

PORT OF OAKLAND

September 13, 1994

ALCO
HAZMAT
94 SEP 14 PM 2:43

Ms. Jennifer Eberle
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577&

SUBJECT: American President Lines (APL), Berth 60-63, Port of Oakland, Oakland, California

Dear Ms. Eberle:

Enclosed, you will find a copy of the letter report of the sixth quarterly groundwater sampling, American President Lines Terminal, 1395 Middle Harbor Road, Port of Oakland, Oakland, California. The sixth quarterly sampling took place on June 14, 1994. The report was completed by Geomatrix Consultants for the Port of Oakland.

Four Underground Storage Tanks (USTs), two diesel, one gasoline and one waste oil, were removed from this site between 6 January and 4 March 1992. The sampling and analysis for this report was conducted in accordance with the workplan prepared by Geomatrix dated October 1992.

Please call me at (510)-272-1184 if you have any comments or questions.

Sincerely,

Jon Amdur
Environmental Scientist

cc w/o report: Neil Werner (Environmental Department)

enclosure\

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365



1 September 1994
Project No. 2026

Mr. Jon Amdur
Port of Oakland
530 Water Street
Oakland, California 94607

Subject: Groundwater Sampling
American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

Dear Mr. Amdur:

This letter report presents the results of the second quarter groundwater sampling event performed by Geomatrix Consultants, Inc. (Geomatrix) on 14 June 1994 at the American President Lines Terminal (APL), 1395 Middle Harbor Road, at the Port of Oakland (Port; Figure 1). The work was conducted in accordance with our October 1992 Work Plan and in response to the 13 November 1992 Alameda County Health Care Services Agency letter to the Port.

For the quarterly monitoring program, Geomatrix performed water-level measurements and groundwater sampling. These activities and the results are described below.

WATER-LEVEL MEASUREMENTS

Geomatrix measured water levels in the three shallow groundwater monitoring wells (Figure 2) on 14 June 1994 before groundwater was sampled. Water levels were measured to the nearest 0.01 foot using a steel tape. The measurements were used to calculate water-level elevations at each of the wells; the elevations are shown on Figure 2 and are presented in Table 1.

Water-level elevations measured on 14 June 1994 ranged from 6.34 to 6.83 feet Mean Lower Low Water (MLLW; Port datum). The water-level elevations are lower by 0.03 to 0.43 feet lower than those measured during the previous quarter. The horizontal gradient, as in previous quarters, is very flat; horizontal flow direction was southwesterly, toward the Oakland Inner Harbor. The gradient direction is consistent with the gradient measured during the previous quarter.

Mr. Jon Amdur
Port of Oakland
1 September 1994
Page 2

GROUNDWATER SAMPLING

Geomatrix collected groundwater samples from the three on-site monitoring wells on 14 June 1994 (Figure 2). All equipment used in the wells was washed with a laboratory-grade detergent (Alconox) and rinsed with deionized water. Before being sampled, the wells were purged using a stainless steel bailer. To obtain groundwater representative of the aquifer screened by the well, the wells were purged until the temperature, pH, and specific conductance of the purged groundwater stabilized and at least four casing volumes were removed. Groundwater purged from the site was contained in a labeled 55-gallon drum which is being temporarily stored on site.

After the wells were purged, groundwater samples were collected from the approximate mid-point of the screened interval using a disposable bailer. The samples were decanted from the bailer directly into the appropriate containers. The samples were labeled and placed in an ice-cooled chest for delivery under Geomatrix chain-of-custody to Dames & Moore (D&M), of Novato, California, a state-certified analytical laboratory retained by the Port. A copy of the chain-of-custody record is included in Attachment A.

Groundwater samples were analyzed by D&M for total petroleum hydrocarbons as gasoline (TPHg) by modified U.S. Environmental Protection Agency (EPA) Method 8015; total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015; total oil and grease by Standard Method 5520 C and F; halogenated volatile organic compounds (VOCs) by EPA Method 8010; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020. A copy of the analytical laboratory report is included in Attachment A.

ANALYTICAL RESULTS

The analytical results for the groundwater samples are summarized in Tables 2 and 3 (attached). Benzene and total xylenes were reported in the groundwater samples from monitoring well MW-1 at concentrations of 9.4 and 0.7 micrograms per liter ($\mu\text{g}/\text{l}$), respectively. 1,1-dichloroethane (1,1-DCA) was also reported in the sample from well MW-1 at a concentration of 1.0 $\mu\text{g}/\text{l}$. TPHd and TPHg were not detected in the sample from MW-1. Only 1,4-dichlorobenzene (1,4-DCB) was reported in the groundwater sample from MW-2 at a concentration of 0.8 $\mu\text{g}/\text{l}$. No compounds were detected in the samples collected and analyzed from MW-3.

The analytical data of the groundwater samples are consistent with the previous results which indicated generally higher concentrations in the upgradient well (MW-1).

Mr. Jon Amdur
Port of Oakland
1 September 1994
Page 3


We appreciate the opportunity to continue working with you on this project. Please contact either of the undersigned if you have any questions.

Sincerely yours,

GEOMATRIX CONSULTANTS, INC.



James M. Abitz
Staff Engineer



Sally E. Goodin R.G.
Principal Geologist

2026\QTR2-94.LTR
JMA/SEG/lam

Attachments: Tables (3)
Figures (2)
Attachment A - Chain-of-Custody Record and Analytical Laboratory Report

TABLE 1

WATER-LEVEL ELEVATIONS
American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

Water-Level Elevations in Feet (MLLW)

Measuring Date	MW-1	MW-2	MW-3
8 March 1993	7.07	6.58	6.76
11 May 1993	7.08	6.79	6.95
19 August 1993	6.27	6.30	6.34
24 November 1993	5.89	6.02	6.05
24 February 1994	6.86	6.54	6.76
14 June 1994	6.83	6.34	6.43

TABLE 2

SUMMARY OF COMPOUNDS DETECTED IN GROUNDWATER SAMPLES

American President Lines Terminal
 1395 Middle Harbor Road
 Port of Oakland
 Oakland, California

Concentrations in parts per billion ($\mu\text{g/l}$)

Well No.	Date	TPH as Gasoline	TPH as Diesel	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Total Xylenes	EPA Method 8010
MW-1	2/5/93	1800	4700	5000	9.2	1.6	8.9	2.7	1,1-DCA 0.8
	5/11/93	260	4800	7000	3.2	2.3	0.7	0.5	1,1-DCA 0.6
	8/19/93	60	2300	ND	9.0	ND	ND	ND	1,1-DCA 2.0 1,1-DCE 2.0
	11/24/93	50	280	ND	8.8	1.5	ND	3.0	1,1-DCA 0.7
	2/24/94	360	2000	NA	12	ND	2	ND	1,1-DCA 2.0
	6/14/94	ND ✓	ND ✓	ND ✓	9.4 ✓	ND	ND	0.7 ✓	1,1-DCA 1.0 ✓
MW-2	2/5/93	ND	840	2000	ND	ND	ND	ND	ND
	5/11/93	ND	3700	ND	ND	ND	ND	ND	ND
	8/19/93	ND	620	ND	ND	ND	ND	ND	1,4-DCB 3.0 1,2-DCB 1.0
	11/24/93	ND	80	ND	ND	ND	ND	ND	ND
	2/2/94	ND	ND	NA	ND	ND	ND	ND	1,4-DCB 1.0
	6/14/94	NA	ND ✓	ND ✓	NA	NA	NA	NA	1,4-DCB 0.8 ✓

TABLE 2

SUMMARY OF COMPOUNDS DETECTED IN GROUNDWATER SAMPLES

Well No.	Date	TPH as Gasoline	TPH as Diesel	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Total Xylenes	EPA Method 8010
MW-3	2/5/93	ND	3400	2000	2.1	0.9	1.7	3.1	Cis-1,2-DCE 0.4
	5/11/93	ND	3300	ND	ND	ND	ND	ND	ND
	8/19/93	ND	840	ND	ND	ND	ND	ND	1,4-DCB 1.0
	11/24/93	ND	100	ND	ND	ND	ND	ND	ND
	2/2/94	ND	890	NA	ND	ND	ND	ND	ND
	6/14/94	NA	ND ✓	ND ✓	ND	ND	ND	ND	ND ✓

Notes:

¹ Samples collected by Geomatrix Consultants, Inc. and analyzed by Curtis & Tomkins, Ltd., of Berkeley, California, Dames & Moore of Novato, California, and Clayton Environmental, Consultants, Inc. of Pleasanton, California, for TPH as gasoline by modified EPA Method 8015; TPH as diesel by EPA Method 8015; total oil and grease by Standard Method 5520 C and F; benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8020; and halogenated volatile organic compounds by EPA Method 8010.

² DCA = dichloroethane
 DCB = dichlorobenzene
 DCE = dichloroethene
 VC = vinyl chloride
 TPH = total petroleum hydrocarbons
 NA = not analyzed
 ND = not detected at or above detection limit

TABLE 3

TOTAL DISSOLVED SOLIDS IN GROUNDWATER SAMPLES

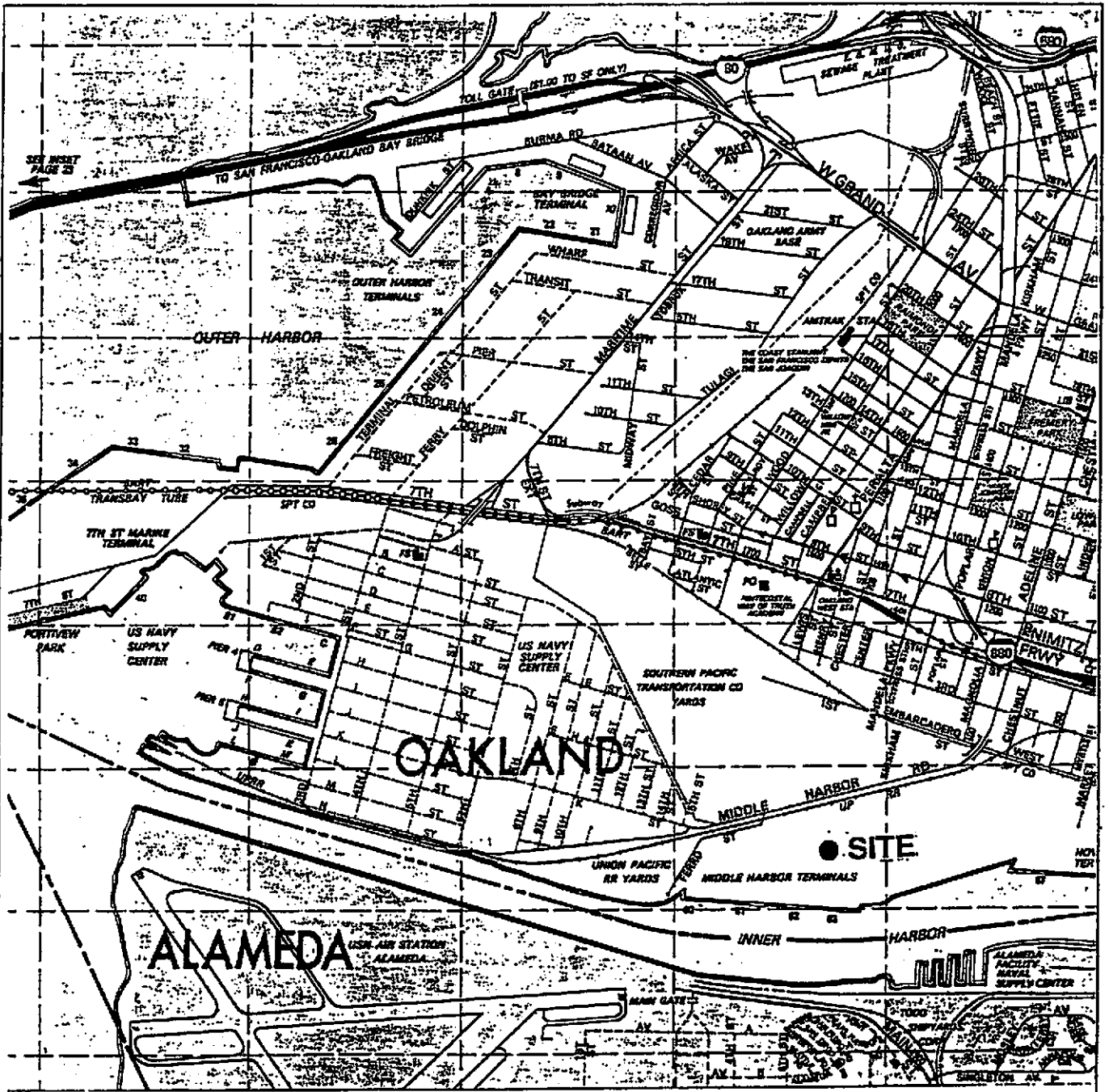
American President Lines Terminal
 1395 Middle Harbor Road
 Port of Oakland
 Oakland, California

Concentrations in parts per million (mg/l)

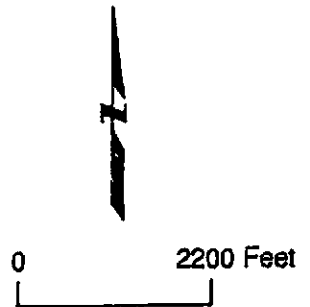
Well No.	Date	Total Dissolved Solids
MW-1	2/5/93	3,000
	5/11/93	12,000
	8/19/93	2,680
	11/24/93	12,000
MW-2	2/5/93	23,000
	5/11/93	12,000
	8/19/93	18,880
	11/24/93	23,000
MW-3	2/5/93	1,600
	5/11/93	7,200
	8/19/93	20,300
	11/24/93	20,000

Note:

1. Samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis & Tomkins, Ltd. and Clayton Environmental Consultants, Inc. of Pleasanton, California, for total dissolved solids (TDS) by EPA Method 160.1.

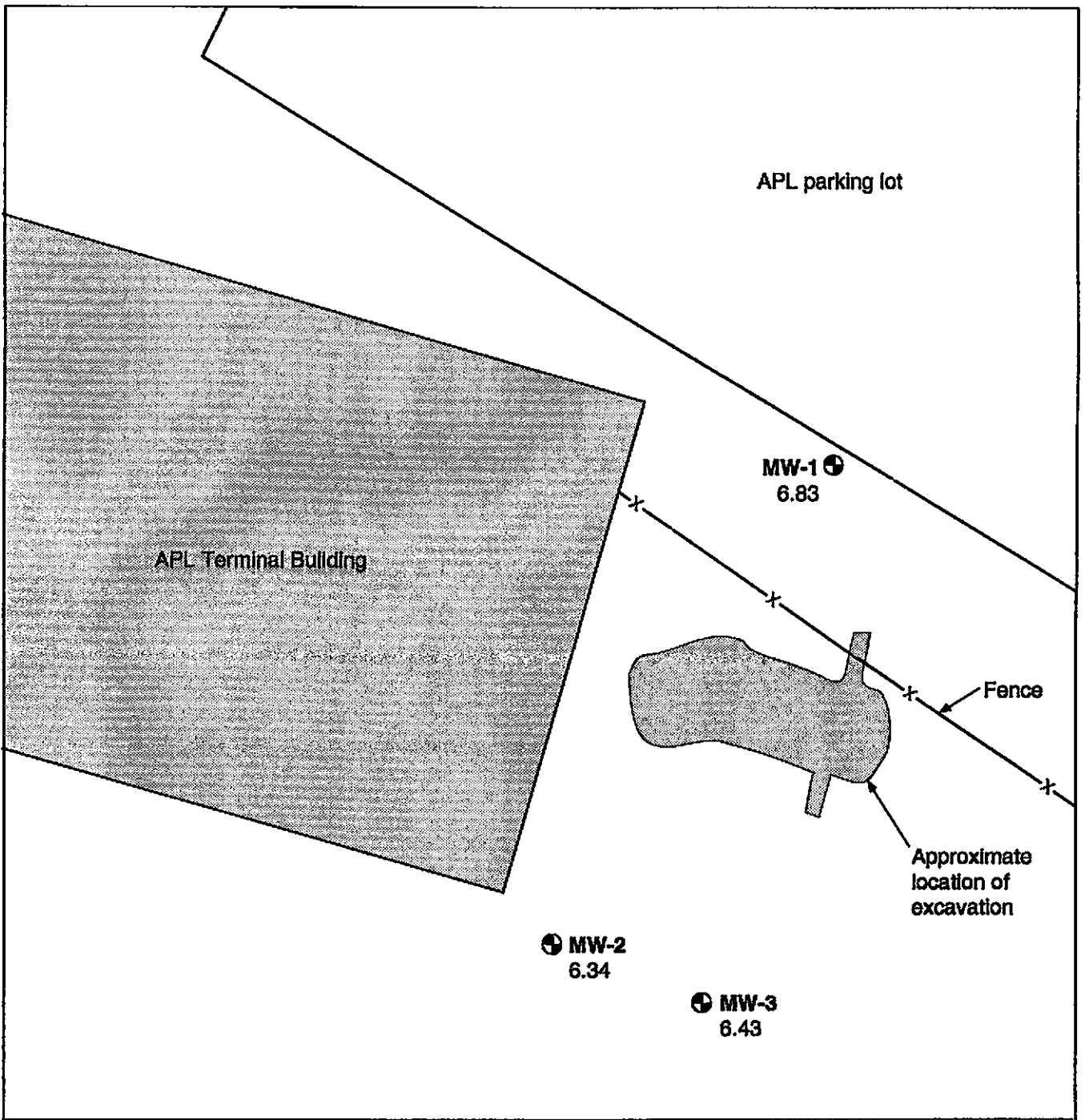


Reference: Thomas Brothers Maps
 Alameda County
 1990




SITE LOCATION MAP
 American President Lines Terminal
 1395 Middle Harbor Road
 Oakland, California

Figure
 1
 Project No.
 2026




EXPLANATION

- MW-2**  Monitoring well
- 6.34** Water-level elevation, in feet



Based on figure provided by the Port of Oakland.
 Elevations referenced to Mean Lower Low Water Port Datum.

	WATER-LEVEL ELEVATIONS – 14 JUNE 1994 American President Lines Terminal 1395 Middle Harbor Road Oakland, California	Figure 2
		Project No. 2026

ATTACHMENT A

CHAIN-OF-CUSTODY RECORD AND ANALYTICAL LABORATORY REPORT



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Jaimie Abitz
Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111

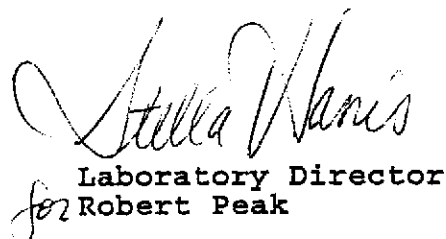
June 27, 1994

Customer Project: 2026I
Laboratory Job: L9406136

On June 14, 1994 we received 3 sample(s) for analysis.
Samples were analyzed by the following method(s):

Total Recoverable Petroleum Hydrocarbons (5520CF)
Halogenated Volatile Organics (EPA 8010A)
Halog. & Aromatic Volatiles (EPA 8010A/8020A)
Diesel (8015 Modified)
Gasoline (8015 Modified)


Project Manager


Laboratory Director
for Robert Peak

D&M Laboratories

ANALYTICAL DATA REPORT

Prepared for: Geomatrix Consultants
 Project Id: 20261
 Sample Id: MW-2
 Lab Id: L9406136-1

Collected: 14-JUN-94
 Received: 14-JUN-94
 Reported: 27-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
Petroleum Hydrocarbons: IR					
5520CF ✓	ND < ✓	1.0	mg/L	21-JUN-94	22-JUN-94
8015D					
Diesel	ND < ✓	0.50	mg/L	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Surrogate: o-Terphenyl	84.0	-	%	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Comments:	Detection limit raised due to interference caused by high level non-target analytes in the sample.				
-					
-					
8010 WATER					
Bromodichloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromoform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromomethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloroethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Chloroform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,4-Dichlorobenzene	0.76 ✓	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Methylene Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Surrogate:					
4-Bromofluorobenzene	101.	-	%	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Comments:	None				

D&M Laboratories

ANALYTICAL DATA REPORT

Prepared for: Geomatrix Consultants
 Project Id: 20261
 Sample Id: MW-3 ✓
 Lab Id: L9406136-2

Collected: 14-JUN-94
 Received: 14-JUN-94
 Reported: 27-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
Petroleum Hydrocarbons: IR					
5520CF	ND ✓	1.0	mg/L	21-JUN-94	22-JUN-94
8015D					
Diesel	ND ✓	0.50	mg/L	16-JUN-94	17-JUN-94
Surrogate:					
o-Terphenyl	120.	-	%	16-JUN-94	17-JUN-94
Comments:	Detection limit raised due to interference caused by high level non-target analytes in the sample.				
8010/8020					
Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromodichloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromoform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromomethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloroethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Chloroform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,4-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Methylene Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Tetrachloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Toluene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Xylenes (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Surrogate:					
4-Bromofluorobenzene (8010)	92.0	-	%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	105.	-	%	22-JUN-94	22-JUN-94
Comments:	None				

D&M Laboratories

ANALYTICAL DATA REPORT

Prepared for: Geomatrix Consultants
 Project Id: 20261
 Sample Id: MW-1
 Lab Id: L9406136-3

Collected: 14-JUN-94
 Received: 14-JUN-94
 Reported: 27-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
Petroleum Hydrocarbons: IR					
5520CF	ND <	1.0	mg/L	21-JUN-94	22-JUN-94
8015D					
Diesel	ND <	0.50	mg/L	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
o-Terphenyl	99.0	-	%	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Comments:	Detection limit raised due to interference				
-	caused by high level non-target analytes				
-	in the sample.				
GAS/BTEX WATER					
Gasoline	ND <	0.050	mg/L	16-JUN-94	16-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
Bromofluorobenzene	70.3	-	%	16-JUN-94	16-JUN-94
-	-	-	-	-	-
Comments:	None				
-	-				
-	-				

D&M Laboratories

ANALYTICAL DATA REPORT

Prepared for: Geomatrix Consultants
 Project Id: 20261
 Sample Id: MW-1
 Lab Id: L9406136-3

Collected: 14-JUN-94
 Received: 14-JUN-94
 Reported: 27-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
8010/8020					
Benzene	9.4	0.50	ug/L	22-JUN-94	22-JUN-94
Bromodichloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromoform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromomethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloroethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Chloroform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,4-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethane	1.0	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Methylene Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Tetrachloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Toluene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Xylenes (Total)	0.73	0.50	ug/L	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
4-Bromofluorobenzene (8010)	95.0	-	%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	106.	-	%	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Comments:	None				

D&M Laboratories
QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank
Lab Id: WGS162-1

Reported: 24-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
5520CF	ND <	1.0	mg/L	21-JUN-94	22-JUN-94

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank Spike ✓
Lab Id: WG5162-2

Reported: 24-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
5520CF	4.15	mg/L	5	mg/L	83%	21-JUN-94	22-JUN-94

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank Spike D
Lab Id: WGS162-3

Reported: 24-JUN-94

Parameter	Value	Units	% Rec	RPD	Extracted	Analyzed
5520CF	4.12	mg/L	82%	0.73	21-JUN-94	22-JUN-94

D&M Laboratories
QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank
Lab Id: WG5115-6

Reported: 24-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
80150					
Diesel	ND <	0.050	mg/L	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Surrogate: o-Terphenyl	150.	-	%	16-JUN-94	17-JUN-94
-	-	-	-	-	-
Comments:	None				
-	-	-	-	-	-
-	-	-	-	-	-

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Method Blank Spike
 Lab Id: WGS115-7

Reported: 24-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
8015D							
Diesel	1.44	mg/L	1		144%	16-JUN-94	17-JUN-94
-	-						
Surrogate:							
o-Terphenyl	120.	%			%	16-JUN-94	17-JUN-94
-	-						
Comments:	None						
-	-						
-	-						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Water Spike
 Lab Id: WG5115-2

Reported: 24-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
80150							
Diesel	1.51	mg/L	1	mg/L	151%	09-JUN-94	13-JUN-94
-	-						
Surrogate:							
o-Terphenyl	120	%			%	09-JUN-94	13-JUN-94
-	-						
Comments:	None						
-	-						
-	-						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Water Spike Duplicat
 Lab Id: WGS115-3

Reported: 24-JUN-94

Parameter	Value	Units	% Rec	RPD	Extracted	Analyzed
8015D						
Diesel	1.35	mg/L	135%	11.	09-JUN-94	13-JUN-94
-	-					
Surrogate:						
o-Terphenyl	110	%	%		09-JUN-94	13-JUN-94
-	-					
Comments:	None					
-	-					
-	-					

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Method Blank
 Lab Id: WG5056-4

Reported: 22-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
GAS/BTEX SOIL					
Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Toluene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Xylene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Gasoline	ND <	0.050	mg/L	14-JUN-94	14-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
Bromofluorobenzene	70.5	-	%	14-JUN-94	14-JUN-94
-	-	-	-	-	-
Comments:	None	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Method Blank
 Lab Id: WG5056-6

Reported: 22-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
GAS/BTEX SOIL					
Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Toluene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Xylene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Gasoline	ND <	0.050	mg/L	14-JUN-94	14-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
Bromofluorobenzene	65.0	-	%	14-JUN-94	14-JUN-94
-	-	-	-	-	-
Comments:	None	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

D&M Laboratories
QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank
Lab Id: WG5056-8

Reported: 22-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
GAS/BTEX SOIL					
Benzene	ND <	0.50	ug/L	16-JUN-94	16-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	16-JUN-94	16-JUN-94
Toluene	ND <	0.50	ug/L	16-JUN-94	16-JUN-94
Xylene	ND <	0.50	ug/L	16-JUN-94	16-JUN-94
Gasoline	ND <	0.050	mg/L	16-JUN-94	16-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
Bromofluorobenzene	68.2	-	%	16-JUN-94	16-JUN-94
-	-	-	-	-	-
Comments:	None	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: MX
Lab Id: WG5056-1

Reported: 22-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
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GAS/BTEX SOIL

Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Toluene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Xylene	ND <	0.50	ug/L	14-JUN-94	14-JUN-94
Gasoline	ND <	0.050	mg/L	14-JUN-94	14-JUN-94

Surrogate:

Bromofluorobenzene	68.0	-	%	14-JUN-94	14-JUN-94
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Comments:

- MX = sample # L9406095-2 for Gas

- MX = sample # L9406095-3 for BTEX

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:

Project Id:

Sample Id: Matrix Spike

Lab Id: WG5056-2

Reported: 22-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
GAS/BTEX SOIL							
Benzene	23.2	ug/L	25	ug/L	92.7%	14-JUN-94	14-JUN-94
Ethyl Benzene	23.7	ug/L	25	ug/L	94.7%	14-JUN-94	14-JUN-94
Toluene	23.4	ug/L	25	ug/L	93.4%	14-JUN-94	14-JUN-94
Xylene	69.6	ug/L	75	ug/L	92.8%	14-JUN-94	14-JUN-94
Gasoline	0.892	mg/L	1	mg/L	89.2%	14-JUN-94	14-JUN-94
-	-						
Surrogate:							
Bromofluorobenzene	58.2	%	25	ug/L	%	14-JUN-94	14-JUN-94
-	-						
Comments:	None						
-	-						
-	-						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Matrix Spike Dup
 Lab Id: WG5056-3

Reported: 22-JUN-94

Parameter	Value	Units	% Rec	RPD	Extracted	Analyzed
GAS/BTEX SOIL						
Benzene	24.4	ug/L	97.8%	5.0	14-JUN-94	14-JUN-94
Ethyl Benzene	25.2	ug/L	100.9%	6.1	14-JUN-94	14-JUN-94
Toluene	24.7	ug/L	98.8%	5.4	14-JUN-94	14-JUN-94
Xylene	73.9	ug/L	98.6%	6.0	14-JUN-94	14-JUN-94
Gasoline	0.946	mg/L	94.6%	1.5	14-JUN-94	14-JUN-94
-	-	-	-	-	-	-
Surrogate:	-	-	-	-	-	-
Bromofluorobenzene	54.0	%	%	-	14-JUN-94	14-JUN-94
-	-	-	-	-	-	-
Comments:	None	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:

Project Id:

Sample Id: Method Blank

Reported: 23-JUN-94

Lab Id: WG5152-6

Parameter	Value	Limit	Units	Extracted	Analyzed
8010/8020					
Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromodichloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromoform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromomethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloroethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Chloroform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,4-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Methylene Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Tetrachloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Toluene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Xylenes (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
4-Bromofluorobenzene (8010)	104.	-	%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	109.	-	%	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Comments:	None				

D&M Laboratories
 QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Method Blank Spike
 Lab Id: W65152-7

Reported: 23-JUN-94

Parameter:	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
8010/8020-QC							
1,1-Dichloroethene	19.9	ug/L	20	ug/L	99.5%	22-JUN-94	22-JUN-94
Trichloroethene	19.8	ug/L	20	ug/L	99%	22-JUN-94	22-JUN-94
Chlorobenzene-601	20.6	ug/L	20	ug/L	103%	22-JUN-94	22-JUN-94
Benzene	20.8	ug/L	20	ug/L	104%	22-JUN-94	22-JUN-94
Toluene	20.5	ug/L	20	ug/L	102%	22-JUN-94	22-JUN-94
Chlorobenzene-602	20.8	ug/L	20	ug/L	104%	22-JUN-94	22-JUN-94
-	-						
Surrogate:							
4-Bromofluorobenzene (8010)	97.0	%			%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	107.	%			%	22-JUN-94	22-JUN-94
-	-						
Comments:	None						
-	None						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:

Project Id:

Sample Id: Method Blank

Lab Id: WGS152-6

Reported: 23-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
8010/8020					
Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromodichloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromoform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Bromomethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloroethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Chloroform	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Chloromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,4-Dichlorobenzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Methylene Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Tetrachloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Toluene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichloroethene	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	22-JUN-94	22-JUN-94
Xylenes (Total)	ND <	0.50	ug/L	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
4-Bromofluorobenzene (8010)	104.	-	%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	109.	-	%	22-JUN-94	22-JUN-94
-	-	-	-	-	-
Comments:	None				

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:

Project Id:

Sample Id: Method Blank Spike

Lab Id: WG5152-7

Reported: 23-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
8010/8020-QC							
1,1-Dichloroethene	19.9	ug/L	20	ug/L	99.5%	22-JUN-94	22-JUN-94
Trichloroethene	19.8	ug/L	20	ug/L	99%	22-JUN-94	22-JUN-94
Chlorobenzene-601	20.6	ug/L	20	ug/L	103%	22-JUN-94	22-JUN-94
Benzene	20.8	ug/L	20	ug/L	104%	22-JUN-94	22-JUN-94
Toluene	20.5	ug/L	20	ug/L	102%	22-JUN-94	22-JUN-94
Chlorobenzene-602	20.8	ug/L	20	ug/L	104%	22-JUN-94	22-JUN-94
-	-	-	-	-	-	-	-
Surrogate:	-	-	-	-	-	-	-
4-Bromofluorobenzene (8010)	97.0	%	-	-	%	22-JUN-94	22-JUN-94
4-Bromofluorobenzene (8020)	107.	%	-	-	%	22-JUN-94	22-JUN-94
-	-	-	-	-	-	-	-
Comments:	None	-	-	-	-	-	-
-	None	-	-	-	-	-	-

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:

Project Id:

Sample Id: MX

Lab Id: WGS152-1

Reported: 22-JUN-94

Parameter	Value	Limit	Units	Extracted	Analyzed
8010/8020					
Benzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Bromodichloromethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Bromoform	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Bromomethane	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
Carbon Tetrachloride	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Chlorobenzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Chloroethane	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
Chloroform	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Chloromethane	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
Dibromochloromethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,2-Dichlorobenzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,3-Dichlorobenzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,4-Dichlorobenzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,1-Dichloroethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,2-Dichloroethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,1-Dichloroethene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,2-Dichloroethene (Total)	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,2-Dichloropropane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Cis-1,3-Dichloropropene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Trans-1,3-Dichloropropene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Ethyl Benzene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Methylene Chloride	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
1,1,2,2-Tetrachloroethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Tetrachloroethene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Toluene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,1,1-Trichloroethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
1,1,2-Trichloroethane	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Trichloroethene	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
Trichlorofluoromethane	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
Vinyl Chloride	ND <	1.0	ug/L	20-JUN-94	20-JUN-94
xylene (Total)	ND <	0.50	ug/L	20-JUN-94	20-JUN-94
-	-	-	-	-	-
Surrogate:	-	-	-	-	-
4-Bromofluorobenzene (8010)	102.	-	%	20-JUN-94	20-JUN-94
4-Bromofluorobenzene (8020)	102.	-	%	20-JUN-94	20-JUN-94
-	-	-	-	-	-
Comments:	MX=L9406075-3 (DM-1)				

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Matrix Spike
 Lab Id: WG5152-2

Reported: 22-JUN-94

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
8010/8020-QC							
1,1-Dichloroethene	19.6	ug/L	20	ug/L	98%	20-JUN-94	20-JUN-94
Trichloroethene	18.9	ug/L	20	ug/L	94.5%	20-JUN-94	20-JUN-94
Chlorobenzene-601	20.0	ug/L	20	ug/L	100%	20-JUN-94	20-JUN-94
Benzene	20.4	ug/L	20	ug/L	102%	20-JUN-94	20-JUN-94
Toluene	20.2	ug/L	20	ug/L	101%	20-JUN-94	20-JUN-94
Chlorobenzene-602	20.6	ug/L	20	ug/L	103%	20-JUN-94	20-JUN-94
-	-						
Surrogate:							
4-Bromofluorobenzene (8010)	96.0	%			%	20-JUN-94	20-JUN-94
4-Bromofluorobenzene (8020)	103.	%			%	20-JUN-94	20-JUN-94
-	-						
Comments:	None						
-	None						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
 Project Id:
 Sample Id: Matrix Spike Dup
 Lab Id: WG5152-3

Reported: 22-JUN-94

Parameter	Value	Units	% Rec	RPD	Extracted	Analyzed
8010/8020-qc						
1,1-Dichloroethene	20.2	ug/L	101%	3.0	20-JUN-94	20-JUN-94
Trichloroethene	19.5	ug/L	97.5%	3.1	20-JUN-94	20-JUN-94
Chlorobenzene-601	21.0	ug/L	105%	4.9	20-JUN-94	20-JUN-94
Benzene	20.4	ug/L	102%	0.0	20-JUN-94	20-JUN-94
Toluene	20.2	ug/L	101%	0.0	20-JUN-94	20-JUN-94
Chlorobenzene-602	20.5	ug/L	102%	0.50	20-JUN-94	20-JUN-94
-	-	-	-	-	-	-
Surrogate:						
4-Bromofluorobenzene (8010)	95.0	%	%		20-JUN-94	20-JUN-94
4-Bromofluorobenzene (8020)	101.	%	%		20-JUN-94	20-JUN-94
-	-	-	-	-	-	-
Comments:	None					
-	None					

QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, D&M Laboratories reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (**MB**) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (**MBS**) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (**MS**) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, MS and MSD, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated **MX**, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (**MSD**), along with the MS, is used to monitor the precision (**RPD**) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.

L9406136

SAMPLES RECEIVED IN GOOD CONDITION
NO BROKEN OR LEAKING CONTAINERS

Chain-of-Custody Record			No 4518										Date 6/14/94			Page 1 of 1												
Project No.: 2026 I			ANALYSES										REMARKS															
Samplers (Signatures):			EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	*Total Oil + Grease												Additional comments						
Date	Time	Sample Number																				* Use standard method 5520 C + F for total oil + grease.						
6/14/94	0840	MW-2	X					X	X						X	W	X				4			RECEIVED D&M LABORATORIES 1994 JUN 16 PM 5:00 N/A				
	0915	MW-3	X	X				X	X						X	W	X				6					COOLER CUSTODY SEALS INTACT <input type="checkbox"/> NOT INTACT <input type="checkbox"/> COOLER TEMPERATURE <u>COLD</u> °C		
	1020	MW-1	X	X			X	X	X						X	W	X				10							 SELECTED SAMPLES PICKED UP / SENT OUT BY N/A (KVS)
																							RECEIVED D&M LABORATORIES 1994 JUN 16 PM 5:00 N/A					
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OPERATIONS NOTE

Analysis: 8015DW

Date 6-24-94

Batch: WG 5715

Analyst [Signature]
initials

Jobs Affected: L9406136

PM's MJS

Samples: 1, 2, 3

Non-Conformance/Observation:

Samples contained hydrocarbons in range of diesel & waste oil, but did not resemble diesel fingerprint - may be a severely degraded fuel(?)
Samples contained hydrocarbons in range of ~~diesel~~ wo in following amounts
Semi-quantitated & tentatively ID'd:

	<u>Diesel</u>	<u>wo</u>
1 -	.44ng/L	.60ng/L
2 -	.23ng/L	.50ng/L
3 -	.32ng/L	1.24ng/L

Action/Resolution:

Discussed operations note w/ Jaime Abitz 6/23/94
- sent Chromatograms & OP NOTE w/ Report as unofficial report of findings. MJS

Approval

[Signature]

PM or Supervisors Initials

0.00 to 60.00 min. Low Y = 3.44858 mv High Y = 53.44859 mv Span = 50.00001 mv

