

Site Assessment Report

*Oil/Water Separator 655C Site Assessment
Marine Corps Air Station, El Toro
Santa Ana, California*

SWDIV Contract No. N68711-00-F-0115, Delivery Order No. 0112

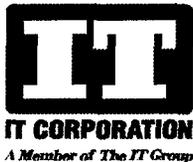
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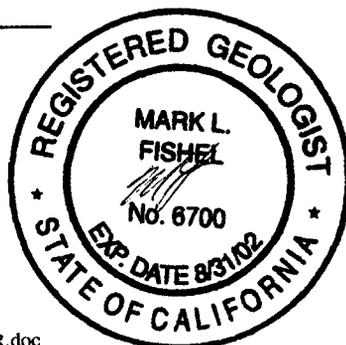
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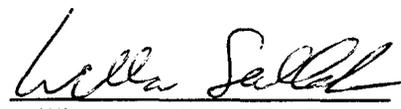

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Date: 20 June 2001

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Subj: Former Oil/Water Separator (OWS) Site 655C, Marine Corps Air Station, El Toro

The purpose of this transmittal is to provide you with the Site Assessment Report for Former OWS Site 655C at the Marine Corps Air Station, El Toro. OWS Site 655C is located near the southeastern side of Building 655 within the investigation boundary of Installation Restoration Program (IRP) Site 24 - the Volatile Organic Compound (VOC) Source Area - in the southwestern section of the Station.

OWS 655C, a concrete tank with an approximate capacity of 1,250 gallons, and approximately 20 feet of piping were removed in January 2000 with oversight by the Orange County Health Care Agency (OCHCA). One soil sample was collected from the base of the tank excavation and Total Petroleum Hydrocarbons (TPH) as diesel were identified at 6,440 milligrams per kilogram; acetone and trichloroethylene were also detected above laboratory reporting limits. OCHCA referred the case to the Regional Water Quality Control Board following the review of the data from the tank excavation.

Soil gas samples were collected from two locations adjacent to OWS 655C in 1998 and soil samples were collected from two borings during 2001. The results of the field sampling activities and an evaluation of the field data are presented in the attached report.

We believe that the information presented in the site assessment report shows that residual petroleum hydrocarbons are present in the immediate vicinity of the Former OWS 655C and that the release is not laterally or vertically extensive. Therefore, we are recommending that no further action status be designated for Former OWS Site 655C.

Please do not hesitate to call me at (619) 532-0783 if you have questions pertaining to this transmittal.

Attachment:
Site Assessment Report (IT, June 2001)

CF w/o attachments:
Dean Gould (BRAC Environmental Coordinator, MCAS El Toro)
Project File (MCAS El Toro)

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Abbreviations and Acronyms

BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene and total xylenes
LUFT	Leaking Underground Fuel Tank
CDM	Camp, Dresser & McKee, Inc.
DO	Delivery Order
EPA	U.S. Environmental Protection Agency
ft/ft	feet per foot
IRP	Installation Restoration Program
JEG	Jacobs Engineering Group Inc.
msl	mean sea level
MTBE	methyl tert-butyl ether
OHM	OHM Remediation Services Corp.
OWS	oil/water separator
PRGs	Preliminary Remediation Goals
Station	Marine Corps Air Station El Toro
SWDIV	Southwest Division Naval Facilities Engineering Command
SWMU	solid waste management unit
TPH	total petroleum hydrocarbons
VOC	volatile organic compound

Section 1

Introduction

This report describes the site verification and contents removal and disposal activities conducted at former oil/water separator (OWS) 655C, at the Marine Corps Air Station El Toro, California (herein after referred to as the Station). The work is being performed under Southwest Division Naval Facilities Engineering Command (SWDIV) Contract No. N68711-00-F-0115, and GSA Contract No. GS-10F-0048J. The IT project number is 812380.

IT conducted verification drilling and sampling activities in the vicinity of former OWS 655C. The sampling was conducted to evaluate the subsurface conditions and to ascertain the horizontal and vertical extent of contaminants previously identified during the removal of the OWS.

The Station is located in Orange County, California, approximately 45 miles southeast of the City of Los Angeles, and 1 mile north of the intersection of Interstate 5 (Santa Ana Freeway) and Interstate 405 (San Diego Freeway). The City of Lake Forest is less than 2 miles southeast, and East Irvine is approximately 1 mile to the northwest. The Station covers approximately 4,700 acres. The location of the Station is shown on Figure 1-1.

The Station officially closed on July 2, 1999 in accordance with the Base Closure and Realignment Act of 1993 (BRAC III) (SWDIV, 2001).

1.1 Site Description and Background

OWS 655C was located in the Southwest quadrant of the Station, near the intersection of South Marine Way and P Street. The former OWS is located approximately 15 feet south of Building 655, the Field Maintenance Shop, as shown on Figure 1-2. Former OWS 655C was a concrete, 1,250-gallon capacity OWS used to separate waste oil and water coming from the Field Maintenance Shop (SWDIV, 2001).

According to the El Toro Preferred Land Use Plan (County of Orange, 1999), OWS Site 655C is located within Parcel 11a, an area that has been tentatively identified as a cargo area (SWDIV 2001). The El Toro Community Reuse Plan working map is provided in Appendix A.

Former OWS 655C is located within the investigation boundary of Installation Restoration Program (IRP) Site 24 - the volatile organic compound (VOC) Source Area. Two shallow soil gas samples (196 and 198) were collected near OWS 655C during the soil gas survey of IRP Site 24 during 1994. All VOC concentrations, including benzene, toluene, ethylbenzene, xylenes and tetrachloroethene were detected below laboratory reporting limits (Jacobs Engineering Group [JEG], 1994). The *Draft Final Interim Record of Decision for IRP Site 24 VOC Source Area Vadose Zone* was signed in September 1997 (Bechtel National Inc. [BNI], 1997).

Former OWS 655C is also located within the investigation boundary of Unit 3, of IRP Site 10-Petroleum Disposal Area. Soil sampling was conducted in the vicinity of OWS 655C during the

remedial investigation of IRP Site 10. The Draft Final Interim Record of Decision for no further action at IRP Site 10 was signed in 1997 (BNI, 1997b).

1.2 Previous Investigation

In September 1998, OHM Remediation Services Corp. (OHM) performed cone penetrometer testing (CPT) soil gas sampling in the vicinity of OWS 655C. Two soil-gas points were installed to collect a total of four soil-gas samples (two samples per boring). Samples were collected at depths of 27 and 68 feet below ground surface. Soil-gas samples were analyzed for volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method TO-14. Several chemicals of concern were detected at trace levels, including several Freon compounds (from 0.035 µg/L to 1.3 µg/L), benzene (0.009 µg/L), 2-butanone (0.035 µg/L), and tetrachloroethene (0.15 µg/L) (OHM, 1998). None of the detected compounds in the soil gas exceeded the Target Cleanup Levels identified in the Interim Record of Decision for IRP Site 24. The analytical results from the OHM soil gas sampling are presented in Appendix B.

In January 2000, GEOFON, Inc. removed OWS 655C and 20 feet of associated piping under the direction of Orange County Health Care Agency (OCHCA). One soil sample was collected from the bottom of the excavation and analyzed for total petroleum hydrocarbons (TPH) using California Leaking Underground Fuel Tank (CA LUFT) Method 8015M, total recoverable petroleum hydrocarbons (TRPH) using EPA Method 418.1 and volatile organic compounds (VOCs) using EPA Method 8260B (GEOFON, 2000).

TPH, TRPH, and VOCs were detected above laboratory reporting limits in the soil sample collected from the bottom of the excavation. TPH as Diesel (TPH-D) and TPH as heavy chains (TPH-HC) were detected at maximum concentrations of 6,440 mg/kg and 1,510 mg/kg, respectively (Sample ID OWS655C-12). Acetone was identified at a concentration of 135 ug/kg (Sample ID OWS655C-12) and trichloroethene was identified at a concentration of 53.8 ug/kg (Sample ID OWS655C-12) (GEOFON, 2000). Detected analytes did not exceed residential PRG levels. Isopropylbenzene, p-isopropyltoluene, and naphthalene were also detected, but do not have published residential PRG values (EPA, 2000). A copy of the GEOFON report is provided in Appendix C.

Following the removal of former OWS 655C, OCHCA referred this site to the Regional Water Quality Control Board, Santa Ana Region for evaluation. A copy of the 18 April 2000 OCHCA letter is provided in Appendix D.

Section 2

Environmental Setting

This section summarizes the general area surrounding the Station and the environmental setting in the vicinity of former OWS 655C.

The Station is located on the southeastern edge of the Tustin Plain and extends into the Santa Ana Mountains. The Tustin Plain slopes gently toward the west-southwest with land surface elevations ranging from approximately 215 feet above mean sea level (msl) at the western corner to approximately 410 feet msl at the eastern edge of the Station. Elevations within the portion of the Station in the Santa Ana Mountains extend upward to 800 feet msl near the northeast corner of the Station. The topography in the area of former OWS 655C is relatively flat, with an approximate elevation of 270 feet above msl datum.

2.1 Regional Geology

The Station is situated on alluvial materials derived mainly from the Santa Ana Mountains. These Holocene materials consist of coarse-grained stream channel deposits and fine-grained overbank deposits that are up to 300 feet thick (Herndon and Reilly, 1989).

The Holocene alluvial materials conformably overlie Pleistocene sediments predominantly composed of interlayered fine-grained lagoonal and near-shore marine deposits. These materials become increasingly mixed with beach sands, terrace deposits, and stream channel deposits in the eastern portion of the Tustin Plain and along the eastern plain edges. The Quaternary deposits form a heterogeneous mixture of silts and clays, with interbedded sands and fine gravels up to 500 feet thick in the western portion of the Tustin Plain (Singer, 1973).

2.2 Regional Hydrogeology

The Station is situated within the Irvine Groundwater Subbasin, which comprises the southeast segment of the Main Orange County Groundwater Basin. Regional groundwater flow in the Subbasin has been to the west and northwest since the 1940s and is controlled locally by large groundwater withdrawal depressions. From 1969 to 1982, an average gradient of 0.0046 feet per foot (ft/ft) to the northwest was reported in the principal aquifer zone of the Irvine area (Banks, 1984). Phase I remedial investigation data indicated a similar groundwater flow direction in the shallower groundwater zone, with a slightly higher gradient of 0.008 ft/ft (JEG, 1993).

The depth to groundwater beneath the Station ranges from approximately 45 feet below ground surface in the foothills to 240 feet below ground surface in the deepest portion of the Irvine Subbasin. Groundwater depth in the vicinity of former OWS 655C is estimated to be 170 feet below ground surface, based on available water-level data from nearby well 07_DGMW91, located approximately 130 feet southwest of the former OWS 655C, presented in the

Groundwater Monitoring Report (Camp Dresser & McKee, Inc. [CDM] Federal Programs, 1997). Well locations are shown in Figure 1-2.

Section 3

Field Activities

IT performed field activities at former OWS 655C to determine the vertical and horizontal extent of petroleum hydrocarbons that may have been released from former OWS 655C. Field activities included a site inspection, sampling, and collection and analyses of soil samples from two verification soil borings

Fieldwork was performed in accordance with the following approved documents: Letter Work Plan for Site Assessment at OWS 655C Site (IT, 2000a) Field Sampling Plan (FSP), Oil/Water Separator 655C Site Assessment (IT, 2000b), and Quality Assurance Project Plan (QAPP), Oil/Water Separator 655C Site Assessment (IT, 2000c).

3.1 Site Inspection

IT personnel conducted a site inspection on February 27, 2001, to identify the location of former OWS 655C using as-built drawings. No evidence of releases or spills near the former OWS area was observed. Based on the existing landmarks, and the prior soil gas sampling, IT proposed the location of the soil borings in the center of the former OWS 655C location and adjacent to the southeast boundary of the former OWS. A copy of the Site Inspection Log is included in Appendix E.

3.2 Verification Activities

3.2.1 Drilling Activities

On March 6, 2001, Layne Christensen Company, an IT subcontractor, advanced two soil borings (655C SB-01 and 655C SB-02) to a depth of 50 feet below ground surface at former OWS 655C.

One soil boring was advanced in the middle of the former OWS excavation and the second boring was advanced along the southeast side of the former OWS excavation as shown in Figure 3-1. These borings were advanced using a CME 75, drill rig and hollow stem auger techniques. The soil boring locations are shown on Figure 3-1. Following completion of the sampling the borings were backfilled to the surface with a bentonite grout, and the asphalt surface restored.

3.2.2 Sampling

Four soil samples from soil boring SB-02 were collected from each soil borings, including one duplicate sample. The Encore sampling method was used to collect the soil samples. Samples were collected at approximate depths of 10, 20, 30 and 50 feet below ground surface. Soil samples and duplicates collected from the borings were submitted for laboratory analyses. Following the completion of sampling activities, the soil borings were backfilled with cement-bentonite grout to the surface.

The field boring logs describing soil lithology are presented in Appendix F. These boring logs indicate that the subsurface soil in the vicinity of the former OWS 655C is predominantly composed of silt, silty-sand, sand and sandy-clay.

3.2.3 Analyses

Sampling, including sample handling and packaging, was conducted in accordance with the procedures described in the FSP (IT, 2000a) and QAPP (IT, 2000b). The soil samples were analyzed for TPH (extractable and purgeable), using CA LUFT Method 8015M; for VOCs (including methyl tert-butyl ether [MTBE]), using EPA Method 8260B; and for metals by EPA Method 6010B/7000 Series.

3.2.4 Results

Concentrations of both TPH and VOC analytes, including MTBE, were not detected at or above laboratory reporting limits in the soil samples collected from borings 655C SB-01 and 655C SB-02 with the exception of SB-01 at 11 feet below ground surface (sample 812380-02). TPH-diesel and TPH-gas were detected at concentrations of 1700 mg/kg and 350 mg/kg, respectively in the sample collected at SB-01 at 11 feet below ground surface. The only VOC detected above the reporting limit was acetone, at 70 µg/kg.

Some metals were detected at concentrations above laboratory reporting limits, however all detected metals were less than background levels for the Station (Bechtel, 1996). The analytical results and quality control results of the soil samples collected from the verification borings are presented in Table 3-1 and Table 3-2, respectively. Laboratory analytical reports are provided in Appendix G.

3.3 Waste Disposal

Soil cuttings that were generated during drilling operations were placed in drums labeled in accordance with standard procedures. A total of 5 drums containing soil cuttings, and 1 drum containing decontamination water were generated. Following review of the analytical results and classification of the wastes as non-hazardous, the soil and water drums were transported offsite as non-hazardous waste to Crosby and Overton, a hazardous waste facility in Long Beach, CA that is approved to accept CERCLA wastes. A copy of the signed non-hazardous waste manifest is provided in Appendix H.

Section 4

Conclusions and Recommendations

The following conclusions are based upon information from surveys, existing records, field OWS closure activities and IT soil sampling data from verification soil borings:

- Former OWS 655C was used to separate oil and grease from wastewater prior to discharge to the sanitary sewer. Oil and grease have relatively limited mobility in the vadose zone when compared to gasoline.
- The depth to groundwater is estimated to be approximately 170 feet below ground surface based on historical data from local monitoring well 07_DGMW91.
- VOC concentrations in soil gas samples collected at the site were either not detected or were well below the Target Cleanup Levels established for IRP Site 24 Vadose Zone.
- OWS 655C and associated piping were removed by GEOFON, Inc. in January, 2000 and one sample was collected from the bottom of the excavation. Detected analytes did not exceed US EPA Region IX, residential PRG levels for those analytes where a PRG value was available. TPH-D and TPH-HC were detected at maximum concentrations of 6,440 mg/kg and 1,510 mg/kg, respectively (OWS655C-12).
- The two verification soil borings, OWS655C SB-01 and OWS655C SB02, were drilled and sampled to 50 feet below ground surface at former OWS 655C to confirm that there was not a vertical or lateral migration of petroleum hydrocarbons at the former OWS 655C site.
- TPH-D, TPH-G, and acetone were detected at concentrations of 1,700 mg/kg, 350 mg/kg, and 70 µg/kg, respectively in the 11-foot sample (812380-02). No benzene was detected in any of the samples. The remaining soil samples did not detect any TPH or VOCs at or above laboratory reporting limits.
- Samples from soil boring OWS655C SB-02 did not detect any concentrations of TPH or VOCs, (including MTBE), at or above laboratory reporting limits.
- No samples collected by OHM, GEOFON, or IT indicate the presence of TPH or VOCs at concentrations exceeding the LUFT Action Levels or Residential PRG values.

Based on the information provided in this report, there is no evidence that a release of petroleum hydrocarbons and solvents to the vadose zone from former OWS 655C poses any threat to the environment. Therefore, on behalf of the Station, IT recommends that this report be submitted to the California Regional Water Quality Control Board, Santa Ana Region, and that "No Further Action" status be requested for OWS 655C.

Section 5

References

Banks, H.O., 1984. *Groundwater Management, Irvine Area, Orange County, California*. Prepared for Orange County Water District.

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

Bechtel National, Inc. 1997. *Draft Final Interim Record of Decision Operable Unit 2A Site 24 – VOC Source Area Vadose Zone, Marine Corps Air Station El Toro, California*. September.

Bechtel National, Inc. 1997b. *Draft Final Record of Decision Operable Units 2A and 3A, No Action Sites, Marine Corps Air Station El Toro, California*. September.

Camp Dresser & McKee, Inc., Federal Programs, 1997. *Groundwater Data Trends and Recommendations Report, Groundwater Monitoring Programs for Marine Corps Air Station, El Toro, California*, October [Navy Contract No. N68711-96-D-2029. DO 005].

CDM, see Camp Dresser & McKee, Inc.

County of Orange, 1999. *The Preferred Land Use Plan Concept B*, September 1999.

GEOFON, Inc. 2000. *Oil/Water Separator Removal Report OWS 655C MCAS El Toro*, June 12.

Herndon, R.L., and J.F. Reilly, 1989. *Phase I Report - Investigation of TCE Contamination in the Vicinity of the Marine Corps Air Station El Toro*, Prepared for the Orange County Water District.

IT Corp, 2000a. *Letter Work Plan for Site Assessment at OWS 655C Site*, October 13.

IT Corp., 2000b. *Field Sampling Plan, Oil/Water Separator 655C Site Assessment Marine Corps Air Station, El Toro, Santa Ana, California*, October 13.

IT Corp., 2000c. *Quality Assurance Project Plan, Oil/Water Separator 655C Site Assessment Marine Corps Air Station, El Toro, Santa Ana, California*, October 13.

JEG, see Jacobs Engineering Group Inc.

Jacobs Engineering Group Inc. 1993, *Marine Corps Air Stations El Toro: Installation Restoration Program Phase 1 Remedial Investigation Draft Technical Memorandum*. Volume IV, Appendices E, K.

Jacobs Engineering Group Inc. 1994, *Marine Corps Air Stations El Toro: Installation Restoration Program Remedial Investigation/Feasibility Study Final Soil Gas Survey Technical Memorandum*. October 31.

OHM, see OHM Remediation Services Corp.

OHM Remediation Services Corp., 1998. *Field Data Collected*, September 28.

Singer, J.A. 1973. *Geohydrology and Artificial Recharge Potential of the Irvine Area, Orange County, California*, U.S. Department of the Interior Geological Survey, Water Resources Division.

Southwest Division Naval Facilities Engineering Command, 2001. *Base Realignment and Closure (BRAC) Business Plan, Marine Corps Air Station El Toro, El Toro, California*, March.

SWDIV, see Southwest Division Naval Facilities Engineering Command.

U. S. Environmental Protection Agency (EPA), 2000. *Region IX Preliminary Remediation Goals (PRGs)* November.

Figures

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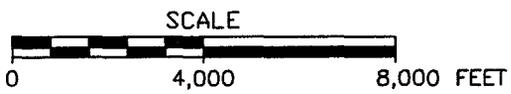
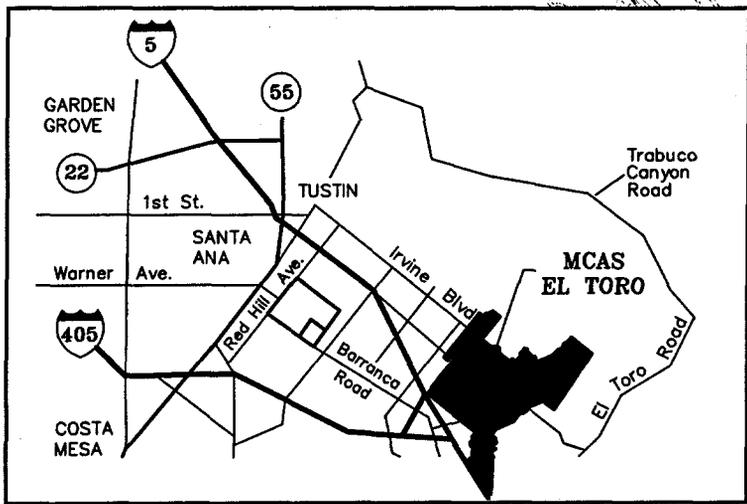
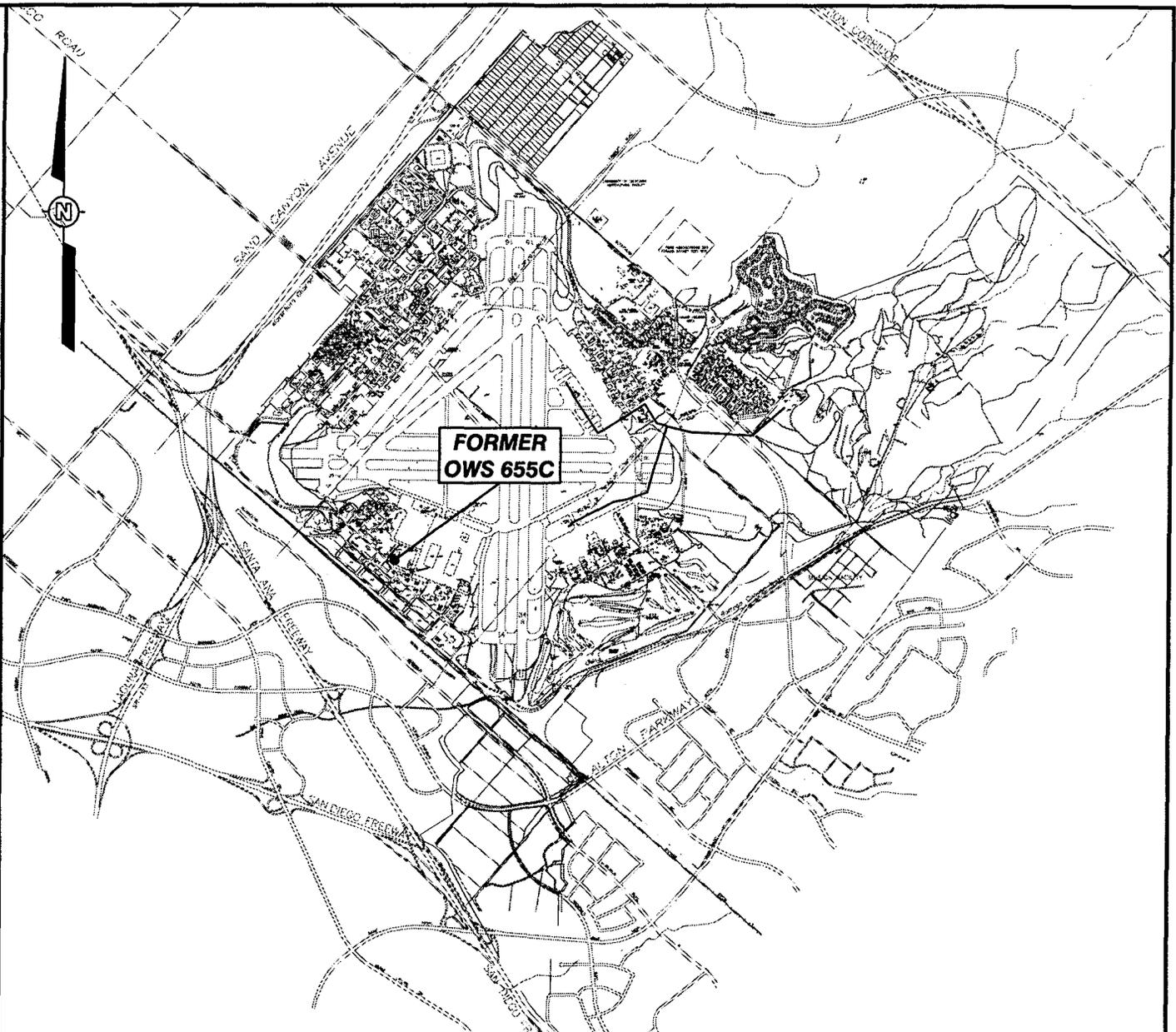
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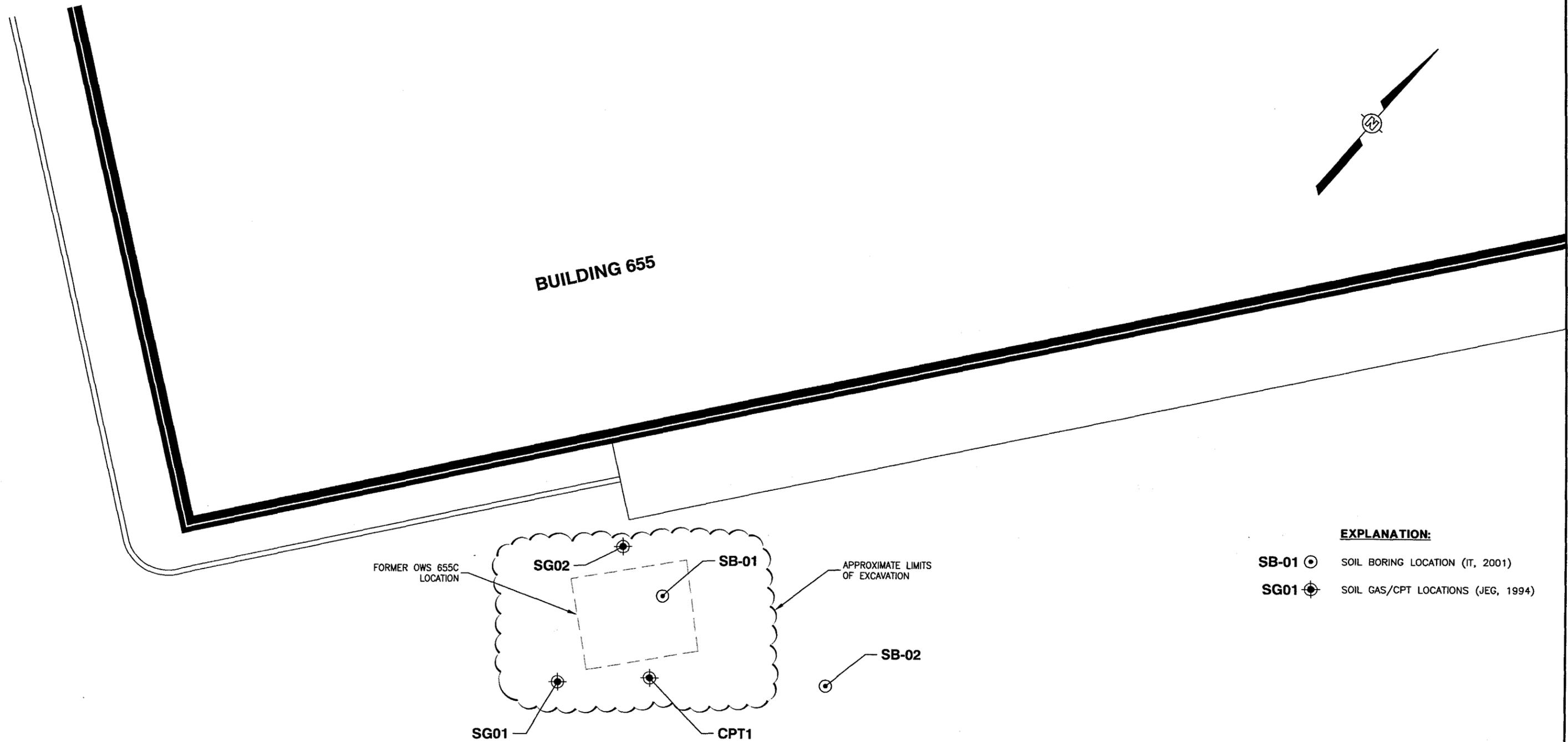
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**FIGURE 1-1
FACILITY LOCATION MAP
FORMER OWS 655C**

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

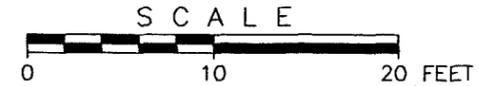


EXPLANATION:

- SB-01  SOIL BORING LOCATION (IT, 2001)
- SG01  SOIL GAS/CPT LOCATIONS (JEG, 1994)

Sample Coordinate Listing

Desc.	Northing	Easting	Elev
CPT1	2188388.12	6109438.00	274.40
SG01	2188387.72	6109429.03	274.61
SG02	2188401.09	6109435.41	275.62
SB-01	2188396.21	6109439.28	
SB-02	2188387.36	6109455.17	



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**FIGURE 3-1
SITE PLAN
FORMER OWS 655C**

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

Tables

Table 3-1

Analytical Results for Soil Samples — OWS 655C

Sample Identification				812380-02	812380-03	812380-04	812380-06	812380-08
Location Code				655C-SB-01	655C-SB-01	655C-SB-01	655C-SB-01	655C-SB-02
Date Sampled				03/06/01	03/06/01	03/06/01	03/06/01	03/06/01
Depth (feet below ground surface)				11.0	20.5	30.5	50.0	10.5
	Unit	Background	Residential PRGs					
<i>CA LUFT 8015M</i>								
TPH as Diesel	mg/kg	NE	NE	1700	11 U	11 U	11.7 U	11.6 U
TPH as Gasoline	mg/kg	NE	NE	350	10.3 U	11 U	11.5 U	11.3 U
<i>EPA 6010</i>								
Antimony	mg/kg	3.06	31	6.19 UJ	5.38 U	10.4 U	6.04 U	5.56 U
Arsenic	mg/kg	6.86	0.39	3.32	2.02	1.35	3.9	4.5
Barium	mg/kg	173	5400	113	64.3	23.3	143	275
Beryllium	mg/kg	0.669	150	.432	.311	.265	.685	.566
Cadmium	mg/kg	2.35	9.0	.721 J	.29 J	1.04 U	.673 J	.418 J
Chromium	mg/kg	26.9	210	12.9	8.11	4.64	22.3	16.7
Cobalt	mg/kg	6.98	4700	4.56	2.38 U	1.22 U	6.15	6.31
Copper	mg/kg	10.5	2900	10.5	7.55	3.73	11.1	8.41
Lead	mg/kg	15.1	400	13.7	2.26 U	1.62 U	3.9	3.99
Manganese	mg/kg	291	1800	217 J	149	48.9	284	291
Molybdenum	mg/kg	NE	390	2.12 U	2.21 U	2.08 U	2.41 U	1.72 U
Nickel	mg/kg	15.3	150	7.34	6.19	2.32	13.6	9.85
Selenium	mg/kg	0.32	390	1.12 U	1.1 U	1.04 U	1.17 U	1.16 U
Silver	mg/kg	0.539	390	2.24 U	2.21 U	2.08 U	2.34 U	2.33 U
Thallium	mg/kg	0.42	5.2	1.05 J	.939 J	1.04 U	1.37	1.41
Vanadium	mg/kg	71.8	550	33.3	20.5	10.6	54.5	47.4
Zinc	mg/kg	77.9	23000	48.4	28	10.6	62.8	55.1
<i>EPA 7470A</i>								
Mercury	mg/kg	0.22	23	.112 U	.11 U	.104 U	.031 J	.116 U
<i>EPA 8260</i>								
1,1,1-Trichloroethane	µg/kg	NE	770000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,1,2,2-Tetrachloroethane	µg/kg	NE	380	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,1,2-Trichloroethane	µg/kg	NE	840	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,1-Dichloroethane	µg/kg	NE	3300	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,1-Dichloroethene	µg/kg	NE	54	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,2-Dichloroethane	µg/kg	NE	350	5.4 U	5 U	5.7 U	5.7 U	5.1 U
1,2-Dichloropropane	µg/kg	NE	350	5.4 U	5 U	5.7 U	5.7 U	5.1 U
2-Butanone (MEK)	µg/kg	NE	7300000	15 J	50 U	57 U	57 U	51 U
2-Chloroethyl vinyl ether	µg/kg	NE	NE	54 U	50 U	57 U	57 U	51 U

Table 3-1

Analytical Results for Soil Samples — OWS 655C

Sample Identification				812380-02	812380-03	812380-04	812380-06	812380-08
Location Code				655C-SB-01	655C-SB-01	655C-SB-01	655C-SB-01	655C-SB-02
Date Sampled				03/06/01	03/06/01	03/06/01	03/06/01	03/06/01
Depth (feet below ground surface)				11.0	20.5	30.5	50.0	10.5
	Unit	Background	Residential PRGs					
2-Hexanone	µg/kg	NE	NE	54 U	50 U	57 U	57 U	51 U
4-Methyl-2-pentanone (MIBK)	µg/kg	NE	790000	54 U	50 U	57 U	57 U	51 U
Acetone	µg/kg	NE	1600000	70	50 U	57 U	57 U	51 U
Benzene	µg/kg	NE	650	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Bromodichloromethane	µg/kg	NE	1000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Bromoform	µg/kg	NE	62000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Bromomethane	µg/kg	NE	3900	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Carbon disulfide	µg/kg	NE	360000	11 U	9.9 U	11 U	11 U	10 U
Carbon tetrachloride	µg/kg	NE	240	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Chlorobenzene	µg/kg	NE	150000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Chloroethane	µg/kg	NE	3000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Chloroform	µg/kg	NE	240	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Chloromethane	µg/kg	NE	1200	5.4 U	5 U	5.7 U	5.7 U	5.1 U
cis-1,2-Dichloroethene	µg/kg	NE	43000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
cis-1,3-Dichloropropene	µg/kg	NE	82	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Dibromochloromethane	µg/kg	NE	1100	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Ethyl Tert-Butyl Ether (ETBE)	µg/kg	NE	NE	11 U	9.9 U	11 U	11 U	10 U
Ethylbenzene	µg/kg	NE	230000	.73 J	5 U	5.7 U	5.7 U	5.1 U
Methyl tert-butyl ether (MTBE)	µg/kg	NE	17	11 U	9.9 U	11 U	11 U	10 U
Methylene chloride	µg/kg	NE	8900	11 U	9.9 U	11 U	11 U	10 U
Styrene	µg/kg	NE	1700000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Tert-Amyl Methyl Ether (TAME)	µg/kg	NE	NE	11 U	9.9 U	11 U	11 U	10 U
Tert-Butyl Alcohol (TBA)	µg/kg	NE	NE	54 UJ	50 UJ	57 UJ	57 UJ	51 UJ
Tetrachloroethene (PCE)	µg/kg	NE	5700	1.4 J	5 U	5.7 U	5.7 U	5.1 U
Toluene	µg/kg	NE	520000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
trans-1,2-Dichloroethene	µg/kg	NE	63000	5.4 U	5 U	5.7 U	5.7 U	5.1 U
trans-1,3-Dichloropropene	µg/kg	NE	82	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Trichloroethene (TCE)	µg/kg	NE	2800	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Vinyl acetate	µg/kg	NE	430000	54 U	50 UJ	57 U	57 U	51 U
Vinyl chloride	µg/kg	NE	150	5.4 U	5 U	5.7 U	5.7 U	5.1 U
Xylenes (total)	µg/kg	NE	210000	2.4 J	5 U	5.7 U	5.7 U	5.1 U

Table 3-1
Analytical Results for Soil Samples — OWS 655C

Sample Identification		812380-09	812380-10	812380-12	812380-13 (Dup)
Location Code		655C-SB-02	655C-SB-02	655C-SB-02	655C-SB-02
Date Sampled		03/06/01	03/06/01	03/06/01	03/06/01
Depth (feet below ground surface)		20.5	30.5	50.0	50.5
	Unit				
<i>CA LUFT 8015M</i>					
TPH as Diesel	mg/kg	11 U	10.4 U	12 U	12 U
TPH as Gasoline	mg/kg	10.1 U	11.7 U	10.3 U	12 U
<i>EPA 6010</i>					
Antimony	mg/kg	7.87 UJ	3.84 U	7.21 U	5.97 U
Arsenic	mg/kg	2.03	.959 J	4.63	5.57
Barium	mg/kg	59.6	15.8	179	222
Beryllium	mg/kg	.289	.12 J	.877	.859
Cadmium	mg/kg	.404 J	1.04 U	1.4	1.77
Chromium	mg/kg	7.73	2.17 U	31.3	29.5
Cobalt	mg/kg	2.73	1.04 U	8.75	7.17
Copper	mg/kg	6.24	1.73	12.8	13.4
Lead	mg/kg	2.2 U	.995 U	4.95	4.98
Manganese	mg/kg	134 J	101	351	346
Molybdenum	mg/kg	2.2 U	2.07 U	2.26 U	4.04 U
Nickel	mg/kg	5.21	2.24	16.1	17.7
Selenium	mg/kg	1.1 U	1.04 U	1.2 U	1.2 U
Silver	mg/kg	2.2 U	2.07 U	2.39 U	2.4 U
Thallium	mg/kg	1.1 U	1.04 U	2	1.52
Vanadium	mg/kg	19.4	6.08	78.8	80.2
Zinc	mg/kg	23.5	6.99	77.5	73.1
<i>EPA 7470A</i>					
Mercury	mg/kg	.11 U	.104 U	.12 U	.12 U
<i>EPA 8260</i>					
1,1,1-Trichloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,1,2,2-Tetrachloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,1,2-Trichloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,1-Dichloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,1-Dichloroethene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,2-Dichloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
1,2-Dichloropropane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
2-Butanone (MEK)	µg/kg	51 U	62 U	50 U	58 U
2-Chloroethyl vinyl ether	µg/kg	51 U	62 U	50 U	58 U

Table 3-1
Analytical Results for Soil Samples — OWS 655C

Sample Identification		812380-09	812380-10	812380-12	812380-13 (Dup)
Location Code		655C-SB-02	655C-SB-02	655C-SB-02	655C-SB-02
Date Sampled		03/06/01	03/06/01	03/06/01	03/06/01
Depth (feet below ground surface)		20.5	30.5	50.0	50.5
	Unit				
2-Hexanone	µg/kg	51 U	62 U	50 U	58 U
4-Methyl-2-pentanone (MIBK)	µg/kg	51 U	62 U	50 U	58 U
Acetone	µg/kg	51 U	62 U	50 U	58 U
Benzene	µg/kg	5.1 U	6.2 U	5.8 J	1.9 J
Bromodichloromethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Bromoform	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Bromomethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Carbon disulfide	µg/kg	10 U	12 U	10 U	12 U
Carbon tetrachloride	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Chlorobenzene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Chloroethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Chloroform	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Chloromethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
cis-1,2-Dichloroethene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
cis-1,3-Dichloropropene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Dibromochloromethane	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Ethyl Tert-Butyl Ether (ETBE)	µg/kg	10 U	12 U	10 U	12 U
Ethylbenzene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Methyl tert-butyl ether (MTBE)	µg/kg	10 U	12 U	10 U	12 U
Methylene chloride	µg/kg	10 U	12 U	10 U	12 U
Styrene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Tert-Amyl Methyl Ether (TAME)	µg/kg	10 U	12 U	10 U	12 U
Tert-Butyl Alcohol (TBA)	µg/kg	51 UJ	62 UJ	50 UJ	58 UJ
Tetrachloroethene (PCE)	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Toluene	µg/kg	5.1 U	6.2 U	5 U	1 J
trans-1,2-Dichloroethene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
trans-1,3-Dichloropropene	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Trichloroethene (TCE)	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Vinyl acetate	µg/kg	51 U	62 U	50 U	58 U
Vinyl chloride	µg/kg	5.1 U	6.2 U	5 U	5.8 U
Xylenes (total)	µg/kg	5.1 U	6.2 U	5 U	5.8 U

Table 3-1
Analytical Results for Soil Samples — OWS 655C

Explanation:

CA LUFT - California Leaking Underground Fuel Tank

EPA - United States Environmental Protection Agency

J - estimated value

M - Modified

mg/kg - milligrams per kilogram

NA - not analyzed

OHM - OHM Remediation Services Corp.

PRG-Preliminary Remediation Goal, EPA Region IX, November 2000

RL - reporting limit

TPH - total petroleum hydrocarbons

U - not detected above or equal to the stated reporting limit

UJ - the sample detection limit is an estimated value

µg/kg - micrograms per kilogram

UST - underground storage tanks

Table 3-2

Analytical Results for Field QC Samples — OWS 655C

Sample Identification		812380-07	812380-01
Location Code		Equipment Rinsate	Trip Blank
Date Sampled		03/06/01	03/06/01
	Unit		
<i>CA LUFT 8015M</i>			
TPH as Diesel	mg/L	.094 U	NA
TPH as Gasoline	mg/L	.03 J	.1 U
<i>EPA 6010</i>			
Antimony	µg/L	500 U	NA
Arsenic	µg/L	10 U	NA
Barium	µg/L	100 U	NA
Beryllium	µg/L	10 U	NA
Cadmium	µg/L	10 U	NA
Chromium	µg/L	50 U	NA
Cobalt	µg/L	50 U	NA
Copper	µg/L	50 U	NA
Lead	µg/L	10 U	NA
Manganese	µg/L	20 U	NA
Molybdenum	µg/L	100 U	NA
Nickel	µg/L	150 U	NA
Selenium	µg/L	2.87 U	NA
Silver	µg/L	50 U	NA
Thallium	µg/L	400 U	NA
Vanadium	µg/L	100 U	NA
Zinc	µg/L	20 U	NA
<i>EPA 7470A</i>			
Mercury	µg/L	.2 U	NA
<i>EPA 8260</i>			
1,1,1-Trichloroethane	µg/L	5 U	5 U
1,1,1,2-Tetrachloroethane	µg/L	5 U	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U
1,1-Dichloroethane	µg/L	5 U	5 U
1,1-Dichloroethene	µg/L	5 U	5 U
1,2-Dichloroethane	µg/L	5 U	5 U
1,2-Dichloropropane	µg/L	5 U	5 U
2-Butanone (MEK)	µg/L	50 U	50 U
2-Chloroethyl vinyl ether	µg/L	50 U	50 U
2-Hexanone	µg/L	50 U	50 U

Table 3-2**Analytical Results for Field QC Samples — OWS 655C**

Sample Identification		812380-07	812380-01
Location Code		Equipment Rinsate	Trip Blank
Date Sampled		03/06/01	03/06/01
	Unit		
4-Methyl-2-pentanone (MIBK)	µg/L	50 U	50 U
Acetone	µg/L	50 U	50 U
Benzene	µg/L	5 U	5 U
Bromodichloromethane	µg/L	5 U	5 U
Bromoform	µg/L	5 U	5 U
Bromomethane	µg/L	5 U	5 U
Carbon disulfide	µg/L	5 U	5 U
Carbon tetrachloride	µg/L	5 U	5 U
Chlorobenzene	µg/L	5 U	5 U
Chloroethane	µg/L	5 U	5 U
Chloroform	µg/L	5 U	5 U
Chloromethane	µg/L	5 U	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U
Dibromochloromethane	µg/L	5 U	5 U
Ethyl Tert-Butyl Ether (ETBE)	µg/L	10 U	10 U
Ethylbenzene	µg/L	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	10 U	10 U
Methylene chloride	µg/L	5 U	5 U
Styrene	µg/L	5 U	5 U
Tert-Amyl Methyl Ether (TAME)	µg/L	10 U	10 U
Tert-Butyl Alcohol (TBA)	µg/L	50 UJ	50 UJ
Tetrachloroethene (PCE)	µg/L	5 U	5 U
Toluene	µg/L	5 U	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U
Trichloroethene (TCE)	µg/L	5 U	5 U
Vinyl acetate	µg/L	50 U	50 U
Vinyl chloride	µg/L	5 U	5 U
Xylenes (total)	µg/L	5 U	5 U

Table 3-2

Analytical Results for Field QC Samples — OWS 655C

Explanation:

CA LUFT - California Leaking Underground Fuel Tank

EPA - United States Environmental Protection Agency

J - estimated value

M - Modified

mg/L - milligrams per liter

NA - not analyzed

OHM - OHM Remediation Services Corp.

RL - reporting limit

TPH - total petroleum hydrocarbons

U - not detected above or equal to the stated reporting limit

UJ - the sample detection limit is an estimated value

µg/L - micrograms per liter

UST - underground storage tanks

Appendix A

Tentative Reuse Parcel Location of OWS 655C

DRAWING NUMBER 812380001D

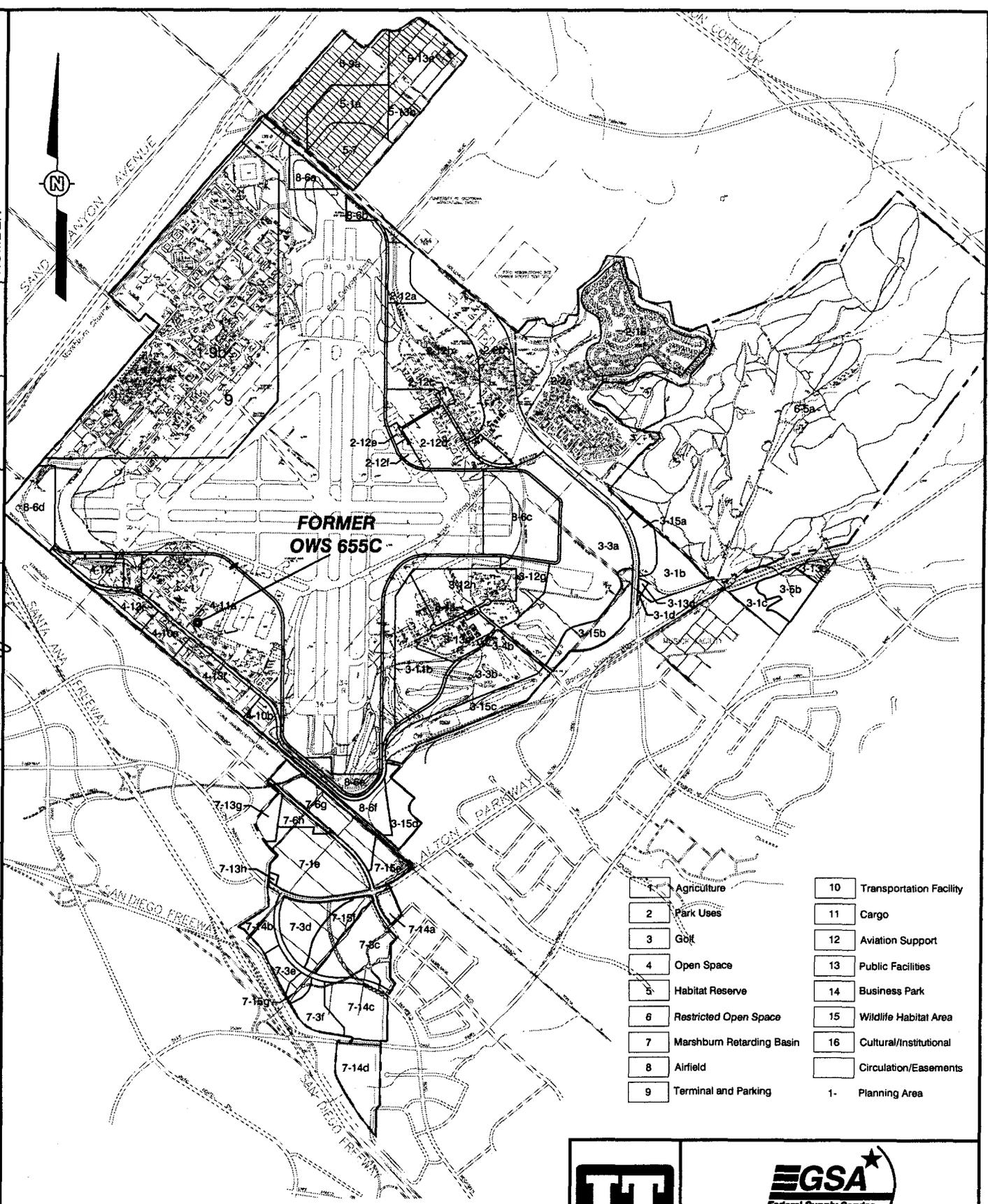
APPROVED BY

CHECKED BY

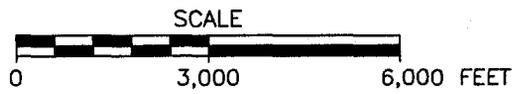
DRAWN BY R.P.

6/11/01

JUN 05 2001 - 12:11:54 P:\OHM CORP\PROJECTS\812380\812380001D.dwg



1	Agriculture	10	Transportation Facility
2	Park Uses	11	Cargo
3	Govt	12	Aviation Support
4	Open Space	13	Public Facilities
5	Habitat Reserve	14	Business Park
6	Restricted Open Space	15	Wildlife Habitat Area
7	Marshburn Retarding Basin	16	Cultural/Institutional
8	Airfield		Circulation/Easements
9	Terminal and Parking	1-	Planning Area



GSA CONTRACT NO. GS-10F-0048J
SWDIV N68711-00-F0115

FIGURE 1 TENTATIVE REUSE PARCEL LOCATION FORMER OWS 655C

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SOURCE OF REUSE INFORMATION:
COUNTY OF ORANGE (1999)

Appendix B
OHM Soil Gas Sampling Details

APPENDIX B
OHM SOIL GAS SAMPLING DETAILS

SITE ASSESSMENT REPORT
OIL/WATER SEPARATOR 655C
SITE ASSESSMENT

THE ABOVE APPENDIX WAS RECEIVED AS-IS.

QUESTIONS MAY BE DIRECTED TO:

DIANE C. SILVA
RECORDS MANAGEMENT SPECIALIST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 532-3676



OHM Remediation Services Corp.

A Subsidiary of OHM Corporation

OHM TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT N68711-93-D-1459

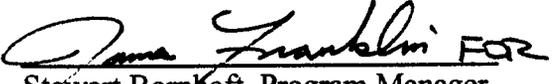
DOCUMENT CONTROL NO: SW6198

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Bozier H. Demaree, Code 02R.BD
Building 131
1220 Pacific Highway
San Diego, California 92132-5101

Date: 24-Dec-98

D.O.: 112

Location: MCAS EL TORO

FROM: 
Stewart Bornhoft, Program Manager

Edwin G. Bond, Contracts Manager

DESCRIPTION OF ENCLOSURE: *Tranmittal of Cone-Petration Report Testing for Building 655 Sites, Remediation of Various Underground Storage Tank Sites, dated December 22, 1998*

TYPE: Contract Deliverable () D. O. Deliverable (X) Request for Change () Other ()
(\$) (Tech)

VERSION: FINAL

REVISION: 0

ADMIN RECORD: Yes () No (X) Category () Confidential ()

SCHEDULED DELIVERY DATE: 24-Dec-98 **ACTUAL DELIVERY DATE:** 24-Dec-98

NUMBER OF COPIES SUBMITTED TO THE NAVY: 1/O, 3/C, 2/E

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L. Holloway, 4EN.LLH (1C/1E)

File (1C/1E)

L. Hornecker, 5BME.LH (1C/1E)

Chron (1C)

G. Steinway, 5B02.GS (1C)

W. Sedlak, Irv (1C/1E)

Date/Time Received: _____ /



OHM Remediation Services Corp.

3347 Michelson Drive, Suite 200

Irvine, CA 92612-1692

Tel. 949.261.6441

Fax. 949.474.8309

A Member of The IT Group

December 22, 1998

Ms. Bozier H. Demaree, Code 02R.BD
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5187

Attention: Ms. Lynn Hornecker, 56MC.LMH

**Subject: Transmittal of Cone-Penetration Testing Report for Building 655 Sites
Contract N68711-93-D-1459, Delivery Order 112,
Remediation of Various Underground Storage Tank Sites at MCAS El
Toro, California**

Dear Ms. Hornecker:

OHM is pleased to submit the attached three copies of the referenced report. This document contains the logs of the CPT tests conducted during soil gas sampling at Building 655.

If you have any questions or need additional copies of the document please call me.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Sedlak".

William Sedlak
Sr. Project Manager

cc: L. Holloway, SWDIV, COTR
OHM PMO File
Project File, B.01

Table 1
Summary of Analytical Results — OWS 655C

Sample Identification		20242-572	20242-573	20242-574	20242-575
Location Code		OWS-655C-SG01	OWS-655C-SG01	OWS-655C-SG02	OWS-655C-SG02
Date Sampled		09/23/98	09/23/98	09/23/98	09/23/98
Depth (feet below ground surface)		27.0	68.0	26.0	67.0
	Unit				
<i>EPA TO-14</i>					
1,1,1-Trichloroethane	µg/L	0.014 U	0.012 U	0.016 U	0.014 U
1,1,2,2-Tetrachloroethane	µg/L	0.018 UJ	0.016 UJ	0.020 UJ	0.018 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	1.3	1.5	1.1	1.3
1,1,2-Trichloroethane	µg/L	0.014 U	0.012 U	0.016 U	0.014 U
1,1-Dichloroethane	µg/L	0.010 U	0.0090 U	0.012 U	0.010 U
1,1-Dichloroethene	µg/L	0.0099 U	0.0088 U	0.011 U	0.0099 U
1,2,4-Trichlorobenzene	µg/L	0.19 U	0.17 U	0.21 U	0.19 U
1,2,4-Trimethylbenzene	µg/L	0.014	0.015	0.018	0.016
1,2-Dibromoethane (EDB)	µg/L	0.019 U	0.017 U	0.021 U	0.019 U
1,2-Dichlorobenzene	µg/L	0.015 U	0.013 U	0.017 U	0.015 U
1,2-Dichloroethane	µg/L	0.010 U	0.0090 U	0.012 U	0.010 U
1,2-Dichloropropane	µg/L	0.012 U	0.010 U	0.013 U	0.012 U
1,3,5-Trimethylbenzene	µg/L	0.012 U	0.011 U	0.014 U	0.012 U
1,3-Dichlorobenzene	µg/L	0.015 U	0.013 U	0.017 U	0.015 U
1,4-Dichlorobenzene	µg/L	0.015 U	0.013 U	0.017 U	0.015 U
2-Butanone (MEK)	µg/L	0.036 U	0.035	0.041 U	0.036 U
2-Hexanone	µg/L	0.15 U	0.13 U	0.17 U	0.15 U
4-Ethyltoluene	µg/L	0.012	0.013	0.016	0.014
4-Methyl-2-pentanone (MIBK)	µg/L	0.051 U	0.046 U	0.059 U	0.051 U
Acetone	µg/L	0.046	0.071	0.042	0.042
Benzene	µg/L	0.0080 U	0.0086	0.0092 U	0.0080 U
Benzyl chloride	µg/L	0.065 U	0.058 U	0.074 U	0.065 U
Bromodichloromethane	µg/L	0.016 U	0.014 U	0.019 U	0.016 U
Bromoform	µg/L	0.026 U	0.023 U	0.030 U	0.026 U
Bromomethane	µg/L	0.0098 U	0.0087 U	0.011 U	0.0098 U
Carbon disulfide	µg/L	0.039 U	0.034 U	0.044 U	0.039 U
Carbon tetrachloride	µg/L	0.016 U	0.014 U	0.019 U	0.016 U
Chlorobenzene	µg/L	0.012 U	0.010 U	0.013 U	0.012 U
Chloroethane	µg/L	0.014 U	0.012 U	0.016 U	0.014 U
Chloroform	µg/L	0.012 U	0.011 U	0.014 U	0.012 U
Chloromethane	µg/L	0.010 U	0.0091 U	0.012 U	0.010 U
cis-1,2-Dichloroethene	µg/L	0.0099 U	0.0088 U	0.011 U	0.0099 U

Table 1
Summary of Analytical Results — OWS 655C

Sample Identification		20242-572	20242-573	20242-574	20242-575
Location Code		OWS-655C-SG01	OWS-655C-SG01	OWS-655C-SG02	OWS-655C-SG02
Date Sampled		09/23/98	09/23/98	09/23/98	09/23/98
Depth (feet below ground surface)		27.0	68.0	26.0	67.0
	Unit				
cis-1,3-Dichloropropene	µg/L	0.011 U	0.010 U	0.013 U	0.011 U
Dibromochloromethane	µg/L	0.021 U	0.019 U	0.024 U	0.021 U
Dichlorodifluoromethane	µg/L	0.012 U	NA ¹	0.014 U	0.012 U
Ethylbenzene	µg/L	0.012	0.016	0.017	0.015
Freon 114	µg/L	0.018 U	0.016 U	0.020 U	0.018 U
Hexachlorobutadiene	µg/L	0.052 U	0.047 U	0.060 U	0.052 U
Methyl tert-butyl ether (MTBE)	µg/L	0.045 U	0.040 U	0.051 U	0.045 U
Methylene chloride	µg/L	0.0086 U	0.0077 U	0.0099 U	0.0086 U
Styrene	µg/L	0.011 U	0.0094 U	0.012 U	0.011 U
Tetrachloroethene (PCE)	µg/L	0.19	0.084	0.15	0.056
Toluene	µg/L	0.13	0.29	0.17	0.25
trans-1,2-Dichloroethene	µg/L	0.0099 U	0.0088 U	0.011 U	0.0099 U
trans-1,3-Dichloropropene	µg/L	0.011 U	0.010 U	0.013 U	0.011 U
Trichloroethene (TCE)	µg/L	0.014 U	0.012 U	0.016 U	0.014 U
Trichlorofluoromethane	µg/L	0.024	0.035	0.021	0.027
Vinyl acetate	µg/L	0.044 U	0.039 U	0.050 U	0.044 U
Vinyl chloride	µg/L	0.0064 U	0.0057 U	0.0073 U	0.0064 U
Xylenes (total)	µg/L	0.066	0.082	0.090	0.071

OHM Remediation Services Corp.

Table 1
Summary of Analytical Results — OWS 655C

Explanation:

I - compound not analyzed due to high level of carbon dioxide.

EPA - United States Environmental Protection Agency

J - estimated value

NA - not analyzed

OHM - OHM Remediation Services Corp.

RL - reporting limit

TO - toxic organic

U - not detected above or equal to the stated reporting limit

ug/ L - micrograms per liter

UJ - the sample detection limit is an estimated value

Table 1
Summary of QC Analytical Results — OWS 655C

Sample Identification		20242-571
Location Code		System Blank
Date Sampled		09/23/98
	Unit	
<i>EPA TO-14</i>		
1,1,1-Trichloroethane	µg/L	0.011 U
1,1,1,2-Tetrachloroethane	µg/L	0.014 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	0.015 U
1,1,2-Trichloroethane	µg/L	0.011 U
1,1-Dichloroethane	µg/L	0.0081 U
1,1-Dichloroethene	µg/L	0.0079 U
1,2,4-Trichlorobenzene	µg/L	0.15 U
1,2,4-Trimethylbenzene	µg/L	0.014
1,2-Dibromoethane (EDB)	µg/L	0.015 U
1,2-Dichlorobenzene	µg/L	0.012 U
1,2-Dichloroethane	µg/L	0.0081 U
1,2-Dichloropropane	µg/L	0.0092 U
1,3,5-Trimethylbenzene	µg/L	0.0098 U
1,3-Dichlorobenzene	µg/L	0.012 U
1,4-Dichlorobenzene	µg/L	0.012 U
2-Butanone (MEK)	µg/L	0.029 U
2-Hexanone	µg/L	0.12 U
4-Ethyltoluene	µg/L	0.012
4-Methyl-2-pentanone (MIBK)	µg/L	0.041 U
Acetone	µg/L	0.026
Benzene	µg/L	0.0064 U
Benzyl chloride	µg/L	0.052 U
Bromodichloromethane	µg/L	0.013 U
Bromoform	µg/L	0.021 U
Bromomethane	µg/L	0.0078 U
Carbon disulfide	µg/L	0.031 U
Carbon tetrachloride	µg/L	0.013 U
Chlorobenzene	µg/L	0.0092 U
Chloroethane	µg/L	0.011 U
Chloroform	µg/L	0.0097 U
Chloromethane	µg/L	0.0082 U
cis-1,2-Dichloroethene	µg/L	0.0079 U
cis-1,3-Dichloropropene	µg/L	0.0091 U

Table 1
Summary of QC Analytical Results — OWS 655C

Sample Identification		20242-571
Location Code		System Blank
Date Sampled		09/23/98
	Unit	
Dibromochloromethane	µg/L	0.017 U
Dichlorodifluoromethane	µg/L	0.0099 U
Ethylbenzene	µg/L	0.014
Freon 114	µg/L	0.014 U
Hexachlorobutadiene	µg/L	0.042 U
Methyl tert-butyl ether (MTBE)	µg/L	0.036 U
Methylene chloride	µg/L	0.0069 U
Styrene	µg/L	0.0085 U
Tetrachloroethene (PCE)	µg/L	0.015
Toluene	µg/L	0.19
trans-1,2-Dichloroethene	µg/L	0.0079 U
trans-1,3-Dichloropropene	µg/L	0.0091 U
Trichloroethene (TCE)	µg/L	0.011 U
Trichlorofluoromethane	µg/L	0.011 U
Vinyl acetate	µg/L	0.035 U
Vinyl chloride	µg/L	0.0051 U
Xylenes (total)	µg/L	0.073

OHM Remediation Services Corp.

Table 1
Summary of QC Analytical Results — OWS 655C

Explanation:

EPA - United States Environmental Protection Agency

J - estimated value

OHM - OHM Remediation Services Corp.

RL - reporting limit

TO - toxic organic

U - not detected above or equal to the stated reporting limit

ug/ L - micrograms per liter

UJ - the sample detection limit is an estimated value



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

217233

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 134144	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME) OHM Remediation
PROJECT NAME CPT @ BLDG #655	PROJECT LOCATION MCRS E1 TORO	PROJECT NUMBER 20242	LABORATORY PHONE (26) 965-1006	LABORATORY FAX	REMIPT NAME Mary Schneider
PROJECT CONTACT Dwayne Ishida	PROJECT PHONE NUMBER (714) 263-1146	PROJECT FAX (714) 263-1147	LABORATORY ADDRESS		ADDRESS 2031 main st.
PROJECT ADDRESS MCRS E1 TORO	CITY, STATE AND ZIPCODE (714) 263-1146	CLIENT (714) 263-1147	CITY, STATE AND ZIPCODE City of Industry, CA.		CITY, STATE AND ZIPCODE Irvine, CA.
PROJECT MANAGER Bill Sedlak	PROJECT MANAGER'S PHONE (714) 263-1146	PROJECT MANAGER'S FAX (714) 263-1147	LABORATORY ADDRESS		

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses	Comments	Sample Type			
											G	C	F	QC
1	20242-571	Air	1/23/98	0814	-	2	C	5 day	X	Analyze "A" bag first	X			X
2	20242-572			0835					X					X
3	20242-573			1040					X					X
4	20242-574			1234					X					X
5	20242-575	Air	1/23/98	1345	-	2	C	5 day	X	Analyze "A" bag first	X			X
6														
7														
8														
9														
10														

SAMPLES COLLECTED BY MB	COURIER AND/OR BILL NUMBER	COOLER TEMPERATURE UPON RECEIPT
RELEASED BY Mark S. Somerville	RECEIVED BY [Signature]	SAMPLE'S CONDITION UPON RECEIPT
DATE 9/23/98	TIME 14:20	

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 OWS655C-S61-01 @ 27' System Blank	X			X
② OWS655C-S61-02 @ 27' -5901 @ 27'	X		X	
③ OWS655C-S61-02 @ 68' -5901-5902 @ 68'	X		X	
④ OWS655C-S62-01 @ 26' 5902 @ 26'	X		X	
⑤ OWS655C-S62-02 @ 67' -5902 @ 67'	X		X	

Comments

MB
9/29/98

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



Environmental
Services

Quanterra Incorporated
18501 East Gale Avenue #130
City of Industry, California 91748

818 965-1006 Telephone
818 965-1003 Fax

September 29, 1998

OHM REMEDIATION SERVICES CORPORATION
2031 Main Street
Irvine, CA 92714
ATTN: Ms. Mary Schneider

ANALYSIS NO.: 134144-0001/0005-SA
ANALYSIS: Volatile Organics by GCMS
- Modified EPA TO14
DATE SAMPLED: 09/23/98
DATE SAMPLES REC'D: 09/23/98

PROJECT: MCAS EL TORO
CPT @ BLDG#655

PROJECT NO.: 20242

Enclosed with this letter is the report on the chemical and physical analyses for the samples from ANALYSIS NO.: 134144-0001/0005-SA as shown above.

The samples were received by Quanterra Incorporated, City of Industry, intact and with the chain-of-custody record attached.

Please note that ND means not detected at the reporting limits expressed.

EPA Method TO-14 describes the use of SUMMA canisters for sampling and analysis. Use of Tedlar sample bags constitutes a modification to the method and is noted in the analysis description above.

Preliminary results were faxed to Mr. Dwayne Ishida of OHM Remediation Services Corporation on September 28, 1998.

All applicable internal quality control (QC) analyses, including calibrations, method blanks, duplicate control sample (DCS), and other QC met acceptance criteria. Any matrix-related anomalies are indicated using footnotes within the report. There are no other anomalies associated with this report.

Maria O. Jones
Project Manager

9/29/98

Date
Approved

Client Name:	OHM Remediation Services Corporation		
Client ID:	20242-571		
LAB ID:	134144-0001-SA		
Matrix:	AIR	Sampled: 23 SEP 98	Received: 23 SEP 98
Authorized:	23 SEP 98	Prepared: N/A	Analyzed: 24 SEP 98
Instrument:	GC/MS-A	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		2.0	ppb (v/v)
Chloromethane	ND		4.0	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.0	ppb (v/v)
Vinyl chloride	ND		2.0	ppb (v/v)
Bromomethane	ND		2.0	ppb (v/v)
Chloroethane	ND		4.0	ppb (v/v)
Trichlorofluoromethane	ND		2.0	ppb (v/v)
1,1-Dichloroethene	ND		2.0	ppb (v/v)
Carbon disulfide	ND		10	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	ppb (v/v)
Acetone	11		10	ppb (v/v)
Methylene chloride	ND		2.0	ppb (v/v)
trans-1,2-Dichloroethene	ND		2.0	ppb (v/v)
Methyl t-butyl ether	ND		10	ppb (v/v)
1,1-Dichloroethane	ND		2.0	ppb (v/v)
Vinyl acetate	ND		10	ppb (v/v)
cis-1,2-Dichloroethene	ND		2.0	ppb (v/v)
2-Butanone	ND		10	ppb (v/v)
Chloroform	ND		2.0	ppb (v/v)
1,1,1-Trichloroethane	ND		2.0	ppb (v/v)
Carbon tetrachloride	ND		2.0	ppb (v/v)
Benzene	ND		2.0	ppb (v/v)
1,2-Dichloroethane	ND		2.0	ppb (v/v)
Trichloroethene	ND		2.0	ppb (v/v)
1,2-Dichloropropane	ND		2.0	ppb (v/v)
Bromodichloromethane	ND		2.0	ppb (v/v)
cis-1,3-Dichloropropene	ND		2.0	ppb (v/v)
4-Methyl-2-pentanone	ND		10	ppb (v/v)
Toluene	51		5.0	ppb (v/v)
trans-1,3-Dichloropropene	ND		2.0	ppb (v/v)
1,1,2-Trichloroethane	ND		2.0	ppb (v/v)
Tetrachloroethene	2.3		2.0	ppb (v/v)
2-Hexanone	ND		30	ppb (v/v)
Dibromochloromethane	ND		2.0	ppb (v/v)
1,2-Dibromoethane (EDB)	ND		2.0	ppb (v/v)
Chlorobenzene	ND		2.0	ppb (v/v)
Ethylbenzene	3.2		2.0	ppb (v/v)
Xylenes (total)	17		2.0	ppb (v/v)
Styrene	ND		2.0	ppb (v/v)
Bromoform	ND		2.0	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND		2.0	ppb (v/v)
Benzyl chloride	ND		10	ppb (v/v)
4-Ethyltoluene	2.4		2.0	ppb (v/v)
1,3,5-Trimethylbenzene	ND		2.0	ppb (v/v)

ND = Not Detected

Client Name: OHM Remediation Services Corporation
Client ID: 20242-571
LAB ID: 134144-0001-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.0

Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	2.8		2.0	ppb (v/v)
1,3-Dichlorobenzene	ND		2.0	ppb (v/v)
1,4-Dichlorobenzene	ND		2.0	ppb (v/v)
1,2-Dichlorobenzene	ND		2.0	ppb (v/v)
1,2,4-Trichlorobenzene	ND		20	ppb (v/v)
Hexachlorobutadiene	ND		4.0	ppb (v/v)

ND = Not Detected

Volatile Organics by GCMS - EPA TO14 Modified

Client Name:	OHM Remediation Services Corporation		
Client ID:	20242-572		
LAB ID:	134144-0002-SA		
Matrix:	AIR	Sampled: 23 SEP 98	Received: 23 SEP 98
Authorized:	23 SEP 98	Prepared: N/A	Analyzed: 24 SEP 98
Instrument:	GC/MS-A	Dilution: 1.2	

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		2.5	ppb (v/v)
Chloromethane	ND		5.0	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.5	ppb (v/v)
Vinyl chloride	ND		2.5	ppb (v/v)
Bromomethane	ND		2.5	ppb (v/v)
Chloroethane	ND		5.0	ppb (v/v)
Trichlorofluoromethane	4.2		2.5	ppb (v/v)
1,1-Dichloroethene	ND		2.5	ppb (v/v)
Carbon disulfide	ND		12	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	170		2.5	ppb (v/v)
Acetone	19		12	ppb (v/v)
Methylene chloride	ND		2.5	ppb (v/v)
trans-1,2-Dichloroethene	ND		2.5	ppb (v/v)
Methyl t-butyl ether	ND		12	ppb (v/v)
1,1-Dichloroethane	ND		2.5	ppb (v/v)
Vinyl acetate	ND		12	ppb (v/v)
cis-1,2-Dichloroethene	ND		2.5	ppb (v/v)
2-Butanone	ND		12	ppb (v/v)
Chloroform	ND		2.5	ppb (v/v)
1,1,1-Trichloroethane	ND		2.5	ppb (v/v)
Carbon tetrachloride	ND		2.5	ppb (v/v)
Benzene	ND		2.5	ppb (v/v)
1,2-Dichloroethane	ND		2.5	ppb (v/v)
Trichloroethene	ND		2.5	ppb (v/v)
1,2-Dichloropropane	ND		2.5	ppb (v/v)
Bromodichloromethane	ND		2.5	ppb (v/v)
cis-1,3-Dichloropropene	ND		2.5	ppb (v/v)
4-Methyl-2-pentanone	ND		12	ppb (v/v)
Toluene	36		6.2	ppb (v/v)
trans-1,3-Dichloropropene	ND		2.5	ppb (v/v)
1,1,2-Trichloroethane	ND		2.5	ppb (v/v)
Tetrachloroethene	29		2.5	ppb (v/v)
2-Hexanone	ND		38	ppb (v/v)
Dibromochloromethane	ND		2.5	ppb (v/v)
1,2-Dibromoethane (EDB)	ND		2.5	ppb (v/v)
Chlorobenzene	ND		2.5	ppb (v/v)
Ethylbenzene	2.8		2.5	ppb (v/v)
Xylenes (total)	15		2.5	ppb (v/v)
Styrene	ND		2.5	ppb (v/v)
Bromoform	ND		2.5	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND		2.5	ppb (v/v)
Benzyl chloride	ND		12	ppb (v/v)
4-Ethyltoluene	2.5		2.5	ppb (v/v)
1,3,5-Trimethylbenzene	ND		2.5	ppb (v/v)

ND = Not Detected



Volatile Organics by GCMS - EPA TO14 Modified

Environmental Services (cont.)

Client Name: OHM Remediation Services Corporation
Client ID: 20242-572
LAB ID: 134144-0002-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.2
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	2.9		2.5	ppb (v/v)
1,3-Dichlorobenzene	ND		2.5	ppb (v/v)
1,4-Dichlorobenzene	ND		2.5	ppb (v/v)
1,2-Dichlorobenzene	ND		2.5	ppb (v/v)
1,2,4-Trichlorobenzene	ND		25	ppb (v/v)
Hexachlorobutadiene	ND		5.0	ppb (v/v)

ND = Not Detected

Volatile Organics by GCMS - EPA TO14 Modified

Client Name: OHM Remediation Services Corporation
 Client ID: 20242-573
 LAB ID: 134144-0003-SA
 Matrix: AIR
 Authorized: 23 SEP 98
 Instrument: GC/MS-A

Sampled: 23 SEP 98
 Prepared: N/A
 Dilution: 1.1

Received: 23 SEP 98
 Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	--	1	--	ppb (v/v)
Chloromethane	ND		4.4	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.2	ppb (v/v)
Vinyl chloride	ND		2.2	ppb (v/v)
Bromomethane	ND		2.2	ppb (v/v)
Chloroethane	ND		4.4	ppb (v/v)
Trichlorofluoromethane	6.2		2.2	ppb (v/v)
1,1-Dichloroethene	ND		2.2	ppb (v/v)
Carbon disulfide	ND		11	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	190		2.2	ppb (v/v)
Acetone	30		11	ppb (v/v)
Methylene chloride	ND		2.2	ppb (v/v)
trans-1,2-Dichloroethene	ND		2.2	ppb (v/v)
Methyl t-butyl ether	ND		11	ppb (v/v)
1,1-Dichloroethane	ND		2.2	ppb (v/v)
Vinyl acetate	ND		11	ppb (v/v)
cis-1,2-Dichloroethene	ND		2.2	ppb (v/v)
2-Butanone	12		11	ppb (v/v)
Chloroform	ND		2.2	ppb (v/v)
1,1,1-Trichloroethane	ND		2.2	ppb (v/v)
Carbon tetrachloride	ND		2.2	ppb (v/v)
Benzene	2.7		2.2	ppb (v/v)
1,2-Dichloroethane	ND		2.2	ppb (v/v)
Trichloroethene	ND		2.2	ppb (v/v)
1,2-Dichloropropane	ND		2.2	ppb (v/v)
Bromodichloromethane	ND		2.2	ppb (v/v)
cis-1,3-Dichloropropene	ND		2.2	ppb (v/v)
4-Methyl-2-pentanone	ND		11	ppb (v/v)
Toluene	76		5.6	ppb (v/v)
trans-1,3-Dichloropropene	ND		2.2	ppb (v/v)
1,1,2-Trichloroethane	ND		2.2	ppb (v/v)
Tetrachloroethene	12		2.2	ppb (v/v)
2-Hexanone	ND		33	ppb (v/v)
Dibromochloromethane	ND		2.2	ppb (v/v)
1,2-Dibromoethane (EDB)	ND		2.2	ppb (v/v)
Chlorobenzene	ND		2.2	ppb (v/v)
Ethylbenzene	3.7		2.2	ppb (v/v)
Xylenes (total)	19		2.2	ppb (v/v)
Styrene	ND		2.2	ppb (v/v)
Bromoform	ND		2.2	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND		2.2	ppb (v/v)
Benzyl chloride	ND		11	ppb (v/v)
4-Ethyltoluene	2.6		2.2	ppb (v/v)

1 = Compound not analyzed due to high level of carbon dioxide.
 ND = Not Detected



Volatile Organics by GCMS - EPA TO14 Modified

Environmental Services (cont.)

Client Name: OHM Remediation Services Corporation
Client ID: 20242-573
LAB ID: 134144-0003-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.1

Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,3,5-Trimethylbenzene	ND		2.2	ppb (v/v)
1,2,4-Trimethylbenzene	3.0		2.2	ppb (v/v)
1,3-Dichlorobenzene	ND		2.2	ppb (v/v)
1,4-Dichlorobenzene	ND		2.2	ppb (v/v)
1,2-Dichlorobenzene	ND		2.2	ppb (v/v)
1,2,4-Trichlorobenzene	ND		22	ppb (v/v)
Hexachlorobutadiene	ND		4.4	ppb (v/v)

ND = Not Detected

Client Name: OHM Remediation Services Corporation
 Client ID: 20242-574
 LAB ID: 134144-0004-SA
 Matrix: AIR
 Authorized: 23 SEP 98
 Instrument: GC/MS-A

Sampled: 23 SEP 98
 Prepared: N/A
 Dilution: 1.4

Received: 23 SEP 98
 Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		2.9	ppb (v/v)
Chloromethane	ND		5.7	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.9	ppb (v/v)
Vinyl chloride	ND		2.9	ppb (v/v)
Bromomethane	ND		2.9	ppb (v/v)
Chloroethane	ND		5.7	ppb (v/v)
Trichlorofluoromethane	3.7		2.9	ppb (v/v)
1,1-Dichloroethene	ND		2.9	ppb (v/v)
Carbon disulfide	ND		14	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	150		2.9	ppb (v/v)
Acetone	18		14	ppb (v/v)
Methylene chloride	ND		2.9	ppb (v/v)
trans-1,2-Dichloroethene	ND		2.9	ppb (v/v)
Methyl t-butyl ether	ND		14	ppb (v/v)
1,1-Dichloroethane	ND		2.9	ppb (v/v)
Vinyl acetate	ND		14	ppb (v/v)
cis-1,2-Dichloroethene	ND		2.9	ppb (v/v)
2-Butanone	ND		14	ppb (v/v)
Chloroform	ND		2.9	ppb (v/v)
1,1,1-Trichloroethane	ND		2.9	ppb (v/v)
Carbon tetrachloride	ND		2.9	ppb (v/v)
Benzene	ND		2.9	ppb (v/v)
1,2-Dichloroethane	ND		2.9	ppb (v/v)
Trichloroethene	ND		2.9	ppb (v/v)
1,2-Dichloropropane	ND		2.9	ppb (v/v)
Bromodichloromethane	ND		2.9	ppb (v/v)
cis-1,3-Dichloropropene	ND		2.9	ppb (v/v)
4-Methyl-2-pentanone	ND		14	ppb (v/v)
Toluene	46		7.2	ppb (v/v)
trans-1,3-Dichloropropene	ND		2.9	ppb (v/v)
1,1,2-Trichloroethane	ND		2.9	ppb (v/v)
Tetrachloroethene	23		2.9	ppb (v/v)
2-Hexanone	ND		43	ppb (v/v)
Dibromochloromethane	ND		2.9	ppb (v/v)
1,2-Dibromoethane (EDB)	ND		2.9	ppb (v/v)
Chlorobenzene	ND		2.9	ppb (v/v)
Ethylbenzene	3.8		2.9	ppb (v/v)
Xylenes (total)	21		2.9	ppb (v/v)
Styrene	ND		2.9	ppb (v/v)
Bromoform	ND		2.9	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND		2.9	ppb (v/v)
Benzyl chloride	ND		14	ppb (v/v)
4-Ethyltoluene	3.3		2.9	ppb (v/v)
1,3,5-Trimethylbenzene	ND		2.9	ppb (v/v)

ND = Not Detected



Volatile Organics by GCMS - EPA TO14 Modified

Environmental Services (cont.)

Client Name: OHM Remediation Services Corporation
Client ID: 20242-574
LAB ID: 134144-0004-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.4
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	3.7		2.9	ppb (v/v)
1,3-Dichlorobenzene	ND		2.9	ppb (v/v)
1,4-Dichlorobenzene	ND		2.9	ppb (v/v)
1,2-Dichlorobenzene	ND		2.9	ppb (v/v)
1,2,4-Trichlorobenzene	ND		29	ppb (v/v)
Hexachlorobutadiene	ND		5.7	ppb (v/v)

ND = Not Detected



Environmental Services

Volatile Organics by GCMS - EPA TO14 Modified

Client Name: OHM Remediation Services Corporation
Client ID: 20242-575
LAB ID: 134144-0005-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.2

Received: 23 SEP 98
Analyzed: 24 SEP 98

Table with 5 columns: Parameter, Result, Qualifier, RL, Units. Lists various chemical compounds and their detection results.

ND = Not Detected



Volatile Organics by GCMS - EPA TO14 Modified

Environmental Services (cont.)

Client Name: OHM Remediation Services Corporation
Client ID: 20242-575
LAB ID: 134144-0005-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.2
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	3.4		2.5	ppb (v/v)
1,3-Dichlorobenzene	ND		2.5	ppb (v/v)
1,4-Dichlorobenzene	ND		2.5	ppb (v/v)
1,2-Dichlorobenzene	ND		2.5	ppb (v/v)
1,2,4-Trichlorobenzene	ND		25	ppb (v/v)
Hexachlorobutadiene	ND		5.0	ppb (v/v)

ND = Not Detected

Volatile Organics by GCMS - EPA TO14

Client Name:	OHM Remediation Services Corporation		
Client ID:	20242-571		
LAB ID:	134144-0001-SA		
Matrix:	AIR	Sampled: 23 SEP 98	Received: 23 SEP 98
Authorized:	23 SEP 98	Prepared: N/A	Analyzed: 24 SEP 98
Instrument:	GC/MS-A	Dilution: 1.0	

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		0.0099	ug/L
Chloromethane	ND		0.0082	ug/L
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.014	ug/L
Vinyl chloride	ND		0.0051	ug/L
Bromomethane	ND		0.0078	ug/L
Chloroethane	ND		0.011	ug/L
Trichlorofluoromethane	ND		0.011	ug/L
1,1-Dichloroethene	ND		0.0079	ug/L
Carbon disulfide	ND		0.031	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.015	ug/L
Acetone	0.026		0.024	ug/L
Methylene chloride	ND		0.0069	ug/L
trans-1,2-Dichloroethene	ND		0.0079	ug/L
Methyl t-butyl ether	ND		0.036	ug/L
1,1-Dichloroethane	ND		0.0081	ug/L
Vinyl acetate	ND		0.035	ug/L
cis-1,2-Dichloroethene	ND		0.0079	ug/L
2-Butanone	ND		0.029	ug/L
Chloroform	ND		0.0097	ug/L
1,1,1-Trichloroethane	ND		0.011	ug/L
Carbon tetrachloride	ND		0.013	ug/L
Benzene	ND		0.0064	ug/L
1,2-Dichloroethane	ND		0.0081	ug/L
Trichloroethene	ND		0.011	ug/L
1,2-Dichloropropane	ND		0.0092	ug/L
Bromodichloromethane	ND		0.013	ug/L
cis-1,3-Dichloropropene	ND		0.0091	ug/L
4-Methyl-2-pentanone	ND		0.041	ug/L
Toluene	0.19		0.019	ug/L
trans-1,3-Dichloropropene	ND		0.0091	ug/L
1,1,2-Trichloroethane	ND		0.011	ug/L
Tetrachloroethene	0.015		0.014	ug/L
2-Hexanone	ND		0.12	ug/L
Dibromochloromethane	ND		0.017	ug/L
1,2-Dibromoethane (EDB)	ND		0.015	ug/L
Chlorobenzene	ND		0.0092	ug/L
Ethylbenzene	0.014		0.0087	ug/L
Xylenes (total)	0.073		0.0087	ug/L
Styrene	ND		0.0085	ug/L
Bromoform	ND		0.021	ug/L
1,1,2,2-Tetrachloroethane	ND		0.014	ug/L
Benzyl chloride	ND		0.052	ug/L
4-Ethyltoluene	0.012		0.0099	ug/L
1,3,5-Trimethylbenzene	ND		0.0098	ug/L

ND = Not Detected

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-571
LAB ID: 134144-0001-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.0

Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	0.014		0.0098	ug/L
1,3-Dichlorobenzene	ND		0.012	ug/L
1,4-Dichlorobenzene	ND		0.012	ug/L
1,2-Dichlorobenzene	ND		0.012	ug/L
1,2,4-Trichlorobenzene	ND		0.15	ug/L
Hexachlorobutadiene	ND		0.042	ug/L

ND = Not Detected

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
 Client ID: 20242-572
 LAB ID: 134144-0002-SA
 Matrix: AIR
 Authorized: 23 SEP 98
 Instrument: GC/MS-A
 Sampled: 23 SEP 98
 Prepared: N/A
 Dilution: 1.2
 Received: 23 SEP 98
 Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		0.012	ug/L
Chloromethane	ND		0.010	ug/L
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.018	ug/L
Vinyl chloride	ND		0.0064	ug/L
Bromomethane	ND		0.0098	ug/L
Chloroethane	ND		0.014	ug/L
Trichlorofluoromethane	0.024		0.014	ug/L
1,1-Dichloroethene	ND		0.0099	ug/L
Carbon disulfide	ND		0.039	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	1.3		0.019	ug/L
Acetone	0.046		0.030	ug/L
Methylene chloride	ND		0.0086	ug/L
trans-1,2-Dichloroethene	ND		0.0099	ug/L
Methyl t-butyl ether	ND		0.045	ug/L
1,1-Dichloroethane	ND		0.010	ug/L
Vinyl acetate	ND		0.044	ug/L
cis-1,2-Dichloroethene	ND		0.0099	ug/L
2-Butanone	ND		0.036	ug/L
Chloroform	ND		0.012	ug/L
1,1,1-Trichloroethane	ND		0.014	ug/L
Carbon tetrachloride	ND		0.016	ug/L
Benzene	ND		0.0080	ug/L
1,2-Dichloroethane	ND		0.010	ug/L
Trichloroethene	ND		0.014	ug/L
1,2-Dichloropropane	ND		0.012	ug/L
Bromodichloromethane	ND		0.016	ug/L
cis-1,3-Dichloropropene	ND		0.011	ug/L
4-Methyl-2-pentanone	ND		0.051	ug/L
Toluene	0.13		0.024	ug/L
trans-1,3-Dichloropropene	ND		0.011	ug/L
1,1,2-Trichloroethane	ND		0.014	ug/L
Tetrachloroethene	0.19		0.018	ug/L
2-Hexanone	ND		0.15	ug/L
Dibromochloromethane	ND		0.021	ug/L
1,2-Dibromoethane (EDB)	ND		0.019	ug/L
Chlorobenzene	ND		0.012	ug/L
Ethylbenzene	0.012		0.011	ug/L
Xylenes (total)	0.066		0.011	ug/L
Styrene	ND		0.011	ug/L
Bromoform	ND		0.026	ug/L
1,1,2,2-Tetrachloroethane	ND		0.018	ug/L
Benzyl chloride	ND		0.065	ug/L
4-Ethyltoluene	0.012		0.012	ug/L
1,3,5-Trimethylbenzene	ND		0.012	ug/L

ND = Not Detected



Environmental
Services (cont.)

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-572
LAB ID: 134144-0002-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.2

Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	0.014		0.012	ug/L
1,3-Dichlorobenzene	ND		0.015	ug/L
1,4-Dichlorobenzene	ND		0.015	ug/L
1,2-Dichlorobenzene	ND		0.015	ug/L
1,2,4-Trichlorobenzene	ND		0.19	ug/L
Hexachlorobutadiene	ND		0.052	ug/L

ND = Not Detected

Volatile Organics by GCMS - EPA TO14

Client Name:	OHM Remediation Services Corporation		
Client ID:	20242-573		
LAB ID:	134144-0003-SA		
Matrix:	AIR	Sampled: 23 SEP 98	Received: 23 SEP 98
Authorized:	23 SEP 98	Prepared: N/A	Analyzed: 24 SEP 98
Instrument:	GC/MS-A	Dilution: 1.1	

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	--	1	--	ug/L
Chloromethane	ND		0.0091	ug/L
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.016	ug/L
Vinyl chloride	ND		0.0057	ug/L
Bromomethane	ND		0.0087	ug/L
Chloroethane	ND		0.012	ug/L
Trichlorofluoromethane	0.035		0.012	ug/L
1,1-Dichloroethene	ND		0.0088	ug/L
Carbon disulfide	ND		0.034	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5		0.017	ug/L
Acetone	0.071		0.027	ug/L
Methylene chloride	ND		0.0077	ug/L
trans-1,2-Dichloroethene	ND		0.0088	ug/L
Methyl t-butyl ether	ND		0.040	ug/L
1,1-Dichloroethane	ND		0.0090	ug/L
Vinyl acetate	ND		0.039	ug/L
cis-1,2-Dichloroethene	ND		0.0088	ug/L
2-Butanone	0.035		0.032	ug/L
Chloroform	ND		0.011	ug/L
1,1,1-Trichloroethane	ND		0.012	ug/L
Carbon tetrachloride	ND		0.014	ug/L
Benzene	0.0086		0.0071	ug/L
1,2-Dichloroethane	ND		0.0090	ug/L
Trichloroethene	ND		0.012	ug/L
1,2-Dichloropropane	ND		0.010	ug/L
Bromodichloromethane	ND		0.014	ug/L
cis-1,3-Dichloropropene	ND		0.010	ug/L
4-Methyl-2-pentanone	ND		0.046	ug/L
Toluene	0.29		0.021	ug/L
trans-1,3-Dichloropropene	ND		0.010	ug/L
1,1,2-Trichloroethane	ND		0.012	ug/L
Tetrachloroethene	0.084		0.016	ug/L
2-Hexanone	ND		0.13	ug/L
Dibromochloromethane	ND		0.019	ug/L
1,2-Dibromoethane (EDB)	ND		0.017	ug/L
Chlorobenzene	ND		0.010	ug/L
Ethylbenzene	0.016		0.0097	ug/L
Xylenes (total)	0.082		0.0097	ug/L
Styrene	ND		0.0094	ug/L
Bromoform	ND		0.023	ug/L
1,1,2,2-Tetrachloroethane	ND		0.016	ug/L
Benzyl chloride	ND		0.058	ug/L
4-Ethyltoluene	0.013		0.011	ug/L

1 = Compound not analyzed due to high level of carbon dioxide.
ND = Not Detected



Environmental
Services (cont.)

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-573
LAB ID: 134144-0003-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.1
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,3,5-Trimethylbenzene	ND		0.011	ug/L
1,2,4-Trimethylbenzene	0.015		0.011	ug/L
1,3-Dichlorobenzene	ND		0.013	ug/L
1,4-Dichlorobenzene	ND		0.013	ug/L
1,2-Dichlorobenzene	ND		0.013	ug/L
1,2,4-Trichlorobenzene	ND		0.17	ug/L
Hexachlorobutadiene	ND		0.047	ug/L

ND = Not Detected



Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-574
LAB ID: 134144-0004-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A

Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.4

Received: 23 SEP 98
Analyzed: 24 SEP 98

Table with 5 columns: Parameter, Result, Qualifier, RL, Units. Lists various chemical compounds and their detection results.

ND = Not Detected



Environmental Services (cont.)

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-574
LAB ID: 134144-0004-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.4
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	0.018		0.014	ug/L
1,3-Dichlorobenzene	ND		0.017	ug/L
1,4-Dichlorobenzene	ND		0.017	ug/L
1,2-Dichlorobenzene	ND		0.017	ug/L
1,2,4-Trichlorobenzene	ND		0.21	ug/L
Hexachlorobutadiene	ND		0.060	ug/L

ND = Not Detected

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
 Client ID: 20242-575
 LAB ID: 134144-0005-SA
 Matrix: AIR
 Authorized: 23 SEP 98
 Instrument: GC/MS-A

Sampled: 23 SEP 98
 Prepared: N/A
 Dilution: 1.2

Received: 23 SEP 98
 Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
Dichlorodifluoromethane	ND		0.012	ug/L
Chloromethane	ND		0.010	ug/L
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.018	ug/L
Vinyl chloride	ND		0.0064	ug/L
Bromomethane	ND		0.0098	ug/L
Chloroethane	ND		0.014	ug/L
Trichlorofluoromethane	0.027		0.014	ug/L
1,1-Dichloroethene	ND		0.0099	ug/L
Carbon disulfide	ND		0.039	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	1.3		0.019	ug/L
Acetone	0.042		0.030	ug/L
Methylene chloride	ND		0.0086	ug/L
trans-1,2-Dichloroethene	ND		0.0099	ug/L
Methyl t-butyl ether	ND		0.045	ug/L
1,1-Dichloroethane	ND		0.010	ug/L
Vinyl acetate	ND		0.044	ug/L
cis-1,2-Dichloroethene	ND		0.0099	ug/L
2-Butanone	ND		0.036	ug/L
Chloroform	ND		0.012	ug/L
1,1,1-Trichloroethane	ND		0.014	ug/L
Carbon tetrachloride	ND		0.016	ug/L
Benzene	ND		0.0080	ug/L
1,2-Dichloroethane	ND		0.010	ug/L
Trichloroethene	ND		0.014	ug/L
1,2-Dichloropropane	ND		0.012	ug/L
Bromodichloromethane	ND		0.016	ug/L
cis-1,3-Dichloropropene	ND		0.011	ug/L
4-Methyl-2-pentanone	ND		0.051	ug/L
Toluene	0.25		0.024	ug/L
trans-1,3-Dichloropropene	ND		0.011	ug/L
1,1,2-Trichloroethane	ND		0.014	ug/L
Tetrachloroethene	0.056		0.018	ug/L
2-Hexanone	ND		0.15	ug/L
Dibromochloromethane	ND		0.021	ug/L
1,2-Dibromoethane (EDB)	ND		0.019	ug/L
Chlorobenzene	ND		0.012	ug/L
Ethylbenzene	0.015		0.011	ug/L
Xylenes (total)	0.071		0.011	ug/L
Styrene	ND		0.011	ug/L
Bromoform	ND		0.026	ug/L
1,1,1,2-Tetrachloroethane	ND		0.018	ug/L
Benzyl chloride	ND		0.065	ug/L
4-Ethyltoluene	0.014		0.012	ug/L
1,3,5-Trimethylbenzene	ND		0.012	ug/L

ND = Not Detected



Environmental
Services (cont.)

Volatile Organics by GCMS - EPA TO14

Client Name: OHM Remediation Services Corporation
Client ID: 20242-575
LAB ID: 134144-0005-SA
Matrix: AIR
Authorized: 23 SEP 98
Instrument: GC/MS-A
Sampled: 23 SEP 98
Prepared: N/A
Dilution: 1.2
Received: 23 SEP 98
Analyzed: 24 SEP 98

Parameter	Result	Qualifier	RL	Units
1,2,4-Trimethylbenzene	0.016		0.012	ug/L
1,3-Dichlorobenzene	ND		0.015	ug/L
1,4-Dichlorobenzene	ND		0.015	ug/L
1,2-Dichlorobenzene	ND		0.015	ug/L
1,2,4-Trichlorobenzene	ND		0.19	ug/L
Hexachlorobutadiene	ND		0.052	ug/L

ND = Not Detected

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: MCAS El Toro
Collection Date: September 23, 1998
LDC Report Date: November 3, 1998
Matrix: Air
Parameters: Volatiles (TO-14)
Validation Level: NFESC Level C
Laboratory: Quanterra Environmental Services

Sample Delivery Group (SDG): 134144

Sample Identification

20242-571
20242-572
20242-573
20242-574
20242-575

Introduction

This data review covers 5 air samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method TO-14 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blank analyses were performed at the required frequency. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

VIII. Laboratory Control Samples (LCS)

Although laboratory control samples were not required by the method, laboratory control

samples were reported by the laboratory. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
DCS1/DCS2 (All samples in SDG 134144)	1,1,2,2-Tetrachloroethane	-	-	11 (≤ 10)	J	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

The QAPP reporting limits were met with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 134144	Toluene	Laboratory reporting limit reported at 5.0 ppbv.	Reporting limit should be reported at 2.0 ppbv per the QAPP.	None	P

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 20242-571 was identified as a system blank. No volatile contaminants were found in this blank with the following exceptions:

System Blank ID	Compound	Concentration (ppbv)
20242-571	Acetone	11
	Toluene	51
	Tetrachloroethene	2.3
	Ethylbenzene	3.2
	Xylenes, total	17
	4-Ethyltoluene	2.4
	1,2,4-Trimethylbenzene	2.8

**MCAS El Toro
Volatiles (TO-14) - Data Qualification Summary - SDG 134144**

SDG	Sample	Compound	Flag	A or P	Reason
134144	20242-571 20242-572 20242-573 20242-574 20242-575	1,1,2,2-Tetrachloroethane	J	A	Laboratory control samples (RPD)
134144	20242-571 20242-572 20242-573 20242-574 20242-575	Toluene	None	P	Compound quantitation and CRQLs

**MCAS El Toro
Volatiles (TO-14) - Laboratory Blank Data Qualification Summary - SDG 134144**

No Sample Data Qualified in this SDG

Appendix C
GEOFON Report

OIL/WATER SEPARATOR REMOVAL REPORT

OWS 655C

Marine Corps Air Station (MCAS)

El Toro, California

Contract No. N68711-97-D-8702

Delivery Order No. 0034

Prepared for:

Department of the Navy,

Southwest Division

Naval Facilities Engineering Command

BRAC Operations Office

1230 Columbia Street, Suite 840

San Diego, California 92101

Prepared by:

GEOFON, INC.

22632 Golden Springs Drive, Suite 270

Diamond Bar, CA 91765

CERTIFICATION

To the best of our knowledge, all statements and information provided in this report are true and correct.

Asrar Faheem

Asrar Faheem, R.E.A.
Registered Environmental Assessor



Charles K. Duckworth

Charles K. Duckworth, P.E.
Registered Civil Engineer



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Appendix B: Removal Permit and Liquid Waste Manifest
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1.0 INTRODUCTION

GEOFON, Inc. has been retained by the Department of the Navy, Southwest Division (SWDIV), under Contract No. N68711-97-D-8702, Delivery Order Number 0034 to remove and dispose of inactive Underground Storage Tanks, Aboveground Storage Tanks and Oil/Water Separators (USTs, ASTs & OWSs) at the Marine Corps Air Station (MCAS), El Toro, California (Figure 1). The work performed involved the removal and disposal of one OWS near Building 655.

This report documents and summarizes work performed at the OWS 655C site, observations during OWS removal, investigative findings, waste management, site restoration and conclusions. Laboratory analytical results for soil samples collected during OWS removal activities are presented in Table 1. The Tank Removal Summary is presented in Appendix A. The Orange County Health Care Agency (OCHCA) OWS removal permit and two non-hazardous liquid waste manifests are presented in Appendix B. Laboratory reports and chain-of-custody forms are included in Appendix C. Miscellaneous site-specific information, including soil compaction tests, the modified soil proctor and the asphalt mix design, is presented in Appendix D.

2.0 SUMMARY OF WORK AT OWS 655C

One (1) reinforced concrete OWS, identified as OWS 655C, was 1,250 gallons in capacity and historically contained waste oil. The operation of removal and disposal of OWS 655C, including OWS inerting procedures and soil sampling, was performed under the direction and supervision of the OCHCA representative and the Assistant Resident Officer in Charge of Construction (AROICC).

2.1 *Observations during OWS Removal*

OWS 655C was located on the south side of the MCAS, El Toro, approximately 30 feet east of Building 655 (Figure 2). OWS 655C was located in an asphalt-covered (parking) area. The reported date of installation of OWS 655C was 1950. The OWS 655C excavation was approximately 18 feet in length, 12 feet in width by 9 feet in depth. It was observed that OWS 655C was constructed of concrete and measured approximately 12 feet in length, 7 feet in width and 5 feet in height. Concrete fragments of OWS 655C and approximately 20 feet of associated piping were removed on January 19, 2000. Approximately 57 cubic yards of soil was removed from the OWS 655C excavation and was stockpiled nearby on 10-mil polyethylene sheeting. Groundwater was not encountered during excavation activities.

2.2 *Investigative Findings*

After OWS 655C was inerted and removed, GEOFON collected two (2) soil samples. One (1) sample was collected from the bottom of the excavation and one (1) from the stockpiled soil generated during excavation activities. The number and location of the soil samples was determined by the OCHCA representative (Figure 3).

Sampling activities were performed in accordance with the sampling protocol outlined in the approved Work Plan Addendum dated December 2, 1999 and in coordination with the OCHCA and the AROICC. Soil samples were collected following an accepted environmental protocol and were transported under standard chain-of-custody procedures to American Environmental Testing Laboratories (AETL), a State of California-Certified laboratory.

Sampling protocol consisted of the following steps:

- All sampling equipment was thoroughly cleaned prior to use.
- The soil samples were collected from the backhoe bucket. Approximately three inches of soil was removed from the exposed surface prior to collecting a sample in a stainless steel sample sleeve.
- Each sleeve was covered on both ends with three-inch square Teflon™ sheets and were then sealed with plastic caps. Care was taken to assure that no headspace was present in the sampling tube.
- Each sleeve was cleaned, labeled, sealed with evidence tape and were placed immediately into a refrigerated cooler. The OCHCA representative was responsible for sealing the sample with evidence tape.
- All samples were sent to a California-Certified Laboratory (AETL) under proper chain of custody procedures.

The soil samples were analyzed by the following US EPA Analytical Methods:

- EPA Method 8015M - Total Petroleum Hydrocarbons as Gasoline, Diesel and Heavy Hydrocarbons (TPH-G, D & HC).
- EPA method 418.1 - Total Recoverable Petroleum Hydrocarbons (TRPH)
- EPA method 8260B - Volatile Organic Compounds (VOCs)

Excavation sample OWS655C-12' reported concentrations of TPH-D at 6,440.0 mg/kg, TPH-HC at 1,510.0 mg/kg and TRPH at 8,200.0 mg/kg. This sample also reported concentrations of the following VOCs: Acetone at 135.0 µg/kg, sec-Butylbenzene at 197.0 µg/kg, Chlorobenzene at

55.2 µg/kg, 1,2-Dichlorobenzene at 3,720.0 µg/kg, 1,3-Dichlorobenzene at 54.9 µg/kg, 1,4-Dichlorobenzene at 691.0 µg/kg, Ethylbenzene at 95.2 µg/kg, Isopropylbenzene at 123 µg/kg, p-Isopropyltoluene at 3,110.0 µg/kg, Naphthalene at 5,940.0 µg/kg, n-Propylbenzene at 534.0 µg/kg, Toluene at 113.0 µg/kg, Trichloroethene at 53.8 µg/kg, 1,2,4-Trimethylbenzene at 9,440 µg/kg, 1,3,5-Trimethylbenzene at 3,090.0 µg/kg and (total) Xylenes at 2,360 µg/kg.

Stockpile sample SP-OWS655C reported concentrations of TPH-D at 2,240.0 mg/kg, TPH-HC at 630.0 mg/kg and TRPH at 3,710.0 mg/kg. This sample also reported concentrations of the following VOCs: Acetone at 50.6 µg/kg, sec-Butylbenzene at 33.0 µg/kg, 1,2-Dichlorobenzene at 602.0 µg/kg, 1,4-Dichlorobenzene at 55.6 µg/kg, Ethylbenzene at 11.2 µg/kg, Isopropylbenzene at 13.8 µg/kg, p-Isopropyltoluene at 117.0 µg/kg, Naphthalene at 1,320.0 µg/kg, n-Propylbenzene at 23.7 µg/kg, 1,2,4-Trimethylbenzene at 1,410.0 µg/kg, 1,3,5-Trimethylbenzene at 157.0 µg/kg and (total) Xylenes at 130.1 µg/kg.

Summarized analytical laboratory results are presented in Table 1. Laboratory reports and chain-of-custody forms are included in Appendix C.

2.3 Waste Management

2.3.1 Rinsate Disposal

A total of 1,480 gallons of tank contents and rinsate generated from OWS 655C was transported by EFR Environmental Services (EFR). EFR, a California-Certified waste hauler, transported the liquid rinsate to Dome Rock Industries, a recycling facility located in Quartzsite, Arizona. On January 13, 2000, approximately 230 gallons of tank contents from OWS 655C were purged and removed. On January 18, 2000, approximately 1,250 gallons of rinsate was generated during triple-rinsing the concrete OWS 655C structure. Copies of the non-hazardous liquid manifests are presented in Appendix B.

2.3.2 OWS Disposal

On January 19, 2000, OWS 655C was removed from the site. OWS 655C was in an advanced state of damage/decay, and was broken up into manageable pieces and then removed from the site. The concrete was disposed of as a non-hazardous bulk waste. Therefore, a destruction certificate was not generated for the removal of OWS 655C.

3.0 SITE RESTORATION

Site restoration was performed by backfilling the excavation in one-foot lifts with the material removed during OWS excavation activities. Imported material was used to bring the excavation up to existing grade. The soil was compacted using a backhoe-mounted sheepsfoot roller. The

OWS 655C excavation was completely restored with an asphalt cover by March 14, 2000. Field density tests were performed using a Nuclear Gauge (ASTM D 2922) to achieve 95% or better relative compaction. A brass survey marker was installed at the former OWS 655C site. Copies of the field density tests, the modified soil proctor test data and the asphalt mix design are presented in Appendix D.

4.0 CONCLUSIONS

Based on analytical data and site observations, GEOFON is making the following conclusions:

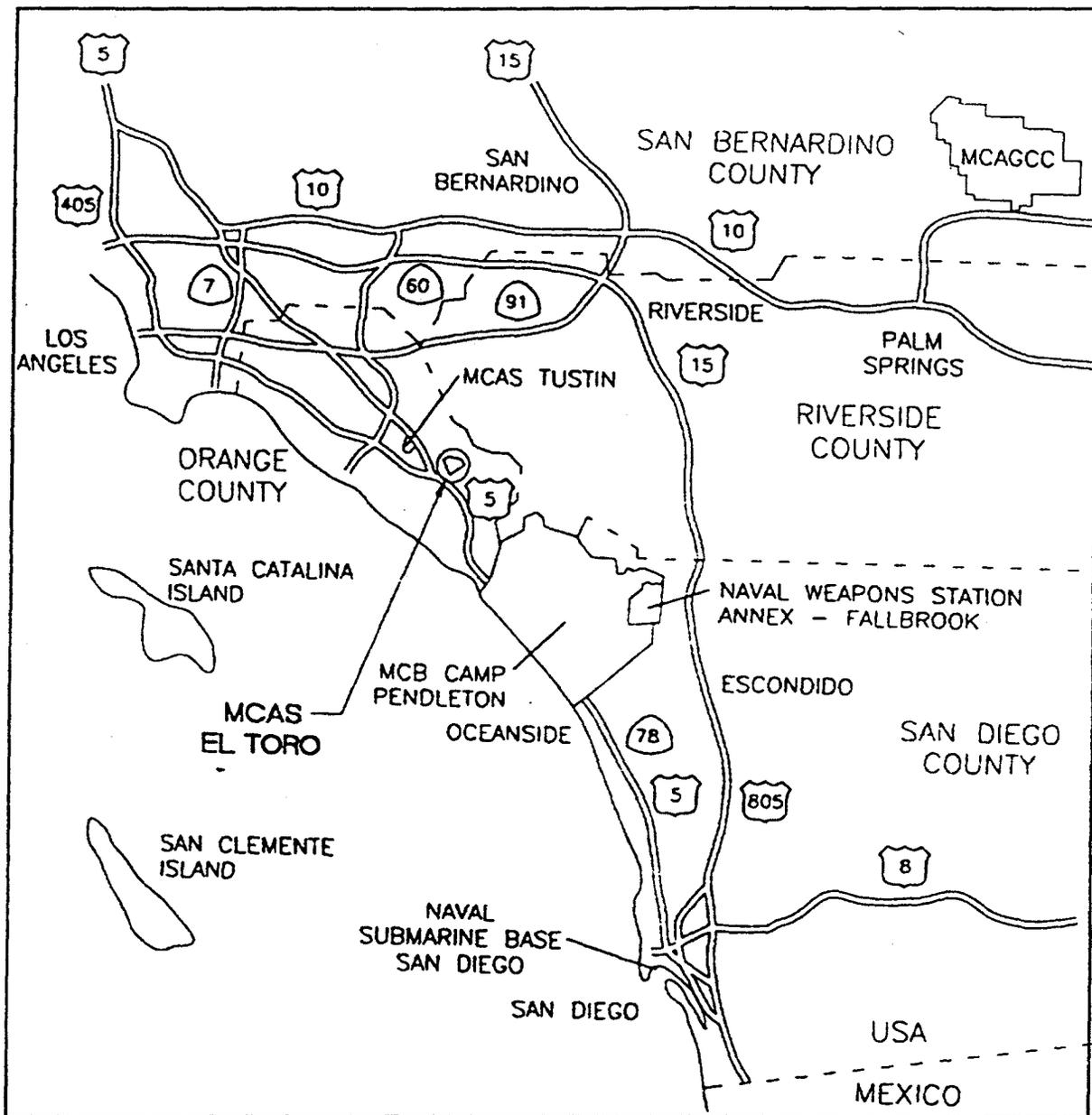
- One (1) 1,250-gallon concrete OWS and 20' of associated piping were removed and disposed in accordance with the approved Work Plan Addendum dated December 2, 1999.
- The pre-demolition investigation showed deterioration and cracking on the top and sides.
- There was visible and odiferous evidence of spillage and areas of heavy staining observed in both the excavation and the stockpiled material.
- There was no groundwater encountered in the excavation.
- Excavation sample OWS655C-12' reported concentrations of TPH-D at 6,440 mg/kg, TPH-HC at 1,510 mg/kg and TRPH at 8,200 mg/kg. Seventeen VOCs were also reported above their detection limits (Table 1).
- A verbal approval was accorded by the AROICC to backfill the excavation with the stockpiled soil and clean imported soil.

5.0 LIMITATIONS

The investigative results of this report represent conditions at the specific time and location at which soil and tank content samples were obtained and for the parameters analyzed for by the independent laboratory. The laboratory data presented in this report was prepared under the direction and management of the independent laboratory and it is solely responsible for the contents and conclusions of the data presented.

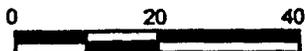
The work described herein has been performed by GEOFON, Inc., and its licensed or certified subcontractors. The work has been performed in accordance with the professional standards and practices currently accepted in the Environmental Industry. No other representations, expressed or implied, and no warranty or guarantee is included in this report.

FIGURES



Reference: UST Removal Plans
 prepared by Klienfelder

Scale in Feet



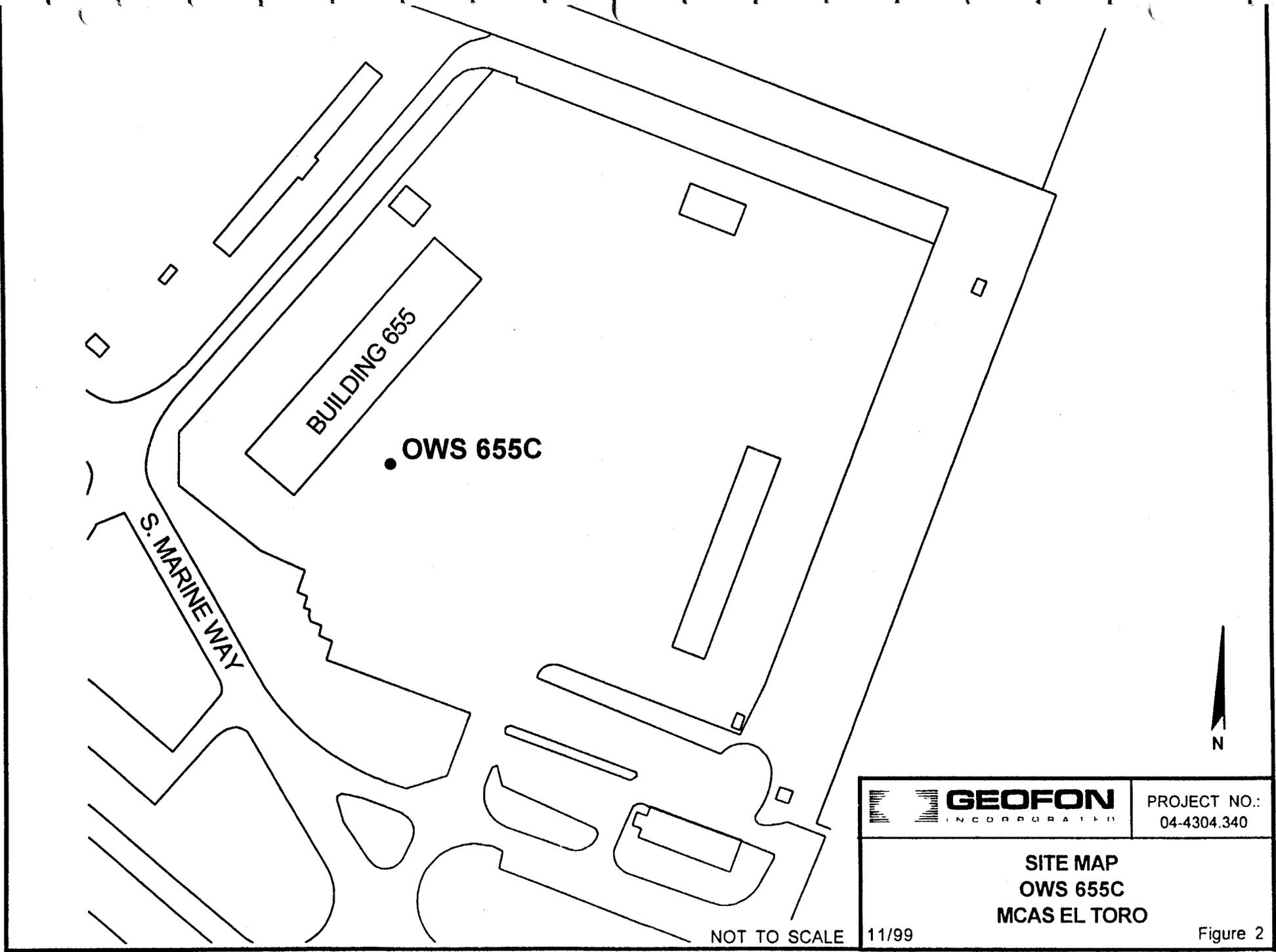
GEOFON
 INCORPORATED

PROJECT NO.:
 04-4304.340

PROJECT VICINITY MAP

11/99

Figure 1

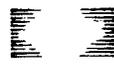


● OWS 655C

BUILDING 655

S. MARINE WAY



 **GEOFON**
INCORPORATED

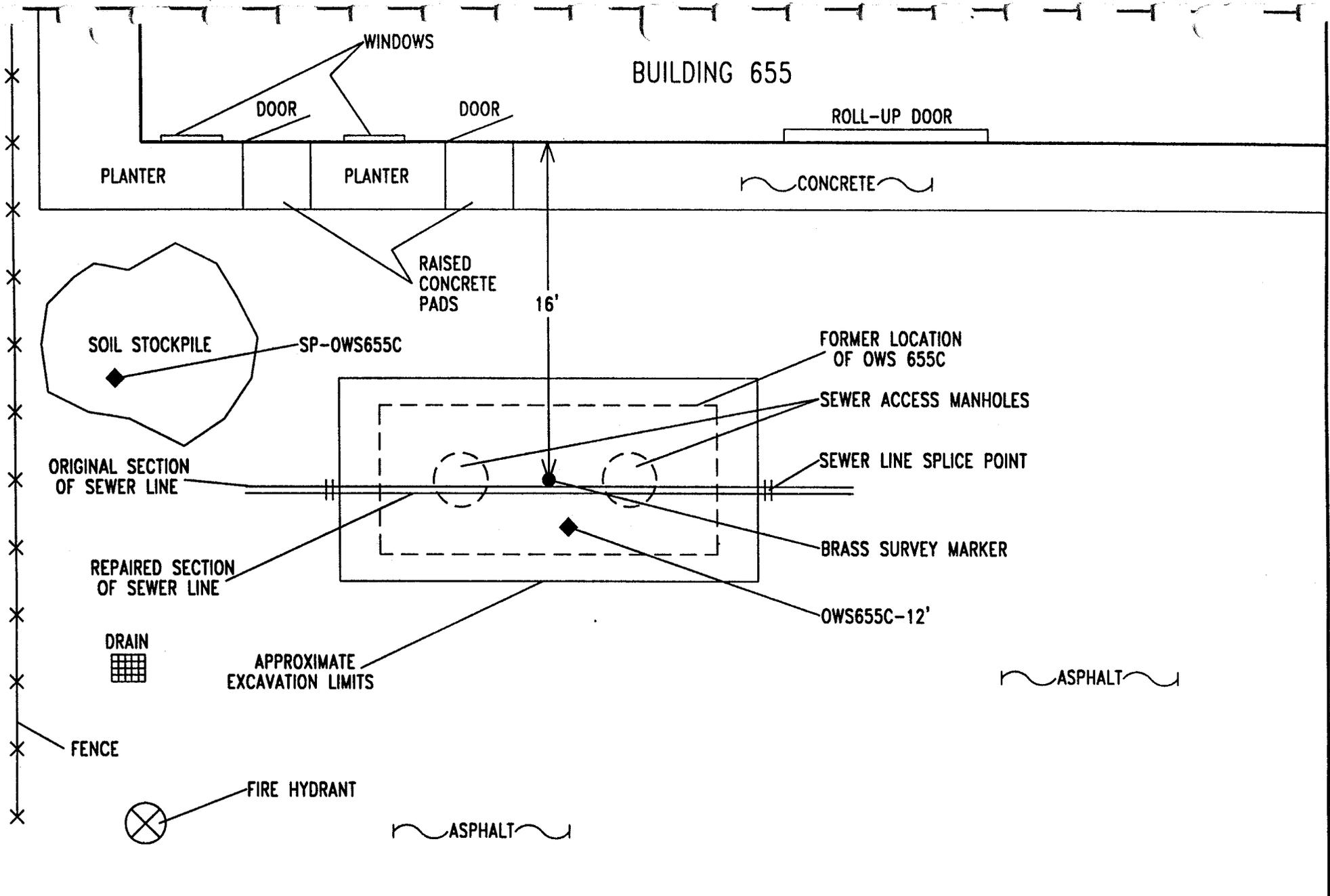
PROJECT NO.:
04-4304.340

SITE MAP
OWS 655C
MCAS EL TORO

NOT TO SCALE

11/99

Figure 2



◆ DENOTES SOIL SAMPLES COLLECTED ON 1/19/00
 NOTE: THE SECTION OF REMOVED SEWER PIPELINE WAS REPLACED WITH 8" PVC
 NOTE: DRAWING NOT TO SCALE
 PROJECT NO: 04-4304.340

SOIL SAMPLE LOCATION MAP
 OWS 655C
 2/00
 FIGURE 3

TABLES

SUMMARY OF LABORATORY ANALYTICAL DATA - OWS 655C

OWS 655C Stockpile and Excavation Soil Sampling					
Chemical Analyte	EPA Method	PQL	Date Sampled	Sample ID OWS655C-12'	Sample ID SP-OWS655C
TPH-D (C ₉ - C ₂₃)	8015	10 mg/kg	1/19/00	6,440.0	2,240.0
TPH-HC (C ₂₃₊)	8015	10 mg/kg	1/19/00	1,510.0	630.0
TRPH	418.1	10 mg/kg	1/19/00	8,200.0	3,710.0
Acetone	8260B	50 µg/kg	1/19/00	135.0	50.6
sec-Butylbenzene	8260B	10 µg/kg	1/19/00	197.0	33.0
Chlorobenzene	8260B	10 µg/kg	1/19/00	55.2	ND
1,2-Dichlorobenzene	8260B	500 µg/kg	1/19/00	3,720.0	602.0
1,3-Dichlorobenzene	8260B	10 µg/kg	1/19/00	54.9	ND
1,4-Dichlorobenzene	8260B	10 µg/kg	1/19/00	691.0	55.6
Ethylbenzene	8260B	10 µg/kg	1/19/00	95.2	11.2
Isopropylbenzene	8260B	10 µg/kg	1/19/00	123.0	13.8
p-Isopropyltoluene	8260B	10 µg/kg	1/19/00	3,110.0	117.0
Naphthalene	8260B	500 µg/kg	1/19/00	5,940.0	1,320.0
n-Propylbenzene	8260B	10 µg/kg	1/19/00	534.0	23.7
Toluene	8260B	10 µg/kg	1/19/00	113.0	ND
Trichloroethene	8260B	10 µg/kg	1/19/00	53.8	ND
1,2,4-Trimethylbenzene	8260B	500 µg/kg	1/19/00	9,440.0	1,410.0
1,3,5-Trimethylbenzene	8260B	10 µg/kg	1/19/00	3,090.0	157.0
o-Xylene	8260B	10 µg/kg	1/19/00	890.0	58.0
m & p-Xylenes	8260B	20 µg/kg	1/19/00	1,470.0	72.1

Note: Analyte concentrations are in the same units as the PQL
 TPH-D = Total Petroleum Hydrocarbons as Diesel
 TPH-HC = Total Petroleum Hydrocarbons as Heavy Chains

MtBE = Methyl tertiary Butyl Ether
 PQL = Practical Quantitation Limit

APPENDIX A

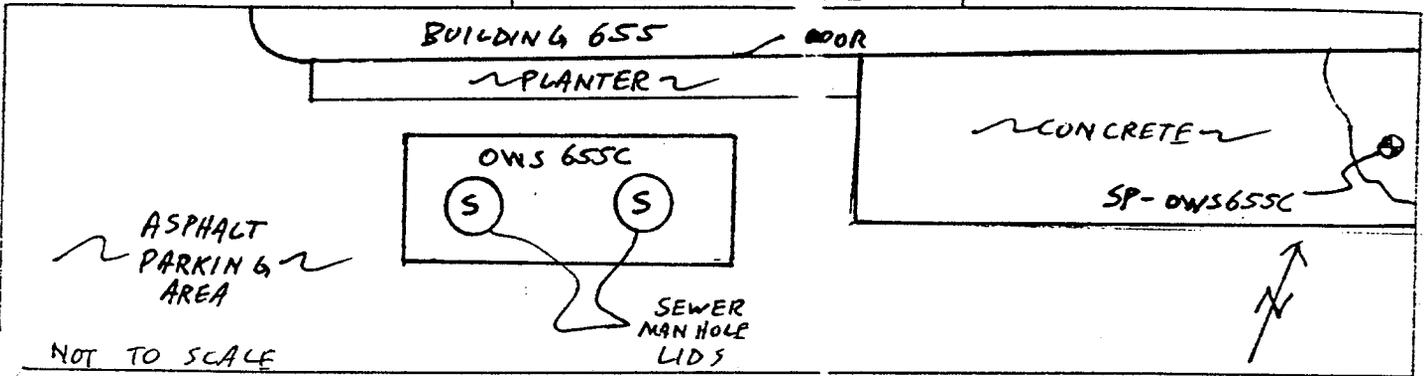
UST REMOVAL SUMMARY

UST REMOVAL SUMMARY

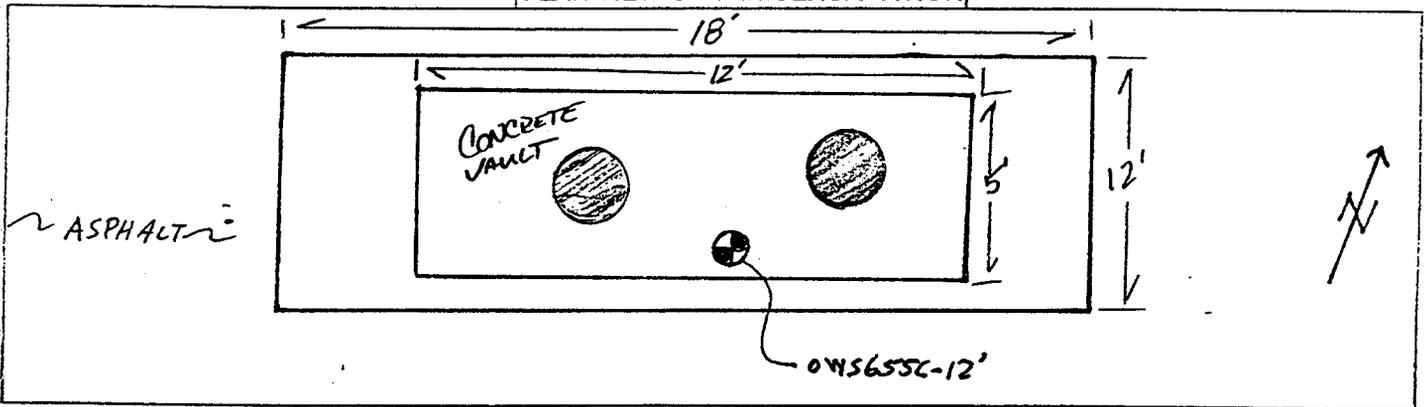
PROJECT LOCATION: EL TORO DELIVERY ORDER NO: 034 PROJECT NO: 04-4304, 340
TANK NO: 655C

- | | | |
|--|---|-------------------------------------|
| 1) TANK CONTENT (gl): <u>1,480</u> | NO. OF TESTS (ea): <u>1</u> | |
| 2) EX. DIMENSION (lf): <u>18'x12'x9'</u> | EX. VOLUME (cu yd): <u>72</u> | |
| 3) UST DIMENSIONS (lf): <u>12'x7'x5'</u> | UST VOLUME (gl): <u>1,250</u> | UST VOLUME (cu yd): <u>15.5</u> |
| 4) VOLUME EX. SOIL (cu yd): <u> </u> | EX. SOIL UNDER UST (cu yd): <u> </u> | TOTAL EX. SOIL (cu yd): <u>57'</u> |
| 5) TRENCH (lf): <u>0</u> | NO. OF PIPE IN TRENCH (ea): <u>0</u> | TOTAL PIPE REMOVED (lf): <u>20'</u> |
| 6) NO. OF TESTS STK PILE (ea): <u>1</u> | NO. OF TESTS IN TRENCH (ea): <u>0</u> | |
| 7) MISC WORK: <u> </u> | | |

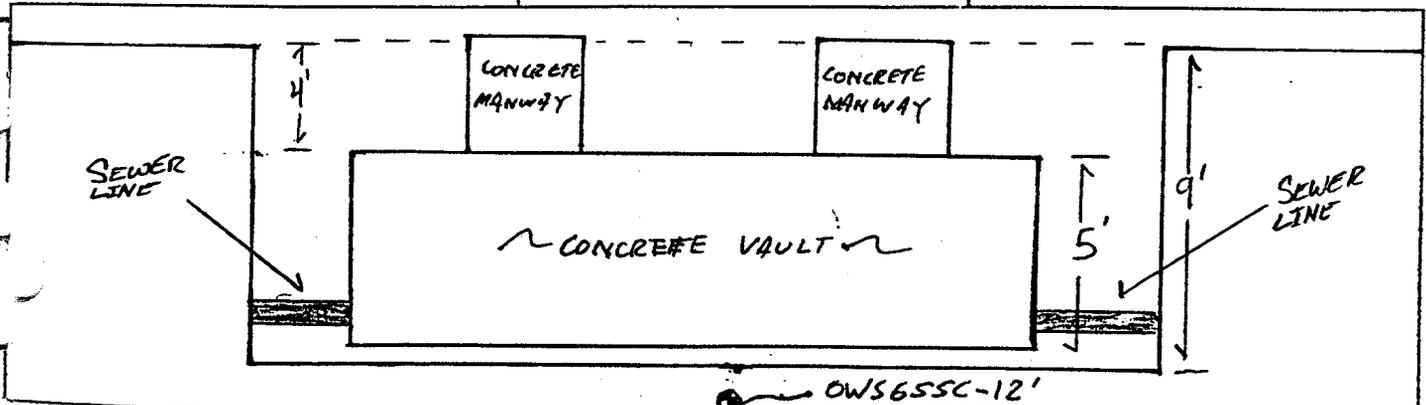
PLAN VIEW OF SITE



PLAN VIEW OF TANK/EXCAVATION



CROSS SECTION OF EXCAVATION



UST REMOVAL SUMMARY

VOLUMES AND QUANTITIES

PROJECT LOCATION: EL TORO DELIVERY ORDER NO: 034 PROJECT NO: 04-4304.340
 TANK NO: 655C

TANK CONTENT

TANK CONTENT (gl): 1,480 DATE HAULED: N/A HAULED BY: N/A
 GALLONS HAULED: _____ (Broken In Place)

EXCAVATION (Vol)

SOIL TYPE: DIRT
 DATE STARTED: 1/6/00 EX. DIMENSION (lf): 18'x12'x9' EX. VOLUME (cu yd): _____
 VOLUME EX. SOIL (cu yd): _____ UNDER UST (cu yd): _____ TOTAL EX. SOIL (cu yd): 57

TANK (dimensions)

UST DIMENSIONS (lf): 12'x7'x5' UST VOLUME (gl): 1,250 UST VOLUME (cu yd): _____

TRENCH (Quantity)

TRENCH (lf): 0 PIPE IN TRENCH (ea): 0 PIPE REMOVAL (lf): 20'

SOIL TESTS

TESTS STK PILE (ea): 1 TESTS IN TRENCH(ea): 0

FENCE

FENCING (lf): 70'

TANK CONTENTS

DATE SAMPLED: 1/18/00 SAMPLE NO.: 1
 TPH GASOLINE: 954,000 TPH DEISEL: 856,000 WASTE OIL 418.1: _____
 VOC's EPA 8260: Ref. Lab Data SEMI VOC'S EPA 8270: _____ BTEX 8020 / 8240: _____
 CA ORGANIC LEAD: _____ TOTAL LEAD: _____ METALS: _____
 RCRA: _____ PCB EPA 8080: _____

SOIL TESTS, -2 feet

DATE SAMPLED: 1/19/00 SAMPLE NO.: OWS655C-12'
 TPH (Diesel): 6,440 TPH GASOLINE: _____ BTEX EPA 8020: _____
 CA ORGANIC LEAD: _____ VOCs EPA 8260: See Table 1 SEMI VOC'S 8270: _____
 WASTE OIL TRPH 418.1: 8,200

SOIL TESTS, stk pile

DATE SAMPLED: 1/19/00 SAMPLE NO.: SP-OWS655C
 TPH (Diesel): 2,240 TPH GASOLINE: _____ BTEX EPA 8020: _____
 CA ORGANIC LEAD: _____ VOCs EPA 8260: See Table 1 SEMI VOC'S 8270: _____
 WASTE OIL TRPH 418.1: 3,700

WATER ANALYSIS

DATE SAMPLED: N/A SAMPLE NO.: NONE
 TPH (Full Scan): _____ TPH GASOLINE: _____ BTEX EPA 8020: _____
 TOTAL LEAD: _____ VOCs EPA 8260: _____ SEMI VOC'S 8270: _____
 WASTE OIL TRPH 418.1: _____

BACKFILL

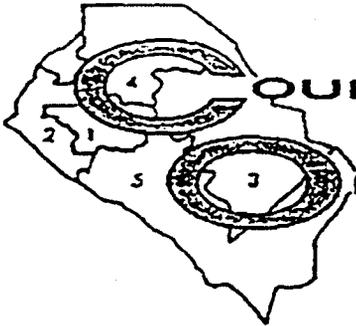
VOLUME OF BACKFILL: _____

MISC WORK:

APPENDIX B

REMOVAL PERMIT AND LIQUID WASTE MANIFEST

655C



COUNTY OF SANTA ANA RANGE

TOM URAI
DIRECTOR
HUGH F. STALLWORTH, M.D.
HEALTH OFFICER
ENVIRONMENTAL HEALTH DIVISION
ROBERT E. MERRYMAN, REHS, MPH
DEPUTY DIRECTOR

HEALTH CARE AGENCY
PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
2009 E. EDINGER AVENUE
SANTA ANA, CALIFORNIA 92705
(714) 667-3700

FACILITY MODIFICATION
APPLICATION
(INSTALLATION/REMOVAL/REPAIR)
(COMPLETE PAGES 1 & 2)

DATE: 11/3/99

FACILITY INFORMATION

NAME: MARINE CORPS AIR STATION, EL TORO
STREET ADDRESS: BLDG. T-2006 / P.O. Box 94004
CITY: SANTA ANA
TOTAL NUMBER OF TANKS (AFTER INSTALLATION/REMOVAL)
AT THIS LOCATION: 1

TYPE OF CONSTRUCTION

INDICATE NO. OF TANK(S) BEING
REMOVED/REPAIRED/INSTALLED BELOW: (COMPLETE
PAGE 2 - INDICATING THE TANKS TO BE
INSTALLED/REMOVED, OR AFFECTED BY THE REPAIR)

- INSTALLATION(S)
- REPAIR(S)/RELINE(S) TO USE
- CLOSURE(S)/REMOVAL(S)
- SYSTEM MODIFICATION (E.G. REPIPE, REPAIR TO PIPING)
- OTHER (SPECIFY) _____

TYPE OF BUSINESS:

- GASOLINE STATION
- GOVERNMENT
- FARM
- OTHER

24 HOUR EMERGENCY CONTACT PERSON

DAYS: JANAKA JAYAMANA (909) 396-7662
NAME TELEPHONE
NIGHTS: ASRAJ FAHEEM (714) 219-6344
NAME TELEPHONE

TANK OWNER NAME (CORP., INDIVIDUAL PUBLIC AGENCY):

DEPARTMENT OF THE NAVY, SWDIV
STREET ADDRESS: 1220 PACIFIC HWY.
CITY: SAN DIEGO
STATE: CA ZIP: 92132

APPLICANT

NAME: JANAKA JAYAMANA
PLEASE PRINT

TELEPHONE NO: _____

SIGNATURE: [Signature]

BILLING ADDRESS INFORMATION

BILL TO NAME: GEOFON, INC.
BILL TO ADDRESS: 22632 GOLDEN SPRINGS DR., STE 270
CITY: DIAMOND BAR
STATE: CA ZIP: 91765
TELEPHONE NO: (909) 396-7662

COMPANY NAME: GEOFON, INC.

TELEPHONE NO: (909) 396-7662

FACILITY OPERATOR (CONTACT PERSON)

NAME: SCOTT KEHE
BUSINESS TELEPHONE NO: (949) 726-5206

NOTES: NEW INSTALLATIONS, CLOSURES, REPAIRS AND SYSTEM MODIFICATIONS OF UNDERGROUND STORAGE TANKS REQUIRE THE SUBMITTAL OF (4) SETS OF PLANS TO THIS DIVISION. THESE PLANS MUST BE APPROVED PRIOR TO THE INITIATION OF ANY CONSTRUCTION OR MODIFICATION. ALL PLANS OR REPORTS REQUIRED MUST ACCOMPANY THIS FORM AT THE TIME OF SUBMITTAL.

PLAN APPROVAL AND FEES ARE VALID FOR ONE YEAR. IF TANKS HAVE NOT BEEN REMOVED, INSTALLED OR MODIFIED WITHIN ONE YEAR OF THE APPROVAL DATE, NEW PLANS AND FEES MUST BE SUBMITTED.

OFFICE USE ONLY

PLAN CHECK NO.: 99pm99-H FEES PAID: 187
AN APPROVAL DATE: 11-15-99 BY: [Signature]
NUMBER OF TANKS TO RECEIVE A SURCHARGE BILL: # 1495

RCVD. BY: [Signature]
NUMBER OF TANKS TO BE ADDED TO BILLING: _____

TANK INFORMATION

PROVIDE THE INFORMATION BELOW FOR ALL TANKS AND PIPING SYSTEMS TO BE INSTALLED, REMOVED OR REPAIRED. ALSO INDICATE THE UPGRADE/CHANGES TO BE MADE TO EACH TANK SYSTEM.

TANK I.D.		655C	#2	#3	#4
MATERIAL STORED	CURRENTLY	oil/water			
	PROPOSED				
	PREVIOUSLY				
FUEL TYPE, I.E. UNLEADED			APPROVED		
TYPE (TANK, SUMP, OTHERS)		OWS	ORANGE COUNTY HEALTH CARE AGENCY ENVIRONMENT HEALTH DIVISION		
DOUBLE WALL/SINGLE WALL			HAZARDOUS MATERIALS & WASTE MANAGEMENT SECTION THE APPROVAL IS VALID FOR 12 MONTHS FROM THE APPROVAL DATE		
UL NUMBER					
YEAR INSTALLED		1950	02	11/15/99	09/21/99
VAULTED/NOT VAULTED			Plan Reviewed By	LOTE	FRANK
PRIMARY	MANUFACTURER		This approval shall not be construed to permit		
	CAPACITY (GALLONS)	1,250	any other conditions of approval found on this		
	CONSTRUCTION MATERIAL	UNKNOWN	approval. Any conditions or changes made by the		
	THICKNESS (UNITS)		applicant.		
SECONDARY	INTERIOR LINING		It is the policy of the Department to require all applicants		
	MANUFACTURER		to provide a copy of the local fire department's		
	CAPACITY (GALLONS)		writing department and the fire code, and		
CORROSION PROTECTION	CONSTRUCTION MATERIAL		the appropriate permit must be obtained.		
	THICKNESS (UNITS)		All hazardous tank installation, removal, and		
			other inspections are required and must be		
TYPE OF LEAK DETECTION FOR USTs (LIQUID, PROBE, ETC.)			subjected to tests according to Code		
MANUFACTURER OF LEAK DETECTOR			(7) 607 - 3500 for an appointment.		
LOCATION (UNDER/ABOVE GROUND)		UNDER	A copy of these approved plans must be		
SUCTION/PRESSURE GRAVITY/UNKNOWN			available at the site at all times.		
PRIMARY	CONSTRUCTION MATERIAL		storage tanks shall be removed		
	MANUFACTURER		and properly disposed		
SECONDARY	CONSTRUCTION MATERIAL				
	MANUFACTURER				
TYPE OF LEAK DETECTION FOR PIPING (PRESSURE LOSS DEVICE, ETC.)					
MANUFACTURER OF LEAK DETECTOR					
SPILL PROTECTION (TYPE)					
SPILL CONTAINMENT (TYPE)					

APPROVED

HEALTH

NOV 17 1999

BUILDING 655

● OWS 655C

S. MARINE WAY

APPROVED

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
HAZARDOUS WASTE/HAZARDOUS MATERIALS MANAGEMENT SECTION
THIS APPROVAL IS VALID FOR 12 MONTHS FROM
THE APPROVAL DATE

Plan Reviewed by: DC
Date: 11/15/99 Plan #: 99PM99

This approval shall not be construed to permit or prohibit any work, nor does it prevent further corrections of errors found on the plan. The contractor must be responsible for obtaining any additional permits are made by the contractor.

In addition to this approval, all applicable codes imposed by the local fire department, the Department, and the Air Quality Management District must be obtained.

Approved work installation, removal, and other activities are required and must be completed 24 hours in advance. Contact the Department for an appointment.

All copies of these approved plans must be available at the site at all times.

Approved work shall be removed and properly disposed



GEOFON
INCORPORATED

PROJECT NO.:
04-4304.340

**SITE MAP
OWS 655C
MCAS EL TORO**

NOT TO SCALE 11/99

Figure 1

1-800-424-9424
 W. CALIFORNIA
 GENERATOR
 424-9424
 CALIFORNIA
 RECEIVED
 11/13/00
 EWE
 RECEIVED
 11/13/00
 CALIFORNIA

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA6170023208		Manifest Document No. 117282		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address MCAS EL TORO, RON JOHNSON OFF. IN CHARGE CSO CODE SBL5 P.O. BOX 444 E. IRVINE CA. 92650						A. State Manifest Document Number 99832470							
4. Generator's Phone (949) 726-2902/CONTACT JOE BUCHO						B. State Generator's ID							
5. Transporter 1 Company Name EFR ENVIRONMENTAL SERVICES			6. US EPA ID Number A R D D D D D 1 1 2 D S			C. State Transporter's ID [Reserved.]							
7. Transporter 2 Company Name						D. Transporter's Phone (760) 735-9602							
8. US EPA ID Number						E. State Transporter's ID [Reserved.]							
9. Designated Facility Name and Site Address DOME ROCK INDUSTRIES 3125 W DOME ROCK ROAD QUARTZSITE. AZ 85346						F. Transporter's Phone							
10. US EPA ID Number A Z R D D D D D 3 S D 1 S						G. State Facility's ID							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste Number	
a. NON-RCRA HAZARDOUS WASTE LIQUID (CONTAMINATED WATER)						001 TIT 01/14/00		5		-		State 134 EPA/Other NON-RCRA	
b. USTs 5102/T-11 ONS 655C												State EPA/Other	
c. ASTs 372/376/610/619												State EPA/Other	
d.												State EPA/Other	
J. Additional Descriptions for Materials Listed Above REA. ACCEPTANCE DOT# (DIESEL/OIL/WATER) 270 RICK PHILLIPS 619-843-5922/GEOPON SITE ADDRESS: EL TORO MARINE BASE SANTA ANITA CA						K. Handling Codes for Wastes Listed Above a. - b. c. d. -							
15. Special Handling Instructions and Additional Information ALWAYS WEAR APPROPRIATE PPE AND USE SAFE HANDLING TECHNIQUE 24 HOUR EMERGENCY NUMBER (800) 424-9300 *CHEMTREC*													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name				Signature				Month		Day		Year	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature				Month		Day		Year	
Printed/Typed Name Tina Harris				Signature				01		13		00	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature				Month		Day		Year	
Printed/Typed Name				Signature				Month		Day		Year	
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name				Signature				Month		Day		Year	
Signature				Signature				01		13		00	

DO NOT WRITE BELOW THIS LINE.

Yellow: TSDf SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS
 (Generators who submit hazardous waste for transport out-of-state produce completed copy of this copy and send to DTSC within 30 days)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

CA 6170023208

17284

of 1

3. Generator's Name and Mailing Address:

MCAS EL TORO, RON JOHNSON OFF. IN CHARGE CSO CODE 5BL5
 P.O. BOX 444 E. IRVINE CA. 92650

A. State Manifest Document Number

99832471

B. State Generator's ID

4. Generator's Phone:

949 726-2902/CONTACT JOE BUCHO

C. State Transporter's ID (Reserved)

5. Transporter 1 Company Name

EFR ENVIRONMENTAL SERVICES

6. US EPA ID Number

CAR000011205

D. Transporter's Phone (760) 735-9602

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID (Reserved)

F. Transporter's Phone

9. Designated Facility Name and Site Address:

DOME ROCK INDUSTRIES
 3125 W DOME ROCK ROAD
 QUARTZSITE, AZ 85346

10. US EPA ID Number

AZR000035915

G. State Facility's ID

H. Facility's Phone

(520) 927-7688

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)

NON-RCRA HAZARDOUS WASTE LIQUID

12. Containers
 No. Type

001 77 61250

13. Total Quantity

14. Unit Wt/Val

G

1. Waste Number

State 134

EPA/Other NON-RCR

State

EPA/Other

State

EPA/Other

State

EPA/Other

OWS 655C

J. Additional Descriptions for Materials Listed Above

11A. ACCEPTNACE# D0270 (DEISEL/OIL/WATER)

SITE ADDRESS: EL TORO MARINE BASE, SANTA ANNA, CA.
 C/O RICK PHILLIPS 619-843-5922/GEOPON

K. Handling Codes for Wastes Listed Above

a. b.
 c. d.

L. Special Handling Instructions and Additional Information

ALWAYS WEAR APPROPRIATE PPE AND USE SAFE HANDLING METHODS
 24 HOUR EMERGENCY NUMBER (800) 424-9300 *CHEMTREC*

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Scott Kohn

Signature

Scott Kohn

Month Day Year

01/15/00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Douglas Ford

Signature

Douglas Ford

Month Day Year

01/18/00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19

Printed/Typed Name

Signature

Month Day Year

DO NOT WRITE BELOW THIS LINE.

53032411
 CENTER 1 800 424-8802 WITHIN CALIFORNIA CALL 1-800-852-7550
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER

APPENDIX C

**LABORATORY REPORTS AND
CHAIN-OF-CUSTODY FORMS**

CHAIN OF CUSTODY
 Orange County Health Care Agency
 Environmental Health Division
 2009 E. Edinger Ave., Santa Ana, CA 92705
 Telephone: (714) 667-3700

14252

- ALL SAMPLES ARE TO BE HANDLED AS COURT EVIDENCE, AND ARE TO BE PROPERLY STORED IN A SECURE LOCATION.
- PLEASE WRITE LEGIBLY.
- ATTACH THIS FORM TO THE ORIGINAL REPORT OF THE ANALYTICAL RESULTS AND RETURN THEM TO THIS OFFICE. LABORATORY RESULTS RECEIVED WITHOUT PROPER CHAIN OF CUSTODY DOCUMENTATION WILL NOT BE ACCEPTED.

4. TO BE COMPLETED BY LABORATORY ANALYST

LAB NO.: 1541

DATE RECEIVED: 1/19/00

SAMPLE(S) CONDITION (PLEASE CHECK):

CHILLED: COUNTY SEAL(S) INTACT:

CONTAINER IN GOOD CONDITION:

DATE ANALYSIS COMPLETED: 02-02-2000

ANALYST: Joe Sevréan

5. TO BE COMPLETED BY SAMPLE COLLECTOR

SITE NAME/ADDRESS: MCAE El TERC
Oil/Water Separator WSSC, S.A.

DATE OF COLLECTION: 1-19-00

SAMPLE COLLECTOR/COMPANY: L. Williamson
Geofon, Inc

TELEPHONE NO.: (909) 396-7662

HCA REPRESENTATIVE: A. Parhidi-Jard

6.

SAMPLE NUMBER	DETERMINATION REQUESTED	SAMPLE DESCRIPTION/COMMENTS	TIME OF COLLECTION
CWS6 SSSC-12	TRPH (418.1)	+ 8240 (MTBE, BTEX + Solvents) + TRPH	11:02 am
CWS6 SSSC	↓	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	11:06 ↓
Lab ID			
AEL-8862			
AEL-8863			
	* Standard Turnaround		

7.

CHAIN OF CUSTODY		
1. <u>A. Parhidi-Jard</u> SIGNATURE	<u>Haz. Waste</u> COMPANY/AGENCY	<u>1-19-00 - 11:10am</u> INCLUSIVE DATES/TIMES
2. <u>R. Phillips</u> SIGNATURE	<u>Geofon Inc</u> COMPANY/AGENCY	<u>1-19-00 - 11:10am</u> INCLUSIVE DATES/TIMES
3. <u>E. J. ...</u> SIGNATURE	<u>AETL</u> COMPANY/AGENCY	<u>1/19/00 - 4:46 pm</u> INCLUSIVE DATES/TIMES
4. <u>...</u> SIGNATURE	<u>AETL</u> COMPANY/AGENCY	<u>1/19/00 - 1800</u> INCLUSIVE DATES/TIMES
5. _____ SIGNATURE	_____ COMPANY/AGENCY	_____ INCLUSIVE DATES/TIMES
6. _____ SIGNATURE	_____ COMPANY/AGENCY	_____ INCLUSIVE DATES/TIMES

F272-9.1531.1(R8/89) (RS)



American Environmental Testing Laboratory Inc.

2834 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840

Ordered By

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630-

Number of Pages 20
Date Received 01/19/2000
Date Reported 02/04/2000

Telephone: (714) 220-2777
Attention: Leo W. Williamson

Job Number	Submitted	Client
14252	01/19/2000	GEOFO

Site: MCAS El Toro
Oil/Water Separator 655C, S.A.

Enclosed please find results of analyses of 2 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By:

Joe Serrano

Approved By:

C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840

ANALYTICAL RESULTS

Ordered By**Site**

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630-

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
Attn: Leo W. Williamson
Page: 2

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (418.1), Petroleum Hydrocarbons, Total Recoverable, IR

QC Batch Number: 01262000 / 01262000

Our Lab I.D.				
Client Lab I.D.		Method Blank		
Date Sampled		01/19/2000		
Date Prepared		01/26/2000		
Preparation Method		3550B		
Date Analyzed		01/26/2000		
Matrix		Soil		
Units		mg/Kg		
Dilution Factor		1		
Analytes	MDL	PQL	Results	
TRPH (Total Rec. Pet. HCs)	2	10	ND	



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ANALYTICAL RESULTS

Ordered By

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630-

Site

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
Attn: Leo W. Williamson

Page: 3

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (418.1), Petroleum Hydrocarbons, Total Recoverable, IR

QC Batch Number: 01262000 / 01262000

Our Lab I.D.	AE68862		
Client Lab I.D.	OWS655C-12		
Date Sampled	01/19/2000		
Date Prepared	01/26/2000		
Separation Method	3550B		
Date Analyzed	01/26/2000		
Matrix	Soil		
Units	mg/Kg		
Dilution Factor	100		
Analytes	MDL	PQL	Results
TRPH (Total Rec. Pet. HCs)	200	1000	8,200



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ANALYTICAL RESULTS

Ordered By

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630-

Site

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777

Attn: Leo W. Williamson

Page: 4

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (418.1), Petroleum Hydrocarbons, Total Recoverable, IR

QC Batch Number: 01262000 / 01262000

Our Lab I.D.		AE68863			
Client Lab I.D.		SP-OWS655C			
Date Sampled		01/19/2000			
Date Prepared		01/26/2000			
Preparation Method		3550B			
Date Analyzed		01/26/2000			
Matrix		Soil			
Units		mg/Kg			
Dilution Factor		60			
Analytes	MDL	PQL	Results		
TRPH (Total Rec. Pet. HCs)	120	600	3,710		



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ANALYTICAL RESULTS

Ordered By

Site

Geofon, Inc
5552 Cerritos Ave., Suite F
Cypress, CA 90630

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
Attn: Leo W. Williamson

Page: 5

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch Number: 02022000 / 02022000

Our Lab I.D.					
Client Lab I.D.			Method Blank		
Date Sampled			01/19/2000		
Date Prepared			02/02/2000		
Preparation Method			5030B		
Date Analyzed			02/02/2000		
Matrix			Soil		
Units			ug/Kg		
Dilution Factor			1		
Analytes	MDL	POI	Results		
Acetone	25	50	ND		
Benzene	5.0	10.0	ND		
Bromobenzene (Phenyl bromide)	5.0	10.0	ND		
Bromochloromethane	5.0	10.0	ND		
Bromodichloromethane	5.0	10.0	ND		
Bromoform (Tribromomethane)	25	50	ND		
Bromomethane (Methyl bromide)	15	30	ND		
2-Butanone (MEK)	25	50	ND		
n-Butylbenzene	5.0	10.0	ND		
sec-Butylbenzene	5.0	10.0	ND		
tert-Butylbenzene	5.0	10.0	ND		
Carbon Disulfide	25	50	ND		
Carbon tetrachloride	5.0	10.0	ND		
Chlorobenzene	5.0	10.0	ND		
Chloroethane	15	30	ND		
2-Chloroethyl vinyl ether	50	50	ND		
Chloroform (Trichloromethane)	5.0	10.0	ND		



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ANALYTICAL RESULTS

Page:

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Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Compound Name	15	30	ND				
Chloromethane (Methyl chloride)			ND				
2-Chlorotoluene	5.0	10.0	ND				
4-Chlorotoluene	5.0	10.0	ND				
1,2-Dibromo-3-chloropropane (DBCP)	25	50	ND				
Dibromochloromethane	5.0	10.0	ND				
1,2-Dibromoethane (EDB)	5.0	10.0	ND				
Dibromomethane	5.0	10.0	ND				
1,2-Dichlorobenzene	5.0	10.0	ND				
1,3-Dichlorobenzene	5.0	10.0	ND				
1,4-Dichlorobenzene	5.0	10.0	ND				
Dichlorodifluoromethane	15	30	ND				
1,1-Dichloroethane	5.0	10.0	ND				
1,2-Dichloroethane (EDC)	5.0	10.0	ND				
1,1-Dichloroethene	5.0	10.0	ND				
cis-1,2-Dichloroethene	5.0	10.0	ND				
trans-1,2-Dichloroethene	5.0	10.0	ND				
1,2-Dichloropropane	5.0	10.0	ND				
1,3-Dichloropropane	5.0	10.0	ND				
2,2-Dichloropropane	5.0	10.0	ND				
1,1-Dichloropropene	5.0	10.0	ND				
cis-1,3-Dichloropropene	5.0	10.0	ND				
trans-1,3-Dichloropropene	5.0	10.0	ND				
Ethylbenzene	5.0	10.0	ND				
Hexachlorobutadiene	15	30	ND				
2-Hexanone	25	50	ND				
Isopropylbenzene	5.0	10.0	ND				
p-Isopropyltoluene	5.0	10.0	ND				
4-Methyl-2-pentanone (MIBK)	25	50	ND				
Methyl-tert-butyl ether (MTBE)	5.0	10.0	ND				
Methylene chloride (DCM)	25	50	ND				
Naphthalene	5.0	10.0	ND				
n-Propylbenzene	5.0	10.0	ND				
Styrene	5.0	10.0	ND				
1,1,1,2-Tetrachloroethane	5.0	10.0	ND				
1,1,2,2-Tetrachloroethane	5.0	10.0	ND				
Tetrachloroethene	5.0	10.0	ND				
Toluene (Methyl benzene)	5.0	10.0	ND				
1,2,3-Trichlorobenzene	5.0	10.0	ND				
1,2,4-Trichlorobenzene	5.0	10.0	ND				
1,1,1-Trichloroethane	5.0	10.0	ND				



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ANALYTICAL RESULTS

Page: 7

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Compound	5.0	10.0	ND				
1,1,2-Trichloroethane	5.0	10.0	ND				
Trichloroethene	5.0	10.0	ND				
Trichlorofluoromethane	5.0	10.0	ND				
1,2,3-Trichloropropane	5.0	10.0	ND				
1,2,4-Trimethylbenzene	5.0	10.0	ND				
1,3,5-Trimethylbenzene	5.0	10.0	ND				
Vinyl Acetate	25	50	ND				
Vinyl chloride (Chloroethene)	15	30	ND				
o-xylene	5.0	10.0	ND				
m,p-Xylenes	10	20	ND				

QC Batch Number: 02022000 / 02022000

QUALITY CONTROL REPORT

Our Lab I.D.	Con. Limit	% Rec.				
Surrogates						
Bromofluorobenzene	75-125	112				
Dibromofluoromethane	75-125	91				
Toluene-d8	75-125	106				



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ANALYTICAL RESULTS

Ordered By

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630

Site

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
Attn: Leo W. Williamson

Page: 8

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch Number: 02022000 / 02022000

Our Lab I.D.			AE68862			
Client Lab I.D.			OWS655C-12			
Date Sampled			01/19/2000			
Date Prepared			02/02/2000			
Preparation Method			5030B			
Date Analyzed			02/02/2000			
Matrix			Soil			
Units			ug/Kg			
Dilution Factor			1			
Analytes	MDL	PQL	Results			
Acetone	25	50	135			
Benzene	5.0	10.0	ND			
Bromobenzene (Phenyl bromide)	5.0	10.0	ND			
Bromochloromethane	5.0	10.0	ND			
Bromodichloromethane	5.0	10.0	ND			
Bromoform (Tribromomethane)	25	50	ND			
Bromomethane (Methyl bromide)	15	30	ND			
2-Butanone (MEK)	25	50	ND			
n-Butylbenzene	5.0	10.0	ND			
sec-Butylbenzene	5.0	10.0	197			
tert-Butylbenzene	5.0	10.0	ND			
Carbon Disulfide	25	50	ND			
Carbon tetrachloride	5.0	10.0	ND			
Chlorobenzene	5.0	10.0	55.2			
Chloroethane	15	30	ND			
2-Chloroethyl vinyl ether	50	50	ND			
Chloroform (Trichloromethane)	5.0	10.0	ND			

AE68862: High surrogate recovery due to matrix interference.



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ANALYTICAL RESULTS

Page: 9

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Chloromethane (Methyl chloride)	15	30	ND			
2-Chlorotoluene	5.0	10.0	ND			
4-Chlorotoluene	5.0	10.0	ND			
1,2-Dibromo-3-chloropropane (DBCP)	25	50	ND			
Dibromochloromethane	5.0	10.0	ND			
1,2-Dibromoethane (EDB)	5.0	10.0	ND			
Dibromomethane	5.0	10.0	ND			
1,2-Dichlorobenzene	250	500	3,720			
1,3-Dichlorobenzene	5.0	10.0	54.9			
1,4-Dichlorobenzene	250	500	691			
Dichlorodifluoromethane	15	30	ND			
1,1-Dichloroethane	5.0	10.0	ND			
1,2-Dichloroethane (EDC)	5.0	10.0	ND			
1,1-Dichloroethene	5.0	10.0	ND			
cis-1,2-Dichloroethene	5.0	10.0	ND			
trans-1,2-Dichloroethene	5.0	10.0	ND			
1,2-Dichloropropane	5.0	10.0	ND			
1,3-Dichloropropane	5.0	10.0	ND			
2,2-Dichloropropane	5.0	10.0	ND			
1,1-Dichloropropene	5.0	10.0	ND			
cis-1,3-Dichloropropene	5.0	10.0	ND			
trans-1,3-Dichloropropene	5.0	10.0	ND			
Ethylbenzene	5.0	10.0	95.2			
Hexachlorobutadiene	15	30	ND			
2-Hexanone	25	50	ND			
Isopropylbenzene	5.0	10.0	123			
p-Isopropyltoluene	250	500	3,110			
4-Methyl-2-pentanone (MIBK)	25	50	ND			
Methyl-tert-butyl ether (MTBE)	5.0	10.0	ND			
Methylene chloride (DCM)	25	50	ND			
Naphthalene	250	500	5,940			
n-Propylbenzene	250	500	534			
Styrene	5.0	10.0	ND			
1,1,1,2-Tetrachloroethane	5.0	10.0	ND			
1,1,2,2-Tetrachloroethane	5.0	10.0	ND			
Tetrachloroethene	5.0	10.0	ND			
Toluene (Methyl benzene)	5.0	10.0	113			
1,2,3-Trichlorobenzene	5.0	10.0	ND			
1,2,4-Trichlorobenzene	5.0	10.0	ND			
1,1-Trichloroethane	5.0	10.0	ND			

AE68862: High surrogate recovery due to matrix interference.



American Environmental Testing Laboratory Inc.

2834 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840

ANALYTICAL RESULTS

Page: 10

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Compound	5.0	10.0	ND			
1,1,2-Trichloroethane	5.0	10.0	ND			
Trichloroethene	5.0	10.0	53.8			
Trichlorofluoromethane	5.0	10.0	ND			
1,2,3-Trichloropropane	5.0	10.0	ND			
1,2,4-Trimethylbenzene	250	500	9,440			
1,3,5-Trimethylbenzene	250	500	3,090			
Vinyl Acetate	25	50	ND			
Vinyl chloride (Chloroethene)	15	30	ND			
o-xylene	250	500	890			
m,p-Xylenes	500	1000	1,470			

QC Batch Number: 02022000 / 02022000

QUALITY CONTROL REPORT

Our Lab ID.	AE68862			
Surrogates	Con. Limit	% Rec.		
Bromofluorobenzene	75-125	122		
Dibromofluoromethane	75-125	126		
Toluene-d8	75-125	121		

AE68862: High surrogate recovery due to matrix interference.



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ANALYTICAL RESULTS

Ordered By

Geofon, Inc.
5552 Cerritos Ave., Suite F
Cypress, CA 90630-

Site

MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777

Attn: Leo W. Williamson

Page: 11

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch Number: 02022000 / 02022000

Our Lab I.D.	AE68863		
Client Lab I.D.	SP-OWS655C		
Date Sampled	01/19/2000		
Date Prepared	02/02/2000		
Preparation Method	5030B		
Date Analyzed	02/02/2000		
Matrix	Soil		
Units	ug/Kg		
Dilution Factor	1		
Analytes	MDL	PQL	Results
Acetone	25	50	50.6
Benzene	5.0	10.0	ND
Bromobenzene (Phenyl bromide)	5.0	10.0	ND
Bromochloromethane	5.0	10.0	ND
Bromodichloromethane	5.0	10.0	ND
Bromoform (Tribromomethane)	25	50	ND
Bromomethane (Methyl bromide)	15	30	ND
2-Butanone (MEK)	25	50	ND
n-Butylbenzene	5.0	10.0	ND
sec-Butylbenzene	5.0	10.0	33.0
tert-Butylbenzene	5.0	10.0	ND
Carbon Disulfide	25	50	ND
Carbon tetrachloride	5.0	10.0	ND
Chlorobenzene	5.0	10.0	ND
Chloroethane	15	30	ND
2-Chloroethyl vinyl ether	50	50	ND
Chloroform (Trichloromethane)	5.0	10.0	ND



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ANALYTICAL RESULTS

Page: 12

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Chloromethane (Methyl chloride)	15	30	ND			
2-Chlorotoluene	5.0	10.0	ND			
4-Chlorotoluene	5.0	10.0	ND			
1,2-Dibromo-3-chloropropane (DBCP)	25	50	ND			
Dibromochloromethane	5.0	10.0	ND			
1,2-Dibromoethane (EDB)	5.0	10.0	ND			
Dibromomethane	5.0	10.0	ND			
1,2-Dichlorobenzene	250	500	602			
1,3-Dichlorobenzene	5.0	10.0	ND			
1,4-Dichlorobenzene	5.0	10.0	55.6			
Dichlorodifluoromethane	15	30	ND			
1,1-Dichloroethane	5.0	10.0	ND			
1,2-Dichloroethane (EDC)	5.0	10.0	ND			
1,1-Dichloroethene	5.0	10.0	ND			
cis-1,2-Dichloroethene	5.0	10.0	ND			
trans-1,2-Dichloroethene	5.0	10.0	ND			
1,2-Dichloropropane	5.0	10.0	ND			
1,3-Dichloropropane	5.0	10.0	ND			
2,2-Dichloropropane	5.0	10.0	ND			
1,1-Dichloropropene	5.0	10.0	ND			
cis-1,3-Dichloropropene	5.0	10.0	ND			
trans-1,3-Dichloropropene	5.0	10.0	ND			
Ethylbenzene	5.0	10.0	11.2			
Hexachlorobutadiene	15	30	ND			
2-Hexanone	25	50	ND			
Isopropylbenzene	5.0	10.0	13.8			
p-Isopropyltoluene	5.0	10.0	117			
4-Methyl-2-pentanone (MIBK)	25	50	ND			
Methyl-tert-butyl ether (MTBE)	5.0	10.0	ND			
Methylene chloride (DCM)	25	50	ND			
Naphthalene	250	500	1,320			
n-Propylbenzene	5.0	10.0	23.7			
Styrene	5.0	10.0	ND			
1,1,1,2-Tetrachloroethane	5.0	10.0	ND			
1,1,2,2-Tetrachloroethane	5.0	10.0	ND			
Tetrachloroethene	5.0	10.0	ND			
Toluene (Methyl benzene)	5.0	10.0	ND			
1,2,3-Trichlorobenzene	5.0	10.0	ND			
1,2,4-Trichlorobenzene	5.0	10.0	ND			
1,1,1-Trichloroethane	5.0	10.0	ND			



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ANALYTICAL RESULTS

Page: 13

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

Compound	5.0	10.0	ND			
1,1,2-Trichloroethane	5.0	10.0	ND			
Trichloroethene	5.0	10.0	ND			
Trichlorofluoromethane	5.0	10.0	ND			
1,2,3-Trichloropropane	5.0	10.0	ND			
1,2,4-Trimethylbenzene	250	500	1,410			
1,3,5-Trimethylbenzene	5.0	10.0	157			
Vinyl Acetate	25	50	ND			
Vinyl chloride (Chloroethene)	15	30	ND			
o-xylene	5.0	10.0	58.0			
m,p-Xylenes	10	20	72.1			

QC Batch Number: 02022000 / 02022000

QUALITY CONTROL REPORT

Our Lab I.D.		AE68863		
Surrogates	Con. Limit	# Rec.		
Bromofluorobenzene	75-125	88		
Dibromofluoromethane	75-125	116		
Toluene-d8	75-125	109		



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MCAS El Toro
Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
Attn: Leo W. Williamson
Page: 14

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QC Batch Number: 01202000 / 01202000

Our Lab I.D.					
Client Lab I.D.	Method Blank				
Date Sampled	01/19/2000				
Date Prepared	01/20/2000				
Preparation Method	3550B				
Date Analyzed	01/20/2000				
Matrix	Soil				
Units	mg/Kg				
Dilution Factor	1				
Analytes	MDL	PQL	Results		
TPH as Diesel (C9-C23)	5.0	10.0	ND		
TPH as Heavy Hydrocarbons (C23+)	5.0	10.0	ND		
TPH Total as Diesel and Heavy HC. C9-C40	5.0	10.0	ND		



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Page: 15

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QC Batch Number: 01202000 / 01202000

Our Lab I.D.			AE68862			
Client Lab I.D.			OWS655C-12			
Date Sampled			01/19/2000			
Date Prepared			01/20/2000			
Preparation Method			3550B			
Date Analyzed			01/20/2000			
Matrix			Soil			
Units			mg/Kg			
Dilution Factor			5			
Analytes	MDL	PQL	Results			
TPH as Diesel (C9-C23)	25	50	6,440			
TPH as Heavy Hydrocarbons (C23+)	25	50	1,510			
TPH Total as Diesel and Heavy HC. C9-C40	25	50	7,950			

QC Batch Number: 01202000 / 01202000

QUALITY CONTROL REPORT

Our Lab I.D.			AE68862			
Surrogates	Con. Limit		% Rec.			
Chlorobenzene	75-125		99			



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 Oil/Water Separator 655C, S.A.

Telephone: (714)220-2777
 Attn: Leo W. Williamson

Page: 16

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QC Batch Number: 01202000 / 01202000

Our Lab I.D.			AE68863			
Client Lab I.D.			SP-OWS655C			
Date Sampled			01/19/2000			
Date Prepared			01/20/2000			
Preparation Method			3550B			
Date Analyzed			01/20/2000			
Matrix			Soil			
Units			mg/Kg			
Dilution Factor			1			
Analytes	MDL	PQL	Results			
TPH as Diesel (C9-C23)	5.0	10.0	2,240			
TPH as Heavy Hydrocarbons (C23+)	5.0	10.0	630			
TPH Total as Diesel and Heavy HC. C9-C40	5.0	10.0	2,870			

QC Batch Number: 01202000 / 01202000

QUALITY CONTROL REPORT

Our Lab I.D.			AE68863			
Surrogates	Con. Limit			% Rec.		
Chlorobenzene	75-125			108		



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Page: 17

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (418.1), Petroleum Hydrocarbons, Total Recoverable, IR

QUALITY CONTROL REPORT

QC Batch Number: 01262000 / 01262000

Analytes	MS	MS	MS	MS DUP	MS DUP	MS DUP	RPD	MS/MSD	MS RPD
	Concen	Recov	% REC	Concen	Recov	% REC	%	% Limit	% Limit
TRPH (Total Rec. Pet. HCs)	26.9	27.4	102	26.9	26.9	100	2.0	75-125	<20

QC Batch Number: 01262000 / 01262000

Analytes	LCS	LCS	LCS	LCS/LCSD					
	Concen	Recov	% REC	% Limit					
TRPH (Total Rec. Pet. HCs)	24.0	24.2	101	75-125					



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Page: 18

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QUALITY CONTROL REPORT

QC Batch Number: 02022000 / 02022000

Analytes	MS	MS	MS	MS DUP	MS DUP	MS DUP	RPD	MS/MSD	MS RPD
	Concen	Recov	% REC	Concen	Recov	% REC	%	% Limit	% Limit
Benzene	50.0	39.5	79	50.0	40.0	80	1.3	75-125	<20
Chlorobenzene	50.0	40.5	81	50.0	39.0	78	3.8	75-125	<20
1,1-Dichloroethene	50.0	41.0	82	50.0	40.0	80	2.5	75-125	<20
Toluene (Methyl benzene)	50.0	41.0	82	50.0	39.5	79	3.7	75-125	<20
Trichloroethene	50.0	43.0	86	50.0	41.5	83	3.6	75-125	<20

QC Batch Number: 02022000 / 02022000

Analytes	LCS	LCS	LCS	LCS/LCSD					
	Concen	Recov	% REC	% Limit					
Benzene	50.0	41.0	82	75-125					
Chlorobenzene	50.0	45.5	91	75-125					
1,1-Dichloroethene	50.0	40.5	81	75-125					
Toluene (Methyl benzene)	50.0	42.5	85	75-125					
Trichloroethene	50.0	45.0	90	75-125					
LCS									
Chloroform (Trichloromethane)	50.0	43.5	87	75-125					
Ethylbenzene	50.0	40.5	81	75-125					
1,1,1-Trichloroethane	50.0	39.5	79	75-125					



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ANALYTICAL RESULTS

Page: 19

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

o-Xylene	50.0	41.0	82	75-125					
m,p-Xylenes	50.0	42.0	84	75-125					



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 Page: 20

Job Number	Order Date	Client
14252	01/19/2000	GEOFO

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QUALITY CONTROL REPORT

QC Batch Number: 01202000 / 01202000

Analytes	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
TPH as Diesel (C9-C23)	500.0	450.0	90	500.0	425.0	85	5.7	75-125	<20

QC Batch Number: 01202000 / 01202000

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS/LCSD % Limit
TPH as Diesel (C9-C23)	500.0	455.0	91	75-125

APPENDIX D

MISCELLANEOUS INFORMATION

Job No. 13193/04-4304.340 Associated Soils Engineering Sample No. _____
 Location Geofon/EL TORO Max. Density and Moisture Curves ASTM D1557 or D698 Elevation CLASS 2 fill
 Date 1-20-00 Sta. 04-4304-340
 Tested by: R.C Sampled by: D. Lid

		Test Data				
		Compaction Test Standard	Size Mold			
		<u>5 LAY</u>	<u>1/30</u>			
		TEST NO.	1	2	3	4
145		Weight of Water Added	<u>100</u>	<u>60</u>	<u>200</u>	<u>50</u>
140		Weight of Soil & Mold	<u>3998</u>	<u>3984</u>	<u>3932</u>	<u>3936</u>
		Weight - Mold	<u>17.87</u>	<u>17.87</u>	<u>17.87</u>	<u>17.87</u>
135		Net Wet Weight Soil	<u>2211</u>	<u>2197</u>	<u>2145</u>	<u>2149</u>
		Wet Density - lbs/cu ft	<u>146.2</u>	<u>145.3</u>	<u>141.9</u>	<u>142.1</u>
130		Dry Density - lbs/cu ft Stove	<u>135.4</u>	<u>132.0</u>	<u>126.8</u>	<u>133.3</u>
		Dry Density - lbs/cu ft Oven				
		Moisture Determinations				
125		Wet Wt. of Soil				
		Dry Wt. of Soil				
		Can No.	<u>NO CANS</u>			
120		Net Loss Moist.				
		Moisture %				
		Dry Wt. - Oven				
		Moisture %				
115		Dry Wt. - Stove	<u>5.0</u>	<u>10.1</u>	<u>19</u>	<u>6.6</u>
		SOIL CLASS.	<u>SLURRY BRN MCL</u>			
			<u>COURSE SA W/ GRAVEL ROCK</u>			
110		% Passing 3/4"	<u>Agg. BASE</u>			
		% Passing #10				
		Specific Gravity				
105						
100						
95						
90						
85						

136.0 @ 8.5% 23

60 ml
 ~29%
 diff

Dry
 eight
 % per
 cu. ft.

110 100 90 80 70 60 50 40 30 20 10 0

5 10 15 20 25 30 35 40 45 50

GEOFON

FIELD DENSITY TEST

PROJECT NAME MICAS EL TORO

PROJECT NUMBER 04-4304.340

TEST NO.		1	2	3				
DATE		1/19	1/20	1/20				
ELEVATION								
DEPTH BELOW FINISHED GRADE		-4	-2	-GRADE				
LOCATION		655C	655C	655C				
SAND CONE METHOD ASTM D1556-82	SAND	Initial weight of sand and tare (lbs)						
		Final weight of sand and tare (lbs)						
		Gross sand used (lbs)						
		Correction for cone (lbs)						
		Net sand used (lbs)						
		Density of sand (lbs)						
	SOIL	Wet weight of soil and tare (lbs)						
		Weight tare (lbs)						
		Wet weight of soil (lbs)						
		Wet density of soil (pcf)						
NUCLEAR GAUGE ASTM D2922-81	Depth of measurement		6"	6"	6"			
	Measurement speed		60sec	60sec	60sec			
	Density count							
	Moisture count							
	Wet density (lb/ft ³)		122.3	126.5	124.8			
MOISTURE	Wet weight - cup (gms)							
	Dry weight - cup (gms)							
	Weight of cup (gms)							
	Weight of dry soil (gms)							
	Weight of water (gms)							
	Moisture content (percent)		8.7	10.7	11.8			
RESULTS	Dry density (lb/ft ³)		122.3	119.1	118.2			
	Curve number							
	Maximum dry density		134	134	134			
	Compaction (percent)		96%	97%	95%			

Density standard _____

Moisture standard _____

REMARKS _____

Tested by Rob Kucinski



INDUSTRIAL ASPHALT
 LOCATION: SANTA ANA
 CUSTOMER:
 IMPERIAL ASPHALT

LAB# 23470 - 99
 DATE: 08/02/99

PROJECT: USMCAS
 EL TORO, CA

TYPE OF MIX: 6.400 TYPE III/CS
 AG: AR-4000 OR AR-8000
 SMRA 91-93-0011/91-33-0001
 TYPE B ASG

1.0 %	15.0 %	0.0 %	0.0 %	21.0 %	19.0 %	44.0 %
FILLER	RECYCLE	BIN#5	BIN#4	BIN#3	BIN#2	BIN#1
19 LBS	284 LBS	0 LBS	0 LBS	397 LBS	359 LBS	632 LBS

Use	Pass	COMBINED PASSING	OPERATING RANGE	ENG (SI)														
100.0	1.0	100.0	15.0	100.0	0.0	100.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0		2-50.0
100.0	1.0	100.0	15.0	100.0	0.0	100.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0		(50.0)
100.0	1.0	100.0	15.0	100.0	0.0	100.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0		1 1/2
100.0	1.0	100.0	15.0	100.0	0.0	100.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0		(37.8)
100.0	1.0	100.0	15.0	100.0	0.0	100.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0		1"
100.0	1.0	100.0	15.0	0.0	0.0	96.0	0.0	100.0	21.0	100.0	19.0	100.0	44.0	100.0		100.0	100	(25.0)
100.0	1.0	100.0	15.0	0.0	0.0	24.0	0.0	96.0	20.2	100.0	19.0	100.0	44.0	100.0		99.2	95-100	3/4"
100.0	1.0	98.0	14.7	0.0	0.0	2.0	0.0	40.0	8.4	99.0	18.8	100.0	44.0	100.0		98.9	80-85	(19.0)
100.0	1.0	72.0	10.8	0.0	0.0	1.0	0.0	2.0	0.4	40.0	7.6	100.0	44.0	100.0		63.8	55-72	1/2"
100.0	1.0	53.0	8.0	0.0	0.0	0.0	0.0	1.0	0.2	9.0	1.7	82.0	39.2	100.0		50.0	38-55	(12.5)
100.0	1.0	41.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.2	65.9	28.7	100.0		36.1		(9.5)
99.0	1.0	31.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.5	20.0	100.0		25.7	18-33	(4.75)
96.0	1.0	22.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	26.3	11.6		15.9		#8
95.0	1.0	15.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	6.4		9.6		(2.38)
90.0	0.9	11.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	3.4		6.0	4-8	(1.18)

RAP ACW 3.8
 KM OF COMBINED AGGREGATE—1.10
 SURFACE AREA: 31.8

% ASPHALT
 -OUTSIDE- 6.8 % + 100% AGG
 -INSIDE- 6.5 % PLUS
 WGT. PER TON 110 LBS
 BATCH WT: 2000.0 LBS

Pascal Mascarenhas
 PASCAL MASCARENHAS
 REGIONAL QUALITY CONTROL MANAGER

Prepared by: _____ (Initials)

Appendix D
OCHCA Letter



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

**REGULATORY HEALTH SERVICES
ENVIRONMENTAL HEALTH**

MICHAEL SCHUMACHER, Ph.D.
DIRECTOR

MIKE SPURGEON
DEPUTY AGENCY DIRECTOR
REGULATORY HEALTH SERVICES

JACK MILLER, REHS
DIRECTOR
ENVIRONMENTAL HEALTH

MAILING ADDRESS:
2009 EAST EDINGER AVENUE
SANTA ANA, CA 92705-4720

TELEPHONE: (714) 667-3600
FAX: (714) 568-5116

E-MAIL: environhealth@hca.co.orange.ca.us

April 18, 2000

Ms. Patricia Hannon
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3339

RE: Marine Corps Air Station El Toro
Oil/Water Separator 655C
Santa Ana, CA 92709

Dear Ms. Hannon:

Due to the detection of soil contamination in samples collected beneath the oil/water separator during removal activities at the above referenced site, this Agency is referring the case to you for assessment and remediation oversight. It is this Agency's understanding that a copy of the tank closure report documenting the removal and results of all soil sampling will be forwarded to your Agency.

If you have any questions or require any further information, please contact me at (714) 667-3713.

Sincerely,

Arghavan Rashidi-Fard
Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health

cc: Lynn Homecker, SWDIV

Appendix E
Site Inspection Log

SITE ASSESSMENT LOG
MCAS El Toro
REMEDIATION OF VARIOUS UST SITES
20242, D.O. 112 GSA

OWS
UST SITE: 655C

Field Observations by: D. Rawd / J. Erickson. Date:

Former ^{OWS} UST area: Paved or Unpaved. Paved area with Asphalt, OWS 655C was removed by Station Contractor. OWS 655C was 1,250 gallon capacity OWS used for oil & water separation. All piping associated with OWS 655C, appx 20' was removed with OWS.
Paved: Concrete or Asphalt
Unpaved: Open dirt area N/A.
Any Visible Sprinkler System: Yes / No

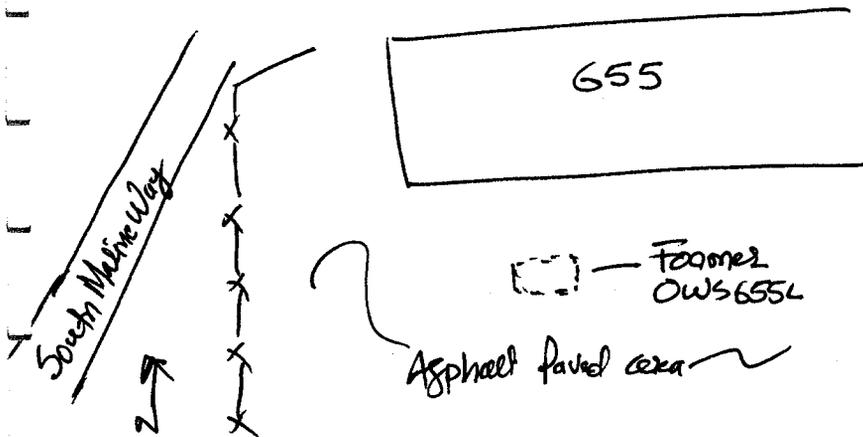
-Nearest Building or Structure Distance: Building 655

-Any Underground Piping/Lines, or Transformer Observed: None

-Overhead Utility Lines/Poles: None

-Site Setup Constrains: None

Draw Sketch:



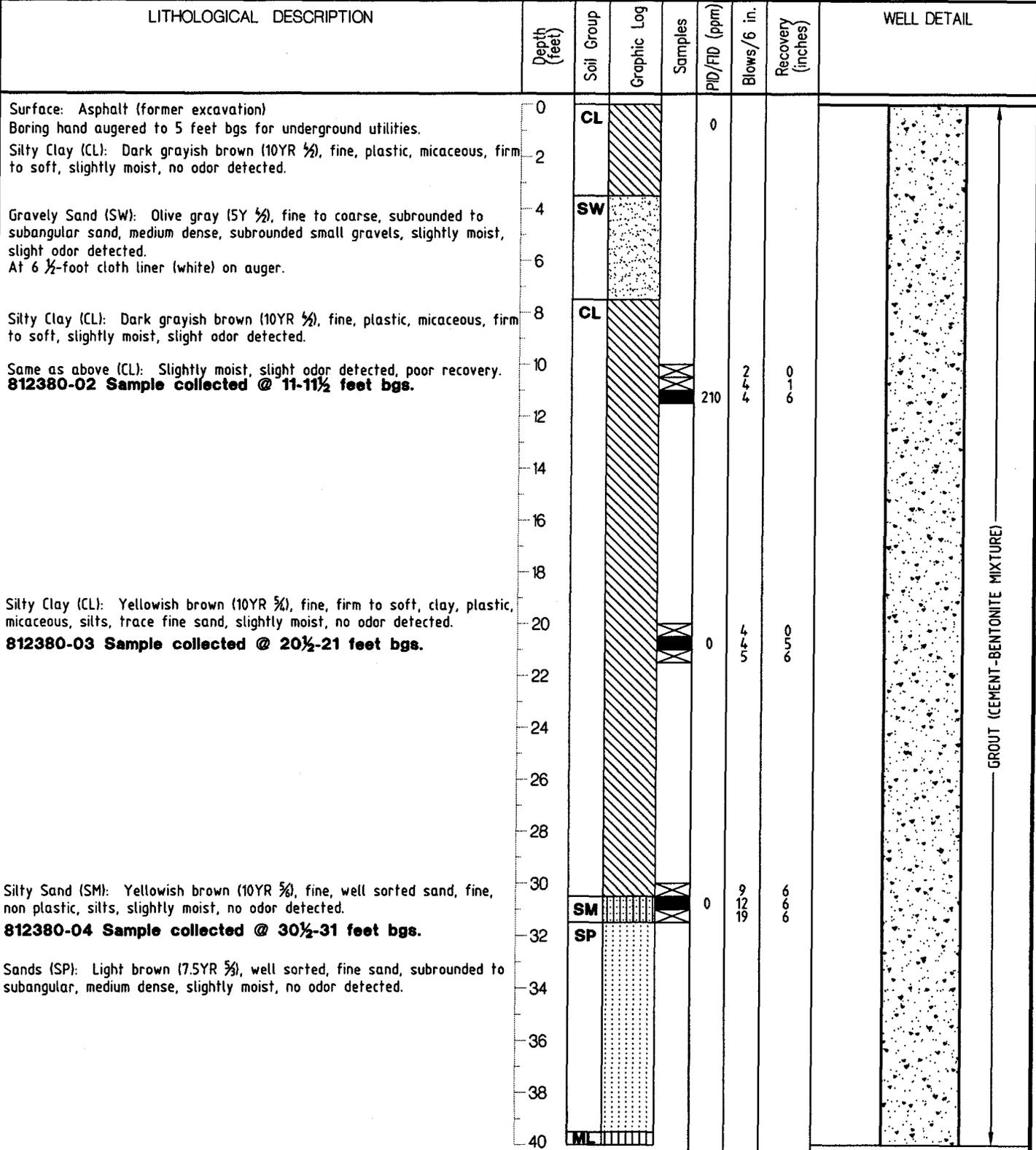
Additional Field Notes:

OWS 655C was removed by GEOTON. IT will perform verification activities in the vicinity of OWS area. ~~OWS~~ OWS 655C is located within IRP Site 24

Appendix F
Soil Boring Logs

Geologic Log/Well Construction 655-SB-01

Project MCAS/EL TORO		Drilling Company LAYNE CHRISTENSEN COMPANY	
Project Number 812380		Drill Rig CME 75	Begin Drilling 3/6/00
Client SWDIV/GSA		Driller Arturo Carrera	End Drilling 3/6/00
Location OWS 655		Drill Method Hollow Stem Auger	Start Time 0843
Geologist B. Tanaka	Checked By B. Tanaka	DIAGRAM NOT TO SCALE	End Time 0945
Borehole Diameter 6 INCHES	Total Depth of Borehole 51½ FEET	Depth to Water	NOT ENCOUNTERED



May 10, 2001 - 17:31:48 I:\OHM CORP\PROJECTS\812380\LOGS\655 SB01-1.dwg

NOTE: This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Geologic Log/Well Construction 655-SB-01

Project **EL TORO - OWS 655**

Project No. **812380**

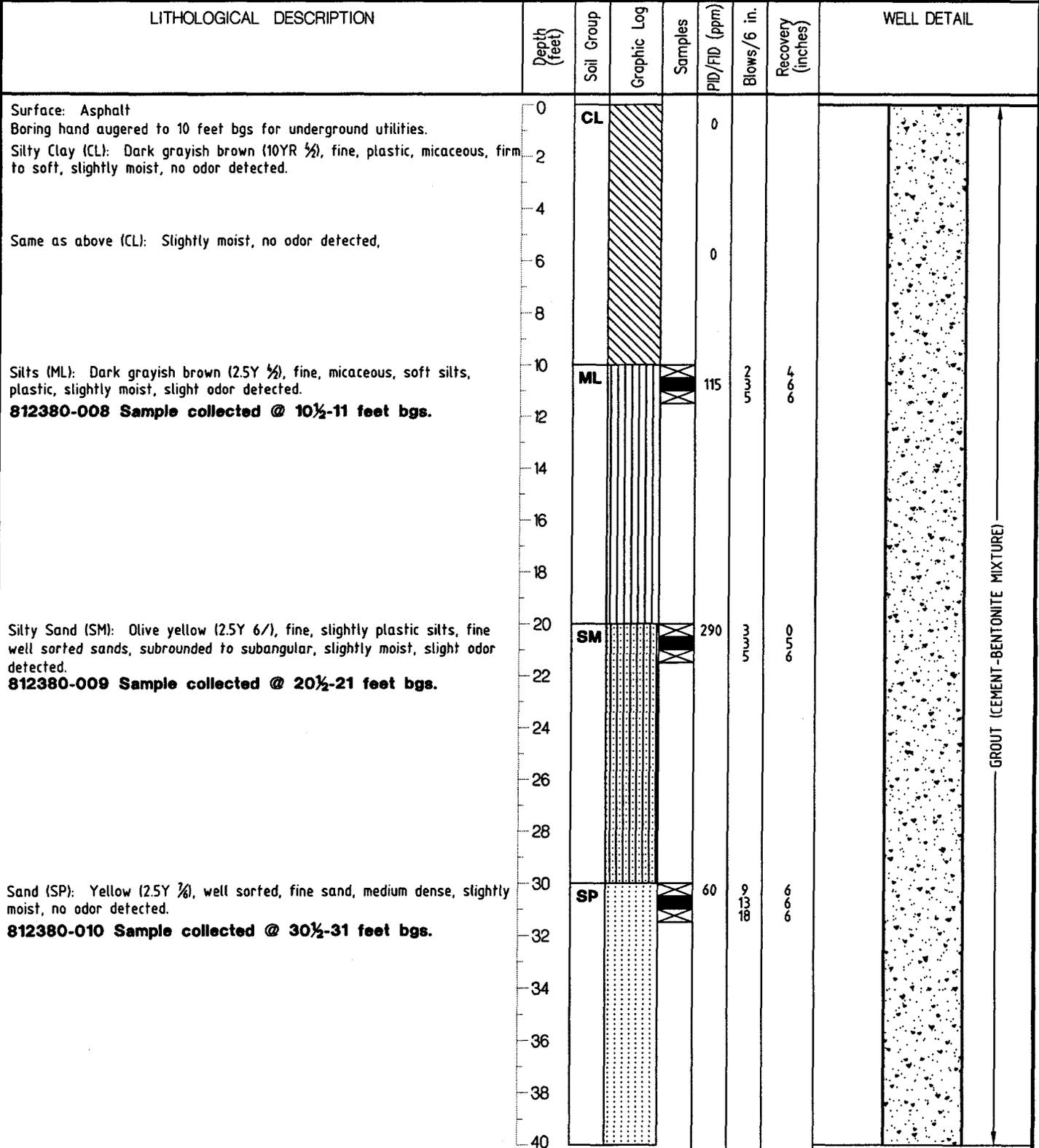
LITHOLOGICAL DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)	WELL DETAIL
<p>Sandy Silt (ML): Yellowish brown (10YR 5/6), fine micaceous, slightly plastic, silts, very fine sands, slightly moist to moist, no odor detected.</p> <p>Clay (CL): Dark brown (10YR 3/3), fine, plastic, clay firm to soft, slightly moist, no odor detected. 812380-05 Sample collected @ 40½-41 feet bgs.</p> <p>Silty Clay (CL): Brown (10YR 4/3), fine, plastic, micaceous, firm to hard, silty clay, slightly moist, no odor detected. 812380-05 Sample collected @ 50½-51 feet bgs.</p> <p>End of boring at 51½ feet bgs. Boring was backfilled with bentonite grout</p>	40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80	ML CL			0 0	4 7 9 7 13 23	6 6 6 6 6 6	<p style="text-align: center;">GROUT (CEMENT-BENTONITE MIXTURE)</p>

May 10, 2001 - 17:32:12 I:\OHM CORP\PROJECTS\812380\LOGS\655 SB01-2.dwg

NOTE: This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Geologic Log/Well Construction 655-SB-02

Project MCAS/EL TORO		Drilling Company LAYNE CHRISTENSEN COMPANY	
Project Number 812380		Drill Rig CME 75	Begin Drilling 3/6/01
Client SWDIV/GSA		Driller Arturo Carrera	End Drilling 3/6/01
Location OWS 655		Drill Method Hollow Stem Auger	Start Time 1150
Geologist B. Tanaka	Checked By B. Tanaka	DIAGRAM NOT TO SCALE	End Time 1235
Borehole Diameter 6 INCHES	Total Depth of Borehole 51½ FEET	Depth to Water	NOT ENCOUNTERED



GROUT (CEMENT-BENTONITE MIXTURE)

May 10, 2001 - 173628 \OHM CORP\PROJECTS\812380\LOGS\655 SB02-1.dwg

NOTE: This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Geologic Log/Well Construction 655-SB-02

Project **EL TORO - OWS 655**

Project No. **812380**

LITHOLOGICAL DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)	WELL DETAIL												
<p>Sandy Clay (CL): Dark yellow brown (10YR 5/6), fine, firm to hard, plastic, mica, slightly moist, no odor detected. 812380-011 Sample collected @ 40½-41 feet bgs.</p>	40	CL			5	7 12 19	6 6 6	 GROUT (CEMENT-BENTONITE MIXTURE)												
<p>Silty Clay (CL): Dark yellow brown (10YR 5/6), fine, firm to hard, plastic, mica, slightly moist, no odor detected. 812380-012 Sample collected @ 50½-51 feet bgs.</p>	42			44	46	48	50		52	54	56	58	60	62	64	66	68	70	72	74
<p>End of boring at 51½ feet bgs. No ground water was encountered. Boring was backfilled with bentonite-cement grout to surface.</p>	52				10	6 13 23	12 13													

May 10, 2001 - 17:32:41 MOHM CORP\PROJECTS\812380\LOGS\655 SB02-2.dwg

NOTE: This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Appendix G
Laboratory Analytical Report



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

CHAIN-OF-CUSTODY RECEIPT

PROJECT DATA MANAGER'S COPY

A 12669

FORM 0019 REV. 9-99

OWS-655C-SB-01/SB-02

IT'S LAB COORDINATOR Melanie Gonzalez	LAB COORDINATOR'S PHONE 949-660-7550	LAB COORDINATOR'S FAX 949-475-5433	LABORATORY SERVICE ID 010051	LABORATORY CONTACT EMAX	MAIL REPORT (COMPANY NAME) IT CORP
PROJECT NAME OWS 655C	PROJECT LOCATION MCAS El Toro	PROJECT NUMBER 812380	LABORATORY PHONE 710-618-8889	LABORATORY FAX 310-618-0818	RECIPIENT NAME DWayne Ishida
PROJECT CONTACT Melanie Gonzalez	PROJECT PHONE NUMBER 949-451-1666	PROJECT FAX 949-451-1672	LABORATORY ADDRESS 630 Maple Ave	ADDRESS 3347 Michelson #200	
PROJECT ADDRESS MCAS El Toro Bldg 31	CITY, STATE AND ZIP CODE Santa Ana CA 92709	CLIENT SNDIV	CITY, STATE AND ZIP CODE Torrance CA	CITY, STATE AND ZIP CODE Irvine CA 92612	
PROJECT MANAGER Bill Sedlak	PROJECT MANAGER'S PHONE 949-261-6441	PROJECT MANAGER'S FAX 949-474-8309	Analyses TPH-diesel TPH-gas 8240 FOTOMINATE Title 22 Metals		

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	E.A.T.	Comments	Sample Type									
										G	C	F	QC						
1	812380-01	Water	3/6/01	1830	HCl	2	3	5day	X X										
2	812380-02	Soil		0900	4C	6	4		X X X X										
3	812380-03			0911	4C	6	3		X X X X										
4	812380-04			0921	4C	6	3		X X X X										
5	812380-05			0931	4C	6	3												
6	812380-06	Soil		0950	4C	6	3		X X X X										
7	812380-07	Soil		1140	4C	6	3		X X X X										
8	812380-08			1208	4C	6	3		X X X X										
9	812380-09			1215	4C	6	3		X X X X										
10	812380-10			1220	4C	6	3		X X X X										

SAMPLES COLLECTED BY: M. Gonzalez	COURIER AND AIR BILL NUMBER:	COOLER TEMPERATURE UPON RECEIPT:
RELINQUISHED BY: M. Gonzalez	RECEIVED BY: [Signature]	SAMPLE'S CONDITION UPON RECEIPT:
	DATE: 3-6-01	TIME: 145

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

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

P. 1 of 2

Sample Point Location	Sample Type			
	G	C	F	QC
① T.B.	✓		✓	✓
② 655C-SB-01 @ 11'-11 1/2'	✓		✓	
③ 655C-SB-01 @ 20 1/2'-21'	✓		✓	
④ 655C-SB-01 @ 30 1/2'-31'	✓		✓	
⑤ 655C-SB-01 @ 40 1/2'-41'	✓		✓	
⑥ 655C-SB-02 @ 50'-50 1/2'	✓		✓	
⑦ 655C-SB-02 @ equipment pits	✓		✓	✓
⑧ 655C-SB-02 @ 10 1/2'	✓		✓	
⑨ 655C-SB-02 @ 20 1/2'	✓		✓	
⑩ 655C-SB-02 @ 30 1/2'	✓		✓	

Comments: due 3/14/01 rec'd 3/15/01

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

7233

EMAX

LABORATORIES, INC.

630 Maple Ave.

Torrance, CA 90503

Telephone: (310) 618-8889

Fax: (310) 618-0818

Date: 03-16-2001
EMAX Batch No.: 01C051

Attn: Melanie Gonzales

IT Corporation
3347 Michelson Dr. # 200
Irvine CA 92612-1692

Subject: Laboratory Report
Project: Oil/Water Separator 655C

Enclosed is the Laboratory report for samples received on
03/06/01. The data reported include :

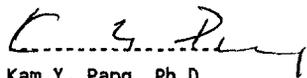
Sample ID	Control #	Col Date	Matrix	Analysis
812380-01	C051-01	03/06/01	WATER	TPH GASOLINE VOLATILE ORGANICS BY GC/MS
812380-02	C051-02	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-03	C051-03	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-04	C051-04	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-05	C051-05	03/06/01	SOIL	HOLD
812380-06	C051-06	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-07	C051-07	03/06/01	WATER	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-08	C051-08	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-09	C051-09	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM

Sample ID	Control #	Col Date	Matrix	Analysis
812380-10	C051-10	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-11	C051-11	03/06/01	SOIL	HOLD
812380-12	C051-12	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM
812380-13	C051-13	03/06/01	SOIL	TPH DIESEL TPH GASOLINE VOLATILE ORGANICS BY GC/MS MERCURY METALS CAM

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Kam Y. Pang, Ph.D.
Laboratory Director

METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : SOIL
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	DSC005SB	ND	94	83	1	NA	10	3.47	03/08/0117:03	03/08/0114:20	TC04003A	TC04002A	DSC005S	NA	03/08/01
LCS1S	DSC005SL	488	89	82	1	NA	10	3.47	03/08/0117:51	03/08/0114:20	TC04004A	TC04002A	DSC005S	NA	03/08/01
LCD1S	DSC005SC	496	91	81	1	NA	10	3.47	03/08/0118:40	03/08/0114:20	TC04005A	TC04002A	DSC005S	NA	03/08/01
MBLK2S	DSC007SB	3.7J	95	89	1	NA	10	3.47	03/10/0121:32	03/09/0117:30	TC04067A	TC04066A	DSC007S	NA	03/09/01
LCS2S	DSC007SL	473	94	88	1	NA	10	3.47	03/10/0122:21	03/09/0117:30	TC04068A	TC04066A	DSC007S	NA	03/09/01
812380-02**	C051-02	1700	97	113	1	10.6	11.2	3.88	03/09/0112:26	03/08/0114:20	TC04027A	TC04025A	DSC005S	03/06/01	03/06/01
812380-03	C051-03	ND	95	89	1	9.3	11	3.83	03/09/0113:14	03/08/0114:20	TC04028A	TC04025A	DSC005S	03/06/01	03/06/01
812380-04	C051-04R	ND	85	72	1	3.8	10.4	3.61	03/10/0123:09	03/09/0117:30	TC04069A	TC04066A	DSC007S	03/06/01	03/06/01
812380-04MS	C051-04M	481	95	86	1	3.8	10.4	3.61	03/10/0123:57	03/09/0117:30	TC04070A	TC04066A	DSC007S	03/06/01	03/06/01
812380-04MSD	C051-04S	472	92	81	1	3.8	10.4	3.61	03/11/0100:46	03/09/0117:30	TC04071A	TC04066A	DSC007S	03/06/01	03/06/01
812380-06	C051-06	ND	93	88	1	14.6	11.7	4.06	03/09/0114:51	03/08/0114:20	TC04030A	TC04025A	DSC005S	03/06/01	03/06/01
812380-08	C051-08	ND	94	86	1	14.1	11.6	4.04	03/09/0115:39	03/08/0114:20	TC04031A	TC04025A	DSC005S	03/06/01	03/06/01
812380-09	C051-09	ND	91	84	1	8.9	11	3.81	03/09/0117:17	03/08/0114:20	TC04032A	TC04025A	DSC005S	03/06/01	03/06/01
812380-10	C051-10	ND	92	86	1	3.6	10.4	3.6	03/09/0118:06	03/08/0114:20	TC04033A	TC04025A	DSC005S	03/06/01	03/06/01
812380-12	C051-12	ND	92	84	1	16.4	12	4.15	03/09/0118:55	03/08/0114:20	TC04034A	TC04025A	DSC005S	03/06/01	03/06/01
812380-13	C051-13	ND	92	87	1	16.8	12	4.17	03/09/0119:43	03/08/0114:20	TC04035A	TC04025A	DSC005S	03/06/01	03/06/01

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145

SURR1 : Bromobenzene

SURR2 : Hexacosane

RL : Reporting Limit

** : Presence of Diesel like pattern, quantitated as Diesel.

5005

METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSC006WB	ND	71	93	1	NA	.1	.067	03/10/0104:37	03/09/0109:00	TC04046A	TC04045A	DSC006W	NA	03/09/01
LCS1W	DSC006WL	5.1	87	90	1	NA	.1	.067	03/10/0105:25	03/09/0109:00	TC04047A	TC04045A	DSC006W	NA	03/09/01
LCD1W	DSC006WC	5.07	87	93	1	NA	.1	.067	03/10/0106:13	03/09/0109:00	TC04048A	TC04045A	DSC006W	NA	03/09/01
812380-07	C051-07	ND	86	86	.94	NA	.094	.063	03/10/0111:03	03/09/0109:00	TC04054A	TC04045A	DSC006W	03/06/01	03/06/01

QC LIMIT : (SOIL) 60-140 55-150
QC LIMIT : (WATER) 65-135 60-145
SURRE1 : Bromobenzene
SURRE2 : Hexacosane
RL : Reporting Limit

5004

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
 SUBJECT: OIL/WATER SEPARATOR 655C
 BATCH NO.: 01C051
 METHOD: METHOD M8015

MATRIX: SOIL % MOISTURE: NA
 DILUTION FACTOR: 1 1 1
 SAMPLE ID: MBLK1S
 LAB SAMP ID: DSC005SB DSC005SL DSC005SC
 LAB FILE ID: TC04003A TC04004A TC04005A
 DATE EXTRACTED: 03/08/0114:20 03/08/0114:20 03/08/0114:20 DATE COLLECTED: NA
 DATE ANALYZED: 03/08/0117:03 03/08/0117:51 03/08/0118:40 DATE RECEIVED: 03/08/01
 PREP. BATCH: DSC005S DSC005S DSC005S
 CALIB. REF: TC04002A TC04002A TC04002A

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	500	488	98	500	496	99	2	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 (%)
Bromobenzene	100	89	89	100	91.4	91	60-140
xacosane	25	20.5	82	25	20.2	81	55-150

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
BATCH NO.: 01C051
METHOD: METHOD M8015

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: DSC006WB DSC006WL DSC006WC
LAB FILE ID: TC04046A TC04047A TC04048A
DATE EXTRACTED: 03/09/0109:00 03/09/0109:00 03/09/0109:00 DATE COLLECTED: NA
DATE ANALYZED: 03/10/0104:37 03/10/0105:25 03/10/0106:13 DATE RECEIVED: 03/09/01
PREP. BATCH: DSC006W DSC006W DSC006W
CALIB. REF: TC04045A TC04045A TC04045A

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	5	5.1	102	5	5.07	101	1	61-143	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1	.871	87	1	.87	87	65-135
Hexacosane	.25	.226	90	.25	.232	93	60-145

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: IT CORPORATION
 OBJECT: OIL/WATER SEPARATOR 655C
 BATCH NO.: 01C051
 METHOD: METHOD M8015

=====

MATRIX: SOIL % MOISTURE: NA
 DILUTION FACTOR: 1 1
 SAMPLE ID: MBLK2S
 LAB SAMP ID: DSC007SB DSC007SL
 LAB FILE ID: TC04067A TC04068A
 DATE EXTRACTED: 03/09/0117:30 03/09/0117:30 DATE COLLECTED: NA
 DATE ANALYZED: 03/10/0121:32 03/10/0122:21 DATE RECEIVED: 03/09/01
 PREP. BATCH: DSC007S DSC007S
 CALIB. REF: TC04066A TC04066A

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Diesel		3.7J	500	473	94 51-153

=====

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Bromobenzene	100	93.6	94	60-140
Hexacosane	25	21.8	87	55-150

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
BATCH NO.: 01C051
METHOD: METHOD M8015

MATRIX: SOIL % MOISTURE: 3.8
DILUTION FACTOR: 1 1
SAMPLE ID: 812380-04
LAB SAMP ID: C051-04R C051-04M C051-04S
LAB FILE ID: TC04069A TC04070A TC04071A
DATE EXTRACTED: 03/09/0117:30 03/09/0117:30 03/09/0117:30 DATE COLLECTED: 03/06/01
DATE ANALYZED: 03/10/0123:09 03/10/0123:57 03/11/0100:46 DATE RECEIVED: 03/06/01
PREP. BATCH: DSC007S DSC007S DSC007S
CALIB. REF: TC04066A TC04066A TC04066A

ACCESSION:

PARAMETER	SAMPL 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	520	481	92	520	472	91	2	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	104	98.5	95	104	95.9	92	60-140
Hexacosane	26	22.2	85	26	21.1	81	55-150

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

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : SOIL
Instrument ID :

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	VMC0755B	ND	113	10	NA	10	1.8	03/07/0121:02	03/07/0121:02	UC03027A	UC03025A	VMC0755	NA	03/07/01
LCS1S	VMC0755L	25.8	136	10	NA	10	1.8	03/07/0121:36	03/07/0121:36	UC03028A	UC03025A	VMC0755	NA	03/07/01
LCD1S	VMC0755C	26.7	100	10	NA	10	1.8	03/07/0122:11	03/07/0122:11	UC03029A	UC03025A	VMC0755	NA	03/07/01
MBLK2S	VMC0855B	ND	79	10	NA	10	1.8	03/08/0114:57	03/08/0114:57	UC03049A	UC03046A	VMC0855	NA	03/08/01
LCS2S	VMC0855L	27.6	134	10	NA	10	1.8	03/08/0115:31	03/08/0115:31	UC03050A	UC03046A	VMC0855	NA	03/08/01
LCD2S	VMC0855C	21.4	108	10	NA	10	1.8	03/08/0116:06	03/08/0116:06	UC03051A	UC03046A	VMC0855	NA	03/08/01
812380-02**	C051-02	350	D0	190	10.6	213	38.3	03/08/0114:22	03/08/0114:22	UC03048A	UC03046A	VMC0755	03/06/01	03/06/01
812380-03	C051-03R	ND	108	9.3	9.3	10.3	1.85	03/08/0109:11	03/08/0109:11	UC03038A	UC03036A	VMC0855	03/06/01	03/06/01
812380-04	C051-04	ND	102	10.6	3.8	11	1.98	03/08/0109:45	03/08/0109:45	UC03039A	UC03036A	VMC0755	03/06/01	03/06/01
812380-06	C051-06	ND	93	9.8	14.6	11.5	2.07	03/08/0101:03	03/08/0101:03	UC03034A	UC03025A	VMC0755	03/06/01	03/06/01
812380-08	C051-08	ND	98	9.7	14.1	11.3	2.03	03/08/0101:38	03/08/0101:38	UC03035A	UC03025A	VMC0755	03/06/01	03/06/01
812380-09	C051-09	ND	96	9.2	8.9	10.1	1.82	03/08/0110:20	03/08/0110:20	UC03041A	UC03036A	VMC0755	03/06/01	03/06/01
812380-10	C051-10	ND	83	11.3	3.6	11.7	2.11	03/08/0110:55	03/08/0110:55	UC03042A	UC03036A	VMC0755	03/06/01	03/06/01
812380-12	C051-12	ND	96	8.6	16.4	10.3	1.85	03/08/0112:04	03/08/0112:04	UC03044A	UC03036A	VMC0755	03/06/01	03/06/01
812380-13	C051-13	ND	99	10.0	16.8	12	2.16	03/08/0112:39	03/08/0112:39	UC03045A	UC03036A	VMC0755	03/06/01	03/06/01

SURR : Bromofluorobenzene (W)65-135 (S)60-140
PRL : Reporting Limit
E : Value exceed the upper level of the initial calibration
D : Value from dilution
** : Presence of heavier HC pattern.

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

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : WATER
Instrument ID :

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	VAC0655B	ND	103	1	NA	.1	.012	03/07/0113:07	03/07/0113:07	UC03016A	UC03015A	VAC0655	NA	03/07/01
LCS1W	VAC0655L	.472	110	1	NA	.1	.012	03/07/0113:41	03/07/0113:41	UC03017A	UC03015A	VAC0655	NA	03/07/01
LCD1W	VAC0655C	.554	129	1	NA	.1	.012	03/07/0114:16	03/07/0114:16	UC03018A	UC03015A	VAC0655	NA	03/07/01
812380-01	C051-01	ND	102	1	NA	.1	.012	03/07/0117:00	03/07/0117:00	UC03020A	UC03015A	VAC0655	03/06/01	03/06/01
812380-07	C051-07	.03J	109	1	NA	.1	.012	03/07/0117:34	03/07/0117:34	UC03021A	UC03015A	VAC0655	03/06/01	03/06/01
812380-07MS	C051-07M	.51	134	1	NA	.1	.012	03/07/0118:43	03/07/0118:43	UC03023A	UC03015A	VAC0655	03/06/01	03/06/01
812380-07MSD	C051-07S	.523	133	1	NA	.1	.012	03/07/0119:18	03/07/0119:18	UC03024A	UC03015A	VAC0655	03/06/01	03/06/01

SURR : Bromofluorobenzene (W)65-135 (S)60-140
PRL : Reporting Limit
E : Value exceed the upper level of the initial calibration
D : Value from dilution

4004

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

ENT: IT CORPORATION
 OBJECT: OIL/WATER SEPARATOR 655C
 CH NO.: 01C051
 MOD: METHOD 5030B/M8015

RIX: WATER % MOISTURE: NA
 DUTION FACTOR: 1 1
 MPLE ID: MBLK1W
 SAMP ID: VAC0655B VAC0655L VAC0655C
 FILE ID: UC03016A UC03017A UC03018A
 E EXTRACTED: 03/07/0113:07 03/07/0113:41 03/07/0114:16 DATE COLLECTED: NA
 E ANALYZED: 03/07/0113:07 03/07/0113:41 03/07/0114:16 DATE RECEIVED: 03/07/01
 P. BATCH: VAC0655 VAC0655 VAC0655
 IB. REF: UC03015A UC03015A UC03015A

SESSION:

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 (%)
soline	ND	.55	.472	86	.55	.554	101	16	67-136	30

PROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
omofluorobenzene	.02	.0221	110	.02	.0257	129	65-135

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

ENT: IT CORPORATION
JECT: OIL/WATER SEPARATOR 655C
CH NO.: 01C051
HOD: METHOD 5030B/M8015

RIX: SOIL % MOISTURE: NA
UTION FACTOR: 10 10 10
PLE ID: MBLK1S
SAMP ID: VMC0755B VMC0755L VMC0755C
FILE ID: UC03027A UC03028A UC03029A
E EXTRACTED: 03/07/0121:02 03/07/0121:36 03/07/0122:11 DATE COLLECTED: NA
E ANALYZED: 03/07/0121:02 03/07/0121:36 03/07/0122:11 DATE RECEIVED: 03/07/01
P. BATCH: VMC0755 VMC0755 VMC0755
IB. REF: UC03025A UC03025A UC03025A

SESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
soline	ND	27.5	25.8	94	27.5	26.7	97	4	57-146	50

PROBATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
monofluorobenzene	1	1.36	136	1	1	100	60-140

4019

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

ENT: IT CORPORATION
JECT: OIL/WATER SEPARATOR 655C
CH NO.: 01C051
HOD: METHOD 5030B/M8015

RIX: SOIL % MOISTURE: NA
UTION FACTOR: 10 10
MPLE ID: MBLK2S
SAMP ID: VMC0855B VMC0855L VMC0855C
FILE ID: UC03049A UC03050A UC03051A
E EXTRACTED: 03/08/0114:57 03/08/0115:31 03/08/0116:06 DATE COLLECTED: NA
E ANALYZED: 03/08/0114:57 03/08/0115:31 03/08/0116:06 DATE RECEIVED: 03/08/01
P. BATCH: VMC0855 VMC0855 VMC0855
IB. REF: UC03046A UC03046A UC03046A

SESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
soline	ND	27.5	27.6	100	27.5	21.4	78	25	57-146	50

PROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
omofluorobenzene	1	1.34	134	1	1.08	108	60-140

4020

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

ENT: IT CORPORATION
JECT: OIL/WATER SEPARATOR 655C
CH NO.: 01C051
HOD: METHOD 5030B/M8015

=====
 RIX: WATER % MOISTURE: NA
 UTION FACTOR: 1 1 1
 PLE ID: 812380-07
 SAMP ID: C051-07M C051-07S
 FILE ID: UC03021A UC03023A UC03024A
 E EXTRACTED: 03/07/0117:34 03/07/0118:43 03/07/0119:18 DATE COLLECTED: 03/06/01
 E ANALYZED: 03/07/0117:34 03/07/0118:43 03/07/0119:18 DATE RECEIVED: 03/06/01
 P. BATCH: VAC0655 VAC0655 VAC0655
 IB. REF: UC03015A UC03015A UC03015A

SESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
soline	.0301J	.55	.51	87	.55	.523	90	2	67-136	30

=====

PROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT (%)
omofluorobenzene	.02	.0268	134	.02	.0266	133	65-135

4021

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

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=====
ent      : IT CORPORATION           Date Collected: 03/06/01
ject     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
atch No. : 01C051                 Date Extracted: 03/10/01 06:47
ample ID : 812380-01              Date Analyzed: 03/10/01 06:47
lab Samp ID: C051-01              Dilution Factor: 1
Lab File ID: RCQ116               Matrix           : WATER
Ext Btch ID: VOC1305              % Moisture      : NA
alib. Ref.: RCQ107               Instrument ID    : T-005
=====

```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYL VINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
1,1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1
TAME	ND	10	1.0
TBA	ND	50	10
ETBE	ND	10	1.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	113	62-139
BROMOFLUOROBENZENE	109	75-125
TOLUENE-D8	101	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 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No. : 01C051                 Date Extracted: 03/09/01 14:28
Sample ID: 812380-02               Date Analyzed: 03/09/01 14:28
Lab Samp ID: C051-02 ✓             Dilution Factor: .97
Lab File ID: RCQ090                Matrix       : SOIL
Ext Btch ID: VOC1105               % Moisture   : 10.6
Calib. Ref.: RCQ085                Instrument ID : T-005
=====
  
```

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.4	.37
1,1,2,2-TETRACHLOROETHANE	ND	5.4	.8
1,1,2-TRICHLOROETHANE	ND	5.4	.71
1,1-DICHLOROETHANE	ND	5.4	.57
1,1-DICHLOROETHENE	ND	5.4	.52
1,2-DICHLOROETHANE	ND	5.4	1.1
1,2-DICHLOROPROPANE	ND	5.4	.59
2-BUTANONE	15J	54	1.6
2-CHLOROETHYLVINYLETHER	ND	54	.8
2-HEXANONE	ND	54	1.6
4-METHYL-2-PENTANONE	ND	54	3
ACETONE	70	54	3.1
BENZENE	ND	5.4	.57
BROMODICHLOROMETHANE	ND	5.4	.46
BROMOFORM	ND	5.4	.64
BROMOMETHANE	ND	5.4	3.9
CARBON DISULFIDE	ND	11	.36
CARBON TETRACHLORIDE	ND	5.4	.58
CHLOROBENZENE	ND	5.4	.5
CHLOROETHANE	ND	5.4	1
CHLOROFORM	ND	5.4	.57
CHLOROMETHANE	ND	5.4	.57
CIS-1,2-DICHLOROETHENE	ND	5.4	.5
CIS-1,3-DICHLOROPROPENE	ND	5.4	.44
DIBROMOCHLOROMETHANE	ND	5.4	.4
ETHYLBENZENE	.73J	5.4	.5
MTBE	ND	11	.82
METHYLENE CHLORIDE	ND	11	3.3
STYRENE	ND	5.4	.37
TETRACHLOROETHENE	1.4J	5.4	.37
TOLUENE	ND	5.4	.62
TRANS-1,2-DICHLOROETHENE	ND	5.4	.51
TRANS-1,3-DICHLOROPROPENE	ND	5.4	.49
TRICHLOROETHENE	ND	5.4	.66
VINYL ACETATE	ND	54	.9
VINYL CHLORIDE	ND	5.4	.63
XYLENES	2.4J	5.4	1.2
TAME	ND	11	.77
TBA	ND	54	14
ETBE	ND	11	.67

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	128	52-149
BROMOFLUOROBENZENE	125	65-135
TOLUENE-DB	102	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
 Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: 03/06/01
ject     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No. : 01C051                 Date Extracted: 03/09/01 15:44
Sample ID: 812380-03               Date Analyzed: 03/09/01 15:44
Lab Samp ID: C051-03               Dilution Factor: .90
Lab File ID: RCQ092                 Matrix          : SOIL
Ext Btch ID: VOC1105               % Moisture      : 9.3
Calib. Ref.: RCQ085                 Instrument ID   : T-005
=====

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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.73
1,1,2-TRICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHANE	ND	5	.52
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.98
1,2-DICHLOROPROPANE	ND	5	.54
2-BUTANONE	ND	50	1.5
2-CHLOROETHYL VINYLETHER	ND	50	.73
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	ND	5	.52
BROMODICHLOROMETHANE	ND	5	.42
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	9.9	.33
CARBON TETRACHLORIDE	ND	5	.53
CHLOROBENZENE	ND	5	.46
CHLOROETHANE	ND	5	.91
CHLOROFORM	ND	5	.52
CHLOROMETHANE	ND	5	.52
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.36
ETHYLBENZENE	ND	5	.46
MTBE	ND	9.9	.75
METHYLENE CHLORIDE	ND	9.9	.3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.57
TRANS-1,2-DICHLOROETHENE	ND	5	.47
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.82
VINYL CHLORIDE	ND	5	.58
XYLENES	ND	5	1.1
TAME	ND	9.9	.7
TBA	ND	50	13
ETBE	ND	9.9	.61

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	126	52-149
BROMOFLUOROBENZENE	111	65-135
TOLUENE-D8	99	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

Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No. : 01C051                 Date Extracted: 03/09/01 16:22
Sample ID: 812380-04               Date Analyzed: 03/09/01 16:22
Lab Samp ID: C051-04               Dilution Factor: 1.1
Lab File ID: RCQ093                Matrix       : SOIL
Ext Btch ID: VOC1105               % Moisture   : 3.8
Calib. Ref.: RCQ085                Instrument ID : T-005
=====

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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.7	.39
1,1,2,2-TETRACHLOROETHANE	ND	5.7	.84
1,1,2-TRICHLOROETHANE	ND	5.7	.75
1,1-DICHLOROETHANE	ND	5.7	.6
1,1-DICHLOROETHENE	ND	5.7	.55
1,2-DICHLOROETHANE	ND	5.7	1.1
1,2-DICHLOROPROPANE	ND	5.7	.63
2-BUTANONE	ND	57	1.7
2-CHLOROETHYLVINYLETHER	ND	57	.85
2-HEXANONE	ND	57	1.7
4-METHYL-2-PENTANONE	ND	57	3.2
ACETONE	ND	57	3.3
BENZENE	ND	5.7	.6
BROMODICHLOROMETHANE	ND	5.7	.48
BROMOFORM	ND	5.7	.68
BROMOMETHANE	ND	5.7	4.1
CARBON DISULFIDE	ND	11	.38
CARBON TETRACHLORIDE	ND	5.7	.61
CHLOROENZENE	ND	5.7	.53
CHLOROETHANE	ND	5.7	1.1
CHLOROFORM	ND	5.7	.6
CHLOROMETHANE	ND	5.7	.6
CIS-1,2-DICHLOROETHENE	ND	5.7	.52
CIS-1,3-DICHLOROPROPENE	ND	5.7	.46
DIBROMOCHLOROMETHANE	ND	5.7	.42
ETHYLBENZENE	ND	5.7	.52
MTBE	ND	11	.86
METHYLENE CHLORIDE	ND	11	3.5
STYRENE	ND	5.7	.39
TETRACHLOROETHENE	ND	5.7	.39
TOLUENE	ND	5.7	.66
TRANS-1,2-DICHLOROETHENE	ND	5.7	.54
TRANS-1,3-DICHLOROPROPENE	ND	5.7	.51
TRICHLOROETHENE	ND	5.7	.7
VINYL ACETATE	ND	57	.95
VINYL CHLORIDE	ND	5.7	.67
XYLENES	ND	5.7	1.3
TAME	ND	11	.81
TBA	ND	57	15
ETBE	ND	11	.71

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	123	52-149
BROMOFLUOROBENZENE	109	65-135
TOLUENE-DB	98	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

Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: 03/06/01
ject     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
atch No. : 01C051                 Date Extracted: 03/09/01 17:37
ample ID : 812380-06              Date Analyzed: 03/09/01 17:37
lab Samp ID: C051-06              Dilution Factor: .97
Lab File ID: RCQ095               Matrix      : SOIL
Ext Btch ID: VOC1105              % Moisture  : 14.6
alib. Ref.: RCQ085                Instrument ID : T-005
=====

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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.7	.39
1,1,2,2-TETRACHLOROETHANE	ND	5.7	.84
1,1,2-TRICHLOROETHANE	ND	5.7	.75
1,1-DICHLOROETHANE	ND	5.7	.6
1,1-DICHLOROETHENE	ND	5.7	.55
1,2-DICHLOROETHANE	ND	5.7	1.1
1,2-DICHLOROPROPANE	ND	5.7	.62
2-BUTANONE	ND	57	1.7
2-CHLOROETHYLVINYLETHER	ND	57	.84
2-HEXANONE	ND	57	1.7
4-METHYL-2-PENTANONE	ND	57	3.2
ACETONE	ND	57	3.3
BENZENE	ND	5.7	.6
BROMODICHLOROMETHANE	ND	5.7	.48
BROMOFORM	ND	5.7	.67
BROMOMETHANE	ND	5.7	4.1
CARBON DISULFIDE	ND	11	.38
CARBON TETRACHLORIDE	ND	5.7	.61
CHLOROENZENE	ND	5.7	.53
CHLOROETHANE	ND	5.7	1
CHLOROFORM	ND	5.7	.6
CHLOROMETHANE	ND	5.7	.6
CIS-1,2-DICHLOROETHENE	ND	5.7	.52
CIS-1,3-DICHLOROPROPENE	ND	5.7	.46
DIBROMOCHLOROMETHANE	ND	5.7	.42
ETHYLBENZENE	ND	5.7	.52
MTBE	ND	11	.86
METHYLENE CHLORIDE	ND	11	3.4
STYRENE	ND	5.7	.39
TETRACHLOROETHENE	ND	5.7	.38
TOLUENE	ND	5.7	.65
TRANS-1,2-DICHLOROETHENE	ND	5.7	.54
TRANS-1,3-DICHLOROPROPENE	ND	5.7	.51
TRICHLOROETHENE	ND	5.7	.7
VINYL ACETATE	ND	57	.94
VINYL CHLORIDE	ND	5.7	.66
XYLENES	ND	5.7	1.3
TAME	ND	11	.8
TBA	ND	57	14
ETBE	ND	11	.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	121	52-149
BROMOFLUOROBENZENE	109	65-135
TOLUENE-D8	99	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

Preservation Date: 03/06/01 18:30

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

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=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No. : 01C051                 Date Extracted: 03/10/01 07:25
Sample ID: 812380-07               Date Analyzed: 03/10/01 07:25
Lab Samp ID: C051-07               Dilution Factor: 1
Lab File ID: RCQ117                 Matrix      : WATER
Ext Btch ID: VOC1305                % Moisture  : NA
Calib. Ref.: RCQ107                 Instrument ID : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROBENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1
TAME	ND	10	1.0
TBA	ND	50	10
ETBE	ND	10	1.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	110	62-139
BROMOFLUOROBENZENE	101	75-125
TOLUENE-D8	98	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 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No.   : 01C051                 Date Extracted: 03/09/01 18:16
Sample ID   : 812380-08              Date Analyzed: 03/09/01 18:16
Lab Samp ID : C051-08                Dilution Factor: .87
Lab File ID : RCQ096                 Matrix          : SOIL
Ext Btch ID: VOC1105                 % Moisture      : 14.1
Calib. Ref.: RCQ085                 Instrument ID   : T-005
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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1-TRICHLOROETHANE	ND	5.1	.34
1,1,2,2-TETRACHLOROETHANE	ND	5.1	.75
1,1,2-TRICHLOROETHANE	ND	5.1	.66
1,1-DICHLOROETHANE	ND	5.1	.53
1,2-DICHLOROETHANE	ND	5.1	.49
1,2-DICHLOROPROPANE	ND	5.1	1.0
2-BUTANONE	ND	5.1	.56
1,2-DICHLOROETHANE	ND	5.1	1.5
1,2-DICHLOROPROPANE	ND	5.1	.75
2-BUTANONE	ND	5.1	1.5
1,2-DICHLOROETHANE	ND	5.1	1.5
1,2-DICHLOROPROPANE	ND	5.1	2.8
4-METHYL-2-PENTANONE	ND	5.1	2.9
ACETONE	ND	5.1	2.9
BENZENE	ND	5.1	.53
BROMODICHLOROMETHANE	ND	5.1	.43
BROMOFORM	ND	5.1	.6
BROMOMETHANE	ND	5.1	3.6
CARBON DISULFIDE	ND	10	.34
CARBON TETRACHLORIDE	ND	5.1	.54
CHLOROBENZENE	ND	5.1	.47
CHLOROETHANE	ND	5.1	.93
CHLOROFORM	ND	5.1	.53
BROMOMETHANE	ND	5.1	.53
1,2-DICHLOROETHENE	ND	5.1	.46
TRANS-1,3-DICHLOROPROPENE	ND	5.1	.41
DIBROMOCHLOROMETHANE	ND	5.1	.37
ETHYLBENZENE	ND	5.1	.46
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	10	3.1
STYRENE	ND	5.1	.35
TETRACHLOROETHENE	ND	5.1	.34
TOLUENE	ND	5.1	.58
TRANS-1,2-DICHLOROETHENE	ND	5.1	.48
TRANS-1,3-DICHLOROPROPENE	ND	5.1	.46
TRICHLOROETHENE	ND	5.1	.62
VINYL ACETATE	ND	5.1	.84
VINYL CHLORIDE	ND	5.1	.59
XYLENES	ND	5.1	1.1
TAME	ND	10	.72
TBA	ND	5.1	.13
ETBE	ND	10	.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	125	52-149
BROMOFLUOROBENZENE	111	65-135
TOLUENE-D8	98	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
 Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No.   : 01C051                  Date Extracted: 03/09/01 18:53
Sample ID   : 812380-09               Date Analyzed: 03/09/01 18:53
Lab Samp ID : C051-09                 Dilution Factor: .93
Lab File ID : RCQ097                  Matrix          : SOIL
Ext Btch ID: VOC1105                  % Moisture     : 8.9
Calib. Ref.: RCQ085                  Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.1	.35
1,1,2,2-TETRACHLOROETHANE	ND	5.1	.75
1,1,2-TRICHLOROETHANE	ND	5.1	.67
1,1-DICHLOROETHANE	ND	5.1	.53
1,1-DICHLOROETHENE	ND	5.1	.49
1,2-DICHLOROETHANE	ND	5.1	1
1,2-DICHLOROPROPANE	ND	5.1	.56
2-BUTANONE	ND	51	1.6
2-CHLOROETHYLVINYLETHER	ND	51	.76
2-HEXANONE	ND	51	1.5
4-METHYL-2-PENTANONE	ND	51	2.9
ACETONE	ND	51	2.9
BENZENE	ND	5.1	.54
BROMODICHLOROMETHANE	ND	5.1	.43
BROMOFORM	ND	5.1	.6
BROMOMETHANE	ND	5.1	3.7
CARBON DISULFIDE	ND	10	.34
CARBON TETRACHLORIDE	ND	5.1	.55
CHLOROBENZENE	ND	5.1	.47
CHLOROETHANE	ND	5.1	.94
CHLOROFORM	ND	5.1	.53
CHLOROMETHANE	ND	5.1	.54
CIS-1,2-DICHLOROETHENE	ND	5.1	.47
CIS-1,3-DICHLOROPROPENE	ND	5.1	.41
DIBROMOCHLOROMETHANE	ND	5.1	.37
ETHYLBENZENE	ND	5.1	.47
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	10	3.1
STYRENE	ND	5.1	.35
TETRACHLOROETHENE	ND	5.1	.35
TOLUENE	ND	5.1	.59
TRANS-1,2-DICHLOROETHENE	ND	5.1	.48
TRANS-1,3-DICHLOROPROPENE	ND	5.1	.46
TRICHLOROETHENE	ND	5.1	.62
VINYL ACETATE	ND	51	.85
VINYL CHLORIDE	ND	5.1	.6
XYLENES	ND	5.1	1.2
TAME	ND	10	.72
TBA	ND	51	13
ETBE	ND	10	.63

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	126	52-149
BROMOFLUOROBENZENE	108	65-135
TOLUENE-D8	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
Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: 03/06/01
ject     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
atch No. : 01C051                 Date Extracted: 03/09/01 19:31
ample ID : 812380-10              Date Analyzed: 03/09/01 19:31
ab Samp ID: C051-10              Dilution Factor: 1.2
Lab File ID: RCQ098              Matrix      : SOIL
Ext Btch ID: VOC1105             % Moisture  : 3.6
alib. Ref.: RCQ085              Instrument ID : T-005
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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	6.2	.42
1,1,2,2-TETRACHLOROETHANE	ND	6.2	.92
1,1,2-TRICHLOROETHANE	ND	6.2	.82
1,1-DICHLOROETHANE	ND	6.2	.65
1,1-DICHLOROETHENE	ND	6.2	.6
1,2-DICHLOROETHANE	ND	6.2	1.2
1,2-DICHLOROPROPANE	ND	6.2	.68
2-BUTANONE	ND	62	1.9
2-CHLOROETHYLVINYLETHER	ND	62	.92
2-HEXANONE	ND	62	1.8
4-METHYL-2-PENTANONE	ND	62	3.5
ACETONE	ND	62	3.6
BENZENE	ND	6.2	.65
BROMODICHLOROMETHANE	ND	6.2	.53
BROMOFORM	ND	6.2	.74
BROMOMETHANE	ND	6.2	4.5
CARBON DISULFIDE	ND	12	.42
CARBON TETRACHLORIDE	ND	6.2	.67
CHLOROBENZENE	ND	6.2	.58
CHLOROETHANE	ND	6.2	1.1
CHLOROFORM	ND	6.2	.65
CHLOROMETHANE	ND	6.2	.66
CIS-1,2-DICHLOROETHENE	ND	6.2	.57
CIS-1,3-DICHLOROPROPENE	ND	6.2	.5
DIBROMOCHLOROMETHANE	ND	6.2	.46
ETHYLBENZENE	ND	6.2	.57
MTBE	ND	12	.94
METHYLENE CHLORIDE	ND	12	3.8
STYRENE	ND	6.2	.42
TETRACHLOROETHENE	ND	6.2	.42
TOLUENE	ND	6.2	.72
TRANS-1,2-DICHLOROETHENE	ND	6.2	.59
TRANS-1,3-DICHLOROPROPENE	ND	6.2	.56
TRICHLOROETHENE	ND	6.2	.76
VINYL ACETATE	ND	62	1
VINYL CHLORIDE	ND	6.2	.73
XYLENES	ND	6.2	1.4
TAME	ND	12	.88
TBA	ND	62	16
ETBE	ND	12	.77

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	125	52-149
BROMOFLUOROBENZENE	108	65-135
TOLUENE-D8	98	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
Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No.: 01C051                 Date Extracted: 03/09/01 20:46
Sample ID: 812380-12              Date Analyzed: 03/09/01 20:46
Lab Samp ID: C051-12              Dilution Factor: .84
Lab File ID: RCQ100               Matrix          : SOIL
Ext Btch ID: VOC1105             % Moisture     : 16.4
Calib. Ref.: RCQ085              Instrument ID   : T-005
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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.74
1,1,2-TRICHLOROETHANE	ND	5	.66
1,1-DICHLOROETHANE	ND	5	.53
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.99
1,2-DICHLOROPROPANE	ND	5	.55
2-BUTANONE	ND	50	1.5
2-CHLOROETHYLVINYLETHER	ND	50	.74
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	.58J	5	.53
BROMODICHLOROMETHANE	ND	5	.43
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	10	.34
CARBON TETRACHLORIDE	ND	5	.54
CHLOROETHANE	ND	5	.47
CHLOROETHANE	ND	5	.93
CHLOROFORM	ND	5	.53
CHLOROMETHANE	ND	5	.53
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.37
ETHYLBENZENE	ND	5	.46
MTBE	ND	10	.76
METHYLENE CHLORIDE	ND	10	3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.58
TRANS-1,2-DICHLOROETHENE	ND	5	.48
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.83
VINYL CHLORIDE	ND	5	.59
XYLENES	ND	5	1.1
TAME	ND	10	.71
TBA	ND	50	13
ETBE	ND	10	.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	126	52-149
BROMOFLUOROBENZENE	109	65-135
TOLUENE-DB	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

B : Found in the associated blank

D : Value from dilution analysis

Preservation Date: 03/06/01 18:30

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

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=====
ent      : IT CORPORATION           Date Collected: 03/06/01
Object   : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Batch No. : 01C051                 Date Extracted: 03/09/01 21:23
Sample ID: 812380-13              Date Analyzed: 03/09/01 21:23
Lab Samp ID: C051-13              Dilution Factor: .96
Lab File ID: RCQ101               Matrix          : SOIL
Ext Btch ID: VOC1105              % Moisture     : 16.8
Calib. Ref.: RCQ085              Instrument ID   : T-005
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PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.8	.39
1,1,2,2-TETRACHLOROETHANE	ND	5.8	.85
1,1,2-TRICHLOROETHANE	ND	5.8	.76
1,1-DICHLOROETHANE	ND	5.8	.6
1,1-DICHLOROETHENE	ND	5.8	.55
1,2-DICHLOROETHANE	ND	5.8	1.1
1,2-DICHLOROPROPANE	ND	5.8	.63
2-BUTANONE	ND	58	1.8
2-CHLOROETHYLVINYLETHER	ND	58	.85
2-HEXANONE	ND	58	1.7
4-METHYL-2-PENTANONE	ND	58	3.2
ACETONE	ND	58	3.3
BENZENE	1.9J	5.8	.61
BROMODICHLOROMETHANE	ND	5.8	.49
BROMOFORM	ND	5.8	.68
BROMOMETHANE	ND	5.8	4.1
CARBON DISULFIDE	ND	12	.39
CARBON TETRACHLORIDE	ND	5.8	.62
CHLOROBENZENE	ND	5.8	.54
CHLOROETHANE	ND	5.8	1.1
CHLOROFORM	ND	5.8	.6
CHLOROMETHANE	ND	5.8	.61
CIS-1,2-DICHLOROETHENE	ND	5.8	.53
CIS-1,3-DICHLOROPROPENE	ND	5.8	.46
DIBROMOCHLOROMETHANE	ND	5.8	.42
ETHYLBENZENE	ND	5.8	.53
MTBE	ND	12	.87
METHYLENE CHLORIDE	ND	12	3.5
STYRENE	ND	5.8	.39
TETRACHLOROETHENE	ND	5.8	.39
TOLUENE	1J	5.8	.66
TRANS-1,2-DICHLOROETHENE	ND	5.8	.55
TRANS-1,3-DICHLOROPROPENE	ND	5.8	.52
TRICHLOROETHENE	ND	5.8	.71
VINYL ACETATE	ND	58	.96
VINYL CHLORIDE	ND	5.8	.67
XYLENES	ND	5.8	1.3
TAME	ND	12	.82
TBA	ND	58	15
ETBE	ND	12	.71

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	125	52-149
BROMOFLUOROBENZENE	111	65-135
TOLUENE-D8	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
Preservation Date: 03/06/01 18:30

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

```

=====
Client   : IT CORPORATION           Date Collected: NA
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/10/01
Batch No.: 01C051                 Date Extracted: 03/10/01 04:54
Sample ID: MBLK1W                 Date Analyzed: 03/10/01 04:54
Lab Samp ID: VOC1305Q            Dilution Factor: 1
Lab File ID: RCQ113              Matrix       : WATER
Ext Btch ID: VOC1305             % Moisture   : NA
Calib. Ref.: RCQ107              Instrument ID : T-005
=====
  
```

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	5	.91
1,1,2,2-TETRACHLOROETHANE	ND	5	1.1
1,1,2-TRICHLOROETHANE	ND	5	.83
1,1-DICHLOROETHANE	ND	5	.65
1,1-DICHLOROETHENE	ND	5	.86
1,2-DICHLOROETHANE	ND	5	.95
1,2-DICHLOROPROPANE	ND	5	.73
2-BUTANONE	ND	50	6.7
2-CHLOROETHYLVINYLETHER	ND	50	1.3
2-HEXANONE	ND	50	5.6
4-METHYL-2-PENTANONE	ND	50	3.6
ACETONE	ND	50	9.6
BENZENE	ND	5	.77
BROMODICHLOROMETHANE	ND	5	.82
BROMOFORM	ND	5	.74
BROMOMETHANE	ND	5	1.9
CARBON DISULFIDE	ND	5	.61
CARBON TETRACHLORIDE	ND	5	.83
CHLOROENZENE	ND	5	1.1
CHLOROETHANE	ND	5	1.7
CHLOROFORM	ND	5	.67
CHLOROMETHANE	ND	5	.67
CIS-1,2-DICHLOROETHENE	ND	5	.79
CIS-1,3-DICHLOROPROPENE	ND	5	.79
DIBROMOCHLOROMETHANE	ND	5	.71
ETHYLBENZENE	ND	5	1
MTBE	ND	10	.77
METHYLENE CHLORIDE	ND	5	1.4
STYRENE	ND	5	.87
TETRACHLOROETHENE	ND	5	1.1
TOLUENE	ND	5	.99
TRANS-1,2-DICHLOROETHENE	ND	5	.73
TRANS-1,3-DICHLOROPROPENE	ND	5	.82
TRICHLOROETHENE	ND	5	.89
VINYL ACETATE	ND	50	1.4
VINYL CHLORIDE	ND	5	2.5
XYLENES	ND	5	3.1
TAME	ND	10	1.0
TBA	ND	50	10
ETBE	ND	10	1.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	112	62-139
BROMOFLUOROBENZENE	107	75-125
TOLUENE-D8	99	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

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SAMP NO.: 01C051
METHOD: METHOD 5030A/8260A

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: VOC1305Q VOC1305L VOC1305C
LAB FILE ID: RCQ113 RCQ108 RCQ109
DATE EXTRACTED: 03/10/0104:54 03/10/0101:47 03/10/0102:24 DATE COLLECTED: NA
DATE ANALYZED: 03/10/0104:54 03/10/0101:47 03/10/0102:24 DATE RECEIVED: 03/10/01
PREP. BATCH: VOC1305 VOC1305 VOC1305
CALIB. REF: RCQ107 RCQ107 RCQ107

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	20.3	102	20	21.2	106	4	75-125	20
Benzene	ND	20	18.8	94	20	19.9	100	6	75-125	20
Chlorobenzene	ND	20	20.4	102	20	20.4	102	0	75-125	20
Toluene	ND	20	19.7	99	20	20.1	101	2	74-125	20
Trichloroethene	ND	20	19.5	97	20	20.3	102	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 (%)
1,2-Dichloroethane-d4	50	55.2	110	50	55.9	112	62-139
Bromofluorobenzene	50	50.8	102	50	54.8	110	75-125
Toluene-d8	50	48.4	97	50	50.8	102	75-125

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

```

=====
Client   : IT CORPORATION           Date Collected: NA
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/09/01
Batch No. : 01C051                 Date Extracted: 03/09/01 13:13
Sample ID: MBLK1S                   Date Analyzed: 03/09/01 13:13
Lab Samp ID: VOC1105B                Dilution Factor: 1
Lab File ID: RCQ088                  Matrix : SOIL
Ext Btch ID: VOC1105                 % Moisture : NA
Calib. Ref.: RCQ085                  Instrument ID : T-005
=====

```

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.74
1,1,2-TRICHLOROETHANE	ND	5	.66
1,1-DICHLOROETHANE	ND	5	.52
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.99
1,2-DICHLOROPROPANE	ND	5	.55
2-BUTANONE	ND	50	1.5
2-CHLOROETHYLVINYLETHER	ND	50	.74
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	ND	5	.53
BROMODICHLOROMETHANE	ND	5	.42
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	10	.33
CARBON TETRACHLORIDE	ND	5	.54
CHLOROBENZENE	ND	5	.46
CHLOROETHANE	ND	5	.92
CHLOROFORM	ND	5	.52
CHLOROMETHANE	ND	5	.53
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.37
ETHYLBENZENE	ND	5	.46
MTBE	ND	10	.76
METHYLENE CHLORIDE	ND	10	3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.58
TRANS-1,2-DICHLOROETHENE	ND	5	.47
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.83
VINYL CHLORIDE	ND	5	.58
XYLENES	ND	5	1.1
TAME	ND	10	.71
TBA	ND	50	13
ETBE	ND	10	.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	110	52-149
BROMOFLUOROBENZENE	108	65-135
TOLUENE-D8	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

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SAMPLER NO.: 01C051
METHOD: METHOD 5030A/8260A

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VOC1105B VOC1105L VOC1105C
LAB FILE ID: RCQ088 RCQ086 RCQ087
DATE EXTRACTED: 03/09/0113:13 03/09/0111:57 03/09/0112:35 DATE COLLECTED: NA
DATE ANALYZED: 03/09/0113:13 03/09/0111:57 03/09/0112:35 DATE RECEIVED: 03/09/01
PREP. BATCH: VOC1105 VOC1105 VOC1105
CALIB. REF: RCQ085 RCQ085 RCQ085

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1-Dichloroethene	ND	20	21.5	108	20	19.4	97	10	75-125	20
Benzene	ND	20	19.9	99	20	18.1	91	9	75-125	20
Chlorobenzene	ND	20	20.6	103	20	20.4	102	1	75-125	20
Toluene	ND	20	20	100	20	19.7	98	1	74-125	20
Trichloroethene	ND	20	20.2	101	20	18.3	91	10	71-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	55.8	112	50	53.6	107	62-139
Bromofluorobenzene	50	55.2	110	50	52	104	75-125
Toluene-d8	50	50.7	101	50	49.2	98	75-125

METHOD 5035/8260A
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : IT CORPORATION           Date Collected: NA
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/09/01
Batch No.  : 01C051                  Date Extracted: 03/09/01 13:50
Sample ID  : MBLK2S                   Date Analyzed: 03/09/01 13:50
Lab Samp ID: VPC002SQ                 Dilution Factor: 1
Lab File ID: RCQ089                   Matrix          : SOIL
Ext Btch ID: VOC1105                  % Moisture     : NA
Calib. Ref.: RCQ085                   Instrument ID   : T-005
=====
  
```

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5	.34
1,1,2,2-TETRACHLOROETHANE	ND	5	.74
1,1,2-TRICHLOROETHANE	ND	5	.66
1,1-DICHLOROETHANE	ND	5	.52
1,1-DICHLOROETHENE	ND	5	.48
1,2-DICHLOROETHANE	ND	5	.99
1,2-DICHLOROPROPANE	ND	5	.55
2-BUTANONE	ND	50	1.5
2-CHLOROETHYLVINYLETHER	ND	50	.74
2-HEXANONE	ND	50	1.5
4-METHYL-2-PENTANONE	ND	50	2.8
ACETONE	ND	50	2.9
BENZENE	ND	5	.53
BROMODICHLOROMETHANE	ND	5	.42
BROMOFORM	ND	5	.59
BROMOMETHANE	ND	5	3.6
CARBON DISULFIDE	ND	10	.33
CARBON TETRACHLORIDE	ND	5	.54
CHLOROBENZENE	ND	5	.46
CHLOROETHANE	ND	5	.92
CHLOROFORM	ND	5	.52
CHLOROMETHANE	ND	5	.53
CIS-1,2-DICHLOROETHENE	ND	5	.46
CIS-1,3-DICHLOROPROPENE	ND	5	.4
DIBROMOCHLOROMETHANE	ND	5	.37
ETHYLBENZENE	ND	5	.46
MTBE	ND	10	.76
METHYLENE CHLORIDE	ND	10	3
STYRENE	ND	5	.34
TETRACHLOROETHENE	ND	5	.34
TOLUENE	ND	5	.58
TRANS-1,2-DICHLOROETHENE	ND	5	.47
TRANS-1,3-DICHLOROPROPENE	ND	5	.45
TRICHLOROETHENE	ND	5	.61
VINYL ACETATE	ND	50	.83
VINYL CHLORIDE	ND	5	.58
XYLENES	ND	5	1.1
TAME	ND	10	.71
TBA	ND	50	13
ETBE	ND	10	.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	122	52-149
BROMOFLUOROBENZENE	103	65-135
TOLUENE-D8	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
 Preservation Date: 03/06/01 18:30

METHOD 3050B/6010B
CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project    : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
LOG NO.    : 01C051                  Date Extracted: 03/08/01 15:20
Sample ID  : 812380-02                Date Analyzed: 03/10/01 01:49
Lab Samp ID: C051-02                  Dilution Factor: 1
Lab File ID: I07C021015              Matrix       : SOIL
Ext Btch ID: IPC015S                 % Moisture   : 10.6
Lab. Ref.: I07C021007                Instrument ID : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	6.19J	11.2	3.85
Arsenic	113	1.12	.0447
Beryllium	.432	.224	.0112
Cadmium	.721J	1.12	.224
Chromium	12.9	1.12	.436
Cobalt	4.56	1.12	.358
Copper	10.5	1.12	.749
Manganese	217	2.24	.671
Molybdenum	2.12J	2.24	.94
Nickel	7.34	2.24	.906
Silver	ND	2.24	.47
Vanadium	33.3	1.12	.403
Zinc	48.4	1.12	.403

L: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/08/01 15:20
Sample ID: 812380-02 Date Analyzed: 03/09/01 00:38
Lab Samp ID: C051-02 Dilution Factor: 1
Lab File ID: I31C021013 Matrix : SOIL
Ext Btch ID: IPC015S % Moisture : 10.6
Calib. Ref.: I31C021008 Instrument ID : EMAXT131
=====

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	3.32	1.12	.236
Lead	13.7	1.12	.191
Selenium	ND	1.12	.434
Thallium	1.05J	1.12	.611

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project    : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
JG NO.     : 01C051                  Date Extracted: 03/08/01 15:20
Sample ID  : 812380-03                Date Analyzed: 03/10/01 01:54
Lab Samp ID: C051-03                  Dilution Factor: 1
Lab File ID: I07C021016               Matrix          : SOIL
Ext Btch ID: IPC015S                  % Moisture     : 9.3
Lab. Ref.: I07C021007                 Instrument ID  : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	5.38J	11	3.79
Barium	64.3	1.1	.0441
Beryllium	.311	.221	.011
Cadmium	.29J	1.1	.221
Chromium	8.11	1.1	.43
Cobalt	2.38	1.1	.353
Copper	7.55	1.1	.739
Manganese	149	2.21	.662
Molybdenum	ND	2.21	.926
Nickel	6.19	2.21	.893
Silver	ND	2.21	.463
Vanadium	20.5	1.1	.397
Zinc	28	1.1	.397

ND: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/08/01 15:20
Sample ID: 812380-03 Date Analyzed: 03/09/01 00:43
Lab Samp ID: C051-03 Dilution Factor: 1
Lab File ID: I31C021014 Matrix : SOIL
Ext Btch ID: IPC015S % Moisture : 9.3
Calib. Ref.: I31C021008 Instrument ID : EMAXT131
=====

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.02	1.1	.233
Lead	2.26	1.1	.189
Selenium	ND	1.1	.428
Thallium	.939J	1.1	.602

RL: Reporting Limit

METHOD 3050B/6010B
CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project    : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
DG NO.    : 01C051                   Date Extracted: 03/08/01 15:20
Sample ID  : 812380-04                Date Analyzed: 03/10/01 01:59
Lab Samp ID: C051-04                  Dilution Factor: 1
Lab File ID: I07C021017               Matrix      : SOIL
Ext Btch ID: IPC015S                  % Moisture  : 3.8
Calib. Ref.: I07C021007              Instrument ID : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	10.4	3.58
Barium	23.3	1.04	.0416
Beryllium	.265	.208	.0104
Cadmium	ND	1.04	.208
Chromium	4.64	1.04	.405
Cobalt	1.22	1.04	.333
Copper	3.73	1.04	.696
Manganese	48.9	2.08	.624
Molybdenum	ND	2.08	.873
Nickel	2.32	2.08	.842
Silver	ND	2.08	.437
Vanadium	10.6	1.04	.374
Zinc	10.6	1.04	.374

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
nt       : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
DG NO.   : 01C051                 Date Extracted: 03/08/01 15:20
Sample ID: 812380-06              Date Analyzed: 03/10/01 02:03
Lab Samp ID: C051-06              Dilution Factor: 1
Lab File ID: I07C021018           Matrix       : SOIL
Ext Btch ID: IPC015S              % Moisture   : 14.6
Calib. Ref.: I07C021007           Instrument ID : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	6.04J	11.7	4.03
Barium	143	1.17	.0468
Beryllium	.685	.234	.0117
Cadmium	.673J	1.17	.234
Chromium	22.3	1.17	.457
Cobalt	6.15	1.17	.375
Copper	11.1	1.17	.785
Manganese	284	2.34	.703
Molybdenum	2.41	2.34	.984
Nickel	13.6	2.34	.948
Silver	ND	2.34	.492
Vanadium	54.5	1.17	.422
Zinc	62.8	1.17	.422

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/08/01 15:20
Sample ID: 812380-06 Date Analyzed: 03/09/01 00:52
Lab Samp ID: C051-06 Dilution Factor: 1
Lab File ID: I31C021016 Matrix : SOIL
Ext Btch ID: IPC015S % Moisture : 14.6
Calib. Ref.: I31C021008 Instrument ID : EMAXTI31
=====

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	3.9	1.17	.247
Lead	3.9	1.17	.2
Selenium	ND	1.17	.454
Thallium	1.37	1.17	.639

RL: Reporting Limit

METHOD 3010A/6010B
CAM METALS BY ICP

```

=====
nt       : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
OG NO.   : 01C051                 Date Extracted: 03/09/01 15:30
Sample ID: 812380-07              Date Analyzed: 03/12/01 12:46
Lab Samp ID: C051-07              Dilution Factor: 1
Lab File ID: I07C022022           Matrix       : WATER
xt Btch ID: IPC018W               % Moisture   : NA
alib. Ref.: I07C022016           Instrument ID : EMAXT107
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	500	27.5
Barium	ND	100	1.02
Beryllium	ND	10	.62
Cadmium	ND	10	4.24
Chromium	ND	50	4.69
Cobalt	ND	50	9.06
Copper	ND	50	2.67
Manganese	ND	20	1.49
Molybdenum	ND	100	9.34
Nickel	ND	150	8.9
Silver	ND	50	4.49
Titanium	ND	100	3.75
Zinc	ND	20	5.8

ND: Reporting Limit

METHOD 3010A/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/09/01 15:30
Sample ID: 812380-07 Date Analyzed: 03/10/01 00:44
Lab Samp ID: C051-07 Dilution Factor: 1
Lab File ID: I31C025022 Matrix : WATER
Ext Btch ID: IPC018W % Moisture : NA
Calib. Ref.: I31C025017 Instrument ID : EMAXTI31
=====

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	10	2.43
Lead	ND	10	1.33
Selenium	2.87J	10	1.6
Thallium	ND	400	4.74

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO.    : 01C051                 Date Extracted: 03/08/01 15:20
Sample ID   : 812380-08             Date Analyzed: 03/10/01 02:22
Lab Samp ID: C051-08               Dilution Factor: 1
Lab File ID: I07C021022           Matrix          : SOIL
Ext Btch ID: IPC015S              % Moisture     : 14.1
Calib. Ref.: I07C021019          Instrument ID   : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	5.56J	11.6	4
Barium	275	1.16	.0466
Beryllium	.566	.233	.0116
Cadmium	.418J	1.16	.233
Chromium	16.7	1.16	.454
Cobalt	6.31	1.16	.373
Copper	8.41	1.16	.78
Manganese	291	2.33	.698
Molybdenum	1.72J	2.33	.978
Nickel	9.85	2.33	.943
Silver	ND	2.33	.489
Vanadium	47.4	1.16	.419
Zinc	55.1	1.16	.419

RL: Reporting Limit

METHOD 3050B/6010B
 METALS BY TRACE-ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project    : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO.    : 01C051                  Date Extracted: 03/08/01 15:20
Sample ID: 812380-08                 Date Analyzed: 03/09/01 01:26
Lab Samp ID: C051-08                 Dilution Factor: 1
Lab File ID: I31C021023              Matrix          : SOIL
Ext Btch ID: IPC015S                 % Moisture      : 14.1
Calib. Ref.: I31C021020              Instrument ID   : EMAXT131
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	4.5	1.16	.246
Lead	3.99	1.16	.199
Selenium	ND	1.16	.452
Thallium	1.41	1.16	.636

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
Samp NO.    : 01C051                 Date Extracted: 03/08/01 15:20
Sample ID   : 812380-09              Date Analyzed: 03/10/01 02:27
Lab Samp ID : C051-09                Dilution Factor: 1
Lab File ID : I07C021023            Matrix          : SOIL
Lot Btch ID: IPC015S                % Moisture     : 8.9
Lib. Ref.  : I07C021019            Instrument ID  : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	7.87J	11	3.78
Arsenic	59.6	1.1	.0439
Beryllium	.289	.22	.011
Cadmium	.404J	1.1	.22
Chromium	7.73	1.1	.428
Cobalt	2.73	1.1	.351
Copper	6.24	1.1	.735
Manganese	134	2.2	.659
Molybdenum	ND	2.2	.922
Nickel	5.21	2.2	.889
Silver	ND	2.2	.461
Vanadium	19.4	1.1	.395
Zinc	23.5	1.1	.395

L: Reporting Limit

METHOD 3050B/6010B
 METALS BY TRACE-ICP

```

=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051                   Date Extracted: 03/08/01 15:20
Sample ID: 812380-09                Date Analyzed: 03/09/01 01:31
Lab Samp ID: C051-09                 Dilution Factor: 1
Lab File ID: I31C021024              Matrix : SOIL
Ext Btch ID: IPC015S                 % Moisture : 8.9
Calib. Ref.: I31C021020              Instrument ID : EMAXTI31
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	2.03	1.1	.232
Lead	2.2	1.1	.188
Selenium	ND	1.1	.426
Thallium	ND	1.1	.599

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
DG NO.     : 01C051                   Date Extracted: 03/08/01 15:20
Sample ID   : 812380-10                Date Analyzed: 03/10/01 02:32
Lab Samp ID: C051-10                   Dilution Factor: 1
Lab File ID: I07C021024                 Matrix          : SOIL
Ext Btch ID: IPC015S                    % Moisture     : 3.6
Calib. Ref.: I07C021019                 Instrument ID   : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	3.84J	10.4	3.57
Barium	15.8	1.04	.0415
Beryllium	.12J	.207	.0104
Cadmium	ND	1.04	.207
Chromium	2.17	1.04	.405
Cobalt	1.04	1.04	.332
Copper	1.73	1.04	.695
Manganese	101	2.07	.622
Molybdenum	ND	2.07	.871
Nickel	2.24	2.07	.84
Silver	ND	2.07	.436
Vanadium	6.08	1.04	.373
Zinc	6.99	1.04	.373

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/08/01 15:20
Sample ID: 812380-10 Date Analyzed: 03/09/01 01:36
Lab Samp ID: C051-10 Dilution Factor: 1
Lab File ID: I31C021025 Matrix : SOIL
Ext Btch ID: IPC015S % Moisture : 3.6
Calib. Ref.: I31C021020 Instrument ID : EMAXI131
=====

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	.959J	1.04	.219
Lead	.995J	1.04	.177
Selenium	ND	1.04	.402
Thallium	ND	1.04	.566

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project     : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
DG NO.      : 01C051                 Date Extracted: 03/08/01 15:20
Sample ID   : 812380-12              Date Analyzed: 03/10/01 02:37
Lab Samp ID : C051-12                Dilution Factor: 1
Lab File ID : I07C021025             Matrix          : SOIL
Xt Btch ID  : IPC015S                % Moisture     : 16.4
Lab. Ref.:  I07C021019              Instrument ID   : EMAXT107
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	7.21J	12	4.11
Barium	179	1.2	.0478
Beryllium	.877	.239	.012
Cadmium	1.4	1.2	.239
Chromium	31.3	1.2	.467
Cobalt	8.75	1.2	.383
Copper	12.8	1.2	.801
Manganese	351	2.39	.718
Molybdenum	2.26J	2.39	1
Nickel	16.1	2.39	.969
Silver	ND	2.39	.502
Titanium	78.8	1.2	.431
Zinc	77.5	1.2	.431

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

```
=====
Client   : IT CORPORATION           Date Collected: 03/06/01
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO.  : 01C051                 Date Extracted: 03/08/01 15:20
Sample ID: 812380-12              Date Analyzed: 03/09/01 01:41
Lab Samp ID: C051-12              Dilution Factor: 1
Lab File ID: I31C021026           Matrix       : SOIL
Ext Btch ID: IPC015S              % Moisture   : 16.4
Calib. Ref.: I31C021020           Instrument ID : EMAXT131
=====
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	4.63	1.2	.252
Lead	4.95	1.2	.205
Selenium	ND	1.2	.464
Thallium	2	1.2	.653

RL: Reporting Limit

METHOD 3050B/6010B
 CAM METALS BY ICP

```

=====
Client      : IT CORPORATION           Date Collected: 03/06/01
Project    : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
LOG NO.    : 01C051                  Date Extracted: 03/08/01 15:20
Sample ID: 812380-13                 Date Analyzed: 03/10/01 02:41
Lab Samp ID: C051-13                 Dilution Factor: 1
Lab File ID: I07C021026              Matrix          : SOIL
Ext Btch ID: IPC015S                 % Moisture     : 16.8
Calib. Ref.: I07C021019              Instrument ID   : EMAXTI07
=====
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	5.97J	1.2	4.13
Arsenic	222	1.2	.0481
Beryllium	.859	.24	.012
Cadmium	1.77	1.2	.24
Chromium	29.5	1.2	.469
Cobalt	7.17	1.2	.385
Copper	13.4	1.2	.805
Manganese	346	2.4	.721
Molybdenum	4.04	2.4	1.01
Nickel	17.7	2.4	.974
Silver	ND	2.4	.505
Vanadium	80.2	1.2	.433
Zinc	73.1	1.2	.433

RL: Reporting Limit

METHOD 3050B/6010B
METALS BY TRACE-ICP

=====
Client : IT CORPORATION Date Collected: 03/06/01
Project : OIL/WATER SEPARATOR 655C Date Received: 03/06/01
SDG NO. : 01C051 Date Extracted: 03/08/01 15:20
Sample ID: 812380-13 Date Analyzed: 03/09/01 01:46
Lab Samp ID: C051-13 Dilution Factor: 1
Lab File ID: I31C021027 Matrix : SOIL
Ext Btch ID: IPC015S % Moisture : 16.8
Calib. Ref.: I31C021020 Instrument ID : EMAXT131
=====

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	5.57	1.2	.254
Lead	4.98	1.2	.206
Selenium	ND	1.2	.466
Thallium	1.52	1.2	.656

RL: Reporting Limit

METHOD 3010A/6010B
CAM METALS BY ICP

```

=====
nt       : IT CORPORATION           Date Collected: NA
ject     : OIL/WATER SEPARATOR 655C Date Received: 03/09/01
OG NO.   : 01C051                 Date Extracted: 03/09/01 15:30
Sample ID: MBLK1W                 Date Analyzed: 03/12/01 12:29
Lab Samp ID: IPC018WB            Dilution Factor: 1
Lab File ID: I07C022018         Matrix       : WATER
xt Btch ID: IPC018W            % Moisture   : NA
alib. Ref.: I07C022016         Instrument ID : EMAXTI07
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	500	27.5
Barium	ND	100	1.02
Beryllium	ND	10	.62
Cadmium	ND	10	4.24
Chromium	ND	50	4.69
Cobalt	ND	50	9.06
Copper	ND	50	2.67
Manganese	ND	20	1.49
Molybdenum	ND	100	9.34
Nickel	ND	150	8.9
Silver	ND	50	4.49
Vanadium	ND	100	3.75
Zinc	ND	20	5.8

ND: Reporting Limit

METHOD 3010A/6010B
METALS BY TRACE-ICP

```
=====
Client   : IT CORPORATION           Date Collected: NA
Project  : OIL/WATER SEPARATOR 655C Date Received: 03/09/01
SDG NO.  : 01C051                  Date Extracted: 03/09/01 15:30
Sample ID: MBLK1W                  Date Analyzed: 03/10/01 00:31
Lab Samp ID: IPC018WB              Dilution Factor: 1
Lab File ID: I31C025019            Matrix       : WATER
Ext Btch ID: IPC018W               % Moisture   : NA
Calib. Ref.: I31C025017            Instrument ID : EMAXTI31
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	10	2.43
Lead	ND	10	1.33
Selenium	1.96J	10	1.6
Thallium	ND	400	4.74

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
 SUBJECT: OIL/WATER SEPARATOR 655C
 JOB NO.: 01C051
 METHOD: METHOD 3010A/6010B

MATRIX: WATER % MOISTURE: NA
 DILTN FACTR: 1 1 1
 SAMPLE ID: MBLK1W
 CONTROL NO.: IPC018WB IPC018WL IPC018WC
 LAB FILE ID: 107C022018 107C022019 107C022020
 DATIME EXTRACTD: 03/09/0115:30 03/09/0115:30 03/09/0115:30 DATE COLLECTED: NA
 DATIME ANALYZD: 03/12/0112:29 03/12/0112:33 03/12/0112:37 DATE RECEIVED: 03/09/01
 PREP. BATCH: IPC018W IPC018W IPC018W
 CALIB. REF: 107C022016 107C022016 107C022016

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 %
Antimony	ND	5000	4800	96	5000	4920	98	2	80-120	20
Barium	ND	1000	955	96	1000	968	97	1	80-120	20
Beryllium	ND	1000	934	93	1000	947	95	1	80-120	20
Cadmium	ND	1000	917	92	1000	932	93	2	80-120	20
Chromium	ND	1000	967	97	1000	980	98	1	80-120	20
Cobalt	ND	1000	948	95	1000	965	96	2	80-120	20
Copper	ND	1000	913	91	1000	929	93	2	80-120	20
Manganese	ND	1000	911	91	1000	924	92	1	80-120	20
Molybdenum	ND	1000	995	100	1000	1020	102	2	80-120	20
Nickel	ND	1000	912	91	1000	938	94	3	80-120	20
Silver	ND	1000	921	92	1000	939	94	2	80-120	20
Sodium	ND	1000	920	92	1000	935	94	2	80-120	20
Zinc	ND	1000	960	96	1000	976	98	2	80-120	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 3010A/6010B

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: IPC018WB IPC018WL IPC018WC
LAB FILE ID: I31C025019 I31C025020 I31C025021
DATIME EXTRCTD: 03/09/0115:30 03/09/0115:30 03/09/0115:30 DATE COLLECTED: NA
DATIME ANALYZD: 03/10/0100:31 03/10/0100:35 03/10/0100:40 DATE RECEIVED: 03/09/01
PREP. BATCH: IPC018W IPC018W IPC018W
CALIB. REF: I31C025017 I31C025017 I31C025017

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	1000	957	96	1000	968	97	1	80-120	20
Lead	ND	1000	943	94	1000	952	95	1	80-120	20
Selenium	1.96J	1000	958	96	1000	975	97	2	80-120	20
Thallium	ND	1000	990	99	1000	1000	100	1	80-120	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
 PROJECT: OIL/WATER SEPARATOR 655C
 SAMPLE NO.: 01C051
 METHOD: METHOD 3050B/6010B

MATRIX: SOIL % MOISTURE: NA
 ILTN FACTR: 1 1 1
 SAMPLE ID: MBLK1S
 CONTROL NO.: IPC015SB IPC015SL IPC015SC
 LAB FILE ID: I07C021009 I07C021010 I07C021011
 DATE TIME EXTRACTD: 03/08/0115:20 03/08/0115:20 03/08/0115:20 DATE COLLECTED: NA
 DATE TIME ANALYZD: 03/10/0101:21 03/10/0101:25 03/10/0101:30 DATE RECEIVED: 03/08/01
 PREP. BATCH: IPC015S IPC015S IPC015S
 CALIB. REF: I07C021007 I07C021007 I07C021007

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	500	478	96	500	481	96	1	80-120	20
Barium	ND	100	104	104	100	105	105	1	80-120	20
Beryllium	ND	100	97	97	100	98.3	98	1	80-120	20
Cadmium	ND	100	95.7	96	100	96.2	96	1	80-120	20
Chromium	.646J	100	101	101	100	102	101	0	80-120	20
Cobalt	.501J	100	97.7	97	100	97.5	97	0	80-120	20
Copper	ND	100	98	98	100	98.5	99	1	80-120	20
Manganese	ND	100	95.8	96	100	96.3	96	0	80-120	20
Molybdenum	.959J	100	104	103	100	105	104	1	80-120	20
Nickel	ND	100	96.2	96	100	95.9	96	0	80-120	20
Silver	ND	100	96.4	96	100	99.1	99	3	80-120	20
Radium	ND	100	98.2	98	100	98.8	99	1	80-120	20
Lead	ND	100	98.3	98	100	98.4	98	0	80-120	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 3050B/6010B

MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: IPC015SB IPC015SL IPC015SC
LAB FILE ID: I31C021010 I31C021011 I31C021012
DATIME EXTRCTD: 03/08/0115:20 03/08/0115:20 03/08/0115:20 DATE COLLECTED: NA
DATIME ANALYZD: 03/09/0100:23 03/09/0100:28 03/09/0100:33 DATE RECEIVED: 03/08/01
PREP. BATCH: IPC015S IPC015S IPC015S
CALIB. REF: I31C021008 I31C021008 I31C021008

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	100	99.9	100	100	98.2	98	2	80-120	20
Lead	.208J	100	99.2	99	100	97.7	98	2	80-120	20
Selenium	ND	100	99.1	99	100	97.1	97	2	80-120	20
Thallium	ND	100	105	105	100	103	103	1	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
EQUIPMENT: OIL/WATER SEPARATOR 655C
SAMPLE NO.: 01C051
METHOD: METHOD 3050B/6010B

MATRIX: SOIL % MOISTURE: 10.6
 CONTROLS: 1 1
 SAMPLE ID: 812380-02
 CONTROL NO.: C051-02 C051-02M C051-02S
 LAB FILE ID: 107C021015 107C021013 107C021014
 ANALYSIS TIME: 03/08/0115:20 03/08/0115:20 03/08/0115:20 DATE COLLECTED: 03/06/01
 ANALYSIS TIME: 03/10/0101:49 03/10/0101:40 03/10/0101:44 DATE RECEIVED: 03/06/01
 PREP. BATCH: IPC015S IPC015S IPC015S
 CALIB. REF: 107C021007 107C021007 107C021007

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 %
Antimony	6.19J	559	197	34*	559	177	31*	11	80-120	20
Barium	113	112	209	86	112	232	107	11	80-120	20
Beryllium	.432	112	100	89	112	104	92	4	80-120	20
Cadmium	.721J	112	98.4	87	112	102	91	4	80-120	20
Chromium	12.9	112	115	91	112	122	97	5	80-120	20
Cobalt	4.56	112	103	88	112	107	91	4	80-120	20
Copper	10.5	112	112	91	112	116	94	3	80-120	20
Manganese	217	112	295	70*	112	329	100	11	80-120	20
Molybdenum	2.12J	112	99.2	87	112	103	90	3	80-120	20
Nickel	7.34	112	105	87	112	109	91	4	80-120	20
Silver	ND	112	101	90	112	104	93	3	80-120	20
Vanadium	33.3	112	132	88	112	141	97	7	80-120	20
Zinc	48.4	112	146	87	112	156	96	7	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 3050B/6010B

MATRIX: SOIL % MOISTURE: 10.6
DILTN FACTR: 1 1 1
SAMPLE ID: 812380-02
CONTROL NO.: C051-02 C051-02M C051-02S
LAB FILE ID: I31C021013 I31C021018 I31C021019
DATIME EXTRCTD: 03/08/0115:20 03/08/0115:20 03/08/0115:20 DATE COLLECTED: 03/06/01
DATIME ANALYZD: 03/09/0100:38 03/09/0101:02 03/09/0101:07 DATE RECEIVED: 03/06/01
PREP. BATCH: IPC015S IPC015S IPC015S
CALIB. REF: I31C021008 I31C021008 I31C021008

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 %
Arsenic	3.32	112	104	90	112	108	93	3	80-120	2
Lead	13.7	112	115	90	112	125	100	9	80-120	20
Selenium	ND	112	99.9	89	112	103	92	3	80-120	20
Thallium	1.05J	112	106	93	112	110	97	4	80-120	2

METHOD 7471A
MERCURY BY COLD VAPOR

7137

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	RL		MDL (mg/kg)	Analysis DATETIME	Extraction		LFID	CAL REF	PREP BATCH	Collection		Received DATETIME
			DLF	MOIST			DATETIME	DATETIME				DATETIME	DATETIME	
MBLK1S	HGC010SB	ND	1	NA	.1	.02	03/08/0115:55	03/08/0113:00	M01C008008	M01C008006	HGC010S	NA	03/08/01	
LCS1S	HGC010SL	.779	1	NA	.1	.02	03/08/0115:57	03/08/0113:00	M01C008009	M01C008006	HGC010S	NA	03/08/01	
LCD1S	HGC010SC	.777	1	NA	.1	.02	03/08/0115:59	03/08/0113:00	M01C008010	M01C008006	HGC010S	NA	03/08/01	
812380-09	C051-09	ND	1	8.9	.11	.022	03/08/0116:01	03/08/0113:00	M01C008011	M01C008006	HGC010S	03/06/01	03/06/01	
812380-09MS	C051-09M	.889	1	8.9	.11	.022	03/08/0116:04	03/08/0113:00	M01C008012	M01C008006	HGC010S	03/06/01	03/06/01	
812380-09MSD	C051-09S	.889	1	8.9	.11	.022	03/08/0116:06	03/08/0113:00	M01C008013	M01C008006	HGC010S	03/06/01	03/06/01	
812380-09DL	C051-09T	ND	5	8.9	.549	.11	03/08/0116:09	03/08/0113:00	M01C008014	M01C008006	HGC010S	03/06/01	03/06/01	
812380-02	C051-02	ND	1	10.6	.112	.0224	03/08/0116:11	03/08/0113:00	M01C008015	M01C008006	HGC010S	03/06/01	03/06/01	
812380-03	C051-03	ND	1	9.3	.11	.0221	03/08/0116:13	03/08/0113:00	M01C008016	M01C008006	HGC010S	03/06/01	03/06/01	
812380-04	C051-04	ND	1	3.8	.104	.0208	03/08/0116:23	03/08/0113:00	M01C008020	M01C008018	HGC010S	03/06/01	03/06/01	
812380-06	C051-06	.031J	1	14.6	.117	.0234	03/08/0116:26	03/08/0113:00	M01C008021	M01C008018	HGC010S	03/06/01	03/06/01	
812380-08	C051-08	ND	1	14.1	.116	.0233	03/08/0116:29	03/08/0113:00	M01C008022	M01C008018	HGC010S	03/06/01	03/06/01	
812380-10	C051-10	ND	1	3.6	.104	.0207	03/08/0116:31	03/08/0113:00	M01C008023	M01C008018	HGC010S	03/06/01	03/06/01	
812380-12	C051-12	ND	1	16.4	.12	.0239	03/08/0116:34	03/08/0113:00	M01C008024	M01C008018	HGC010S	03/06/01	03/06/01	
812380-13	C051-13	ND	1	16.8	.12	.024	03/08/0116:36	03/08/0113:00	M01C008025	M01C008018	HGC010S	03/06/01	03/06/01	

RL: Reporting Limit

METHOD 7470A
MERCURY BY COLD VAPOR

7135

Client : IT CORPORATION
Project : OIL/WATER SEPARATOR 655C
Batch No. : 01C051

Matrix : WATER
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	HGC011WB	ND	1	NA	.2	.129	03/12/0119:01	03/12/0112:00	M01C010008	M01C010006	HGC011W	NA	03/12/01
LCS1W	HGC011WL	5	1	NA	.2	.129	03/12/0119:03	03/12/0112:00	M01C010009	M01C010006	HGC011W	NA	03/12/01
LCD1W	HGC011WC	4.96	1	NA	.2	.129	03/12/0119:05	03/12/0112:00	M01C010010	M01C010006	HGC011W	NA	03/12/01
812380-07	C051-07	ND	1	NA	.2	.129	03/12/0119:29	03/12/0112:00	M01C010020	M01C010018	HGC011W	03/06/01	03/06/01

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 7470A

=====

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: HGCO11WB HGCO11WL HGCO11WC
LAB FILE ID: M01C010008 M01C010009 M01C010010
DATIME EXTRCTD: 03/12/0112:00 03/12/0112:00 03/12/0112:00 DATE COLLECTED: NA
DATIME ANALYZD: 03/12/0119:01 03/12/0119:03 03/12/0119:05 DATE RECEIVED: 03/12/01
PREP. BATCH: HGCO11W HGCO11W HGCO11W
CALIB. REF: M01C010006 M01C010006 M01C010006

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 %
Mercury	ND	5	5	100	5	4.96	99	1	77-120	15

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 7471A

MATRIX: SOIL % MOISTURE: 8.9
DILT^N FACTR: 1 1 1
SAMPLE ID: 812380-09
CONTROL NO.: C051-09 C051-09M C051-09S
LAB FILE ID: M01C008011 M01C008012 M01C008013
DATIME EXTRACTD: 03/08/0113:00 03/08/0113:00 03/08/0113:00 DATE COLLECTED: 03/06/01
DATIME ANALYZD: 03/08/0116:01 03/08/0116:04 03/08/0116:06 DATE RECEIVED: 03/06/01
PREP. BATCH: HGC010S HGC010S HGC010S
CALIB. REF: M01C008006 M01C008006 M01C008006

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 %
Mercury	ND	.893	.889	100	.893	.889	100	0	77-120	25

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

7140

CLIENT: IT CORPORATION
PROJECT: OIL/WATER SEPARATOR 655C
SDG NO.: 01C051
METHOD: METHOD 7471A

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MATRIX: SOIL % MOISTURE: NA
DILTN FACTR: 1 1
SAMPLE ID: MBLK1S
CONTROL NO.: HGC010SB HGC010SL HGC010SC
LAB FILE ID: M01C008008 M01C008009 M01C008010
DATIME EXTRCTD: 03/08/0113:00 03/08/0113:00 03/08/0113:00 DATE COLLECTED: NA
DATIME ANALYZD: 03/08/0115:55 03/08/0115:57 03/08/0115:59 DATE RECEIVED: 03/08/01
PREP. BATCH: HGC010S HGC010S HGC010S
CALIB. REF: M01C008006 M01C008006 M01C008006

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.806	.779	97	.806	.777	96	1	77-120	25

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: MCAS El Toro
Collection Date: March 6, 2001
LDC Report Date: April 11, 2001
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: NFESC Level C & D
Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 01C051

Sample Identification

812380-02**
812380-03
812380-04
812380-06
812380-07
812380-08
812380-09
812380-10
812380-12
812380-13
812380-04MS
812380-04MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 11 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent NFESC Level D review. NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
DSC007SB	3/9/01	TPH as extractables	3.7 mg/Kg	812380-04

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples 812380-12 and 812380-13 were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples.

X. Field Blanks

No field blanks were identified in this SDG.

**MCAS EI Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG
01C051**

No Sample Data Qualified in this SDG

**MCAS EI Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification
Summary - SDG 01C051**

No Sample Data Qualified in this SDG

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: MCAS El Toro
Collection Date: March 6, 2001
LDC Report Date: April 11, 2001
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: NFESC Level C & D
Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 01C051

Sample Identification

- 812380-01
- 812380-02**
- 812380-03
- 812380-04
- 812380-06
- 812380-07
- 812380-08
- 812380-09
- 812380-10
- 812380-12
- 812380-13
- 812380-07MS
- 812380-07MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 9 soil samples and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent NFESC Level D review. NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
 - J Indicates an estimated value.
 - R Quality control indicates the data is not usable.
 - N Presumptive evidence of presence of the constituent.
 - UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
 - A Indicates the finding is based upon technical validation criteria.
 - P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. Surrogate recoveries (%R) were not within QC limits for sample 812380-02**. Since the sample was diluted out, no data were qualified.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by NFESC Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples 812380-12 and 812380-13 were identified as field duplicates. No total petroleum hydrocarbons as gasoline were detected in any of the samples.

X. Field Blanks

Sample 812380-01 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

**MCAS EI Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG
01C051**

No Sample Data Qualified in this SDG

**MCAS EI Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
Summary - SDG 01C051**

No Sample Data Qualified in this SDG

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: MCAS El Toro
Collection Date: March 6, 2001
LDC Report Date: April 11, 2001
Matrix: Soil/Water
Parameters: Volatiles
Validation Level: NFESC Level C & D
Laboratory: EMAX Laboratories, Inc.
Sample Delivery Group (SDG): 01C051

Sample Identification

- 812380-01
- 812380-02**
- 812380-03
- 812380-04
- 812380-06
- 812380-07
- 812380-08
- 812380-09
- 812380-10
- 812380-12
- 812380-13

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 9 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and selected compounds and less than or equal to 50.0% for all other compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990 .

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were greater than or equal to 0.05 as required with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
3/5/01	tert-Butanol	0.033 (≥ 0.05)	All samples in SDG 01C051	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were greater than or equal to 0.05 with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
3/9/01	tert-Butanol	0.035 (≥ 0.05)	812380-02** 812380-03 812380-04 812380-06 812380-08 812380-09 812380-10 812380-12 812380-13 MBLK2S	J (all detects) UJ (all non-detects)	A
3/10/01	tert-Butanol	0.036 (≥ 0.05)	812380-01 812380-07 MBLK1W	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 812380-12 and 812380-13 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/Kg)		RPD
	812380-12	812380-13	
Benzene	0.58	1.9	106
Toluene	5U	1	200

XVII. Field Blanks

Sample 812380-01 was identified as a trip blank. No volatile contaminants were found in this blank.

**MCAS EI Toro
Volatiles - Data Qualification Summary - SDG 01C051**

SDG	Sample	Compound	Flag	A or P	Reason
01C051	812380-01 812380-02** 812380-03 812380-04 812380-06 812380-07 812380-08 812380-09 812380-10 812380-12 812380-13	tert-Butanol	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
01C051	812380-01 812380-02** 812380-03 812380-04 812380-06 812380-07 812380-08 812380-09 812380-10 812380-12 812380-13	tert-Butanol	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

**MCAS EI Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 01C051**

No Sample Data Qualified in this SDG

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: MCAS El Toro
Collection Date: March 6, 2001
LDC Report Date: April 11, 2001
Matrix: Soil/Water
Parameters: Metals
Validation Level: NFESC Level C & D
Laboratory: EMAX Laboratories, Inc.
Sample Delivery Group (SDG): 01C051

Sample Identification

812380-02**
812380-03
812380-04
812380-06
812380-07
812380-08
812380-09
812380-10
812380-12
812380-13
812380-02MS
812380-02MSD
812380-09MS
812380-09MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 13 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UU Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB1 (prep blank)	Chromium Cobalt Lead Molybdenum	0.646 mg/Kg 0.501 mg/Kg 0.208 mg/Kg 0.959 mg/Kg	All soil samples in SDG 01C051
ICB/CCB1	Antimony Chromium Lead	60.2 ug/L 6.23 ug/L 5.76 ug/L	All soil samples in SDG 01C051
PB2 (prep blank)	Selenium	1.96 ug/L	All water samples in SDG 01C051
ICB/CCB2	Lead	1.92 ug/L	All water samples in SDG 01C051

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
812380-02**	Antimony Molybdenum	6.19 mg/Kg 2.12 mg/Kg	6.19U mg/Kg 2.12U mg/Kg
812380-03	Antimony Cobalt Lead	5.38 mg/Kg 2.38 mg/Kg 2.26 mg/Kg	5.38U mg/Kg 2.38U mg/Kg 2.26U mg/Kg
812380-04	Cobalt Lead	1.22 mg/Kg 1.62 mg/Kg	1.22U mg/Kg 1.62U mg/Kg
812380-06	Antimony Molybdenum	6.04 mg/Kg 2.41 mg/Kg	6.04U mg/Kg 2.41U mg/Kg
812380-08	Antimony Molybdenum	5.56 mg/Kg 1.72 mg/Kg	5.56U mg/Kg 1.72U mg/Kg
812380-09	Antimony Lead	7.87 mg/Kg 2.2 mg/Kg	7.87U mg/Kg 2.2U mg/Kg
812380-10	Antimony Chromium Cobalt Lead	3.84 mg/Kg 2.17 mg/Kg 1.04 mg/Kg 0.995 mg/Kg	3.84U mg/Kg 2.17U mg/Kg 1.04U mg/Kg 0.995U mg/Kg
812380-12	Antimony Molybdenum	7.21 mg/Kg 2.26 mg/Kg	7.21U mg/Kg 2.26U mg/Kg
812380-13	Antimony Molybdenum	5.97 mg/Kg 4.04 mg/Kg	5.97U mg/Kg 4.04U mg/Kg
812380-07	Selenium	2.87 ug/L	2.87U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
812380-02MS/MSD (All soil samples in SDG 01C051)	Antimony	34 (80-120)	31 (80-120)	-	J (all detects) UJ (all non-detects)	A
	Manganese	70 (80-120)	-	-	J (all detects) UJ (all non-detects)	

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 812380-12 and 812380-13 were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	812380-12	812380-13	
Antimony	7.21	5.97	19
Arsenic	4.63	5.57	18
Barium	179	222	21
Beryllium	0.877	0.859	2
Cadmium	1.4	1.77	23
Chromium	31.3	29.5	6
Cobalt	8.75	7.17	20
Copper	12.8	13.4	5
Lead	4.95	4.98	0.6
Manganese	351	346	1
Nickel	16.1	17.7	9
Thallium	2	1.52	27
Vanadium	78.8	80.2	2
Zinc	77.5	73.1	6
Molybdenum	2.26	4.04	57

XIV. Field Blanks

No field blanks were identified in this SDG.

**MCAS EI Toro
Metals - Data Qualification Summary - SDG 01C051**

SDG	Sample	Analyte	Flag	A or P	Reason
01C051	812380-02** 812380-03 812380-04 812380-06 812380-08 812380-09 812380-10 812380-12 812380-13	Antimony Manganese	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

**MCAS EI Toro
Metals - Laboratory Blank Data Qualification Summary - SDG 01C051**

SDG	Sample	Analyte	Modified Final Concentration	A or P
01C051	812380-02** *	Antimony Molybdenum	6.19U mg/Kg 2.12U mg/Kg	A
01C051	812380-03	Antimony Cobalt Lead	5.38U mg/Kg 2.38U mg/Kg 2.26U mg/Kg	A
01C051	812380-04	Cobalt Lead	1.22U mg/Kg 1.62U mg/Kg	A
01C051	812380-06	Antimony Molybdenum	6.04U mg/Kg 2.41U mg/Kg	A
01C051	812380-08	Antimony Molybdenum	5.56U mg/Kg 1.72U mg/Kg	A
01C051	812380-09 *	Antimony Lead	7.87U mg/Kg 2.2U mg/Kg	A
01C051	812380-10	Antimony Chromium Cobalt Lead	3.84U mg/Kg 2.17U mg/Kg 1.04U mg/Kg 0.995U mg/Kg	A
01C051	812380-12	Antimony Molybdenum	7.21U mg/Kg 2.26U mg/Kg	A
01C051	812380-13	Antimony Molybdenum	5.97U mg/Kg 4.04U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
01C051	812380-07	Selenium	2.87U ug/L	A

11/15/2007 10:00 AM

Appendix H
Waste Manifests

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on 11lb (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA6170023208	Manifest Document No. 05001	2. Page 1 of 1
3. Generator's Name and Mailing Address MCAS El Toro Caretaker Site Office, P.O. Box 444 East Irvine CA 92650			812380-05001	
4. Generator's Phone ((949) 726-2506) Attn: Scott Kehe			HAHQ3603891	
5. Transporter 1 Company Name United Pumping	6. US EPA ID Number CAD072953771	A. State Transporter's ID		
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter 1 Phone (626) 961-9326		
9. Designated Facility Name and Site Address Crosby & Overton, Inc. 1630 West 17th Street Long Beach CA 90813		C. State Transporter's ID		
10. US EPA ID Number CAD028409019		D. Transporter 2 Phone		
		E. State Facility's ID		
		F. Facility's Phone (562) 432-5445		

11. WASTE DESCRIPTION	12. Containers		13. Total Quantity	14. Unit Wt./Vol.
	No.	Type		
a. Non-regulated waste SOLID SOLID	005	DM	01500	P
b. Non-regulated waste LIQUID	001	DM	00050	G
c.				
d.				

G. Additional Descriptions for Materials Listed Above 11a. Profile #24518, soil with TPH 5x55 11b. Profile #24520, groundwater/equipment rinseate 1x55 Fax photocopy of TSDf signed manifest to: Steve Chandler, IT Corporation, (949) 474-8309	H. Handling Codes for Wastes Listed Above 11 A) 14.03 B) 15.01
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15. Special Handling Instructions and Additional Information

Caution: Wear appropriate protective clothing and respiratory protection when handling.

Site pick up address:
OWS - 655C MCAS El Toro

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name SCOTT KEHE	Signature <i>[Signature]</i>	Date Month Day Year 05/07/01
17. Transporter 1 Acknowledgement of Receipt of Materials	Printed/Typed Name JUAN SANCOS	Signature <i>[Signature]</i>
18. Transporter 2 Acknowledgement of Receipt of Materials	Printed/Typed Name	Signature
18. Discrepancy Indication Space		

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name BENJAMIN H. AMICK	Signature <i>[Signature]</i>	Date Month Day Year 05/07/01
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GENERATOR'S SIGNATURE

