
| BIS(2-ETHYLHEXYL)PHTHALATE | ND | 10 | 1.46 |
| BUTYLBENZYLPHTHALATE | ND | 10 | 1.68 |
| CHRYSENE | ND | 10 | 1.46 |
| DI-N-BUTYLPHTHALATE | ND | 10 | 2.3 |
| DI-N-OCTYLPHTHALATE | ND | 10 | .89 |
| DIBENZO(A,H)ANTHRACENE | ND | 10 | 1.36 |
| DIBENZOFURAN | ND | 10 | .92 |
| DIETHYLPHTHALATE | ND | 10 | .98 |
| DIMETHYLPHTHALATE | ND | 10 | 1.07 |
| FLUORANTHENE | ND | 10 | 1.17 |
| FLUORENE | ND | 10 | 2.36 |
| HEXACHLOROBENZENE | ND | 10 | 1.23 |
| HEXACHLOROBUTADIENE | ND | 10 | .84 |
| HEXACHLOROCYCLOPENTADIENE | ND | 10 | 8.88 |
| HEXACHLOROETHANE | ND | 10 | 1.95 |
| INDENO(1,2,3-CD)PYRENE | ND | 10 | 1.17 |
| N-NITROSO-DI-N-PROPYLAMINE | ND | 10 | 1.34 |
| N-NITROSODIPHENYLAMINE (1) | ND | 10 | 1.59 |
| NAPHTHALENE | ND | 10 | 1.3 |
| NITROBENZENE | ND | 10 | 1.39 |
| PENTACHLOROPHENOL | ND | 10 | 2.94 |
| PHENANTHRENE | ND | 10 | .66 |
| PHENOL | ND | 10 | 2.43 |
| PYRENE | ND | 10 | .39 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-FLUOROPHENOL | 22* | 25-125 |
| PHENOL-D5 | 29 | 25-125 |
| NITROBENZENE-D5 | 25* | 32-125 |
| 2-FLUOROBIPHENYL | 39* | 43-125 |
| 2,4,6-TRIBROMOPHENOL | 47 | 25-134 |
| TERPHENYL-D14 | 54 | 42-126 |

PRL : Project Reporting Limit
(1) : Cannot be separated from Diphenylamine
(2) : Cannot be separated from 3-Methylphenol
* : Out of QC limit

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/11/98 20:00 |
| ample ID: | 18609-961 | Date Analyzed: | 08/19/98 19:06 |
| ab Samp ID: | H040-03R | Dilution Factor: | 1 |
| ab File ID: | RHS162 | Matrix | : WATER |
| Btch ID: | SVH011W | % Moisture | : NA |
| ib. Ref.: | RHS130 | Instrument ID | : T-004 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | ND | 10 | .86 |
| ,2-DICHLOROBENZENE | ND | 10 | .51 |
| ,3-DICHLOROBENZENE | ND | 10 | .8 |
| ,4-DICHLOROBENZENE | ND | 10 | 1.12 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 10 | 4.82 |
| 2,4,5-TRICHLOROPHENOL | ND | 25 | 2.73 |
| 2,4,6-TRICHLOROPHENOL | ND | 10 | 2.64 |
| ,4-DICHLOROPHENOL | ND | 10 | 2.43 |
| ,4-DIMETHYLPHENOL | ND | 10 | 1.4 |
| ,4-DINITROPHENOL | ND | 25 | 4.92 |
| 2,4-DINITROTOLUENE | ND | 10 | 2.47 |
| 2,6-DINITROTOLUENE | ND | 10 | 1.67 |
| -CHLORONAPHTHALENE | ND | 10 | .87 |
| -CHLOROPHENOL | ND | 10 | 2.23 |
| -METHYLNAPHTHALENE | ND | 10 | 1.03 |
| -METHYLPHENOL | ND | 10 | 1.53 |
| 2-NITROANILINE | ND | 25 | 3.11 |
| 2-NITROPHENOL | ND | 10 | 2.99 |
| ,3'-DICHLOROBENZIDINE | ND | 10 | 4.38 |
| -NITROANILINE | ND | 25 | 1.62 |
| 6-DINITRO-2-METHYLPHENOL | ND | 25 | 3.17 |
| 4-BROMOPHENYL-PHENYLETHER | ND | 10 | .56 |
| 4-CHLORO-3-METHYLPHENOL | ND | 10 | 3.09 |
| -CHLOROANILINE | ND | 10 | 2.92 |
| -CHLOROPHENYL-PHENYLETHER | ND | 10 | 1.99 |
| -METHYLPHENOL (2) | ND | 10 | 2.15 |
| -NITROANILINE | ND | 25 | 3.58 |
| 4-NITROPHENOL | ND | 25 | 6.03 |
| ACENAPHTHENE | ND | 10 | 1.04 |
| ENAPHTHYLENE | ND | 10 | .77 |
| ITHRACENE | ND | 10 | 1.05 |
| NZO(A)ANTHRACENE | ND | 10 | 1.04 |
| BENZO(A)PYRENE | ND | 10 | 1.27 |
| BENZO(B)FLUORANTHENE | ND | 10 | 3.14 |
| BENZO(G,H,I)PERYLENE | ND | 10 | .52 |
| O(K)FLUORANTHENE | ND | 10 | 3.69 |
| 2-CHLOROETHOXY)METHANE | ND | 10 | 2.14 |
| S(2-CHLOROETHYL)ETHER | ND | 10 | 2.61 |
| BIS(2-ETHYLHEXYL)PHTHALATE | ND | 10 | 1.46 |
| BUTYLBENZYLPHTHALATE | ND | 10 | 1.68 |
| IRYSENE | ND | 10 | 1.46 |
| -N-BUTYLPHTHALATE | ND | 10 | 2.3 |
| -N-OCTYLPHTHALATE | ND | 10 | .89 |
| IBENZO(A,H)ANTHRACENE | ND | 10 | 1.36 |
| DIBENZOFURAN | ND | 10 | .92 |
| DIETHYLPHTHALATE | ND | 10 | .98 |
| METHYLPHTHALATE | ND | 10 | 1.07 |
| UORANTHENE | ND | 10 | 1.17 |
| UORENE | ND | 10 | 2.36 |
| HEXACHLOROBENZENE | ND | 10 | 1.23 |
| HEXACHLOROBUTADIENE | ND | 10 | .84 |
| HEXACHLOROCYCLOPENTADIENE | ND | 10 | 8.88 |
| XACHLOROETHANE | ND | 10 | 1.95 |
| DENO(1,2,3-CD)PYRENE | ND | 10 | 1.17 |
| NITROSO-DI-N-PROPYLAMINE | ND | 10 | 1.34 |
| N-NITROSODIPHENYLAMINE (1) | ND | 10 | 1.59 |
| NAPHTHALENE | ND | 10 | 1.3 |
| TROBENZENE | ND | 10 | 1.39 |
| NTACHLOROPHENOL | ND | 10 | 2.94 |
| ENANTHRENE | ND | 10 | .66 |
| PHENOL | ND | 10 | 2.43 |
| PYRENE | ND | 10 | .39 |

| RROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| FLUOROPHENOL | 22* | 25-125 |
| PHENOL-D5 | 30 | 25-125 |
| NITROBENZENE-D5 | 25* | 32-125 |
| -FLUOROBIPHENYL | 37* | 43-125 |
| 4,6-TRIBROMOPHENOL | 48 | 25-134 |
| RPHENYL-D14 | 51 | 42-126 |

PRL : Project Reporting Limit
(1) : Cannot be separated from Diphenylamine
) : Cannot be separated from 3-Methylphenol
: Out of QC limit

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/11/98 20:00 |
| Sample ID: | 18609-962 | Date Analyzed: | 08/19/98 19:57 |
| Lab Samp ID: | H040-04 | Dilution Factor: | 1 |
| Lab File ID: | RHS163 | Matrix | : WATER |
| Ext Btch ID: | SVH011W | % Moisture | : NA |
| Calib. Ref.: | RHS157 | Instrument ID | : T-004 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | ND | 10 | .86 |
| 1,2-DICHLOROBENZENE | ND | 10 | .51 |
| 1,3-DICHLOROBENZENE | ND | 10 | .8 |
| 1,4-DICHLOROBENZENE | ND | 10 | 1.12 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 10 | 4.82 |
| 2,4,5-TRICHLOROPHENOL | ND | 25 | 2.73 |
| 2,4,6-TRICHLOROPHENOL | ND | 10 | 2.64 |
| 2,4-DICHLOROPHENOL | ND | 10 | 2.43 |
| 2,4-DIMETHYLPHENOL | ND | 10 | 1.4 |
| 2,4-DINITROPHENOL | ND | 25 | 4.92 |
| 2,4-DINITROTOLUENE | ND | 10 | 2.47 |
| 2,6-DINITROTOLUENE | ND | 10 | 1.67 |
| 2-CHLORONAPHTHALENE | ND | 10 | .87 |
| 2-CHLOROPHENOL | ND | 10 | 2.23 |
| 2-METHYLNAPHTHALENE | ND | 10 | 1.03 |
| 2-METHYLPHENOL | ND | 10 | 1.53 |
| 2-NITROANILINE | ND | 25 | 3.11 |
| 2-NITROPHENOL | ND | 10 | 2.99 |
| 3,3'-DICHLOROBENZIDINE | ND | 10 | 4.38 |
| 3-NITROANILINE | ND | 25 | 1.62 |
| 4,6-DINITRO-2-METHYLPHENOL | ND | 25 | 3.17 |
| 4-BROMOPHENYL-PHENYLETHER | ND | 10 | .56 |
| 4-CHLORO-3-METHYLPHENOL | ND | 10 | 3.09 |
| 4-CHLOROANILINE | ND | 10 | 2.92 |
| 4-CHLOROPHENYL-PHENYLETHER | ND | 10 | 1.99 |
| 4-METHYLPHENOL (2) | ND | 10 | 2.15 |
| 4-NITROANILINE | ND | 25 | 3.58 |
| 4-NITROPHENOL | ND | 25 | 6.03 |
| ACENAPHTHENE | ND | 10 | 1.04 |
| ACENAPHTHYLENE | ND | 10 | .77 |
| ANTHRACENE | ND | 10 | 1.05 |
| BENZO(A)ANTHRACENE | ND | 10 | 1.04 |
| BENZO(A)PYRENE | ND | 10 | 1.27 |
| BENZO(B)FLUORANTHENE | ND | 10 | 3.14 |
| BENZO(G,H,I)PERYLENE | ND | 10 | .52 |
| BENZO(K)FLUORANTHENE | ND | 10 | 3.69 |
| BIS(2-CHLOROETHOXY)METHANE | ND | 10 | 2.14 |
| BIS(2-CHLOROETHYL)ETHER | ND | 10 | 2.61 |
| BIS(2-ETHYLHEXYL)PHTHALATE | ND | 10 | 1.46 |
| BUTYLBENZYLPHTHALATE | ND | 10 | 1.68 |
| CHRYSENE | ND | 10 | 1.46 |
| DI-N-BUTYLPHTHALATE | ND | 10 | 2.3 |
| DI-N-OCTYLPHTHALATE | ND | 10 | .89 |
| DIBENZO(A,H)ANTHRACENE | ND | 10 | 1.36 |
| DIBENZOFURAN | ND | 10 | .92 |
| DIETHYLPHTHALATE | ND | 10 | .98 |
| DIMETHYLPHTHALATE | ND | 10 | 1.07 |
| FLUORANTHENE | ND | 10 | 1.17 |
| FLUORENE | ND | 10 | 2.36 |
| HEXACHLOROBENZENE | ND | 10 | 1.23 |
| HEXACHLOROBUTADIENE | ND | 10 | .84 |
| HEXACHLOROCYCLOPENTADIENE | ND | 10 | 8.88 |
| HEXACHLOROETHANE | ND | 10 | 1.95 |
| INDENO(1,2,3-CD)PYRENE | ND | 10 | 1.17 |
| N-NITROSO-DI-N-PROPYLAMINE | ND | 10 | 1.34 |
| N-NITROSODIPHENYLAMINE (1) | ND | 10 | 1.59 |
| NAPHTHALENE | ND | 10 | 1.3 |
| NITROBENZENE | ND | 10 | 1.39 |
| PENTACHLOROPHENOL | ND | 10 | 2.94 |
| PHENANTHRENE | ND | 10 | .66 |
| PHENOL | ND | 10 | 2.43 |
| PYRENE | ND | 10 | .39 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-FLUOROPHENOL | 39 | 25-125 |
| PHENOL-D5 | 49 | 25-125 |
| NITROBENZENE-D5 | 45 | 32-125 |
| 2-FLUOROBIPHENYL | 56 | 43-125 |
| 2,4,6-TRIBROMOPHENOL | 56 | 25-134 |
| TERPHENYL-D14 | 70 | 42-126 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| atch No. | : 98H040 | Date Extracted: | 08/12/98 13:00 |
| ample ID: | 18609-963 | Date Analyzed: | 08/13/98 07:52 |
| ab Samp ID: | H040-05 | Dilution Factor: | 20 |
| File ID: | RHB158 | Matrix : | SOIL |
| Btch ID: | SVH012S | % Moisture : | 17.9 |
| alib. Ref.: | RHB148 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | RL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| ,2,4-TRICHLOROBENZENE | ND | 8040 | 3310 |
| ,2-DICHLOROBENZENE | ND | 8040 | 3130 |
| ,3-DICHLOROBENZENE | ND | 8040 | 3040 |
| 1,4-DICHLOROBENZENE | ND | 8040 | 2850 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 8040 | 3640 |
| ,4,5-TRICHLOROPHENOL | ND | 20200 | 1970 |
| ,4,6-TRICHLOROPHENOL | ND | 8040 | 2880 |
| ,4-DICHLOROPHENOL | ND | 8040 | 3750 |
| 2,4-DIMETHYLPHENOL | ND | 8040 | 2790 |
| 2,4-DINITROPHENOL | ND | 20200 | 3940 |
| ,4-DINITROTOLUENE | ND | 8040 | 1460 |
| ,6-DINITROTOLUENE | ND | 8040 | 1800 |
| -CHLORONAPHTHALENE | ND | 8040 | 3240 |
| -CHLOROPHENOL | ND | 8040 | 2960 |
| 2-METHYLNAPHTHALENE | ND | 8040 | 3520 |
| 2-METHYLPHENOL | ND | 8040 | 3360 |
| -NITROANILINE | ND | 20200 | 2160 |
| -NITROPHENOL | ND | 8040 | 3660 |
| ,3'-DICHLOROBENZIDINE | ND | 8040 | 1790 |
| 3-NITROANILINE | ND | 20200 | 2120 |
| 4,6-DINITRO-2-METHYLPHENOL | ND | 20200 | 2740 |
| -BROMOPHENYL-PHENYLETHER | ND | 8040 | 1890 |
| -CHLORO-3-METHYLPHENOL | ND | 8040 | 2670 |
| -CHLOROANILINE | ND | 8040 | 2930 |
| 4-CHLOROPHENYL-PHENYLETHER | ND | 8040 | 2000 |
| 4-METHYLPHENOL (2) | ND | 8040 | 3400 |
| -NITROANILINE | ND | 20200 | 1710 |
| -NITROPHENOL | ND | 20200 | 3710 |
| CENAPHTHENE | ND | 8040 | 2530 |
| ACENAPHTHYLENE | ND | 8040 | 2500 |
| ANTHRACENE | ND | 8040 | 1630 |
| BENZO(A)ANTHRACENE | ND | 8040 | 1670 |
| ZO(A)PYRENE | ND | 6090 | 901 |
| ZO(B)FLUORANTHENE | ND | 8040 | 1550 |
| ENZO(G,H,I)PERYLENE | ND | 8040 | 1010 |
| BENZO(K)FLUORANTHENE | ND | 8040 | 1660 |
| BIS(2-CHLOROETHOXY)METHANE | ND | 8040 | 3640 |
| IS(2-CHLOROETHYL)ETHER | ND | 1220 | 3330 |
| IS(2-ETHYLHEXYL)PHTHALATE | 49100 | 8040 | 2080 |
| UTYLBENZYLPHTHALATE | ND | 8040 | 1840 |
| CHRYSENE | ND | 8040 | 2190 |
| DI-N-BUTYLPHTHALATE | ND | 8040 | 1940 |
| I-N-OCTYLPHTHALATE | ND | 8040 | 1220 |
| IBENZO(A,H)ANTHRACENE | ND | 6090 | 767 |
| IBENZOFURAN | ND | 8040 | 2520 |
| IETHYLPHTHALATE | ND | 8040 | 1330 |
| DIMETHYLPHTHALATE | ND | 8040 | 1460 |
| FLUORANTHENE | ND | 8040 | 1890 |
| LUORENE | ND | 8040 | 1800 |
| EXACHLOROBENZENE | ND | 8040 | 2200 |
| EXACHLOROBUTADIENE | ND | 8040 | 3420 |
| HEXACHLOROCYCLOPENTADIENE | ND | 8040 | 4330 |
| HEXACHLOROETHANE | ND | 8040 | 3070 |
| NDENO(1,2,3-CD)PYRENE | ND | 8040 | 1010 |
| -NITROSO-DI-N-PROPYLAMINE | ND | 6090 | 3440 |
| -NITROSODIPHENYLAMINE (1) | ND | 8040 | 1750 |
| NAPHTHALENE | ND | 8040 | 3290 |
| NITROBENZENE | ND | 8040 | 3250 |
| ENTACHLOROPHENOL | ND | 8040 | 1960 |
| HENANTHRENE | ND | 8040 | 1620 |
| HENOL | ND | 8040 | 3890 |
| YRENE | ND | 8040 | 2190 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -FLUOROPHENOL | DO | 25-135 |
| HENOL-D5 | DO | 25-135 |
| NITROBENZENE-D5 | DO | 25-135 |
| 2-FLUOROBIPHENYL | DO | 34-135 |
| ,4,6-TRIBROMOPHENOL | DO | 25-144 |
| ERPHENYL-D14 | DO | 32-136 |

: Project Reporting Limit
: Cannot be separated from Diphenylamine
: Cannot be separated from 3-Methylphenol

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/12/98 13:00 |
| Sample ID: | 18609-963RE | Date Analyzed: | 08/14/98 17:51 |
| Lab Samp ID: | H040-05R | Dilution Factor: | 20 |
| Lab File ID: | RHB193 | Matrix : | SOIL |
| Ext Btch ID: | SVH012S | % Moisture : | 17.9 |
| Calib. Ref.: | RHB192 | Instrument ID : | T-003 |

| PARAMETERS | RESULTS (ug/kg) | RL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | ND | 8040 | 3310 |
| 1,2-DICHLOROBENZENE | ND | 8040 | 3130 |
| 1,3-DICHLOROBENZENE | ND | 8040 | 3040 |
| 1,4-DICHLOROBENZENE | ND | 8040 | 2850 |
| 2,2'-OXYBIS(1-CHLOROPROPANE) | ND | 8040 | 3640 |
| 2,4,5-TRICHLOROPHENOL | ND | 20200 | 1970 |
| 2,4,6-TRICHLOROPHENOL | ND | 8040 | 2880 |
| 2,4-DICHLOROPHENOL | ND | 8040 | 3750 |
| 2,4-DIMETHYLPHENOL | ND | 8040 | 2790 |
| 2,4-DINITROPHENOL | ND | 20200 | 3940 |
| 2,4-DINITROTOLUENE | ND | 8040 | 1460 |
| 2,6-DINITROTOLUENE | ND | 8040 | 1800 |
| 2-CHLORONAPHTHALENE | ND | 8040 | 3240 |
| 2-CHLOROPHENOL | ND | 8040 | 2960 |
| 2-METHYLNAPHTHALENE | ND | 8040 | 3520 |
| 2-METHYLPHENOL | ND | 8040 | 3360 |
| 2-NITROANILINE | ND | 20200 | 2160 |
| 2-NITROPHENOL | ND | 8040 | 3660 |
| 3,3'-DICHLOROBENZIDINE | ND | 8040 | 1790 |
| 3-NITROANILINE | ND | 20200 | 2120 |
| 4,6-DINITRO-2-METHYLPHENOL | ND | 20200 | 2740 |
| 4-BROMOPHENYL-PHENYLETHER | ND | 8040 | 1890 |
| 4-CHLORO-3-METHYLPHENOL | ND | 8040 | 2670 |
| 4-CHLOROANILINE | ND | 8040 | 2930 |
| 4-CHLOROPHENYL-PHENYLETHER | ND | 8040 | 2000 |
| 4-METHYLPHENOL (2) | ND | 8040 | 3400 |
| 4-NITROANILINE | ND | 20200 | 1710 |
| 4-NITROPHENOL | ND | 20200 | 3710 |
| ACENAPHTHENE | ND | 8040 | 2530 |
| ACENAPHTHYLENE | ND | 8040 | 2500 |
| ANTHRACENE | ND | 8040 | 1630 |
| BENZO(A)ANTHRACENE | ND | 8040 | 1670 |
| BENZO(A)PYRENE | ND | 6090 | 901 |
| BENZO(B)FLUORANTHENE | ND | 8040 | 1550 |
| BENZO(G,H,I)PERYLENE | ND | 8040 | 1010 |
| BENZO(K)FLUORANTHENE | ND | 8040 | 1660 |
| BIS(2-CHLOROETHOXY)METHANE | ND | 8040 | 3640 |
| BIS(2-CHLOROETHYL)ETHER | ND | 1220 | 3330 |
| BIS(2-ETHYLHEXYL)PHTHALATE | 13600 | 8040 | 2080 |
| BUTYLBENZYLPHTHALATE | ND | 8040 | 1840 |
| CHRYSENE | ND | 8040 | 2190 |
| DI-N-BUTYLPHTHALATE | ND | 8040 | 1940 |
| DI-N-OCTYLPHTHALATE | ND | 8040 | 1220 |
| DIBENZO(A,H)ANTHRACENE | ND | 6090 | 767 |
| DIBENZOFURAN | ND | 8040 | 2520 |
| DIETHYLPHTHALATE | ND | 8040 | 1330 |
| DIMETHYLPHTHALATE | ND | 8040 | 1460 |
| FLUORANTHENE | ND | 8040 | 1890 |
| FLUORENE | ND | 8040 | 1800 |
| HEXACHLOROBENZENE | ND | 8040 | 2200 |
| HEXACHLOROBUTADIENE | ND | 8040 | 3420 |
| HEXACHLOROCYCLOPENTADIENE | ND | 8040 | 4330 |
| HEXACHLOROETHANE | ND | 8040 | 3070 |
| INDENO(1,2,3-CD)PYRENE | ND | 8040 | 1010 |
| N-NITROSO-DI-N-PROPYLAMINE | ND | 6090 | 3440 |
| N-NITROSODIPHENYLAMINE (1) | ND | 8040 | 1750 |
| NAPHTHALENE | ND | 8040 | 3290 |
| NITROBENZENE | ND | 8040 | 3250 |
| PENTACHLOROPHENOL | ND | 8040 | 1960 |
| PHENANTHRENE | ND | 8040 | 1620 |
| PHENOL | ND | 8040 | 3890 |
| PYRENE | ND | 8040 | 2190 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-FLUOROPHENOL | DO | 25-135 |
| PHENOL-D5 | DO | 25-135 |
| NITROBENZENE-D5 | DO | 25-135 |
| 2-FLUOROBIPHENYL | DO | 34-135 |
| 2,4,6-TRIBROMOPHENOL | DO | 25-144 |
| TERPHENYL-D14 | DO | 32-136 |

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

METHOD 3520B/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| ient | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| ɔject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| 3 No. | : 98H040 | Date Extracted: | 08/14/98 17:00 |
| Sample ID: | 18609-960 | Date Analyzed: | 08/15/98 17:25 |
| ɔ Samp ID: | H040-02 | Dilution Factor: | 1 |
| ɔ File ID: | SH15012A | Matrix : | WATER |
| Ext Btch ID: | CPH021W | % Moisture : | NA |
| lib. Ref.: | SH15003A | Instrument ID : | GCT008 |

| RAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ALPHA-BHC | (ND)\|ND | .03 | .015\|.02 |
| BETA-BHC | (ND)\|ND | .03 | .013\|.021 |
| TA-BHC | (ND)\|.0386 | .03 | .018\|.025 |
| MA-BHC (LINDANE) | (ND)\|ND | .06 | .015\|.032 |
| ALPHA-CHLORDANE | (ND)\|ND | .03 | .013\|.012 |
| GAMMA-CHLORDANE | (ND)\|ND | .03 | .012\|.011 |
| 4 '-DDD | (ND)\|ND | .5 | .02\|.047 |
| 4,4'-DDE | (ND)\|ND | .58 | .022\|.02 |
| 4,4'-DDT | (ND)\|ND | .1 | .025\|.027 |
| RIN | (ND)\|ND | .06 | .031\|.018 |
| LDRIN | (ND)\|ND | .03 | .022\|.021 |
| ENDOSULFAN I | (ND)\|ND | .03 | .011\|.012 |
| ENDOSULFAN II | (ND)\|ND | .2 | .016\|.117 |
| OSULFAN SULFATE | (ND)\|ND | .1 | .033\|.02 |
| RIN | (ND)\|ND | .1 | .021\|.025 |
| ENDRIN ALDEHYDE | .0243J\|(ND) | .1 | .018\|.023 |
| ENDRIN KETONE | (ND)\|ND | .1 | .024\|.024 |
| H CHLOR | (ND)\|ND | .03 | .019\|.02 |
| TACHLOR EPOXIDE | (ND)\|ND | .03 | .012\|.013 |
| METHOXYCHLOR | (ND)\|ND | .5 | .12\|.117 |
| TAPHENE | (ND)\|ND | .5 | .588\|.572 |
| -1016 | (ND)\|ND | 1 | .834\|.603 |
| PCB-1221 | (ND)\|ND | 2 | 1.12\|.831 |
| PCB-1232 | (ND)\|ND | 1 | .388\|.574 |
| -1242 | (ND)\|ND | 1 | .465\|.249 |
| -1248 | (ND)\|ND | 1 | .432\|.354 |
| PCB-1254 | (ND)\|ND | 1 | .299\|.495 |
| PCB-1260 | (ND)\|ND | 1 | .387\|.342 |

| ROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| ACHLOROBIPHENYL | 123\|(119) | 34-133 |
| RACHLORO-M-XYLENE | 83\|(51) | 45-125 |

PRL: Project Reporting Limit
L t of | is result from the first column. Right of | is result from the s ond column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3520B/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/14/98 17:00 |
| Sample ID: | 18609-961 | Date Analyzed: | 08/15/98 17:52 |
| Lab Samp ID: | H040-03 | Dilution Factor: | 1 |
| Lab File ID: | SH15013A | Matrix : | WATER |
| Ext Btch ID: | CPH021W | % Moisture : | NA |
| Calib. Ref.: | SH15003A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ALPHA-BHC | (ND)\|ND | .03 | .015\|.02 |
| BETA-BHC | (ND)\|ND | .03 | .013\|.021 |
| DELTA-BHC | (ND)\|.034 | .03 | .018\|.025 |
| GAMMA-BHC (LINDANE) | (ND)\|ND | .06 | .015\|.032 |
| ALPHA-CHLORDANE | (ND)\|ND | .03 | .013\|.012 |
| GAMMA-CHLORDANE | (ND)\|ND | .03 | .012\|.011 |
| 4,4'-DDD | (ND)\|ND | .5 | .02\|.047 |
| 4,4'-DDE | (ND)\|ND | .58 | .022\|.02 |
| 4,4'-DDT | (ND)\|ND | .1 | .025\|.027 |
| ALDRIN | (ND)\|ND | .06 | .031\|.018 |
| DIELDRIN | (ND)\|ND | .03 | .022\|.021 |
| ENDOSULFAN I | (ND)\|ND | .03 | .011\|.012 |
| ENDOSULFAN II | (ND)\|ND | .2 | .016\|.117 |
| ENDOSULFAN SULFATE | (ND)\|ND | .1 | .033\|.02 |
| ENDRIN | (ND)\|ND | .1 | .021\|.025 |
| ENDRIN ALDEHYDE | (ND)\|ND | .1 | .018\|.023 |
| ENDRIN KETONE | (ND)\|ND | .1 | .024\|.024 |
| HEPTACHLOR | (ND)\|ND | .03 | .019\|.02 |
| HEPTACHLOR EPOXIDE | (ND)\|ND | .03 | .012\|.013 |
| METHOXYCHLOR | (ND)\|ND | .5 | .12\|.117 |
| TOXAPHENE | (ND)\|ND | .5 | .588\|.572 |
| PCB-1016 | (ND)\|ND | 1 | .834\|.603 |
| PCB-1221 | (ND)\|ND | 2 | 1.12\|.831 |
| PCB-1232 | (ND)\|ND | 1 | .388\|.574 |
| PCB-1242 | (ND)\|ND | 1 | .465\|.249 |
| PCB-1248 | (ND)\|ND | 1 | .432\|.354 |
| PCB-1254 | (ND)\|ND | 1 | .299\|.495 |
| PCB-1260 | (ND)\|ND | 1 | .387\|.342 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| DECACHLOROBIPHENYL | (120)\|121 | 34-133 |
| TETRACHLORO-M-XYLENE | (54)\|48 | 45-125 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3520B/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| ient | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| ·iect | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| E ı No. | : 98H040 | Date Extracted: | 08/14/98 17:00 |
| ·mple ID: | 18609-962 | Date Analyzed: | 08/15/98 18:19 |
| b Samp ID: | H040-04 | Dilution Factor: | 1 |
| b File ID: | SH15014A | Matrix : | WATER |
| Ext Btch ID: | CPH021W | % Moisture : | NA |
| lib. Ref.: | SH15003A | Instrument ID : | GCT008 |

| RAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ALPHA-BHC | (ND)\|ND | .03 | .015\|.02 |
| BETA-BHC | (ND)\|ND | .03 | .013\|.021 |
| LTA-BHC | (ND)\|ND | .03 | .018\|.025 |
| MMA-BHC (LINDANE) | (ND)\|ND | .06 | .015\|.032 |
| ALPHA-CHLORDANE | (ND)\|ND | .03 | .013\|.012 |
| MMA-CHLORDANE | (ND)\|ND | .03 | .012\|.011 |
| 4'-DDD | (ND)\|ND | .5 | .02\|.047 |
| 4,4'-DDE | (ND)\|ND | .58 | .022\|.02 |
| 4,4'-DDT | (ND)\|ND | .1 | .025\|.027 |
| DRIN | (ND)\|ND | .06 | .031\|.018 |
| ELDRIN | (ND)\|ND | .03 | .022\|.021 |
| ENDOSULFAN I | (ND)\|ND | .03 | .011\|.012 |
| ENDOSULFAN II | (ND)\|ND | .2 | .016\|.117 |
| DOSULFAN SULFATE | (ND)\|ND | .1 | .033\|.02 |
| DRIN | (ND)\|ND | .1 | .021\|.025 |
| ENDRIN ALDEHYDE | .0248J\|(ND) | .1 | .018\|.023 |
| DRIN KETONE | (ND)\|ND | .1 | .024\|.024 |
| ACHLOR | (ND)\|ND | .03 | .019\|.02 |
| EPTACHLOR EPOXIDE | (ND)\|.0209J | .03 | .012\|.013 |
| METHOXYCHLOR | (ND)\|ND | .5 | .12\|.117 |
| XAPHENE | (ND)\|ND | .5 | .588\|.572 |
| B-1016 | (ND)\|ND | 1 | .834\|.603 |
| PCB-1221 | (ND)\|ND | 2 | 1.12\|.831 |
| PCB-1232 | (ND)\|ND | 1 | .388\|.574 |
| B-1242 | (ND)\|ND | 1 | .465\|.249 |
| B-1248 | (ND)\|ND | 1 | .432\|.354 |
| PCB-1254 | (ND)\|ND | 1 | .299\|.495 |
| B-1260 | (ND)\|ND | 1 | .387\|.342 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| CACHLOROBIPHENYL | 111\|(106) | 34-133 |
| TRACHLORO-M-XYLENE | 84\|(69) | 45-125 |

PRL: Project Reporting Limit
ft of | is result from the first column. Right of | is result from the
cond column. ( ) Final result
* Outside of QC limit
: An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3550A/8081
PESTICIDES/PCBS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| Batch No. | : 98H040 | Date Extracted: | 08/12/98 14:00 |
| Sample ID: | 18609-963 | Date Analyzed: | 08/13/98 01:2 |
| Lab Samp ID: | H040-05 | Dilution Factor: | 1 |
| Lab File ID: | SH12031A | Matrix : | SOIL |
| Ext Btch ID: | CPH016S | % Moisture : | 17.9 |
| Calib. Ref.: | SH12024A | Instrument ID : | GCT008 |

| PARAMETERS | RESULTS (ug/kg) | | PQL (ug/kg) | MDL (ug/kg) | |
|---|---|---|---|---|---|
| ALPHA-BHC | (ND) | .472J | 1.83 | .49 | .414 |
| BETA-BHC | (ND) | ND | 18.3 | .384 | .496 |
| DELTA-BHC | (ND) | 53.3 | 18.3 | .312 | .211 |
| GAMMA-BHC (LINDANE) | (ND) | ND | 18.3 | .443 | .475 |
| ALPHA-CHLORDANE | (ND) | ND | 18.3 | .27 | .255 |
| GAMMA-CHLORDANE | .553J | (ND) | 18.3 | .291 | .234 |
| 4,4'-DDD | (ND) | ND | 3.65 | .358 | .362 |
| 4,4'-DDE | (ND) | 1.34J | 3.65 | .503 | .901 |
| 4,4'-DDT | (ND) | ND | 3.65 | .733 | .473 |
| ALDRIN | (ND) | .654J | 18.3 | .577 | .516 |
| DIELDRIN | (ND) | ND | 3.65 | .547 | .563 |
| ENDOSULFAN I | .721J | (ND) | 1.83 | .35 | .267 |
| ENDOSULFAN II | (ND) | ND | 3.65 | .287 | .261 |
| ENDOSULFAN SULFATE | (ND) | ND | 3.65 | .397 | .42 |
| ENDRIN | (ND) | ND | 3.65 | .542 | .518 |
| ENDRIN ALDEHYDE | (ND) | ND | 3.65 | .275 | .272 |
| ENDRIN KETONE | (ND) | ND | 3.65 | .242 | .158 |
| HEPTACHLOR | (ND) | ND | 2.44 | .48 | .417 |
| HEPTACHLOR EPOXIDE | (ND) | ND | 2.44 | .27 | .239 |
| METHOXYCHLOR | (ND) | ND | 18.3 | 1.46 | 2.53 |
| TOXAPHENE | (ND) | ND | 207 | 14.4 | 12.9 |
| PCB-1016 | (ND) | ND | 40.2 | 9.83 | 8.73 |
| PCB-1221 | (ND) | ND | 80.4 | 40.3 | 45.1 |
| PCB-1232 | (ND) | ND | 40.2 | 16.8 | 16 |
| PCB-1242 | (ND) | ND | 40.2 | 33.1 | 38.7 |
| PCB-1248 | (ND) | ND | 80.4 | 42.7 | 47.3 |
| PCB-1254 | (ND) | ND | 40.2 | 6.94 | 7.33 |
| PCB-1260 | (ND) | ND | 40.2 | 7.6 | 10.9 |

| SURROGATE PARAMETERS | % RECOVERY | | QC LIMIT |
|---|---|---|---|
| DECACHLOROBIPHENYL | 0* | (15*) | 25-143 |
| TETRACHLORO-M-XYLENE | 0* | (52) | 35-135 |

PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the second column. ( ) Final result
* Outside of QC limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

REVISED REPORT

METHOD 3010A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| roject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| ple ID: | 18609-960 | Date Analyzed: | 08/12/98 21:59 |
| ab Samp ID: | H040-02 | Dilution Factor: | 1 |
| ab File ID: | I07H016042 | Matrix : | WATER |
| xt Btch ID: | IPH016W | % Moisture : | NA |
| Calib. Ref.: | I07H016034 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| luminum | ND | 500 | 25.6 |
| ntimony | ND | 500 | 39.8 |
| Barium | ND | 100 | 1.41 |
| Beryllium | ND | 10 | .12 |
| admium | ND | 5 | 2.06 |
| alcium | 62700 | 1000 | 9.61 |
| Chromium | ND | 50 | 4.77 |
| Cobalt | ND | 50 | 6.64 |
| Copper | ND | 50 | 6.47 |
| ron | ND | 50 | 4.96 |
| agnesium | 24300 | 1000 | 28.9 |
| Manganese | ND | 20 | .64 |
| Molybdenum | ND | 100 | 9.37 |
| ickel | ND | 150 | 3.93 |
| otassium | ND | 5000 | 2960 |
| Silver | ND | 50 | 4.69 |
| Sodium | 87100 | 1000 | 38.2 |
| anadium | ND | 100 | 4.7 |
| inc | ND | 20 | 2.47 |

RL: Reporting Limit

METHOD 3010A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| SDG NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| Sample ID: | 18609-960 | Date Analyzed: | 08/14/98 13:15 |
| Lab Samp ID: | H040-02 | Dilution Factor: | 1 |
| Lab File ID: | I31H019019 | Matrix : | WATER |
| Ext Btch ID: | IPH016W | % Moisture : | NA |
| Calib. Ref.: | I31H019014 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Arsenic | ND | 5 | 4.37 |
| Lead | ND | 5 | 1.42 |
| Selenium | ND | 5 | 4.21 |
| Thallium | ND | 50 | 3.31 |

RL: Reporting Limit

METHOD 3010A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| rlient | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| G NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| s e ID | : 18609-961 | Date Analyzed: | 08/12/98 22:03 |
| Lab Samp ID | : H040-03 | Dilution Factor: | 1 |
| b File ID | : I07H016043 | Matrix : | WATER |
| t Btch ID | : IPH016W | % Moisture : | NA |
| Calib. Ref. | : I07H016034 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| uminum | ND | 500 | 25.6 |
| timony | ND | 500 | 39.8 |
| rium | ND | 100 | 1.41 |
| Beryllium | ND | 10 | .12 |
| dmium | ND | 5 | 2.06 |
| lcium | 36600 | 1000 | 9.61 |
| romium | ND | 50 | 4.77 |
| Cobalt | ND | 50 | 6.64 |
| Copper | ND | 50 | 6.47 |
| on | ND | 50 | 4.96 |
| gnesium | 9570 | 1000 | 28.9 |
| Manganese | ND | 20 | .64 |
| Molybdenum | ND | 100 | 9.37 |
| ckel | ND | 150 | 3.93 |
| tassium | ND | 5000 | 2960 |
| Silver | ND | 50 | 4.69 |
| Sodium | 67100 | 1000 | 38.2 |
| nadium | ND | 100 | 4.7 |
| nc | 21.6 | 20 | 2.47 |

RL: Reporting Limit

METHOD 3010A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| SDG NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| Sample ID: | 18609-961 | Date Analyzed: | 08/14/98 13:19 |
| Lab Samp ID: | H040-03 | Dilution Factor: | 1 |
| Lab File ID: | I31H019020 | Matrix : | WATER |
| Ext Btch ID: | IPH016W | % Moisture : | NA |
| Calib. Ref.: | I31H019014 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Arsenic | ND | 5 | 4.37 |
| Lead | ND | 5 | 1.42 |
| Selenium | ND | 5 | 4.21 |
| Thallium | ND | 50 | 3.31 |

RL: Reporting Limit

METHOD 3010A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| SDG NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| Sample ID | : 18609-962 | Date Analyzed: | 08/12/98 22:07 |
| Lab Samp ID | : H040-04 | Dilution Factor: | 1 |
| Lab File ID | : I07H016044 | Matrix | : WATER |
| Prep Btch ID | : IPH016W | % Moisture | : NA |
| Calib. Ref. | : I07H016034 | Instrument ID | : EMAXTI07 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Aluminum | ND | 500 | 25.6 |
| Antimony | ND | 500 | 39.8 |
| Barium | ND | 100 | 1.41 |
| Beryllium | ND | 10 | .12 |
| Cadmium | ND | 5 | 2.06 |
| Calcium | 32900 | 1000 | 9.61 |
| Chromium | ND | 50 | 4.77 |
| Cobalt | ND | 50 | 6.64 |
| Copper | ND | 50 | 6.47 |
| Iron | ND | 50 | 4.96 |
| Magnesium | 8940 | 1000 | 28.9 |
| Manganese | ND | 20 | .64 |
| Molybdenum | ND | 100 | 9.37 |
| Nickel | ND | 150 | 3.93 |
| Potassium | ND | 5000 | 2960 |
| Silver | ND | 50 | 4.69 |
| Sodium | 59500 | 1000 | 38.2 |
| Vanadium | ND | 100 | 4.7 |
| Zinc | ND | 20 | 2.47 |

RL: Reporting Limit

METHOD 3010A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| SDG NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| Sample ID: | 18609-962 | Date Analyzed: | 08/14/98 13:24 |
| Lab Samp ID: | H040-04 | Dilution Factor: | 1 |
| Lab File ID: | I31H019021 | Matrix : | WATER |
| Ext Btch ID: | IPH016W | % Moisture : | NA |
| Calib. Ref.: | I31H019014 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Arsenic | ND | 5 | 4.37 |
| Lead | ND | 5 | 1.42 |
| Selenium | ND | 5 | 4.21 |
| Thallium | ND | 50 | 3.31 |

RL: Reporting Limit

METHOD 3050A/6010A
TAL METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| oject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| G NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| le ID: | 18609-963 | Date Analyzed: | 08/12/98 19:31 |
| Samp ID: | H040-05 | Dilution Factor: | 1 |
| b File ID: | I07H016016 | Matrix : | SOIL |
| t Btch ID: | IPH015S | % Moisture : | 17.9 |
| lib. Ref.: | I07H016010 | Instrument ID : | EMAXTI07 |

| RAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 6610 | 60.9 | 7.6 |
| timony | ND | 12.2 | 4.36 |
| rium | 75.2 | 1.22 | .158 |
| Beryllium | .261 | .244 | .0244 |
| Cadmium | 97.8 | 2.44 | .0853 |
| lcium | 5890 | 122 | 2.42 |
| romium | 30 | 1.22 | .731 |
| Cobalt | 4.79 | 2.44 | .743 |
| Copper | 628 | 1.22 | .901 |
| on | 17400 | 6.09 | .877 |
| gnesium | 3020 | 122 | 6.41 |
| nganese | 183 | 2.44 | .146 |
| Molybdenum | 6.58 | 6.09 | .792 |
| ckel | 957 | 2.44 | .56 |
| tassium | 2950 | 609 | 236 |
| ver | ND | 2.44 | 1.72 |
| Sodium | 2020 | 122 | 7.78 |
| Vanadium | 19.4 | 1.22 | 1.01 |
| nc | 568 | 2.44 | .317 |

RL: Reporting Limit

REVISED REPORT

7010

METHOD 3050A/6010A
METALS BY TRACE-ICP

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| SDG NO. | : 98H040 | Date Extracted: | 08/12/98 13:30 |
| Sample ID: | 18609-963 | Date Analyzed: | 08/14/98 16:06 |
| Lab Samp ID: | H040-05 | Dilution Factor: | 1 |
| Lab File ID: | I31H019045 | Matrix : | SOIL |
| Ext Btch ID: | IPH015S | % Moisture : | 17.9 |
| Calib. Ref.: | I31H019037 | Instrument ID : | EMAXTI31 |

| PARAMETERS | RESULTS (mg/kg) | RL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 3.3 | 1.22 | .625 |
| Lead | 13.4 | .609 | .322 |
| Selenium | .655 | .609 | .552 |
| Thallium | ND | 6.09 | .568 |

RL: Reporting Limit

REVISED REPORT

7011

METHOD WET/3010A/6010B
STLC METALS BY ICP

| | | | |
|---|---|---|---|
| :lient | : OHM REMEDIATION SERVICES | Date Collected: | 08/11/98 |
| ɔject | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/11/98 |
| G NO. | : 98H040 | Date Extracted: | 08/24/98 11:30 |
| 'e ID: | 18609-963 | Date Analyzed: | 08/25/98 02:27 |
| amp ID: | H040-05 | Dilution Factor: | 1 |
| ɔ File ID: | I07H036044 | Matrix : | WATER |
| t Btch ID: | IPH033W | % Moisture : | 17.9 |
| lib. Ref.: | I07H036034 | Instrument ID : | EMAXTI07 |

| RAMETERS | RESULTS (ug/L) | RL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| Cadmium | ND | 500 | 20.6 |
| ( ɔper | ND | 1000 | 64.7 |
| ckel | ND | 1000 | 39.3 |

WET Extraction Date: 08/20/98

REVISED REPORT

7012

METHOD 1311/3010A/6010B
TCLP/CADMIUM BY ICP

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/11/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/11/98 |
| BATCH NO.: | 98H040 | DATE EXTRACTED: | 08/24/98 11:30 |
| MATRIX: | WATER | INSTRUMENT ID: | EMAXTI07 |
| CAL REF: | I07H03634 | PREP BATCH: | IPH033W |

| SAMPLE ID | CONTROL NO | RESULT (ug/L) | DILUTION FACTOR | RL (ug/L) | MDL (ug/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-963 | H040-05 | 720 | 1 | 500 | 20.6 | 08/25/98 02:31 |
| MBLK1W | IPH033WB | ND | 1 | 500 | 20.6 | 08/25/98 01:44 |

RL: Reporting Limit
TCLP Extraction Date: 08/20/98

METHOD 9010A
TOTAL CYANIDE

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/11/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/11/98 |
| BATCH NO.: | 98H040 | DATE EXTRACTED: | 08/13/98 09:00 |
| MATRIX: | SOIL | INSTRUMENT ID: | TI05 |
| CAL REF: | CNH005-21 | PREP BATCH: | CNH005S |

| SAMPLE ID | CONTROL NO | RESULT (mg/kg) | DL FACTOR | MOIST (%) | RL (mg/kg) | MDL (mg/kg) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|---|
| 18609-963 | H040-05 | ND | 1 | 17.9 | .61 | .13 | 08/13/98 19:39 |
| 18609-963 | H040-05D | ND | 1 | 17.9 | .61 | .13 | 08/13/98 19:42 |
| MBLK1S | CNH005SB | ND | 1 | NA | .5 | .11 | 08/13/98 19:37 |

RL: Reporting Limit
CAL REF: CNH005-33 for H040-05D

METHOD 9010A
TOTAL CYANIDE

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/11/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/11/98 |
| BATCH NO.: | 98H040 | DATE EXTRACTED: | 08/13/98 09:00 |
| MATRIX: | WATER | INSTRUMENT ID: | TI05 |
| CAL REF: | CNH004W-21 | PREP BATCH: | CNH004W |

| SAMPLE ID | CONTROL NO | RESULT (mg/L) | DILUTION FACTOR | RL (mg/L) | MDL (mg/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-960 | H040-02 | ND | 1 | .01 | .0018 | 08/13/98 19:33 |
| 18609-961 | H040-03 | ND | 1 | .01 | .0018 | 08/13/98 19:34 |
| 18609-962 | H040-04 | ND | 1 | .01 | .0018 | 08/13/98 19:35 |
| 18609-962 | H040-04D | ND | 1 | .01 | .0018 | 08/13/98 19:36 |
| MBLK1S | CNH004WB | ND | 1 | .01 | .0018 | 08/13/98 19:18 |

RL: Reporting Limit
CAL REF: CNH004W-9 for CNH004WB

METHOD 9045
PH

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/11/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/11/98 |
| ATCH NO.: | 98H040 | DATE EXTRACTED: | NA |
| ATRIX: | SOIL | INSTRUMENT ID: | TI29 |
| CAL REF: | NA | PREP BATCH: | PHH004S |

| SAMPLE ID | CONTROL NO | RESULT (pH unit) | DILUTION FACTOR | RL (pH unit) | MDL (pH unit) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-963 | H040-05 | 8.97 | 1 | .1 | NA | 08/12/98 15:00 |
| 18609-963 | H040-05D | 8.98 | 1 | .1 | NA | 08/12/98 15:00 |

RL: Reporting Limit

METHOD 150.1
PH

| | | | |
|---|---|---|---|
| CLIENT: | OHM REMEDIATION SERVICES | DATE COLLECTED: | 08/11/98 |
| PROJECT: | MCAS EL TORO/18609/D.O. 70 | DATE RECEIVED: | 08/11/98 |
| BATCH NO.: | 98H040 | DATE EXTRACTED: | NA |
| MATRIX: | WATER | INSTRUMENT ID: | TI29 |
| CAL REF: | NA | PREP BATCH: | PHH003W |

| SAMPLE ID | CONTROL NO | RESULT (pH unit) | DILUTION FACTOR | RL (pH unit) | MDL (pH unit) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| 18609-960 | H040-02 | 7.65 | 1 | .1 | NA | 08/12/98 14:35 |
| 18609-961 | H040-03 | 6.35 | 1 | .1 | NA | 08/12/98 14:40 |
| 18609-962 | H040-04 | 7.98 | 1 | .1 | NA | 08/12/98 14:45 |
| 18609-962 | H040-04D | 7.95 | 1 | .1 | NA | 08/12/98 14:50 |

RL: Reporting Limit

METHOD 5030A/M8015

TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70
Batch No. : 98H064
Matrix : WATER

Date Collected : 08/14/98
DaTime Received: 08/14/98
Instrument ID : GCT039

| SAMPLE ID | CONTROL NO | RESULTS (mg/L) | SURR (%) | DLF | MOIST | RL (mg/L) | MDL (mg/L) | Analysis DATETIME | Extraction DATETIME | LFID | CAL REF | PREP BATCH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | VAH1039B | ND | 92 | 1 | NA | .1 | .018 | 08/14/9815:04 | 08/14/9815:04 | EH14-4 | EH14-2 | VAH1039 |
| LCS1W | VAH1039L | 1.11 | 99 | 1 | NA | .1 | .018 | 08/14/9815:38 | 08/14/9815:38 | EH14-5 | EH14-2 | VAH1039 |
| LCD1W | VAH1039C | 1.11 | 97 | 1 | NA | .1 | .018 | 08/14/9816:12 | 08/14/9816:12 | EH14-6 | EH14-2 | VAH1039 |
| 18609-967 | H064-01 | .22 | 91 | 1 | NA | .1 | .018 | 08/14/9820:42 | 08/14/9820:42 | EH14-14 | EH14-2 | VAH1039 |

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 5030A/M8015

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | WATER | | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK1W | | | | |
| CONTROL NO.: | VAH1039B | VAH1039L | VAH1039C | | |
| LAB FILE ID: | EH14-4 | EH14-5 | EH14-6 | | |
| DATIME EXTRCTD: | 08/14/9815:04 | 08/14/9815:38 | 08/14/9816:12 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 08/14/9815:04 | 08/14/9815:38 | 08/14/9816:12 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | VAH1039 | VAH1039 | VAH1039 | | |
| CALIB. REF: | EH14-2 | EH14-2 | EH14-2 | | |

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 | 1.1 | 1.11 | 101 | 1.1 | 1.11 | 101 | 1 | 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 | .05 | .0496 | 99 | .05 | .0486 | 97 | 65-135 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM REMEDIATION SERVICES
CT: MCAS EL TORO/18609/D.O. 70
H NO.: 98H064
THOD: METHOD 5030A/M8015

==========

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| LTN FACTR: | 1 | 1 | 1 | | |
| MPLE ID: | MBLK1S | | | | |
| CONTROL NO.: | VAH1039B | VAH1039L | VAH1039C | | |
| AB FILE ID: | EH14-4 | EH14-5 | EH14-6 | | |
| TIME EXTRCTD: | 08/14/9815:04 | 08/14/9815:38 | 08/14/9816:12 | DATE COLLECTED: | NA |
| TIME ANALYZD: | 08/14/9815:04 | 08/14/9815:38 | 08/14/9816:12 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | VAH1039 | VAH1039 | VAH1039 | | |
| LIB. REF: | EH14-2 | EH14-2 | EH14-2 | | |

ACCESSION:

| RAMETER | 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 | 5.5 | 5.57 | 101 | 5.5 | 5.54 | 101 | 1 | 57-146 | 50 |

==========

| RROGATE PARAMETER | SPIKE AMT mg/kg | BS RSLT mg/kg | BS % REC | SPIKE AMT mg/kg | BSD RSLT mg/kg | BSD % REC | QC LIMIT % |
|---|---|---|---|---|---|---|---|
| ofluorobenzene | .25 | .248 | 99 | .25 | .243 | 97 | 60-140 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD M8015

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | 7.3 |
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| SAMPLE ID: | 18609-976 | | | | |
| LAB SAMP ID: | H064-10 | H064-10M | H064-10S | | |
| LAB FILE ID: | NH10-225 | NH10-226 | NH10-227 | | |
| DATE EXTRACTED: | 08/14/9817:00 | 08/14/9817:00 | 08/14/9817:00 | DATE COLLECTED: | 08/14/98 |
| DATE ANALYZED: | 08/16/9805:34 | 08/16/9806:07 | 08/16/9806:40 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | DSH025S | DSH025S | DSH025S | | |
| CALIB. REF: | NH10-216 | NH10-216 | NH10-216 | | |

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 | 539 | 558 | 104 | 539 | 581 | 108 | 4 | 51-153 | 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 | 108 | 132 | 123 | 108 | 131 | 121 | 60-140 |
| Hexacosane | 108 | 132 | 122 | 108 | 131 | 122 | 55-150 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM REMEDIATION SERVICES
CT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
THOD: METHOD M8015

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| LUTION FACTOR: | 1 | 1 | 1 | | |
| MPLE ID: | MBLK1S | | | | |
| LAB SAMP ID: | DSH025SB | DSH026SL | DSH026SC | | |
| B FILE ID: | NH10-206 | NH10-218 | NH10-219 | | |
| TE EXTRACTED: | 08/14/9817:00 | 08/14/9817:00 | 08/14/9817:00 | DATE COLLECTED: | NA |
| DATE ANALYZED: | 08/15/9819:04 | 08/16/9801:40 | 08/16/9802:13 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | DSH025S | DSH025S | DSH025S | | |
| LIB. REF: | NH10-203 | NH10-216 | NH10-216 | | |

ACCESSION:

| RAMETER | 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 ( % ) |
|---|---|---|---|---|---|---|---|---|---|---|
| esel | ND | 500 | 497 | 99 | 500 | 496 | 99 | 0 | 51-153 | 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 ( % ) |
|---|---|---|---|---|---|---|---|
| obenzene | 100 | 149 | 87 | 100 | 134 | 134 | 60-140 |
| acosane | 100 | 122 | 122 | 100 | 120 | 120 | 55-150 |

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/17/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 23:26 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 08/17/98 23:26 |
| Lab Cnt NO. | : VOH1901B | Dilutn Factor : | 1 |
| Lab File ID | : RHV291 | Matrix : | SOIL |
| Ext Btch ID | : VOH1901B | % Moisture : | NA |
| Calib. Ref. | : RHV290 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | .331 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .331 |
| 1,1,2-Trichloroethane | ND | 5 | .233 |
| 1,1-Dichloroethane | ND | 5 | .303 |
| 1,1-Dichloroethene | ND | 5 | .538 |
| 1,2-Dichloroethane | ND | 5 | .326 |
| 1,2-Dichloropropane | ND | 5 | .376 |
| 2-Butanone | ND | 50 | 5.12 |
| 2-Chloroethylvinylether | ND | 50 | .17 |
| 2-Hexanone | ND | 50 | 1.25 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.14 |
| Acetone | ND | 50 | 4.09 |
| Benzene | ND | 5 | .248 |
| Bromodichloromethane | ND | 5 | .259 |
| Bromoform | ND | 5 | .279 |
| Bromomethane | ND | 5 | .639 |
| Carbon Disulfide | ND | 5 | .126 |
| Carbon Tetrachloride | ND | 5 | .791 |
| Chlorobenzene | ND | 5 | .19 |
| Chloroethane | ND | 5 | 1.7 |
| Chloroform | ND | 5 | .424 |
| Chloromethane | ND | 5 | 2.06 |
| cis-1,2-Dichloroethene | ND | 5 | .291 |
| cis-1,3-Dichloropropene | ND | 5 | .222 |
| Dibromochloromethane | ND | 5 | .079 |
| Ethylbenzene | ND | 5 | .392 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .371 |
| Methylene Chloride | 4.51J | 5 | .409 |
| Styrene | ND | 5 | .438 |
| Tetrachloroethene | ND | 5 | .243 |
| Toluene | ND | 5 | .314 |
| trans-1,2-Dichloroethene | ND | 5 | .288 |
| trans-1,3-Dichloropropene | ND | 5 | .666 |
| Trichloroethene | ND | 5 | .255 |
| Vinyl Acetate | ND | 50 | .716 |
| Vinyl Chloride | ND | 5 | 1.01 |
| Xylenes | ND | 5 | 1.09 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 52-149 |
| Toluene-d8 | 106 | 65-135 |
| Bromofluorobenzene | 106 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| oject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/17/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/17/98 23:26 |
| ample ID | : MBLK1W | DaTime Analyzd : | 08/17/98 23:26 |
| ab Cnt NO. | : VOH1901B | Dilutn Factor : | 1 |
| Lab File ID | : RHV291 | Matrix : | WATER |
| Ext Btch ID | : VOH1901B | % Moisture : | NA |
| alib. Ref. | : RHV290 | Instrument ID : | T-001 |

| ARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | 1.13 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .488 |
| ,1,2-Trichloroethane | ND | 5 | .515 |
| ,1-Dichloroethane | ND | 5 | 1.21 |
| 1,1-Dichloroethene | ND | 5 | 1.96 |
| 1,2-Dichloroethane | ND | 5 | .583 |
| ,2-Dichloropropane | ND | 5 | .533 |
| -Butanone | ND | 50 | 7.87 |
| 2-Chloroethylvinylether | ND | 50 | .828 |
| 2-Hexanone | ND | 50 | 1.01 |
| -Methyl-2-Pentanone | ND | 50 | 1.02 |
| cetone | ND | 50 | 10.3 |
| Benzene | ND | 5 | .849 |
| Bromodichloromethane | ND | 5 | .334 |
| romoform | ND | 5 | .293 |
| romomethane | ND | 5 | 1.53 |
| Carbon Disulfide | ND | 5 | 1.31 |
| Carbon Tetrachloride | ND | 5 | 1.28 |
| lorobenzene | ND | 5 | .684 |
| loroethane | ND | 5 | 2.9 |
| Chloroform | ND | 5 | .854 |
| Chloromethane | ND | 5 | 1.69 |
| is-1,2-Dichloroethene | ND | 5 | .973 |
| is-1,3-Dichloropropene | ND | 5 | .474 |
| Dibromochloromethane | ND | 5 | .292 |
| Ethylbenzene | ND | 5 | .72 |
| ethyl tert-butyl ether (MTBE) | ND | 10 | .955 |
| ethylene Chloride | 4.51J | 5 | 1.76 |
| Styrene | ND | 5 | .583 |
| etrachloroethene | ND | 5 | 1.22 |
| oluene | ND | 5 | .922 |
| rans-1,2-Dichloroethene | ND | 5 | 1.52 |
| trans-1,3-Dichloropropene | ND | 5 | .449 |
| richloroethene | ND | 5 | .9 |
| inyl Acetate | ND | 50 | 6.17 |
| inyl Chloride | ND | 5 | 1.68 |
| Xylenes | ND | 5 | 2.41 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 62-139 |
| oluene-d8 | 106 | 75-125 |
| romofluorobenzene | 106 | 75-125 |

PRL: Project Reporting Limit
: Out side of QC Limit
: An estimated value between PRL and MDL
: Value exceed the upper level of the initial calibration
: Found in the associated blank
: Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | Date Collected: | NA |
| Project | : MCAS EL TORO/18609/D.O. 70 | Date Received: | 08/19/98 |
| Batch No. | : 98H064 | Date Extracted: | 08/19/98 16:2 |
| Sample ID: | MBLK2W | Date Analyzed: | 08/19/98 16:29 |
| Lab Samp ID: | VOH2201B | Dilution Factor: | 1 |
| Lab File ID: | RHV372 | Matrix : | WATER |
| Ext Btch ID: | VOH2201B | % Moisture : | NA |
| Calib. Ref.: | RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/L) | PRL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | ND | 5 | 1.13 |
| 1,1,2,2-TETRACHLOROETHANE | ND | 5 | .488 |
| 1,1,2-TRICHLOROETHANE | ND | 5 | .515 |
| 1,1-DICHLOROETHANE | ND | 5 | 1.21 |
| 1,1-DICHLOROETHENE | ND | 5 | 1.96 |
| 1,2-DICHLOROETHANE | ND | 5 | .583 |
| 1,2-DICHLOROPROPANE | ND | 5 | .533 |
| 2-BUTANONE | ND | 50 | 7.87 |
| 2-CHLOROETHYLVINYLETHER | ND | 50 | .828 |
| 2-HEXANONE | ND | 50 | 1.01 |
| 4-METHYL-2-PENTANONE | ND | 50 | 1.02 |
| ACETONE | ND | 50 | 10.3 |
| BENZENE | ND | 5 | .849 |
| BROMODICHLOROMETHANE | ND | 5 | .334 |
| BROMOFORM | ND | 5 | .293 |
| BROMOMETHANE | ND | 5 | 1.53 |
| CARBON DISULFIDE | ND | 5 | 1.31 |
| CARBON TETRACHLORIDE | ND | 5 | 1.28 |
| CHLOROBENZENE | ND | 5 | .68 |
| CHLOROETHANE | ND | 5 | 2. |
| CHLOROFORM | ND | 5 | .854 |
| CHLOROMETHANE | ND | 5 | 1.69 |
| CIS-1,2-DICHLOROETHENE | ND | 5 | .973 |
| CIS-1,3-DICHLOROPROPENE | ND | 5 | .474 |
| DIBROMOCHLOROMETHANE | ND | 5 | .292 |
| ETHYLBENZENE | ND | 5 | .72 |
| METHYL TERT-BUTYL ETHER (MTBE) | ND | 10 | .955 |
| METHYLENE CHLORIDE | 2.55J | 5 | 1.76 |
| STYRENE | ND | 5 | .583 |
| TETRACHLOROETHENE | ND | 5 | 1.22 |
| TOLUENE | ND | 5 | .922 |
| TRANS-1,2-DICHLOROETHENE | ND | 5 | 1.52 |
| TRANS-1,3-DICHLOROPROPENE | ND | 5 | .449 |
| TRICHLOROETHENE | ND | 5 | .9 |
| VINYL ACETATE | ND | 50 | 6.17 |
| VINYL CHLORIDE | ND | 5 | 1.68 |
| XYLENES | ND | 5 | 2.41 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-DICHLOROETHANE-D4 | 108 | 62-139 |
| TOLUENE-D8 | 100 | 75-125 |
| BROMOFLUOROBENZENE | 100 | 75-125 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/19/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/19/98 16:29 |
| Sample ID | : MBLK2S | DaTime Analyzd : | 08/19/98 16:29 |
| Lab Cnt NO. | : VOH2201B | Dilutn Factor : | 1 |
| Lab File ID | : RHV372 | Matrix : | SOIL |
| Ext Btch ID | : VOH2201B | % Moisture : | NA |
| Calib. Ref. | : RHV371 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | .331 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .331 |
| 1,1,2-Trichloroethane | ND | 5 | .233 |
| 1,1-Dichloroethane | ND | 5 | .303 |
| 1,1-Dichloroethene | ND | 5 | .538 |
| 1,2-Dichloroethane | ND | 5 | .326 |
| 1,2-Dichloropropane | ND | 5 | .376 |
| 2-Butanone | ND | 50 | 5.12 |
| 2-Chloroethylvinylether | ND | 50 | .17 |
| 2-Hexanone | ND | 50 | 1.25 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.14 |
| Acetone | ND | 50 | 4.09 |
| Benzene | ND | 5 | .248 |
| Bromodichloromethane | ND | 5 | .259 |
| Bromoform | ND | 5 | .279 |
| Bromomethane | ND | 5 | .639 |
| Carbon Disulfide | ND | 5 | .126 |
| Carbon Tetrachloride | ND | 5 | .791 |
| Chlorobenzene | ND | 5 | .197 |
| Chloroethane | ND | 5 | 1.78 |
| Chloroform | ND | 5 | .424 |
| Chloromethane | ND | 5 | 2.06 |
| cis-1,2-Dichloroethene | ND | 5 | .291 |
| cis-1,3-Dichloropropene | ND | 5 | .222 |
| Dibromochloromethane | ND | 5 | .079 |
| Ethylbenzene | ND | 5 | .392 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .371 |
| Methylene Chloride | 2.55J | 5 | .409 |
| Styrene | ND | 5 | .438 |
| Tetrachloroethene | ND | 5 | .243 |
| Toluene | ND | 5 | .314 |
| trans-1,2-Dichloroethene | ND | 5 | .288 |
| trans-1,3-Dichloropropene | ND | 5 | .666 |
| Trichloroethene | ND | 5 | .255 |
| Vinyl Acetate | ND | 50 | .716 |
| Vinyl Chloride | ND | 5 | 1.01 |
| Xylenes | ND | 5 | 1.09 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | 52-149 |
| Toluene-d8 | 100 | 65-135 |
| Bromofluorobenzene | 100 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
: Found in the associated blank
/ : Value from dilution analysis

METHOD 5030A/8260A
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/21/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/21/98 20:5 |
| Sample ID | : MBLK3S | DaTime Analyzd : | 08/21/98 20:52 |
| Lab Cnt NO. | : VOH2401B | Dilutn Factor : | 1 |
| Lab File ID | : RHV422 | Matrix : | SOIL |
| Ext Btch ID | : VOH2401B | % Moisture : | NA |
| Calib. Ref. | : RHV421 | Instrument ID : | T-001 |

| PARAMETERS | RESULTS (ug/kg) | PRL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5 | .331 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | .331 |
| 1,1,2-Trichloroethane | ND | 5 | .233 |
| 1,1-Dichloroethane | ND | 5 | .303 |
| 1,1-Dichloroethene | ND | 5 | .538 |
| 1,2-Dichloroethane | ND | 5 | .326 |
| 1,2-Dichloropropane | ND | 5 | .376 |
| 2-Butanone | ND | 50 | 5.12 |
| 2-Chloroethylvinylether | ND | 50 | .17 |
| 2-Hexanone | ND | 50 | 1.25 |
| 4-Methyl-2-Pentanone | ND | 50 | 1.14 |
| Acetone | ND | 50 | 4.09 |
| Benzene | ND | 5 | .248 |
| Bromodichloromethane | ND | 5 | .259 |
| Bromoform | ND | 5 | .279 |
| Bromomethane | ND | 5 | .639 |
| Carbon Disulfide | ND | 5 | .126 |
| Carbon Tetrachloride | ND | 5 | .791 |
| Chlorobenzene | ND | 5 | .19 |
| Chloroethane | ND | 5 | 1.7 |
| Chloroform | ND | 5 | .424 |
| Chloromethane | ND | 5 | 2.06 |
| cis-1,2-Dichloroethene | ND | 5 | .291 |
| cis-1,3-Dichloropropene | ND | 5 | .222 |
| Dibromochloromethane | ND | 5 | .079 |
| Ethylbenzene | ND | 5 | .392 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | .371 |
| Methylene Chloride | ND | 5 | .409 |
| Styrene | ND | 5 | .438 |
| Tetrachloroethene | ND | 5 | .243 |
| Toluene | ND | 5 | .314 |
| trans-1,2-Dichloroethene | ND | 5 | .288 |
| trans-1,3-Dichloropropene | ND | 5 | .666 |
| Trichloroethene | ND | 5 | .255 |
| Vinyl Acetate | ND | 50 | .716 |
| Vinyl Chloride | ND | 5 | 1.01 |
| Xylenes | ND | 5 | 1.09 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 52-149 |
| Toluene-d8 | 96 | 65-135 |
| Bromofluorobenzene | 94 | 65-135 |

PRL: Project Reporting Limit
* : Out side of QC Limit
J : An estimated value between PRL and MDL
E : Value exceed the upper level of the initial calibration
B : Found in the associated blank
D : Value from dilution analysis

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

.IENT: OHM REMEDIATION SERVICES
:OJECT: MCAS EL TORO/18609/D.O. 70
`H NO.: 98H064
HOD: METHOD 5030A/8260A

==========

MATRIX: WATER % MOISTURE: NA

| | | | | | |
|---|---|---|---|---|---|
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| AMPLE ID: | MBLK1W | | | | |
| AB SAMP ID: | VOH1901B | VOH1901L | VOH1901C | | |
| LAB FILE ID: | RHV291 | RHV292 | RHV293 | | |
| DATE EXTRACTED: | 08/17/9823:26 | 08/17/9823:53 | 08/18/9800:20 | DATE COLLECTED: | NA |
| ATE ANALYZED: | 08/17/9823:26 | 08/17/9823:53 | 08/18/9800:20 | DATE RECEIVED: | 08/18/98 |
| REP. BATCH: | VOH1901B | VOH1901B | VOH1901B | | |
| CALIB. REF: | RHV290 | RHV290 | RHV290 | | |

:CESSION:

| 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-Dichloroethene | ND | 20 | 19.5 | 98 | 20 | 21.4 | 107 | 9 | 75-125 | 20 |
| Benzene | ND | 20 | 19 | 95 | 20 | 19.4 | 97 | 2 | 75-125 | 20 |
| Chlorobenzene | ND | 20 | 18.9 | 95 | 20 | 19.9 | 100 | 5 | 75-125 | 20 |
| ,luene | ND | 20 | 18.4 | 92 | 20 | 19.8 | 99 | 7 | 74-125 | 20 |
| ·ichloroethene | ND | 20 | 18.1 | 91 | 20 | 18.8 | 94 | 4 | 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 ( % ) |
|---|---|---|---|---|---|---|---|
| ,z-Dichlorethane-d4 | 50 | 49.6 | 99 | 50 | 51.1 | 102 | 62-139 |
| Toluene-d8 | 50 | 48.7 | 97 | 50 | 49 | 98 | 75-125 |
| Bromofluorobenzene | 50 | 48.5 | 97 | 50 | 48.9 | 98 | 75-125 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 5030A/8260A

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK1S | | | | |
| LAB SAMP ID: | VOH1901B | VOH1901L | VOH1901C | | |
| LAB FILE ID: | RHV291 | RHV292 | RHV293 | | |
| DATE EXTRACTED: | 08/17/9823:26 | 08/17/9823:53 | 08/18/9800:20 | DATE COLLECTED: | NA |
| DATE ANALYZED: | 08/17/9823:26 | 08/17/9823:53 | 08/18/9800:20 | DATE RECEIVED: | 08/18/98 |
| PREP. BATCH: | VOH1901B | VOH1901B | VOH1901B | | |
| CALIB. REF: | RHV290 | RHV290 | RHV290 | | |

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 | 19.5 | 98 | 20 | 21.4 | 107 | 9 | 65-135 | 30 |
| Benzene | ND | 20 | 19 | 95 | 20 | 19.4 | 97 | 2 | 65-135 | 30 |
| Chlorobenzene | ND | 20 | 18.9 | 95 | 20 | 19.9 | 100 | 5 | 65-135 | 30 |
| Toluene | ND | 20 | 18.4 | 92 | 20 | 19.8 | 99 | 7 | 64-135 | 30 |
| Trichloroethene | ND | 20 | 18.1 | 91 | 20 | 18.8 | 94 | 4 | 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-Dichlorethane-d4 | 50 | 49.6 | 99 | 50 | 51.1 | 102 | 52-149 |
| Toluene-d8 | 50 | 48.7 | 97 | 50 | 49 | 98 | 65-135 |
| Bromofluorobenzene | 50 | 48.5 | 97 | 50 | 48.9 | 98 | 65-135 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM REMEDIATION SERVICES
OJECT: MCAS EL TORO/18609/D.O. 70
H NO.: 98H064
D: METHOD 5030A/8260A

| | | | | | |
|---|---|---|---|---|---|
| TRIX: | WATER | | | % MOISTURE: | NA |
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| MPLE ID: | MBLK2W | | | | |
| B SAMP ID: | VOH2201B | VOH2201L | VOH2201C | | |
| LAB FILE ID: | RHV372 | RHV373 | RHV374 | | |
| DATE EXTRACTED: | 08/19/9816:29 | 08/19/9816:56 | 08/19/9817:24 | DATE COLLECTED: | NA |
| TE ANALYZED: | 08/19/9816:29 | 08/19/9816:56 | 08/19/9817:24 | DATE RECEIVED: | 08/19/98 |
| EP. BATCH: | VOH2201B | VOH2201B | VOH2201B | | |
| CALIB. REF: | RHV371 | RHV371 | RHV371 | | |

CESSION:

| 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-Dichloroethene | ND | 20 | 17 | 85 | 20 | 19.8 | 99 | 15 | 75-125 | 20 |
| Benzene | ND | 20 | 18.5 | 93 | 20 | 18.1 | 91 | 2 | 75-125 | 20 |
| Chlorobenzene | ND | 20 | 20.2 | 101 | 20 | 19.7 | 98 | 3 | 75-125 | 20 |
| luene | ND | 20 | 20 | 100 | 20 | 19.1 | 96 | 4 | 74-125 | 20 |
| ichloroethene | ND | 20 | 19.8 | 99 | 20 | 19.1 | 96 | 4 | 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 ( % ) |
|---|---|---|---|---|---|---|---|
| Dichlorethane-d4 | 50 | 56.1 | 112 | 50 | 53.6 | 107 | 62-139 |
| Toluene-d8 | 50 | 53.7 | 107 | 50 | 49.9 | 100 | 75-125 |
| Bromofluorobenzene | 50 | 53.1 | 106 | 50 | 50 | 100 | 75-125 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 5030A/8260A

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK2S | | | | |
| LAB SAMP ID: | VOH2201B | VOH2201L | VOH2201C | | |
| LAB FILE ID: | RHV372 | RHV373 | RHV374 | | |
| DATE EXTRACTED: | 08/19/9816:29 | 08/19/9816:56 | 08/19/9817:24 | DATE COLLECTED: | NA |
| DATE ANALYZED: | 08/19/9816:29 | 08/19/9816:56 | 08/19/9817:24 | DATE RECEIVED: | 08/19/98 |
| PREP. BATCH: | VOH2201B | VOH2201B | VOH2201B | | |
| CALIB. REF: | RHV371 | RHV371 | RHV371 | | |

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 | 85 | 20 | 19.8 | 99 | 15 | 65-135 | 30 |
| Benzene | ND | 20 | 18.5 | 93 | 20 | 18.1 | 91 | 2 | 65-135 | 30 |
| Chlorobenzene | ND | 20 | 20.2 | 101 | 20 | 19.7 | 98 | 3 | 65-135 | 30 |
| Toluene | ND | 20 | 20 | 100 | 20 | 19.1 | 96 | 4 | 64-135 | 30 |
| Trichloroethene | ND | 20 | 19.8 | 99 | 20 | 19.1 | 96 | 4 | 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-Dichlorethane-d4 | 50 | 56.1 | 112 | 50 | 53.6 | 107 | 52-149 |
| Toluene-d8 | 50 | 53.7 | 107 | 50 | 49.9 | 100 | 65-135 |
| Bromofluorobenzene | 50 | 53.1 | 106 | 50 | 50 | 100 | 65-135 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

.IENT: OHM REMEDIATION SERVICES
ROJECT: MCAS EL TORO/18609/D.O. 70
H NO.: 98H064
METHOD: METHOD 5030A/8260A

==========

MATRIX: SOIL % MOISTURE: NA

| | | | | | |
|---|---|---|---|---|---|
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| AMPLE ID: | MBLK3S | | | | |
| AB SAMP ID: | VOH2401B | VOH2401L | VOH2401C | | |
| LAB FILE ID: | RHV422 | RHV423 | RHV424 | | |
| DATE EXTRACTED: | 08/21/9820:52 | 08/21/9821:23 | 08/21/9821:54 | DATE COLLECTED: | NA |
| ATE ANALYZED: | 08/21/9820:52 | 08/21/9821:23 | 08/21/9821:54 | DATE RECEIVED: | 08/21/98 |
| REP. BATCH: | VOH2401B | VOH2401B | VOH2401B | | |
| CALIB. REF: | RHV421 | RHV421 | RHV421 | | |

CCESSION:

| 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-Dichloroethene | ND | 20 | 22.1 | 110 | 20 | 25.1 | 126 | 13 | 65-135 | 30 |
| Benzene | ND | 20 | 19.1 | 96 | 20 | 19.6 | 98 | 3 | 65-135 | 30 |
| Chlorobenzene | ND | 20 | 20.1 | 101 | 20 | 20.7 | 103 | 3 | 65-135 | 30 |
| oluene | ND | 20 | 20 | 100 | 20 | 20.4 | 102 | 2 | 64-135 | 30 |
| richloroethene | ND | 20 | 19.6 | 98 | 20 | 19.6 | 98 | 0 | 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 ( % ) |
|---|---|---|---|---|---|---|---|
| ,2-Dichlorethane-d4 | 50 | 56.7 | 113 | 50 | 58 | 116 | 52-149 |
| Toluene-d8 | 50 | 51.4 | 103 | 50 | 49.9 | 100 | 65-135 |
| romofluorobenzene | 50 | 48.7 | 97 | 50 | 48.1 | 96 | 65-135 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 5030A/8260A

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | 9.4 |
| DILUTION FACTOR: | 1 | 1 | 1 | | |
| SAMPLE ID: | 18609-971 | | | | |
| LAB SAMP ID: | H064-05 | H064-05M | H064-05S | | |
| LAB FILE ID: | RHV308 | RHV309 | RHV310 | | |
| DATE EXTRACTED: | 08/18/9807:09 | 08/18/9807:36 | 08/18/9808:04 | DATE COLLECTED: | 08/14/98 |
| DATE ANALYZED: | 08/18/9807:09 | 08/18/9807:36 | 08/18/9808:04 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | VOH1901B | VOH1901B | VOH1901B | | |
| CALIB. REF: | RHV290 | RHV290 | RHV290 | | |

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 RPD ( % ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 55.2 | 56.6 | 103 | 55.2 | 58.5 | 106 | 3 | 65-135 | 30 |
| Benzene | ND | 55.2 | 57 | 103 | 55.2 | 61.6 | 112 | 8 | 65-135 | 30 |
| Chlorobenzene | ND | 55.2 | 54.2 | 98 | 55.2 | 58.2 | 106 | 7 | 65-135 | 30 |
| Toluene | ND | 55.2 | 54.3 | 98 | 55.2 | 58.3 | 106 | 7 | 64-135 | 30 |
| Trichloroethene | ND | 55.2 | 53.2 | 96 | 55.2 | 56 | 101 | 5 | 61-135 | 30 |

| SURROGATE PARAMETER | SPIKE AMT (ug/kg) | MS RSLT (ug/kg) | MS % REC | SPIKE AMT (ug/kg) | MSD RSLT (ug/kg) | MSD % REC | QC LIMIT ( % ) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichlorethane-d4 | 55.2 | 61.2 | 111 | 55.2 | 66.7 | 121 | 52-149 |
| Toluene-d8 | 55.2 | 52 | 94 | 55.2 | 59 | 107 | 65-135 |
| Bromofluorobenzene | 55.2 | 51.6 | 94 | 55.2 | 57.6 | 104 | 65-135 |

* : Out side of QC Limit

METHOD 3520B/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| .ient | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| roject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/14/98 |
| ·tch No. | : 98H064 | DaTime Extrctd : | 08/14/98 18:00 |
| ıle ID | : MBLK1W | DaTime Analyzd : | 08/19/98 20:49 |
| Cnt NO. | : SVH014WB | Dilutn Factor : | 1 |
| ab File ID | : RHS164 | Matrix : | WATER |
| ıt Btch ID | : SVH014W | % Moisture : | NA |
| alib. Ref. | : RHS157 | Instrument ID : | T-004 |

| ARAMETERS | RESULTS (ug/L) | PQL (ug/L) | MDL (ug/L) |
|---|---|---|---|
| ,2,4-Trichlorobenzene | ND | 10 | .86 |
| 1,2-Dichlorobenzene | ND | 10 | .51 |
| 1,3-Dichlorobenzene | ND | 10 | .8 |
| ,4-Dichlorobenzene | ND | 10 | 1.12 |
| ,2'-oxybis(1-Chloropropane) | ND | 10 | 4.82 |
| ,4,5-Trichlorophenol | ND | 25 | 2.73 |
| 2,4,6-Trichlorophenol | ND | 10 | 2.64 |
| 2,4-Dichlorophenol | ND | 10 | 2.43 |
| ,4-Dimethylphenol | ND | 10 | 1.4 |
| ,4-Dinitrophenol | ND | 25 | 4.92 |
| ,4-Dinitrotoluene | ND | 10 | 2.47 |
| ,6-Dinitrotoluene | ND | 10 | 1.67 |
| 2-Chloronaphthalene | ND | 10 | .87 |
| 2-Chlorophenol | ND | 10 | 2.23 |
| -Methylnaphthalene | ND | 10 | 1.03 |
| -Methylphenol | ND | 10 | 1.53 |
| -Nitroaniline | ND | 25 | 3.11 |
| 2-Nitrophenol | ND | 10 | 2.99 |
| 3,3'-Dichlorobenzidine | ND | 10 | 4.38 |
| -Nitroaniline | ND | 25 | 1.62 |
| ,6-Dinitro-2-methylphenol | ND | 25 | 3.17 |
| -Bromophenyl-phenylether | ND | 10 | .56 |
| -Chloro-3-methylphenol | ND | 10 | 3.09 |
| 4-Chloroaniline | ND | 10 | 2.92 |
| 4-Chlorophenyl-phenylether | ND | 10 | 1.99 |
| -Methylphenol (2) | ND | 10 | 2.15 |
| -Nitroaniline | ND | 25 | 3.58 |
| -Nitrophenol | ND | 25 | 6.03 |
| Acenaphthene | ND | 10 | 1.04 |
| Acenaphthylene | ND | 10 | .77 |
| nthracene | ND | 10 | 1.05 |
| zo(a)anthracene | ND | 10 | 1.04 |
| zo(a)pyrene | ND | 10 | 1.27 |
| enzo(b)fluoranthene | ND | 10 | 3.14 |
| Benzo(g,h,i)perylene | ND | 10 | .52 |
| Benzo(k)fluoranthene | ND | 10 | 3.69 |
| is(2-Chloroethoxy)methane | ND | 10 | 2.14 |
| is(2-Chloroethyl)ether | ND | 10 | 2.61 |
| is(2-Ethylhexyl)phthalate | ND | 10 | 1.46 |
| Butylbenzylphthalate | ND | 10 | 1.68 |
| Chrysene | ND | 10 | 1.46 |
| i-n-butylphthalate | ND | 10 | 2.3 |
| i-n-octylphthalate | ND | 10 | .89 |
| ibenzo(a,h)anthracene | ND | 10 | 1.36 |
| ibenzofuran | ND | 10 | .92 |
| Diethylphthalate | ND | 10 | .98 |
| imethylphthalate | ND | 10 | 1.07 |
| luoranthene | ND | 10 | 1.17 |
| luorene | ND | 10 | 2.36 |
| exachlorobenzene | ND | 10 | 1.23 |
| Hexachlorobutadiene | ND | 10 | .84 |
| Hexachlorocyclopentadiene | ND | 10 | 8.88 |
| exachloroethane | ND | 10 | 1.95 |
| ndeno(1,2,3-cd)pyrene | ND | 10 | 1.17 |
| -Nitroso-di-n-propylamine | ND | 10 | 1.34 |
| N-Nitrosodiphenylamine (1) | ND | 10 | 1.59 |
| Naphthalene | ND | 10 | 1.3 |
| Nitrobenzene | ND | 10 | 1.39 |
| entachlorophenol | ND | 10 | 2.94 |
| henanthrene | ND | 10 | .66 |
| henol | ND | 10 | 2.43 |
| Pyrene | ND | 10 | .39 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Fluorophenol | 53 | 25-125 |
| Phenol-d5 | 59 | 25-125 |
| Nitrobenzene-d5 | 59 | 32-125 |
| 2-Fluorobiphenyl | 60 | 43-125 |
| ,4,6-Tribromophenol | 53 | 25-134 |
| erphenyl-d14 | 73 | 42-126 |

: Project Reporting Limit
: Cannot be separated from Diphenylamine
2) : Cannot be separated from 3-Methylphenol

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| Project | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/17/98 |
| Batch No. | : 98H064 | DaTime Extrctd : | 08/17/98 10:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 08/24/98 21:45 |
| Lab Cnt NO. | : SVH015SB | Dilutn Factor : | 1 |
| Lab File ID | : RHS265 | Matrix : | SOIL |
| Ext Btch ID | : SVH015S | % Moisture : | NA |
| Calib. Ref. | : RHS264 | Instrument ID : | T-004 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 330 | 136 |
| 1,2-Dichlorobenzene | ND | 330 | 129 |
| 1,3-Dichlorobenzene | ND | 330 | 125 |
| 1,4-Dichlorobenzene | ND | 330 | 117 |
| 2,2'-oxybis(1-Chloropropane) | ND | 330 | 149 |
| 2,4,5-Trichlorophenol | ND | 830 | 81 |
| 2,4,6-Trichlorophenol | ND | 330 | 118 |
| 2,4-Dichlorophenol | ND | 330 | 154 |
| 2,4-Dimethylphenol | ND | 330 | 115 |
| 2,4-Dinitrophenol | ND | 830 | 162 |
| 2,4-Dinitrotoluene | ND | 330 | 59.8 |
| 2,6-Dinitrotoluene | ND | 330 | 74 |
| 2-Chloronaphthalene | ND | 330 | 133 |
| 2-Chlorophenol | ND | 330 | 121 |
| 2-Methylnaphthalene | ND | 330 | 144 |
| 2-Methylphenol | ND | 330 | 138 |
| 2-Nitroaniline | ND | 830 | 88.8 |
| 2-Nitrophenol | ND | 330 | 150 |
| 3,3'-Dichlorobenzidine | ND | 330 | 73.4 |
| 3-Nitroaniline | ND | 830 | 87.1 |
| 4,6-Dinitro-2-methylphenol | ND | 830 | 113 |
| 4-Bromophenyl-phenylether | ND | 330 | 77.6 |
| 4-Chloro-3-methylphenol | ND | 330 | 110 |
| 4-Chloroaniline | ND | 330 | 120 |
| 4-Chlorophenyl-phenylether | ND | 330 | 81.9 |
| 4-Methylphenol (2) | ND | 330 | 139 |
| 4-Nitroaniline | ND | 830 | 70.1 |
| 4-Nitrophenol | ND | 830 | 152 |
| Acenaphthene | ND | 330 | 104 |
| Acenaphthylene | ND | 330 | 103 |
| Anthracene | ND | 330 | 66.9 |
| Benzo(a)anthracene | ND | 330 | 68.6 |
| Benzo(a)pyrene | ND | 250 | 37 |
| Benzo(b)fluoranthene | ND | 330 | 63.8 |
| Benzo(g,h,i)perylene | ND | 330 | 41.5 |
| Benzo(k)fluoranthene | ND | 330 | 68.3 |
| bis(2-Chloroethoxy)methane | ND | 330 | 149 |
| bis(2-Chloroethyl)ether | ND | 50 | 136 |
| bis(2-Ethylhexyl)phthalate | ND | 330 | 85.5 |
| Butylbenzylphthalate | ND | 330 | 75.7 |
| Chrysene | ND | 330 | 90.1 |
| Di-n-butylphthalate | ND | 330 | 79.7 |
| Di-n-octylphthalate | ND | 330 | 50 |
| Dibenzo(a,h)anthracene | ND | 250 | 31.5 |
| Dibenzofuran | ND | 330 | 104 |
| Diethylphthalate | ND | 330 | 54.5 |
| Dimethylphthalate | ND | 330 | 59.9 |
| Fluoranthene | ND | 330 | 77.4 |
| Fluorene | ND | 330 | 74 |
| Hexachlorobenzene | ND | 330 | 90.5 |
| Hexachlorobutadiene | ND | 330 | 140 |
| Hexachlorocyclopentadiene | ND | 330 | 178 |
| Hexachloroethane | ND | 330 | 126 |
| Indeno(1,2,3-cd)pyrene | ND | 330 | 41.5 |
| N-Nitroso-di-n-propylamine | ND | 250 | 141 |
| N-Nitrosodiphenylamine (1) | ND | 330 | 71.9 |
| Naphthalene | ND | 330 | 135 |
| Nitrobenzene | ND | 330 | 134 |
| Pentachlorophenol | ND | 330 | 80.5 |
| Phenanthrene | ND | 330 | 66.5 |
| Phenol | ND | 330 | 160 |
| Pyrene | ND | 330 | 90.1 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Fluorophenol | 81 | 25-135 |
| Phenol-d5 | 83 | 25-135 |
| Nitrobenzene-d5 | 87 | 25-135 |
| 2-Fluorobiphenyl | 88 | 34-135 |
| 2,4,6-Tribromophenol | 82 | 25-144 |
| Terphenyl-d14 | 89 | 32-136 |

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

METHOD 3550A/8270B
SEMIVOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : OHM REMEDIATION SERVICES | DaTime Collcted: | NA |
| roject | : MCAS EL TORO/18609/D.O. 70 | DaTime Received: | 08/27/98 |
| atch No. | : 98H064 | DaTime Extrctd : | 08/27/98 09:30 |
| ple ID | : MBLK2S | DaTime Analyzd : | 08/30/98 12:28 |
| Cnt NO.: | SVH024SB | Dilutn Factor : | 1 |
| ab File ID: | RHB517 | Matrix : | SOIL |
| xt Btch ID: | SVH024S | % Moisture : | NA |
| alib. Ref.: | RHB516 | Instrument ID : | T-003 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| ,2,4-Trichlorobenzene | ND | 330 | 136 |
| 1,2-Dichlorobenzene | ND | 330 | 129 |
| 1,3-Dichlorobenzene | ND | 330 | 125 |
| ,4-Dichlorobenzene | ND | 330 | 117 |
| ,2'-oxybis(1-Chloropropane) | ND | 330 | 149 |
| ,4,5-Trichlorophenol | ND | 830 | 81 |
| ,4,6-Trichlorophenol | ND | 330 | 118 |
| 2,4-Dichlorophenol | ND | 330 | 154 |
| 2,4-Dimethylphenol | ND | 330 | 115 |
| ,4-Dinitrophenol | ND | 830 | 162 |
| ,4-Dinitrotoluene | ND | 330 | 59.8 |
| ,6-Dinitrotoluene | ND | 330 | 74 |
| 2-Chloronaphthalene | ND | 330 | 133 |
| 2-Chlorophenol | ND | 330 | 121 |
| 2-Methylnaphthalene | ND | 330 | 144 |
| -Methylphenol | ND | 330 | 138 |
| -Nitroaniline | ND | 830 | 88.8 |
| -Nitrophenol | ND | 330 | 150 |
| 3,3'-Dichlorobenzidine | ND | 330 | 73.4 |
| 3-Nitroaniline | ND | 830 | 87.1 |
| ,6-Dinitro-2-methylphenol | ND | 830 | 113 |
| -Bromophenyl-phenylether | ND | 330 | 77.6 |
| -Chloro-3-methylphenol | ND | 330 | 110 |
| 4-Chloroaniline | ND | 330 | 120 |
| 4-Chlorophenyl-phenylether | ND | 330 | 81.9 |
| -Methylphenol (2) | ND | 330 | 139 |
| -Nitroaniline | ND | 830 | 70.1 |
| -Nitrophenol | ND | 830 | 152 |
| Acenaphthene | ND | 330 | 104 |
| Acenaphthylene | ND | 330 | 103 |
| Anthracene | ND | 330 | 66.9 |
| zo(a)anthracene | ND | 330 | 68.6 |
| zo(a)pyrene | ND | 250 | 37 |
| enzo(b)fluoranthene | ND | 330 | 63.8 |
| Benzo(g,h,i)perylene | ND | 330 | 41.5 |
| Benzo(k)fluoranthene | ND | 330 | 68.3 |
| is(2-Chloroethoxy)methane | ND | 330 | 149 |
| is(2-Chloroethyl)ether | ND | 50 | 136 |
| is(2-Ethylhexyl)phthalate | ND | 330 | 85.5 |
| Butylbenzylphthalate | ND | 330 | 75.7 |
| Chrysene | ND | 330 | 90.1 |
| i-n-butylphthalate | ND | 330 | 79.7 |
| i-n-octylphthalate | ND | 330 | 50 |
| ibenzo(a,h)anthracene | ND | 250 | 31.5 |
| ibenzofuran | ND | 330 | 104 |
| Diethylphthalate | ND | 330 | 54.5 |
| Dimethylphthalate | ND | 330 | 59.9 |
| luoranthene | ND | 330 | 77.4 |
| luorene | ND | 330 | 74 |
| lexachlorobenzene | ND | 330 | 90.5 |
| Hexachlorobutadiene | ND | 330 | 140 |
| Hexachlorocyclopentadiene | ND | 330 | 178 |
| Hexachloroethane | ND | 330 | 126 |
| ndeno(1,2,3-cd)pyrene | ND | 330 | 41.5 |
| -Nitroso-di-n-propylamine | ND | 250 | 141 |
| -Nitrosodiphenylamine (1) | ND | 330 | 71.9 |
| Naphthalene | ND | 330 | 135 |
| Nitrobenzene | ND | 330 | 134 |
| entachlorophenol | ND | 330 | 80.5 |
| henanthrene | ND | 330 | 66.5 |
| henol | ND | 330 | 160 |
| Pyrene | ND | 330 | 90.1 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Fluorophenol | 36 | 25-135 |
| Phenol-d5 | 41 | 25-135 |
| Nitrobenzene-d5 | 42 | 25-135 |
| 2-Fluorobiphenyl | 43 | 34-135 |
| ,4,6-Tribromophenol | 28 | 25-144 |
| erphenyl-d14 | 52 | 32-136 |

: Project Reporting Limit
: Cannot be separated from Diphenylamine
2) : Cannot be separated from 3-Methylphenol

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 3520B/8270B

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | WATER | | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK1W | | | | |
| CONTROL NO.: | SVH014WB | SVH014WL | SVH014WC | | |
| LAB FILE ID: | RHS164 | RHS165 | RHS166 | | |
| DATIME EXTRCTD: | 08/14/9818:00 | 08/14/9818:00 | 08/14/9818:00 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 08/19/9820:49 | 08/19/9821:41 | 08/19/9822:32 | DATE RECEIVED: | 08/14/98 |
| PREP. BATCH: | SVH014W | SVH014W | SVH014W | | |
| CALIB. REF: | RHS157 | RHS157 | RHS157 | | |

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 | 64.7 | 65 | 100 | 65.7 | 66 | 2 | 44-142 | 20 |
| 1,4-Dichlorobenzene | ND | 100 | 64.5 | 64 | 100 | 63.7 | 64 | 1 | 30-125 | 20 |
| 2,4-Dinitrotoluene | ND | 100 | 94.3 | 94 | 100 | 86.6 | 87 | 9 | 39-139 | 20 |
| 2-Chlorophenol | ND | 150 | 107 | 72 | 150 | 99.9 | 67 | 7 | 41-125 | 20 |
| 4-Chloro-3-Methylphenol | ND | 150 | 109 | 73 | 150 | 101 | 67 | 8 | 44-125 | 20 |
| 4-Nitrophenol | ND | 150 | 129 | 86 | 150 | 110 | 73 | 16 | 25-131 | 20 |
| Acenaphthene | ND | 100 | 76.2 | 76 | 100 | 74.4 | 74 | 2 | 49-125 | 20 |
| N-Nitroso-di-n-propyl. | ND | 100 | 91 | 91 | 100 | 78.3 | 78 | 15 | 37-125 | 20 |
| Pentachlorophenol | ND | 150 | 137 | 91 | 150 | 124 | 83 | 10 | 28-136 | 20 |
| Phenol | ND | 150 | 109 | 72 | 150 | 99.5 | 66 | 9 | 25-125 | 20 |
| Pyrene | ND | 100 | 85.7 | 86 | 100 | 86.3 | 86 | 1 | 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-Fluorophenol | 150 | 99.5 | 66 | 150 | 95.5 | 64 | 25-125 |
| Phenol-d5 | 150 | 105 | 70 | 150 | 102 | 68 | 25-125 |
| Nitrobenzene-d5 | 100 | 72.3 | 72 | 100 | 70.6 | 71 | 32-125 |
| 2-Fluorobiphenyl | 100 | 71.2 | 71 | 100 | 71.7 | 72 | 43-125 |
| 2,4,6-Tribromophenol | 150 | 108 | 72 | 150 | 104 | 69 | 25-134 |
| Terphenyl-d14 | 100 | 79.2 | 79 | 100 | 82.1 | 82 | 42-126 |

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 3550A/8270B

| | | | | |
|---|---|---|---|---|
| MATRIX: | SOIL | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | | |
| SAMPLE ID: | MBLK1S | | | |
| CONTROL NO.: | SVH015SB | SVH015SL | | |
| LAB FILE ID: | RHS265 | RHS266 | | |
| DATIME EXTRCTD: | 08/17/9810:00 | 08/17/9810:00 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 08/24/9821:45 | 08/24/9822:37 | DATE RECEIVED: | 08/17/98 |
| PREP. BATCH: | SVH015S | SVH015S | | |
| CALIB. REF: | RHS264 | RHS264 | | |

ACCESSION:

| PARAMETER | BLNK RSLT (ug/kg) | SPIKE AMT (ug/kg) | BS RSLT (ug/kg) | BS % REC | QC LIMIT ( % ) |
|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 3330 | 2800 | 84 | 34-152 |
| 1,4-Dichlorobenzene | ND | 3330 | 2730 | 82 | 25-135 |
| 2,4-Dinitrotoluene | ND | 3330 | 3110 | 94 | 29-149 |
| 2-Chlorophenol | ND | 5000 | 3920 | 78 | 31-135 |
| 4-Chloro-3-Methylphenol | ND | 5000 | 3820 | 76 | 34-135 |
| 4-Nitrophenol | ND | 5000 | 3390 | 68 | 25-141 |
| Acenaphthene | ND | 3330 | 2850 | 86 | 39-135 |
| N-Nitroso-di-n-propyl. | ND | 3330 | 2690 | 81 | 27-135 |
| Pentachlorophenol | ND | 5000 | 4090 | 82 | 38-146 |
| Phenol | ND | 5000 | 3740 | 75 | 25-135 |
| Pyrene | ND | 3330 | 3170 | 95 | 37-146 |

| SURROGATE PARAMETER | SPIKE AMT (ug/kg) | BS RSLT (ug/kg) | BS % REC | QC LIMIT ( % ) |
|---|---|---|---|---|
| 2-Fluorophenol | 5000 | 3810 | 76 | 25-135 |
| Phenol-d5 | 5000 | 3890 | 78 | 25-135 |
| Nitrobenzene-d5 | 3330 | 2680 | 81 | 25-135 |
| 2-Fluorobiphenyl | 3330 | 2870 | 86 | 34-125 |
| 2,4,6-Tribromophenol | 5000 | 4330 | 87 | 25-144 |
| Terphenyl-d14 | 3330 | 3410 | 102 | 32-136 |

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

Continue

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/18609/D.O. 70
BATCH NO.: 98H064
METHOD: METHOD 3550A/8270B

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK2S | | | | |
| CONTROL NO.: | SVH024SB | SVH024SL | SVH024SC | | |
| LAB FILE ID: | RHB517 | RHB518 | RHB519 | | |
| DATIME EXTRCTD: | 08/27/9809:30 | 08/27/9809:30 | 08/27/9809:30 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 08/30/9812:28 | 08/30/9813:21 | 08/30/9814:15 | DATE RECEIVED: | 08/27/98 |
| PREP. BATCH: | SVH024S | SVH024S | SVH024S | | |
| CALIB. REF: | RHB516 | RHB516 | RHB516 | | |

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 % |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 3330 | 1670 | 50 | 3330 | 2110 | 63 | 23 | 34-152 | 30 |
| 1,4-Dichlorobenzene | ND | 3330 | 1530 | 46 | 3330 | 2030 | 61 | 28 | 25-135 | 30 |
| 2,4-Dinitrotoluene | ND | 3330 | 1460 | 44 | 3330 | 1890 | 57 | 26 | 29-149 | 30 |
| 2-Chlorophenol | ND | 5000 | 1990 | 40 | 5000 | 2690 | 54 | 30 | 31-135 | 30 |
| 4-Chloro-3-Methylphenol | ND | 5000 | 1950 | 39 | 5000 | 2430 | 49 | 22 | 34-135 | 30 |
| 4-Nitrophenol | ND | 5000 | 1290 | 26 | 5000 | 1850 | 37 | 36* | 25-141 | 30 |
| Acenaphthene | ND | 3330 | 1450 | 44 | 3330 | 1710 | 51 | 16 | 39-135 | 30 |
| N-Nitroso-di-n-propyl. | ND | 3330 | 1400 | 42 | 3330 | 1790 | 54 | 24 | 27-135 | 30 |
| Pentachlorophenol | ND | 5000 | 1750 | 35* | 5000 | 2260 | 45 | 26 | 38-146 | 30 |
| Phenol | ND | 5000 | 1850 | 37 | 5000 | 2440 | 49 | 28 | 25-135 | 30 |
| Pyrene | ND | 3330 | 1630 | 49 | 3330 | 1960 | 59 | 19 | 37-146 | 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 % |
|---|---|---|---|---|---|---|---|
| 2-Fluorophenol | 5000 | 1790 | 36 | 5000 | 2210 | 44 | 25-135 |
| Phenol-d5 | 5000 | 1830 | 37 | 5000 | 2280 | 46 | 25-135 |
| Nitrobenzene-d5 | 3330 | 1290 | 39 | 3330 | 1510 | 45 | 25-135 |
| 2-Fluorobiphenyl | 3330 | 1490 | 45 | 3330 | 1650 | 50 | 34-125 |
| 2,4,6-Tribromophenol | 5000 | 1390 | 28 | 5000 | 1630 | 33 | 25-144 |
| Terphenyl-d14 | 3330 | 1560 | 47 | 3330 | 1690 | 51 | 32-136 |