OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

February 19, 1998

Contracting Officer
Naval Facilities Engineering Command, Southwest Division
Mr. Dave Jesperson 57 CS1.DJ
Building 131
1220 Pacific Highway
San Diego, California 92132-5187

Attn: Ms. Lynn Marie Hornecker, Code 56MC.LMH

Re: Tank Removal and Site Closure Report for Underground Storage Tanks (USTs) 324A, 324B, 324C, 324D, and 324F Marine Corps Air Station El Toro, California SWDIV Contract No. N68711-93-D-1459 DCN SW 4694, Delivery Order No. 70

This Tank Removal and Site Closure Report summarizes the field activities conducted and associated with the closure of five underground storage tanks (USTs) designated as USTs 324A, 324B, 324C, 324D, and 324F at Marine Corps Air Station, El Toro, California (hereinafter referred to as "the Station"). The location of the Station is shown on Figure 1-1, Facility Location Map.

USTs 324A, 324B, 324C, 324D, and 324F were located in the south quadrant of the Station, west of Agua Chinon Wash. USTs 324A, 324B, 324C, and 324D were located and identified as 8,000-gallon steel tanks; UST 324F was located and identified as a 2,000-gallon steel tank. USTs 324A, 324B, 324C, and 324D were used for storage of JP-5 and UST 324F was used for storage of fuel oil. The USTs were approximately 20 feet west of existing Building 324, Storage Warehouse. The UST locations are shown on Figure 1-2.

Summary of Field Activities

Field activities were conducted in accordance with the approved *Draft Work Plan, Remediation of Various Underground Tanks at the Marine Corps Air Station El Toro, California, OHM 1995*. Details of the UST 324A, 324B, 324C, 324D, and 324F removal activities are described in the Tank Removal Summary Sheet provided as Appendix A.

Permitting and Utility Investigation

Prior to initiating field activities, OHM completed an Orange County Health Care Agency (OCHCA) Facility Modification Application and received approval (Permit No. 97-080) for the removal of USTs 324A, 324B, 324C, 324D, and 324F. The OCHCA Facility Modification Application and approval form is provided as Appendix B.

2031 Main Street ■ Irvine, California 92614-6509 ■ 714-263-1146 ■ FAX: 714-263-1147

A geophysical survey to locate the underground utilities in the vicinity of the UST area was conducted by the OHM subcontractor, Spectrum Urban Geophysics, The geophysical survey data is provided as Appendix C.

UST Gauging, Removal, and Disposal

All five USTs were exposed and gauged on September 12, 1997 and they were full of liquid. On September 12 and 15, 1997, approximately 35,000 gallons of liquid content (primarily water) was pumped from USTs 324A, 324B, 324C, and 324D. Approximately 2,000 gallons of fuel oil was pumped from UST 324F. Then, the USTs were triple-rinsed with water and Alconox™, generating approximately 2,000 gallons of rinsate water.

All five USTs were removed on September 24 and 25, 1997 in the presence of the OCHCA Field Inspector. During removal of the USTs, there were no noticeable stains in the underlying soil. Approximately 633 cubic yards of soil and 50 cubic yards of concrete pieces were removed from the excavation.

Approximately 536 feet of piping associated with the five USTs was exposed during the excavation of the USTs. The piping that extended beyond the excavation limits was cut, grouted, capped, and abandoned in place. The piping was abandoned in place with the concurrence of the OCHCA Field Inspector.

Confirmation Soil Sampling, Analysis, and Results

Following the removal of the USTs, eight confirmation soil samples were collected on September 24 and 29, 1997 from the bottom of the excavation. Confirmation soil samples were collected in the presence of the OCHCA Field Inspector. The confirmation soil sampling locations are shown in Appendix D, Land Surveying Report and Soil Sample Locations.

The analytical results of the soil samples collected from the excavations are presented in Table 1, Confirmation Soil Sample Analytical Results - UST Site 324. The maximum TRPH concentration was detected at 200 mg/kg; no Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) compounds were detected in the confirmation soil samples.

Based on review of the analytical results of the soil samples and the observed non-impacted condition of excavated soil, no further excavation was conducted. Laboratory analytical reports provided by Applied Physics and Chemistry Laboratory (APCL), Chino, California is included in Appendix E. Photographs of the field activities are provided in Appendix F, Site Photographs.

Waste Management

On September 12 and 15, 1997, approximately 35,000 gallons of liquid was pumped from USTs 324A, 324B, 324C, and 324D and approximately 2,000 gallons of fuel oil was pumped from UST 324F. The liquid contents were sampled and results indicated that the liquid in USTs 324A, 324B, 324C, and 324D was identified as water with a range of

petroleum hydrocarbons. The liquid content in UST 324F was identified as primarily motor oil.

The liquid content and rinsate water were transferred to the Station's central treatment facility (CTF) compound for treatment through the carbon adsorption system (operated and maintained under another phase of this contract). The treated water was transferred to the Station's golf course holding tank for re-use.

The fuel oil, USTs, and scrap piping were transported to the Defense Reutilization and Marketing Office (DRMO) yard for recycling.

The USTs were certified "clean" by a Marine Chemist prior to transportation to DRMO yard for recycling. The Marine Chemist Certification and Tank Refuse Disposal Receipt are provided as Appendix G.

Approximately 54 cubic yards of asphalt and 50 cubic yards of concrete were removed during the removal of USTs and transferred to the Station's CTF compound for recycling.

Land Surveying
After completing field activities at the 324 site, the excavation limits and confirmation soil sample locations were surveyed by a California-registered land surveyor from Cal Vada Surveying, Inc. The land surveying data for USTs 324A, 324B, 324C, 324D, and 324F are presented in Appendix D.

Site Restoration
Following the direction of the OCHCA Field Inspector and with the concurrence of the Station's Resident Officer in Charge of Construction, the UST 324-excavation area was backfilled on September 30 through October 3, 1997 using clean stockpiled soil and crushed aggregate base. The site was restored to original grade.

Compaction was accomplished using a compaction wheel and a vibratory plate compactor, attached to a excavator. R.T. Frankian and Associates provided geotechnical oversight and performed compaction tests. The compaction tests revealed greater than 90 percent relative compaction at the UST excavation. Copies of the compaction test results are provided in Appendix H, Compaction Test Field Reports.

Conclusion and Recommendation
Based on the information presented in this report, the following conclusions are reached:

- USTs 324A, 324B, 324C, 324D, and 324F were removed and recycled.
- There was no evidence of spillage or areas of heavy stains observed in the excavation.

- The analytical results of the confirmation soil samples collected from the excavations indicated that the maximum TRPH concentration is 200 mg/kg. No BTEX compounds were detected in the confirmation soil samples.

- There was no groundwater encountered in the excavation.

Based on the information provided in this report, OHM, on behalf of the Station, recommends that a "No Further Action" status be granted by OCHCA for USTs 324A, 324B, 324C, 324D, and 324F.

Should you have any questions or comments, please feel free to contact the undersigned at (714) 263-1146.

Sincerely,
OHM Remediation Services Corporation

Dhananjay Rawal
Project Engineer

Jay Neuhaus, R.G.
Project Manager

Attachments:

Appendix A	Tank Removal Summary Sheet
Appendix B	OCHCA Facility Modification Application
Appendix C	Geophysical Survey Data
Appendix D	Land Survey Report and Soil Sample Locations
Appendix E	Laboratory Analytical Reports
Appendix F	Site Photographs
Appendix G	Marine Chemist Certification and Tank Refuse Disposal Receipt
Appendix H	Compaction Test Field Reports

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324DE-583	18609-324DW-586	18609-324FE-584	18609-324FW-585	18609-324AE-589
Sample Location		UST 324D EAST END	UST 324D WEST END	UST 324F EAST END	UST 324F WEST END	UST 324A EAST END
Date Collected		09/24/97	09/24/97	09/24/97	09/24/97	09/29/97
Sample Depth (feet below ground surface)		11.0	8.0	8.0	11.0	14.0
	Unit					
CA LUFT 8015M						
TPH as Diesel	mg/kg	11 U	12 U	12 U	12 U	11 U
TPH as Gasoline	mg/kg	1.1 U	1.2 U	1.2 U	1.2 U	1.1 U
TPH as Motor Oil	mg/kg	11 U	45	12 U	12 U	11 U
EPA 8020						
Benzene	µg/kg	5.6 U	5.9 U	6.0 U	5.8 U	5.7 U
Ethylbenzene	µg/kg	5.6 U	5.9 U	6.0 U	5.8 U	5.7 U
Toluene	µg/kg	5.6 U	5.9 U	6.0 U	5.8 U	5.7 U
Xylenes (total)	µg/kg	17 U	18 U	18 U	17 U	17 U
EPA 8260A						
1,1,1,2-Tetrachloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,1,2-Trichloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,1-Dichloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,1-Dichloroethene	µg/kg	5.6 U	NA	NA	NA	NA
1,1-Dichloropropene	µg/kg	5.6 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,2,3-Trichloropropane	µg/kg	5.6 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,2,4-Trimethylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	5.6 U	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	µg/kg	5.6 U	NA	NA	NA	NA
1,2-Dichlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,2-Dichloroethane	µg/kg	5.6 U	NA	NA	NA	NA
1,2-Dichloropropane	µg/kg	5.6 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,3-Dichlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA
1,3-Dichloropropane	µg/kg	5.6 U	NA	NA	NA	NA
1,4-Dichlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324DE-583	18609-324DW-586	18609-324FE-584	18609-324FW-585	18609-324AE-589
Sample Location		UST 324D EAST END	UST 324D WEST END	UST 324F EAST END	UST 324F WEST END	UST 324A EAST END
Date Collected		09/24/97	09/24/97	09/24/97	09/24/97	09/29/97
Sample Depth (feet below ground surface)		11.0	8.0	8.0	11.0	14.0
	Unit					
2,2-Dichloropropane	µg/kg	5.6 U	NA	NA	NA	NA
2-Chlorotoluene	µg/kg	5.6 U	NA	NA	NA	NA
4-Chlorotoluene	µg/kg	5.6 U	NA	NA	NA	NA
Benzene	µg/kg	5.6 U	NA	NA	NA	NA
Bromobenzene	µg/kg	5.6 U	NA	NA	NA	NA
Bromochloromethane	µg/kg	5.6 U	NA	NA	NA	NA
Bromodichloromethane	µg/kg	5.6 U	NA	NA	NA	NA
Bromoform	µg/kg	5.6 U	NA	NA	NA	NA
Bromomethane	µg/kg	5.6 U	NA	NA	NA	NA
Carbon tetrachloride	µg/kg	5.6 U	NA	NA	NA	NA
Chlorobenzene	µg/kg	5.6 U	NA	NA	NA	NA
Chloroethane	µg/kg	5.6 U	NA	NA	NA	NA
Chloroform	µg/kg	5.6 U	NA	NA	NA	NA
Chloromethane	µg/kg	5.6 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	5.6 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	µg/kg	5.6 U	NA	NA	NA	NA
Dibromochloromethane	µg/kg	5.6 U	NA	NA	NA	NA
Dibromomethane	µg/kg	5.6 U	NA	NA	NA	NA
Dichlorodifluoromethane	µg/kg	5.6 U	NA	NA	NA	NA
Ethylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
Hexachlorobutadiene	µg/kg	5.6 U	NA	NA	NA	NA
Isopropylbenzene (Cumene)	µg/kg	5.6 U	NA	NA	NA	NA
Methylene chloride	µg/kg	5.6 U	NA	NA	NA	NA
N-Butylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
N-Propylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
Naphthalene	µg/kg	5.6 U	NA	NA	NA	NA
p-Isopropyltoluene	µg/kg	5.6 U	NA	NA	NA	NA
sec-Butylbenzene	µg/kg	5.6 U	NA	NA	NA	NA
Styrene	µg/kg	5.6 U	NA	NA	NA	NA
tert-Butylbenzene	µg/kg	5.6 U	NA	NA	NA	NA

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324DE-583	18609-324DW-586	18609-324FE-584	18609-324FW-585	18609-324AE-589
Sample Location		UST 324D EAST END	UST 324D WEST END	UST 324F EAST END	UST 324F WEST END	UST 324A EAST END
Date Collected		09/24/97	09/24/97	09/24/97	09/24/97	09/29/97
Sample Depth (feet below ground surface)		11.0	8.0	8.0	11.0	14.0
	Unit					
Tetrachloroethene	µg/kg	5.6 U	NA	NA	NA	NA
Toluene	µg/kg	5.6 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/kg	5.6 U	NA	NA	NA	NA
Trichloroethene	µg/kg	5.6 U	NA	NA	NA	NA
Trichlorofluoromethane	µg/kg	5.6 U	NA	NA	NA	NA
Vinyl Chloride	µg/kg	5.6 U	NA	NA	NA	NA
Xylenes (total)	µg/kg	5.6 U	NA	NA	NA	NA
EPA 418.1						
Total Recoverable Petroleum Hydrocarbon	mg/kg	200	68	58	55	23
ASTM D 2216						
Percent Moisture	Percent	10.6	14.9	16.3	13.1	11.8

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324AW-590	18609-324BE-588	18609-324CE-587
Sample Location		UST 324A WEST END	UST 324B EAST END	UST 324C EAST END
Date Collected		09/29/97	09/29/97	09/29/97
Sample Depth (feet below ground surface)		13.0	13.5	13.0
	Unit			
CA LUFT 8015M				
TPH as Diesel	mg/kg	12 U	11 U	12 U
TPH as Gasoline	mg/kg	1.2 U	1.1 U	1.2 U
TPH as Motor Oil	mg/kg	12 U	11 U	12 U
EPA 8020				
Benzene	µg/kg	6.1 U	5.6 U	5.8 U
Ethylbenzene	µg/kg	6.1 U	5.6 U	5.8 U
Toluene	µg/kg	6.1 U	5.6 U	5.8 U
Xylenes (total)	µg/kg	18 U	17 U	17 U
EPA 8260A				
1,1,1,2-Tetrachloroethane	µg/kg	NA	NA	NA
1,1,1-Trichloroethane	µg/kg	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/kg	NA	NA	NA
1,1,2-Trichloroethane	µg/kg	NA	NA	NA
1,1-Dichloroethane	µg/kg	NA	NA	NA
1,1-Dichloroethene	µg/kg	NA	NA	NA
1,1-Dichloropropene	µg/kg	NA	NA	NA
1,2,3-Trichlorobenzene	µg/kg	NA	NA	NA
1,2,3-Trichloropropane	µg/kg	NA	NA	NA
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	NA	NA	NA
1,2-Dibromoethane (EDB)	µg/kg	NA	NA	NA
1,2-Dichlorobenzene	µg/kg	NA	NA	NA
1,2-Dichloroethane	µg/kg	NA	NA	NA
1,2-Dichloropropane	µg/kg	NA	NA	NA
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA
1,3-Dichlorobenzene	µg/kg	NA	NA	NA
1,3-Dichloropropane	µg/kg	NA	NA	NA
1,4-Dichlorobenzene	µg/kg	NA	NA	NA

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324AW-590	18609-324BE-588	18609-324CE-587
Sample Location		UST 324A WEST END	UST 324B EAST END	UST 324C EAST END
Date Collected		09/29/97	09/29/97	09/29/97
Sample Depth (feet below ground surface)		13.0	13.5	13.0
	Unit			
2,2-Dichloropropane	µg/kg	NA	NA	NA
2-Chlorotoluene	µg/kg	NA	NA	NA
4-Chlorotoluene	µg/kg	NA	NA	NA
Benzene	µg/kg	NA	NA	NA
Bromobenzene	µg/kg	NA	NA	NA
Bromochloromethane	µg/kg	NA	NA	NA
Bromodichloromethane	µg/kg	NA	NA	NA
Bromoform	µg/kg	NA	NA	NA
Bromomethane	µg/kg	NA	NA	NA
Carbon tetrachloride	µg/kg	NA	NA	NA
Chlorobenzene	µg/kg	NA	NA	NA
Chloroethane	µg/kg	NA	NA	NA
Chloroform	µg/kg	NA	NA	NA
Chloromethane	µg/kg	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	NA	NA	NA
cis-1,3-Dichloropropene	µg/kg	NA	NA	NA
Dibromochloromethane	µg/kg	NA	NA	NA
Dibromomethane	µg/kg	NA	NA	NA
Dichlorodifluoromethane	µg/kg	NA	NA	NA
Ethylbenzene	µg/kg	NA	NA	NA
Hexachlorobutadiene	µg/kg	NA	NA	NA
Isopropylbenzene (Cumene)	µg/kg	NA	NA	NA
Methylene chloride	µg/kg	NA	NA	NA
N-Butylbenzene	µg/kg	NA	NA	NA
N-Propylbenzene	µg/kg	NA	NA	NA
Naphthalene	µg/kg	NA	NA	NA
p-Isopropyltoluene	µg/kg	NA	NA	NA
sec-Butylbenzene	µg/kg	NA	NA	NA
Styrene	µg/kg	NA	NA	NA
tert-Butylbenzene	µg/kg	NA	NA	NA

Table 1

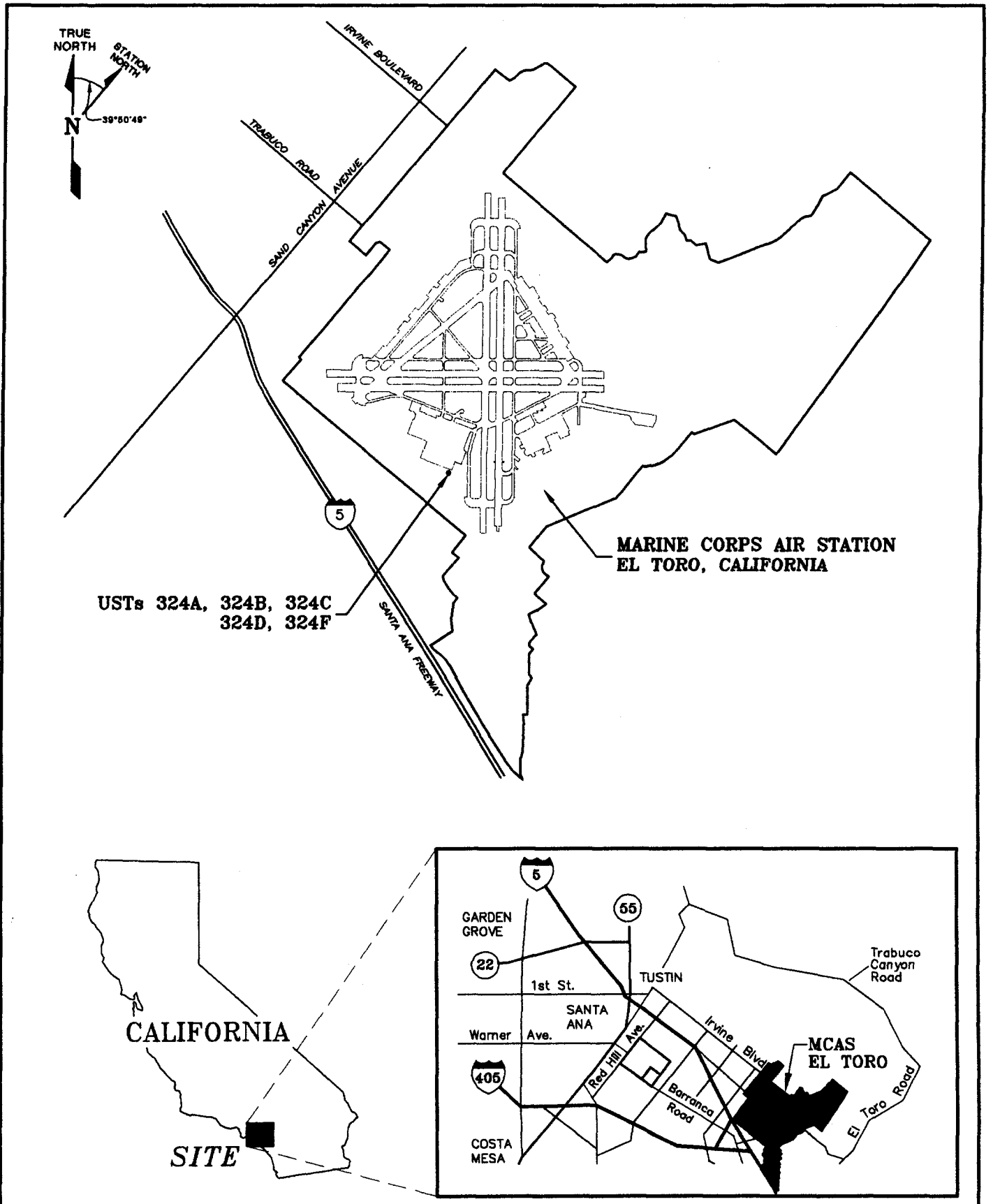
Confirmation Soil Sample Analytical Results - UST Site 324

OHM Sample Number		18609-324AW-590	18609-324BE-588	18609-324CE-587
Sample Location		UST 324A WEST END	UST 324B EAST END	UST 324C EAST END
Date Collected		09/29/97	09/29/97	09/29/97
Sample Depth (feet below ground surface)		13.0	13.5	13.0
	Unit			
Tetrachloroethene	µg/kg	NA	NA	NA
Toluene	µg/kg	NA	NA	NA
trans-1,2-Dichloroethene	µg/kg	NA	NA	NA
Trichloroethene	µg/kg	NA	NA	NA
Trichlorofluoromethane	µg/kg	NA	NA	NA
Vinyl Chloride	µg/kg	NA	NA	NA
Xylenes (total)	µg/kg	NA	NA	NA
EPA 418.1				
Total Recoverable Petroleum Hydrocarbon	mg/kg	12 U	11 U	88
ASTM D 2216				
Percent Moisture	Percent	18.5	10.4	13.2

Table 1

Confirmation Soil Sample Analytical Results - UST Site 324

Explanation:
ASTM - American Society for Testing Materials
CA LUFT - California Leaking Underground Fuel Tank
EPA - United States Environmental Protection Agency
M - modified
mg/kg - milligrams per kilogram
NA - not analyzed
OHM - OHM Remedition Services Corp.
TPH - total petroleum hydrocarbons
U - not detected above or equal to the stated reporting limit
UST - underground storage tank
µg/kg - micrograms per kilogram



OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA	DRAWN BY R. PIRMORADIAN	DATE 02/18/98	FACILITY LOCATION MAP USTs 324A, 324B, 324C, 324D AND 324F				
	CHECKED BY	DATE 2/18/98					
	APPROVED BY	DATE					
CONTRACT NAME SWDIV	PROJECT MANAGER	DATE	MARINE CORPS AIR STATION EL TORO, CALIFORNIA				
AUTOCAD FILE No. 18609103.DWG	PLOT SCALE 1=1	SHEET 1	OF 1	SCALE NONE	DOCUMENT CONTROL No. SW4694	OHM PROJECT No. 18609	FIGURE No. FIG 1-1	REVISION 0

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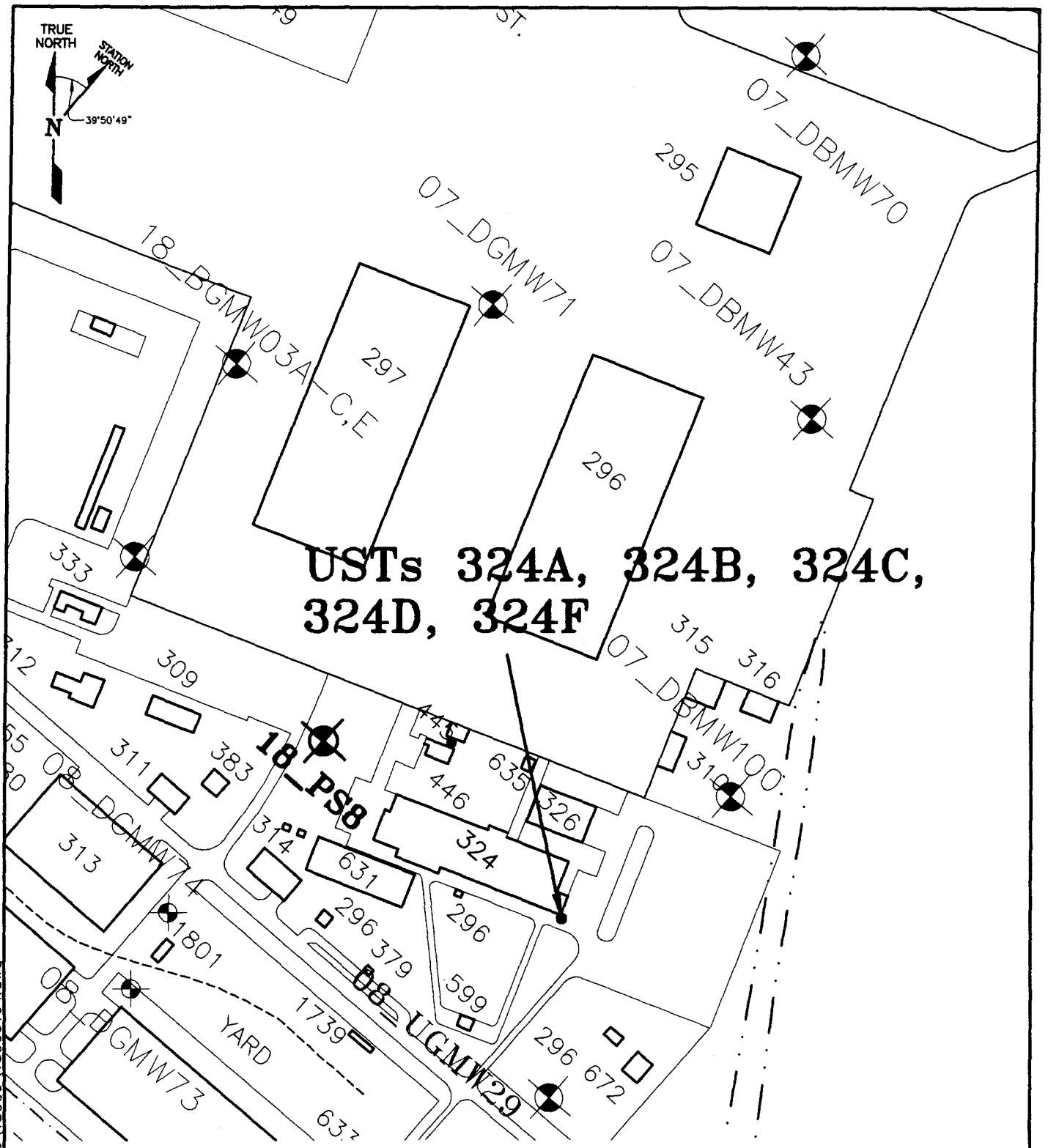

EXPLANATION:

GROUNDWATER MONITORING WELL

GRAPHIC SCALE

300 0 150 300

(IN FEET)

OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA	DRAWN BY R. PIRMORADIAN	DATE 02/18/98	LOCATION MAP USTs 324A, 324B, 324C, 324D AND 324F
	CHECKED BY	DATE 2/18/98	
	APPROVED BY	DATE	
CONTRACT NAME SWDIV	PROJECT MANAGER	DATE	MARINE CORPS AIR STATION EL TORO, CALIFORNIA

AUTOCAD FILE No.	PLOT SCALE	SHEET	OF	SCALE	DOCUMENT CONTROL No.	OHM PROJECT No.	FIGURE No.	REVISION
18609104.DWG	1=1	1	1	AS NOTED	SW4694	18609	FIG 1-2	0

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Appendix A
Tank Removal Summary Sheet

TANK REMOVAL AND SITE CLOSURE SUMMARY SHEET

Underground Storage Tank IDs:	UST 324A, 324B, 324C, 324D, and 324F
Location:	Marine Corps Air Station El Toro, California
Site:	Building 324 West of Agua Chinon Wash
UST Size and Construction:	UST 324A: steel, 8,000-gallon capacity UST 324B: steel, 8,000-gallon capacity UST 324C: steel, 8,000-gallon capacity UST 324D: steel, 8,000-gallon capacity UST 324F: steel, 2,000-gallon capacity
Original Tank Usage:	UST 324A: storage of JP-5 UST 324B: storage of JP-5 UST 324C: storage of JP-5 UST 324D: storage of JP-5 UST 324F: storage of fuel oil
UST Contents Disposed:	37,000 gallons, to DRMO and water treatment system
UST Removal Date:	September 24 and 25, 1997
OCHCA UST Removal Permit No.:	97-080
Confirmation Soil Samples Collected:	18609-324DE-583 18609-324FE-584 18609-324FW-585 18609-324DW-586 18609-324CE-587 18609-324BE-588 18609-324AE-589 18609-324AW-590
OCHCA Field Inspector Present:	Yes, during UST removal

TANK REMOVAL AND SITE CLOSURE SUMMARY SHEET

Sample Analysis Methods:	TPH-Gasoline (CA LUFT 8015M) TPH-Diesel (CA LUFT 8015M) TPH-Motor Oil (CA LUFT 8015M) TRPH (EPA Method 418.1) BTEX (EPA Method 8020) Volatiles (EPA Method 8260A)
Sample Analytical Results:	Maximum TRPH concentration: 200 mg/kg No BTEX concentration were detected
Excavation Backfill:	Excavated, overburden soil Crushed aggregate base
Excavation Compaction:	92 to 94 percent relative compaction
Depth to Groundwater:	103 feet
Reference:	18_PS8

Appendix B
Orange County Health Care Agency Modification Application and Approval Form

COUNTY OF ORANGE

TOM URAM
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

(2)

PC# 97-080

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

DATE: 4/6/97

FACILITY INFORMATION

NAME: MARINE CORPS AIR STATION ELTORO

STREET ADDRESS: P O Box 95001

CITY: Santa Ana CA 92709

TOTAL NUMBER OF TANKS (AFTER INSTALLATION/REMOVAL) AT THIS LOCATION: 0

TYPE OF BUSINESS:
- ☐ GASOLINE STATION
- ☒ GOVERNMENT
- ☐ FARM
- ☐ OTHER

K OWNER *NAME (CORP., INDIVIDUAL, PUBLIC AGENCY):*

MCAS ELTORO ENV Dept

STREET ADDRESS: Building T-2009

CITY: Santa Ana

STATE: CA ZIP 92709

TELEPHONE NO: 714-726-3309

BILLING ADDRESS INFORMATION

BILL TO NAME: OHM Remediation Services

BILL TO ADDRESS: 20301 Main Street

CITY: IRVINE

STATE: CA ZIP 92714

TELEPHONE NO.: 714-263-1146

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 USTs
- ☒ CLOSURE(S)/REMOVAL(S) (11)
- ☐ SYSTEM MODIFICATION (E.G. REPIPE, REPAIR TO PIPING)
- ☐ OTHER (SPECIFY)

24 HOUR EMERGENCY CONTACT PERSON

DAYS: SCOTT KEHE 714-726-2506
NAME TELEPHONE

NIGHTS: OHM - 1-800-537-9540 / ELTORO - 714-726-9911/2172
NAME TELEPHONE

APPLICANT

NAME: DHANANJAY RAWAL
PLEASE PRINT

SIGNATURE: [signature]

COMPANY NAME: OHM Remediation Services

TELEPHONE NO: 714-263-9124 x 303

FACILITY OPERATOR (CONTACT PERSON)

NAME: LT Hope Katchalson, MCAS ENV.

BUSINESS TELEPHONE NO.: 714-726-3386

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.: _____ FEES PAID: _____ RCVD. BY: _____

PLAN APPROVAL DATE: _____ BY: _____

NUMBER OF TANKS TO RECEIVE A SURCHARGE BILL: _____ NUMBER OF TANKS TO BE ADDED TO BILLING: _____

(1)

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.	47A #1	47B #2	324 #3 A	324 #4 B
MATERIAL STORED	MATERIAL OR WASTE STORED		CURRENTLY	Sand	Sand/hydro	Unknown	Unknown
			PROPOSED	None	None	None	None
			PREVIOUSLY	Fuel oil/Unl	Unknown	JP-5	JP-5
	FUEL TYPE, I.E., UNLEADED			N/A	N/A	N/A	N/A
TANK CONTAINER	TYPE (TANK, SUMP, OTHERS)			UST	UST	UST	UST
	DOUBLE WALL/SINGLE WALL			N/A	N/A	NA	
	UL NUMBER			N/A	N/A		NA
	YEAR INSTALLED			1943	1943	1945	1945
	VAULTED/NOT VAULTED			N/A	N/A	N/A	N/A
	PRIMARY	MANUFACTURER		N/A	N/A	N/A	N/A
		CAPACITY (GALLONS)		1500 gals	1500 g	8000	8000
		CONSTRUCTION MATERIAL		Steel	Steel	Steel	Steel
		THICKNESS (UNITS)					
		INTERIOR LINING		NA	NA		
	SECONDARY	MANUFACTURER					
		CAPACITY (GALLONS)					
		CONSTRUCTION MATERIAL		NA	NA	NA	NA
		THICKNESS (UNITS)					
	CORROSION PROTECTION						
	TYPE OF LEAK DETECTION FOR USTs (LIQUID, PROBE, ETC.)			NA	NA		
	MANUFACTURER OF LEAK DETECTOR						
PIPING	LOCATION (UNDER/ABOVE GROUND)			Underground	Underground	Underground	Underground
	SUCTION/PRESSURE GRAVITY/UNKNOWN			Unknown	Unknown	Unknown	Unknown
	PRIMARY	CONSTRUCTION MATERIAL		N/A	N/A		
		MANUFACTURER					
	SECONDARY	CONSTRUCTION MATERIAL		NA	NA		
		MANUFACTURER				NA	NA
	TYPE OF LEAK DETECTION FOR PIPING (PRESSURE LOSS DEVICE, ETC.)						
	MANUFACTURER OF LEAK DETECTOR			NA	NA		
OVERFILL PROTECTION (TYPE)							
SPILL CONTAINMENT (TYPE)							

(2)

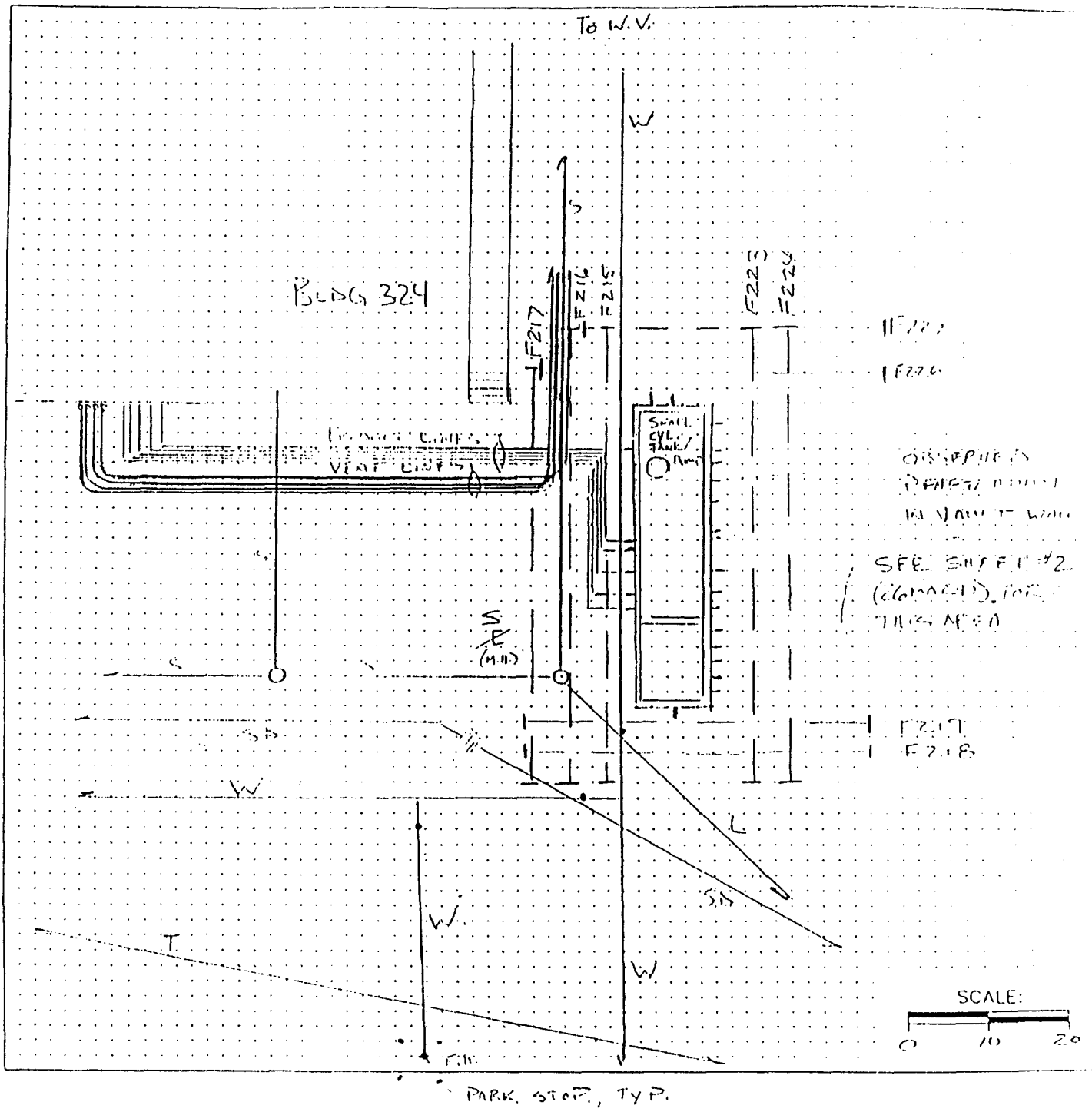
TANK INFORMATION

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.			324#1 C	324#2 D	324#3 F	~~280#4 A~~
MATERIAL STORED	MATERIAL OR WASTE STORED	CURRENTLY	Unknown	Unknown	Unknown	
		PROPOSED	None	None	None	
		PREVIOUSLY	JP-5	JP-5	~~JP-5~~ fuel oil	
	FUEL TYPE, I.E., UNLEADED		N/A	NA	N/A	
TANK	TYPE (TANK, SUMP, OTHERS)		UST	UST	UST	
	DOUBLE WALL/SINGLE WALL		N/A	N/A	NA	
	UL NUMBER		N/A	N/A		
	YEAR INSTALLED		1945	1945	Unknown	
	VAULTED/NOT VAULTED		N/A	N/A		
	PRIMARY	MANUFACTURER	N/A	N/A	NA	
		CAPACITY (GALLONS)	8000	8000	2000	
		CONSTRUCTION MATERIAL	Steel	Steel	Steel	
		THICKNESS (UNITS)	NA			
		INTERIOR LINING				
	SECONDARY	MANUFACTURER				
		CAPACITY (GALLONS)		NA		
		CONSTRUCTION MATERIAL	NA		NA	
		THICKNESS (UNITS)				
	CORROSION PROTECTION					
	TYPE OF LEAK DETECTION FOR USTs (LIQUID, PROBE, ETC.)		NA	NA	NA	
	MANUFACTURER OF LEAK DETECTOR					
PIPING	LOCATION (UNDER/ABOVE GROUND)		Underground	Underground		
	SUCTION/PRESSURE GRAVITY/UNKNOWN		N/A	N/A		
	PRIMARY	CONSTRUCTION MATERIAL				
		MANUFACTURER				
	SECONDARY	CONSTRUCTION MATERIAL			NA	
		MANUFACTURER	NA	NA		
	TYPE OF LEAK DETECTION FOR PIPING (PRESSURE LOSS DEVICE, ETC.)					
	MANUFACTURER OF LEAK DETECTOR					
OVERFILL PROTECTION (TYPE)						
SPILL CONTAINMENT (TYPE)						

324A, B, C, D & F

GEOPHYSICAL SURVEY MAP

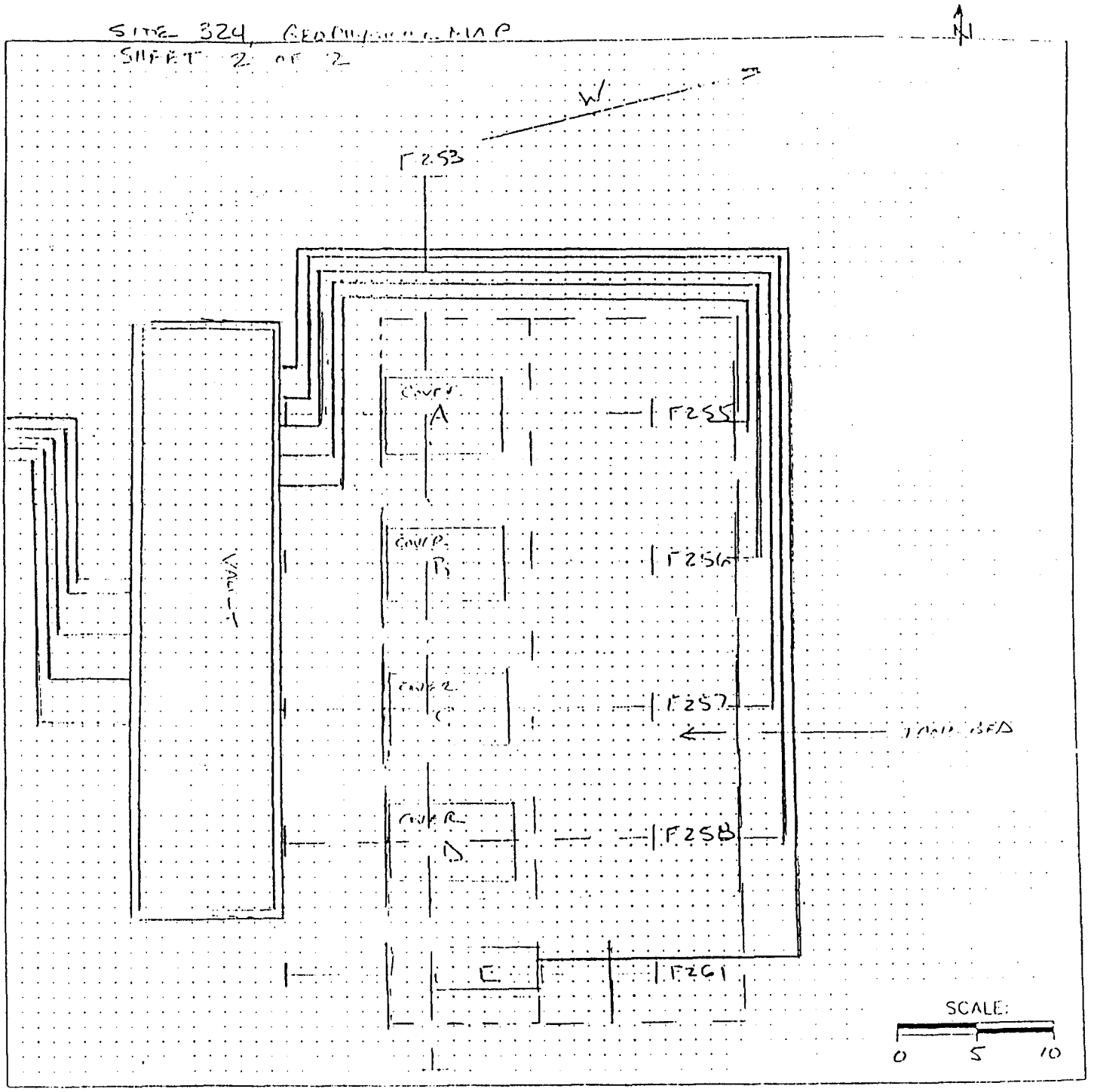


LEGEND

|— — —| GEOPHYSICAL TRAVERSE

———— UTILITY.
E = ELECTRICAL, T = TELEPHONE,
G = GAS, S = SEWER, SD = STORM DRAIN,
W = WATER, P = PRODUCT LINE,
V = VENT LINE, U = UNKNOWN LINE

GEOPHYSICAL SURVEY MAP



LEGEND

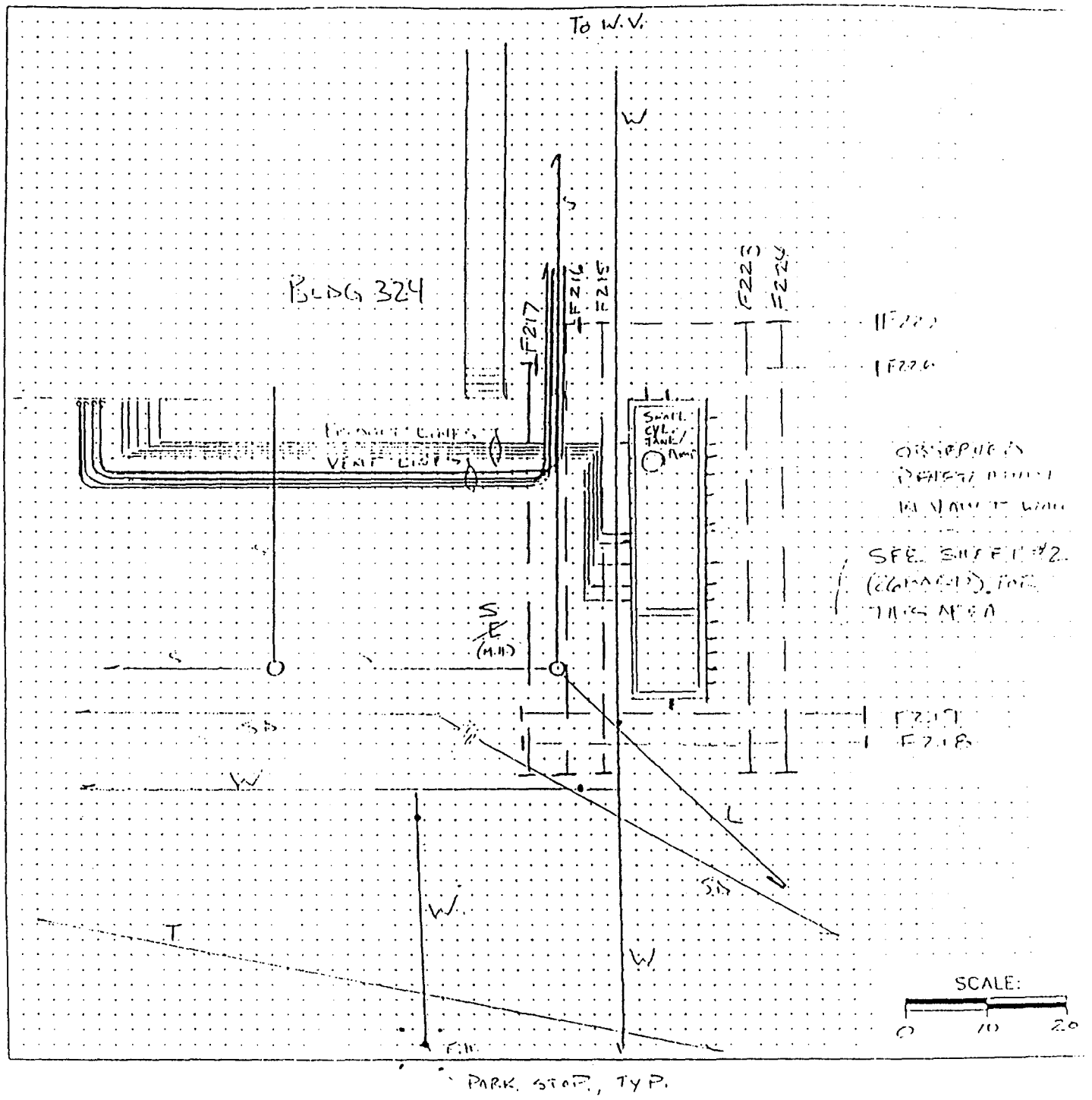
|— — —| GEOPHYSICAL TRAVERSE

———— UTILITY:
E = ELECTRICAL, T = TELEPHONE,
G = GAS, S = SEWER, SD = STORM DRAIN,
W = WATER, P = PRODUCT LINE,
V = VENT LINE, U = UNKNOWN LINE

Appendix C
Geophysical Survey Data

324 A, B, C, D & F

GEOPHYSICAL SURVEY MAP

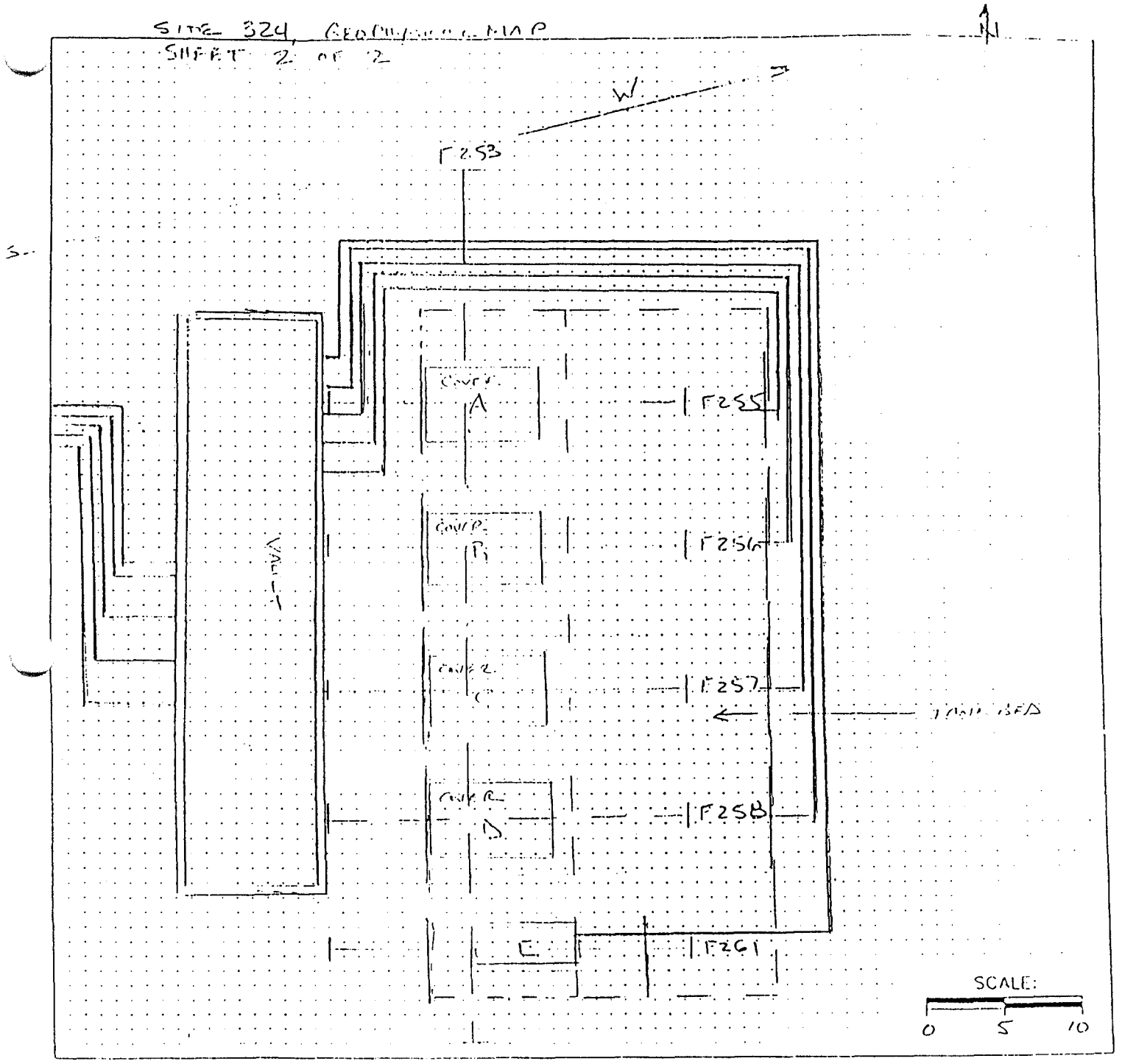


LEGEND

|— — —| GEOPHYSICAL TRAVERSE

———— UTILITY.
E = ELECTRICAL, T = TELEPHONE,
G = GAS, S = SEWER, SD = STORM DRAIN,
W = WATER, P = PRODUCT LINE,
V = VENT LINE, U = UNKNOWN LINE

GEOPHYSICAL SURVEY MAP



LEGEND

|— — —| GEOPHYSICAL TRAVERSE

———— UTILITY:
E = ELECTRICAL, T = TELEPHONE,
G = GAS, S = SEWER, SD = STORM DRAIN,
W = WATER, P = PRODUCT LINE,
V = VENT LINE, U = UNKNOWN LINE

SPECTRUM

URBAN GEOPHYSICS

Results of Subsurface Investigation

MCAS El Toro
OWS Site 324-1
Santa Ana, California

Prepared for: **OHM Remediation**
Anaheim, California

Date of Investigation: **April 1, 1997**

Prepared by:

Mark Riches
Senior Project Manager

R. Allan Payne
Calif. Reg. Geophysicist, No. 940

Contents

Introduction

Equipment

Results

Figure 1 Detected subsurface utilities on a portion of OWS Site 324-1

Results of Subsurface Investigation
MCAS El Toro
OWS Site 324-1
Santa Ana, California

Introduction

On the 1st of April, 1997 Spectrum Environmental Services, Inc. conducted a records search and subsurface investigation on a portion of OWS Site 324-1 at MCAS El Toro in Santa Ana, California. The purpose was to delineate the oil-water separator (OWS) and detectable utilities in an approximately 35 by 20-foot area.

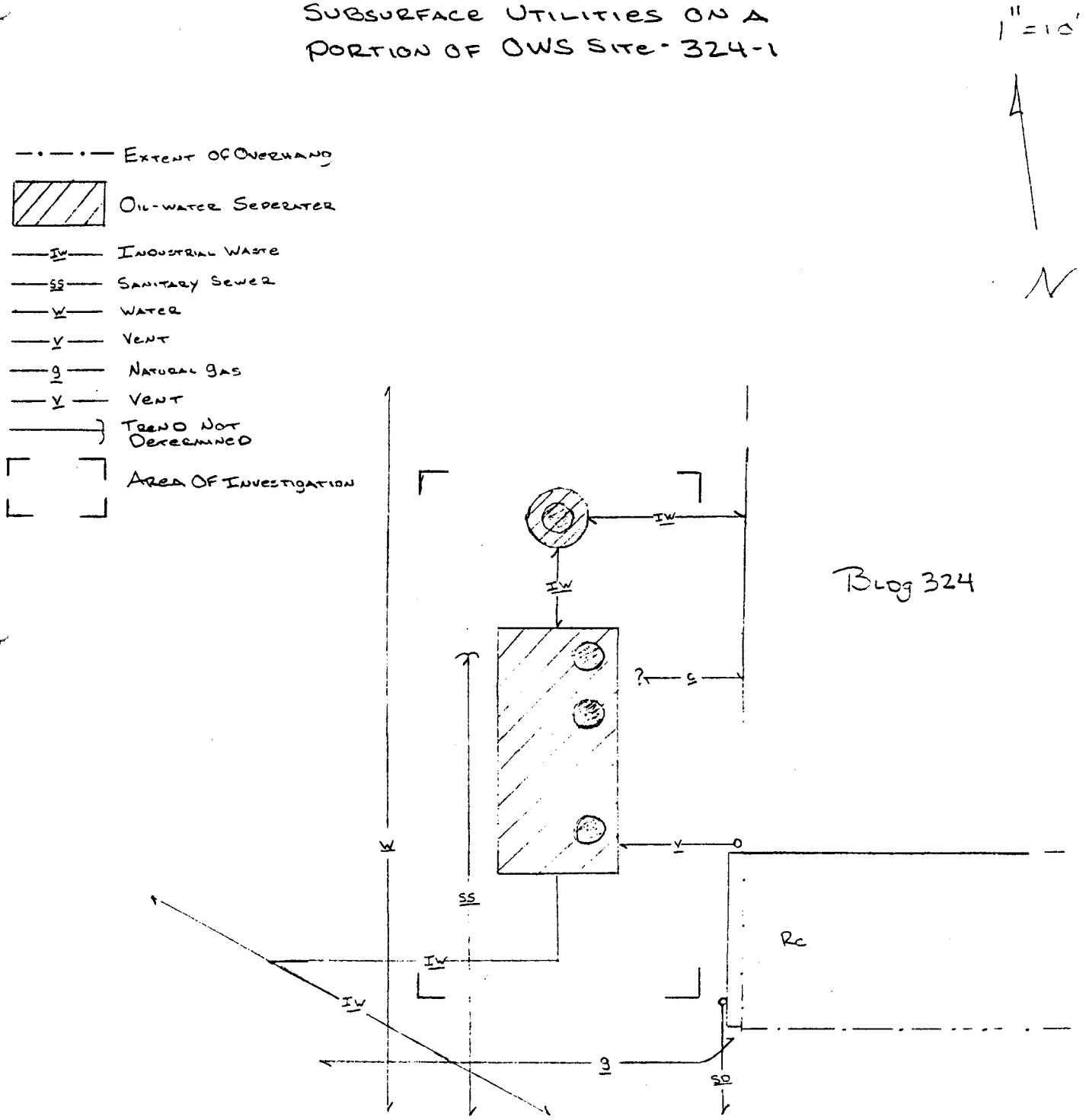
Equipment

The equipment used in this investigation, where appropriate, included a Geometrics 856 magnetometer, GSSI SIR System 3 GPR unit with a 300 MHz transducer, Fisher TW-6 shallow-focus terrain conductivity meter, Dynatel 500-A, and Radiodetection RD600 utility locator.

Results

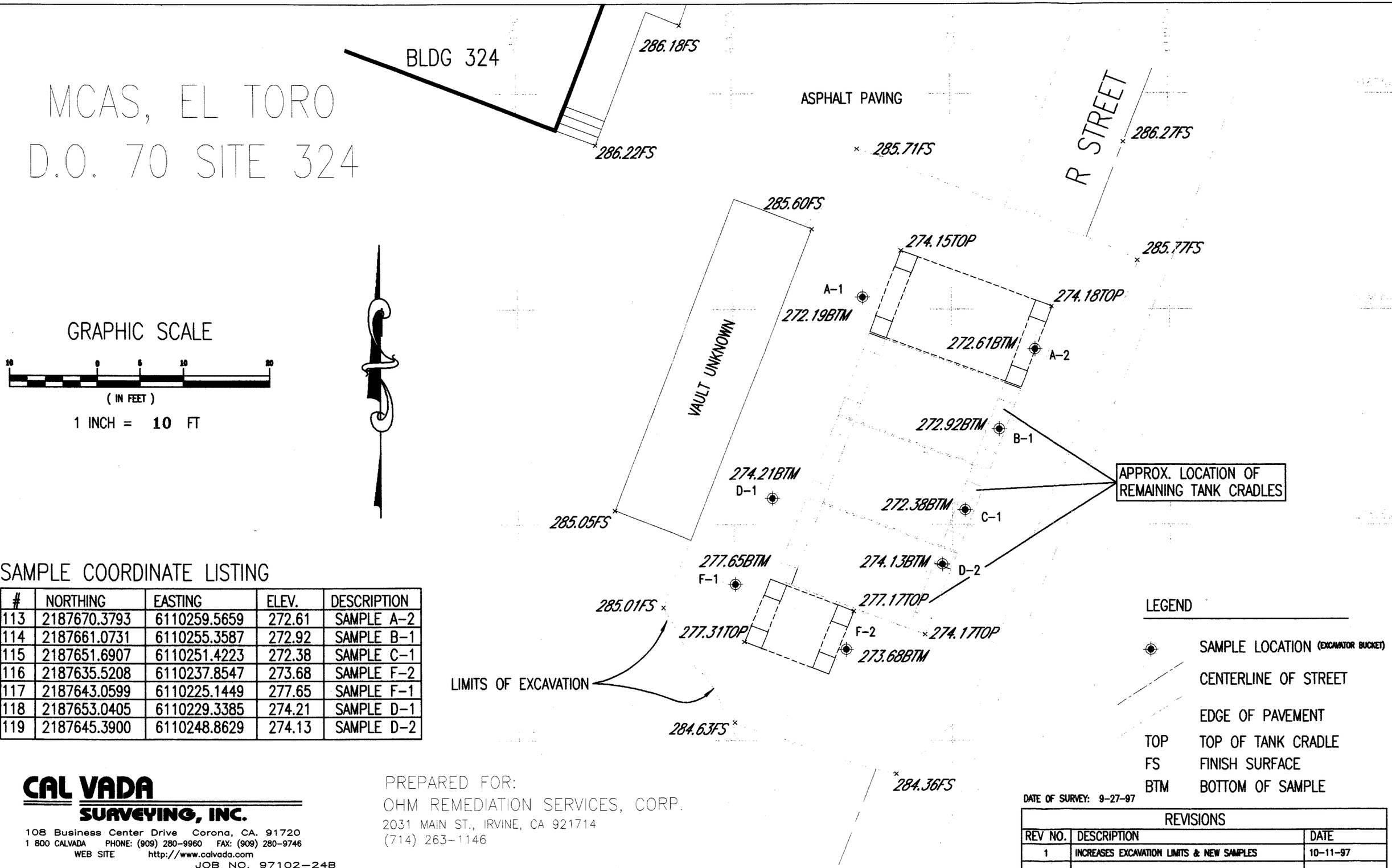
The location of OWS 324-1 and detected subsurface utilities were marked on the ground and documented on hand drawn plan-view maps generated in the field (see Figure 1).

Figure 1 - Area of Detected Subsurface Utilities on a Portion of OWS Site - 324-1



Appendix D
Land Survey Report and Soil Sample Location

MCAS, EL TORO
D.O. 70 SITE 324



SAMPLE COORDINATE LISTING

#	NORTHING	EASTING	ELEV.	DESCRIPTION
113	2187670.3793	6110259.5659	272.61	SAMPLE A-2
114	2187661.0731	6110255.3587	272.92	SAMPLE B-1
115	2187651.6907	6110251.4223	272.38	SAMPLE C-1
116	2187635.5208	6110237.8547	273.68	SAMPLE F-2
117	2187643.0599	6110225.1449	277.65	SAMPLE F-1
118	2187653.0405	6110229.3385	274.21	SAMPLE D-1
119	2187645.3900	6110248.8629	274.13	SAMPLE D-2

LEGEND

⊕	SAMPLE LOCATION (EXCAVATOR BUCKET)
	CENTERLINE OF STREET
	EDGE OF PAVEMENT
TOP	TOP OF TANK CRADLE
FS	FINISH SURFACE
BTM	BOTTOM OF SAMPLE

DATE OF SURVEY: 9-27-97

REVISIONS		
REV NO.	DESCRIPTION	DATE
1	INCREASES EXCAVATION LIMITS & NEW SAMPLES	10-11-97

CAL VADA SURVEYING, INC.
108 Business Center Drive Corona, CA. 91720
1 800 CALVADA PHONE: (909) 280-9960 FAX: (909) 280-9746
WEB SITE http://www.calvada.com

JOB NO. 97102-24B

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

Feb 19, 1998 26:26 F:\DISK#2\UST324\CALVADA\IM0324.DWG

Appendix E
Laboratory Analytical Reports

COMPLETED O/W

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

212011

FORM 0019 REV. 2-97

OHM's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
DWAYNE ISHIDA	(714) 263-1146	(714) 263-1147	974190		
PROJECT NAME: UST 324A Confirmation Samples	PROJECT LOCATION: M.C.A.S. EL TORO	PROJECT NUMBER: 18609	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
PROJECT CONTACT: D. ISHIDA	PROJECT PHONE NUMBER: 263-1146	PROJECT FAX: 263-1147	LABORATORY ADDRESS		ADDRESS
PROJECT ADDRESS: 2031 MAIN ST.	CITY, STATE AND ZIPCODE: IRVINE, CA	CLIENT: SWDIV	CITY, STATE AND ZIPCODE: CHINO, CA.		CITY, STATE AND ZIPCODE
PROJECT MANAGER: Bill SEDLAK	PROJECT MANAGER'S PHONE: 263-1146	PROJECT MANAGER'S FAX: 263-1147			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: TPH-Purgeable	TPH-Extractable	8020-BTEX	TRPH-418.1					Comments
1	18609-324DE-583	S	9/24/97	1035	—	1	C	5DAY	X	X	X	X					A.p.c.L.
2	18609-324FE-584	↓	↓	1038	—	1	C	5DAY	X	X	X	X					
3	18609-324FW-585	↓	↓	1045	—	1	C	5DAY	X	X	X	X					
4	18609-324DW-586	S	9/24/97	1050	—	1	C	5DAY	X	X	X	X					
5	18609-587	W	9/24/97	0900	HCL	1	C	5DAY	X		X						
6																	
7																	
8																	
9																	
10																	

(MB) 9/24/97

SAMPLES COLLECTED BY: MB

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Marlin Bomm	[illegible]	9/24/97	2400	

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) 324-Tank "D" - East End 11'	X			
2) 324-Tank "F" - East End 8'	X			
3) 324-Tank "F" - West End 11'	X			
4) 324-Tank "D" - West End 8'	X			
5) Trip Blank	X			X

Comments

EXAMPLE: 324
18609-324DE-583
D.O. UST | CONS. #
TANK
COMPASS HEADING

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

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-2	Received Date:	09/24/97
Sample ID:	**18609-324DE-583**	Sample Matrix	Soil	Moisture %:	10.6
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/25/97	Anal. Date:	09/25/97
Batch No:	97G3836	Prep. No:	–	Anal. Time:	14:09
Data File Name:	4079.002	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.1	<1.1	U
2	BENZENE	71-43-2	μg/kg	5.6	<5.6	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.6	<5.6	U
4	TOLUENE	108-88-3	μg/kg	5.6	<5.6	U
5	XYLENES (TOTAL)	1330-20-7	μg/kg	17	<17	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	97
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	103
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	94
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21510

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-4	Received Date:	09/24/97
Sample ID:	**18609-324FE-584**	Sample Matrix	Soil	Moisture %:	16.3
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/25/97	Anal. Date:	09/25/97
Batch No:	97G3836	Prep. No:	–	Anal. Time:	15:00
Data File Name:	4079.004	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.2	<1.2	U
2	BENZENE	71-43-2	μg/kg	6.0	<6.0	U
3	ETHYLBENZENE	100-41-4	μg/kg	6.0	<6.0	U
4	TOLUENE	108-88-3	μg/kg	6.0	<6.0	U
5	XYLENES (TOTAL)	1330-20-7	μg/kg	18	<18	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	98
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	96
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21512

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-5	Received Date:	09/24/97
Sample ID:	**18609-324FW-585**	Sample Matrix	Soil	Moisture %:	13.1
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/25/97	Anal. Date:	09/25/97
Batch No:	97G3836	Prep. No:	–	Anal. Time:	15:26
Data File Name:	4079.005	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.2	<1.2	U
2	BENZENE	71-43-2	μg/kg	5.8	<5.8	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.8	<5.8	U
4	TOLUENE	108-88-3	μg/kg	5.8	<5.8	U
5	XYLENES (TOTAL)	1330-20-7	μg/kg	17	<17	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	101
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	98
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21513

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-3	Received Date:	09/24/97
Sample ID:	**18609-324DW-586**	Sample Matrix	Soil	Moisture %:	14.9
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/25/97	Anal. Date:	09/25/97
Batch No:	97G3836	Prep. No:	–	Anal. Time:	14:34
Data File Name:	4079.003	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.2	<1.2	U
2	BENZENE	71-43-2	μg/kg	5.9	<5.9	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.9	<5.9	U
4	TOLUENE	108-88-3	μg/kg	5.9	<5.9	U
5	XYLENES (TOTAL)	1330-20-7	μg/kg	18	<18	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	100
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	98
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	96
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21511

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-1	Received Date:	09/24/97
Sample ID:	**18609-587**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/26/97	Anal. Date:	09/26/97
Batch No:	97G3855	Prep. No:	–	Anal. Time:	18:41
Data File Name:	4079.001	Sample Amount:	5 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	0.05	<0.05	U
2	BENZENE	71-43-2	μg/L	0.5	<0.5	U
3	ETHYLBENZENE	100-41-4	μg/L	0.5	<0.5	U
4	TOLUENE	108-88-3	μg/L	0.5	<0.5	U
5	XYLENES (TOTAL)	1330-20-7	μg/L	1.5	<1.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	94
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	104
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	102
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21509

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-2	Received Date:	09/24/97
Sample ID:	**18609-324DE-583**	Sample Matrix	Soil	Moisture %:	10.6
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	09/26/97	Anal. Date:	09/30/97
Batch No:	97G3852	Prep. No:	1 of 1	Anal. Time:	05:29
Data File Name:	4079.002	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	11	<11	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	11	<11	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	70
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21568

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-4	Received Date:	09/24/97
Sample ID:	**18609-324FE-584**	Sample Matrix	Soil	Moisture %:	16.3
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	09/26/97	Anal. Date:	09/30/97
Batch No:	97G3852	Prep. No:	1 of 1	Anal. Time:	04:39
Data File Name:	4079.004	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	12	<12	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	12	<12	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	69
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-5	Received Date:	09/24/97
Sample ID:	**18609-324FW-585**	Sample Matrix	Soil	Moisture %:	13.1
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	09/26/97	Anal. Date:	09/30/97
Batch No:	97G3852	Prep. No:	1 of 1	Anal. Time:	05:04
Data File Name:	4079.005	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	12	< 12	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	12	< 12	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	80
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21573

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida
		Lab Sample ID:	97-4079-3	Received Date:	09/24/97
Sample ID:	**18609-324DW-586**	Sample Matrix	Soil	Moisture %:	14.9
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	09/26/97	Anal. Date:	09/30/97
Batch No:	97G3852	Prep. No:	1 of 1	Anal. Time:	08:51
Data File Name:	4079.103	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	12	<12	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	12	45	

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	83
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

21569

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/24/97
Project ID:	UST 324A Conformation Samples	Service ID:	974190	Collected by:	D.IsHida
		Lab Sample ID:	97-4190-1	Received Date:	09/24/97
Sample ID:	18609-324DE-583	Sample Matrix	Soil	Moisture %:	10.6
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: C
Anal. Method:	8260	Prep. Date:	10/03/97	Anal. Date:	10/03/97
Batch No:	97G3927	Prep. No:	–	Anal. Time:	15:53
Data File Name:	4190-01	Sample Amount:	5 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N) Y	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/kg	5.6	<5.6	U
2	BROMOBENZENE	108-86-1	µg/kg	5.6	<5.6	U
3	BROMOCHLOROMETHANE	74-97-5	µg/kg	5.6	<5.6	U
4	BROMODICHLOROMETHANE	75-27-4	µg/kg	5.6	<5.6	U
5	BROMOFORM	75-25-2	µg/kg	5.6	<5.6	U
6	BROMOMETHANE	74-83-9	µg/kg	5.6	<5.6	U
7	N-BUTYLBENZENE	104-51-8	µg/kg	5.6	<5.6	U
8	SEC-BUTYLBENZENE	135-98-8	µg/kg	5.6	<5.6	U
9	TERT-BUTYLBENZENE	98-06-6	µg/kg	5.6	<5.6	U
10	CARBON TETRACHLORIDE	56-23-5	µg/kg	5.6	<5.6	U
11	CHLOROBENZENE	108-90-7	µg/kg	5.6	<5.6	U
12	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	5.6	<5.6	U
13	CHLOROETHANE	75-00-3	µg/kg	5.6	<5.6	U
14	CHLOROFORM	67-66-3	µg/kg	5.6	<5.6	U
15	CHLOROMETHANE	74-87-3	µg/kg	5.6	<5.6	U
16	2-CHLOROTOLUENE	95-49-8	µg/kg	5.6	<5.6	U
17	4-CHLOROTOLUENE	106-43-4	µg/kg	5.6	<5.6	U
18	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	5.6	<5.6	U
19	1,2-DIBROMO-3-CHLOROPROPANE (DB	96-12-8	µg/kg	5.6	<5.6	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/kg	5.6	<5.6	U
21	DIBROMOMETHANE	74-95-3	µg/kg	5.6	<5.6	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/kg	5.6	<5.6	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/kg	5.6	<5.6	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/kg	5.6	<5.6	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	5.6	<5.6	U
26	1,1-DICHLOROETHANE	75-34-3	µg/kg	5.6	<5.6	U
27	1,2-DICHLOROETHANE	107-06-2	µg/kg	5.6	<5.6	U
28	1,1-DICHLOROETHENE	75-35-4	µg/kg	5.6	<5.6	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	5.6	<5.6	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	5.6	<5.6	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/kg	5.6	<5.6	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/kg	5.6	<5.6	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/kg	5.6	<5.6	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/kg	5.6	<5.6	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	5.6	<5.6	U
36	ETHYLBENZENE	100-41-4	µg/kg	5.6	<5.6	U
37	HEXACHLOROBUTADIENE	87-68-3	µg/kg	5.6	<5.6	U
38	P-ISOPROPYLTOLUENE	99-87-6	µg/kg	5.6	<5.6	U
39	METHYLENE CHLORIDE	75-09-2	µg/kg	5.6	<5.6	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	NAPHTHALENE	91-20-3	µg/kg	5.6	< 5.6	U
41	N-PROPYLBENZENE	103-65-1	µg/kg	5.6	< 5.6	U
42	STYRENE	100-42-5	µg/kg	5.6	< 5.6	U
43	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	5.6	< 5.6	U
44	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	5.6	< 5.6	U
45	TETRACHLOROETHENE	127-18-4	µg/kg	5.6	< 5.6	U
46	TOLUENE	108-88-3	µg/kg	5.6	< 5.6	U
47	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	5.6	< 5.6	U
48	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	5.6	< 5.6	U
49	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	5.6	< 5.6	U
50	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	5.6	< 5.6	U
51	TRICHLOROETHENE	79-01-6	µg/kg	5.6	< 5.6	U
52	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	5.6	< 5.6	U
53	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	5.6	< 5.6	U
54	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	5.6	< 5.6	U
55	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	5.6	< 5.6	U
56	VINYL CHLORIDE	75-01-4	µg/kg	5.6	< 5.6	U
57	XYLENES (TOTAL)	1330-20-7	µg/kg	5.6	< 5.6	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	86-114	99
2	DIBROMOFLUOROMETHANE	1868-53-7	85-116	108
3	1,2-DICHLOROETHANE-D4	17060-07-0	80-119	108
4	TOLUENE-D8	2037-26-5	81-116	92
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	113
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	109
3	FLUOROBENZENE	462-06-6	50-200	106
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

22009

Applied P & Ch Laboratory

Wet Analysis Results for Method 418.1

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Anal. Method	418.1
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida

Component Name: TRPH

CAS No: 9999-148

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
97-4079-2	18609-324DE-583	Soil	09/24/97	09/24/97	09/29/97	97W5147	mg/kg	11	200	
97-4079-3	18609-324DW-586	Soil	09/24/97	09/24/97	09/29/97	97W5147	mg/kg	12	68	
97-4079-4	18609-324FE-584	Soil	09/24/97	09/24/97	09/29/97	97W5147	mg/kg	12	58	
97-4079-5	18609-324FW-585	Soil	09/24/97	09/24/97	09/29/97	97W5147	mg/kg	12	55	
97W5147-MB-01	97W5147-MB-01	Soil	09/29/97	09/29/97	09/29/97	97W5147	mg/kg	10	<10	U

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.

Qualifier: U - Not Detected or less than MDL

B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

21615

Applied P & Ch Laboratory

Wet Analysis Results for Method ASTM-D2216

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Anal. Method	ASTM-D2216
Project ID:	UST 324A Conformation Samples	Service ID:	974079	Collected by:	D.IsHida

Component Name: Moisture, percent in soil
CAS No: 7732-18-5

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
97-4079-2	18609-324DE-583	Soil	09/24/97	09/24/97	09/26/97	97W5129	%Moisture	0.5	10.6	
97-4079-3	18609-324DW-586	Soil	09/24/97	09/24/97	09/26/97	97W5129	%Moisture	0.5	14.9	
97-4079-4	18609-324FE-584	Soil	09/24/97	09/24/97	09/26/97	97W5129	%Moisture	0.5	16.3	
97-4079-5	18609-324FW-585	Soil	09/24/97	09/24/97	09/26/97	97W5129	%Moisture	0.5	13.1	

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

21614

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

CHAIN OF CUSTODY RECORD

LABORATORY COPY
212014

FORM 0019 REV. 2-97

LAB COORDINATOR: DWAYNE FSHIDA ~~Tiffany Tintut-Williams~~	LAB COORDINATOR'S PHONE: (714) 263-1146	LAB COORDINATOR'S FAX: (714) 263-1147	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME):
PROJECT NAME: UST 324 CONF. SAMPLES	PROJECT LOCATION: EL TORO M.C.A.S.	PROJECT NUMBER: 18609	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
PROJECT CONTACT: D. FSHIDA ~~T. Tintut-Williams~~	PROJECT PHONE NUMBER: 263-1146	PROJECT FAX: 263-1147	LABORATORY ADDRESS		ADDRESS
PROJECT ADDRESS: 2031 MAIN ST.	CITY, STATE AND ZIPCODE: IRVINE, CA.	CLIENT: SWDIV	CITY, STATE AND ZIPCODE: CHINO, CA.		CITY, STATE AND ZIPCODE
PROJECT MANAGER: BILL SEDLAK	PROJECT MANAGER'S PHONE: 263-1146	PROJECT MANAGER'S FAX: 263-1147			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: TPH-Purgeable/BTEX	TPH-Extractable	418.1 - TRPH						Comments
1	18609-324CE-587	S	9/29/97	0910	—	1	C	5DAY	X	X	X						MS/MSD C 13' east end
2	18609-324BE-588	S	9/29/97	0914	—	1	C	5DAY	X	X	X						13.5' east end C
3	18609-324AE-589	S	9/29/97	0917	—	1	D	5DAY	X	X	X						14' east end B
4	18609-324AW-590	S	9/29/97	0921	—	1	C	5DAY	X	X	X						13' west end A
5	18609-324-591	W	9/29/97	0805	HCL	1	C	5DAY	X								
6																	
7																	
8																	
9																	
10																	

APCL.

AMB 9/29/97

SAMPLES COLLECTED BY: AMB

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Mark Bennett	[illegible signature]	9/29/97	1400	

23702

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

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

1. **ALL SAMPLES ARE TO BE HANDLED AS COURT EVIDENCE, AND ARE TO BE PROPERLY STORED IN A SECURE LOCATION.**

2. **PLEASE WRITE LEGIBLY.**

3. **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.: _____

DATE RECEIVED: _____

SAMPLE(S) CONDITION (PLEASE CHECK):

CHILLED: _____ **COUNTY SEAL(S) INTACT:** _____

CONTAINER IN GOOD CONDITION: _____

DATE ANALYSIS COMPLETED: _____

ANALYST: _____

5. **TO BE COMPLETED BY SAMPLE COLLECTOR**

SITE NAME/ADDRESS: MCAS El Toro
Bldg 324, Tanks #324A-D & F

DATE OF COLLECTION: 9-24-97

SAMPLE COLLECTOR/COMPANY: M. Banuelos
OHM Remediation

TELEPHONE NO.: _____

HCA REPRESENTATIVE: N. Prabhudesai

6.

SAMPLE NUMBER	DETERMINATION REQUESTED	SAMPLE DESCRIPTION/COMMENTS	TIME OF COLLECTION
5609-324DE-583	TPPH (418.1), TPH (5015) + BTEX (5020)		10:35 am
5609-324FE-584	↓	↓	10:38
5609-324FW-585	↓	↓	10:45
5609-324DN-586	↓	↓	10:50 ↓

7. **CHAIN OF CUSTODY**

	SIGNATURE	COMPANY/AGENCY	INCLUSIVE DATES/TIMES
1.	Nirmala Prabhudesai	Haz. Waste	9-24-97 - 10:55 am
2.	Manuel Banuelos	OHM/ Sp. Tech.	9-24-97 - 10:55 AM
3.	[illegible]	[illegible]	[illegible]
4.			
5.			
6.			

WHITE-RETURN THIS COPY TO ENVIRONMENTAL HEALTH, CANARY-LABORATORY COPY
PINK-CONTRACTOR/CONSULTANT COPY, GOLDENROD-OFFICE COPY

F272-9.1531.1(R8/89)

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

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.

TO BE COMPLETED BY LABORATORY ANALYST

LAB NO.: 97-4135

DATE RECEIVED: 09-29-97

SAMPLE(S) CONDITION (PLEASE CHECK):

CHILLED: ✓ COUNTY SEAL(S) INTACT: ✓

CONTAINER IN GOOD CONDITION: Yes

DATE ANALYSIS COMPLETED: 10/6/97

ANALYST: James Fenz

5. TO BE COMPLETED BY SAMPLE COLLECTOR

SITE NAME/ADDRESS: MCAS El TORO Bldg. 324, Tanks # 324A-C

DATE OF COLLECTION: 9-29-97

SAMPLE COLLECTOR/COMPANY: M. Barrulos OHM Remediation

TELEPHONE NO.:

HCA REPRESENTATIVE: A. Rashidi-Yard

SAMPLE NUMBER	DETERMINATION REQUESTED	SAMPLE DESCRIPTION/COMMENTS	TIME OF COLLECTION
324CE587	TRPH (418.1), TPH (8015) + BTEX (8020)		9:10 am
324BE588	↓	↓	9:14am
324AE589	↓	↓	9:17 ↓
324AW590	↓	↓	9:21 ↓

CHAIN OF CUSTODY

	SIGNATURE	COMPANY/AGENCY	INCLUSIVE DATES/TIMES
1.	Afshanan Rashidi-Yard	Haz. Waste	9-29-97 . 9:28 am
2.	Manuel Barrulos	OHM / SR. TECH.	9-29-97 . 9:28 AM
3.	Denise Valencia	APCL	9-29-97 . 1220
4.			
5.			
6.			

23708

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Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-5	Received Date:	09/29/97
Sample ID:	**18609-324CE-587**	Sample Matrix	Soil	Moisture %:	13.2
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	10/03/97	Anal. Date:	10/03/97
Batch No:	97G3932	Prep. No:	–	Anal. Time:	13:27
Data File Name:	4135.005	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.2	<1.2	U
2	BENZENE	71-43-2	μg/kg	5.8	<5.8	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.8	<5.8	U
4	TOLUENE	108-88-3	μg/kg	5.8	<5.8	U
5	XYLENES (TOTAL)	108-38-3	μg/kg	17	<17	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	82
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	100
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	99
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

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Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-4	Received Date:	09/29/97
Sample ID:	**18609-324BE-588**	Sample Matrix	Soil	Moisture %:	10.4
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	10/03/97	Anal. Date:	10/03/97
Batch No:	97G3932	Prep. No:	–	Anal. Time:	13:53
Data File Name:	4135.004	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.1	<1.1	U
2	BENZENE	71-43-2	μg/kg	5.6	<5.6	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.6	<5.6	U
4	TOLUENE	108-88-3	μg/kg	5.6	<5.6	U
5	XYLENES (TOTAL)	108-38-3	μg/kg	17	<17	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	82
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	100
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-2	Received Date:	09/29/97
Sample ID:	**18609-324AE-589**	Sample Matrix	Soil	Moisture %:	11.8
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	10/03/97	Anal. Date:	10/03/97
Batch No:	97G3932	Prep. No:	–	Anal. Time:	14:44
Data File Name:	4135.002	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.1	<1.1	U
2	BENZENE	71-43-2	μg/kg	5.7	<5.7	U
3	ETHYLBENZENE	100-41-4	μg/kg	5.7	<5.7	U
4	TOLUENE	108-88-3	μg/kg	5.7	<5.7	U
5	XYLENES (TOTAL)	108-38-3	μg/kg	17	<17	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	82
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	102
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200 NA	97
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

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Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-3	Received Date:	09/29/97
Sample ID:	**18609-324AW-590**	Sample Matrix	Soil	Moisture %:	18.5
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	10/03/97	Anal. Date:	10/03/97
Batch No:	97G3932	Prep. No:	–	Anal. Time:	14:18
Data File Name:	4135.003	Sample Amount:	1 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	1.2	<1.2	U
2	BENZENE	71-43-2	μg/kg	6.1	<6.1	U
3	ETHYLBENZENE	100-41-4	μg/kg	6.1	<6.1	U
4	TOLUENE	108-88-3	μg/kg	6.1	<6.1	U
5	XYLENES (TOTAL)	108-38-3	μg/kg	18	<18	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	70-132	76
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	65-126	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	92
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-1	Received Date:	09/29/97
Sample ID:	**18609-324-591**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	10/02/97	Anal. Date:	10/02/97
Batch No:	97G3915	Prep. No:	–	Anal. Time:	12:40
Data File Name:	4135.101	Sample Amount:	5 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	0.05	<0.05	U
2	BENZENE	71-43-2	μg/L	0.5	<0.5	U
3	ETHYLBENZENE	100-41-4	μg/L	0.5	<0.5	U
4	TOLUENE	108-88-3	μg/L	0.5	<0.5	U
5	XYLENES (TOTAL)	108-38-3	μg/L	1.5	<1.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	96
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	100
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	97
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

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Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-5	Received Date:	09/29/97
Sample ID:	**18609-324CE-587**	Sample Matrix	Soil	Moisture %:	13.2
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	10/03/97	Anal. Date:	10/04/97
Batch No:	97G3944	Prep. No:	1 of 1	Anal. Time:	23:57
Data File Name:	4135.005	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	12	<12	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	12	<12	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	96
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

23795

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-4	Received Date:	09/29/97
Sample ID:	**18609-324BE-588**	Sample Matrix	Soil	Moisture %:	10.4
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	10/03/97	Anal. Date:	10/04/97
Batch No:	97G3944	Prep. No:	1 of 1	Anal. Time:	23:29
Data File Name:	4135.004	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	11	<11	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	11	<11	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	103
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

23794

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-2	Received Date:	09/29/97
Sample ID:	**18609-324AE-589**	Sample Matrix	Soil	Moisture %:	11.8
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	10/03/97	Anal. Date:	10/04/97
Batch No:	97G3944	Prep. No:	1 of 1	Anal. Time:	22:33
Data File Name:	4135.002	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	11	<11	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	11	<11	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	105
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

23791

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/29/97
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4135-3	Received Date:	09/29/97
Sample ID:	**18609-324AW-590**	Sample Matrix	Soil	Moisture %:	18.5
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	10/03/97	Anal. Date:	10/04/97
Batch No:	97G3944	Prep. No:	1 of 1	Anal. Time:	23:01
Data File Name:	4135.003	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	12	<12	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	12	<12	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	89
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

Applied P & Ch Laboratory

Wet Analysis Results for Method 418.1

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Anal. Method	418.1
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida

Component Name: TRPH
CAS No: 9999-148

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
97-4135-2	18609-324AE-589	Soil	09/29/97	09/29/97	10/06/97	97W5254	mg/kg	11	23	
97-4135-3	18609-324AW-590	Soil	09/29/97	09/29/97	10/06/97	97W5254	mg/kg	12	<12	U
97-4135-4	18609-324BE-588	Soil	09/29/97	09/29/97	10/06/97	97W5254	mg/kg	11	<11	U
97-4135-5	18609-324CE-587	Soil	09/29/97	09/29/97	10/06/97	97W5254	mg/kg	12	88	
97W5254-MB-01	97W5254-MB-01	Soil	10/06/97	10/06/97	10/06/97	97W5254	mg/kg	10	<10	U

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

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Applied P & Ch Laboratory

Wet Analysis Results for Method ASTM-D2216

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Anal. Method	ASTM-D2216
Project ID:	UST 324 Conf. Samples	Service ID:	974135	Collected by:	Dwayne Ishida

Component Name: Moisture, percent in soil
CAS No: 7732-18-5

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
97-4135-2	18609-324AE-589	Soil	09/29/97	09/29/97	09/30/97	97W5185	%Moisture	0.5	11.8	
97-4135-3	18609-324AW-590	Soil	09/29/97	09/29/97	09/30/97	97W5185	%Moisture	0.5	18.5	
97-4135-4	18609-324BE-588	Soil	09/29/97	09/29/97	09/30/97	97W5185	%Moisture	0.5	10.4	
97-4135-5	18609-324CE-587	Soil	09/29/97	09/29/97	09/30/97	97W5185	%Moisture	0.5	13.2	

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

23839

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

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Form 0019
Technical Service
Rev. 08/89

182777

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: UST 324-A,B,C,D,F
PROJECT LOCATION: M.C.A.S. EL TORO
PROJ. NO.: 18609
PROJECT CONTACT: DWAYNE ISHIDA
PROJECT TELEPHONE NO.: (714) 263-1146 X 525
CLIENT'S REPRESENTATIVE: LYNN HORNECKER - SWDIV
PROJECT MANAGER/SUPERVISOR: BILL SEDLAK - OHM

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): TPH-Purgeable/BTEX; TPH-Extractable; Title 22 Metals; Ignitability

A.P.C.L. CHINO, CA.

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	TPH-Purgeable/BTEX	TPH-Extractable	Title 22 Metals	Ignitability					REMARKS
1	18292-324A-425	8/22/91	1215		X	Content of Tank "A"	5	X	X	X	X					
2	18292-324B-426		1220		X	Contents of Tank "B"	5	X	X	X	X					
3	18292-324C-427		1230		X	Contents of Tank "C"	5	X	X	X	X					
4	18292-324D-428		1245		X	Contents of Tank "D"	5	X	X	X	X					
5	18292-324F-429		1300		X	Contents of Tank "F"	4	X	X	X	X					
6																
7																
8																
9																
10																

MMB 8/22/91

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1 TO 5	Melinda Bommel	Clarise Vaden	8/22/91	1440
2					
3					
4					

REMARKS: 1.) 5 DAY T.A.T.

SAMPLERS SIGNATURE: Melinda Bommel

16002

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-1	Received Date:	08/22/97
Sample ID:	**18292-324A-425**	Sample Matrix	Water	Moisture %:	-
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3580	Prep. No:	-	Anal. Time:	18:17
Data File Name:	3722.101	Sample Amount:	.1 mL	Dilution Factor:	50
Methanol Vol.	-				
		Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	2.5	21	
2	BENZENE	71-43-2	μg/L	25	8050	
3	ETHYLBENZENE	100-41-4	μg/L	25	75	
4	TOLUENE	108-88-3	μg/L	25	1350	
5	O-XYLENE	95-47-6	μg/L	25	370	
6	M/P-XYLENE	108-38-3	μg/L	50	240	

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	85
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	97
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α,α,α-TRIFLUOROTOLUENE	98-08-8	50-200	99
# of out-of-control				0

[a]Corresponds to the minimum reading of the thermometer used.

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

16008

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-2	Received Date:	08/22/97
Sample ID:	**18292-324B-426**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3580	Prep. No:	–	Anal. Time:	18:42
Data File Name:	3722.102	Sample Amount:	.05 mL	Dilution Factor:	100
Methanol Vol.	–				
		Sparge Size:	5 mL	Heated Purge: (Y/N) N	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	5	17	
2	BENZENE	71-43-2	μg/L	50	7470	
3	ETHYLBENZENE	100-41-4	μg/L	50	32	J
4	TOLUENE	108-88-3	μg/L	50	17	J
5	O-XYLENE	95-47-6	μg/L	50	50	
6	M/P-XYLENE	108-38-3	μg/L	100	<100	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	88
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	98
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α,α,α-TRIFLUOROTOLUENE	98-08-8	50-200	102
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

16010

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-3	Received Date:	08/22/97
Sample ID:	**18292-324C-427**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3580	Prep. No:	–	Anal. Time:	17:25
Data File Name:	3722.103	Sample Amount:	5 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N) N	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	0.05	2.23	
2	BENZENE	71-43-2	μg/L	0.5	81.0	
3	ETHYLBENZENE	100-41-4	μg/L	0.5	1.0	
4	TOLUENE	108-88-3	μg/L	0.5	16.5	
5	O-XYLENE	95-47-6	μg/L	0.5	6.1	
6	M/P-XYLENE	108-38-3	μg/L	1	19	

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	118
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	110
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α,α,α-TRIFLUOROTOLUENE	98-08-8	50-200	122
# of out-of-control				0

[a] Corresponds to the minimum reading of the thermometer used.

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

16012

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-4	Received Date:	08/22/97
Sample ID:	**18292-324D-428**	Sample Matrix	Water	Moisture %:	-
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3580	Prep. No:	-	Anal. Time:	21:13
Data File Name:	3722.204	Sample Amount:	.25 mL	Dilution Factor:	20
Methanol Vol.	-				
		Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	1	7.1	
2	BENZENE	71-43-2	μg/L	10	571	
3	ETHYLBENZENE	100-41-4	μg/L	10	<10	U
4	TOLUENE	108-88-3	μg/L	10	2190	
5	O-XYLENE	95-47-6	μg/L	10	74	
6	M/P-XYLENE	108-38-3	μg/L	20	160	

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	95
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	102
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α,α,α-TRIFLUOROTOLUENE	98-08-8	50-200	101
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

16014

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-5	Received Date:	08/22/97
Sample ID:	**18292-324F-429**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3580	Prep. No:	–	Anal. Time:	15:28
Data File Name:	3722.105	Sample Amount:	.2 mL	Dilution Factor:	500
Methanol Vol.	–				
		Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	25	1240	
2	BENZENE	71-43-2	μg/L	250	2800	
3	ETHYLBENZENE	100-41-4	μg/L	250	1600	
4	TOLUENE	108-88-3	μg/L	250	53700	
5	O-XYLENE	95-47-6	μg/L	250	1700	
6	M/P-XYLENE	108-38-3	μg/L	500	4600	

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	111
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	108
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α,α,α-TRIFLUOROTOLUENE	98-08-8	50-200	89
# of out-of-control				0

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

16016

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-1	Received Date:	08/22/97
Sample ID:	**18292-324A-425**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3510	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3589	Prep. No:	1 of 1	Anal. Time:	17:32
Data File Name:	3722.101	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

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

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-149	57
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.
[b]Sample chromatogram contains peaks originated from gasoline.

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

16048

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-2	Received Date:	08/22/97
Sample ID:	**18292-324B-426**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3510	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3589	Prep. No:	1 of 1	Anal. Time:	18:23
Data File Name:	3722.202	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

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

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-149	58
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

[b]Sample chromatogram contains peaks originated from gasoline.

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

16049

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-3	Received Date:	08/22/97
Sample ID:	**18292-324C-427**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3510	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3589	Prep. No:	1 of 1	Anal. Time:	18:48
Data File Name:	3722.003	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

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

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-149	82
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.
[b]Sample chromatogram contains peaks originated from gasoline.

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

16050

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-4	Received Date:	08/22/97
Sample ID:	**18292-324D-428**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3510	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	08/27/97	Anal. Date:	08/27/97
Batch No:	97G3589	Prep. No:	1 of 1	Anal. Time:	19:13
Data File Name:	3722.004	Sample Amount:	1000 mL	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/L	0.5	0.6 [c]	
2	TPH AS MOTOR OIL	TBD-0002	mg/L	0.5	<0.5 [c]	U

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-149	101
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

[c]Unknown compounds in Diesel / Motor Oil range.

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

16051

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-5	Received Date:	08/22/97
Sample ID:	**18292-324F-429**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	3510	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	08/27/97	Anal. Date:	08/28/97
Batch No:	97G3589	Prep. No:	1 of 1	Anal. Time:	14:39
Data File Name:	3722.105	Sample Amount:	3.0 mL	Dilution Factor:	33300
Extract Vol.	100 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/L	17000	< 17000	U
2	TPH AS MOTOR OIL	TBD-0002	mg/L	17000	99000	

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-149	116
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

16053

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-1	Received Date:	08/22/97
Sample ID:	**18292-324A-425**	Sample Matrix	Water	Moisture %:	-
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ANTIMONY	7440-36-0	µg/L	10	<1.6	U	P		97M2266M	08/27/97	08/27/97	1	6010
ARSENIC	7440-38-2	µg/L	5	17.6		P		97M2266M	08/27/97	08/27/97	1	6010
BARIUM	7440-39-3	µg/L	10	376		P		97M2266M	08/27/97	08/27/97	1	6010
BERYLLIUM	7440-41-7	µg/L	2	<0.058	U	P		97M2266M	08/27/97	08/27/97	1	6010
CADMIUM	7440-43-9	µg/L	2	12.1		P		97M2266M	08/27/97	08/27/97	1	6010
CHROMIUM	7440-47-3	µg/L	5	35.2		P		97M2266M	08/27/97	08/27/97	1	6010
COBALT	7440-48-4	µg/L	5	16.6		P		97M2266M	08/27/97	08/27/97	1	6010
COPPER	7440-50-8	µg/L	10	228		P		97M2266M	08/27/97	08/27/97	1	6010
LEAD	7439-92-1	µg/L	5	431		P		97M2266M	08/27/97	08/27/97	1	6010
MERCURY	7439-97-6	µg/L	0.5	<0.057	U	CV		97M2269N	08/27/97	08/27/97	1	7470
MOLYBDENUM	7439-98-7	µg/L	5	<0.75	U	P		97M2266M	08/27/97	08/27/97	1	6010
NICKEL	7440-02-0	µg/L	5	46.8		P		97M2266M	08/27/97	08/27/97	1	6010
SELENIUM	7782-49-2	µg/L	10	<3.5	U	P		97M2266M	08/27/97	08/27/97	1	6010
SILVER	7440-22-4	µg/L	10	0.68	B	P		97M2266M	08/27/97	08/27/97	1	6010
THALLIUM	7440-28-0	µg/L	10	<1.2	U	P		97M2266M	08/27/97	08/27/97	1	6010
VANADIUM	7440-62-2	µg/L	10	83.6		P		97M2266M	08/27/97	08/27/97	1	6010
ZINC	7440-66-6	µg/L	5	3640		P		97M2266M	08/27/97	08/27/97	1	6010

Not Detected (N.D.) is shown as IDL moisture-corrected if applicable

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

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

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

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

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

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Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-2	Received Date:	08/22/97
Sample ID:	**18292-324B-426**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ANTIMONY	7440-36-0	μg/L	10	<1.6	U	P		97M2266M	08/27/97	08/27/97	1	6010
ARSENIC	7440-38-2	μg/L	5	5.8		P		97M2266M	08/27/97	08/27/97	1	6010
BARIUM	7440-39-3	μg/L	10	143		P		97M2266M	08/27/97	08/27/97	1	6010
BERYLLIUM	7440-41-7	μg/L	2	<0.058	U	P		97M2266M	08/27/97	08/27/97	1	6010
CADMIUM	7440-43-9	μg/L	2	3.3		P		97M2266M	08/27/97	08/27/97	1	6010
CHROMIUM	7440-47-3	μg/L	5	11.8		P		97M2266M	08/27/97	08/27/97	1	6010
COBALT	7440-48-4	μg/L	5	5.5		P		97M2266M	08/27/97	08/27/97	1	6010
COPPER	7440-50-8	μg/L	10	29.7		P		97M2266M	08/27/97	08/27/97	1	6010
LEAD	7439-92-1	μg/L	5	113		P		97M2266M	08/27/97	08/27/97	1	6010
MERCURY	7439-97-6	μg/L	0.5	<0.057	U	CV		97M2269N	08/27/97	08/27/97	1	7470
MOLYBDENUM	7439-98-7	μg/L	5	<0.75	U	P		97M2266M	08/27/97	08/27/97	1	6010
NICKEL	7440-02-0	μg/L	5	22.0		P		97M2266M	08/27/97	08/27/97	1	6010
SELENIUM	7782-49-2	μg/L	10	<3.5	U	P		97M2266M	08/27/97	08/27/97	1	6010
SILVER	7440-22-4	μg/L	10	<0.65	U	P		97M2266M	08/27/97	08/27/97	1	6010
THALLIUM	7440-28-0	μg/L	10	<1.2	U	P		97M2266M	08/27/97	08/27/97	1	6010
VANADIUM	7440-62-2	μg/L	10	25.8		P		97M2266M	08/27/97	08/27/97	1	6010
ZINC	7440-66-6	μg/L	5	673		P		97M2266M	08/27/97	08/27/97	1	6010

Not Detected (N.D.) is shown as IDL moisture-corrected if applicable

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

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

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

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

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

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Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-3	Received Date:	08/22/97
Sample ID:	18292-324C-427	Sample Matrix	Water	Moisture %:	-
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ANTIMONY	7440-36-0	µg/L	10	< 1.6	U	P		97M2266M	08/27/97	08/27/97	1	6010
ARSENIC	7440-38-2	µg/L	5	< 2.1	U	P		97M2266M	08/27/97	08/27/97	1	6010
BARIUM	7440-39-3	µg/L	10	108		P		97M2266M	08/27/97	08/27/97	1	6010
BERYLLIUM	7440-41-7	µg/L	2	< 0.058	U	P		97M2266M	08/27/97	08/27/97	1	6010
CADMIUM	7440-43-9	µg/L	2	< 0.085	U	P		97M2266M	08/27/97	08/27/97	1	6010
CHROMIUM	7440-47-3	µg/L	5	7.3		P		97M2266M	08/27/97	08/27/97	1	6010
COBALT	7440-48-4	µg/L	5	< 0.26	U	P		97M2266M	08/27/97	08/27/97	1	6010
COPPER	7440-50-8	µg/L	10	36.2		P		97M2266M	08/27/97	08/27/97	1	6010
LEAD	7439-92-1	µg/L	5	47.0		P		97M2266M	08/27/97	08/27/97	1	6010
MERCURY	7439-97-6	µg/L	0.5	< 0.057	U	CV		97M2269N	08/27/97	08/27/97	1	7470
MOLYBDENUM	7439-98-7	µg/L	5	5.1		P		97M2266M	08/27/97	08/27/97	1	6010
NICKEL	7440-02-0	µg/L	5	35.9		P		97M2266M	08/27/97	08/27/97	1	6010
SELENIUM	7782-49-2	µg/L	10	< 3.5	U	P		97M2266M	08/27/97	08/27/97	1	6010
SILVER	7440-22-4	µg/L	10	< 0.65	U	P		97M2266M	08/27/97	08/27/97	1	6010
THALLIUM	7440-28-0	µg/L	10	< 1.2	U	P		97M2266M	08/27/97	08/27/97	1	6010
VANADIUM	7440-62-2	µg/L	10	15.0		P		97M2266M	08/27/97	08/27/97	1	6010
ZINC	7440-66-6	µg/L	5	246		P		97M2266M	08/27/97	08/27/97	1	6010

Not Detected (N.D.) is shown as IDL moisture-corrected if applicable

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

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

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

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

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

16090

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-4	Received Date:	08/22/97
Sample ID:	**18292-324D-428**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ANTIMONY	7440-36-0	µg/L	10	<1.6	U	P		97M2266M	08/27/97	08/27/97	1	6010
ARSENIC	7440-38-2	µg/L	5	<2.1	U	P		97M2266M	08/27/97	08/27/97	1	6010
BARIUM	7440-39-3	µg/L	10	29.8		P		97M2266M	08/27/97	08/27/97	1	6010
BERYLLIUM	7440-41-7	µg/L	2	<0.058	U	P		97M2266M	08/27/97	08/27/97	1	6010
CADMIUM	7440-43-9	µg/L	2	<0.085	U	P		97M2266M	08/27/97	08/27/97	1	6010
CHROMIUM	7440-47-3	µg/L	5	4.0	B	P		97M2266M	08/27/97	08/27/97	1	6010
COBALT	7440-48-4	µg/L	5	<0.26	U	P		97M2266M	08/27/97	08/27/97	1	6010
COPPER	7440-50-8	µg/L	10	64.5		P		97M2266M	08/27/97	08/27/97	1	6010
LEAD	7439-92-1	µg/L	5	78.4		P		97M2266M	08/27/97	08/27/97	1	6010
MERCURY	7439-97-6	µg/L	0.5	<0.057	U	CV		97M2269N	08/27/97	08/27/97	1	7470
MOLYBDENUM	7439-98-7	µg/L	5	4.0	B	P		97M2266M	08/27/97	08/27/97	1	6010
NICKEL	7440-02-0	µg/L	5	6.6		P		97M2266M	08/27/97	08/27/97	1	6010
SELENIUM	7782-49-2	µg/L	10	<3.5	U	P		97M2266M	08/27/97	08/27/97	1	6010
SILVER	7440-22-4	µg/L	10	<0.65	U	P		97M2266M	08/27/97	08/27/97	1	6010
THALLIUM	7440-28-0	µg/L	10	<1.2	U	P		97M2266M	08/27/97	08/27/97	1	6010
VANADIUM	7440-62-2	µg/L	10	<0.55	U	P		97M2266M	08/27/97	08/27/97	1	6010
ZINC	7440-66-6	µg/L	5	222		P		97M2266M	08/27/97	08/27/97	1	6010

Not Detected (N.D.) is shown as IDL moisture-corrected if applicable

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

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

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

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

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

16091

Applied P & Ch Laboratory

Metal Analysis Results

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	08/22/97
Project ID:	UST 324-A,B,C,D,F	Service ID:	973722	Collected by:	
		Lab Sample ID:	97-3722-5	Received Date:	08/22/97
Sample ID:	**18292-324F-429**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample				

Element Name	CAS No	Unit	RL	Result	C	M	Q	Batch	D-Date	A-Date	DF	Method
ANTIMONY	7440-36-0	µg/L	10	<1.6	U	P		97M2266M	08/27/97	08/27/97	1	6010
ARSENIC	7440-38-2	µg/L	5	11.7		P		97M2266M	08/27/97	08/27/97	1	6010
BARIUM	7440-39-3	µg/L	10	38.7		P		97M2266M	08/27/97	08/27/97	1	6010
BERYLLIUM	7440-41-7	µg/L	2	<0.058	U	P		97M2266M	08/27/97	08/27/97	1	6010
CADMIUM	7440-43-9	µg/L	2	2.4		P		97M2266M	08/27/97	08/27/97	1	6010
CHROMIUM	7440-47-3	µg/L	5	25.8		P		97M2266M	08/27/97	08/27/97	1	6010
COBALT	7440-48-4	µg/L	5	<0.26	U	P		97M2266M	08/27/97	08/27/97	1	6010
COPPER	7440-50-8	µg/L	10	123		P		97M2266M	08/27/97	08/27/97	1	6010
LEAD	7439-92-1	µg/L	5	987		P		97M2266M	08/27/97	08/27/97	1	6010
MERCURY	7439-97-6	µg/L	0.5	<0.057	U	CV		97M2269N	08/27/97	08/27/97	1	7470
MOLYBDENUM	7439-98-7	µg/L	5	7.1		P		97M2266M	08/27/97	08/27/97	1	6010
NICKEL	7440-02-0	µg/L	5	80.3		P		97M2266M	08/27/97	08/27/97	1	6010
SELENIUM	7782-49-2	µg/L	10	<3.5	U	P		97M2266M	08/27/97	08/27/97	1	6010
SILVER	7440-22-4	µg/L	10	<0.65	U	P		97M2266M	08/27/97	08/27/97	1	6010
THALLIUM	7440-28-0	µg/L	10	<1.2	U	P		97M2266M	08/27/97	08/27/97	1	6010
VANADIUM	7440-62-2	µg/L	10	<0.55	U	P		97M2266M	08/27/97	08/27/97	1	6010
ZINC	7440-66-6	µg/L	5	899		P		97M2266M	08/27/97	08/27/97	1	6010

Not Detected (N.D.) is shown as IDL moisture-corrected if applicable

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

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

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

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

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

16092

Applied P & Ch Laboratory

Wet Analysis Results for Method 1010

Client Name: OHM Remediation Services (Irvine) Project No: 18609 Anal. Method 1010
Project ID: UST 324-A,B,C,D,F Service ID: 973722 Collected by:

Component Name: Ignitability (Flashpoint)
CAS No: 9999-97

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
97-3722-1	18292-324A-425	Water	08/22/97	08/22/97	09/03/97	97W4775	°C	0.5 [a]	>100	U
97-3722-2	18292-324B-426	Water	08/22/97	08/22/97	09/03/97	97W4775	°C	0.5 [a]	>100	U
97-3722-3	18292-324C-427	Water	08/22/97	08/22/97	09/03/97	97W4775	°C	0.5 [a]	>100	U
97-3722-4	18292-324D-428	Water	08/22/97	08/22/97	09/03/97	97W4775	°C	0.5 [a]	>100	U
97-3722-5	18292-324F-429	Water	08/22/97	08/22/97	09/03/97	97W4775	°C	0.5 [a]	>100	U

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.
[a]Corresponds to the minimum reading of the thermometer used.

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

16110

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

TRANSFER 3
Form 0019
Field Technical Services
Rev. 08/89

201881

970121

C2/R6A5

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: UST 324-1

PROJECT LOCATION: M.C.A.S. EL TORO

PROJ. NO.: 17480

PROJECT CONTACT: THIZAR Tintut-Williams

PROJECT TELEPHONE NO.: (714) 263-1146 x620

CLIENT'S REPRESENTATIVE: LYNN HORNECKER-SWDIV

PROJECT MANAGER/SUPERVISOR: Bill SEDLAK-OHM

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): BTEX, MBOIS D (full Range), Ignitability, Title 22 Metals

T=2°C
EMAX
TORRANCE, CA.

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	BTEX	MBOIS D (full Range)	Ignitability	Title 22 Metals					REMARKS
1	17480-324-1-2-251	4/22/97	1340		X	UST 324-1-2 Contents	~~7~~5	X	X	X	X					
2	17480-324-1-1/3-252	4/22/97	1350		X	UST 324-1-1/3 Contents	~~7~~5	X	X	X	X					
3																
4																
5																
6																
7																
8																
9																
10																

Mark C. Bennett 4/23/97

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1 TO 2	Mark C. Bennett	[illegible]	4/23/97	1455
2	1 TO 2	[illegible]	[illegible]	4/23/97	1620
3					
4					

REMARKS: 1) 5 DAY T.A.T.

SAMPLER'S SIGNATURE: Mark C. Bennett

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	NA
SAMPLE ID:	17486-324-1-2-251	DATE ANALYZED:	04/24/97
CONTROL NO.:	D121-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	200

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	200
Toluene	494	200
Ethylbenzene	1280	200
Total Xylenes	9000	200
MTBE	ND	200

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	89	60-140

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	NA
SAMPLE ID:	17486-324-1/3-3-252	DATE ANALYZED:	04/24/97
CONTROL NO.:	D121-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	5

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	8.4	5
Toluene	55	5
Ethylbenzene	20	5
Total Xylenes	99	5
MTBE	ND	5

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	97	60-140

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/25/97
MATRIX:	WATER	DATE ANALYZED:	04/25/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	H-C RANGE	% RECOVERY SURR1	% RECOVERY SURR2	DL FACTOR	PRL (mg/L)
17486-324-1-2-251	D121-01	4400	C8-C23	DO	DO	100	50
	D121-01	3000	C23-C34	DO	DO	100	50
17486-324-1/3-3-252	D121-02	15	C7-C23	90	91	1	.5
	D121-02	5.8	C23-C32	90	91	1	.5
MBLK1W	DSD038WB	ND	N.A.	82	93	1	.5
QC LIMIT:				65-135	60-140		

SURR1 : Bromobenzene
SURR2 : Hexacosane
PRL : Project Reporting Limit
H-C RANGE: C10-C15 = JP5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
DO : Diluted out

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 3005/6010
METALS BY TRACE-ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/25/97
SAMPLE ID:	17486-324-1-2-251	DATE ANALYZED:	04/25/97
CONTROL NO.:	D121-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Arsenic	5	ND
Lead	3	42.4
Selenium	5	ND
Thallium	10	ND

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 3005/6010
TAL METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/25/97
SAMPLE ID:	17486-324-1-2-251	DATE ANALYZED:	04/25/97
CONTROL NO.:	D121-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Aluminum	200	ND
Antimony	100	ND
Barium	10	21.7
Beryllium	2	ND
Cadmium	5	ND
Calcium	1000	59700
Chromium	10	21.1
Cobalt	18	ND
Copper	10	17.2
Iron	50	8990
Magnesium	500	43300
Manganese	10	141
Molybdenum	30	ND
Nickel	32	178
Potassium	1000	14100
Silver	10	ND
Sodium	1000	101000
Vanadium	10	ND
Zinc	10	124

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 3005/6010
METALS BY TRACE-ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/25/97
SAMPLE ID:	17486-324-1/3-3-252	DATE ANALYZED:	04/25/97
CONTROL NO.:	D121-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Arsenic	5	ND
Lead	3	69.5
Selenium	5	ND
Thallium	10	ND

PRL: Project Reporting Limit

FMAX LABORATORIES, INC. 630 Maple Ave. Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 3005/6010
TAL METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/25/97
SAMPLE ID:	17486-324-1/3-3-252	DATE ANALYZED:	04/25/97
CONTROL NO.:	D121-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Aluminum	200	1920
Antimony	100	ND
Barium	10	158
Beryllium	2	ND
Cadmium	5	8.53
Calcium	1000	63100
Chromium	10	21.6
Cobalt	18	ND
Copper	10	75.1
Iron	50	26300
Magnesium	500	27300
Manganese	10	369
Molybdenum	30	ND
Nickel	32	ND
Potassium	1000	7380
Silver	10	ND
Sodium	1000	122000
Vanadium	10	20.9
Zinc	10	1180

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 7470
MERCURY BY COLD VAPOR

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	04/30/97
MATRIX:	WATER	DATE ANALYZED:	04/30/97

SAMPLE ID	CONTROL NO	RESULT (ug/L)	DILUTION FACTOR	PRL (ug/L)
17486-324-1-2-251	D121-01	ND	1	.2
17486-324-1/3-3-252	D121-02	1.34	1	.2
MBLK1W	HGD027WB	ND	1	.2

PRL: Project Reporting Limit

7017

EPA METHOD 1010
IGNITABILITY

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/22/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
BATCH NO.:	97D121	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	04/25/97

SAMPLE ID	CONTROL NO	RESULT (oC)	DILUTION FACTOR	RL (oC)
17486-324-1-2-251	D121-01	> 60	1	60
17486-324-1/3-3-252	D121-02	> 60	1	60

RL: Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

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

CHAIN-OF-CUSTODY RECORD

4008

LABORATORY COPY
212004

FORM 0019 REV 2/97

OHM LAB COORDINATOR: DWAYNE ISHIDA	LAB COORDINATOR'S PHONE: (714) 263-1146	LAB COORDINATOR'S FAX: (714) 475-5433	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
PROJECT NAME: UST324 RELEASE	PROJECT LOCATION: MCAS EL TORO	PROJECT NUMBER: 18609	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
PROJECT CONTACT: DWAYNE ISHIDA	PROJECT PHONE NUMBER: 263-1146	PROJECT FAX: 475-5433	LABORATORY ADDRESS		ADDRESS
PROJECT ADDRESS: 2031 MAIN ST	CITY, STATE AND ZIPCODE: IRVINE, CA 92614	CLIENT: SW DIV	CITY, STATE AND ZIPCODE: CHINO HILLS, CA		CITY, STATE AND ZIPCODE
PROJECT MANAGER: BILL SEDLAK	PROJECT MANAGER'S PHONE: 263-1146	PROJECT MANAGER'S FAX: 263-1147			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	Level	Holding Time	Analyses: 8260	8015 gas/8020	8015 full range						Comments
1	18609-577	water	9/18/97	1200	HCl	2 + Mtl	C	14d	X	X							APCL
2	18609-578	Soil	↓	1215	ice	1	↓	24h									
3	18609-579	↓	↓	1218	↓	1	↓	↓									
4	18609-580			1220		1											
5	18609-581			1222		1											
6	18609-582	↓	↓	NA	↓	NA	↓	↓	X	X	X						Composite #2, 3, 4, 5 into #6
7																	
8																	
9																	
10																	

9/18/97

SAMPLES COLLECTED BY	RELINQUISHED BY	COURIER AND AIR BILL NUMBER	RECEIVED BY	DATE	TIME	COOLER TEMPERATURE UPON RECEIPT / SAMPLE'S CONDITION UPON RECEIPT
				9/18/97	12:55	

24302

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

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/18/97
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4008-1	Received Date:	09/18/97
Sample ID:	**18609-577**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: B
Anal. Method:	M8015V	Prep. Date:	09/18/97	Anal. Date:	09/18/97
Batch No:	97G3775	Prep. No:	–	Anal. Time:	17:42
Data File Name:	4008.001	Sample Amount:	5 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N) N	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/L	0.05	<0.05	U
2	BENZENE	71-43-2	μg/L	0.5	<0.5	U
3	ETHYLBENZENE	100-41-4	μg/L	0.5	<0.5	U
4	TOLUENE	108-88-3	μg/L	0.5	<0.5	U
5	XYLENES (TOTAL)	108-38-3	μg/L	1.5	<1.5	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (FID)	460-00-4	68-124	96
2	4-BROMO-FLUOROBENZENE (PID)	460-00-4	71-134	100
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	103
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

24350A

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015V

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/18/97
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4008-6	Received Date:	09/18/97
Sample ID:	**18609-582**	Sample Matrix	Soil	Moisture %:	12.8
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC: N
Anal. Method:	M8015V	Prep. Date:	09/19/97	Anal. Date:	09/19/97
Batch No:	97G3770	Prep. No:	–	Anal. Time:	03:05
Data File Name:	4008.006	Sample Amount:	4 g	Dilution Factor:	40
Methanol Vol.	10. mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	GASOLINE	8006-61-9	mg/kg	46	200	
2	BENZENE	71-43-2	μg/kg	230	<230	U
3	ETHYLBENZENE	100-41-4	μg/kg	230	400	
4	TOLUENE	108-88-3	μg/kg	230	4000	
5	XYLENES (TOTAL)	108-38-3	μg/kg	690	3200	

Internal Standard			Control Limit, %	IS Rec.%
1	α, α, α-TRIFLUOROTOLUENE	98-08-8	50-200	107
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

24351

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/18/97
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4008-6	Received Date:	09/18/97
Sample ID:	**18609-582**	Sample Matrix	Soil	Moisture %:	12.8
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: H
Anal. Method:	M8015E	Prep. Date:	09/18/97	Anal. Date:	09/19/97
Batch No:	97G3779	Prep. No:	1 of 1	Anal. Time:	01:44
Data File Name:	4008.006	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	TPH AS DIESEL	68334-30-5	mg/kg	11	<11	U
2	TPH AS MOTOR OIL	TBD-0002	mg/kg	11	88	

Surrogates			Control Limit, %	Surro. Rec.%
1	HEXACOSANE, C_{26}	630-01-3	50-146	82
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

24396

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/18/97
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4008-1	Received Date:	09/18/97
Sample ID:	**18609-577**	Sample Matrix	Water	Moisture %:	–
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: Q
Anal. Method:	8260	Prep. Date:	09/18/97	Anal. Date:	09/18/97
Batch No:	97G3776	Prep. No:	–	Anal. Time:	22:13
Data File Name:	4008-01	Sample Amount:	5 mL	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/L	5	< 5	U
2	BROMOBENZENE	108-86-1	µg/L	5	< 5	U
3	BROMOCHLOROMETHANE	74-97-5	µg/L	5	< 5	U
4	BROMODICHLOROMETHANE	75-27-4	µg/L	5	< 5	U
5	BROMOFORM	75-25-2	µg/L	5	< 5	U
6	BROMOMETHANE	74-83-9	µg/L	5	< 5	U
7	N-BUTYLBENZENE	104-51-8	µg/L	5	< 5	U
8	SEC-BUTYLBENZENE	135-98-8	µg/L	5	< 5	U
9	TERT-BUTYLBENZENE	98-06-6	µg/L	5	< 5	U
10	CARBON TETRACHLORIDE	56-23-5	µg/L	5	< 5	U
11	CHLOROBENZENE	108-90-7	µg/L	5	< 5	U
12	DIBROMOCHLOROMETHANE	124-48-1	µg/L	5	< 5	U
13	CHLOROETHANE	75-00-3	µg/L	5	< 5	U
14	CHLOROFORM	67-66-3	µg/L	5	< 5	U
15	CHLOROMETHANE	74-87-3	µg/L	5	< 5	U
16	2-CHLOROTOLUENE	95-49-8	µg/L	5	< 5	U
17	4-CHLOROTOLUENE	106-43-4	µg/L	5	< 5	U
18	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/L	5	< 5	U
19	1,2-DIBROMO-3-CHLOROPROPANE (DB	96-12-8	µg/L	5	< 5	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/L	5	< 5	U
21	DIBROMOMETHANE	74-95-3	µg/L	5	< 5	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/L	5	< 5	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/L	5	< 5	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/L	5	< 5	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/L	5	< 5	U
26	1,1-DICHLOROETHANE	75-34-3	µg/L	5	< 5	U
27	1,2-DICHLOROETHANE	107-06-2	µg/L	5	< 5	U
28	1,1-DICHLOROETHENE	75-35-4	µg/L	5	< 5	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/L	5	< 5	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/L	5	< 5	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/L	5	< 5	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/L	5	< 5	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/L	5	< 5	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/L	5	< 5	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/L	5	< 5	U
36	ETHYLBENZENE	100-41-4	µg/L	5	< 5	U
37	HEXACHLOROBUTADIENE	87-68-3	µg/L	5	< 5	U
38	P-ISOPROPYLTOLUENE	99-87-6	µg/L	5	< 5	U
39	METHYLENE CHLORIDE	75-09-2	µg/L	5	< 5	U

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#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	NAPHTHALENE	91-20-3	µg/L	5	< 5	U
41	N-PROPYLBENZENE	103-65-1	µg/L	5	< 5	U
42	STYRENE	100-42-5	µg/L	5	< 5	U
43	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/L	5	< 5	U
44	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/L	5	< 5	U
45	TETRACHLOROETHENE	127-18-4	µg/L	5	< 5	U
46	TOLUENE	108-88-3	µg/L	5	< 5	U
47	1,2,3-TRICHLOROBENZENE	87-61-6	µg/L	5	< 5	U
48	1,2,4-TRICHLOROBENZENE	120-82-1	µg/L	5	< 5	U
49	1,1,1-TRICHLOROETHANE	71-55-6	µg/L	5	< 5	U
50	1,1,2-TRICHLOROETHANE	79-00-5	µg/L	5	< 5	U
51	TRICHLOROETHENE	79-01-6	µg/L	5	< 5	U
52	TRICHLOROFLUOROMETHANE	75-69-4	µg/L	5	< 5	U
53	1,2,3-TRICHLOROPROPANE	96-18-4	µg/L	5	< 5	U
54	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/L	5	< 5	U
55	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/L	5	< 5	U
56	VINYL CHLORIDE	75-01-4	µg/L	5	< 5	U
57	XYLENES (TOTAL)	1330-20-7	µg/L	15	< 15	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	89-111	95
2	DIBROMOFLUOROMETHANE	1868-53-7	86-117	100
3	1,2-DICHLOROETHANE-D4	17060-07-0	81-113	104
4	TOLUENE-D8	2037-26-5	88-109	94
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	83
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	73
3	FLUOROBENZENE	462-06-6	50-200	86
# of out-of-control				0

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

24312

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Collection Date:	09/18/97
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida
		Lab Sample ID:	97-4008-6	Received Date:	09/18/97
Sample ID:	**18609-582 (a)**	Sample Matrix	Soil	Moisture %:	12.8
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: Q
Anal. Method:	8260	Prep. Date:	09/19/97	Anal. Date:	09/19/97
Batch No:	97G3776	Prep. No:	–	Anal. Time:	09:50
Data File Name:	4008-06B	Sample Amount:	4 g	Dilution Factor:	200
Methanol Vol.	10. mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N)	N

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	BENZENE	71-43-2	µg/kg	1100	390	J
2	BROMOBENZENE	108-86-1	µg/kg	1100	<1100	U
3	BROMOCHLOROMETHANE	74-97-5	µg/kg	1100	<1100	U
4	BROMODICHLOROMETHANE	75-27-4	µg/kg	1100	<1100	U
5	BROMOFORM	75-25-2	µg/kg	1100	<1100	U
6	BROMOMETHANE	74-83-9	µg/kg	1100	<1100	U
7	N-BUTYLBENZENE	104-51-8	µg/kg	1100	<1100	U
8	SEC-BUTYLBENZENE	135-98-8	µg/kg	1100	<1100	U
9	TERT-BUTYLBENZENE	98-06-6	µg/kg	1100	<1100	U
10	CARBON TETRACHLORIDE	56-23-5	µg/kg	1100	<1100	U
11	CHLOROBENZENE	108-90-7	µg/kg	1100	<1100	U
12	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	1100	<1100	U
13	CHLOROETHANE	75-00-3	µg/kg	1100	<1100	U
14	CHLOROFORM	67-66-3	µg/kg	1100	<1100	U
15	CHLOROMETHANE	74-87-3	µg/kg	1100	<1100	U
16	2-CHLOROTOLUENE	95-49-8	µg/kg	1100	<1100	U
17	4-CHLOROTOLUENE	106-43-4	µg/kg	1100	<1100	U
18	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	1100	5600	
19	1,2-DIBROMO-3-CHLOROPROPANE (DB	96-12-8	µg/kg	1100	<1100	U
20	1,2-DIBROMOETHANE (EDB)	106-93-4	µg/kg	1100	<1100	U
21	DIBROMOMETHANE	74-95-3	µg/kg	1100	<1100	U
22	1,2-DICHLOROBENZENE	95-50-1	µg/kg	1100	<1100	U
23	1,3-DICHLOROBENZENE	541-73-1	µg/kg	1100	<1100	U
24	1,4-DICHLOROBENZENE	106-46-7	µg/kg	1100	<1100	U
25	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	1100	<1100	U
26	1,1-DICHLOROETHANE	75-34-3	µg/kg	1100	<1100	U
27	1,2-DICHLOROETHANE	107-06-2	µg/kg	1100	<1100	U
28	1,1-DICHLOROETHENE	75-35-4	µg/kg	1100	<1100	U
29	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	1100	<1100	U
30	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	1100	<1100	U
31	1,2-DICHLOROPROPANE	78-87-5	µg/kg	1100	<1100	U
32	1,3-DICHLOROPROPANE	142-28-9	µg/kg	1100	<1100	U
33	2,2-DICHLOROPROPANE	594-20-7	µg/kg	1100	<1100	U
34	1,1-DICHLOROPROPENE	563-58-6	µg/kg	1100	<1100	U
35	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	1100	<1100	U
36	ETHYLBENZENE	100-41-4	µg/kg	1100	610	J
37	HEXACHLOROBUTADIENE	87-68-3	µg/kg	1100	<1100	U
38	P-ISOPROPYLTOLUENE	99-87-6	µg/kg	1100	<1100	U
39	METHYLENE CHLORIDE	75-09-2	µg/kg	1100	<1100	U

24313

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	NAPHTHALENE	91-20-3	µg/kg	1100	<1100	U
41	N-PROPYLBENZENE	103-65-1	µg/kg	1100	<1100	U
42	STYRENE	100-42-5	µg/kg	1100	<1100	U
43	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	1100	<1100	U
44	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	1100	<1100	U
45	TETRACHLOROETHENE	127-18-4	µg/kg	1100	<1100	U
46	TOLUENE	108-88-3	µg/kg	1100	600	J
47	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	1100	<1100	U
48	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	1100	<1100	U
49	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	1100	<1100	U
50	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	1100	<1100	U
51	TRICHLOROETHENE	79-01-6	µg/kg	1100	<1100	U
52	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	1100	<1100	U
53	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	1100	<1100	U
54	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	1100	2000	
55	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	1100	1000	
56	VINYL CHLORIDE	75-01-4	µg/kg	1100	<1100	U
57	XYLENES (TOTAL)	1330-20-7	µg/kg	3400	4100	

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	86-114	108
2	DIBROMOFLUOROMETHANE	1868-53-7	85-116	98
3	1,2-DICHLOROETHANE-D4	17060-07-0	80-119	98
4	TOLUENE-D8	2037-26-5	81-116	99
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	104
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	96
3	FLUOROBENZENE	462-06-6	50-200	89
# of out-of-control				0

(a) Composite of 18609-578 to 581

Not Detected (N.D.) is shown as PQL, with dilution and moisture corrected if applicable.

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

24314

Applied P & Ch Laboratory

Wet Analysis Results for Method ASTM-D2216

Client Name:	OHM Remediation Services (Irvine)	Project No:	18609	Anal. Method	ASTM-D2216
Project ID:	UST 324 Release	Service ID:	974008	Collected by:	Dwayne Ishida

Component Name: Moisture, percent in soil
CAS No: 7732-18-5

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	.Result	Q
97-4008-6	18609-582	Soil	09/18/97	09/18/97	09/18/97	97W5003	%Moisture	0.5	12.8	

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

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Appendix F
Site Photographs

Photograph No. 1: UST 324F removal from the excavation.

Photograph No. 2: Piping removal from the UST 324 excavation.

Photograph No. 3: Removal of Concrete pieces from the excavation.

Photograph No. 4: Backfilling of the UST 324 excavation

Appendix G
Marine Chemist Certification and Tank Refuse Disposal Receipt

Thomas D. Beck & Assoc., Inc.
dba HARBOR TESTING LABORATORY
24 HOUR PHONE: (562) 492-9646

MARINE CHEMIST CERTIFICAT

Serial # 8531

Survey Requested by	Vessel Owner or Agent	Date
CHM REMEDIATION	EL TORO MAR	24 SEPT 97
SEE BELOW	UNDERGROUND TK	SITE 324 EL TORO M

Vessel	Type of Vessel	Specific Location of Vess
FUEL, JET FUEL	FEL, US, TANK	0735

Last Cargo	Tests Performed	Time Survey Completed

(5) FIVE UNDERGROUND STORAGE TANKS MARKED WITH RED SPRAY PAINT

8531.1 SITE 324 TK A
8531.2 SITE 324 TANK B
8531.3 SITE 324 TANK C
8531.4 SITE 324 TANK D
8531.5 SITE 324 TANK F

TESTED: 0% LEL
21% OXYGEN
TANKS HAVE BEEN TRIED
AND TO REMOVE MOST
NOT SAFE FOR WORKERS
TO ENTER NOT TESTED
FOR SPECIFIC TOXICS.
SAFE FOR HOT WORK.

MSA MICROMAX IN 20% CALIBRATED 1524 24 SEPT 97

In the event of any physical or atmospheric changes adversely affecting the STANDARD SAFETY DESIGNATIONS assigned to any of the above spaces, or if in any doubt, immediately stop all work and contact the undersigned Marine Chemist.

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipe lines, tanks or compartments subject to gas accumulation, unless specifically approved in this Certificate, requires inspection and endorsement or reissue of Certificate for the spaces so affected. All lines, vents, heating coils, valves, and similarly enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated.

STANDARD SAFETY DESIGNATIONS (partial list, paraphrased from NFPA 306 Subsections 2-3.1 through 2-3.5, and Subsection 6-3.2)

SAFE FOR WORKERS: Means that in the compartment or space so designated: (a) the oxygen content of the atmosphere is at least 19.5 percent by volume; and that, (b) toxic materials in the atmosphere are within permissible concentrations; and that, (c) the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Marine Chemist's Certificate.

NOT SAFE FOR WORKERS: Means that in the compartment or space so designated, the requirements of Safe for Workers have not been met.

ENTER WITH RESTRICTIONS: Means that in any compartment or space so designated, entry for work may be made only if conditions of proper protective equipment, clothing, and time are as specified.

SAFE FOR HOT WORK: Means that in the compartment so designated: (a) oxygen content of the atmosphere is at least 19.5 percent by volume, with the exception of inerted spaces or where external hot work is to be performed; and that, (b) the concentration of flammable materials in the atmosphere is below 10 percent of the lower flammable limit; and that, (c) the residues are not capable of producing a higher concentration than permitted by (b) above under existing atmospheric conditions in the presence of fire, and while maintained as directed on the Marine Chemist's Certificate; and further, that, (d) all adjacent spaces containing or having contained flammable or combustible materials have been cleaned sufficiently to prevent the spread of fire, or are satisfactorily inerted, or, in the case of fuel tanks or lube oil tanks, or engine room or fire room bilges, have been treated in accordance with the Marine Chemist's requirements.

NOT SAFE FOR HOT WORK: Means that in the compartment so designated, the requirements of Safe for Hot Work have not been met.

CHEMIST'S ENDORSEMENT. This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation.

"The undersigned acknowledges receipt of this Certificate under Section 2-6 of NFPA 306 and understands conditions and limitations under which it was issued."

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and issued subject to compliance with all qualifications and instructions.

Signed _____ Name _____ Company _____ Date _____

Signed _____ Marine Chemist _____ Certificate No. _____

ROICC
MCAS El Toro

Facsimile

# of pages: 4
Date: 7 Oct 97

From: Scott Kehe **Title:** Civil Engineer
Phone No.: (714) 726-2506 **Fax No.:** (714) 726-2255

To: LYNN HORNECKER **Company:** SWDIV
Phone No.: **Fax No.:** (619) 556-0248

Subject: DRMO DOCUMENTATION DD 50 & 70 USTs

Remarks:

Transmitted for your information and for COTR Transmittal are the following:

-DD Form 1348-1A dated 7 Oct 97 for 460 pounds of scrap metal for UST 38.
-DD Form 1348-1A dated 7 Oct 97 for 5300 pounds of scrap metal for piping from the UST 324A/B/C/D/F site and other sites.
-Release/Receipt document and Weight Ticket Certification dated 7 October for the scrap metal.

UST 38 and other scrap metal were transported by OHM to DRMO Yard 3 on 7 Oct 97.

Scott Kehe

1. TOTAL PRICE			Environmental MCAS El Toro PO 95001 CA. Santa Ana 92709	SENDER DRMO MCAS El Toro PO 21 CA Inv. 92650
UNIT PRICE	DOLLARS	CTS	4. MARK FOR	

DI OD CE NT | RI FROM | M & S | UI NS IS T | QUANTITY | SER | SUPPLEMENTARY ADDRESS | SIG | FUND | DISTRIBUTION | PROJECT | PRI | RDD EEA OLT D E | ADV | RI | O/P | COND | MGT

LBS. 460

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS
7280				

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. S
		460			

16. FREIGHT CLASSIFICATION NOMENCLATURE

SCRAP FUEL TANK

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. CONTAINER WT	21. TOTAL CUBE

22. RECEIVED BY 23. DATE RECEIVED 10-7-97

DRMO EL TORO

M60050 - D113 - 7280

2910 - 00 - Fuel TANK / SCRAP,

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORT ACCORDING TO APPLICABLE REGULATIONS FOR DOT AND EPA

PROCEEDS FROM THE SALE OF RECYCLABLE WASTES AND MATERIALS TO BE CREDITED TO FUND CITE NUMBER:

17F3875.27RM/007/60050/000027/3C/000000/06005098004

OHM 324-1

USA 38

DI OD CE N	RI FROM	M & S	UI NS I S T	QUANTITY	SER	SUPPLE-MENTARY ADDRESS	SIG	FUND	DIS-TRI-BU-TION	PRO-JECT	PRI	RDD EEA OLT D E	ADV	RI	O/P	COND	MGT

LBS 5300

1. TOTAL PRICE	UNIT PRICE		DOLLARS	CTS
	DOLLARS	CTS		

2. SHIP FROM: Environmental MCAS El Toro RO 95001 CA. Santa Ana 92708

3. SHIP TO: S23169 DRM MCAS El Tor RO 21 CA Irv. 92650

4. MARK FOR

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS
7280				

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL
		5300			

16. FREIGHT CLASSIFICATION NOMENCLATURE: IRON AND STEEL SCRAP --

17. ITEM NOMENCLATURE

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE

22. RECEIVED BY	23. DATE RECEIVED
	10-7-97

DRMO EL TORO

24. DOCUMENT NUMBER & SUFFIX (JO 44): M60050 - D112 - 7280

25. NATIONAL STOCK NO & ADD (B-20): 9620-00-SCRAP

26. FRC (B-0) UI (B-23) QTY (B-25) CONTROL (V1) UP (B-30) DP (A-08)

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORT ACCORDING TO APPLICABLE REGULATIONS FOR DOT AND EPA.

PROCEEDS FROM THE SALE OF RECYCLABLE WASTES AND MATERIALS TO BE CREDITED TO FUND CITE NUMBER:

17F3875.27RM/007/60050/000027/3C/000000/06005098004

OHM 324-1

Appendix H
Compaction Test Field Reports

R. T. FRANKIAN & ASSOCIATES

(213) 849-6876

FIELD REPORT

Job No. 97-009-1
Date: 9 30 97

This report shall not be construed as supervision, direction of construction, or a recommendation.

Client OHM	Job Address El Toro MCAS	City El Toro
Job Superintendent Greg Early	General Contractor OHM	Job Phone n/a
Grading Contractor	Concrete Contractor	Other

Arrived at MCAS at 9:00a. Contractor working site 324-0070. Removed (5) tanks, leaving concrete saddles in-place. Excavation is 13' at its deepest point. Currently constructing ramp at south end of excavation using a CAT 320N excavator and a CAT 936F rubber-tired loader. Placing excavated soil then track rolling w/ excavator. Spread then track rolled material on bottom w/ excavator. Soil is wet from recent rain, bottom pumping badly. Recommended to contractor two possible solutions to stabilize the bottom. The quickest fix would be to bridge the bottom with a layer of gravel. Another, more time consuming approach would be to scarify the bottom then import dry soil and mix into the wetter material. Contractor will complete demo of vault then return to fill placement. Left site at 11:00a.

INSPECTION BY:	☑ Field Engineer ☐ Field Technician ☐ Deputy Grading Insp. (Staff Eng. or Supr. Field Eng.)	**NEXT INSPECTION:**	☑ Contractor to call ☐ _____
HOURS:		Minimum Straight Time 2	Inspector B. Collyar
☐ Footings ___	☑ Fill Comp. ___	Over Time	Confirmed by T. Stanley #522
☐ Piles ___	☑ Bottom ___	Travel Time 2 1/2	
☐ Slot Cuts ___	☐ Saturation ___	Total Time 4 1/2	Representing OHM
☐ Shoring ___	☐ Other: ___	Mileage	

R. T. FRANKIAN & ASSOCIATES

(213) 849-6876

Job No. 97-009-1

Date: 10/1/97

FIELD REPORT

This report shall not be construed as supervision, direction of construction, or a recommendation.

Client DHM	Job Address El Toro MCAS	City El Toro
Job Superintendent Greg Early	General Contractor DHM	Job Phone n/a
Grading Contractor	Concrete Contractor	Other

Arrived at 10:00a. Contractor has imported and placed in excavation bottom approximately 90 ton of 3" minus rock. Currently mixing imported soil w/ wet material stockpiled on-site. Wheel rolled the rock w/ CAT 936F rubber-tired loader, bottom still unstable (pumping) under the weight of the equipment. Left site at 12:30a.

Returned to the base at 12:30p. Imported additional 3" minus rock and spread on the excavation bottom. Placed approximately 12" of rock, then wheel rolled w/ loader, demonstrating a stable bottom. Began capping the mud mat w/ soil. Completed placement of approximately one foot of compacted fill atop the rock. No sign of pumping. Left the MCAS at 3:00p.

INSPECTION BY:	☑ Field Engineer ☐ Field Technician ☐ Deputy Grading Insp. (Staff Eng. or Supr. Field Eng.)	**NEXT INSPECTION:**	☐ Contractor to call ☑ 10/2/97
HOURS:		Minimum	Inspector B. Gillyar
☐ Footings ___	☑ Fill Comp. ___	Straight Time 4	
☐ Piles ___	☑ Bottom ___	Over Time	Confirmed by
☐ Slot Cuts ___	☐ Saturation ___	Travel Time 2 1/2	
☐ Shoring ___	☐ Other: ___	Total Time 6 1/2	Representing DHM
		Mileage	

Copies to ☑ Client ☐ Contractor ☐ Other (Specify):

R. T. FRANKIAN & ASSOCIATES

(213) 849-6876

Job No. 97-009-1

Date: 10/2/97

FIELD REPORT

This report shall not be construed as supervision, direction of construction, or a recommendation.

Client OHM	Job Address El Toro MCAS	City El Toro
Job Superintendent Greg Early	General Contractor OHM	Job Phone n/a
Grading Contractor	Concrete Contractor	Other

No.	Location	Elev.	DD	% Moist	Max	% Comp.
1	Site 324-D070	-8'	116	12.1	126	92

Continuing inspection of fill placement at site 324-D070. Equipment working the site include a CAT 320N excavator, CAT 936F rubber-tired loader and (1) dump truck. Currently importing dryer soil w/ dump truck then mixing w/ wet stockpiled soil using the loader. Excavator is demolitioning the remaining concrete vault walls adjacent to the excavation. Resumed b/f at approximately 1:30 p. Spreading the soil in loose, shallow lifts then wheel rolling w/ loader for compaction. Test run shows compaction to be at or above 90% w/ moisture above optimum. Backfill operation will continue tomorrow. Left the base at 3:00 p.

INSPECTION BY: ☐ Field Technician	☑ Field Engineer ☐ Deputy Grading Insp. (Staff Eng. or Supr. Field Eng.)	**NEXT INSPECTION:**	☐ Contractor to call ☑ 10/3/97
HOURS: ☐ Footings ___ ☐ Piles ___ ☐ Slot Cuts ___ ☐ Shoring ___	☑ Fill Comp. ___ ☐ Bottom ___ ☐ Saturation ___ ☐ Other: ___	Minimum Straight Time 5 1/2 Over Time Travel Time 2 1/2 Total Time 8 Mileage	Inspector B. Collyar Confirmed by [illegible] Representing OHM

Copies to ☑ Client ☐ Contractor ☐ Other (Specify):

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

OHM TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT N68711-93-D-1459 **DOCUMENT CONTROL NO: SW4694**

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Mr. Dave Jespersen, Code 57CS1.DJ
Building 131
1220 Pacific Highway
San Diego, California 92132-5101

Date: 23-Feb-98

D.O.: 70

Location: MCAS EL TORO

FROM: _____
Stewart Bornhoft, Program Manager

Edwin Bond
Edwin G. Bond, Contracts Manager

DESCRIPTION OF ENCLOSURE: **Tank Removal and Site Closure Report for Underground Storage Tanks (USTs) 324A, 324B, 324C, 324D, and 324F, dated February 19, 1998.**

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

VERSION: FINAL **REVISION** 0

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

SCHEDULED DELIVERY DATE: 23-Feb-98 **ACTUAL DELIVERY DATE:** 23-Feb-98

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OHM Remediation Services Corp.

PMO LETTER OF TRANSMITTAL

Date: ~~December 3, 1997~~ 2/19/98

To: Kelly Even
San Diego PMO Office

Submitted by: Dhananjay Rawal

Office Location: x Irvine ☐ San Diego ☐ Pleasanton ☐ Other

Phone/Extension Number: 303

REGARDING: DO No.: 70 Project No.: 18609 ~~CERCLA~~ NO CERCLA (verify with PM if Admin copies are required)
WBS Code No. for Kelly's time: 2100835 Document Control No.: SW 4694

DOCUMENT DESCRIPTION: USTs 324A, 324B, 324C, 324D, 324F, Tank Removal & Site Closure Report

☐ Preliminary Draft ☐ Draft x Final ☐ Other:

Contractual Delivery Date: (SOW or verbally dictated, *please do not leave blank*)
2/23/98

Please make sure to include all agencies that will be receiving a copy of document.

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